OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION
682 Prospect Street
Berea, Ohio 44017
(440) 971-2081

LOI NO. 15-2021

REQUEST FOR LETTERS OF INTEREST (LOIS) TO PERFORM PROFESSIONAL ENGINEERING SERVICES FOR:

BRIDGE DECK REHABILITATION AND BRIDGE REMOVAL
PROJECT NO. 71-21-04

DECK OVERLAY OF MAINLINE BRIDGE OVER WAGGONER ROAD (COUNTY ROUTE 82) AT MILEPOST 83.3 IN SANDUSKY COUNTY, AND REMOVAL OF THE MAINLINE BRIDGE OVER THE NORTH COAST INLAND TRAIL AT MILEPOST 83.3 IN SANDUSKY COUNTY, OHIO

ISSUE DATE:	**August 27, 2021**
INQUIRY END DATE:	**5:00 PM (Eastern) on September 10, 2021**
LETTERS OF INTEREST DUE DATE:	**5:00 P.M. (Eastern) on September 17, 2021**
COMMISSION MEETING:	**October 18, 2021** (anticipated meeting for contract award; subject to change)

The SBE goal for this project is 20%

In lieu of taking exceptions to the Request for Letters of Interests requirements, including but not limited to terms and conditions, scope of work statements, service levels requirements, etc., or providing assumptions that may be unacceptable to the Commission, Respondents are strongly encouraged to use the inquiry process in PART VI of this Request for Letters of Interest.

SUBMITTED BY:

COMPANY NAME _____

CONTACT NAME_____

STREET ADDRESS_____

CITY AND STATE _____

ZIP CODE _____ TELEPHONE NUMBER_____

EMAIL ADDRESS_____

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LOI NO. 15-2021

REQUEST FOR LETTERS OF INTEREST (LOIs) TO PERFORM PROFESSIONAL ENGINEERING SERVICES FOR PROJECT NO. 71-21-04

PART I. BACKGROUND INFORMATION

The Ohio Turnpike and Infrastructure Commission ("Commission"), a body corporate and politic constituting an instrumentality of the State of Ohio, is responsible for operating and maintaining the Ohio Turnpike, a toll road officially known as the James W. Shocknessy Ohio Turnpike. The Ohio Turnpike is a limited access highway extending 241 miles across northern Ohio. Additional information regarding the Commission and the Ohio Turnpike can be found at https://www.ohioturnpike.org/home.

The Commission issues this Request for Letters of Interest seeking to select a qualified consultant ("Consultant") to perform professional engineering services (Phase I – Site Inspection/Engineering Report/Design/Plan Preparation; Phase II – Engineering Support During Construction), as further described in Appendix A, for Project No. 71-21-04, Bridge Deck Rehabilitation and Bridge Removal, Deck Overlay of Mainline Bridge over Waggoner Road (County Route 82) at Milepost 83.3 in Sandusky County, and Removal of the Mainline Bridge over the North Coast Inland Trail at Milepost 83.3 in Sandusky County, Ohio (the "Project").

As-Built drawings of the bridges are attached to this LOI as Appendix G.

Letters of Interest shall serve to provide information for the Commission to evaluate the Respondent's qualifications to perform the services required for the Project. The Commission intends to select one consultant to enter into a contract for the Project based on the LOI submittals.

Those firms interested in responding to the Request for Letters of Interest must have a completed "Request for Qualifications" ("RFQ") package for calendar years 2021-2022 on file with the Commission to be considered as a potential Respondent. If a firm has not already responded to the RFQ, the RFQ package may be obtained through the inquiry process and its response submitted simultaneously with the LOI.

Any person responding (a "Respondent") must clearly demonstrate depth of experience in providing construction administration and inspection services, including familiarity with the various methodologies and industry best practices for performing the required tasks. Demonstrated experience in providing the necessary services is required.

PART II. ASSISTANCE FROM COMMISSION PERSONNEL

Commission personnel will be assigned to assist, as needed, with the coordination of the various aspects of any assignments. Commission personnel will also make available all documents in the Commission's possession to the Consultant required for completion of its duties. Generally, the Commission's Chief Engineer will administer and manage the contract for the Consultant's services.

PART III. LOI REQUIREMENTS

The general nature and scope of work for the Project are set forth in Appendix A ("Scope of Services"). The Commission expects that Respondents will have experience in providing the services of this nature

and should understand the general scope of the services necessary to successfully fulfill the Commission's requirements. Respondents should prepare Letters of Interest that are concise and that include an explicit response to the items listed below:

1. Plainly identify the Consultant's legal name, contact person(s) and their email, phone number and physical address. Describe your organizational structure, staffing of the project, and specify the number of professional personnel by discipline based in the Ohio office(s) in which a bulk of the services will be performed.
2. List the types/categories of services for which the Consultant has a current Qualifications Statement on file with the Commission in response to the 2021-2022 RFQ and all ODOT Prequalifications.
3. List the Project Manager and other key staff members including key subconsultant staff. Address the experience of the key staff members on similar projects. Provide a one (1) page résumé of the proposed Project Manager. The proposed Project Manager must be a professional engineer registered in the State of Ohio. Additionally, provide an organizational chart and no more than half-page resumes for each staff member assigned to the Project, which shall not exceed five (5) pages. Resumes should include the qualifications of the key staff and descriptions of work performed on similar projects.
4. Describe your firm's approach to quality control and any programs for providing technical direction and administrative control to assure conformance with industry-accepted standards of quality for the Project.
5. List significant subconsultants, their categories of service, qualifications, and the percentage of work to be performed by each proposed subconsultant.
6. Provide a description of your Project approach, not to exceed two (2) pages. Confirm the firm's understanding of the project, proposed technical approach, cost containment practices, innovative ideas for this type of project and any other relevant information concerning your firm's qualifications to perform the services contemplated under the project.
7. Describe the capacity of your firm's staff and its ability to perform the work in a timely manner relative to present workload and the availability of assigned staff.
8. Provide references from three (3) organizations other than the Ohio Turnpike and Infrastructure Commission for similar projects and services completed in the past three (3) years. For each reference, provide a contact name and phone number.
9. List all services performed for the Ohio Turnpike and Infrastructure Commission over the last five (5) years.

Items 1 through 9 must be included in the LOI on single sided 8 1/2" x 11" sheets of paper. Items 1 through 9 shall not exceed fifteen (15) pages and Item 6 shall not exceed two (2) pages and shall be in no smaller than size 11 font. The Letter of Interest shall not exceed fifteen (15) pages. Items B, C, D and E listed in PART V below are excluded from the page limit. A one (1) page cover letter and a Table of Contents may be included and will not be considered as part of the fifteen (15) page limit.

PART IV. FORM CONTRACT FOR PROFESSIONAL SERVICES FOR A CONSTRUCTION PROJECT REQUIREMENTS

In submitting a Letter of Interest, the Respondent agrees to sign the Contract for Professional Services for a Construction Project attached as Appendix B, incorporating the Scope of Services, within ten (10) days of the Commission's delivering of a notice of award.

PART V. SUBMISSION REQUIREMENTS

For Respondent's Letter of Interest to be responsive, Respondent must submit the following:

A. A Letter of Interest addressing the items listed in PART III, and limited to 15-pages, not including items B, C, D and E listed below.

B. An explanation of any concerns, requested information or exceptions related to the Request for LOIs, Scope of Services or the Contract for Professional Services for a Construction Project (attached as Appendix B).

C. A completed, signed, and notarized Non-interest/Non-collusion Affidavit (see Appendix C attached hereto; see also, Ethics Policy attached as Appendix D which is referenced in the affidavit).

D. Completed and Signed Disclosure and Acknowledgement Governing the Expenditure of Public Funds on Offshore Services (see Appendix E attached hereto).

E. Completed Small Business Enterprise ("SBE") Utilization Certification and Plan demonstrating the commitment and means for achieving SBE participation on the Respondent's team (see Appendix F attached hereto). If the Certification and Plan fails to meet or exceed the **20% Goal**, the Respondent is required to demonstrate that it used Good Faith Efforts to attain SBE participation that meets or exceeds the Goal. As described in Appendix F, the Commission recognizes SBEs that are certified with the Commission or ODOT as SBE and considers DBEs certified with ODOT and firms certified as EDGE through DAS as eligible for SBE certification. Contact the Commission's Office of Equity and Inclusion with any questions concerning the SBE Program.

PART VI. INQUIRY SUBMISSION INSTRUCTIONS

All interested parties are welcome to submit specific questions or requests for clarifications of the LOI requirements. Respondents are expected to raise any questions, exceptions, or additions they have concerning the LOI prior to the end of the Inquiry Period indicated on the cover page. These questions shall be addressed in writing and **emailed to** purchasing@ohioturnpike.org**. Do not contact the Commission by phone. Do not direct questions regarding the Request for LOIs to anyone other than through the email address provided.** At the completion of the Inquiry Period, a summary of all questions and answers will be compiled, posted on the Commission's website (https://www.ohioturnpike.org/business/doing-business-with-us/rfps), and provided via email to the interested parties on file. In the event that it becomes necessary to provide additional clarifying data or information or to revise any part of this Request for Letters of Interest, addenda will be posted publicly (at the same link as answers) and provided directly to all recipients of this Request for Letters of Interest.

PART VII. LOI SUBMISSION INSTRUCTIONS

Respondents must timely submit its Letters of Interest electronically to purchasing@ohioturnpike.org in pdf format by the deadline specified on the cover page of this Request for Letters of Interest. Paper copies received will be considered non-responsive.

PART VIII. EVALUATION OF LOIs

The Commission will form an Evaluation Team consisting of members of the Commission Engineering staff to review the Letters of Interest. Respondents may be required to make a presentation to the Evaluation Team. A Consulting Services Contract will be awarded, if any award be made, to the Respondent determined to be the most qualified to perform the required services. In determining whether a Respondent is responsive, the Commission will consider the Respondent's experience, conduct and performance on previous contracts (if any) and ability to execute the Contract properly. Factors that may be considered by the Commission are:

A. Competence to perform the required professional design services as indicated by the technical training, education, and experience of the firm's personnel, especially the technical training, education, and experience of the employees within the firm who would be assigned to perform the services; 20 points

B. Ability of the responding firm in terms of its workload and the availability of qualified personnel, equipment, and facilities to perform the required professional design services or design-build services competently and expeditiously; 15 points

C. Past performance of the responding firm as reflected by the evaluations of previous clients with respect to such factors as control of costs, quality of work, and meeting of deadlines; 15 points

D. Any other relevant factors as determined by the Commission, including but not limited to completion and submission of all items required under this Request for Letters of Interest, and any exceptions or requested deviations; 20 points

E. Committing to a plan for meeting or exceeding the SBE Goal or satisfactorily demonstrating use of Good Faith Efforts to attain SBE certified firms' participation on the Project – pass/fail;

F. Fostering competition and economic development – pass/fail; and

G. Disclosure of any conflict of interest – pass/fail.

Following the ranking of the Letters of Interest submitted, a "Scope of Services" meeting will be held with the top-ranked Respondent to ensure the Respondent's understanding of the contract requirements and fee negotiations may commence. Following this meeting, the Respondent shall submit to the Commission its proposed hourly billing rates and classifications for all permanent employees in accordance with the Ohio Turnpike and Infrastructure Commission Professional Services Method of Compensation – Hourly Billing FY 2021 Summary, and a fee proposal for all tasks defined at the Scope of Services meeting. The top-ranked Respondent's fee will be compared to the Commission's estimates. If necessary, the Commission will attempt to negotiate a mutually acceptable fee. If those negotiations

are unsuccessful, the process will be repeated with the Respondent that submitted the next ranked Letter of Interest. Following successful negotiations, a contract (see Appendix B for form of Contract) will be entered into based on the Scope of Services. Furthermore, the Commission will not agree to pay or reimburse for the successful Respondent's travel time and mileage to and from the work site, nor overnight lodging and/or per diems in connection with providing those services as set forth in the Scope of Services.

PART IX. OFFICE OF EQUITY AND INCLUSION

The Commission adopted its Small, Minority Business Inclusion Program in 2016 to ensure that businesses certified as a Small Business Enterprise (SBE), Minority Business Enterprise (MBE), and/or Disadvantaged Business Enterprise (LDBEs) have the fullest possible opportunity to participate in contracts involving the expenditure of Commission funds. The program is administered by the Commission's Office of Equity and Inclusion (OEI), which reviews each proposed contract and determines if opportunities exist and if so, applies a goal to the proposed contract. In some cases, no goal is applied to a proposed contract due to a lack of opportunity and availability of certified businesses.

The Commission's Office of Equity and Inclusion Standards and Practice Manual for the Small, Minority and Disadvantaged Business Inclusion Program is available on the Commission's website at https://www.ohioturnpike.org/business/oei.

When a goal is identified in an LOI, the respondent must submit the documentation provided by the Commission to show how the respondent will meet the goal. When the goal is waived, the program standards still require respondents to use "good faith efforts" or necessary and reasonable actions that would reasonably be expected to attain SBE or MBE or LDBE participation in the respondent's performance of the scope of work.

Additionally, whether the Commission applies a goal to a proposed contract or not, the program standards provide that the Commission may apply an evaluation credit of five percent (5%) to the total points awarded for responses received from SBEs, or MBEs and LDBEs consultants to perform the personal or professional services set forth in the Scope of Services. The Commission may apply this credit in the evaluation process for responses submitted in response to this LOI.

For questions about the Commission's Small, Minority and Disadvantaged Business Inclusion Program, please visit the Commission's website at https://www.ohioturnpike.org/business/oei.

PART X. DEVIATIONS, EXCEPTIONS AND ADDENDA TO REQUEST FOR LOIs

Respondents should raise any questions, exceptions or requested changes they have concerning the Request for LOIs during the Inquiry Period. If a Respondent discovers any ambiguity, error, conflict, discrepancy, omission or other deficiency in this Request for LOIs, that Respondent should immediately notify the Commission of such error and request modification or clarification of the Request for LOIs in accordance with the procedures outlined in PART VI. In the event that it becomes necessary to provide additional clarifying data or information or to revise any part of this Request for LOIs, addenda will be issued and posted on the Commission's website (https://www.ohioturnpike.org/business/doing-business-with-us/rfps) to modify the necessary provisions of the Request for LOIs.

Respondents should specify in the Proposals whether they take exception to any of the Scope of Services or the Consulting Services Contract. If a Respondent fails to notify the Commission of a known error in

the Request for LOIs, and a Consulting Services Contract is awarded to that Respondent, that Consultant shall not be entitled to additional compensation or time by reason of the error or its later correction.

The Commission reserves the right to make changes to the scope of this Request for LOIs and to clarify any of the requirements, information and/or provisions of this Request for LOIs as it deems necessary. Any changes to the Request for LOIs will be made via addenda issued prior to the submission deadline. The Commission further reserves the right, if necessary, to extend the submission deadline.

PART XI. LEGAL REQUIREMENTS

The Respondent is required to adhere to the rules and regulations promulgated by the Commission and the State of Ohio, and all terms and conditions set forth in this Request for LOIs. Additionally, the Respondent agrees to the following:

A. A Respondent may withdraw or modify its proposal only if notice of such withdrawal or modification is prior to the Letter of Interest due date as identified on the front cover of this Request for LOIs.

B. Once opened, the Respondent agrees that its Letter of Interest cannot be altered, modified, or withdrawn.

C. By submitting a Letter of Interest, the Respondent acknowledges it has read this Request for LOIs, understands it, and agrees to be bound by the terms and conditions set forth herein.

D. The Commission is not responsible for the accuracy of any information regarding this Request for LOIs that was gathered through a source other than the Commission's website or the inquiry process described above.

The Commission reserves the right to:

A. Reject any and all Letters of Interest in whole or in part;

B. Require any Respondent to submit additional written or oral clarification of their Letter of Interest and to meet with any, but not necessarily all, of the Respondents to obtain additional information and/or clarification and/or to negotiate terms of any Letter of Interest submitted;

C. May consider financial information other than any financial information required by this Request for Letters of Interest (if any) as part of the evaluation process, including but not limited to credit reports from third-party reporting agencies.

D. Enter into a Contract with the Consultant on the basis of the Letter of Interest submitted, without written or oral modifications thereto; and

E. Waive minor irregularities noted in a Letter of Interest when in the best interest of the Commission.

Under no circumstances will the Commission be responsible for any costs incurred by any Respondent in submitting a Letter of Interest.

PART XII. INQUIRY AND LOI SUBMISSION INSTRUCTIONS

Respondents must timely submit one electronic version of its Letter of Interest electronically to purchasing@ohioturnpike.org in pdf format before the deadline specified on the cover page of this RFP.

PART XIII. ONLINE NOTARY PUBLIC SERVICES

The Commission has the capability to provide online notary public services which are available to any respondent without access to a notary public for documents that must be notarized and submitted with a bid. Please allow at least 3 business days to process any request for online notary public services. Requesting party must have computer internet access and a webcam. Please contact the Commission at purchasing@ohioturnpike.org for online notary public information and services.

PART XIV. APPEAL PROCESS

Any aggrieved Respondent desiring to challenge the award of a contract as a result of this Request for Letters of Interest must state its complaint in writing, through electronic submission in pdf format to **purchasing@ohioturnpike.org** within five (5) calendar days of notification of the contract award. Upon receipt of a timely challenge, one or more representative(s) of the Commission shall meet with the protesting party to hear its objections. ORC Chapter 119 shall not be applicable to such meeting. No final award shall be made until the Commission either affirms or reverses its earlier determination for such contract award.

APPENDIX A
LOI 15-2021
DRAFT SCOPE OF SERVICES
PROJECT NO. 71-21-04

A. PROJECT OVERVIEW

Project 71-21-04 includes, but is not limited to:

a. Design of removal of the bridge for the **MP 83.3 – Mainline Bridge over the North Coast Inland Trail** and replacement with a precast structure and pavement on fill.
b. Design of a deck overlay for the **MP 83.3 – Mainline Bridge over Waggoner Road (County Route 82)** and also includes all necessary substructure and superstructure repairs, as well as approach work to provide proper transition to the bridge.
c. Performance of a site inspection and engineering investigation of the structural components of the bridges listed above for the purpose of determining required construction work.
d. Preparation of an engineering report summarizing the site inspection and engineering investigation.
e. Preparation of maintenance of traffic plans to construct the proposed work while maintaining traffic on the Ohio Turnpike for the bridges in each respective Project.
f. Communication and coordination with all stakeholders, including obtaining the necessary approvals and access required concerning the property interests of others.
g. Consultation with the Commission staff on the recommendations.
h. Preparation of final Construction Plans and Specifications for bidding.
i. Provide for engineering support during construction.
j. Prepare record drawings and final load rating reflecting the as-built condition of the structures.

B. SITE INSPECTION/ENGINEERING REPORT/DESIGN/PLAN PREPARATION– PHASE I

The complete scope of this Phase will be further refined at a "Scope of Work" meeting with the Consultant. A partial scope of this phase is as follows:

1. Site inspections and engineering investigation shall be performed to determine all deficiencies, estimated quantities, repair recommendations, removal limits, removal procedures and project staging. The Consultant is to determine the project limits, subject to the approval of the Chief Engineer.
2. Preparation of an engineering report summarizing the site inspection and engineering investigation, including all deficiencies and repair recommendations, as well as removal limits, removal procedures, and project staging recommendations for the bridges. The Consultant shall also provide a recommended design and construction schedule.
3. Preparation of Construction Drawings and Contract Documents for bidding. The Construction Drawings and Contract Documents items shall address, but not be limited to, those items listed in the Project Overview.
4. Additional Specifications and Special Provisions shall be prepared if not covered by ODOT Specifications and the Ohio Turnpike & Infrastructure Commission's Special Provisions. Specifications and Special Provisions submitted by the Consultant shall include reference to any and all required permits to complete the Project.
5. Preparation of all required Temporary Traffic Control Plans on the Turnpike. The Consultant shall coordinate with the Ohio Department of Transportation and Sandusky County as appropriate for the Project.
6. Communication and coordination with all stakeholders during the design and construction activities to prevent conflicts with other planned projects and to address concerns of the stakeholders and to facilitate timely design completion.
7. Preparation of a construction cost estimate for the project.
8. Review and evaluation of construction bids received for the Project and submission of a recommendation concerning award to the Chief Engineer.
9. Plans shall be prepared for anticipated 2024 construction, with final Plans, Specifications, and Estimate due to the Commission on April 1, 2023.

C. ENGINEERING SUPPORT DURING CONSTRUCTION– PHASE II

The Consultant is to provide engineering support during construction operations as designated by the Commission. Construction services are to include, but not be limited to, the following:

1. Consulting with the Commission on all questions of engineering with regard to construction of the Project.
2. Reviewing the Contractor's fabrication Plans, material and products submittals and brochures and shop drawing submittals. Advising the Commission on the acceptability of such submittals.
3. Preparing Record Plans of the completed construction from information provided by the construction contractor and field records of construction activity. Revisions are to be noted on the original Project AutoCAD drawings.
4. Updating the Bridge Load Rating for the rehabilitated condition (if required), utilizing AASHTO's AASHTOWARE software.

D. GENERAL

The Commission expects three stages of design review to occur. In addition to the Commission's Engineering staff performing reviews at each stage, the Commission anticipates causing a third-party engineering consultant to review each deliverable. The three design review stages are anticipated upon the following milestones: (1) completion of the investigation and evaluation phase; (2) completion of preliminary plans (approximately 30%); (3) completion of 90% plans. Consultants shall incorporate review time of at least two weeks for each stage into its design schedule.

The Commission's Sample Specifications, Standard Drawings, Standard Conditions for Public Improvement Contracts, and original Construction Plans are available for download through .ftp site system upon request from any interested firm with a 2021-2022 Biennial Statement of Qualifications on file with the Commission.

APPENDIX B

CONTRACT FOR PROFESSIONAL SERVICES FOR A CONSTRUCTION PROJECT
for
Project No. 71-21-04

This Contract, entered into as of the last date of the signature below, is between the **Ohio Turnpike and Infrastructure Commission**, a body corporate and politic constituting an instrumentality of the State of Ohio, located at 682 Prospect Street, Berea, Ohio 44017 (the "Commission"), through its Executive Director under the authority of Section 5537.04(A)(12), Article V, Section 1.00 of its Code of Bylaws, and Resolution No. _____, adopted _____, 2021, and [***Consultant***], an Ohio [*corporation, limited liability company, etc.*], located at [*insert address*] ("Consultant"), through its authorized representative.

This Contract pertains to architectural/engineering design services during construction for the following: Project No. 71-21-04, **Bridge Deck Rehabilitation and Bridge Removal**, Deck Overlay of Mainline Bridge over Waggoner Road (County Route 82) at Milepost 83.3 in Sandusky County, and Removal of the Mainline Bridge over the North Coast Inland Trail at Milepost 83.3 in Sandusky County, Ohio **(the "Project")**.

RECITALS

WHEREAS, on _____, 2021, the Commission issued Request for Letters of Interest No. 15-2021("Request for LOIs") to select a consultant to provide architectural/engineering design services during needed for the Project;

WHEREAS, the Consultant submitted a Letter of Interest dated _____, 2021 to perform the necessary consulting services described in the Request for LOIs; and

WHEREAS, the Commission's Engineering staff reviewed the Letters of Interest received to perform the consulting services for the Project, and among those submitting letters of interest, determined that the Consultant was the most qualified firm to perform the necessary services;

WHEREAS, on _____, 2021, the Consultant submitted a fee proposal to perform the professional consulting services required for the Project (the "Fee Proposal");

WHEREAS, the Commission's Engineering staff reviewed the fee proposal and deemed it reasonable and appropriate;

WHEREAS, the Executive Director approved the Chief Engineer's recommendation to award this Contract to Consultant; and,

WHEREAS, the Commission authorized the award of the Contract to Consultant under Resolution No. _____, adopted _____, 2021.

NOW, THEREFORE, in consideration of the mutual promises set forth herein, the Commission agrees to pay for, and the Consultant agrees to provide the professional services identified herein on the terms and conditions set forth below.

ARTICLE 1
GOVERNING DOCUMENTS

1.1 Contract Documents. The documents that comprise this Contract include this Contract, the Consultant's Fee Proposal, dated _____, 2021 (attached hereto as Exhibit A) and the Final Project Scope, if any (attached hereto as Exhibit B) (the "Contract Documents"). In the event of a conflict, the terms and conditions of this Contract control.

1.2 Designated Personnel. Prior to performing any services, the Consultant shall provide to the Commission for approval a list of personnel designated to perform the services along with their resumes and certifications, as required. Only those designated personnel may perform those services unless Consultant obtains the Commission's approval of any substitutions or additions in advance of any change.

1.3 Specifications.

1.3.1 Unless otherwise instructed in writing, any inspection, test or sampling to be performed by the Consultant, shall be in accordance with the Contract Documents of the Commission's Public Improvement Contract, as well as the Specifications for the inspection or testing as most recently published by the American Society for Testing Materials ("ASTM"), the American Association of State Highway and Transportation Officials ("AASHTO"), or the current edition of the State of Ohio Department of Transportation ("ODOT") manual entitled, Construction and Material Specifications, whichever is applicable, unless other standards and requirements are applicable, in which case the current publications containing such standards or specifications shall be followed.

1.3.2 If assigned to perform inspection services, the Consultant shall inspect the work of each contractor for Defective Work in accordance with the duties and responsibilities described in the Contract Documents of the Commission's Public Improvement Contract, which is incorporated by reference into any assignment issued to the Consultant for inspection services. If, through inspection or otherwise, the Consultant shall become aware of any Defective Work on the Project, the Consultant shall report all Defective Work to the Commission, together with recommendations for the correction thereof. Upon completion of any inspection services assigned to the Consultant, it shall provide certification, in writing, to the Commission that the inspections were completed in strict accordance with the specifications set forth in the Contract Documents for that particular project. Such certification shall be on behalf of both the Consultant as an entity and the individual inspector assigned to perform the inspection services.

APPENDIX B

ARTICLE 2
TERM, CONTRACT FEES AND PAYMENT

2.1 **Term.** This Contract shall become effective upon the last date written below and, subject to the termination provisions of this Contract, continue to be in full force and effect until the work required under the Contract is completed by the Consultant to the satisfaction of the Commission.

2.2 **Contract Fee.** The Commission shall pay the Consultant for its proper performance under this Contract an amount up to the not-to-exceed amount of $ [***insert***] as set forth in Exhibit A, to perform the services. The Commission may amend the Contract in writing, prior to the performance of any modified or additional work, in order to incorporate additional Fee Proposals as sought by the Commission. Should the Commission authorize an amendment of this Contract for the performance of any additional services on this Project, any unexpended funds allocated for compensation to the Consultant for a phase within the Project shall not be allocated or added to the not-to-exceed amount established for the performance of any other phases or services. The Commission will not pay for travel time to and from the work site.

2.3 **Billing Rates.** The Commission shall compensate the Consultant based upon the actual effort expended performing the necessary services and Approved Billing Rates derived from actual wage rates, overhead rate and fixed fee using the following formula:

Billing Rate = [Hourly Rate + (Hourly Rate)(Approved Overhead Rate)] x 1.10 with the following definitions:

2.3.1 **Hourly Rates.** Hourly Rates shall mean the direct cost of salaries and/or wages of the personnel of the Consultant, as applicable, including professional, technical, management, administrative and clerical employees, and principals engaged on the Project as related to their time devoted to the Project. All hourly rates are subject to the approval of the Commission's Chief Engineer. The Commission also reserves the right to "cap" the hourly billing rates for any individual assigned to a project in accordance with the document entitled Ohio Turnpike and Infrastructure Commission Professional Services Method of Compensation – Hourly Billing FY 2021 Summary. (Attachment G of the 2021-2022 Biennial Request for Qualifications) This document will be updated annually.

2.3.2 **Approved Overhead Rate.** The Consultant's overhead rate shall be reviewed by the Commission in accordance with the ODOT Consultant Audit Guide. The overhead rate for this Contract shall be approved by the Chief Engineer but shall not exceed 160.00%. The rate may only be amended by mutual agreement of the parties in writing.

2.3.3 **Fee.** The Consultant shall be entitled to receive a profit as a part of the Approved Billing Rate described in Subsection 2.3.4 below attributable to the approved

personnel on the Project. The profit allowance shall be ten percent (10%), and thus the profit multiplier for any given assignment will be 1.10.

2.3.4 Billing Rate Approval. The Consultant, prior to beginning work on the Project, must submit and obtain written approval from the Commission of the Billing Rate for each individual it expects to work on the Project, including their job classification. Prior to assignment of any new personnel to the Project, the proposed Billing Rates and résumés must be submitted for prior written approval by the Commission. Overtime rates will only be paid as approved by the Commission. The Commission reserves the right to cap billing rates for any personnel assigned to the Project. The Consultant shall invoice its personnel expenses based on its Approved Billing Rates. Compensation for any services not specifically provided for shall be determined by prior agreement between the Executive Director or the Chief Engineer of the Commission and the Consultant; otherwise the Commission agrees to compensate the Consultant in accordance with rates submitted. The schedule of rates include all overhead costs except as hereinafter modified. Overtime must have prior approval of the Executive Director or the Chief Engineer of the Commission. Overtime rates will only be in effect after 40 (forty) hours of regular time is worked unless this provision is in conflict with other labor agreements to which the Consultant is a party. The time period for the assessment of regular time shall be from Monday through Friday of a standard work week, and for purposes of overtime, said personnel must have worked on the assigned Turnpike project or at another Ohio Turnpike location on another Commission project. Time in excess of forty (40) hours for this period as well as Saturday and Sunday will be considered as overtime.

2.4 Reimbursable Expenses. No extra charges will be assessed for preparation of invoices, computer time, travel time to and from the job site, or for incidental material, services or equipment, except as hereinafter provided. The Commission agrees to pay the actual costs of telephone, printing, postage and other similar incidental expenses incurred by the Consultant in connection with any services performed pursuant to this Contract when such expenses are fully documented. In the event that specialized materials or equipment is required, they shall be provided by the Consultant at the expense of the Commission provided that the Chief Engineer has given prior approval to such expenditure.

2.4.1 Vehicles. The Commission also agrees to reimburse the Consultant for the use of Consultant's vehicles (or vehicles of Consultant's employees) at the rate the Consultant reimburses its employees, when such vehicles are used pursuant to this Contract, up to the current IRS mileage allowance rate. Mileage to and from the work site shall not be reimbursed. . The approved mileage charges shall not exceed $43.00 per day per vehicle, unless previously authorized in writing by the Chief Engineer. Furthermore, mileage logs shall be completed daily by the Consultant’s employees and submitted with monthly invoices as supporting documentation for mileage reimbursement. If mileage logs are not completed daily, no reimbursement will be made.

2.4.2 Toll Free Access. The Consultant and its employees shall have toll-free passage on the Ohio Turnpike in performing work pursuant to this Contract. However, such toll-free passage shall be strictly prohibited for any personal use by the Consultant's employees. Non-Revenue transponders will be issued to the Consultant upon the submittal of a written request for the requested number of transponders. These transponders are for assigned project use only and it shall be the responsibility of the Consultant to manage and monitor the proper usage of these transponders. The Commission will audit these transponders on a regular basis and should unauthorized activity be detected, the authorization for non-revenue privilege may be revoked. These transponders shall be returned at the completion of the assignment. Should the Consultant return less than the number of transponders issued, there shall be a charge of $100.00 per transponder for each one not returned.

2.4.3 Meals and Lodging. During performance of said professional services, overnight lodging will be provided for Consultant's employees only when it is deemed advantageous to the assignment, and prior approval in writing is granted by the Commission's Executive Director or Chief Engineer. In the event said overnight lodging has been approved by the Executive Director or the Chief Engineer, the cost of meals and lodging shall be reimbursed at a rate the Consultant reimburses its employees, but not in amounts that exceed the Federal CONUS (Continental United States) rates established by the Federal Government and published at https://www.gsa.gov/travel/plan-book/per-diem-rates. CONUS rates will dictate the maximum reimbursement a traveler will receive for lodging and meals (excluding incidentals) by city. Travel reimbursement is based on the location of the work activities and not the accommodations. The location of the work activities shall be the city/county where a majority of the work is being performed for the Project. Reimbursement for lodging and meals (excluding taxes) will be provided on an actual costs basis up to the maximum CONUS rates. Documentation of actual expenditures for lodging and meals is required. For meals, the per diem rates may be used for reimbursement with verification of travel status – refer to the CONUS rules concerning partial days. The Commission agrees to reimburse the Consultant for meals up to the maximum CONUS per diem rates, or at the actual rate the Consultant reimburses its employees, whichever is less.

2.5 Reporting. The Consultant shall provide, and shall require all sub-consultants to provide, any requested data to determine compliance with the representations made in the approved SBE Participation Certification, Utilization Plan, Demonstration of Good Faith Efforts and Statements of Intent to Contract and Perform for each invoice through the Commission's online diversity compliance portal: https://ohioturnpike.diversitycompliance.com/Default.asp. The Consultant and all sub-consultants shall timely submit all required data prior to any reasonable due dates, and to check the online diversity compliance portal on a regular basis to manage contact information and contract records. The Consultant shall require all sub-consultants to have completed all requested items and maintain contact information on record that is accurate and up to date. The Consultant shall include these disclosure and reporting requirements in all subcontracts under the Contract and further require that all subcontractors place the same obligation in each of their lower tier contracts.

The Commission may require additional information related to compliance at any time before, during, or after contract award.

2.6 **Taxes.** The Commission is a tax-exempt entity and will provide the Consultant a copy of the Commission's tax exemption certificate.

2.7 **Invoices and Payment.** The Consultant shall submit invoices no more frequently than once a month in a form agreeable to the Commission. The Consultant shall render its invoices to the Commission on or about the 10th day of the month after any such services are performed. Undisputed invoices shall be due and payable by the Commission within thirty (30) days from the date of receipt thereof. Invoices for any other amounts will be submitted to the Commission as the amounts come due. For any services performed on a time and materials basis, the invoice will also state the total number of hours worked by each individual performing services during the preceding month. Invoices shall be accompanied by such supporting documentation as required by the Commission. The Commission may withhold payment for services that have not been properly performed or completed, and shall not be responsible for cost overruns incurred by the Consultant due to errors and omissions by the Consultant made during the performance of its services on any Turnpike project.

2.8 **Audit.** The Consultant shall keep full and detailed records and accounts related to its rates, fee and reimbursable expenses and exercise such controls as may be necessary for proper financial management and to substantiate all costs incurred by implementing the accounting and control systems generally followed by consultants in the area or projects similar in nature. The accounting and control systems shall be satisfactory to the Commission. The Commission and the Commission's auditors shall, during regular business hours and upon reasonable notice, be afforded access to, and shall be permitted to audit and copy, the Consultant's records and accounts, including complete documentation supporting accounting entries, books, correspondence, instructions, drawings, receipts, subcontracts, Subcontractor's proposals, purchase orders, vouchers, memoranda and other data relating to this Contract. The Consultant shall preserve these records for a period of three years after final payment, or for such longer period as may be required by law.

ARTICLE 3
TIME FOR COMPLETION

3.1 **Time for Completion.** Time is the essence of this Contract. The Consultant is to complete its work [*describe*], unless the Chief Engineer grants a request for an extension from the Consultant. Such extension request must be made in writing to the Chief Engineer no later than seven (7) days following the date upon which any event occurs that gives rise to the need for additional time. The extension request must include a description of the event, the reasons why that event justifies an extension, the duration of the extension sought, and any other documentation requested by the Chief Engineer.

3.2 **Authorization to Proceed.** The Consultant is to proceed with the required services upon the execution of this Contract .

ARTICLE 4
THIRD PARTIES

4.1 **Assignment.** Consultant may not assign, transfer, convey or otherwise transfer or dispose of its rights, title, interest in, or its duty to perform or supervise the performance of any of its obligations hereunder, to any other person, company, corporation or entity without the prior written approval of the Commission. Any purported assignment in violation of the preceding sentence will be void. Any approved assignment shall not relieve the Consultant from any of its responsibilities under the Contract or imply a willingness on the part of the Commission to give any subsequent or other consent, nor stop the Commission from refusing same; nor shall any such consent confer upon any assignee or transferee any right to assign or transfer any rights conferred upon such transferee.

4.2 **Subcontracting.** The Consultant shall not sublet or subcontract, nor shall any approved sub-consultant commence performance of, any part of the work or services included in this Contract without the previous written approval of the Commission. Subcontracting, if permitted, shall not relieve the Consultant of any of its obligations under this Contract. The Consultant shall be and remain solely responsible to the Commission for the acts or faults of any sub-consultant and of such sub-consultant's officers, agents and employees, each of whom shall for this purpose, be considered an agent or employee of the Consultant to the extent of its subcontract. The Consultant shall file a conformed copy of the applicable subcontract with the Commission. The Consultant and any sub-consultant shall jointly and severally agree that the Commission is not obligated to pay or to be liable for the payment of any sums due any sub-consultant. References to the Consultant in this Contract include authorized sub-consultants of the Consultant.

4.3 **Waiver of Defense.** The Consultant covenants for the benefit of the Commission that it will not defend against any claim, suit or action brought against the Consultant or the Commission on account of any tortious act or contractual liability alleged to have been committed or incurred in the Consultant's performance of the Contract during the term thereof, on the ground that said performance, or that any duty or obligation of the Consultant hereunder was in fact being discharged by any person, firm or corporation other than the Consultant, unless the alleged cause of action occurred subsequent to an assignment or transfer of the entire Contract, which assignment or transfer was duly consented to by the Commission in writing.

4.4 **Beneficiaries.** There are no intended third-party beneficiaries of any provision of this Contract.

4.5 **Independent Contractor.** The Consultant is an independent contractor for all purposes under this Contract. This is not an agreement of partnership or employment of the Consultant or any of the Consultant's employees by the Commission for the purpose of the Public Employees Retirement System ("PERS"), Workers' Compensation, or for any other purpose. The Consultant shall not pledge or attempt to pledge the credit of Commission or in any other way attempt to act on the Commission's behalf in an effort to bind the

Commission to any additional agreements. The Consultant agrees to indemnify the Commission for any and all sums that are due and owing to the Internal Revenue Service (IRS) for withholding FICA and unemployment or other state and federal taxes. The Consultant further agrees to make such payments to the IRS and appropriate state authorities for withholding FICA and unemployment taxes.

4.6 **Representations and Warranties.** The Consultant represents and warrants that: (1) so far as the Consultant knows, no member, employee, or agent of the Commission has any interest, either direct or indirect, in the Contract; (2) the Consultant has not employed or procured the employment of anyone to solicit or secure the Contract with the Commission other than those disclosed in the Proposal; and (3) the Consultant will fulfill the representations in its Small Business Utilization Certification and Plan submitted with its Letter of Interest, which the Commission relied upon in selecting the Consultant for contract award; and (4) all materials, including their use by the Commission in unaltered form, will not infringe any third party copyrights, patents or trade secrets that exist as of the date of this Contract and that arise or are enforceable under the laws of the United States of America. If the Commission shall hereafter determine that any of the foregoing representations is false, it may, upon written notice to the Consultant, immediately terminate the Contract and thereafter refuse to make payments thereunder, whether or not such payments are for Services already performed, and may also recover its damages, if any, for breach of warranty; or in the event such false representation was as to the existence of any agreement providing for a bonus, fee, commission, percentage, or other form of contingent compensation, the Commission may, in its discretion, elect to continue the Contract in force by deducting from the payments to be made thereunder to the Consultant the amount of such bonus, fee, commission, percentage, or other contingent payment.

ARTICLE 5
INDEMNIFICATION

5.1 **Generally.** The Consultant shall defend, indemnify and hold harmless the Commission, its Commission members, Executive Director, officers and employees ("Indemnified Parties"), from and against any and all liability, including claims, demands, losses, damages, settlements, judgments, costs and expenses (including reasonable attorney's fees and any costs of defense) of every kind and description arising out of or in connection with, or occurring during the course of, performance of the Contract, whether directly or indirectly, including but not limited to where such liability is:

5.1.1 founded upon or grows out of, directly or indirectly, the acts, errors, omissions, undertakings, representations or warranties of the Consultant, its officers, employees, agents, independent consultants, or sub-consultants;

5.1.2 founded upon, or grows out of, directly or indirectly, the breach by Consultant of any term or condition of this Contract, including but not limited to the breach of any representations or warranties and in particular the breach of its express representation that it is an independent contractor and in compliance with all applicable laws related to work as an independent contractor; or,

5.1.3 founded upon claims of violation of United States patents, trademark, trade secrets, proprietary information, copyrights or other intellectual property rights in existence on the date of this Contract resulting from the Consultant's or the Commission's use of any equipment, software, technology, documentation, and/or data developed in connection with the services and products described in the Contract.

5.2 **Application.** Nothing herein contained shall require the Consultant to reimburse the Commission for acts or omissions caused by the sole negligence of the Commission. The Consultant shall waive and shall not assert any claim against the Commission for any injury to persons, whether or not resulting in death, or any loss or damage to property occurring from any cause unless such injury, loss or damage is due solely to the negligence of the Commission, its agents or employees.

5.2.1 If a regulatory body or court of competent jurisdiction finds that the Consultant is not an independent contractor or is not in compliance with applicable laws related to work as an independent contractor, based on the Consultant's own actions, the Consultant will assume full responsibility and liability for all taxes, assessments, and penalties imposed against the Consultant or the Commission resulting from that contrary interpretation, including taxes, assessments, and penalties that would have been deducted from the Consultant's earnings if the Consultant had been on the Commission's payroll and employed as a Commission employee.

5.2.2 If a third-party claim causes the Commission's quiet enjoyment or use of any product supplied by the Consultant to be seriously endangered or disrupted, or, should a court order be issued against the Commission restricting its use of any product and should the Consultant determine not to further appeal the claim issue, at the Commission's sole option, the Consultant shall provide at its sole expense, the following: Purchase for the Commission the rights to continue using the contested product(s); or Provide substitute products to the Commission which are, in the Commission's sole opinion, of equal or greater quality, or Refund all monies paid to the Consultant for the product(s) subject to the court action. The Consultant shall also pay to the Commission all reasonable related losses related to the product(s) and for all reasonable expenses related to the installation and conversion to the new product(s).

5.2.3 Should the Commission elect to have the Consultant defend one or more of the Indemnified Parties, the Commission shall have the right, but not the obligation, to select the counsel that will provide that defense, to determine all points of control on behalf of the Commission, and to approve or disapprove of any settlement.

5.2.4 The indemnity obligations of the Consultant shall not be limited by the types, terms, conditions, or limits of liability of any insurance purchased and maintained by Consultant.

5.3 This agreement to defend, hold harmless and indemnify shall survive expiration or termination of this Contract.

APPENDIX B

ARTICLE 6
INSURANCE

6.1 General. Except for the Consultant's indemnification obligations with respect to infringement, the Consultant shall, at its expense, at all times during the performance of services hereunder, and for a period of ten (10) years thereafter, maintain liability insurance insuring themselves against the indemnification obligations throughout the term of the Contract and claims arising from wrongful acts, negligent acts, errors or omissions of the Consultant, its employees, agents, sub-consultants, or any other representatives of the Consultant involved in the work. The Consultant shall name the Commission as an additional insured as set forth in more detail below and shall be responsible for any retentions or deductibles due under the policies in the event of a claim. The Consultant shall require its sub-consultants to obtain insurance and shall be responsible for enforcement of its sub-consultants' obligation to obtain insurance, at limits appropriate to the exposures of the sub-consultant's work to satisfy the requirements hereunder. The policies the Consultant and its sub-consultants maintain shall be with companies authorized to do business in Ohio and rated "A" or above by A.M. Best Company or equivalent and carry the following coverages and limits:

6.1.1 Comprehensive Commercial General Liability that includes the Commission as an additional insured for amount not less than $1,000,000, including those resulting in death to any one person or persons and/or property damage arising from any one (1) accident and $2,000,000 in the aggregate, including coverage for: property damage, premises operations, liability for independent consultants, products liability, valuable papers, contractual liability and personal injury. The policy or policies shall be primary and non-contributory, provide coverage for on-going and completed operations, and shall not contain a provision that eliminates coverage for damages arising out of the negligence of the additional insured.

6.1.2 Comprehensive Automobile Liability Insurance for bodily injury and property damage that includes the Commission as an additional insured for an amount not less than $1,000,000 combined single limit. The policy or policies shall be primary and non-contributory and shall not contain a provision that eliminates coverage for damages arising out of the negligence of the additional insured.

6.1.3 Professional Liability Insurance for not less than $2,000,000 for any one incident, and if not written on an occurrence basis, shall be maintained for a period of not less than two (2) years following the completion of the services under this Contract.

6.1.4 Umbrella/Excess Liability Insurance Policy over primary general liability and automobile liability following the same terms as the underlying policies and in an amount not less than $3,000,000.

6.2 Certificate of Insurance. Upon execution of this Contract, the Consultant shall submit to the Commission a certificate(s) of insurance and related additional insured endorsements

with respect to the required policies. If the additional insured endorsements required above are not available at the execution date, the Consultant shall submit to the Commission a notation of the endorsement together with either a binder or an advice with respect to such endorsement. The endorsement shall be submitted no later than thirty (30) days after the execution date hereof. The Consultant shall provide written notification to the Commission at least 30 days in advance of any cancellation or modification of the Consultant's insurance policy terms or coverage as set forth herein.

6.3 **Copy of Insurance Policy.** Upon the execution of this Contract, the Consultant shall provide a copy of the insurance policy or policies required under this Contract after redacting proprietary or confidential information if applicable.

6.4 **Workers' Compensation.** The Consultant shall also procure and maintain until the Contract has been fully and completely performed, Ohio Worker's Compensation Insurance covering all employees who engage in any work in connection with the performance of the Contract except employees hired in a state other than Ohio who will not engage in any work in the State of Ohio.

6.5 **Notice.** Within twenty-four (24) hours after the occurrence of any accident or other event that results in or might result in injury to the person or property of any person, which allegedly arises in any manner from the performance under the Contract or occurs in the area(s) for which the Consultant is responsible, the Consultant shall send written notice thereof to the Commission's General Counsel setting forth a full and precise statement of the facts pertaining thereto, and send a copy of any summons, subpoena, notice or other documents served upon or received by the Consultant, or any agent, employee or representative of the Consultant, arising in any manner from the performance of the Contract or any part thereof.

ARTICLE 7
PERFORMANCE AND SAFETY STANDARDS

7.1 The Consultant shall provide professional services as set forth in this Contract. The Consultant represents that it is properly licensed in the jurisdiction where the Project is located to provide the services required by this Contract or shall cause such services to be performed by appropriately licensed professionals.

7.2 The Consultant shall perform its services consistent with the professional skill and care ordinarily provided by Consultants practicing in the same or similar locality under the same or similar circumstances. The Consultant shall perform its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the Project.

7.3 The representative of the Commission that is authorized to act on behalf of the Commission with respect to the Project is the Chief Engineer. The representative authorized to act on behalf of the Consultant with respect to the Project is:

[Name
Address
Address
Telephone
Fax
Email]

7.4 Reasonable Behavior. Each party will act in good faith in the performance of its respective responsibilities under the Contract and will not unreasonably delay, condition or withhold the giving of any consent, decision or approval that is either requested or reasonably required by the other party in order to perform its responsibilities under the Contract.

7.5 Public Records Act. The Consultant acknowledges that the Commission is required to respond to all Public Record requests under Ohio law. The Consultant shall comply with the Public Record Act in all respects and shall not restrict or otherwise inhibit the Commission from complying.

7.6 Ownership of Materials. Drawings, plans and other documents prepared by, or with the cooperation of, the Consultant pursuant to the Contract, including all copyrights, are works for hire under the United States Copyright Act and shall, upon payment therefore, become the property of the Commission, whether or not the project for which they are prepared is commenced or completed. If for any reason the product of the Consultant's services hereunder are determined at any time not to be a work made for hire, the Consultant irrevocably transfers and assigns to the Commission all right, title and interest therein, including all copyrights, as well as all renewals and extensions thereto. Any materials prepared, created, produced by, or with the cooperation of, the Consultant pursuant to the Contract, including all copyrights, are the property of the Commission. The Consultant may retain copies, including reproducible copies of such drawings and other documents for information and reference. The Commission may use such drawings or other documents, or others employed by the Commission for reference in any completion, construction, correction, remodeling, renovation, reconstruction, alteration, modification of or addition to a project, without additional compensation to the Consultant.

7.7 Non-Collusion. The Consultant covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Contract. The Consultant further covenants that no person having any such interest shall be employed in the performance of this Contract.

7.8 Safety.

7.8.1 Consultant shall be responsible for the safety of its personnel related to and during the performance of Services required by this Contract and will take reasonable measures to ensure that it and its sub-consultants provide and maintain a safe working environment. Consultant shall ensure that its employees and the employees of its sub-consultants, before they begin and throughout their

employment at any Project site, are made aware of the requirements of all applicable safety and health regulations including, but not limited to, Applicable Laws and are notified that compliance therewith is a condition of their continued employment. Consultant shall remove from the site any employees or sub-consultants that fail to abide by applicable health and safety regulations. Consultant shall not knowingly permit a hazardous, unsafe, unhealthy, or environmentally unsound condition or activity to be conducted at any Project site.

7.8.2 If Consultant becomes aware of any hazardous, unsafe, unhealthy or environmentally unsound condition at any Project site, it shall notify the Commission and take reasonable steps to eliminate, terminate, abate or rectify any condition over which Consultant has control. The Commission may, but is not obligated to, inspect at reasonable times, the Project site and Consultant's facilities and appropriate Project records to ascertain Consultant's and its sub-consultants' compliance with the requirements of this Contract; provided however, neither the existence nor exercise of such right will relieve Consultant of its responsibility for its own and its sub-consultants' compliance with this Contract, to always use due care in the performance of services and for fulfilling all of its other obligations hereunder with respect to health and safety.

7.8.3 Consultant shall promptly notify the Commission of any injury, death, loss or damage to persons, animals, or property, which is in any way related to Services performed under the Contract, even though such occurrence was not caused or consented to by Consultant, its employees, sub-consultants or agents. Smoking is prohibited at the Project site. Consultant shall monitor the Commission's no smoking rule with respect to its employees and sub-consultants while they are working at the Project site.

ARTICLE 8
SUSPENSION, DEFAULT, AND TERMINATION

8.1 **Suspension.** The Commission may at any time prior to completion of the Contract temporarily suspend any Contract when it is determined to be in the Commission's interest. Such suspension shall be provided by written notice. If such Suspension is not lifted within 120 days from the notice of Suspension, the Consultant may request that the Contract be terminated.

8.2 **Default.** Each of the following shall constitute an event of default by the Consultant:

8.2.1 If the Consultant becomes insolvent, makes a general assignment for the benefit of creditors, or files a voluntary petition in bankruptcy or consents to the appointment of a receiver, trustee, or liquidator of all or substantially all of its property;

8.2.2 If by order or decree of a court, the Consultant is adjudged bankrupt or an order is made approving a petition filed by any creditors or, if the Consultant is a corporation, by any of the stockholders of the Consultant, seeking its reorganization

or the readjustment of its indebtedness under the federal bankruptcy laws or any law or statute of the United States or of any state thereof;

8.2.3 If a petition under any part of the federal bankruptcy laws or an action under any present or future insolvency law or statute is filed against the Consultant and is not dismissed within ninety (90) days after the filing thereof;

8.2.4 If any lien is filed against the Commission's property because of any act or omission of the Consultant and is not released or discharged by obtaining a bond at Consultant sole expense and cost within twenty (20) days;

8.2.5 If the Consultant voluntarily abandons, deserts, vacates, or discontinues its operations;

8.2.6 If the Consultant fails duly and punctually to pay any monies required hereunder within twenty (20) days after written notice;

8.2.7 If the Consultant fails to keep, perform and observe any promise set forth herein on its part to be kept, performed or observed within five (5) days after receipt of notice of default from the Commission, except where fulfillment of its obligation requires activity over a period of time and Consultant has commenced whatever may be required to cure the failure to the satisfaction of the Commission within five (5) days after notice and continues such performance without interruption.

8.3 Remedies for Default. Upon occurrence of any Default or any time thereafter during the continuance thereof, the Commission may, at its option, exercise concurrently or successively any one or more of the following rights and remedies:

8.3.1 Upon five (5) days' notice, terminate this Contract.

8.3.2 Without waiving any default, pay any sum required to be paid by the Consultant to others than the Consultant and which the Consultant has failed to pay, and perform any obligation required to be performed by the Consultant hereunder, and any amounts to paid or expended by the Commission in fulfilling the obligations of Consultant hereunder, including all interest, costs, damages, attorneys' fees and penalties, shall be repaid by the Consultant to the Commission on demand with interest thereon at the rate of twelve percent (12%) per annum from the date of such payment or expenditure plus a twenty percent (20%) administrative fee.

8.3.3 Invoke the dispute resolution provisions of this Contract.

8.4 Convenience Termination. In addition to the termination upon five (5) days' notice after an occurrence of default as provided above, the Commission may unilaterally terminate the Contract at any time for any reason by giving thirty (30) calendar days prior written notice to the Consultant. If the Commission unilaterally terminates the Contract pursuant to this Section, the Consultant shall be paid all amounts due up to the termination date. The

Commission and the Consultant may also mutually agree to terminate this Contract in writing.

8.5 **Waiver.** No waiver by the Commission at any time of any of the terms or conditions of this Contract shall be deemed or taken as a waiver at any time thereafter of the same or any other term or condition herein or of the strict and prompt performance thereof. No delay, failure or omission of the Commission to exercise any right, power, privilege or option arising from any default, or subsequent payment then or thereafter accrued shall impair or be construed to impair any such right, power, privilege or option to waive any such default or relinquishment thereof, or acquiescence therein and no notice by the Commission shall be required to restore or revive any option, right, power, remedy or privilege after waiver by the Commission of default in one or more instances. No waiver shall be valid against the Commission unless reduced to writing and signed by an officer of the Commission duly empowered to execute same.

8.6 **Force Majeure.** Neither party shall have liability to the other if it becomes unable to timely perform its obligations under this Contract due to labor disputes, fire, acts of God, tornados, flood, hurricane, earthquake, tidal wave, blizzard, or other natural disasters, acts of the state or federal government in their sovereign capacity, riots, civil commotion, quarantine restrictions, war, terrorism, incidence of disease or other illness that reaches outbreak, epidemic or pandemic proportions, unavoidable casualties, or other causes beyond their control.

ARTICLE 9
NON-DISCRIMINATION

9.1 **Non-discrimination**: The Consultant, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, low-income status, or limited English proficiency in the selection and retention of sub-consultants, including procurements of materials and leases of equipment. The Consultant will not participate directly or indirectly in the discrimination prohibited by applicable federal, state, and local laws.

9.2 **Solicitations of Sub-consultants, including procurement of materials and equipment**: In all solicitations, either by competitive bidding or negotiation, made by the Consultant for work to be performed under a subcontract, including procurements of materials, or leases of equipment, the Consultant will notify each potential sub-consultant or supplier of the Consultant's obligations under this Contract The Consultant shall also include the provisions of this Article 9 in every sub-consulting agreement, subcontract, purchase order, lease or other such document.

ARTICLE 10
LAW AND DISPUTES

10.1 **Choice of Law.** The Contract shall be subject to the laws of the State of Ohio. All duties of either party shall be deemed performable and performed in the State of Ohio.

10.2 Informal Dispute Resolution. At the written request of either party, the parties will attempt to resolve any dispute arising under, or relating to, the Contract through the informal means. Each party will appoint a senior management representative who does not devote substantially all of his or her time to performance under the Contract. The representatives will furnish to each other all non-privileged information with respect to the dispute that the parties believe to be appropriate and germane. The representatives will negotiate in an effort to resolve the dispute without the necessity of any formal proceeding.

10.3 Mediation. If the parties do not resolve their differences through Informal Dispute Resolution, the Commission may, at its sole discretion and election, choose to proceed with mediation governed by the most recently published Construction Arbitration Rules and Mediation Procedures of the American Arbitration Association, and the Consultant hereby agrees to engage in that process in accordance with those rules and procedures. The parties shall have 90-days from the date that a party serves notice of its claim on the other party to attempt to resolve their differences through mediation.

10.4 Formal Dispute Resolution - Litigation. If the parties do not resolve their differences through mediation, the dispute shall be resolved through litigation. Litigation may take place only in Cuyahoga County Court of Common Pleas or the United States District Court for the Northern District of Ohio.

ARTICLE 11
GENERAL

11.1 Notices. All notices or communications required or permitted as a part of the Contract shall be in writing (unless another verifiable medium is expressly authorized) and shall be deemed delivered when:

11.1.1 Actually received, or

11.1.2 If not actually received, 3 days after transmittal through electronic mail receipt with a carbon copy sent through the United States Postal Service with proper postage affixed and addressed to the respective other party at the address set out below or such other address as the party may have designated by notice to the other party, or

11.1.3 Upon delivery by the Commission of the notice to a representative of the Consultant while on the Commission property.

APPENDIX B

The addresses of the parties to this Contract are as follows:

In the case of the Commission:	with a copy to:
Ohio Turnpike and Infrastructure Commission Chief Engineer Attn: Anthony Yacobucci, P.E. 682 Prospect Street Berea, Ohio 44017 tony.yacobucci@ohioturnpike.org	Ohio Turnpike and Infrastructure Commission General Counsel Attn: Jennifer L. Stueber, Esq. 682 Prospect Street Berea, Ohio 44017 jennifer.stueber@ohioturnpike.org
In the case of the Consultant:	
[Name Address Address Telephone Fax Email]	

11.2 Integration and Amendment. The Contract constitutes the entire agreement between the parties and supersedes all other prior or contemporaneous communications between the parties (whether written or oral), and all other communications relating to the subject matter of the Contract. The Contract may be modified or extended by formal amendment of the Contract signed by the parties and made a permanent part of the Contract.

11.3 Severability. The provisions of the Contract will be deemed severable, and the unenforceability of any one or more provisions will not affect the enforceability of any other provisions. In addition, if any provision of the Contract, for any reason, is declared to be unenforceable, the parties will substitute an enforceable provision that, to the maximum extent possible under applicable law, preserves the original intentions and economic positions of the parties.

11.4 Publicity. Neither party may use the name or any data, pictures, or other representation of the other party in connection with any advertising or publicity materials or activities without the prior written consent of the other party. However, the Consultant may include the Commission's name on its client list and may describe briefly, and in general terms, the nature of the work performed by the Consultant for the Commission. The parties further agree that, within a reasonable time following final acceptance, the parties may work toward developing a mutually agreeable statement for public use by the parties such as in marketing materials and in their reports to stockholders.

11.5 Video and Audio Recordings. The Commission has the right to video and/or audiotape any and all meetings, whether held at a Commission site, Consultant site, or via teleconference.

11.6 Confidentiality. If the Consultant or Commission receives information specifically designated as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person. The receiving party may disclose "confidential" or "business proprietary" information after seven (7) days' notice to the other party or when required by law, arbitrator's order, or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or to the extent such information is reasonably necessary for the receiving party to defend itself in any dispute. The receiving party may also disclose such information to its employees, consultants, or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of such information as set forth in this paragraph.

11.7 Construction of this Contract. All terms and words used in this Contract, regardless of the number and gender in which they are used, shall be deemed and construed to include any other number, singular or plural, and any other gender, masculine, feminine, or neuter, as the context or sense of this Contract or any paragraph or clause in the Contract may require, the same as if such words have been fully and properly written in the number and gender. Any act to be performed under the Contract by the "Commission" may be performed by the Executive Director or by such of its employees or such other persons, corporations or firms as the Executive Director may designate. "Executive Director" when used herein, shall refer to the Executive Director of the Commission and include the Chief Engineer, the Deputy Executive Director and the CFO/Comptroller. The headings of Articles and Paragraphs, to the extent used herein, are for reference only, and in no way define, limit, or describe the scope or intent of any provision hereof.

11.8 Counterparts. This Contract may be executed in any number of counterparts, each of which, when so executed and delivered, shall be deemed an original, but such counterparts together shall constitute but one and the same instrument.

11.9 Authority. The undersigned signatory for the Consultant hereby represents and warrants that he or she has full and complete authority to execute the Contract on behalf of the Consultant. This representation and warranty is made for the purpose of inducing the Commission to execute the Contract.

11.10 Electronic Signatures. The parties agree that for purposes of facilitating the signing of this Contract, an electronic signature or an electronic or facsimile transmission of a signature shall be an original signature for all purposes.

[SIGNATURES ON NEXT PAGE]

APPENDIX B

IN WITNESS WHEREOF, the parties have caused this Contract to be executed as of the last date written below.

[CONSULTANT]

By: _____

Printed: _____

Title: _____

Date: _____

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

By: _____
Ferzan M. Ahmed, P.E.
Executive Director

Date: _____

APPROVED AS TO FORM:

By: _____
Jennifer L. Stueber, Esq.
General Counsel

Date: _____

APPENDIX B

Exhibit A
Consultant's Fee Proposal

APPENDIX B

Exhibit B
Final Project Scope

APPENDIX C

NON-COLLUSION AFFIDAVIT

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

State of_____}
}**SS:**
County of_____}

The undersigned, being first duly sworn as provided by law, deposes and says:

1. Their name is _____,

and their office is located at _____.

2. They make this Affidavit with the knowledge and intent that it is to be filed with the Ohio Turnpike and Infrastructure Commission and with the expectation that it will be relied upon by said Commission as consideration and any action which it may take with respect to the bid or proposal accompanying this Affidavit.

3. The undersigned serves in the capacity of _____.
(Sole Owner, Partner, President, etc.)

and in that capacity makes and authorized to make representations and this Affidavit on behalf of:

_____
Name of Corporation, Partnership, Limited Liability Company, etc…)

a _____
(Sole Proprietorship, Partnership, Corporation, Limited Liability Company, etc…)

organized under the laws of _____, and registered to do business in Ohio.
(Name of State)

4a. **Sole Proprietorship Only**: The undersigned states that the following is a complete and accurate list of the names and addresses of all individuals having an interest in the contract contemplated under the bid or proposal accompanying this Affidavit: _____

_____

_____

4b. **Partnership Only**: The undersigned states that the following is a complete and accurate list of the names of the general partners of the partnership and all other individuals having an interest in the contract contemplated under the bid or proposal accompanying this Affidavit, including any partners with a five percent (5%) or more equity interest in the partnership (attach additional pages if necessary): _____

_____

_____

_____

AFFIDAVIT

4c. **Corporation or Limited Liability Company Only**: The undersigned states that the following is a complete and accurate list of the chief executive officer and all individuals that are expected to have an interest in the contract contemplated under the bid or proposal accompanying this Affidavit, including anyone owning five percent (5%) or more equity interests in the entity submitting the bid or proposal (attach additional pages as necessary):

President (or similar chief executive): _____

Owners with 5% or more equity interest: _____

_____

_____

_____

Additional individuals with an expected interest in the contemplated contract:_____

_____

_____

5. The undersigned represents that no person, firm, agent or employee of the entity identified in paragraph 3, nor anyone else to the knowledge of the undersigned, has retained anyone to solicit or secure affirmative or favorable action by the Commission with respect to the bid or proposal accompanying this Affidavit (except a regularly employed salesman paid for services on a regular schedule of commissions and serving in the usual course of business in soliciting such consideration or action by the Commission without promise or expectation of receiving consideration other than the standard and normal fee, commission, or percentage) under any agreement providing for a bonus, fee, commission, percentage, or other form of payment whatsoever which is in any way contingent upon the action to be taken by the Commission with respect to the bid or proposal.

6. The undersigned represents that no person or firm associated with the entity identified in paragraph 3 has any interest, direct or indirect, in any other proposal or bid submitted with respect to the contract contemplated in the bid or proposal accompanying this Affidavit, except the subcontractors, material suppliers, truckers/haulers disclosed in the SBE Utilization Plan.

7. The undersigned states that the bid or proposal accompanying this Affidavit is a genuine and earnest attempt to contract with the Commission, and is not made in the interest or on behalf of any undisclosed individual, person, partnership, company, association, organization or corporation; that the bid or proposal is not collusive or a shame; that the entity identified in paragraph 3 has not, directly or indirectly, induced or solicited any other entity to submit a false or sham bid or proposal, and has not directly or indirectly, colluded, conspired, connived or agreed with any other respondent to submit a collusive or sham bid or proposal, or to refrain from submitting a bid or proposal; and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any person, firm or corporation, to fix the prices of any other responding entity, or to secure any advantage against the Commission or any person, firm or corporation interested in the proposed contract;

AFFIDAVIT

8. The undersigned states that the entity identified in paragraph 3 has received the Commission's Ethics Policy; the Ethics Policy has been reviewed by its managerial staff; the terms and conditions of the Policy are understood; and the entity agrees to comply and assist the Commission in complying with the Policy. Insofar as undersigned knows, no member of the Commission and no employee or agent of the Commission has or will have any interest, either direct or indirect, in the prospective contract contemplated under the bid or proposal accompanying this Affidavit.

_____

(Affiant)

_____

(Printed)

Sworn to before me and subscribed in my presence this _____day of _____, 20_____.

_____

(Notary Public)

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

ETHICS POLICY

I. PURPOSE

A. POLICY STATEMENT

It is the policy of the Ohio Turnpike and Infrastructure Commission ("Commission") to carry out its mission in accordance with the strictest ethical guidelines and to ensure that Commission members and employees conduct themselves in a manner that fosters public confidence in the integrity of the Commission, its processes, and its accomplishments.

B. GENERAL STANDARDS OF ETHICAL CONDUCT

Commission members and employees must, at all times, abide by protections to the public embodied in Ohio's ethics laws, as found in Chapters 102 and 2921, of the Ohio Revised Code, and as interpreted by the Ohio Ethics Commission and Ohio courts. Members and employees must conduct themselves, at all times, in a manner that avoids favoritism, bias, and the appearance of impropriety.

A general summary of the restraints upon the conduct of all members and employees include, but are not limited to, those listed below. Members and employees shall not:

- Solicit anything of value from anyone doing business with the Commission;
- Accept anything of value from anyone doing business with the Commission;
- Solicit or accept employment from anyone doing business with the Commission, unless able to completely withdraw from Commission activity regarding the party offering employment, and the Commission approves the withdrawal;
- Use public position to obtain benefits for the official or employee, a family member, or anyone with whom the official or employee has a business or employment relationship;
- Accept any form of compensation for personal services rendered on a matter before any state agency, or sell goods or services to any state agency, unless the official or employee qualifies for the exception, and files the statement, described in the Ethics Law;

- Hold or benefit from a contract with, authorized by, or approved by, the Commission, unless one of the exceptions in the Ethics Law and related statutes applies;

- Vote, authorize, recommend, or in any other way use his or her position to secure approval of a Commission contract (including employment or personal services) in which the official or employee, a family member, or anyone with whom the official or employee has a business or employment relationship, has an interest;

- Use, or authorize the use of, his or her title, the name "Ohio Turnpike and Infrastructure Commission," or "Commission," or "OTIC," or the Commission's logo in a manner that suggests impropriety, favoritism, or bias by the Commission or the official or employee;

- Solicit or accept honoraria prohibited by the Ethics Law;

- Use or disclose confidential information protected by law, unless appropriately authorized; and

- During public service, and for one year after leaving public service, represent any person, in any fashion, before any public agency, with respect to a matter in which the official or employee personally participated while serving with the Commission.

For purposes of this policy:

- "Anything of value" includes anything of monetary value, including, but not limited to, money, gifts, food or beverages, social event tickets and expenses, travel expenses, golf outings, consulting fees, compensation, or employment. "Value" means worth greater than de minimis or nominal.

- "Anyone doing business with the Commission" includes, but is not limited to, any person, corporation, or other party that is doing or seeking to do business with, regulated by, or has interests before the Commission.

C. FINANCIAL DISCLOSURE STATEMENTS

Every Commission member or employee required to file a financial disclosure statement by law, or Ethics Commission rule, must file a complete and accurate statement with the Ethics Commission by April 15 of each year. Any member or employee appointed or employed after February 15 shall file a statement within ninety days of appointment or employment.

D. ETHICS EDUCATION

All Commission members and employees subject to the financial disclosure requirement must participate in the annual ethics education required pursuant to Executive Order 2019-11D, and some form of annual ethics instruction shall be provided to all Commission employees. In addition to participating in Executive Order training, the Ethics Commission sponsors educational sessions throughout Ohio.

E. PUBLICATION OF THE COMMISSION'S ETHICS POLICY

The Commission's Ethics Policy shall be published on the Commission's website, www.ohioturnpike.org. Persons, corporations or other parties seeking to conduct business with the Commission in amounts in excess of $10,000 shall be provided with a copy of the policy and shall be required to acknowledge receipt of the policy in writing in a form to be prescribed by the Commission's General Counsel.

F. ASSISTANCE

The Ethics Commission is available to provide advice and assistance regarding the Ethics Law and related statutes. The Ethics Commission can be contacted at (614) 466-7090. The Ethics Commission's web site address is: www.ethics.state.oh.us. The Commission's General Counsel and counsel for the Governor's Office are available to answer questions involving this policy.

G. PENALTIES

Failure of any Commission official or employee to abide by this Ethics policy, or to comply with the Ethics Law and related statutes, will result in discipline, which may include dismissal, as well as any potential civil or criminal sanctions under the law.

AFFIRMATION AND DISCLOSURE FORM
EXECUTIVE ORDER 2019-12D
Governing the Expenditure of Public Funds on Offshore Services

By the signature affixed to this response, the Respondent affirms, understands and will abide by the requirements of Executive Order 2019-12D issued by Ohio Governor Mike DeWine. If awarded a contract, the Respondent affirms on behalf of itself and any of its Subcontractors to perform no services under the Contract outside of the United States. The Executive Order is attached and is available at the following website: (https://governor.ohio.gov/wps/portal/gov/governor/media/executive-orders/2019-12d).

The Respondent shall provide all the name(s) and location(s) where services under this Contract will be performed in the spaces provided below or by attachment. Failure to provide this information may subject the Contractor to sanctions. If the Respondent will not be using subcontractors, indicate "Not Applicable" in the appropriate spaces. Attach any additional pages as necessary

1. Principal location of business of Contractor:

_____ _____
(Address) (City, State, Zip)

2. Location where services will be performed by the Respondent:

_____ _____
(Address) (City, State, Zip)

3. Name/Principal location of business of subcontractor(s):

_____ _____
(Name) (Address, City, State, Zip)

_____ _____
(Name) (Address, City, State, Zip)

4. Name/Location where services will be performed by subcontractor(s):

_____ _____
(Name) (Address, City, State, Zip)

_____ _____
(Name) (Address, City, State, Zip)

5. Location(s) where Commission data will be stored, accessed, tested, maintained or backed-up, by Respondent:

_____ _____
(Address, City, State, Zip) (Address, City, State, Zip)

Name/Location(s) where Commission data will be stored, accessed, tested, maintained or backed-up by subcontractor(s):

_____ _____
(Name) (Address, City, State, Zip)

_____ _____
(Name) (Address, City, State, Zip)

The undersigned Respondent also affirms, understands and agrees that the Respondent and its subcontractors are under a duty to disclose to the Commission any change or shift in location of services performed by the Respondent or its subcontractors before, during and after execution of any Contract with the Commission. Respondent agrees it shall so notify the Commission immediately of any such change or shift in location of its services.

The Commission has the right to immediately terminate the contract for material breach if any services are performed overseas unless the Commission has issued the Respondent a waiver to perform the specific services outside the United States. The Commission has the sole and unlimited discretion to determine waiving some or all of the requirements of the Executive Order is necessary based on the (1) nature of and risk arising from the services being performed overseas; (2) the porportion of off-shore services compared to those performed domestically; (3) the cost savings resulting from granting the waiver; (4) the justification to perform the services overseas; and (5) the need to procure the services from the Respondent.

The undersigned represents and warrants to be authorized to execute this Affirmation and Disclosure Form on behalf of the Respondent and agree that this form is a part of any Contract that Respondent may enter into with the Commission and is incorporated therein.

Respondent: _____

By:_____
(Signature)

Printed:_____
(Name) (Title)

Date:_____

APPENDIX F

SMALL BUSINESS ENTERPRISE UTILIZATION CERTIFICATION

To be eligible for selection to award this contract, each respondent must complete and submit this Small Business Enterprise (SBE) Utilization Certification with its Proposal. The Commission may consider as non-responsive and reject any Proposal that does not contain a Certification (page 1) and Utilization Plan (page 2) that properly demonstrates that the respondent's commitments with SBEs for participation on the project if awarded the contract. The successful respondent's SBE Utilization Certification and Utilization Plan shall be incorporated as part of the resulting Contract. If the Certification and Plan fail to demonstrate a commitment to meeting or exceeding the Goal stated in the Request for Letters of Interest, the respondent is required to complete and submit a Good Faith Efforts Demonstration (page 4 and page 5). **To count towards the goal, the participants must be certified as SBEs with the Commission or as SBEs or DBEs with ODOT or EDGE certified with the Ohio Department of Administrative Services at the time of bid.**

The undersigned authorized agent of the respondent represents to the Ohio Turnpike and Infrastructure Commission, as part of its Proposal, that it will perform the duties of the respondent having: (check one)

☐ attained commitments to meet or exceed the contract's SBE goal, and has documented SBE participation in the attached Utilization Plan for the project summarized as follows:

SBE Participation Commitment: $_____ Total Dollar Value _____% Percent of Total Bid

Attached is the Utilization Plan evidencing commitments with each SBE that will participate in the project in a manner that meets or exceeds the goal and affirming the availability and planned participation of each business identified.

☐ failed to meet the contract's SBE goal despite its Good Faith Efforts to attain commitments to meet or exceed the goal, and has documented its efforts to achieve the goal in the attached Demonstration of Good Faith Efforts (page 4 and page 5) and documented commitments in the attached Utilization Plan to SBE participation on the project summarized as follows:

SBE Participation Commitment: $_____ Total Dollar Value _____% Percent of Total Bid

1. Attached is the Utilization Plan evidencing commitments with each SBE that will participate in the project and affirming the availability and planned participation of each business identified; and
2. Attached is the Good Faith Efforts Demonstration evidencing those Efforts that were unsuccessful in attaining SBE participation commitments that meet or exceed the goal.

_____
Respondent

By: _____
Signature

Name: _____

Title: _____

Date: _____

Submit the Utilization Plan (page 2) and (if necessary) the Good Faith Efforts Demonstration (page 4 and page 5) with the Proposal using the templates and instructions that follow.

Respondent's SBE Utilization Plan

(Complete and Submit with Utilization Certification)

BOX 1:

("Respondent")

certifies that the SBEs listed below have been engaged to participate on this project, and if the Respondent is selected for award of the Contract, it shall assure that its self-performance, subcontracts or other agreements are executed as follows:

Column 1 **Name of SBE** (See instructions)	Column 2 **Project Role** (See instructions)	Column 3 **Description of Work** (See instructions)	Column 4 **Amount Subcontracted to SBE** (See instructions)	Column 5 **Amount to be Applied Towards Goal** (See instructions)

BOX 2:

Small Business Enterprise Contract Goal in Dollars: | |

BOX 3:

Total SBE Credit Commitment: | |

If Box 2 is greater than Box 3, proceed to complete and submit the Good Faith Efforts Documentation Form (page 4 and page 5)

Instructions for Small Business Enterprise Utilization Plan

Box 1: Name of Respondent submitting Proposal.

Column 1: Name of the Small Business Enterprise ("SBE") participating on the project. To receive credit towards contract goal, SBEs must be certified with the Commission at time of bid, or eligible for fast track certification (i.e., certified as DBE or SBE with ODOT or EDGE certified with Ohio DAS). If a SBE is performing multiple scopes, repeat the name of the SBE for each scope that will be performed and the respective amount.

Column 2: The Project Role that the SBE will be performing as follows:

- Prime Contractor
- Manufacturer or Regular Dealer
- Broker
- Subcontractor
- Trucking/Hauler

List each project role to be performed by a single SBE individually on a separate row(s). The role is used to determine what portion of the amount to be subcontracted (Column 4) may be applied toward meeting the goal (Column 5).

Column 3: A description of the Work to be performed by the SBE must be consistent with the industry used for its certification. The Respondent may rely upon the descriptors listed in the Commission's Certification List.

For example: http://www.ohioturnpike.org/business/mbe-fbe, or those eligible for Fast Track certification as DBE see: http://www.dot.state.oh.us/Divisions/ODI/SDBE/Pages/DBE-Directory.aspx as SBE, see: http://www.dot.state.oh.us/Divisions/ODI/SDBE/Pages/SBE.aspx

A respondent subletting a portion of a bid item shall state "Partial" and describe the Work that is included (e.g., "Surveying (Partial) – Site Plan").

Column 4: List the total amount to be subcontracted to each SBE for the services they are performing.

Column 5: This is the total dollar amount of the project each line listed in the certification that the prime intends to apply towards meeting the Contract goal. It may be that only a portion of the amount subcontracted to a SBE in Column 4 is eligible to be credited toward meeting the goal. See Notes below. The Commission will utilize the sum of this column (Box 3) to determine whether or not the respondent has met the goal. In the event of an arithmetic error in summing column 5 or an error in making appropriate reductions in the amounts in Column 4, then the sum will be corrected and the total (Box 3) will be revised accordingly.

Notes: **(A)** For Work self-performed by a SBE bidding as a prime contractor, the respondent may claim only 20% of the amount self-performed (Column 4) towards meeting the goal (Column 5). **(B)** For Work performed by SBE subcontractors, the respondent may claim 100% of the Commercially Useful Functions performed by subcontractors (i.e., the subcontractor must perform or exercises responsibility for at least 30% of the total cost of its subcontract using its own workforce, and have responsibility, for negotiating prices to purchase its materials and supplies, determining quality and quantity, ordering the material, and installing and paying for the material itself). **(C)** For materials supplied by a Manufacturer or a Regular Dealer, the Respondent may claim 100% of the cost of the materials or supplies (Column 4) towards meeting the goal (Column 5). **(D)** SBE credited for the total value of the trucking services provided using its own trucks and employees and the total value of transportation services SBE provides using non-SBE trucks that do not to exceed the value provided by SBE-owned trucks operated by its employees (i.e., no more than one non-SBE truck for each SBE truck). **(E)** For work contracted out to a broker, the respondent may only claim the fees paid to a broker towards meeting the goal (Column 4).

Box 2: Box 2 is the Contract goal for SBE participation goal appearing on the Request for Letters of Interest.

Box 3: Box 3 is the sum of the values in Column 5. This value must equal or exceed the Contract goal amount written in Box 2, or Good Faith Effort Demonstration is required if insufficient SBE Participation has been achieved. See the following pages (page 4 and page 5) for the materials necessary for demonstrating the Respondent's Good Faith Efforts.

DEMONSTRATION OF GOOD FAITH EFFORTS

(Complete and Submit if Utilization Certification and Plan Fail to Meet Contract Goal)

Project Name _____ Project Number _____

Respondent Name _____ Federal Tax I.D. _____

---

1. **Opportunities: Indicate how the Respondent subdivided portions of the work or services to increase the likelihood of participation by firms certified as SBE with the Commission (or SBE or DBE with ODOT and/or EDGE with DAS) in the Project.** (Attach additional pages if needed, and all supporting documentation.)

2. **Availability: Indicate the services or organizations that provided assistance to you in identifying and recruiting firms certified as SBE (or DBE and EDGE) in preparing the Proposal response**. (Attach additional pages if needed, and notes of each contact listed.)

A. Organization:_____ **Date(s) of Contact**:_____ **Contact Means**:_____

Subject of Inquiry: _____

B. Organization:_____ **Date(s) of Contact**:_____ **Contact Means**:_____

Subject of Inquiry: _____

C. Organization:_____ **Date(s) of Contact**:_____ **Contact Means**:_____

Subject of Inquiry: _____

3. **Efforts: List all SBEs (including all DBEs and/or EDGE firms) that you supplied adequate and timely information about the scopes of work and requirements of the project. (Attach additional pages if needed, and copies of all transmittals, any shipping receipts or documentation of providing info. etc.)**

A. Business _____	**Contact Name** _____	**Date** _____
B. Business _____	**Contact Name** _____	**Date** _____
C. Business _____	**Contact Name** _____	**Date** _____
D. Business _____	**Contact Name** _____	**Date** _____
E. Business _____	**Contact Name** _____	**Date** _____
F. Business _____	**Contact Name** _____	**Date** _____

4. **Efforts: List all interested SBEs (including all DBE and EDGE entities), which you rejected to perform the Work of the Contract. Please provide the specific reason(s) for the decision to reject. (Attach additional pages if needed.)**

A. Business: _____

Reason(s) for rejection: _____

_____

B. Business: _____

Reason(s) for rejection: _____

_____

C. Business: _____

Reason(s) for rejection: _____

_____

5. **Efforts: List the names, dates and telephone numbers of all SBEs (including DBEs and EDGE firms) with which you entered into negotiations for its participation on the project and the general scope of work negotiated, and the reason why negotiations were not successful.** (Attach additional pages if needed.)

A. Business: _____
Contact: _____
Phone: _____
Date(s) of contact: _____
Scope of Work: _____
Reasons for ending negotiations: _____

B. Business: _____
Contact: _____
Phone: _____
Date(s) of contact: _____
Scope of Work: _____
Reasons for ending negotiations: _____

C. Business: _____
Contact: _____
Phone: _____
Date(s) of contact: _____
Scope of Work: _____
Reasons for ending negotiations: _____

D. Business: _____
Contact: _____
Phone: _____
Date(s) of contact: _____
Scope of Work: _____
Reasons for ending negotiations: _____

E. Business: _____
Contact: _____
Phone: _____
Date(s) of contact: _____
Scope of Work: _____
Reasons for ending negotiations: _____

F. Business: _____
Contact: _____
Phone: _____
Date(s) of contact: _____
Scope of Work: _____
Reasons for ending negotiations: _____

GUIDANCE FOR DEMONSTRATING GOOD FAITH EFFORTS TO ACHIEVE OR EXCEED THE CONTRACT GOAL

If the SBE Utilization Certification and Plan fail to document commitment to achieving the SBE Goal set forth in the Request for Letters of Interest, complete the Good Faith Effort Demonstration Form to document necessary and reasonable actions that, by their scope, intensity, and appropriateness, would reasonably be expected to attain SBE participation that meets or exceeds the goal.

The Commission's determination of Good Faith Efforts is based on consideration of the quality, quantity, and intensity of the different kinds of actions taken. The activities or efforts undertaken to when making a Good Faith Effort must be those that one could reasonably expect to deploy when seriously, actively and aggressively attempting to obtain SBE participation in relative proportion to those that are Available to capably perform Commercially Useful Functions under the Opportunities presented in given contract.

The analysis for determining whether the respondent fulfilled its obligation to use Good Faith Efforts, the Commission will consider the demonstration of the following, which the form is intended to illicit from the respondents:

1. **"Opportunities"** means the subcomponents of the project that are identifiable as economically viable scopes of work that may interest subcontractors in responding to the respondent's solicitations to participate in the Project. The unique opportunities each project presents is determined based on the nature of the project using in-house expertise and the aggregation of those that the respondents may identify.

2. **"Availability"** means the degree of ready, willing and able SBEs available to capitalize on the opportunities presented under each project. The availability consideration examines the amount of SBEs in the relevant marketplace using (1) the Commission's list of certified SBEs (available at http://www.ohioturnpike.org/business/doing-business-with-us/mbe-fbe); (2) the Unified Certification Program's DBE Directory (http://www.dot.state.oh.us/DBE/pages/DBE-Directory.aspx); (3) the Department of Administrative Service's directory of EDGE certified businesses: http://eodreporting.oit.ohio.gov/searchEDGE.aspx; the Ohio Department of Transportation's registry of SBEs: http://odotextrpt.dot.state.oh.us/ViewReport.aspx ?reportPath=%2fprd%2fpreconstruction %2fpublic%2fsbe_vendor_list; and (5) any other Ohio-centric database that the Commission recognizes as using standards that are substantially similar to the requirements for certification with the Commission.

3. **"Efforts"** means the documented attempt to meaningfully and earnestly solicit the interest of available SBEs to fulfill the opportunities presented to perform on the Project, including making a sufficient number of contacts to follow up with any available but non-responsive SBEs and negotiating in good faith with available SBEs to reach reasonably agreeable terms for their participation.

4. **"Commitments"** means the respondent representations in the Utilization Certification and Plan to have successfully achieved commitment(s) to utilize verified SBEs to perform on the project.

The determination that a given respondent satisfactorily used and demonstrated its Good Faith Efforts is based on the holistic review of the Opportunities, Availability, Effort and Commitment documented in the bid or proposal documents.

D. Opportunities and Availability

This assessment of opportunities and availability compiles those SBEs that the respondents may identify in their Utilization Plan and Good Faith Efforts Demonstration forms, but also may go outside the form to identify additional possible opportunities under the project and recognized certification registries for possible untapped available firms.

A respondent can demonstrate fulfilling the Opportunity component by documenting that the respondent performed actions that include the following:

a. Selected and packaged portions of the work in order to increase the likelihood that the SBEs will respond to solicitations expressing interest in participating on the project. This includes, where appropriate, breaking out contract work into economically feasible units to facilitate participation through subcontracting.

b. Soliciting the interest of all SBE entities available to perform on the project through reasonable, meaningful, and available means and providing a reasonable and meaningful time to respond.

The means for a respondent to fulfill the Availability component of demonstrating good faith efforts includes the following:

a. Searching recognized registries identifying certified SBEs that potentially could fulfill the opportunities under the project.

b. Identifying other possible ready, willing and able SBEs through the effective use of the services of available from plan rooms, community organizations, contractors' groups, local, state, and Federal minority/women business assistance offices, and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and utilization of SBE entities.

E. Efforts and Commitment

Respondents must document level of exertion used to engage the Availability pool on the Opportunities presented under the project. The Efforts component considers the active attempts to successfully reach terms with interested SBE firms, which may include the following:

a. Negotiating in good faith with interested SBE entities so as to facilitate their participation on the Project.

b. Not rejecting SBE entities without sound reasons based on a thorough investigation of their capabilities.

c. Assisting SBE entities in obtaining bonding, lines of credit, or insurance as required.

The Commitment component provides a cross-check on the identified and documented Opportunities, Availability and Efforts. Unless the analyses under the Opportunities, Availability and Efforts prongs demonstrate otherwise, the utilization of Good Faith Efforts is expected to result in the respondent successfully representing its achievement of SBE participation goal for the contract. The respondent must provide justification for any lack of Commitment by showing that the failure occurred despite its Good Faith Efforts through the demonstration under the Opportunity, Availability and Efforts prongs of the test.

UNDERGROUND UTILITIES
48 HOURS BEFORE YOU DIG
CALL: 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

OHIO TURNPIKE COMMISSION

THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT CIP 43-85-05

TURNPIKE BRIDGE DECK REPLACEMENT & WIDENING

OVER

SUGAR CREEK M.P. 81.3

WOLF CREEK M.P. 82.02

CONRAIL M.P. 83.26

WAGGONER RD. (C.R. 82) M.P. 83.30

OTTAWA COUNTY AND SANDUSKY COUNTY

ORIGINAL CONTRACT SECTION C-41

INDEX OF SHEETS

STANDARD DRAWINGS

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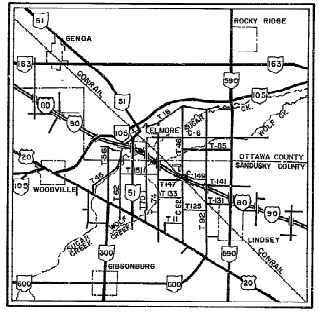


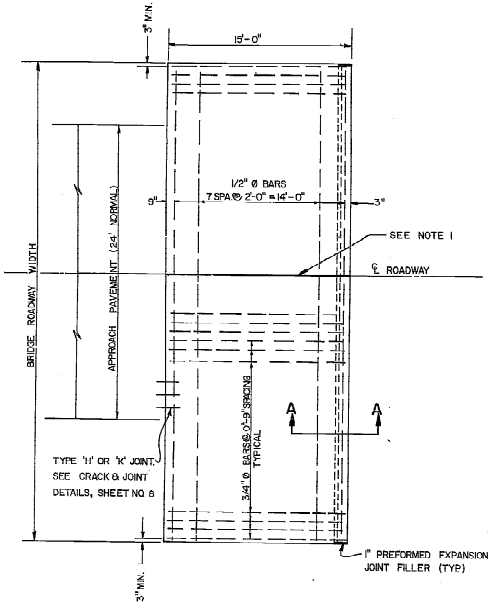
PROJECT LOCATION

SCALE IN MILES 0 1 2 3 4 5 6

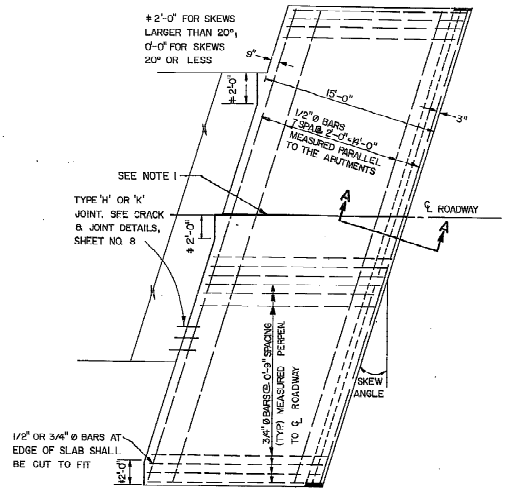
PLANS PREPARED BY
ERIKSSON ENGINEERING, LTD.
COLUMBUS, OHIO

AS BUILT
12-16-86

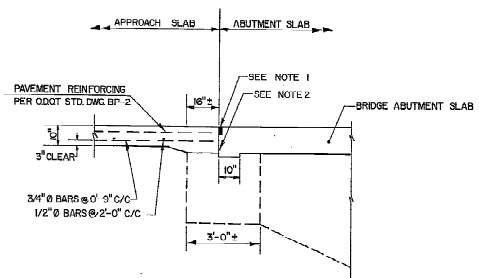
APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
E. Allan Plain
CHIEF ENGINEER
3-13-85
DATE



PLAN



APPROACH SLAB FOR SKEWED BRIDGE



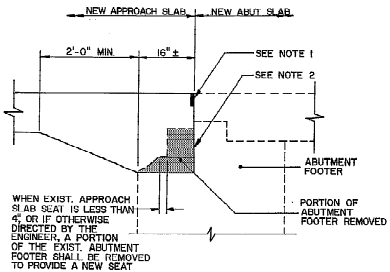
SECTION A-A

NOTE 1: GROOVE AND SEAL AS PER O.D.O.T. STD. CONST. DWG. BP-3.

NOTE 2: TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

NOTE 3: REPAIR OF BROKEN APPROACH SLAB SEAT SHALL BE CONSTRUCTED BY THE CONTRACTOR AS PER DETAIL OR AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE ON THE BASIS OF "DIRECT COSTS" PLUS 15% FOR OVERHEAD AND PROFIT. "DIRECT COSTS" SHALL BE DEFINED UNDER SECTION G-9.02(5) OF THE GENERAL CONDITIONS.

NOTE: SEE SHEET NO. 3 FOR APPROACH SLAB TYPICAL SECTION.



APPROACH SLAB SEAT REPAIR DETAIL

GENERAL THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS.), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

DESIGN DATA

CONCRETE: CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 – GRADE 60 MIN. YIELD STRENGTH 60,000 P.S.I.

PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB

GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB

TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUNCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10 FT BEYOND END OF WINGWALL WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH. HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY

APPROACH SLAB WIDTH APPROACH SLABS SHALL BE THE SAME WIDTH AS THE BRIDGE ROADWAY, UNLESS SHOWN OTHERWISE ON THE PLANS.

CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB.

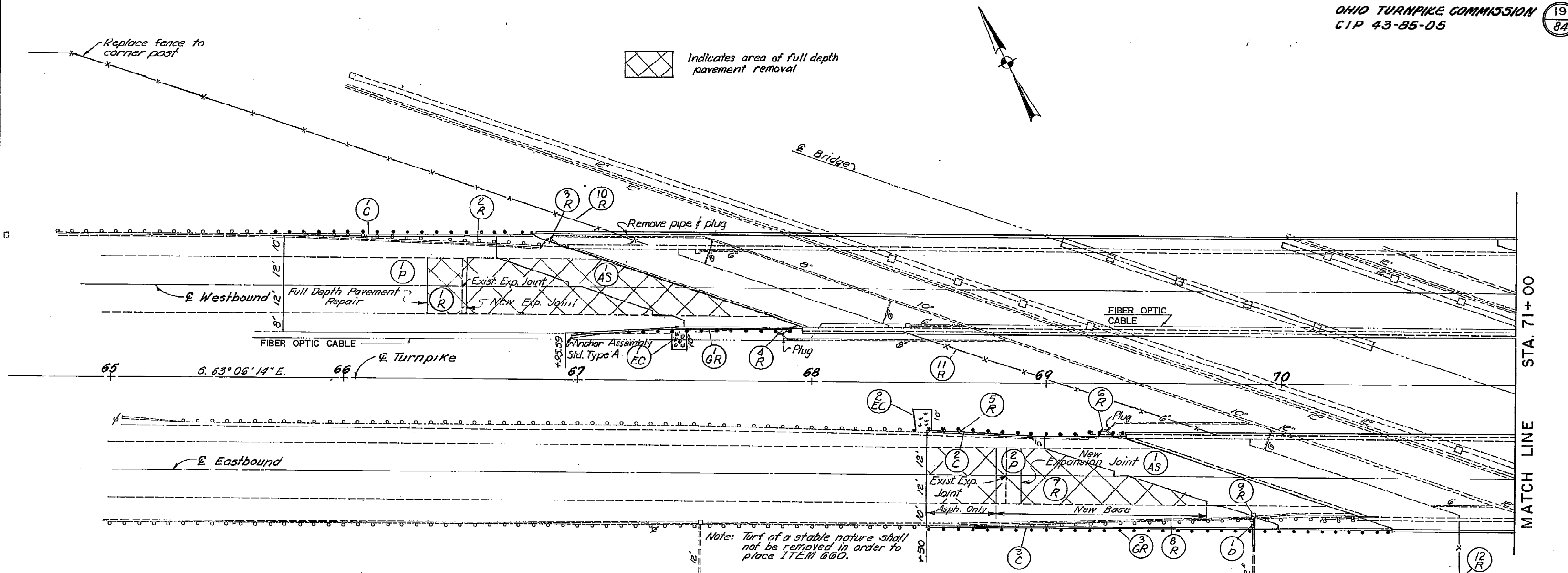
TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE EITHER TYPE 'K' OR 'H' AS DETAILED ON THE PLANS. PAYMENT FOR THE TRANSVERSE JOINT SHALL BE AT THE UNIT PRICE BID PER LIN. FT. FOR THE TYPE OF JOINT FURNISHED.

No.	REVISION	BY	DATE
2	ADDED IMPRESSED JOINT & CHANGED TYPE OF CEMENT	DFC	11-28-84
1	ADDED SEAT REPAIR DETAIL	DFC	10-2-84

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLABS

DATE: OCTOBER 1983 | SCALE: N.T.S. | SHEET 7 OF 84



Ref. No.	Station to Station	Side	202 Wearing Course Rmd. Full Depth	202 Pavement Removed (Rigid)	202 Guardrail Removed for re-use	202 Inlet Removed	202 CB Removed Salvage Frame & Grate	202 Pipe Removed 24" & Under	202 Fence Removed	606 Anchor Assm. Std. Type A	603 12" Conduit Type F 707.01or.05	SP604 CB Using Salvaged Frame & Grate	606 Guardrail Std. Typ. 5	SP606 Guardrail Rebuilt Type 5	606 Bridge Term. Assembly Type A	607 Fence Type 47	660 Reinforced Sodding
			L.F.	L.F.	L.F	EA.	EA.	L.F.	L.F.	EA.	L.F.	EA.	L.F	L.F.	EA.	L.F	S.Y.
1-R	65+75 TO 67+49.52	LT.	204	124													
2-R	65+70.88 TO 66+81.67	LT.			125									112.5	1		
3-R	66+88	LT.				1		66									
4-R	67+86	LT.				1											
5-R	68+44.42 TO 69+35.96	RT.			87.5									87.5	1		
6-R	69+27	RT.				1											
7-R	68+50 TO 69+85.23	RT.	91	124													
8-R	68+43.78 TO 69+48.24	RT.			187.5									200	1		
9-R	69+88	RT.					1	12									
10-R	66+88 TO 67+28	LT.							260							243	
11-R	68+38 TO 69+72	L/R							142							142	
12-R	70+82 TO 71+22	RT.							102							97	
1-GR	66+94.67 TO 67+94.67	LT.								1			75		1		
1-D	69+88	RT.									7	1					
1-EC	67+44	LT.															7
2-EC	68+49	RT.															7
Totals			295	248	400	3	1	78	504	1	7	1	75	400	4	482	14

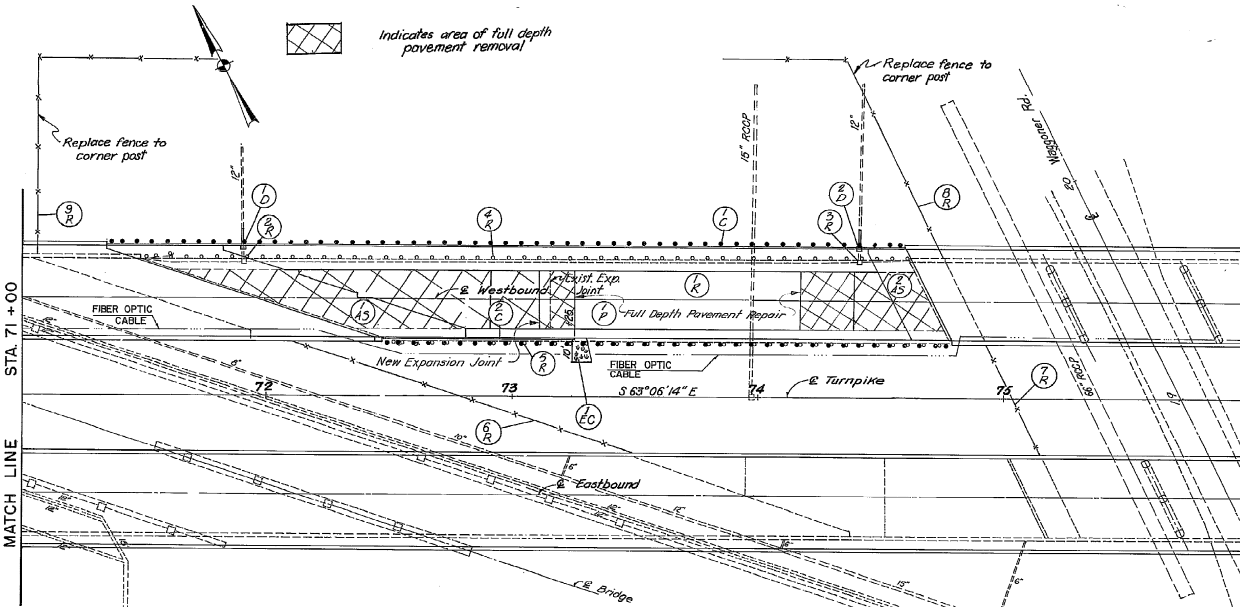
Ref. No.	Station to Station	Side	203 Excavation not including Embankment	203 Embankment	203 Subgrade Compaction	203	653 2" Topsoil Furnished & Placed	659 Seeding & Mulching	SP451 Full Depth Pav't Repairs	SP304 Aggregate Base	SP310 Subbase Grading Type 1	402 Asphalt Concrete AC-20	SP404 Asphalt Concrete AC-20	SP407 Tack Coat	SP408 Prime Coat	SP 414 Bit. Material for Shoulder Surface Treat.	SP 414 Aggregate Shoulder Surface Treat.	SP609 Asphalt Concrete Curb	SP611 10" Reinforced Concrete Appr. Slab
			C.Y.	C.Y.	S.Y.		C.Y.	S.Y.	S.Y.	C.Y.		C.Y.	C.Y.	Gal.	Gal.	Gal.	S.Y.	L.F.	S.Y.
1-P	65+75 TO 67+01.49	LT.			385				139	28	24	53	10	34	123	123	246		
2-P	68+50 TO 69+38.27	RT.			343				145	22	25	42	7	24	99	99	198		
1-AS	67+01.49 TO 67+49.52	LT.			194						33								194
2-AS	69+38.27 TO 69+86.30	RT.			211						35								211
1-C	65+75 TO 66+64.99	LT.																90	
2-C	68+50 TO 69+01.78	RT.																52	
3-C	68+50 TO 69+99.10	RT.																150	
1-E	65+75 TO 70+47	L/R	165	63			18	569											
Totals			165	63	1133		18	569	284	50	117	95	17	58	222	222	444	292	405

NOTE: SEE SHEET NO. 7 FOR APPROACH SLAB DETAILS

Rev	Description	By	Date
1	REV. PAV'T REM'D QUANT	DFC	3·27·85

CONRAIL/WAGGONER RD. STA. 65

Indicates area of full depth pavement removal



Note: Turf of a stable nature shall not be removed in order to place ITEM 660.

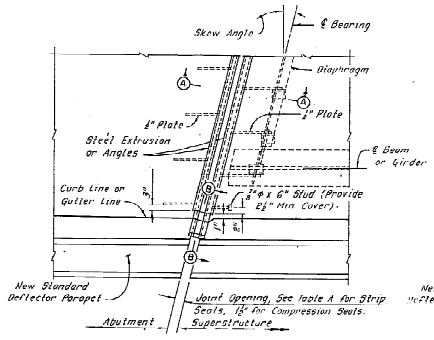
REF. NO.	STATION TO STATION	SIDE	202 WEARING COURSE REMOVED FULL-DEPTH (S.Y.)	202 PAVEMENT REMOVED (RIGID) (S.Y.)	202 GUARDRAIL REMOVED FOR REUSE (L.F.)	202	202 C.B. REMOVED SALVAGE FRAME AND GRATE (EA.)	202 PIPE REMOVED 24" & UNDER (L.F.)	202 FENCE REMOVED	603 12" CONDUIT TYPE F 707.01 or 707.05 (L.F.)	SP604 CATCH BASIN USING SALVAGE FRAME & GRATE (EA.)		SP606 GUARDRAIL REBUILT TYPE 5 (L.F.)	606 BRIDGE TERM. ASSEMBLY TYPE A (EA.)	607 FENCE TYPE 47	660 REINFORCED SODDING (S.Y.)	
1-R	71+96.62 TO 74+71.34	LT.	395	169													
2-R	71+92	LT.					1	13									
3-R.	74+42	LT.					1	13									
4-R	71+34.60 TO 74+60.80	LT.		1	313.2								326.15	2			
5-R	72+47 TO 74+80	LT.			229.4								233.03	2			
6-R	72+11 TO 73+48	L/R							143						143		
7-R	74+92 TO 75+15	L/R							50						50		
8-R	74+60 TO 74+75	LT.							95						90		
9-R	71+07.	LT.							85						80		
1-EC	73+27	LT.														7	
1-D	71+92	LT.								7	1						
2-D	74+42	LT.								7	1						
				1													
	TOTALS		395	169	542.6		2	26	373	14	2		559.18	4	363	7	

REF. NO.	STATION TO STATION	SIDE	203 EXCAVATION NOT INCL EMBANKMENT (C.Y.)	203 EMBANKMENT (C.Y.)	203 SUBGRADE COMPACTION (S.Y.)	203	653 2" TOPSOIL FURNISHED & PLACED (C.Y.)	659 SEEDING & MULCHING (S.Y.)	SP451 Full Depth Pav't Repairs (S.Y.)	SP304 AGGREGATE BASE (C.Y.)	SP310 SUBBASE GRADING A TYPE I (C.Y.)	402 ASPHALT CONCRETE AC-20 (C.Y.)	SP404 ASPHALT CONCRETE AC-20 (C.Y.)	SP407 TACK COAT (GAL.)	SP408 PRIME COAT (GAL.)	SP414 BIT. MATERIAL FOR SHOULDER SURF. TREAT. (GAL.)	SP414 AGG. FOR SHOULDER SURF. TREAT. (S.Y.)	SP609 ASPHALT CONCRETE CURB (L.F.)	SP611 10" REINF. CONC. APP. SLAB (S.Y.)
1-P	72+43.58 TO 74+54.98	LT.			591				171	47	29	90	16	57	210	210	420		
1-AS	71+95.55 TO 72+43.58	LT.			208						35								208
2-AS	74+54.98 TO 74+71.71	LT.			74						13								74
1-C	71+81.23 TO 74+45.22	LT.																258	
2-C	72+80 TO 73+25	LT.																45	
1-E	71+35 to 74+78	L/R	118	63			17	537											
	TOTALS		118	63	873		17	537	171	47	77	90	16	57	210	210	420	303	282

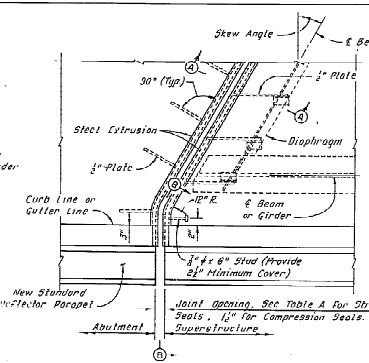
NOTE: SEE SHEET NO. 7 FOR APPROACH SLAB DETAILS.

Rev	Description	By	Date
1	REV. PAV'T REM'D QUANT	DFC	3-27-85

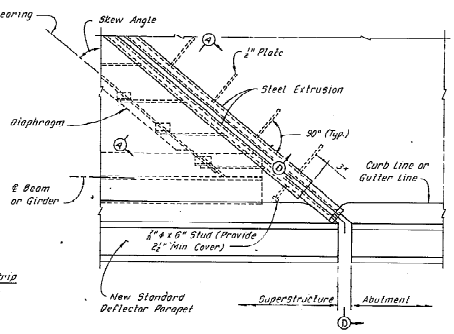
CONRAIL/WAGGONER RD. STA. 71+00 TO 76+00



PLAN - SKEW ANGLE < 20°
(Strip Seal Shown, Compression Seal Similar)
Scale: ¼"=1'-0"



PLAN - SKEW ANGLE 20° TO 45°
(Strip Seal Shown, Compression Seal Similar)
Scale: ¼"=1'-0"



PLAN - SKEW ANGLE > 45° (STRIP SEAL ONLY)
Scale: ¼"=1'-0"

GENERAL NOTES

ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.

STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.

ALL WELDING SHALL CONFORM WITH A.W.S. AND AASHTO SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

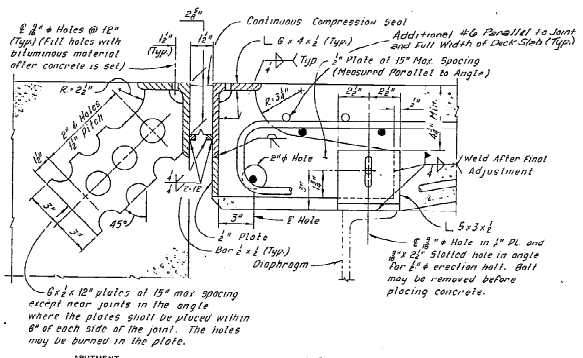
ELASTOMERIC COMPRESSION SEAL SHALL BE WABO-ACME J-200, D-S. BROWN D-S-200 OR APPROVED EQUAL.

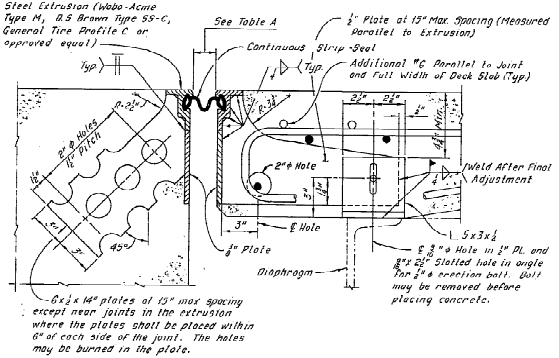
CONTINUOUS STRIP SEAL SHALL BE AS MANUFACTURED BY WABO-ACME, D-S. BROWN, GENERAL TIRE OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED

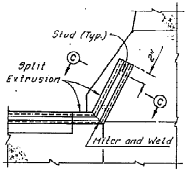
DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.

TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING INSTALLATION CHART TEMPERATURE °F						
	30	40	50	60	70	80	90
3"	2-1/4"	2-1/8"	2"	1-7/8"	1-3/4"	1-5/8"	1-1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"

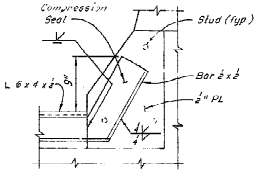




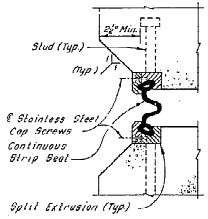


SECTION B-B (STRIP SEAL)
Scale: 1½"=1'-0"

SECTION A-A (COMPRESSION SEAL)
Scale: 3"=1'-0"

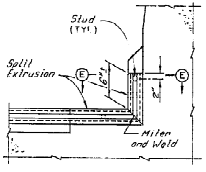


SECTION B-B (COMPRESSION SEAL)
Scale: 1½"=1'-0"

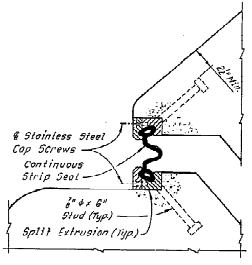


SECTION C-C
No Scale

SECTION A-A (STRIP SEAL)
Scale: 3"=1'-0"



SECTION D-D
Scale: 1½"=1'-0"

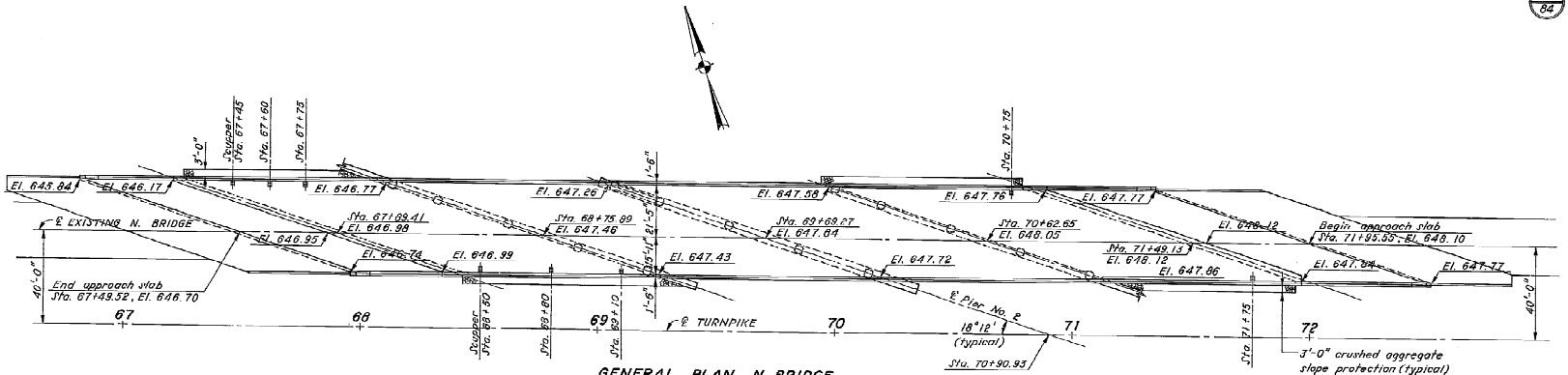


SECTION E-E
No Scale

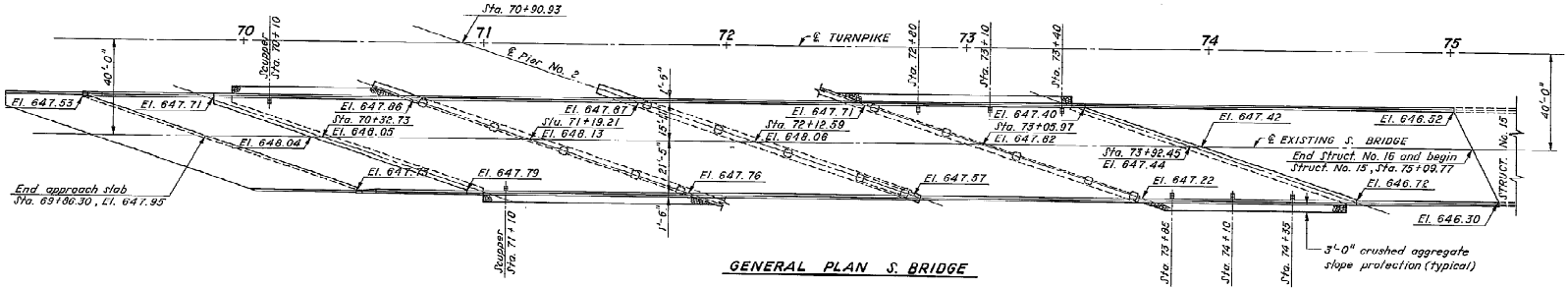
OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS

DATE: JANUARY 1985	SCALE: AS NOTED
FIP:	SHEET 35 OF 84



GENERAL PLAN N. BRIDGE



GENERAL PLAN S. BRIDGE

VERTICAL CURVE DATA

NORTH BRIDGE	SOUTH BRIDGE
P.V.I. Sta. 71+75.00	P.V.I. Sta. 72+50.00
Elev. = 651.32	Elev. = 649.50
V.C. = 1200'	V.C. = 800'
G1 = +1.02 %	G1 = +0.52 %
G2 = -1.12 %	G2 = -1.00 %

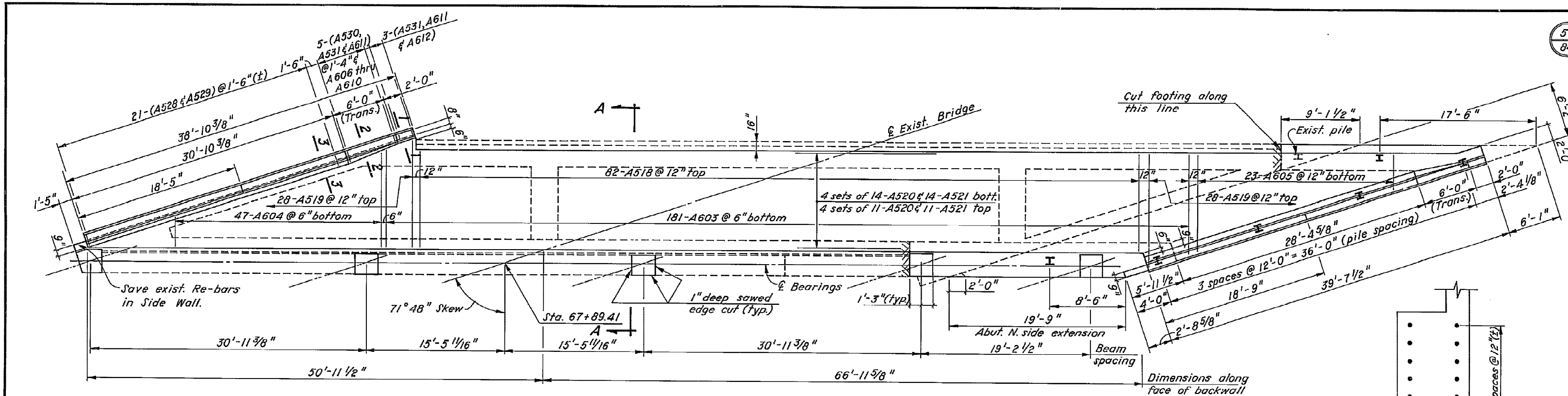
1/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1521 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0791

STRUCTURE No. 16
OVER CONRAIL R.R.
GENERAL PLAN

SANDUSKY COUNTY STA. 70+90.93

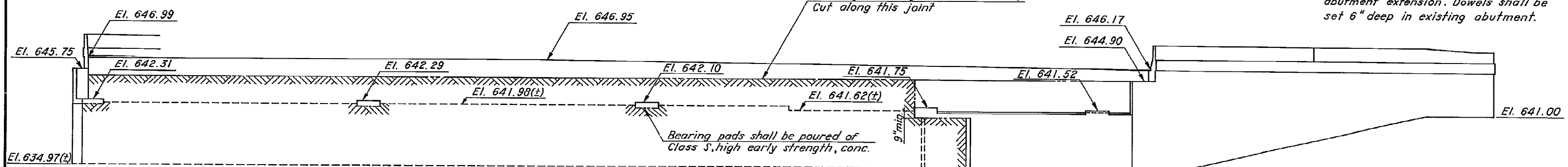
Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.			



PLAN

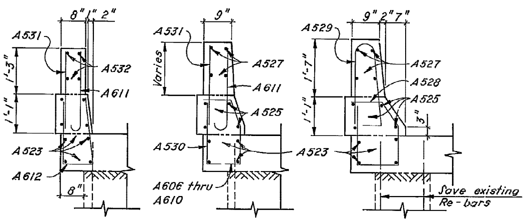
SKETCH

Dowel (A601) location at North side of abutment extension. Dowels shall be set 6" deep in existing abutment.



ELEVATION

(Piles not shown)



SECTION 1-1 SECTION 2-2 SECTION 3-3

NOTES: (Typical for all four abutments.)

Removal of abutment slabs shall be performed in such a manner leaving reinforcing steel dowels and remaining concrete undamaged. Dowels must be carefully cleaned before any concrete of new abutment slabs shall be placed.

All piles are HP10×42 steel piles. The estimated average pay-length is 34 ft. per pile.
The design load is 40 tons per pile.

BACKFILL shall be placed in accordance with Item 503 between the existing wingwalls and the new wingwalls, extending from the existing ground line to the bottom of the deck slab.

The contractor shall provide and place backfill between existing wingwalls as required to bring the fill to the level of the proposed slab prior to placing the new deck slab. Include with Item 503, Abutment Backfill, as per 503.10 for payment.

For detail of Section "A-A", See Sheet 4/18.

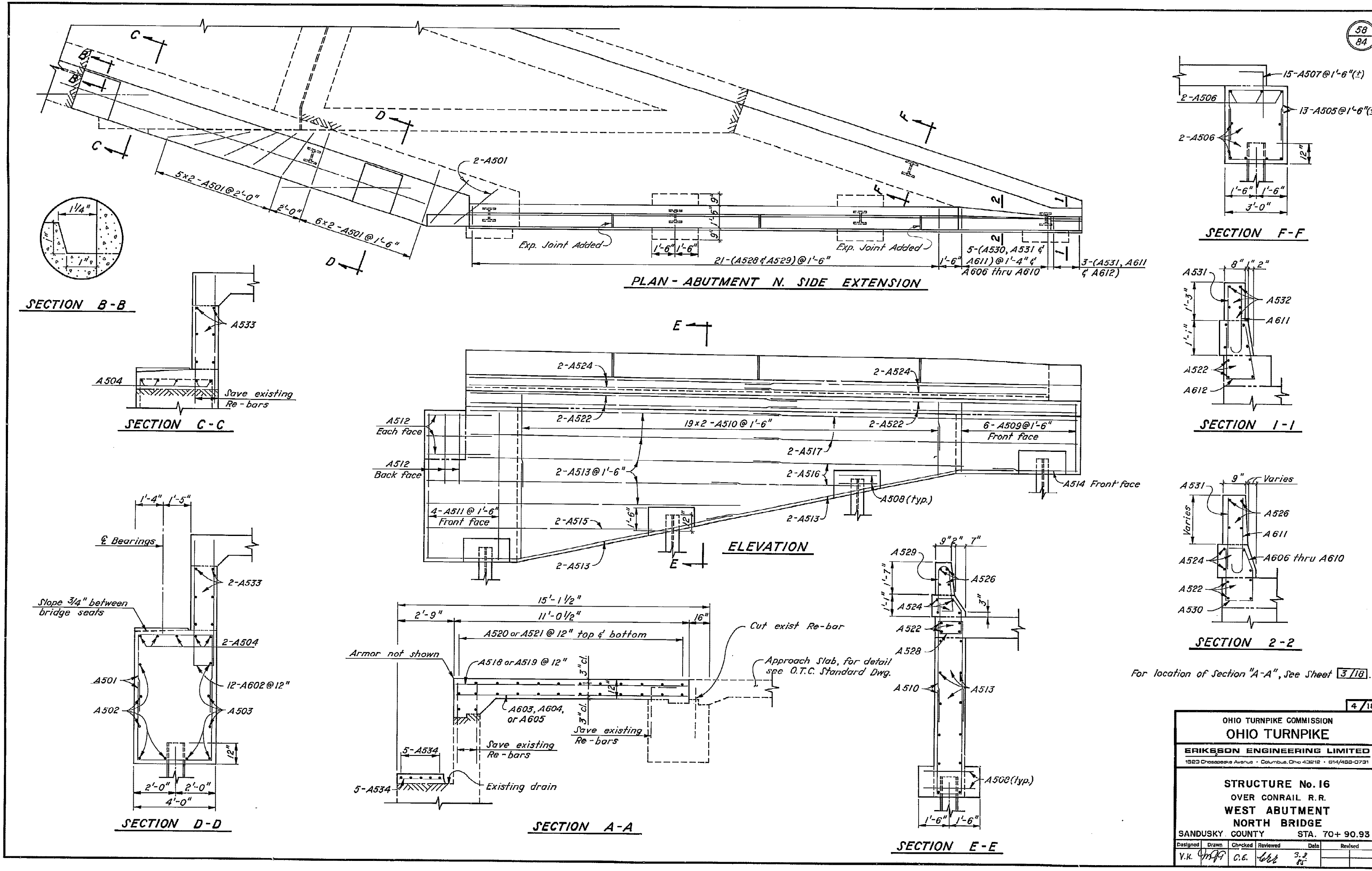
Lap No. 5 bars 1'-8" min.

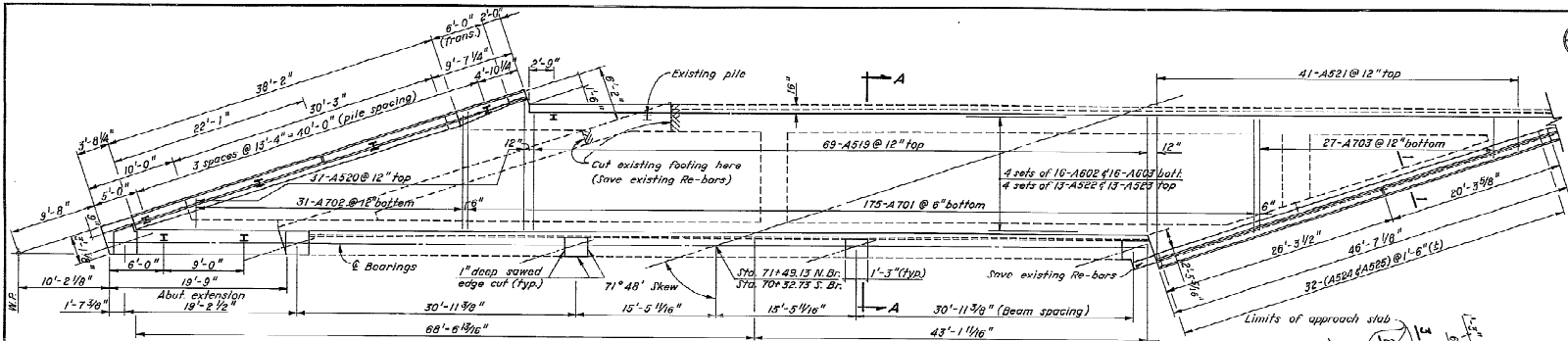
3/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16
OVER CONRAIL R.R.
WEST ABUTMENT
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	[illegible]	C.E.	[illegible]	[illegible]	


58/84
PLAN - ABUTMENT N. SIDE EXTENSION
5×2-A501@2'-0"
2'-0"
6×2-A501@1'-6"
2-A501
Exp. Joint Added
1'-6" 1'-6"
21-(A528 & A529)@1'-6"
1'-6"
5-(A530, A531 & A611)@1'-4" & A606 thru A610
3-(A531, A611 & A612)
SECTION B-B
1 1/4"
SECTION C-C
A533
A504
Save existing Re-bars
SECTION D-D
1'-4" 1'-5"
℄ Bearings
2-A533
Slope 3/4" between bridge seats
2-A504
A501
A502
12-A602@12"
A503
12"
2'-0" 2'-0"
4'-0"
ELEVATION
2-A524
2-A522
19×2-A510@1'-6"
6-A509@1'-6" Front face
A512 Each face
A512 Back face
2-A517
2-A516
2-A513@1'-6"
A508(typ.)
A514 Front face
4-A511@1'-6" Front face
2-A515
2-A513
SECTION A-A
15'-1 1/2"
2'-9"
11'-0 1/2"
16"
A520 or A521@12" top & bottom
Armor not shown
A518 or A519@12"
3" cl.
12"
A603, A604, or A605
Cut exist Re-bar
Approach Slab, for detail see O.T.C. Standard Dwg.
Save existing Re-bars
5-A534
Existing drain
SECTION E-E
9" 2" 7"
A529
A526
1'-7"
1'-1"
A524
3"
A522
A528
A510
A513
A508(typ.)
1'-6" 1'-6"
SECTION F-F
15-A507@1'-6"(±)
2-A506
13-A505@1'-6"(±)
12"
1'-6" 1'-6"
3'-0"
SECTION 1-1
8" 1" 2"
A531
A532
A611
1'-3"
1'-1"
A522
A612
SECTION 2-2
9" Varies
A531
A526
A611
A524
A606 thru A610
A522
A530
For location of Section "A-A", See Sheet 3/18.
4/18
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue · Columbus, Ohio 43212 · 614/488-0731
STRUCTURE No. 16
OVER CONRAIL R.R.
WEST ABUTMENT
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+90.93
Designed Drawn Checked Reviewed Date Revised
Y.K. C.E. 3.8.85



5/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1922 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0721

STRUCTURE No. 16

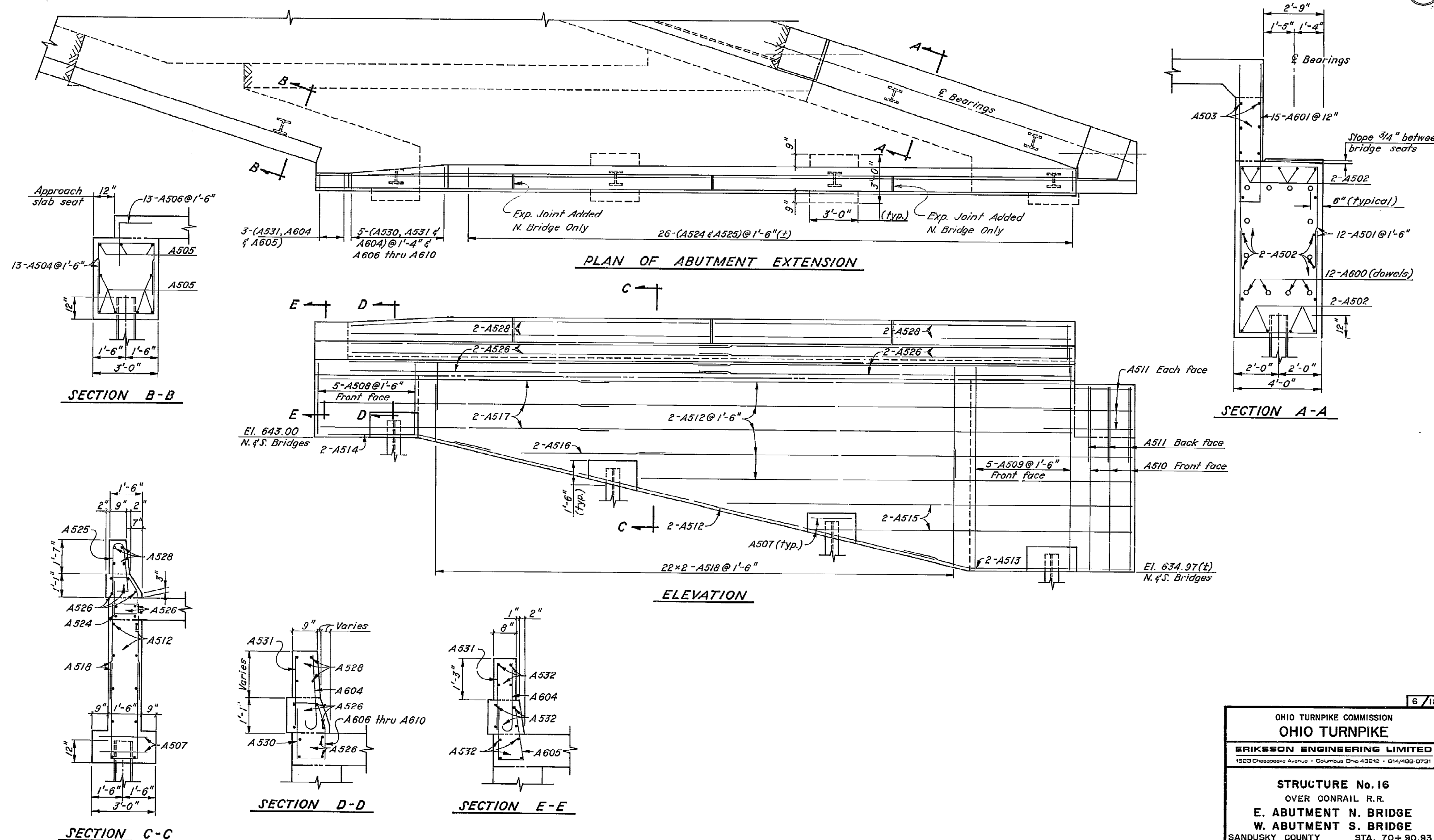
OVER CONRAIL R.R.

E. ABUTMENT N. BRIDGE

W. ABUTMENT S. BRIDGE

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.R.		C.E.		5/85	



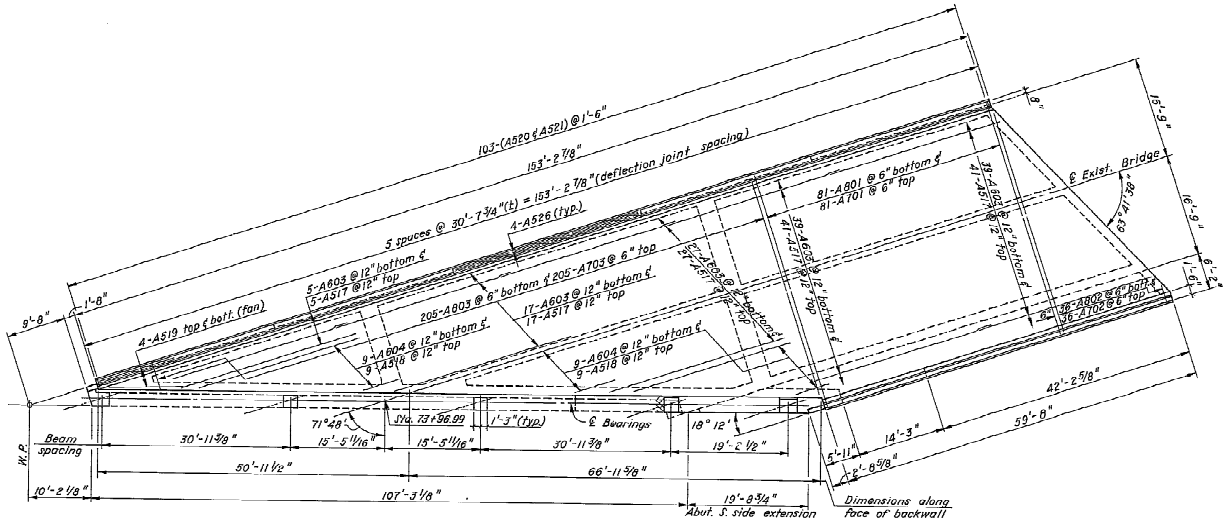
6/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

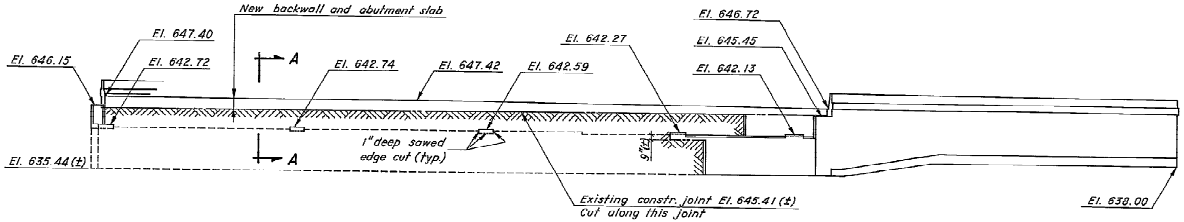
ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16
OVER CONRAIL R.R.
E. ABUTMENT N. BRIDGE
W. ABUTMENT S. BRIDGE
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	MJJ	C.E.	666	3.8 85	

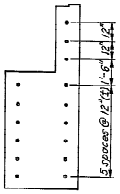


PLAN



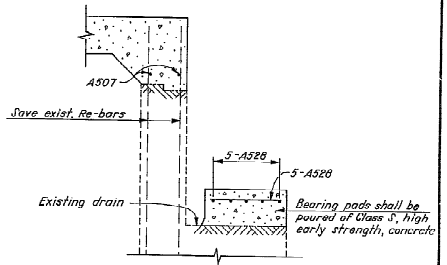
ELEVATION

(Piles not shown)



SKETCH

Dowel (A601) location at South side of abutment extension. Dowels shall be set 6" deep in existing abutment.



SECTION A-A

(Existing bearing anchor bolts should be cut 2" below bridge seat elevation and cleaned before new bridge seat concrete could be placed.)

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0721

STRUCTURE No. 16

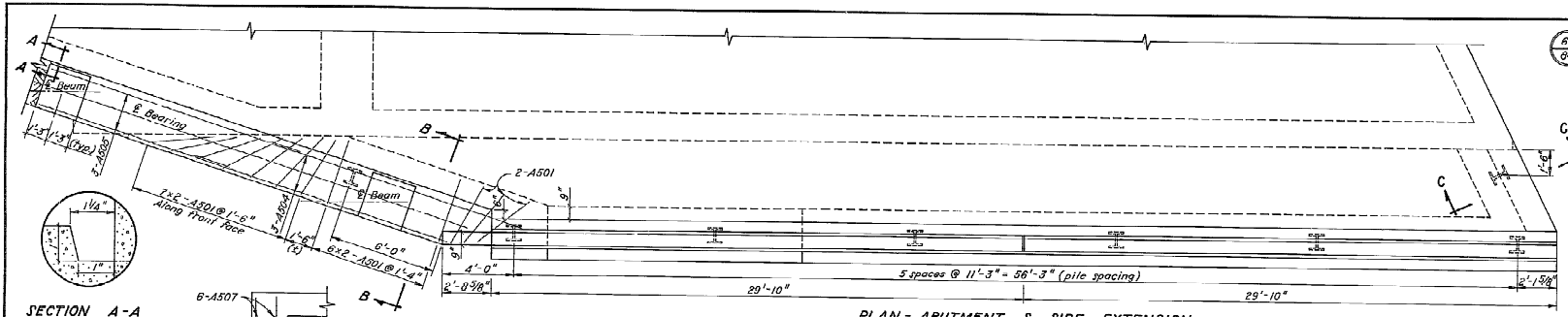
OVER CONRAIL R.R.

EAST ABUTMENT

SOUTH BRIDGE

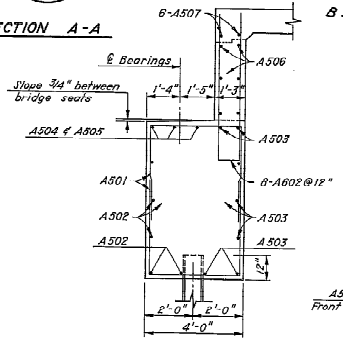
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		R.L.		2 9 85	

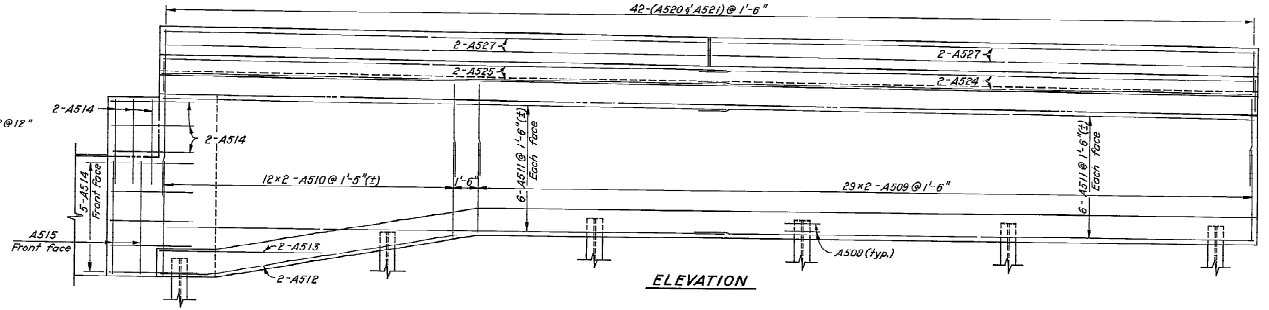


SECTION A-A

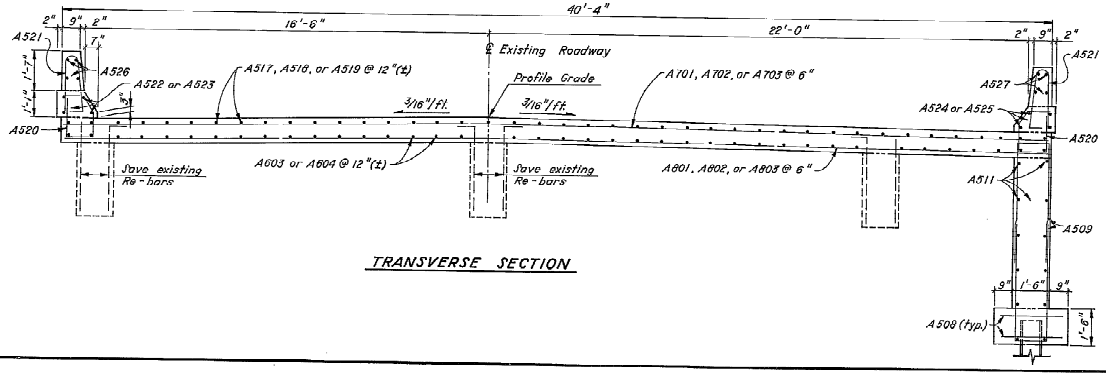
PLAN - ABUTMENT S. SIDE EXTENSION



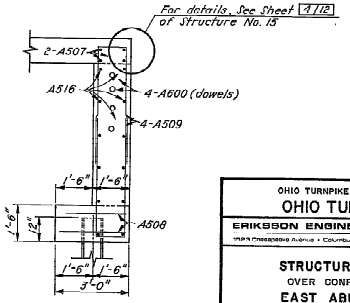
SECTION B-B



ELEVATION



TRANSVERSE SECTION



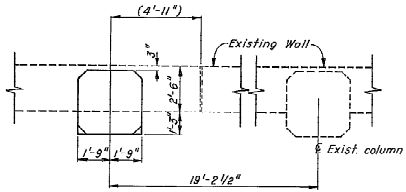
SECTION C-C

8/16

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1985 Crossroads Avenue • Columbus, Ohio 43212 • 614/488-0791

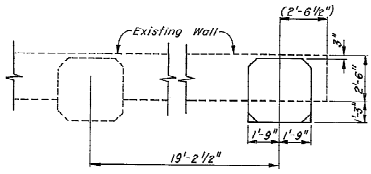
STRUCTURE No. 16
OVER CONRAIL R.R.
EAST ABUTMENT
SOUTH BRIDGE
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.		3.P. 6.C.	



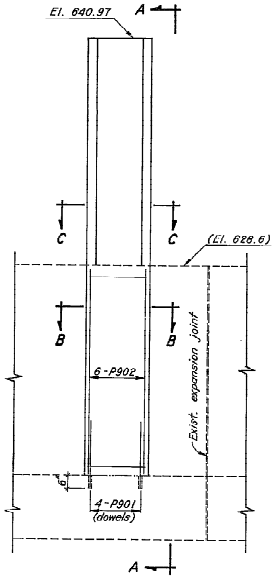
PLAN

PIER No. 1 NORTH BRIDGE

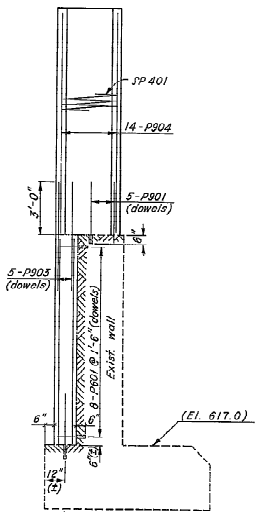


PLAN

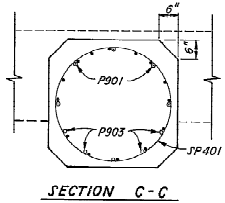
PIER No. 1 SOUTH BRIDGE



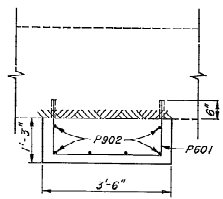
ELEVATION



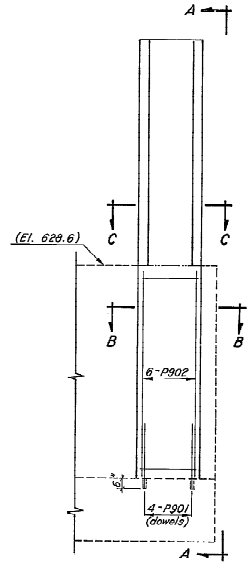
VIEW A-A



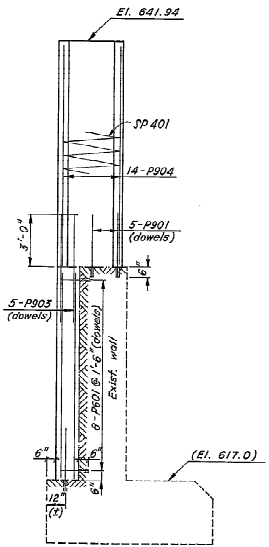
SECTION C-C



SECTION B-B



ELEVATION



VIEW A-A

NOTE:

Dimensions & elevations shown in ( ) have been obtained from plans of the existing structure.

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1922 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0791

STRUCTURE No. 16

OVER CONRAIL R.R.

PIER No. 1

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
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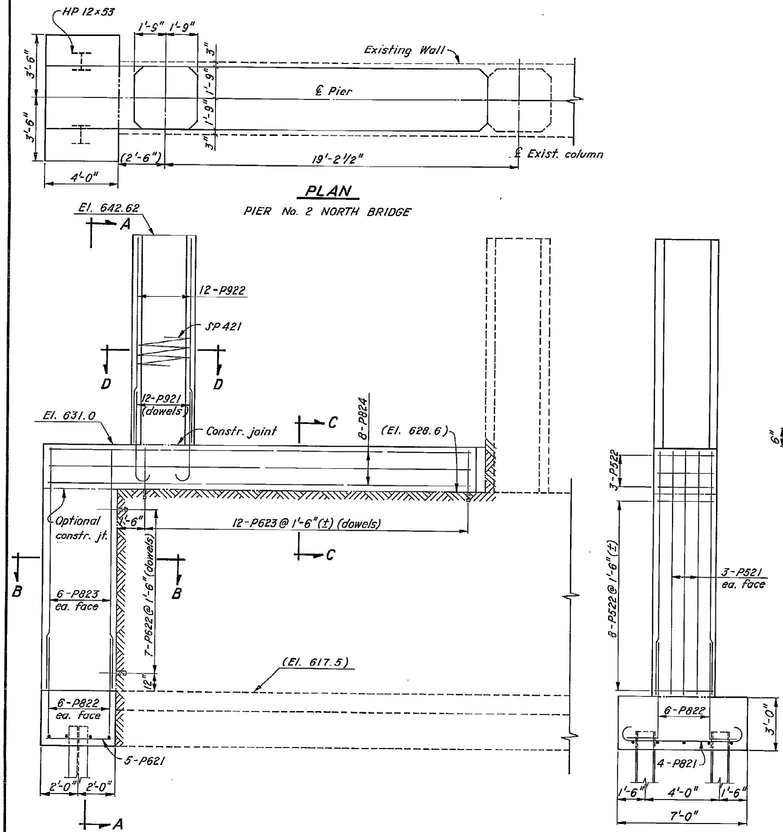
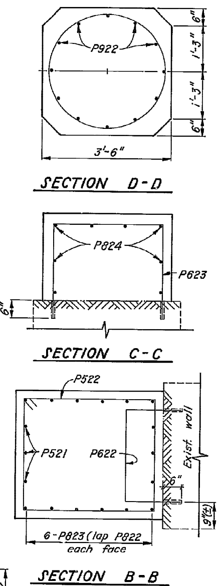


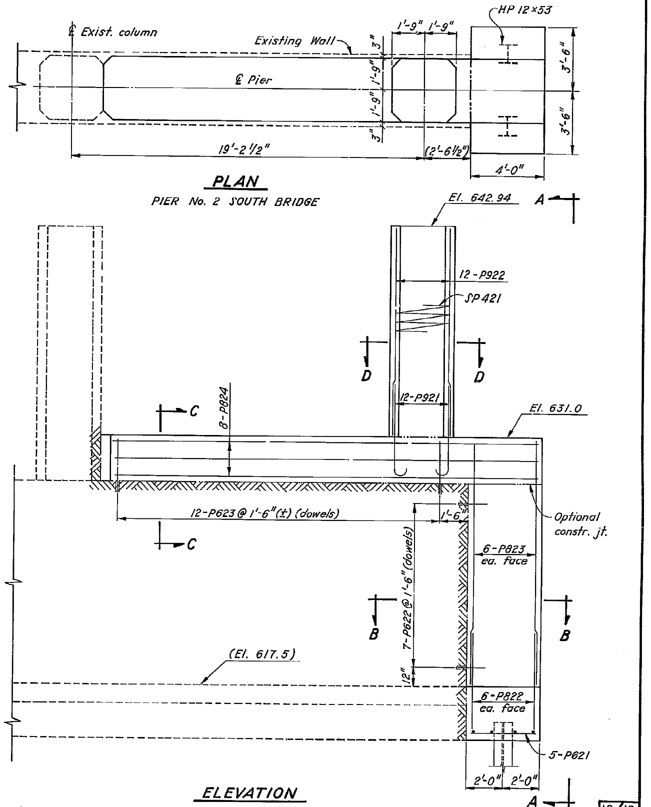
PLAN

PIER No. 2 NORTH BRIDGE

ELEVATION

VIEW A-A





PLAN

PIER No. 2 SOUTH BRIDGE

ELEVATION

NOTES:

Piles are HP 12×53 sheet piles and the estimated average pay length is 24 feet.

PILES shall be driven to refusal on bedrock. Refusal shall be considered as attained by penetrating soft bedrock with a minimum resistance of 20 blows per inch, or refusal shall be considered as attained after the pile has contacted hard bedrock and the pile has then received at least 20 blows.
The design load is 45 tons per pile.

10/18

OHIO TURNPIKE COMMISSION OHIO TURNPIKE	ERIKSSON ENGINEERING LIMITED 1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/486-0731 STRUCTURE No. 16 OVER CONRAIL R.R. PIER No. 2 SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
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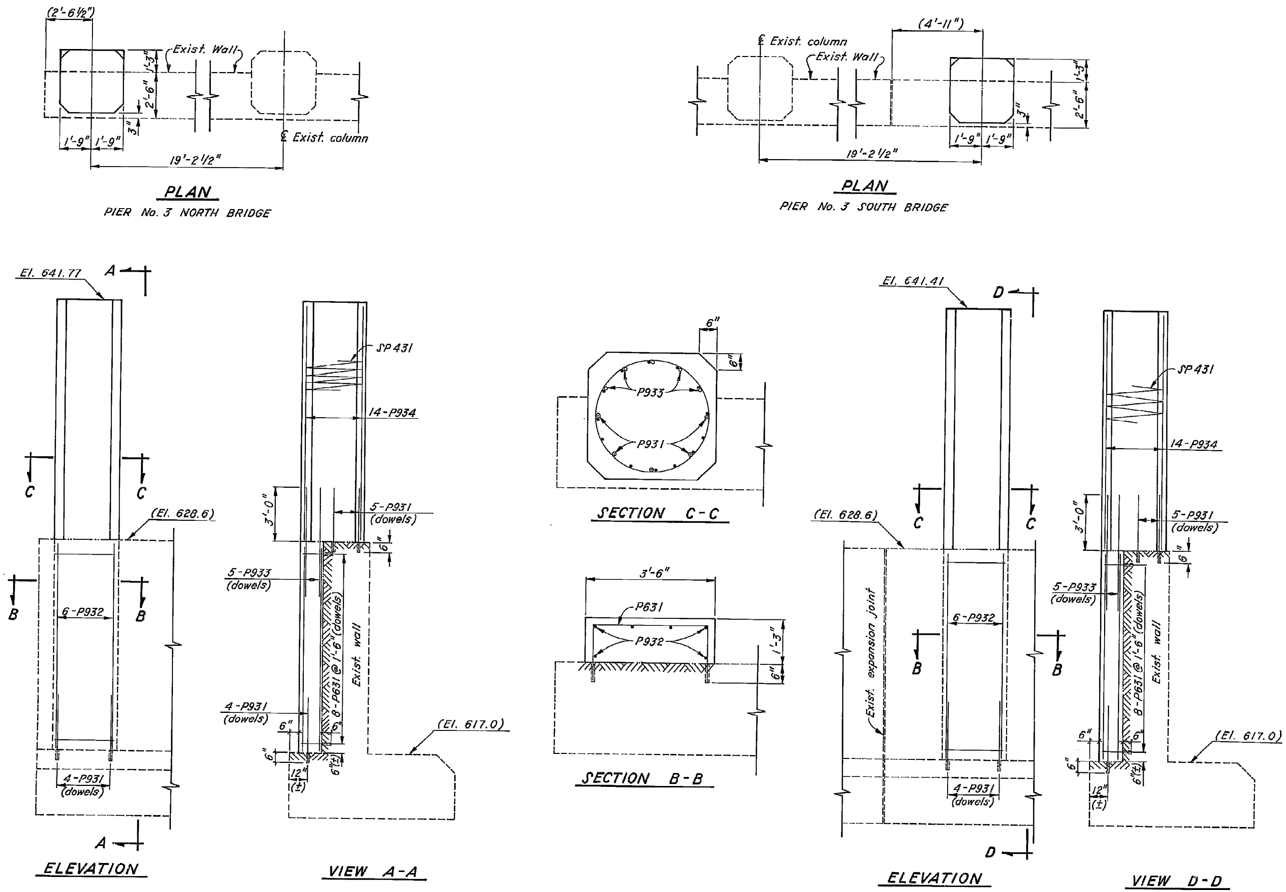

11/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16

OVER CONRAIL R.R.

PIER No. 3

SANDUSKY COUNTY STA. 70+90.93

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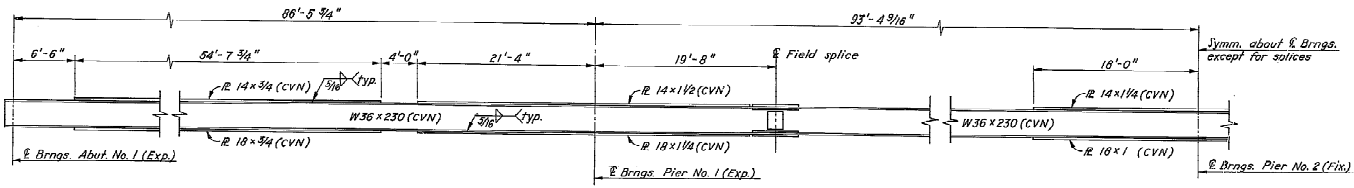
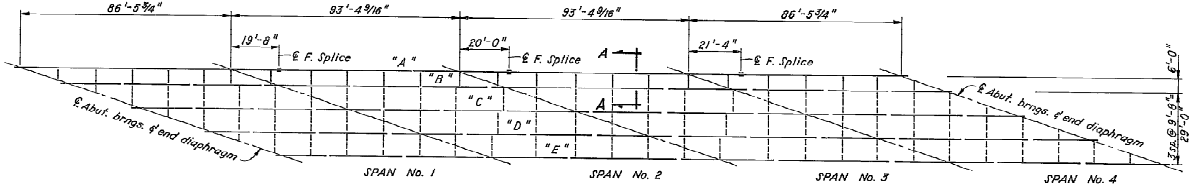
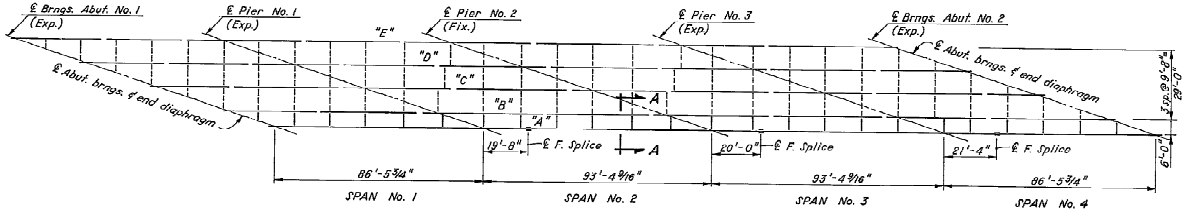


ELEVATION HALF STRINGER



FRAMING PLAN N. BRIDGE



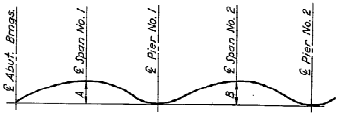
FRAMING PLAN S. BRIDGE

N. BRIDGE
TOP OF PAVEMENT ELEVATIONS (FINISHED)

BEAM	SPAN No. 1		SPAN No. 2		SPAN No. 3		SPAN No. 4	
	ABUT. BRNG.	℄ SPAN	PIER #1	℄ SPAN	PIER #2	℄ SPAN	PIER #3	℄ SPAN	ABUT. BRNG.
"A"	646.28	646.53	646.60	647.06	647.26	647.46	647.60	647.70	647.76
"B"	646.45	646.74	647.00	647.25	647.45	647.62	647.74	647.82	647.87
"C"	646.80	647.07	647.26	647.33	647.71	647.85	647.95	648.01	648.04
"D"	646.99	647.24	647.45	647.65	647.80	647.92	648.00	648.03	648.04
"E"	647.01	647.24	647.43	647.60	647.73	647.82	647.87	647.89	647.87

S. BRIDGE
TOP OF PAVEMENT ELEVATIONS (FINISHED)

BEAM	SPAN No. 1		SPAN No. 2		SPAN No. 3		SPAN No. 4	
	ABUT. BRNG.	℄ SPAN	PIER #1	℄ SPAN	PIER #2	℄ SPAN	PIER #3	℄ SPAN	ABUT. BRNG.
"A"	647.80	647.81	647.78	647.71	647.59	647.44	647.24	647.02	646.77
"B"	647.88	647.90	647.89	647.83	647.74	647.60	647.42	647.21	646.97
"C"	648.00	648.04	648.05	648.02	647.95	647.84	647.69	647.51	647.29
"D"	647.95	648.02	648.05	648.05	648.00	647.92	647.79	647.63	647.44
"E"	647.73	647.82	647.88	647.90	647.86	647.82	647.72	647.59	647.42



CAMBER DIAGRAM

DEAD LOAD DEFLECTIONS

BEAMS	℄ SPANS #1 or #4	℄ SPANS #2 or #3
"A" thru "E"	3/4"	1/2"

DEFLECTION AND CAMBER

	"A"	"B"
Deflection due to weight of steel.	0.26"	0.14"
Deflection due to remaining dead load.	0.75"	0.61"
Adjustment required for vertical curve.	0.20"	0.24"
Required shop camber	1.23"	0.99"

NOTES:

In order to meet established roadway grades, to assure the construction of the required thickness of deck slabs, and to assure the proper location of the reinforcing steel in the deck slabs, the contractor shall obtain the elevations of the top of existing steel beams after the complete removal of existing deck slab at the locations shown in the table for the final pavement elevations, and compute the deck thickness over existing beams. If the computed deck thickness is found to be less than minimum thickness required, the top of final pavement elevations shall be adjusted as directed by the Engineer. The Contractor shall also compute the deck screed elevations, utilizing the dead load deflections. Payment for the above mentioned work shall be included with the lump sum price for Item SP 623. The quantity of deck concrete to be paid shall be based upon 9 1/4" thick concrete outside the haunch area and 10" thick concrete over existing and new beams at the haunches.

Where a shape or plate is labeled "CVN" the material shall meet minimum notch toughness requirements in accordance with 711.01.

For details of Section "A-A", See Sheet 13/18.

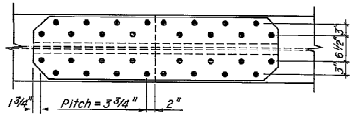
For Scupper details & notes, See Sheet 8/18 Structure No. 15.

12/18

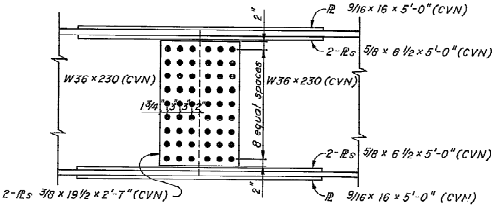
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1029 Dresbaches Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 16
OVER CONRAIL R.R.
SUPERSTRUCTURE DETAILS
SANDUSKY COUNTY STA. 70+90.93

Designed	Dsn'd	Checked	Reviewed	Date	Revised
V.K.		D.E.		3-1-91	



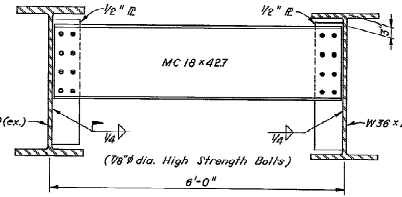
PLAN



ELEVATION

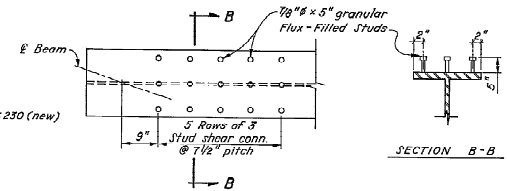
SPLICE DETAILS

(1"ø dia. High Strength Bolts)



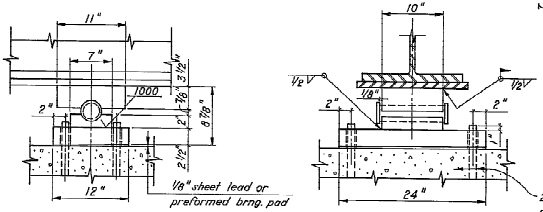
SECTION A-A

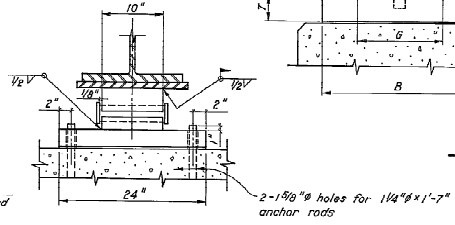
(For location, See Sheet 12/18.)



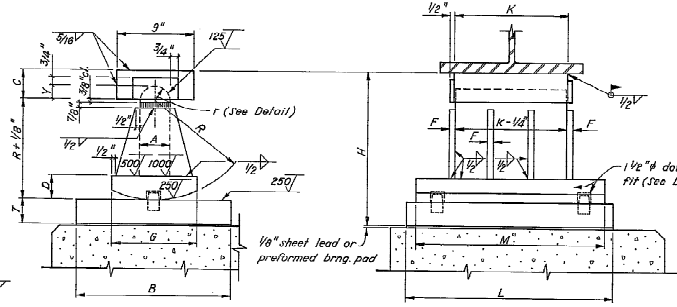
STRINGER END DETAILS

(Typical for all stringers, new & existing)



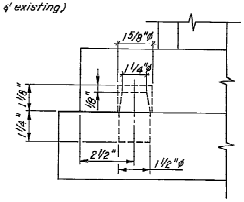


ELEVATION OF FIXED BEARING AT PIER No. 2

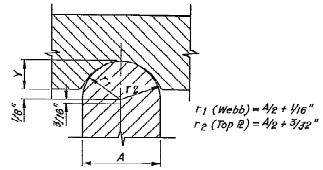


STRUCTURAL STEEL ROCKER

(See Table below for dimensions)

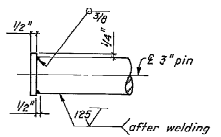


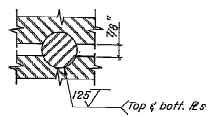
DOWEL DETAIL



TOP BEARING DETAIL

All existing bearings at abutments shall be replaced by rockers, 20 required.





BEARING PIN DETAIL

Pins shall be made from stock meeting the requirements of 711.04 of the construction and material specifications of The Ohio Department of Transportation and shall be painted in accordance with Item SP 514.

ROCKER LOCATION	DIMENSIONS (Inches)												
	A	B	C	D	F	G	H	K	L	M	R	T	Y
AT ABUTMENTS	2½	10	2½	2	½	7½	9⅝	13	18	16	5½	1½	1 3/16
AT PIERS #1 & #3	3½	18	3½	2¾	¾	10	22¾	13	26	23	16⅝	2½	1 11/16

13/18

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1583 Dominion Avenue • Columbus Ohio 43212 • 614/488-0731

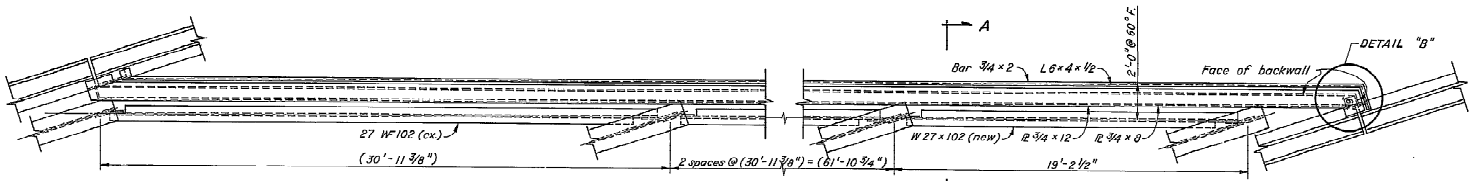
STRUCTURE No. 16

OVER CONRAIL R.R.

SUPERSTRUCTURE DETAILS

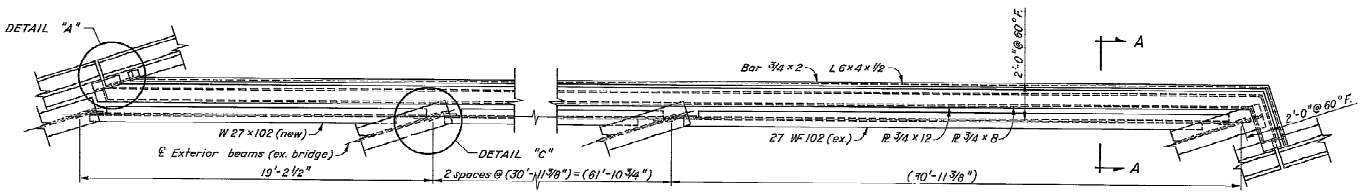
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	C.E.				



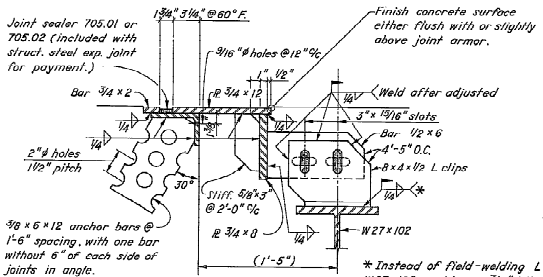
STRUCTURAL STEEL EXPANSION JOINT

(Typical at West Abutment, N. Bridge & East Abutment, S. Bridge)

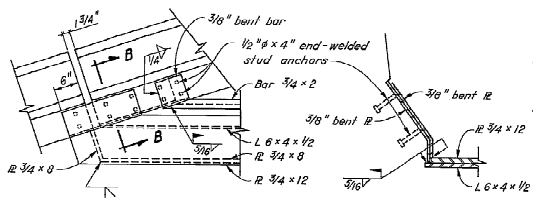


STRUCTURAL STEEL EXPANSION JOINT

(Typical at East Abutment, N. Bridge & West Abutment, S. Bridge)

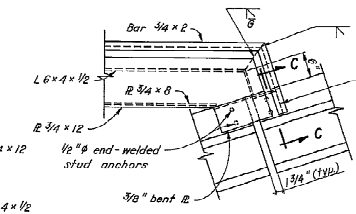


SECTION A-A

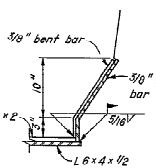


DETAIL "A"

SECTION B-B

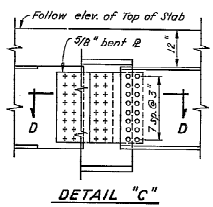


DETAIL "B"

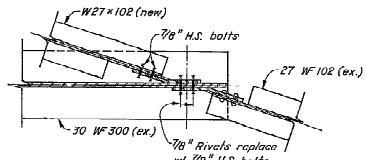


SECTION C-C

* Instead of field-welding L clips to W27 x 102 could use 7/8" ø H.S. bolts.



DETAIL "C"



SECTION D-D

STRUCTURAL STEEL EXPANSION JOINTS, above end diaphragm (27 WF 102), shall be removed and replaced with new ones in accordance with details shown. Materials: A588 or A36 steel unless otherwise indicated and shall be painted according to SP514.

MEASUREMENT for pay purposes shall be based on the length of joints measured horizontally along the face of abutment backwalls. Payment per linear foot of Item 516 "Structural Steel Expansion Joints" includes all labor, materials, and equipment necessary to complete the joints in place.

Dimensions in ( ) are obtained from plans of existing structure.

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1523 Chesapeake Avenue · Columbus, Ohio 43212 · 614/488-0791

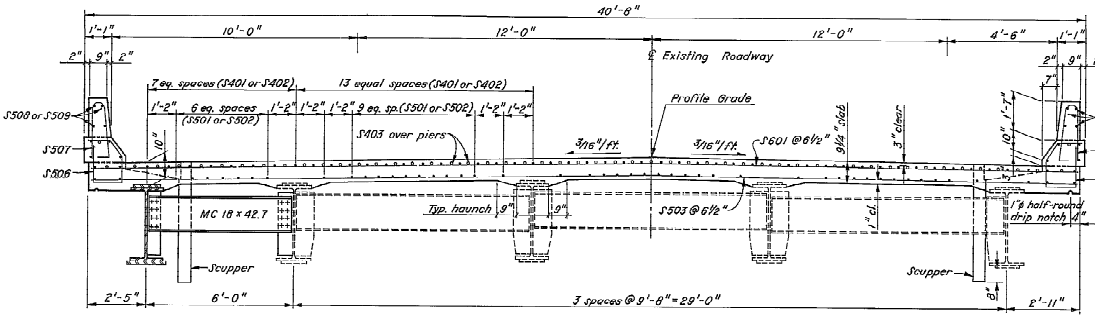
STRUCTURE No. 16

OVER CONRAIL R.R.

SUPERSTRUCTURE DETAILS

SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.E.			



TRANSVERSE SECTION

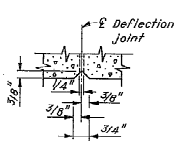
NOTES:

A typical haunch width of 9" shall be used for computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

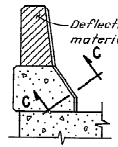
The deflection joints in the barrier curb may be either ¼" gray sponge rubber or ¼" gray cellular polyvinyl chloride (PVC) sponge. Either material shall meet the requirements of AASHTO M-153, Type I, except the density of the PVC sponge shall not be less than 20 lbs. per cu. ft.

Include with Item SP511A, Class S Concrete, superstructure, for payment.

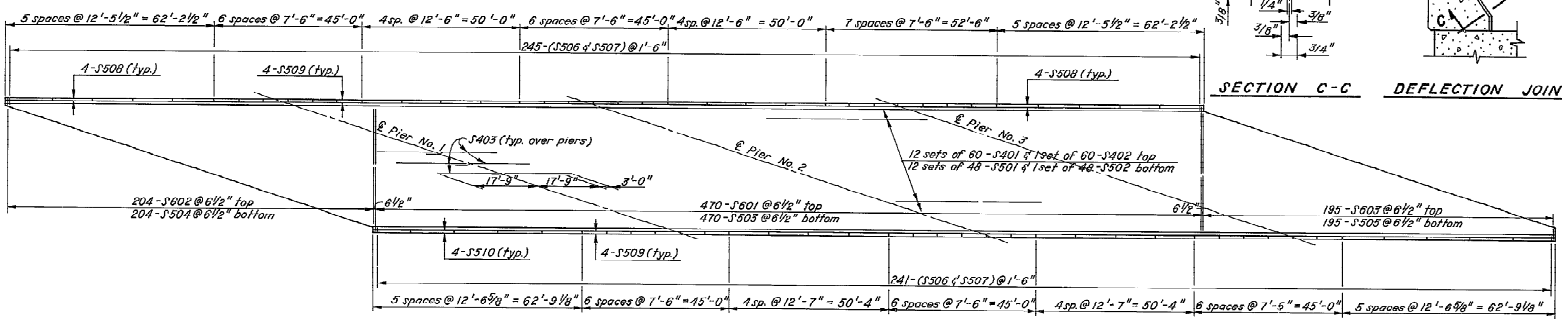
All reinforcing steel shown shall be epoxy coated.



SECTION C-C



DEFLECTION JOINT

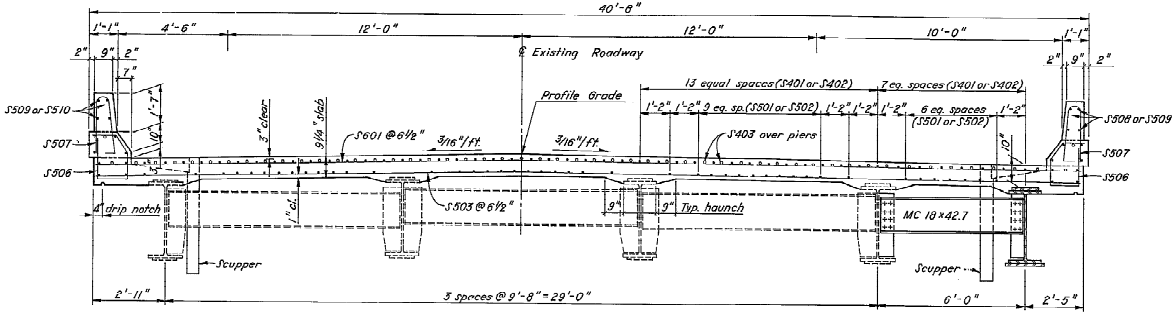


DECK PLAN - NORTH BRIDGE

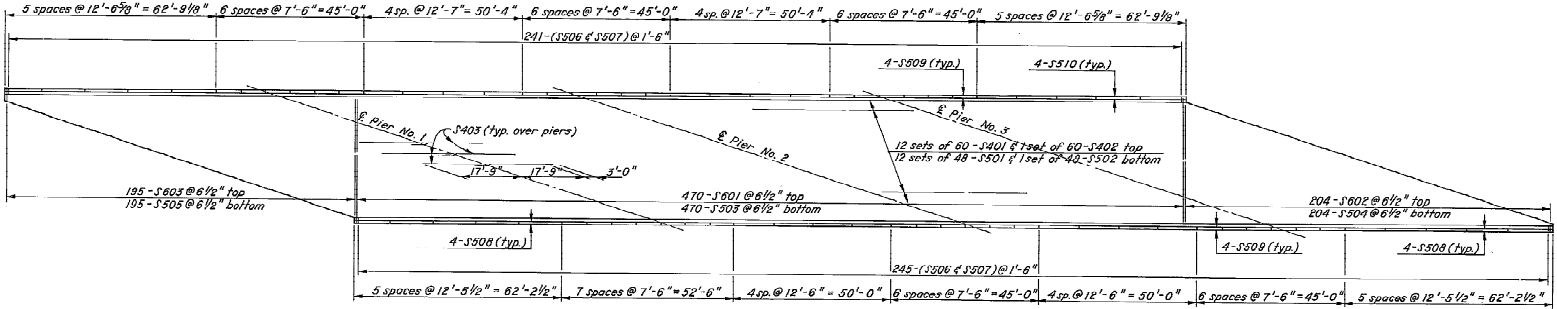
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1622 Chesapeake Avenue • Columbus Ohio 43212 • 614/488-0

STRUCTURE No. 16
OVER CONRAIL R.R.
DECK DETAILS
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+90.

Designed	Drawn	Checked	Reviewed	Date	Revisions
V.K.	C.G.			9/82	



TRANSVERSE SECTION



DECK PLAN - SOUTH BRIDGE

16/18

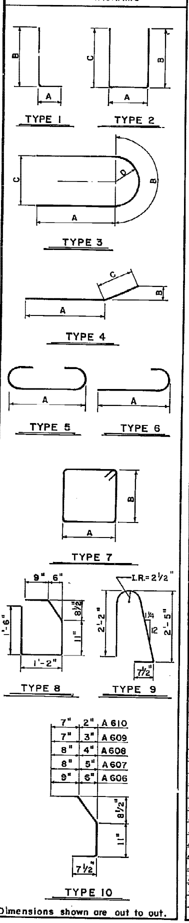
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1993 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0571

STRUCTURE No. 16
OVER CONRAIL R.R.
DECK DETAILS
SOUTH BRIDGE
SANDUSKY COUNTY STA. 70+90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.H.	G.G.			5-1-82	

REINFORCING STEEL LIST

BENDING DIAGRAMS



WEST ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
A501	26	12-0	325	2	3-8	4-3½	4-3½		
A502	5	20-0	104	4	18-6	1-6	0-5		
A503	5	14-6	76	4	12-6	2-0	1-9		
A504	10	15-0	156	5					
A505	26	9-0	244	2	2-8	3-3½	3-3½		
A506	18	12-0	225	5					
A508	8	11-3	94	7	2-8	2-8			
A509	6	4-6	28	5					
A510	38	7-5 to 13-5	413	2	1-2	3-3 to 6-3	3-3 to 6-3		Vary "B & C" by 2"
A511	4	9-6	40	5					
A512	9	4-0	38	5					
A513	14	20-0	292	5					
A514	1	6-0	6	5					
A515	2	15-0	31	5					
A516	4	10-0 to 14-0	50	5					2 sets of 2, vary by 4'-0"
A517	4	21-0	88	5					
			2,210	Lbs.					
A507	15	3-6	55	1	1-6	2-1½			
A518	82	10-8	912	5					
A519	56	3-0 to 12-0	438	5					2 sets of 28, vary by 4"
A520	100	30-0	3,129	5					
A521	25	15-0	391	5					
A522	8	20-6	171	5					
A523	8	20-0	167	5					
A524	8	19-6	163	5					
A525	8	19-0	159	5					
A526	8	18-5	154	5					
A527	8	18-1	151	5					
A528	42	5-0	219	8					
A529	42	5-3	230	9					
A530	10	2-0	21	1	0-7½	1-6			
A531	16	2-2	36	5					
A532	16	3-6	58	5					
A533	12	15-0	188	5					
A534	40	2-0	83	5					
A601	12	2-6	45	4	1-10	0-8	0-7½		Dowels
A602	12	13-1	236	2	0-11	6-3	6-3		
A603	181	10-8	2,900	5					
A604	47	3-0 to 10-8	482	5					Vary by 2"
A605	23	10-8 to 3-4	242	5					Vary by 4"
A606	2	3-0	9	10					
A607	2	2-11	9	10					
A608	2	2-10	9	10					
A609	2	2-9	8	10					
A610	2	2-8	8	10					
A611	16	2-8	64	6	2-0				
A612	6	4-0	36	2	0-8	1-10	1-10		
			10,773	Lbs.	epoxy coated				

EAST ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
A501	24	12-9	319	2	3-8	4-8	4-8		
A502	34	11-0	390	5					
A504	26	7-6	203	2	2-8	2-6½	2-6½		
A505	9	20-0	188	5					
A507	8	11-3	94	7	2-8	2-8			
A508	5	4-3	22	5					
A509	5	12-4	64	5					
A510	3	11-1	35	5					
A511	9	5-0	47	5					
A512	12	30-0	375	5					
A513	2	14-0	29	4	10-0	4-0	1-0		
A514	2	10-0	21	4	6-0	4-0	1-0		
A515	2	18-0 to 24-0	44	5					2 sets of 2, vary by 6'-0"
A516	2	9-0	19	5					
A517	6	18-0	113	5					
A518	44	7-11 to 14-11	524	2	1-2	3-6 to 7-0	3-6 to 7-0		2 sets of 22, vary "B & C" by 4"
			2,487	Lbs					
A503	6	16-6	103	5					
A506	13	3-6	47	1	1-6	2-1½			
A519	69	12-9	918	5					
A520	37	15-0 to 3-0	347	5					Vary by 4"
A521	41	16-2 to 2-10	406	5					Vary by 4"
A522	52	30-0	1,627	5					
A523	13	15-0	203	5					
A524	58	5-0	302	8					
A525	58	5-3	318	9					
A526	16	23-0	384	5					
A527	16	27-0	451	5					
A528	8	21-9	181	5					
A529	8	25-11	216	5					
A530	10	2-0	21	1	0-7½	1-6			
A531	16	2-2	36	5					
A532	24	3-6	88	5					
A533	40	2-0	83	5					
A600	12	2-6	45	5					Dowels
A601	15	13-7	306	2	0-11	6-6	6-6		
A602	64	30-0	2,884	5					
A603	16	16-0	385	5					
A604	16	2-8	64	6	2-0				
A605	6	4-0	36	2	0-8	1-10	1-10		
A606	2	3-0	9	10					
A607	2	2-11	9	10					
A608	2	2-10	9	10					
A609	2	2-9	8	10					
A610	2	2-8	8	10					
A701	175	12-9	4,561	5					
A702	30	13-0 to 3-0	491	5					Vary by 4"
A703	27	12-8 to 4-0	460	5					Vary by 4"
			15,006	Lbs.	epoxy coated				

PIER NO. 1

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
P601	8	6-0	72	2	3-2	1-7	1-7		
P901	9	3-6	107	5					
P902	6	11-3	230	5					
P903	5	6-0	102	5					
P904	14	12-2	579	5					
Spiral			268						
			1,358	Lbs.					

PIER NO. 2

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
P521	6	13-4	83	5					
P522	11	14-0	161	7	3-8	3-2			
P621	5	3-9	28	5					
P622	7	5-0	53	2	2-6	1-5	1-5		
P623	12	8-4	150	2	3-2	2-9	2-9		
P821	4	8-8	93	5	6-6				
P822	12	6-6	208	1	1-6	5-2½			
P823	12	13-4	427	5					
P824	8	23-4	498	5					
P921	12	6-3	255	6	5-0				
P922	12	11-5	466	5					
Spiral			254						
			2,676	Lbs.					

PIER NO. 3

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
P631	8	6-0	72	2	3-2	1-7	1-7		
P931	9	3-6	107	5					
P932	6	11-3	230	5					
P933	5	6-0	102	5					
P934	14	13-0	619	5					
Spiral			287						
			1,417	Lbs.					

SUPERSTRUCTURE

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
S401	720	30-0	14,429	5					
S402	60	22-0	882	5					
S403	318	20-0	4,248	5					
S501	576	30-0	18,023	5					
S502	48	27-0	1,352	5					
S503	470	40-0	19,608	5					
S504	204	2-0 to 38-0	4,255	5					Vary by 2 1/8"(±)
S505	195	38-0 to 4-6	4,322	5					Vary by 2 1/8"(±)
S506	486	5-0	2,534	8					
S507	486	5-3	2,661	9					
S508	72	12-0	901	5					
S509	143	7-2	1,106	5					
S510	72	12-2	914	5					
S601	470	40-0	25,238	5					
S602	204	2-0 to 38-0	6,128	5					Vary by 2 1/8"(±)
S603	195	38-0 to 4-6	6,224	5					Vary by 2 1/8"(±)
			115,825	Lbs.	epoxy coated				

—Refer to C.M.S. Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

MARK	NO.	LENGTH (HEIGHT)	WEIGHT	SHAPE
SP401	1	12-0	268	Bt.
SP421	1	11-4	254	Bt.
SP431	1	12-11	287	Bt.

Spirals - core diam. 38" o/o
- pitch 4½" c/c
other details in accordance with C.R.S.I Standard practice.

17/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

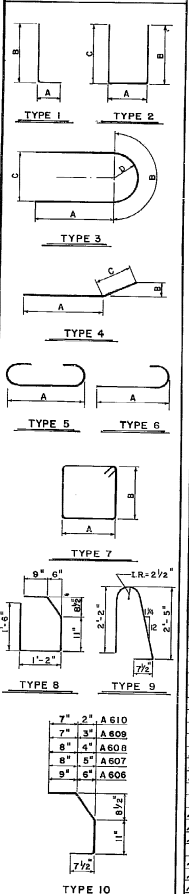
ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus Ohio 43212 • 614/488-0731

STRUCTURE No. 16
OVER CONRAIL R.R.
REINF. STEEL LIST
NORTH BRIDGE
SANDUSKY COUNTY STA. 70+ 90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K	G.M.	[illegible]	[illegible]	3.8 85	

REINFORCING STEEL LIST

BENDING DIAGRAMS



Dimensions shown are out to out.

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
WEST ABUTMENT									
A501	24	12 - 9	319	2	3-8	4-8	4-8		
A502	34	11 - 0	390	5					
A504	26	7 - 6	203	2	2-8	2-6½	2-6½		
A505	9	20 - 0	188	5					
A507	8	11 - 3	94	7	2-8	2-8			
A508	5	4 - 3	22	5					
A509	5	12 - 4	64	5					
A510	3	11 - 1	35	5					
A511	9	5 - 0	47	5					
A512	12	30 - 0	375	5					
A513	2	14 - 0	29	4	10-0	4-0	1-0		
A514	2	10 - 0	21	4	6-0	4-0	1-0		
A515	2	18-0 to 24-0	44	5					2 sets of 2, vary by 6'-0"
A516	2	9 - 0	19	5					
A517	6	18 - 0	113	5					
A518	44	7-11 to 14-11	524	2	1-2	3-6 to 7-0	3-6 to 7-0		2 sets of 22, vary "B & C" by 4"
			2,487 Lbs.						
A503	6	16 - 6	103	5					
A506	13	3 - 6	47	1	1-6	2-1½			
A519	69	12 - 9	918	5					
A520	37	15-0 to 3-0	347	5					Vary by 4"
A521	41	12-6 to 2-10	406	5					Vary by 4"
A522	52	30 - 0	1,627	5					
A523	13	15 - 0	203	5					
A524	58	5 - 0	302	8					
A525	58	5 - 3	318	9					
A526	16	23 - 0	384	5					
A527	16	27 - 0	451	5					
A528	8	21 - 9	181	5					
A529	8	25 - 11	216	5					
A530	10	2 - 0	21	1	0-7½	1-6			
A531	16	2 - 2	36	5					
A532	24	3 - 6	88	5					
A533	40	2 - 0	83	5					
A600	16	2 - 6	60	5					Dowels
A601	15	13 - 7	306	2	0-11	6-6	6-6		
A602	64	30 - 0	2,884	5					
A603	16	16 - 0	385	5					
A604	16	2 - 8	64	6	2-0				
A605	6	4 - 0	36	2	0-8	1-10	1-10		
A606	2	3 - 0	9	10					
A607	2	2 - 11	9	10					
A608	2	2 - 10	9	10					
A609	2	2 - 9	8	10					
A610	2	2 - 8	8	10					
A701	175	12 - 9	4,561	5					
A702	30	13-0 to 3-0	491	5					Vary by 4"
A703	27	12-8 to 4-0	460	5					Vary by 4"
			15,021 Lbs. epoxy coated						
EAST ABUTMENT									
A501	32	12 - 0	401	2	3-8	4-3½	4-3½		
A502	5	18 - 0	94	5					
A503	7	12 - 0	88	5					
A504	3	15 - 0	47	5					
A505	3	13-0 to 15-0	44	5					Vary by 1-0"
A508	14	11 - 3	164	7	2-8	2-8			
A509	66	11 - 3	774	2	1-2	5-2	5-2		
A510	24	11-5 to 14-2	320	2	1-2	5-3 to 6-7½	5-3 to 6-7½		2 sets of 12, vary "B & C" by 1½"
A511	24	30 - 6	763	5					
A512	2	19 - 0	40	5					Bend in field
A513	2	8 - 0	17	5					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
A514	17	4 - 6	80	5					
A515	2	6 - 0	13	5					
A516	12	6 - 6	81	5					Bend in field
			2,926 Lbs.						
A506	6	11 - 9	74	5					
A507	20	23 - 0	480	5					
A517	131	30 - 0	4,099	5					
A518	27	27-0 to 7-0	479	5					3 sets of 9, vary by 2'-6"
A519	8	12 - 0	100	5					
A520	145	5 - 0	756	8					
A521	145	5 - 3	794	9					
A522	20	30 - 0	626	5					
A523	4	12 - 0	50	5					
A524	4	30 - 0	125	5					
A525	4	31 - 4	131	5					
A526	20	30 - 3	631	5					
A527	8	29 - 6	246	5					
A528	40	2 - 0	83	5					
A601	15	2 - 6	56	4	1-10	0-8	0-7½		Dowels
A602	8	12 - 7	151	2	0-11	6-0	6-0		
A603	127	30 - 0	5,723	5					
A604	27	27-0 to 7-0	689	5					3 sets of 9, vary by 2'-6"
A701	81	40 - 0	6,623	5					
A702	36	38-0 to 3-0	1,508	5					Vary by 1'-0"
A703	205	38-0 to 4-0	8,799	5					Vary by 2"
A801	81	40 - 0	8,651	5					
A802	36	38-0 to 3-0	1,970	5					Vary by 1'-0"
A803	205	38-0 to 4-0	11,494	5					Vary by 2"
			54,338 Lbs. epoxy coated						
PIER NO 1									
P601	8	6 - 0	72	2	3-2	1-7	1-7		
P901	9	3 - 6	107	5					
P902	6	11 - 3	230	5					
P903	5	6 - 0	102	5					
P904	14	13 - 2	627	5					
Spiral			291						
			1,429 Lbs.						
PIER NO. 2									
P521	6	13 - 4	83	5					
P522	11	14 - 0	161	7	3-8	3-2			
P621	5	3 - 9	28	5					
P622	7	5 - 0	53	2	2-6	1-5	1-5		
P623	12	8 - 4	150	2	3-2	2-9	2-9		
P821	4	8 - 8	93	5	6-6				
P822	12	6 - 6	208	1	1-6	5-2½			
P823	12	13 - 4	427	5					
P824	8	23 - 4	498	5					
P921	12	6 - 3	255	6	5-0				
P922	12	11 - 9	479	5					
Spiral			261						
			2,696 Lbs.						
PIER NO. 3									
P631	8	6 - 0	72	2	3-2	1-7	1-7		
P931	9	3 - 6	107	5					
P932	6	11 - 3	230	5					
P933	5	6 - 0	102	5					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
P934	14	12 - 8	603	5					
Spiral			279						
			1,392 Lbs.						
SUPERSTRUCTURE									
S401	720	30 - 0	14,429	5					
S402	60	22 - 0	882	5					
S403	318	20 - 0	4,248	5					
S501	576	30 - 0	18,023	5					
S502	48	27 - 0	1,352	5					
S503	470	40 - 0	19,608	5					
S504	204	2-0 to 38-0	4,255	5					Vary by 2 1/8"(±)
S505	195	38-0 to 4-6	4,322	5					Vary by 2 1/8"(±)
S506	486	5 - 0	2,534	8					
S507	486	5 - 3	2,661	9					
S508	72	12 - 0	901	5					
S509	148	7 - 2	1,106	5					
S510	72	12 - 2	914	5					
S601	470	40 - 0	28,238	5					
S602	204	2-0 to 38-0	6,128	5					Vary by 2 1/8"(±)
S603	195	38-0 to 4-6	6,224	5					Vary by 2 1/8"(±)
			115,825 Lbs. epoxy coated						

MARK	NO.	LENGTH (HEIGHT)	WEIGHT	SHAPE
SP401	1	13 - 1	291	Bt.
SP421	1	11 - 8	261	Bt.
SP431	1	12 - 6	279	Bt.

Spirals - core diam. 38" o/o
- pitch 4½" c/c
other details in accordance with C.R.S.I Standard practice.

18/18

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus Ohio 43212 • 614/488-0731

STRUCTURE No. 16
OVER CONRAIL R.R.
REINF. STEEL LIST
SOUTH BRIDGE
SANDUSKY COUNTY STA. 70+ 90.93

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	G.M.	[signature]	[signature]	3.8 85	

INDEX OF SHEETS

* SHEETS: 32, 33, 34 NOT USED

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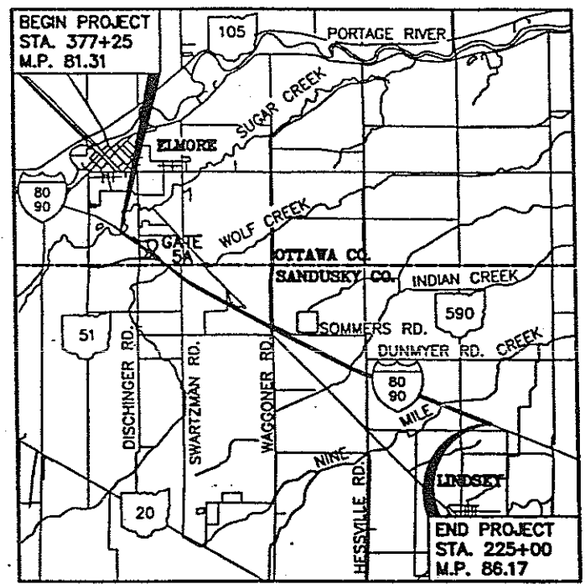
2 WORKING DAYS
BEFORE YOU DIG
Call...800–362–2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

CALL JAYTEL – (419) 884–0400
(LCI FIBER OPTIC CABLE)

OHIO TURNPIKE DIVISION SUPERINTENDENT
(419) 862–2922
(ROADWAY LIGHTING CABLE)

OHIO TURNPIKE COMMISSION
THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT 77-99-05
THIRD LANE CONSTRUCTION
MP. 81.31 TO MP. 86.17
STATION 377+25 TO STATION 410+65.39 OTTAWA COUNTY
STATION 1+70.91 TO STATION 225+00 SANDUSKY COUNTY



Scale in Miles
0 1/2 1 2

SCALES

PLAN ..... 0' 50'

PROFILE ..... HORIZONTAL 0' 50' VERTICAL 0' 5'

CROSS SECTIONS ..... HORIZONTAL 0' 10' VERTICAL 0' 10'

RECOMMENDED FOR APPROVAL
BY
URS GREINER, INC.

REVIEW CONSULTANT
7-27-99
DATE

APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY

CHIEF ENGINEER
8/2/99
DATE

PLANS PREPARED BY
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537
(419) 891–2222

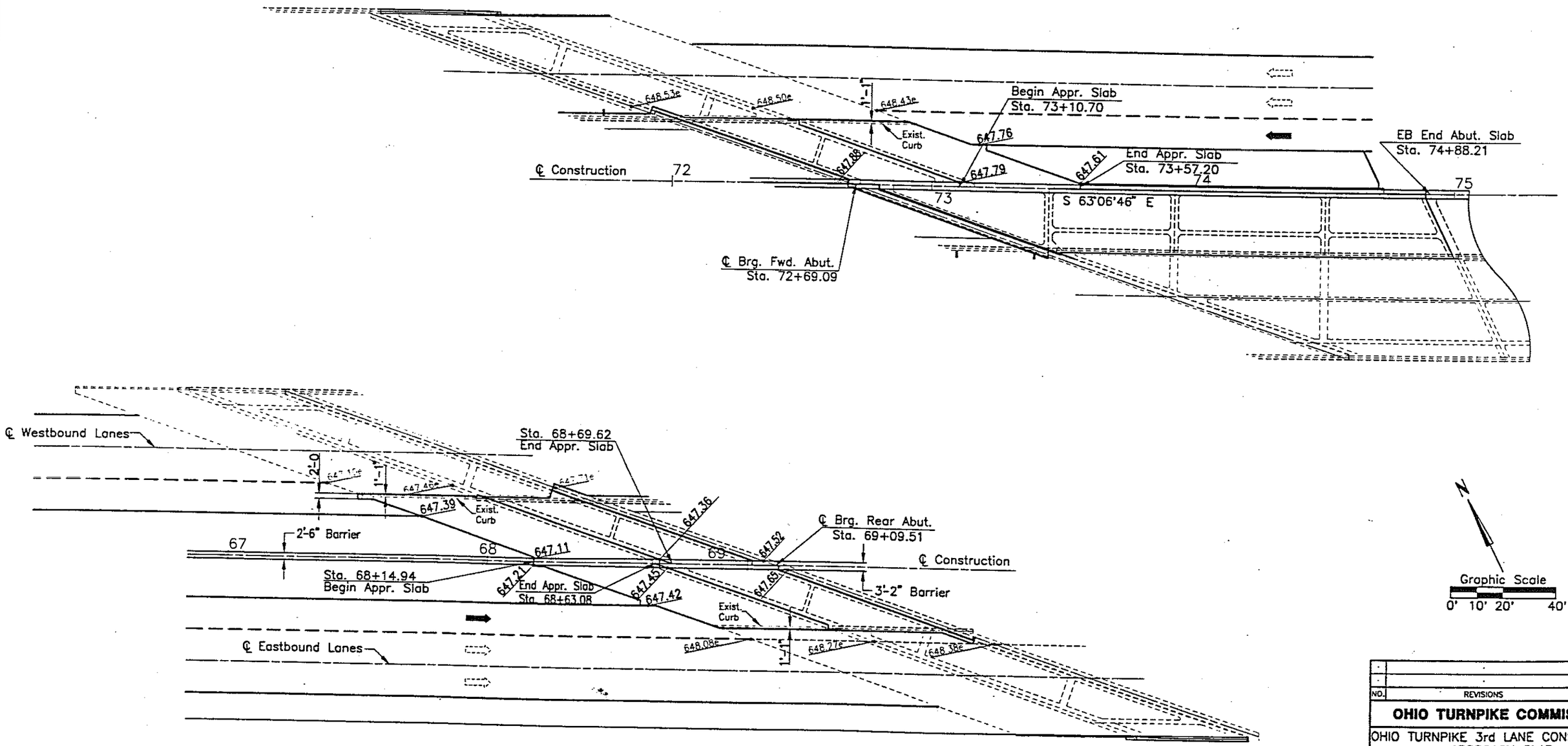
STATE OF OHIO
JOAN MANNIK
PROFESSIONAL ENGINEER

Joan Mannik

Consultants For Nine Mile Creek Bridge
ULRICH–CH'ANG & ASSOCIATES, INC.
3220 CENTRAL PARK WEST
TOLEDO, OHIO 43617
(419) 841–4704

DESIGN CONTRACT NO. 71–96–43

APPROACH SLAB DETAILS
OHIO TURNPIKE OVER CONRAIL



For Additional Details See
OTC Std. Dwgs. AS-1
And AS-2.

LEGEND

000.00 = Proposed Grades

000.00e = Existing Grades

NO.	REVISIONS	BY	DATE

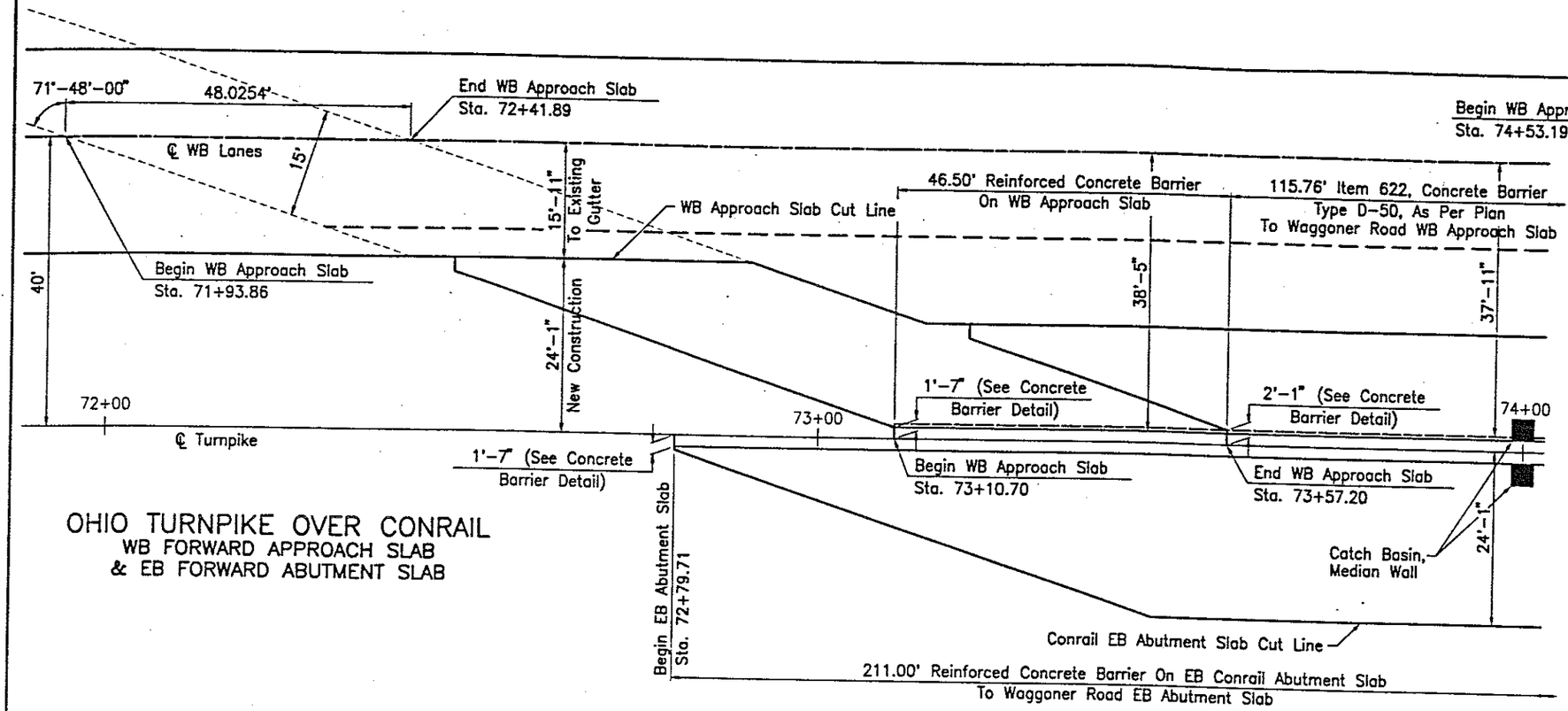
OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
ELEVATION DETAILS

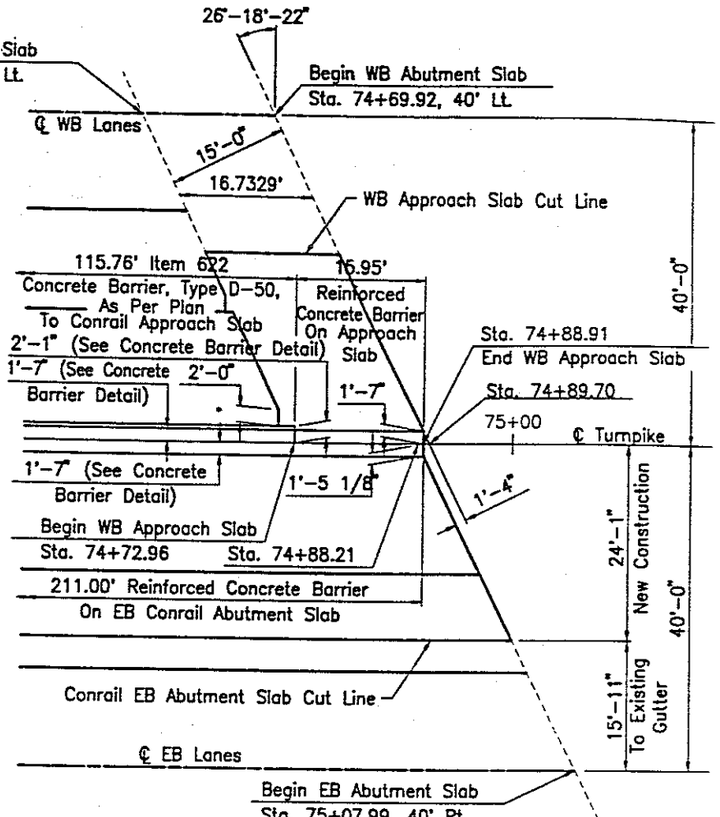
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.R.P.	DATE: 6-98	
DRAWN: D.M.V.	IN CHARGE: J.M.	SCALE: As Noted	

CONTRACT 77-99-0-5 SHEET 159 OF 276



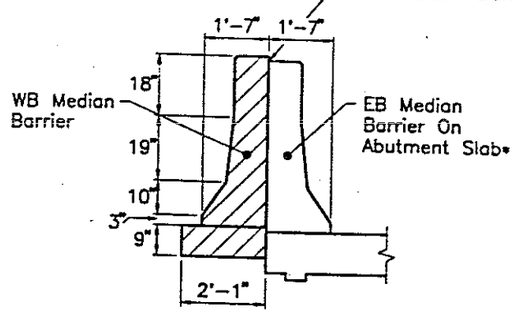
OHIO TURNPIKE OVER CONRAIL
WB FORWARD APPROACH SLAB
& EB FORWARD ABUTMENT SLAB



OHIO TURNPIKE OVER WAGGONER ROAD
WB REAR APPROACH SLAB
& EB REAR ABUTMENT SLAB

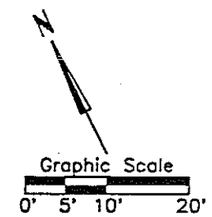
* SP511A, Class S Concrete, Barriers, Using Type 1 Cement

Groove And Seal With 705.04
See Sheet 227
Cost Included With
EB Median Barrier*



CONCRETE BARRIER DETAIL
ITEM 622 – CONCRETE BARRIER,
TYPE D-50, AS PER PLAN

ITEM 622 – Concrete Barrier Type D-50, As Per Plan Shall Include All Items To Construct The W.B. Median Barrier (2'-1" In Width) As Shown. For Additional Details See Page 227 And ODOT Std. Dwg. MC-9.3



For Additional Details See OTC Std. Dwgs. AS-1 And AS-2.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

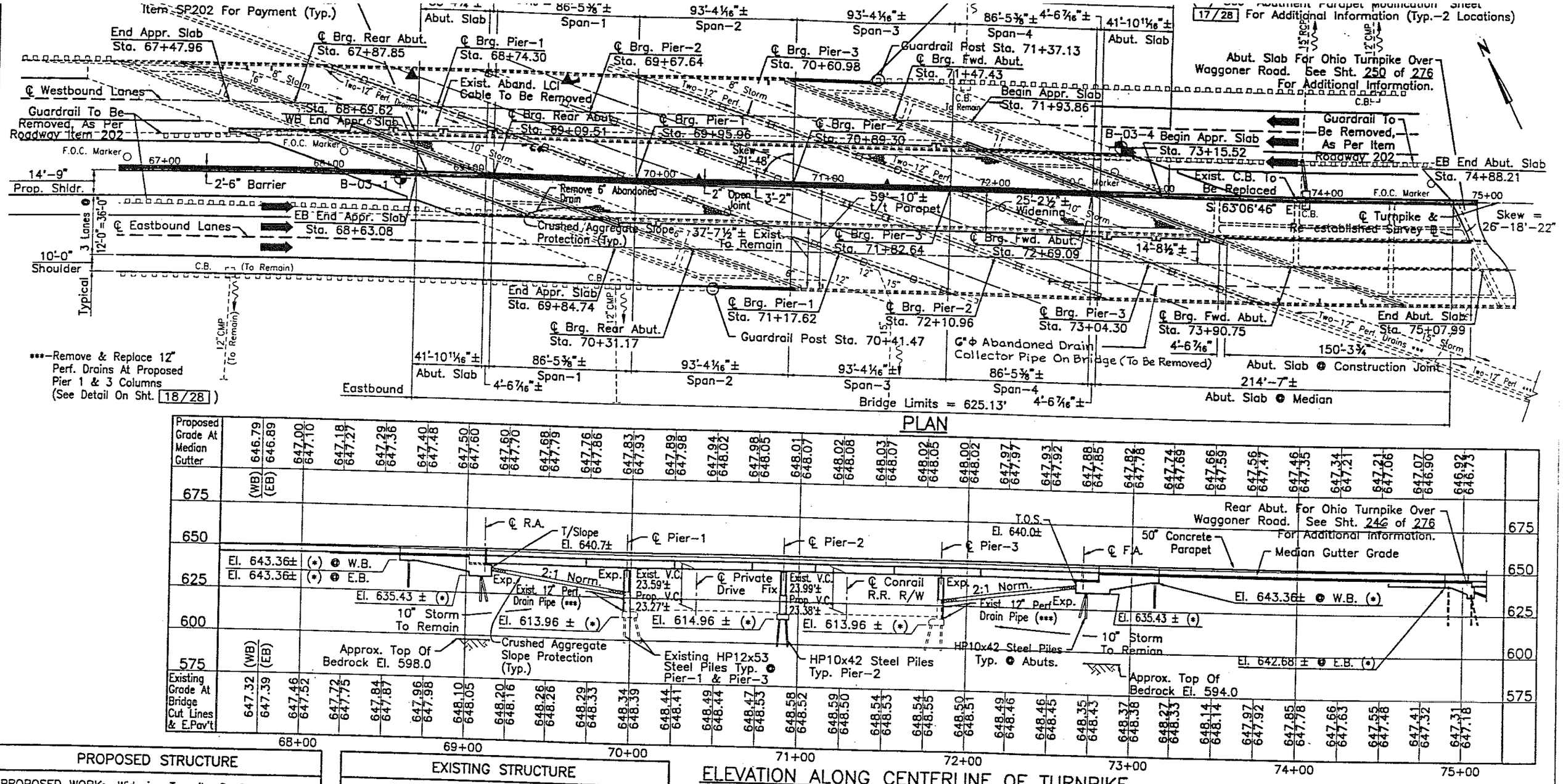
OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
WIDENING DETAILS

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.G.T.	DATE: 6-98
DRAWN: E.G.T.	IN CHARGE: J.M.	SCALE: As Noted

CONTRACT 77-99-03 SHEET 160 OF 276

OTCK9



ELEVATION ALONG CENTERLINE OF TURNPIKE

PROPOSED STRUCTURE

PROPOSED WORK: Widening Turnpike By One Lane Both Directions To The Median.
TYPE: Twin 4-Span Continuous Span A36 Steel Girder Bridges With Reinforced Concrete Decks, Cellular Abutments, And Column Piers Supported On Reinforced Concrete Crashwalls
SPAN: 86.45'±, 93.34'±, 93.34'±, 86.45'± c/c Brgs.
ROADWAY: 2 ⊕ 59'-10"± t/t Parapets
LOADING: HS20-44 Case I & Alternate Military Loading, FWS = 30 psf
SKEW: 71°-48'-00"± Right Forward
WEARING SURFACE: Monolithic Concrete
APPROACH SLABS: 15'-0"± Long (None At EB Fwd. Abut.)
ALIGNMENT: Tangent
CROWN: .0156± Ft./Ft.

EXISTING STRUCTURE

TYPE: Twin 4-Span Continuous A7 & A36 Steel Beam Bridges With Reinforced Concrete Decks. Substructures Are Reinforced Concrete Cellular Abutments And Column Piers On Top Of Reinforced Concrete Crash Walls
SPAN: 86.45'±, 93.34'±, 93.34'±, 86.45'± c/c Brgs.
ROADWAY: 37'-4"± t/t Parapets
LOADING: HS20-44 Case I & Alt. Military
SKEW: 71°-48'-00"± Right Forward
WEARING SURFACE: Monolithic Concrete
APPROACH SLABS: 15'-0"± Long (None At EB Fwd. Abut.)
ALIGNMENT: Tangent
DATE BUILT: 1954, Widened & Redecked 1986
CONDITION: Good
STRUCTURE FILE NO.: 7228562 EB, 7228570 WB

SITE BENCH MARK NO. 50

Feno Monument
Sta. 75+00, 65'(±) Right
Elevation = 649.62

NOTES:

(*) Information Obtained From Existing As-Built Plans. The Elevations Have Been Incresed 0.46' From The Existing As-Built Plans To Match Vanguard Survey.

(**) Connection Location Of Proposed To Existing Guardrail Will Be Determined In The Field.

BORING LEGEND

⊕ Drive Sample Core Boring
▲ Denotes Min. Clearance Locations

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL PLAN & ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: JPM	CHECKED: CEW	DATE: 6/98
DRAWN: JPM	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05, SHEET 212 OF 276

1/28

OTCK9C

GENERAL NOTES

1. BRIDGE DECK ELEVATIONS, SLAB THICKNESS, AND APPROACH PROFILES: IN ORDER TO MEET ROADWAY GRADES, TO ASSURE THE CONSTRUCTION OF THE REQUIRED THICKNESS OF DECK SLABS, AND TO ASSURE THE PROPER LOCATION OF THE REINFORCING STEEL IN THE DECK SLABS, THE CONTRACTOR SHALL OBTAIN THE ELEVATIONS OF THE TOP OF THE NEW GIRDERS AND EXISTING STEEL BEAMS AFTER THE PARTIAL REMOVAL OF THE EXISTING DECK SLAB, AT THE LOCATIONS SHOWN ON SHEET [24/28] FOR THE FINAL PAVEMENT ELEVATIONS. THE CONTRACTOR SHALL COMPUTE THE DECK SCREED ELEVATIONS UTILIZING DEAD LOAD DEFLECTIONS. THE CONTRACTOR SHALL THEN CALCULATE THE DECK THICKNESS OVER THE BEAMS/GIRDERS USING THE DECK SCREED ELEVATIONS AND THE TOP OF BEAM/GIRDER ELEVATIONS. THE CONTRACTOR SHALL FURNISH THE ELEVATIONS TO THE ENGINEER FOR FINAL CHECKING. IF THE COMPUTED DECK THICKNESS IS FOUND TO BE LESS THAN THE MINIMUM THICKNESS REQUIRED, THE FINAL PAVEMENT ELEVATIONS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. FORM WORK SHALL NOT PROCEED UNTIL A CHECK OF THE FINAL ELEVATIONS HAS BEEN PERFORMED BY THE ENGINEER.

   THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON 9¼" THICK CONCRETE OUTSIDE THE HAUNCH AREAS, AND THE AVERAGE THICKNESS OF CONCRETE PLACED OVER THE EXISTING BEAMS OR PROPOSED GIRDERS AT THE HAUNCHES. A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING THE QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12", PROVIDED THAT THE SLOPE SHALL NOT BE MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

   PLACEMENT OF THE ABUTMENT SLAB PRIOR TO THE DECK SLAB WILL NOT BE PERMITTED. HOWEVER, THE ABUTMENT SLAB AND THE DECK SLAB MAY BE POURED AT THE SAME TIME. UPON THE COMPLETION OF THESE POURS AND PRIOR TO POURING THE CONCRETE APPROACH SLABS, THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH FINISH GRADES AND ELEVATIONS REQUIRED TO PROVIDE A SMOOTH TRANSITION FROM THE ROADWAY PAVEMENT AND APPROACH SLABS TO THE CONCRETE ABUTMENT AND DECK SLABS.

   PRIOR TO PLACING THE APPROACH SLABS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER THE EDGE OF NEW AND EXISTING PAVEMENT ELEVATIONS AND EDGE OF SHOULDER ELEVATIONS AT 25' INTERVALS FOR A DISTANCE OF 200' BEYOND THE END OF THE APPROACH SLAB, AND AS BUILT ELEVATIONS OF THE ABUTMENT AND DECK SLABS. AFTER RECEIPT OF THESE ELEVATIONS, THE ENGINEER WILL CALCULATE AND PROVIDE TO THE CONTRACTOR FINAL ELEVATIONS FOR THE APPROACH SLABS AND APPROACH PAVEMENT. NO APPROACH SLABS SHALL BE POURED NOR SHALL PAVING COMMENCE UNTIL RECEIPT OF THESE FINAL ELEVATIONS.

   PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE INCLUDED WITH THE LUMP SUM PRICE BID FOR ITEM SP 623 CONSTRUCTION LAYOUT SURVEY.

2. PATCHING CONCRETE STRUCTURES
   A CONTINGENCY QUANTITY OF 20 SQ. FT. OF SP519 PATCHING CONCRETE STRUCTURES HAS BEEN INCLUDED ON THE SUMMARY OF QUANTITIES FOR THIS STRUCTURE FOR USE AS DIRECTED BY THE ENGINEER.

3. PILE DRIVING
   IF EQUIPMENT FOR PILE DRIVING OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE. STRESS CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE SPECIFICATIONS.

4. PILE DRIVEN TO BEDROCK
   PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

   REFER TO FOUNDATION PLAN SHEETS [4/28] AND [5/28] FOR PILE DESIGN LOADS.

5. ITEM 507 – STEEL POINT (OR SHOE), AS PER PLAN
   STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BOULEVARD, CLIFTON, NEW JERSEY 07014; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL, INC., 3061 NW YEON AVENUE, P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, N.C. 28105; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE ENGINEER. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27 65/35 – CLASS 2, HEAT TREATED OR AASHTO M103 65/35, HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

6. PAINTING OF STRUCTURAL STEEL
   THE NEW STRUCTURAL STEEL SHALL BE TOTALLY SHOP PAINTED WITH ALL COATS IN ACCORDANCE WITH SPECIAL PROVISION SP514A – TOTAL SHOP PAINTING – SYSTEM IZEU. THE THREE COAT SHOP APPLICATION OF THE PAINT IS INCLUDED FOR PAYMENT UNDER ITEM 513 – STRUCTURAL STEEL, AISC CATEGORY III, AS PER PLAN.

   ANY FIELD TOUCHUP OF DAMAGED AREAS SHALL BE INCIDENTAL TO ITEM 513.

7. SURFACE PREPARATION OF STEEL PRIOR TO PAINTING
   THE CONTRACTOR'S ATTENTION IS CALLED TO SPECIAL PROVISION SP514A PART 3 – EXECUTION, SECTION 3.02 SURFACE PREPARATION. SPECIFICALLY PARAGRAPH A WHICH ADDRESSES SURFACE PREPARATION.

   ALL SHARP EDGES SUCH AS THOSE CREATED BY THE FLAME CUTTING AND SHEARING OF STEEL SHALL BE ADDRESSED ACCORDING TO THIS SPECIFICATION IN ORDER TO ENSURE A PROPER PAINT SYSTEM. BREAKING THE EDGE CAN BE ACCOMPLISHED BY A SINGLE PASS OF A GRINDER IN ORDER TO FLATTEN THE EDGE. HOWEVER, CARE SHALL BE TAKEN TO ENSURE THAT DURING THE REMOVAL OPERATION NEW SHARP EDGES ARE NOT CREATED. THIS REQUIREMENT IS APPLICABLE TO ALL STRUCTURES WHETHER OR NOT IT IS SPECIFICALLY ADDRESSED IN THE CONTRACT DRAWINGS.

   NO SEPARATE PAYMENT FOR ANY GRINDING REQUIRED TO CONFORM TO THE SPECIFICATIONS WILL BE MADE. PAYMENT FOR THE SHOP APPLIED COATING SYSTEM IS INCLUDED IN THE COMPLETED WORK ITEM – 513 STRUCTURAL STEEL, AISC CATEGORY III, AS PER PLAN, PER PART 4 – MEASUREMENT AND PAYMENT OF SPECIAL PROVISION SP514A.

8. PROTECTION OF PAINTED STEEL DURING ERECTION
   THE NEW STRUCTURAL STEEL THAT IS TOTALLY PAINTED IN THE SHOP SHALL CONFORM IN ALL RESPECTS TO THE REQUIREMENTS OF SP514A – TOTAL SHOP PAINTING, SYSTEM IZEU AND SPECIFICALLY TO PART 3 – EXECUTION, SECTION 3.05"SHIPPING, STORAGE, AND HANDLING OF SHOP PAINTED STEEL".

   IN ADDITION TO THESE REQUIREMENTS THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PROTECT THE FINISHED PAINTED SURFACE FROM DAMAGE DURING THE ERECTION OF THE STEEL, THE INSTALLATION OF THE FALSEWORK AND FRAMEWORK, AND POURING OF THE CONCRETE DECK AND PARAPETS. THIS PROTECTION SHALL INCLUDE THE USE OF PADDING ON BRACKETS AND SUPPORTS, CONSTRUCTION OF TIGHT FITTING FORMS AND OTHER PROTECTIVE METHODS THE CONTRACTOR MAY DEEM NECESSARY FOR PROTECTING THE NEWLY PAINTED SURFACE.

   THE CHIEF ENGINEER SHALL HAVE THE AUTHORITY TO INSTRUCT THE CONTRACTOR TO DELAY THE START OF HIS OPERATIONS OR SUSPEND HIS OPERATIONS IN WHOLE OR IN PART IF HE DOES NOT UTILIZE PROPER CARE OR MEANS TO PROTECT THE NEWLY PAINTED STEEL DURING ERECTION OR HIS FORMING OPERATIONS.

9. ITEM SPECIAL – PIPE CLEANOUT
   DESCRIPTION OF WORK: THIS WORK SHALL ENTAIL REMOVING BRANCHES, SILT AND OTHER DEBRIS INSIDE THE SIX-INCH DIAMETER STEEL DRAIN PIPES PASSING THROUGH ABUTMENT BREASTWALLS TO BE CLEANED OUT AT THE LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER AND FLUSHING THEIR OUTLET ENDS CLEAN WITH WATER.

   CLEANING PROCEDURE: DEBRIS SHALL BE REMOVED FROM THE OUTLET END OF THE PIPES USING SMALL HAND TOOLS (SPUD BARS, DRAIN SPADES, HAND TROWELS, ECT.). THE MATERIAL REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF SP108. THE CONTRACTOR SHALL SUPPLY A SUITABLE LIGHT SO THAT THE ENGINEER CAN INSPECT INSIDE THE PIPES AFTER DEBRIS REMOVAL IS COMPLETED. WATER SHALL BE FLUSHED INTO THE PIPE TO FLUSH OUT REMAINING FINES NOT PREVIOUSLY REMOVED.

   PAYMENT: PAYMENT SHALL BE MADE AT THE PRICE BID PER THE LINEAR FOOT OF PIPE CLEANED AND FLUSHED. (TEN LINEAR FOOT PER PIPE IS PROVIDED IN THE STRUCTURE ESTIMATED QUANTITIES)

   PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR REMOVAL AND DISPOSAL OF MATERIAL FOUND, AND FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

   ANY PIPES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

   NONE OF THE ABOVE DESCRIBED WORK SHALL BE PERFORMED UNLESS DIRECTED BY THE ENGINEER.

10. WEATHERPROOFING OF CONCRETE
    AFTER PATCHING THE ABUTMENTS, COAT ALL EXISTING & PROPOSED CONCRETE BACKWALL, ABUTMENT SEAT, AND FRONT FACE OF ABUTMENT SURFACES WITH SP536-CONCRETE WEATHERPROOFING. THIS IS IN ADDITION TO THE CONCRETE WEATHERPROOFING SPECIFIED ON THE GENERAL NOTES SHEET G1.

11. ITEM 506 – STATIC LOAD TEST AS PER PLAN
    ITEM 506 – SUBSEQUENT STATIC LOAD TEST, AS PER PLAN

    FOR STATIC LOAD TESTS PERFORMED ON SERVICE PILES AS DIRECTED BY THE ENGINEER. THE APPLICATION OF LOAD SHALL BE IN ACCORDANCE WITH SECTION 506.03 OF THE CMS EXCEPT THAT THE MAXIMUM APPLIED TEST LOAD SHALL BE LIMITED TO TWO (2) TIMES THE PLAN DESIGN LOAD.

12. ADDITIONAL NOTES
    PLEASE REFER TO SHEET G1 OF G1 FOR ADDITIONAL BRIDGE NOTES.

13. PAINTING REQUIREMENTS AT REMOVED APPURTENANCES
    REGIONS WHERE THE APPURTENANCES FOR THE ABANDONED F.O.C. CONDUIT AND BRIDGE DRAIN COLLECTOR PIPE ARE REMOVED FROM THE EXISTING STEEL SUPERSTRUCTURE PER ITEM SP202 SHALL HAVE SURFACE PREPARATION AND FIELD PAINTING INCLUDED IN ITEMS SP514.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
DRAWN: CEW	IN CHARGE: JM	SCALE:

CONTRACT 77-99-0.75 SHEET 213 OF 276

OTCK9C

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GEN.	AS PER PLAN SHT. NO.
SP202	Lump Sum		Portions Of Structure Removed				Lump	
503	Lump Sum		Cofferdams, Cribs And Sheeting				Lump	
503	1856	Cu. Yd.	Unclassified Excavation	1352	504			
503	168	Cu. Yd.	Abutment Backfill, As Per 503.10	168				G1/G1
505	Lump Sum		Pile Driving Equipment Mobilization				Lump	
506	Lump Sum		Static Load Test, As Per Plan				Lump ▲	2/28
506	1	Each	Subsequent Static Load Test, As Per Plan				1 ▲	2/28
507	7607	Lin. Ft.	Steel Piles HP10x42	6871	736			
507	183	Each	Steel Point (Or Shoe), As Per Plan	151	32			2/28
509	5,508	Pound	Reinforcing Steel, Grade 60		5,508			
SP509	293,181	Pound	Epoxy Coated Reinforcing Steel, Grade 60	139,169		153,712	300 **	
510	7/2	Each	Dowel Holes, Using SP853 Grout Anchoring	204	492	16		
SP511	686	Cu. Yd.	Class C Concrete, Abutments	686				
SP511	94	Cu. Yd.	Class C Concrete, Pier Footings		94			
SP511	321	Cu. Yd.	Class C Concrete, Pier Above Footings		321			
SP511A	280	Cu. Yd.	Class S Concrete, Abutment Slabs, Using Shrinkage Compensating Cement	280				
SP511A	575	Cu. Yd.	Class S Concrete, Superstructure Deck Slab, Using Shrinkage Compensating Cement			569	6 *	
SP511A	152	Cu. Yd.	Class S Concrete, Barriers And Parapets, Using Type I Cement	48		104		
SP512	31	Sq. Yd.	Membrane Waterproofing (Sheet Type 2)	29	2			
513	655,077	Pound	Structural Steel, AISC Category III, As Per Plan			655,077		2/28
513	180	Each	Welded Stud Shear Connector			180		
SP514	Lump Sum		Surface Preparation Of Existing Steel, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Prime Coat, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Intermediate Coat, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Finish Coat, System UUU			Lump		
SP514	Lump Sum		Field Cleaning & Touch-Up Of Shop Primer & Connections, System OZEU (Application Of Shop Primer For System IZEU Is Included In The Cost Of Steel), And Field Cleaning & Painting Of Faying Surfaces With Inorganic Zinc			Lump		
516	6	Each	Bearing Devices, Fixed		6		~~6~~	
516	24	Each	Bearing Devices, Expansion	12	12		~~24~~	
516	298	Lin. Ft.	Structural Steel Expansion Joint, As Per Plan			298		25 & 26/28
516	45	Sq. Ft.	1" Preformed Expansion Joint Filler		45			
SP516B	2,527	Lin. Ft.	Sealing Of Construction Joints	1037		1490		
518	596	Cu. Yd.	Porous Backfill With Filter Fabric	277	319			
518	449	Lin. Ft.	6" Perforated Corrugated Plastic Pipe, As Per Plan	449				G1/G1
518	87	Lin. Ft.	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	87				G1/G1
518	506	Lin. Ft.	12" Perforated Helical Corrugated Steel Pipe, 707.01		506			
SP519	230	Sq. Ft.	Patching Concrete Structures	210			20 ***	
523	3	Hour	Dynamic Load Test				3 ▲	
SP525A	Lump Sum		Worker Protection				Lump	
SP525A	20	Each	Protective Clothing/Equipment Set				20	
SP525A	Lump Sum		Establish Regulated Areas				Lump	
SP525A	Lump Sum		Paint Waste/Hazardous Waste Classification, Handling And Disposal				Lump	
SP525A	Lump Sum		Containment System				Lump	
SP527	Lump Sum		Falsework, Temporary Bracing And Protective Structures				Lump	
SP529	2	Each	Trim End Of Structural Steel Member				Lump	
SP536	3,052	Sq. Yd.	Concrete Weatherproofing, Deck, Abutment Slabs And Approach Slabs			2		
SP536	1,569	Sq. Yd.	Concrete Weatherproofing, Barriers And Parapets	1,124		1,928		
SP536	1324	Sq. Yd.	Concrete Weatherproofing, Substructure	567		1,002		
601	665	Sq. Yd.	Crushed Aggregate Slope Protection	722	602			
SP825	55,284	Pound	Galvanized Reinforcing Steel, Grade 60				665	
Special	80	Lin. Ft.	Pipe Cleanout		55,284			
				80				

* As A Contingency 6 Cu. Yd. Of Concrete Has Been Included In The Estimated Quantity For Superstructure Concrete In General Column To Be Used As Directed By The Engineer For Additional Concrete Required In The Haunches Due To Profile Adjustment.

** See Note 14 On Bridge General Notes Sheet G1.

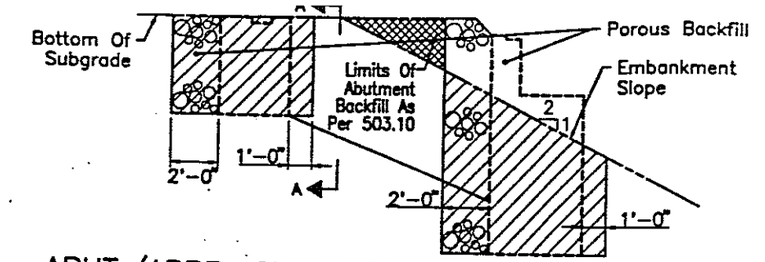
*** See Note 2 On Sheet 2/28 .

▲ Load Test Are Contingency Items To Be Used As Directed By The Engineer.

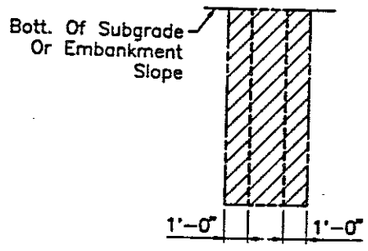
Item SP202, Portions Of Structure Removed, Includes But Is Not Limited To The Following:

Superstructure Concrete	77	Cu. Yd.
Abutment Slab Concrete	19	Cu. Yd.
Concrete Parapets	1075	Lin. Ft.
Substructure Concrete	10	Cu. Yd.
Expansion Joints	8	Lin. Ft.
Bridge Collector Pipe And Appurtenances	8	Each
Perf. Drains At Piers 1 & 3	506	Lin. Ft.

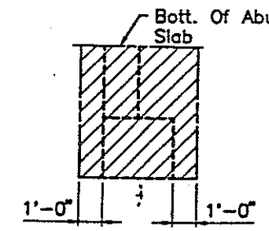
The Above Quantities Are Given For "Information Only". The Contractor Shall Obtain His Own Quantities to Be Used As A Basis For Determining His Bid Price For Item SP202 – Portions Of Structure Removed.



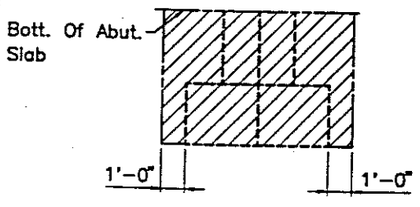
ABUT./APPR. SLAB FOUNDATION & ABUTMENT
(Limits of Unclassified Excavation)



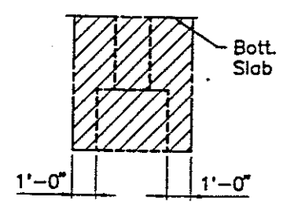
SECTION A–A
(Wingwalls & Cell Walls)



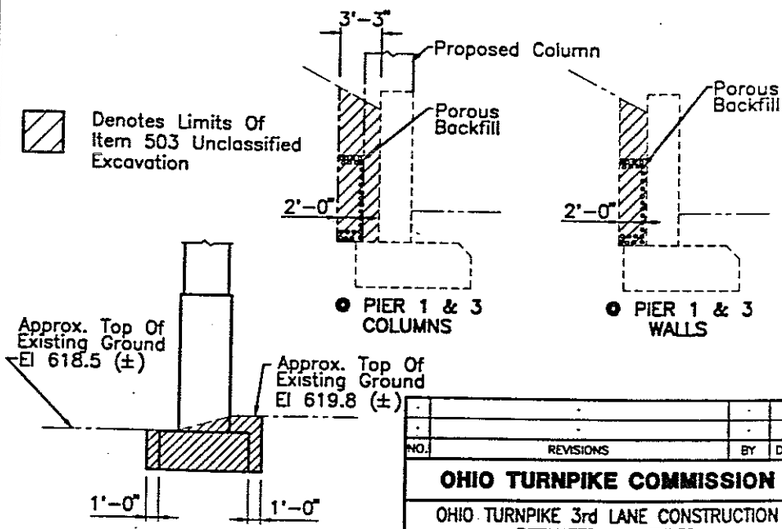
PILE FOOTING
(Below Abutment Slab: WBR, EBR, WBF, EBF)



PILE FOOTING
(Below Abutment Slab: EBF)



PILE FOOTING
(Below Abutment Slab: EBF)



NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

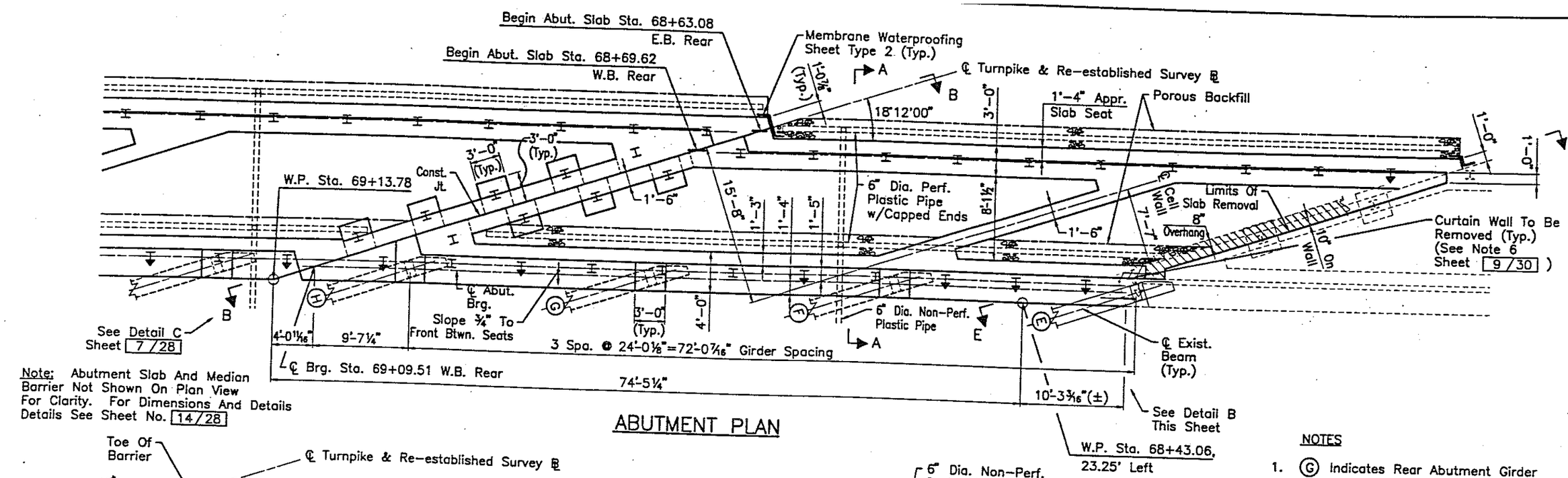
OHIO TURNPIKE 3rd LANE CONSTRUCTION
ESTIMATED QUANTITIES
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98	
DRAWN: CEW	IN CHARGE: JM	SCALE:	

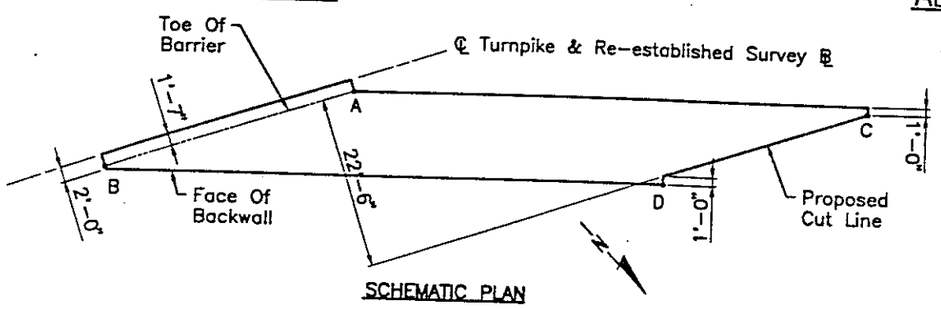
CONTRACT 77-99-05 SHEET 214 OF 276

OTCK9C



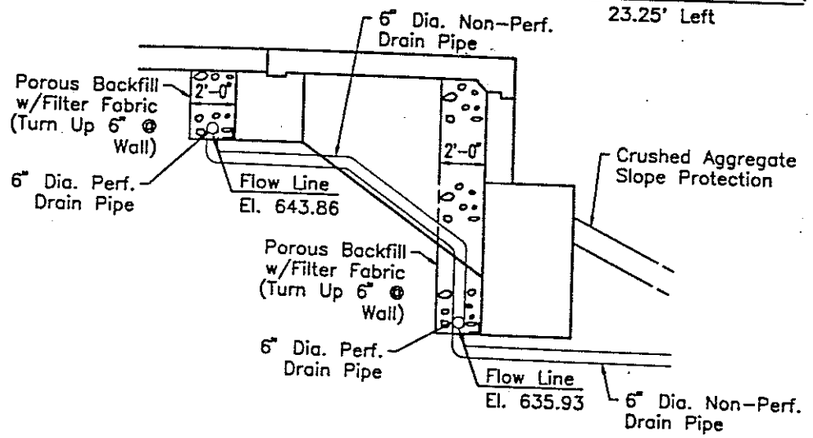
Note: Abutment Slab And Median Barrier Not Shown On Plan View For Clarity. For Dimensions And Details Details See Sheet No. 14/28

ABUTMENT PLAN



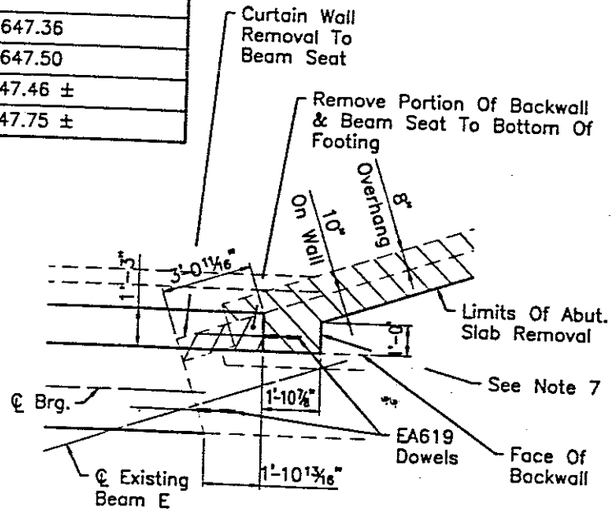
SCHEMATIC PLAN

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS	
POINT/LOCATION	W.B. REAR
A	647.36
B	647.50
C	647.46 ±
D	647.75 ±

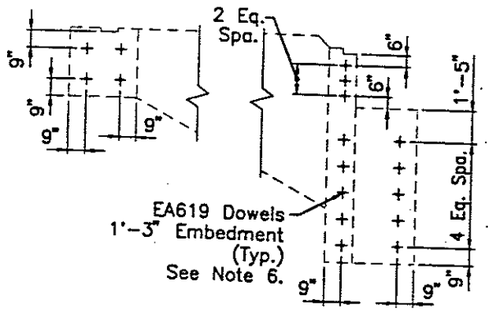


POROUS BACKFILL DETAIL

(Typ. E.B. Rear, W.B. Rear, & W.B. Fwd.)



DETAIL B



SECTION E-E

(Anchor Dowel Layout)

NOTES

1. Ⓖ Indicates Rear Abutment Girder
2. For Sections A-A & B-B, See Sheet No. 12/28
3. For Abutment Seat Elevations See Sheet No. 9/28
4. For Piling Plan Layout See Sheet No. 4/28
5. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab Or Approach Slab And Laterally As Shown On The Plans. See Porous Backfill Detail This Sheet.
6. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On This Sheet.
7. Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
8. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
9. ▨ Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.
10. W.P.-Work Point

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
WESTBOUND REAR ABUTMENT PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

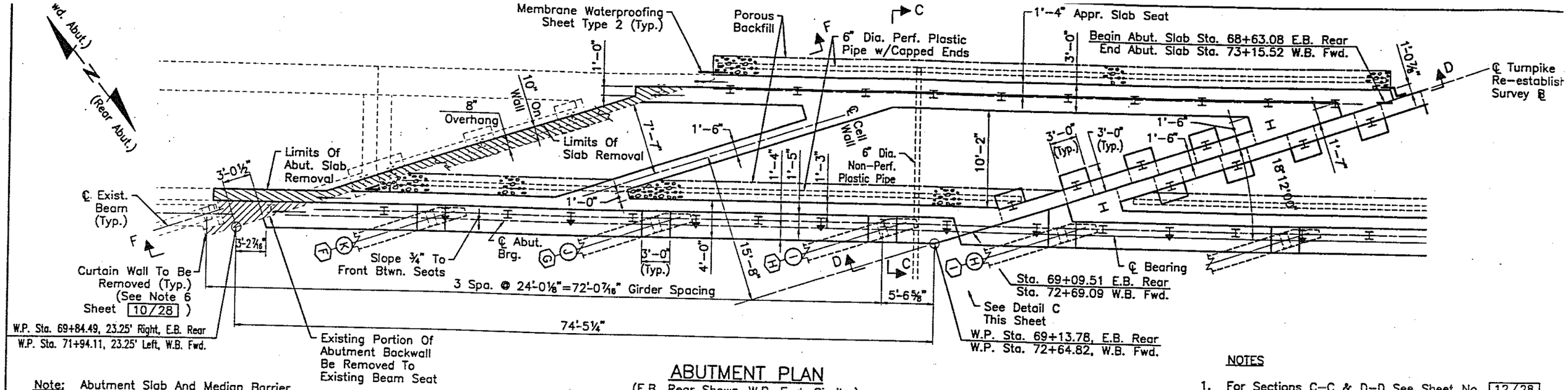
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 217 OF 276

6/28

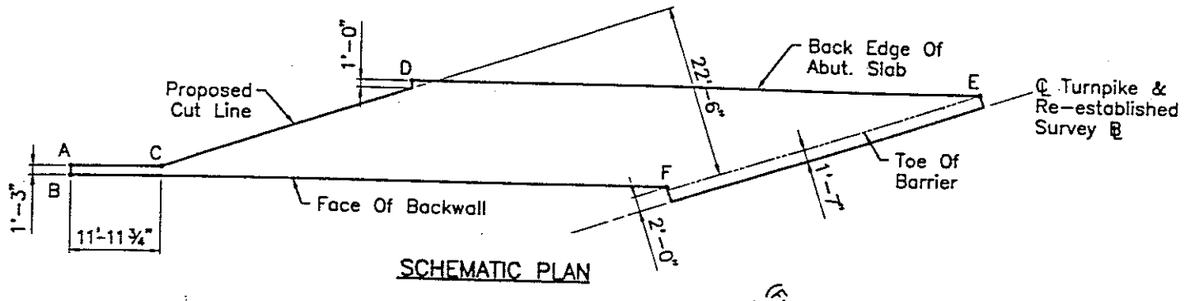
OTCK9C



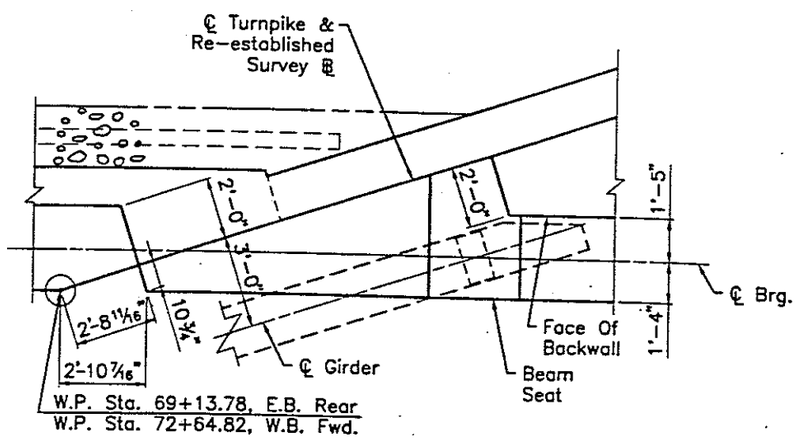
ABUTMENT PLAN

(E.B. Rear Shown–W.B. Fwd. Similar)

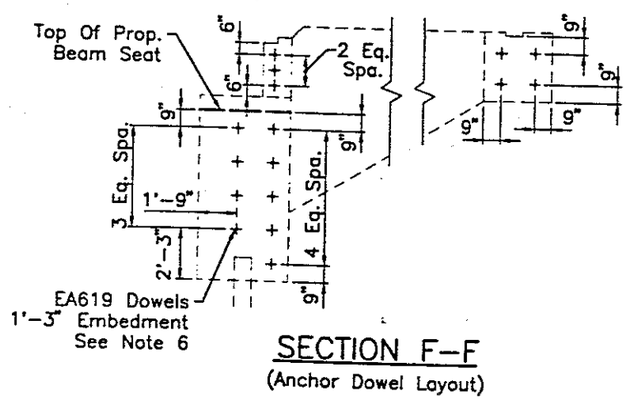
Note: Abutment Slab And Median Barrier Not Shown On Plan View For Clarity. For Dimensions And Details See Sheet No. 15/28



SCHEMATIC PLAN



DETAIL C



SECTION F–F

(Anchor Dowel Layout)

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS

POINT/LOCATION	E.B. REAR	W.B. FORWARD
A	648.48 ±	648.58 ±
B	648.46 ±	648.56 ±
C	648.33 ±	648.50 ±
D	648.24 ±	648.51 ±
E	647.42	647.77
F	647.62	647.88

NOTES

1. For Sections C–C & D–D See Sheet No. 12/28
2. (J) Indicates Rear Abutment Girder
   (G) Indicates Forward Abutment Girder
3. For Abutment Seat Elevations See Sheet No. 10/28
4. For Piling Plan Layout See Sheet No. 4/28
5. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab Or Approach Slab And Laterally As Shown On The Plans. See Porous Backfill Detail Sheet 6/28.
6. EA619 Dowel Bars, Drill Dowel Holes 1'–3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On This Sheet.
7. Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
8. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
9. ▨ Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.
10. W.P.–Work Point

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

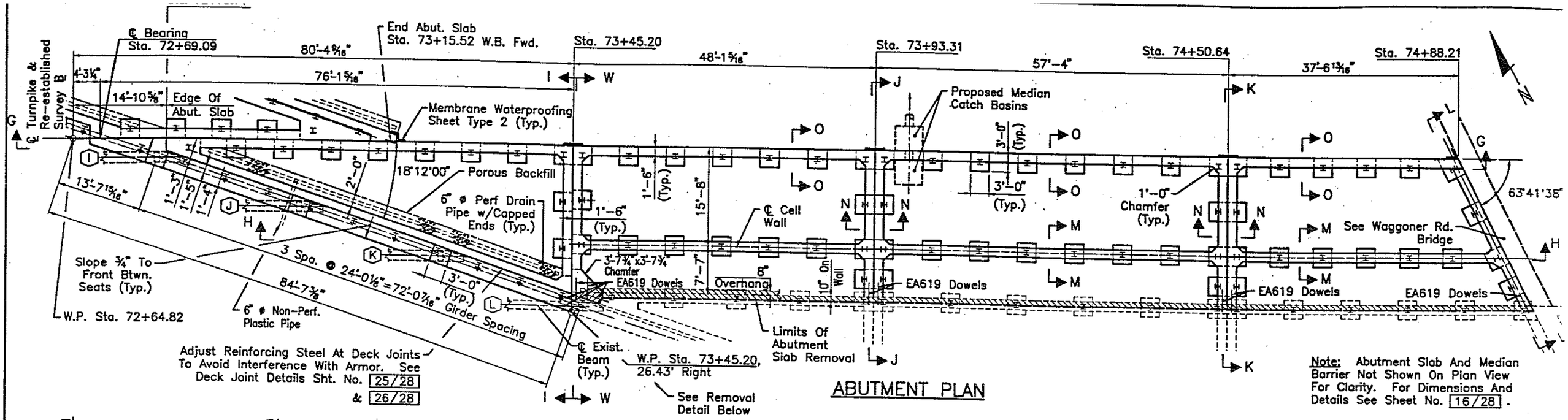
OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND REAR/WESTBOUND FWD. ABUT. PLA
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

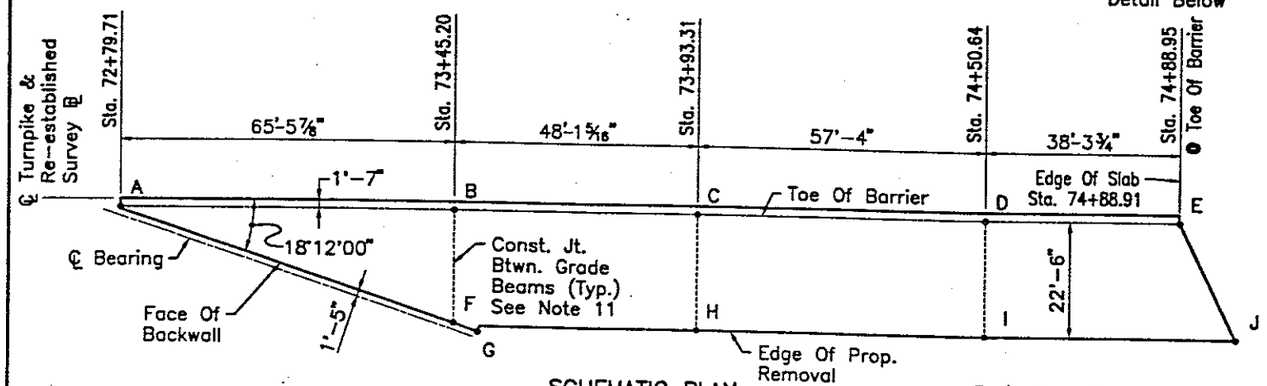
DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 218 OF 276

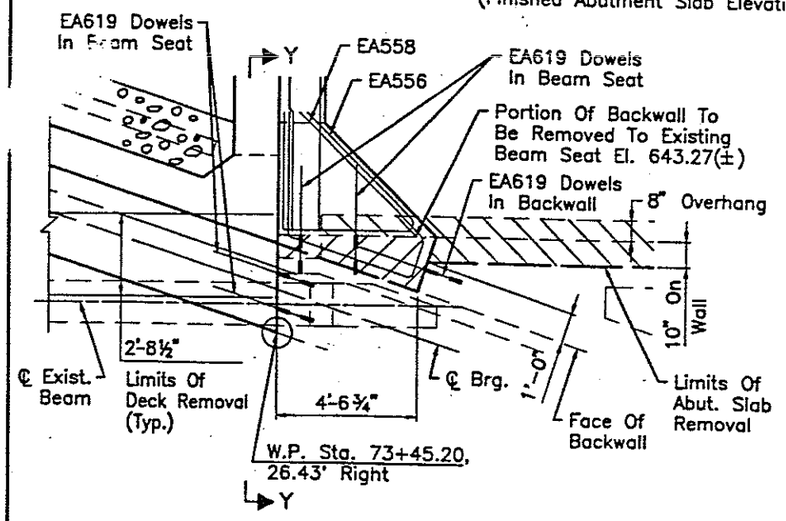
OTCKS



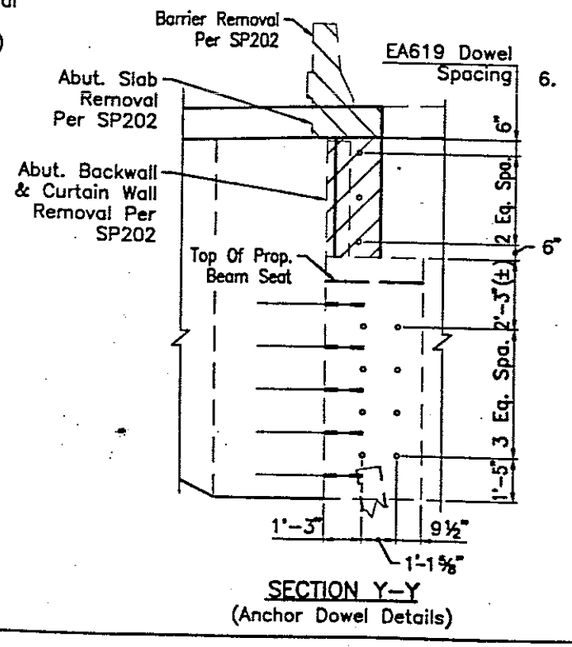
ABUTMENT PLAN



SCHEMATIC PLAN
(Finished Abutment Slab Elevations)



SLAB & BACKWALL REMOVAL DETAIL



SECTION Y-Y
(Anchor Dowel Details)

NOTES

1. (X) Indicates Forward Abutment Girder
2. For Sections G–G, H–H, I–I, J–J, K–K, L–L M–M, N–N & O–O See Sheet No. 13/28
3. For Abutment Seat Elevations And Section W–W See Sheet No. 11/28 .
4. For Piling Plan Layout See Sheet No. 4/28
5. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab And Laterally As Shown On The Plans. See Porous Backfill Detail On Sheet No. 11/28 .
6. EA619 Dowel Bars, Drill Dowel Holes 1'–3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On This Sheet.
7. Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
8. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
9. ▨ Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.
10. W.P.–Work Point
11. Construction Joints Shown In The Schematic Plan Are Btwn. Grade Beams Only. The Construction Joints Do Not Extend Through The Abutment Slab.

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS

POINT/LOCATION	E.B. FORWARD ABUT.
A	647.88
B	647.61
C	647.38
D	647.06
E	646.81
F	648.16 ±
G	648.18 ±
H	647.81 ±
I	647.48 ±
J	647.12 ±

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

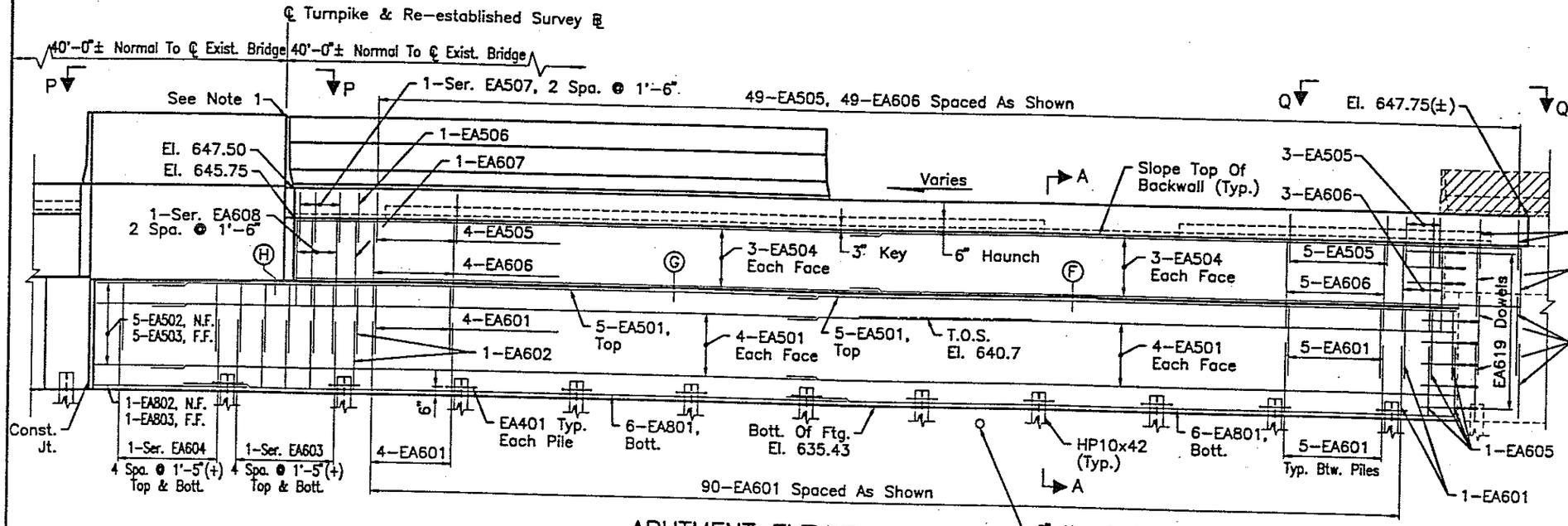
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

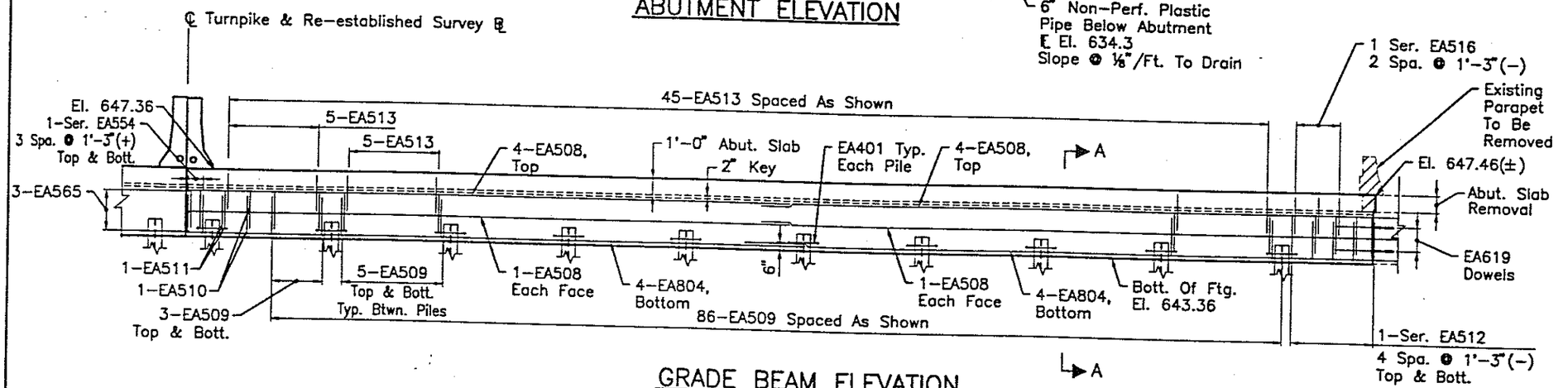
CONTRACT 77-99-05 . SHEET 219 OF 276

8/28

OTCK90



ABUTMENT ELEVATION



GRADE BEAM ELEVATION

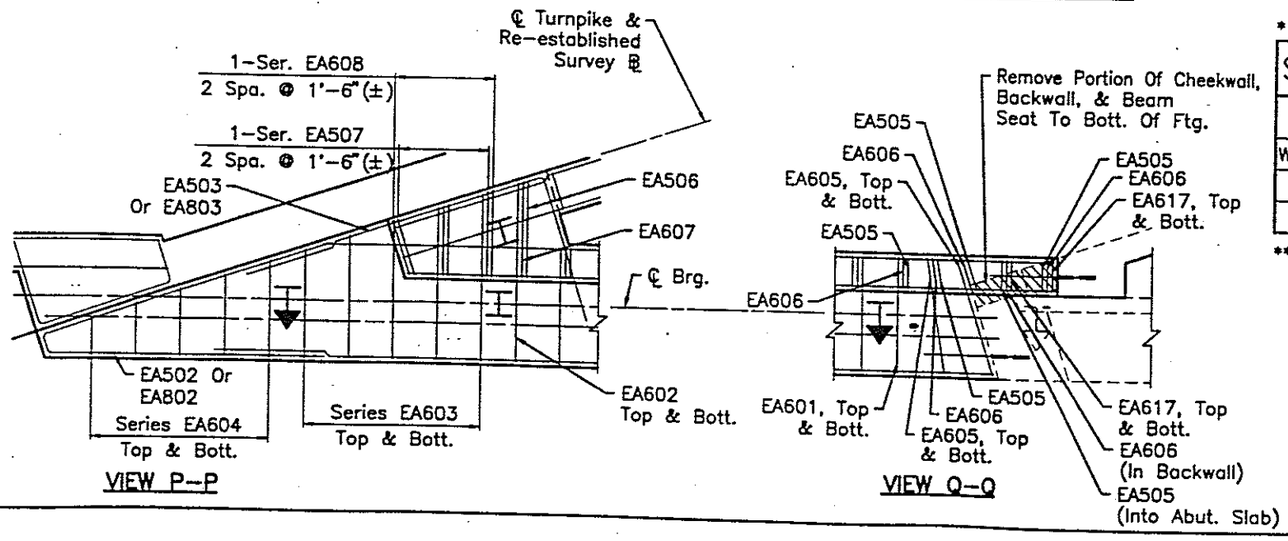


TABLE OF ABUTMENT SEAT ELEVATIONS	
GIRDER LINE	W.B. Rear Abut.
Ⓕ	642.09
Ⓖ	642.08
Ⓗ	642.05

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 6/28
   For Abutment Slab & Barrier Reinforcing See Sheet 14/28
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable
4. Epoxy Bar Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars, And 3'-11" For #8 Bars Unless Noted Otherwise.
5. For Piling Plan See Sheet 4/28
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal, And Sealed Per Item SP536.
7. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On Sheet 6/28
8. See Sheet 6/28 For Porous Backfill Details.
9. Ⓒ Indicates Rear Abut. Girder
10. For Abutment Deck Joint Details See Sheet No. 25/28 & 26/28.
11. For Section A-A See Sheet 12/28
12. ▨ Denotes Concrete Removal Per Item SP202.

* See Note 2 On Sheet 2/28.

SP519-PATCHING CONCRETE STRUCTURES		
LOCATION	Measured Qty.	Estimated Qty.
W.B. Rear Abutment	7 S.F.	11 S.F.
Contingency	-	20 S.F. *
Sub Total		31 S.F. **

** Carried To Est. Qty. Table On Sheet 3/28.

ITEM SP519-PATCHING CONCRETE STRUCTURES: Physical Inventory Of Measured Quantities Of Deterioration Was Performed In November, 1996.

Estimated Quantities Have Been Increased By 50% Over Measured Quantities To Allow For Additional Deterioration.

Exact Dimensions And Locations Of Patches Shall Be Determined By The Engineer In The Field For Final Pay Quantity.

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

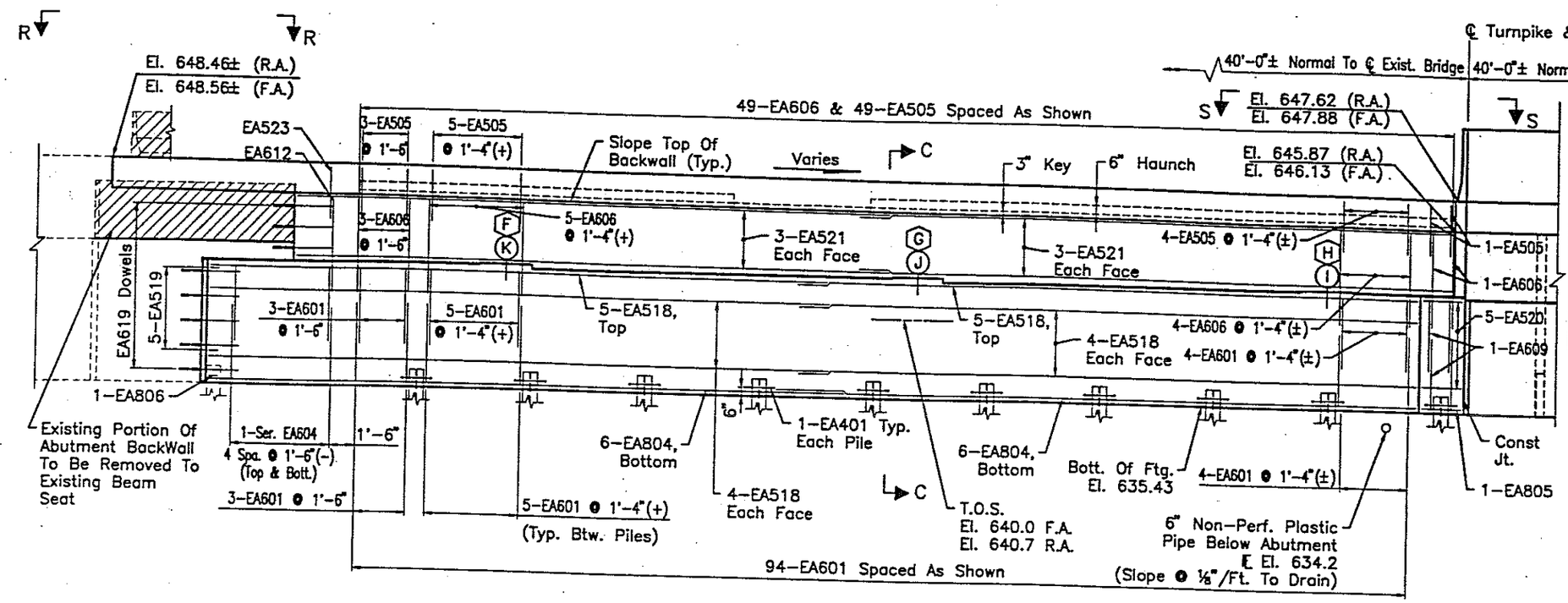
OHIO TURNPIKE 3rd LANE CONSTRUCTION
WESTBOUND REAR ABUTMENT ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05, SHEET 220 OF 276

OTCK9

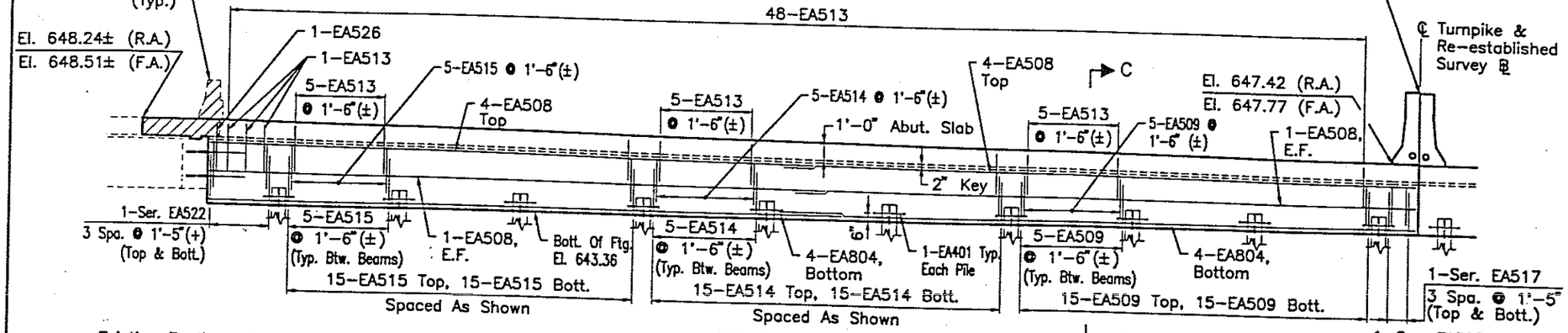


ABUTMENT ELEVATION

TABLE OF ABUTMENT SEAT ELEVATIONS		
BEAM LINE	E.B. Rear Abut.	W.B. Fwd. Abut.
(F)		642.77
(G)		642.62
(H)		642.47
(I)	642.23	
(J)	642.43	
(K)	642.62	

NOTES

1. For Abutment Slab Elevations See Sheet 7/28
   For Abutment Slab & Barrier Reinforcing See Sheet 15/28
2. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On Sheet 7/28
3. (X) Rear Abut. Girder, (X) Fwd. Abut. Girder
4. For Section C-C See Sheet No. 12/28
5. For Additional Notes See Sheet No. 9/28



GRADE BEAM ELEVATION

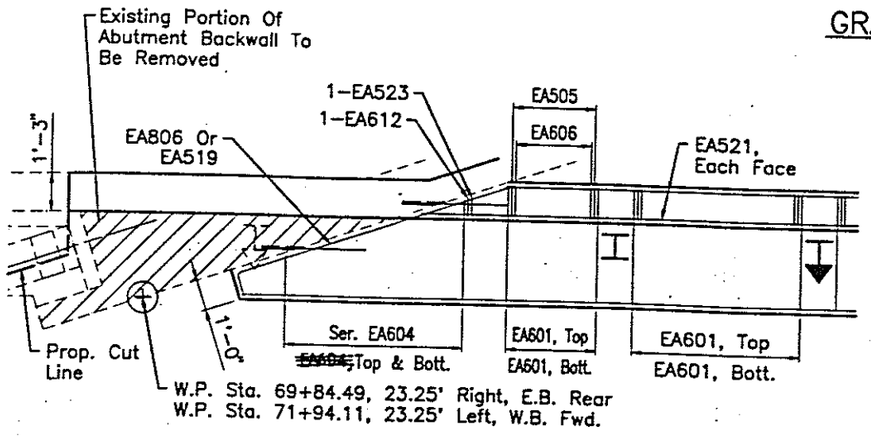
SP519-PATCHING CONCRETE STRUCTURES		
LOCATION	Measured Qty.	Estimated Qty.
E.B. Rear Abutment	59 S.F.	89 S.F.
W.B. Fwd. Abutment	59 S.F.	89 S.F.
Sub Total		178 S.F. **

** Carried To Est. Qty. Table On Sheet 3/28.

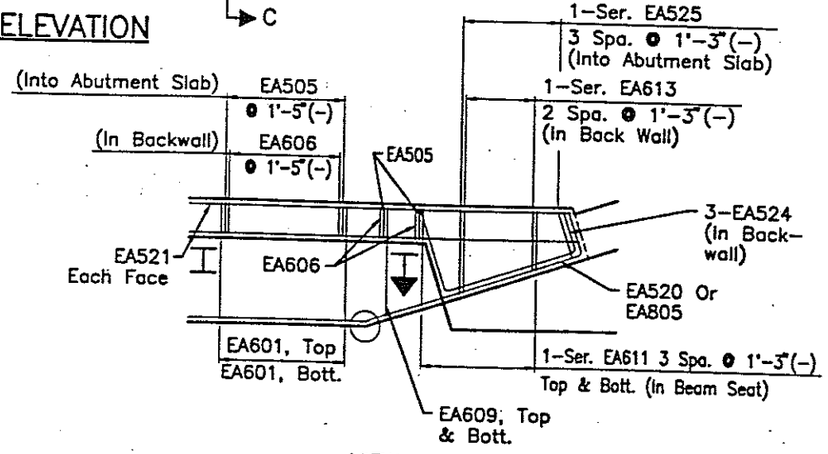
ITEM SP519-PATCHING CONCRETE STRUCTURES: Physical Inventory Of Measured Quantities Of Deterioration Was Performed In November, 1996.

Estimated Quantities Have Been Increased By 50% Over Measured Quantities To Allow For Additional Deterioration.

Exact Dimensions And Locations Of Patches Shall Be Determined By The Engineer In The Field For Final Pay Quantity.



VIEW R-R



VIEW S-S

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
E.B. REAR/W.B. FWD. ABUTMENT ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83

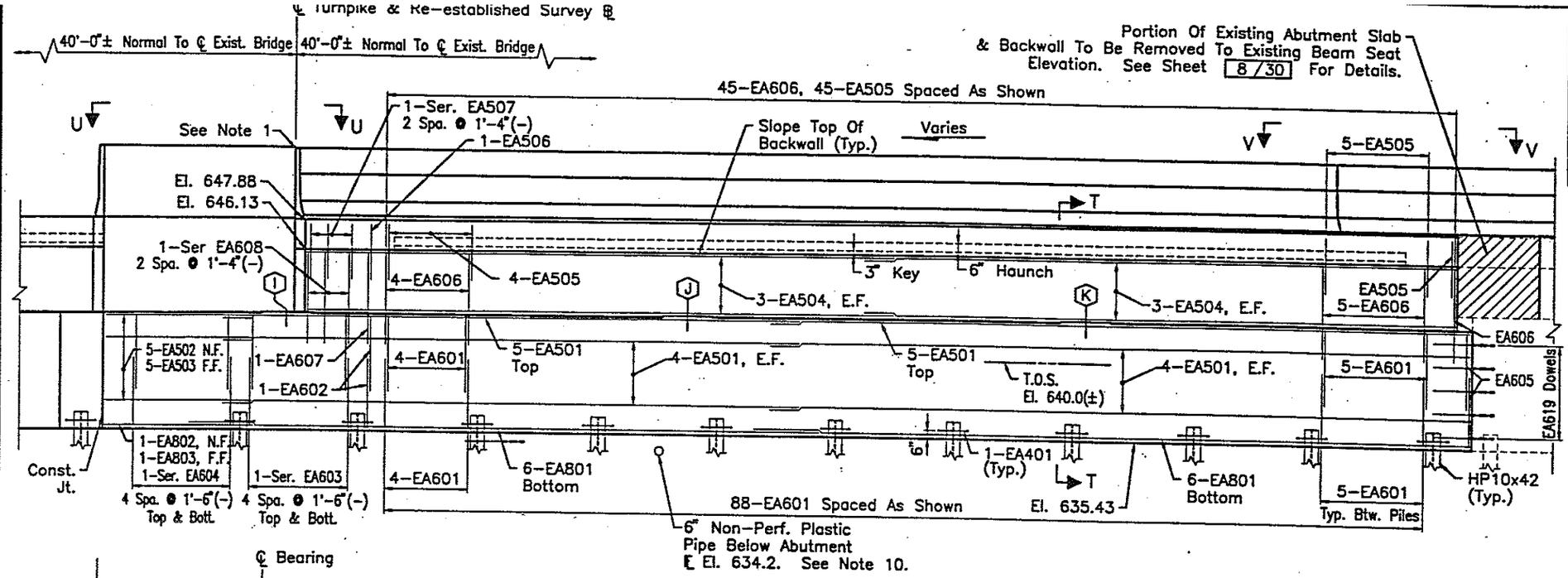
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

10/28

CONTRACT 77-99-05 SHEET 221 OF 276

OTCKS



ABUTMENT ELEVATION

TABLE OF ABUTMENT SEAT ELEVATIONS	
BEAM LINE	E.B. Fwd. Abut.
(I)	642.40
(J)	642.44
(K)	642.48

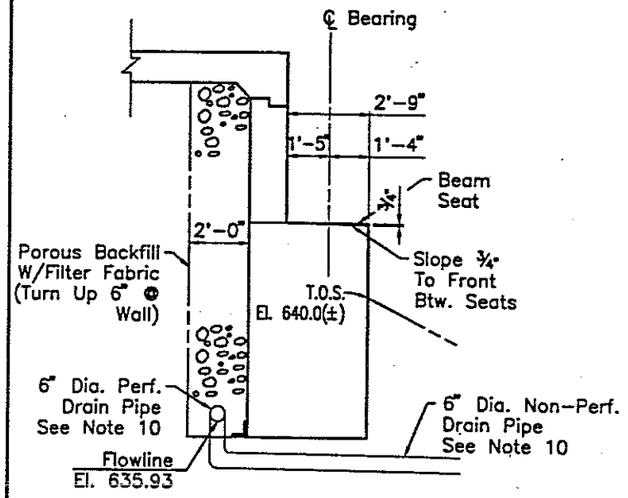
NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 8/28
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Var From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptat
4. Epoxy Bar Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars, And 3'-11" For #8 Bars Unless Noted Otherwise.
5. For Piling Plan See Sheet 4/28
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal, And Sealed Per Item SP536.
7. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On Sheet 8/28
8. (X) Indicates Fwd. Abut. Girder
9. For Abutment Deck Joint Details See Sheet No. 25/28 26/28 .
10. Slope @ 1/8"/Ft. To Drain
11. For Abutment Slab & Barrier Reinforcing See Sheet 16/28

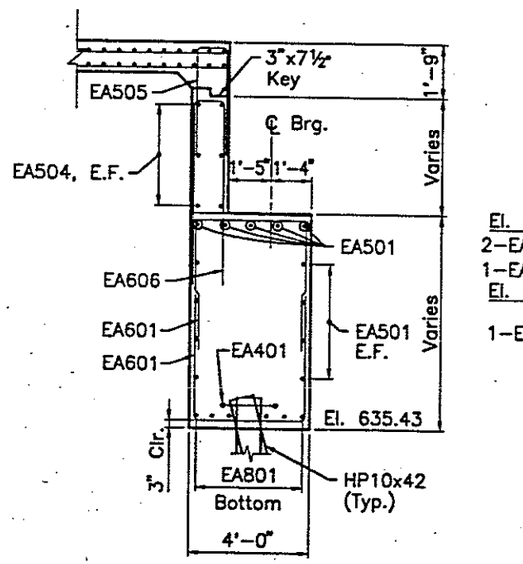
SP519-PATCHING CONCRETE STRUCTURES		
LOCATION	Measured Qty.	Estimated Qty.
E.B. Fwd. Abutment	14 S.F.	21 S.F.
Sub Total		21 S.F. **

** Carried To The Est. Qty. Table On Sht. 3/28

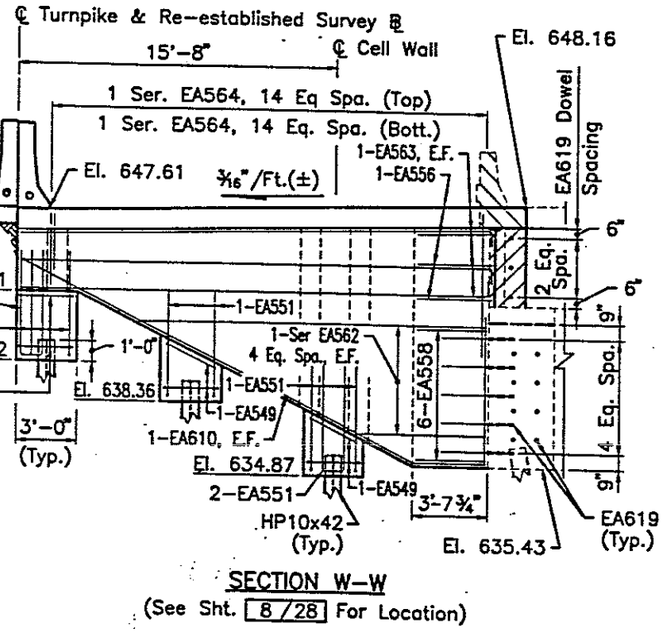
See "ITEM SP519-PATCHING CONCRETE STRUCTURES" Note On Sheet 9/28



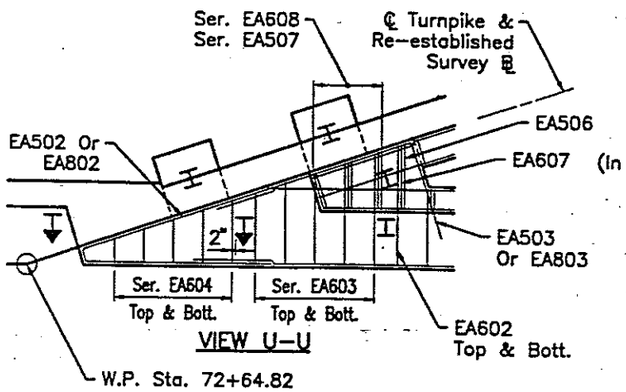
POROUS BACKFILL DETAIL



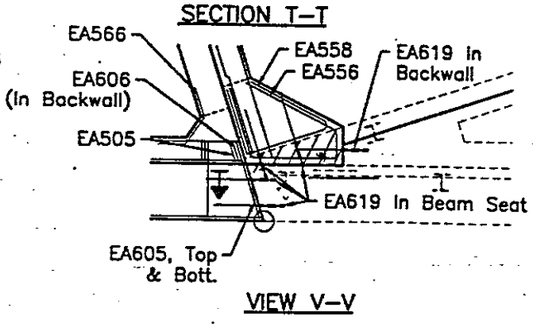
SECTION T-T



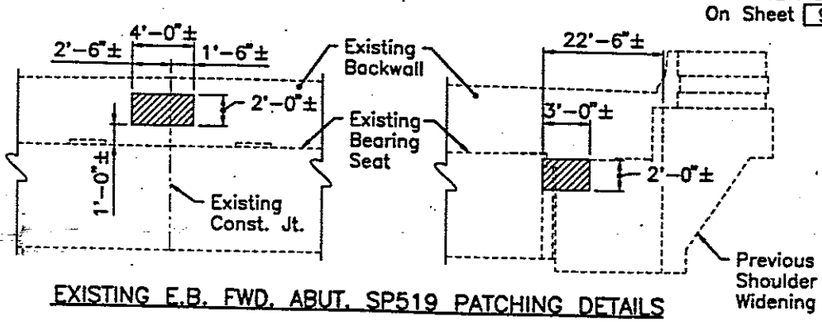
SECTION W-W
(See Sht. 8/28 For Location)



VIEW U-U



VIEW V-V



EXISTING E.B. FWD. ABUT. SP519 PATCHING DETAILS

NO.	REVISIONS	BY	D

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 . SHEET 222 OF 27

11/28

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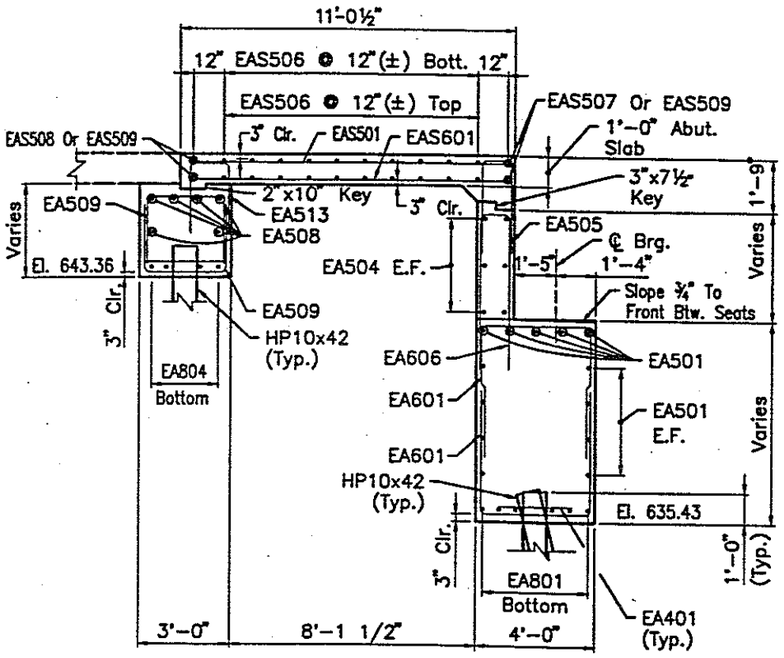
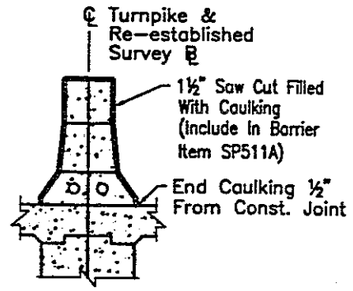
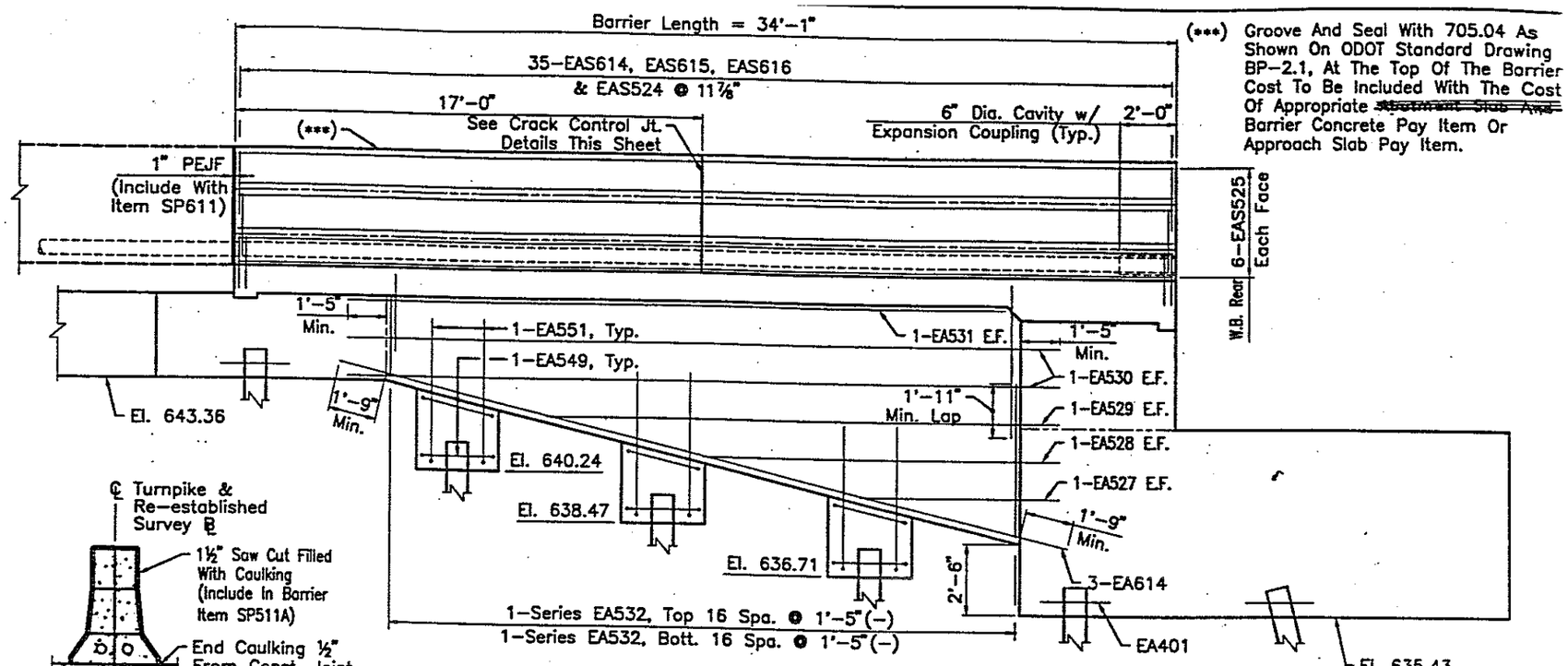


SECTION A–A (W.B. REAR ABUTMENT)

(See Sht. 6/28 For Location)



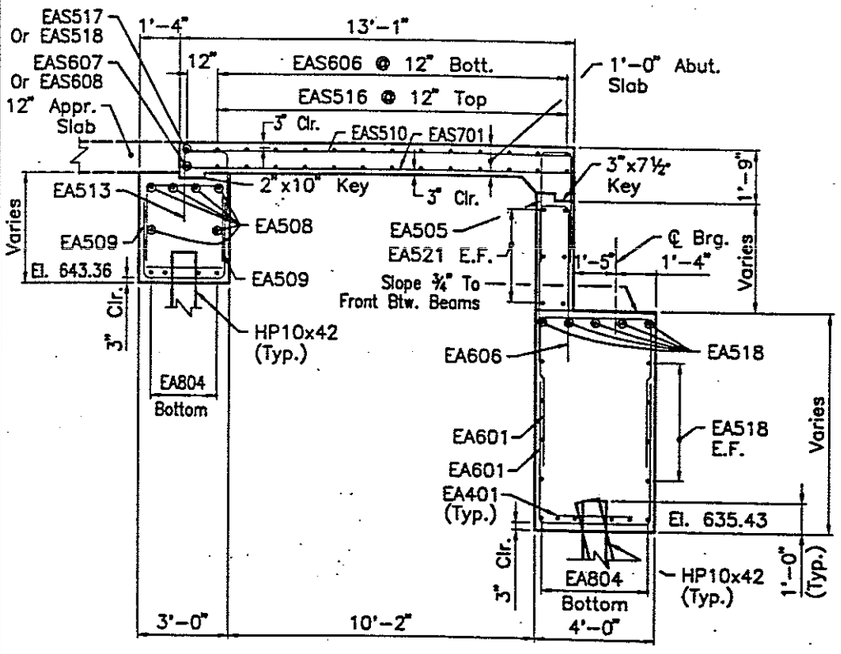
BARRIER CRACK CONTROL JOINT



(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP–2.1, At The Top Of The Barrier Cost To Be Included With The Cost Of Appropriate ~~Abutment Slab And~~ Barrier Concrete Pay Item Or Approach Slab Pay Item.

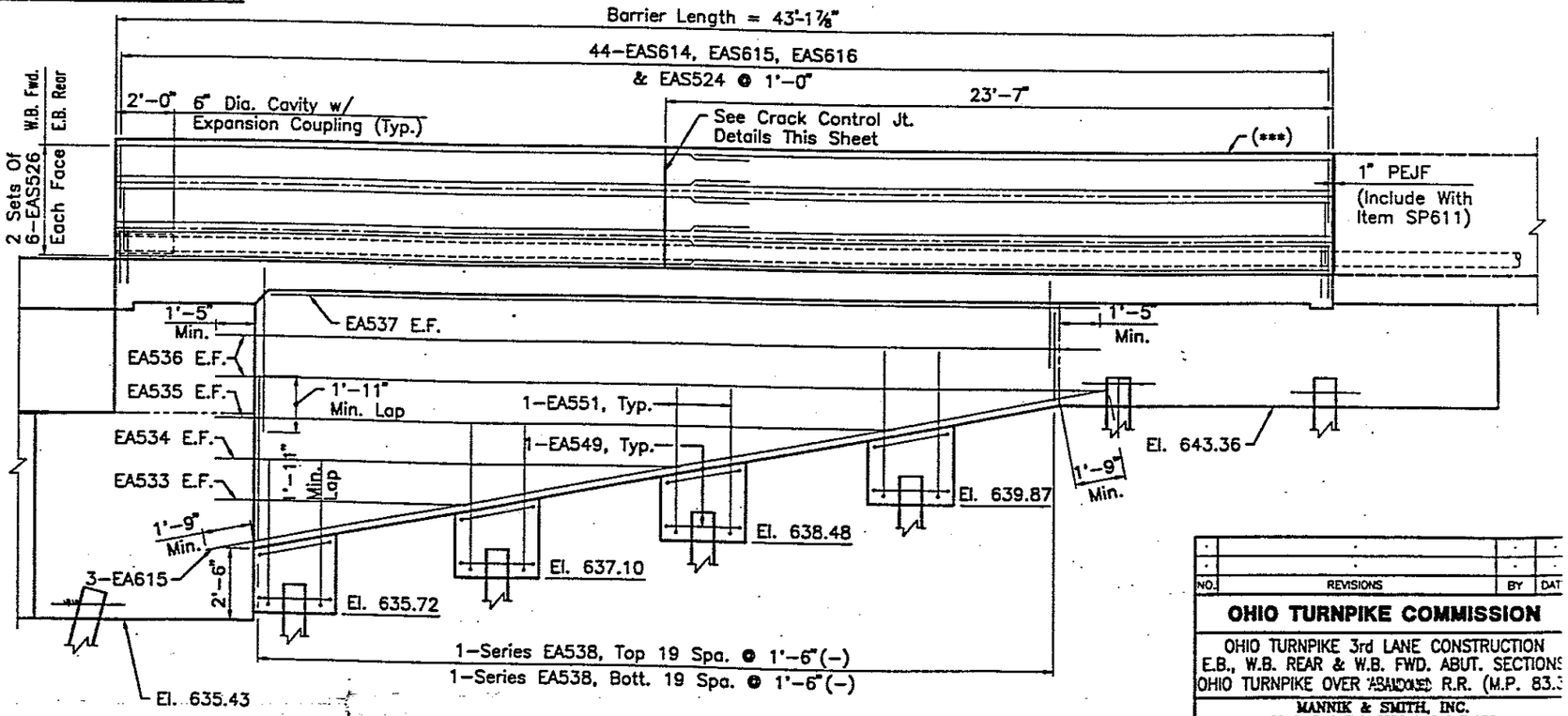
SECTION B–B (W.B. REAR ABUTMENT)

(See Sht. 6/28 For Location)



SECTION C–C (E.B. REAR/W.B. FORWARD)

(See Sht. 7/28 For Location)



SECTION D–D (E.B. REAR/W.B. FORWARD)

(See Sht. 7/28 For Location)

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
E.B., W.B. REAR & W.B. FWD. ABUT. SECTIONS
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

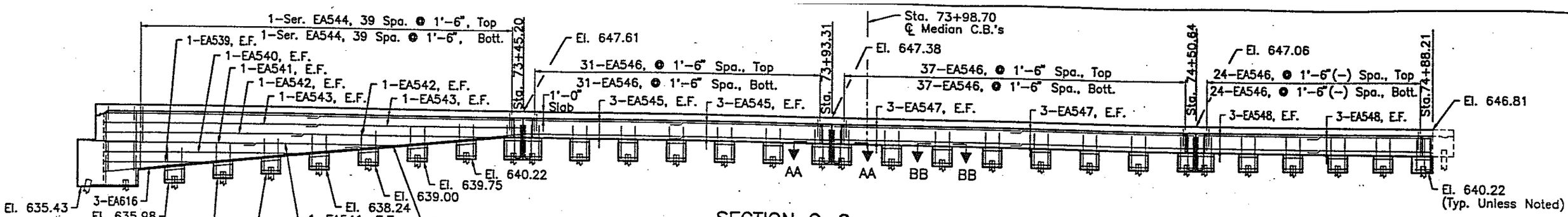
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

12/28

CONTRACT 77-99-05 SHEET 223 OF 276

OTCK9C



NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

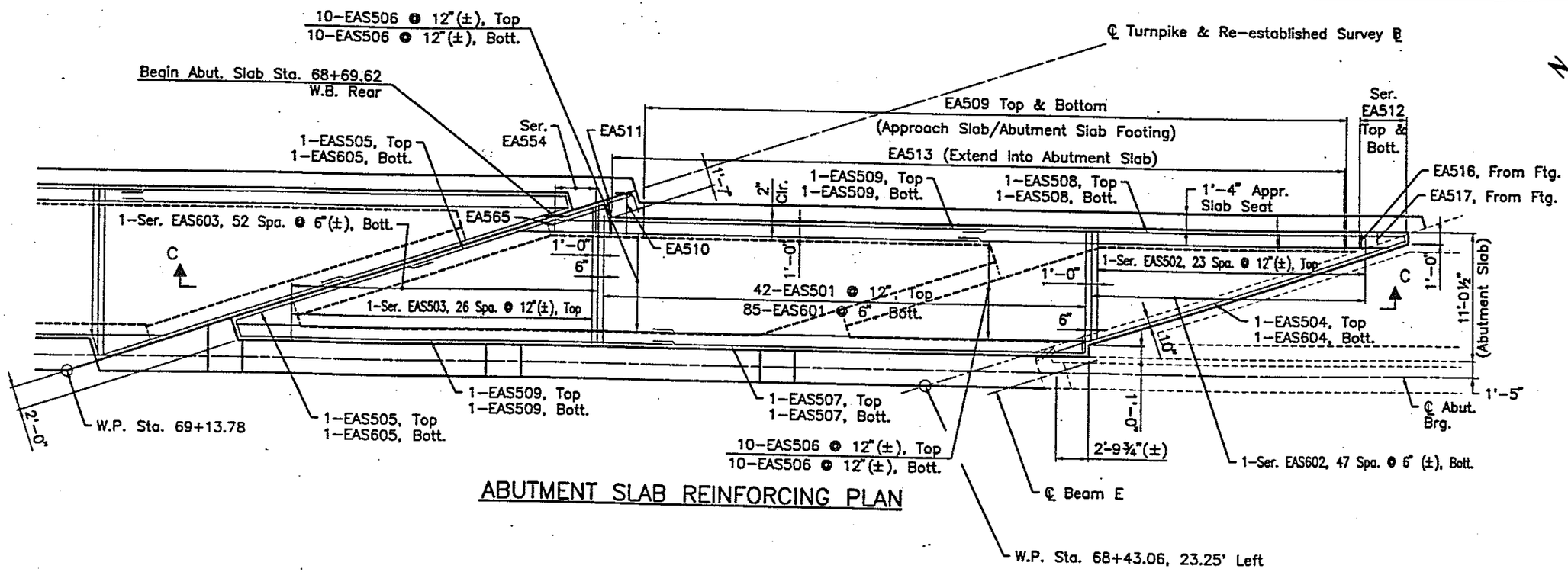
OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT SECTIONS
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

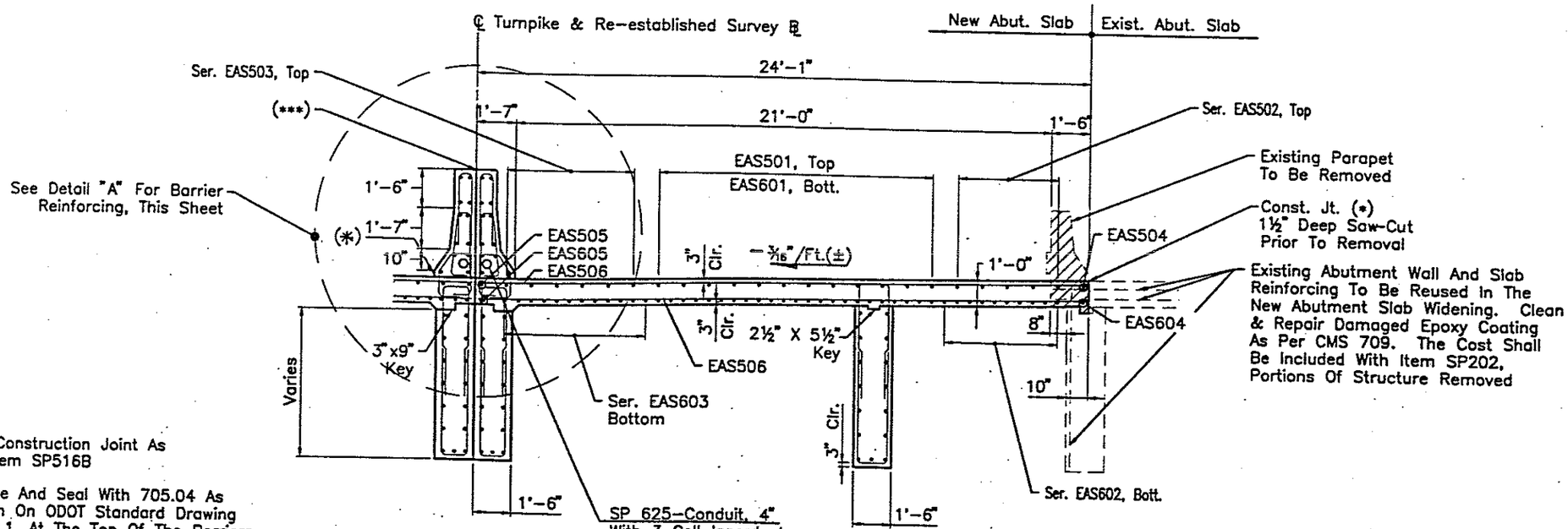
DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 224 OF 276

OTCK9C

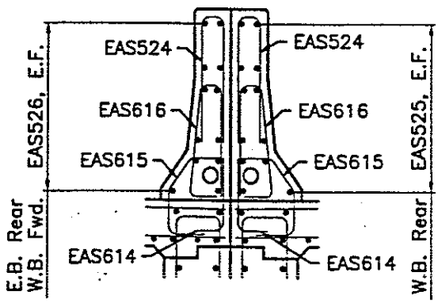


ABUTMENT SLAB REINFORCING PLAN



SECTION C-C

Section Shown Normal To ℄ Turnpike



Detail A

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

W.P.-Work Point

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
WESTBOUND REAR ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

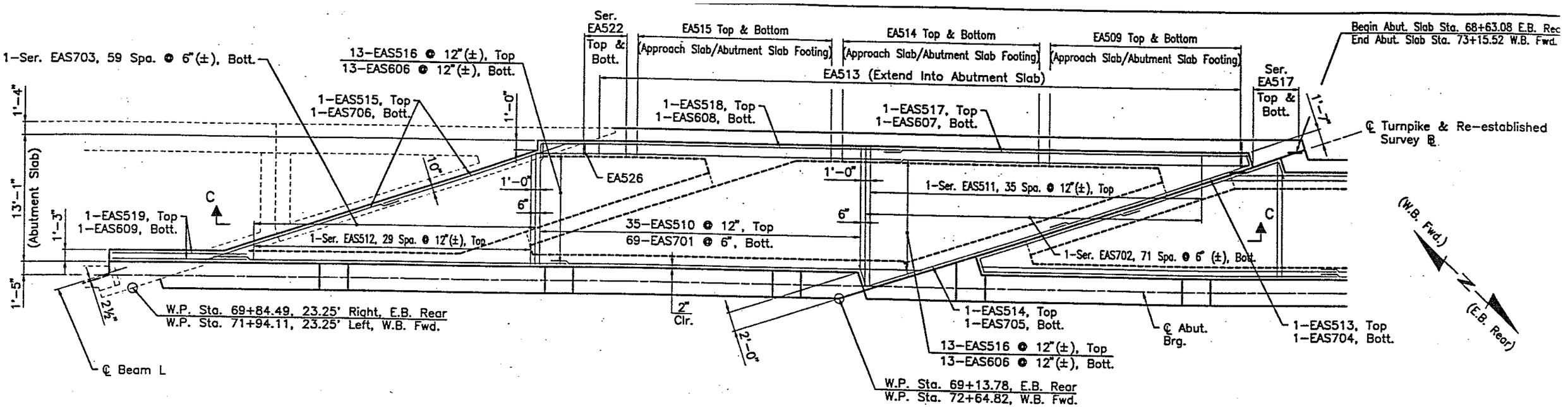
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05, SHEET 225 OF 276

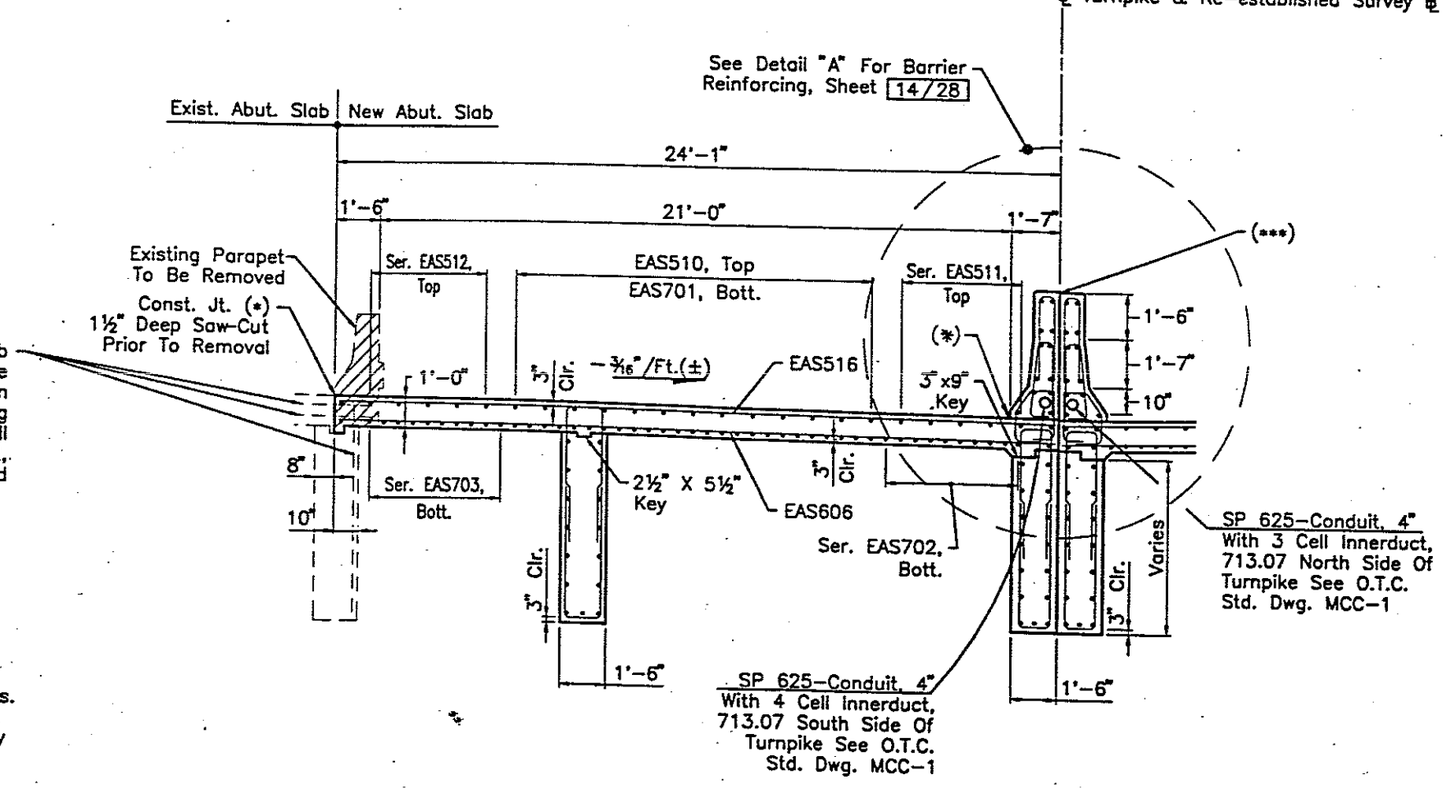
14/28

OTCK9C



ABUTMENT SLAB REINFORCING PLAN

(E.B. Rear Shown–W.B. Fwd. Similar)



(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.

W.P.–Work Point

SECTION C–C

Section Shown Normal To ℄ Turnpike

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

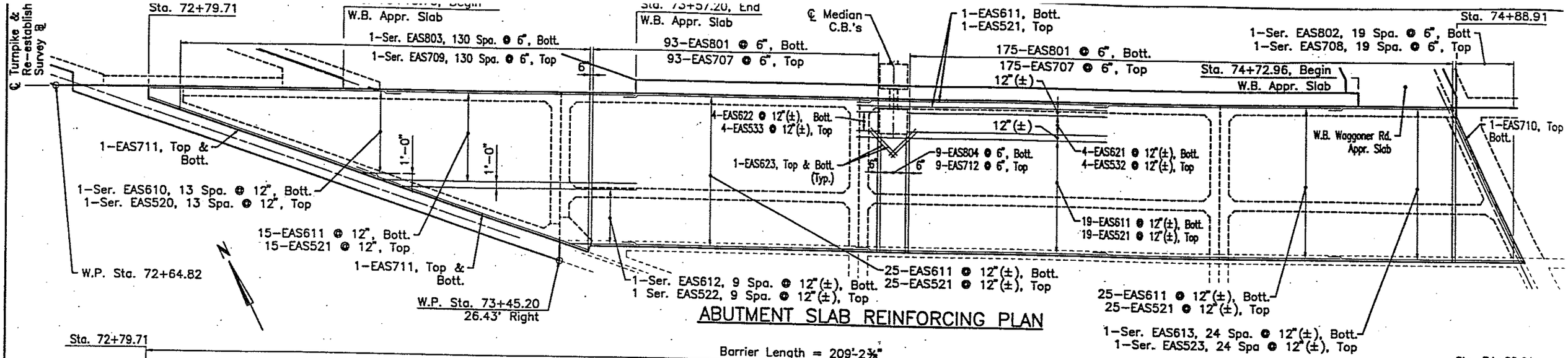
OHIO TURNPIKE 3rd LANE CONSTRUCTION
E.B. REAR/W.B. FWD. ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

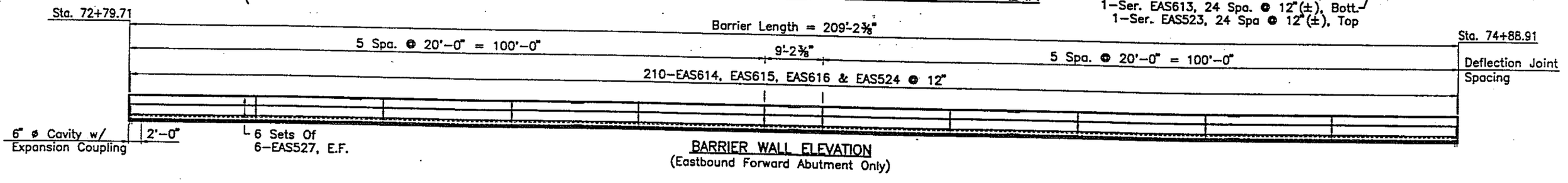
DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 226 OF 276

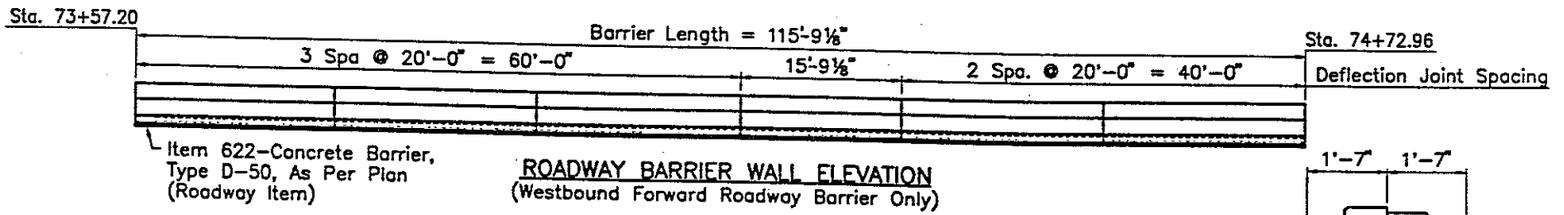
OTCK9



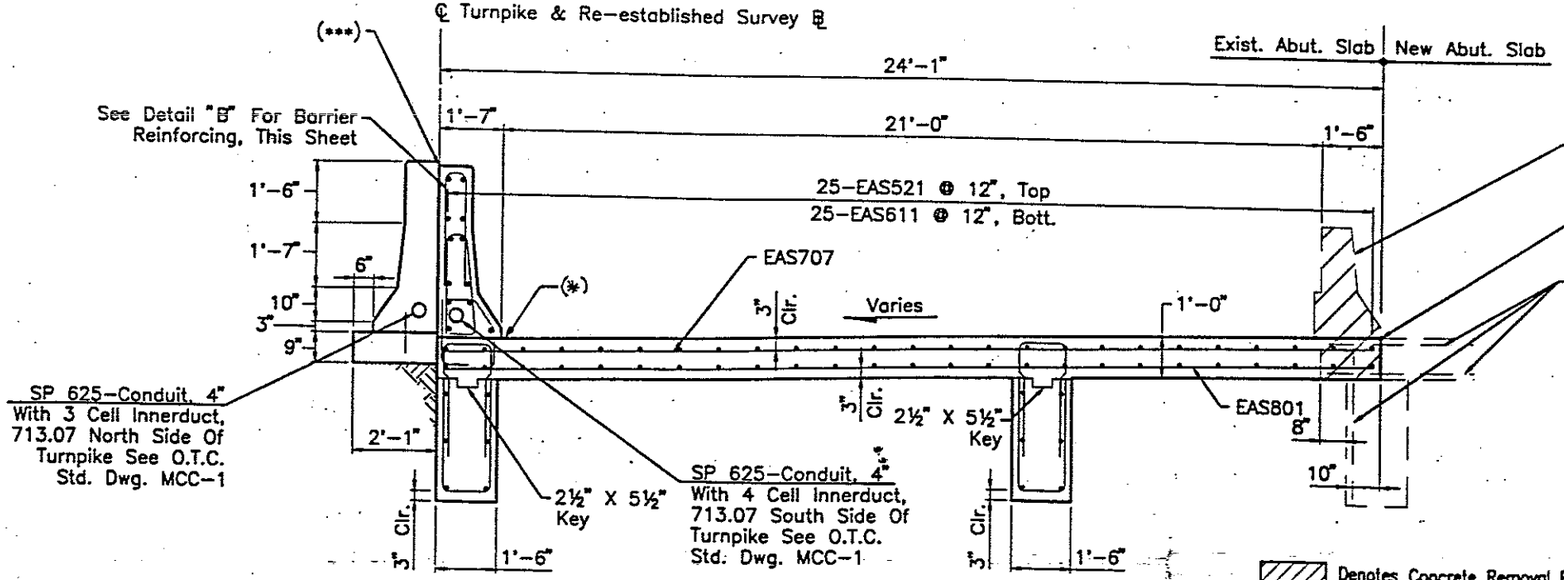
ABUTMENT SLAB REINFORCING PLAN



BARRIER WALL ELEVATION
(Eastbound Forward Abutment Only)



ROADWAY BARRIER WALL ELEVATION
(Westbound Forward Roadway Barrier Only)



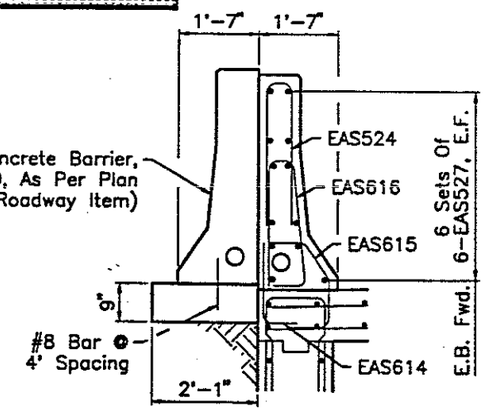
TYPICAL TRANSVERSE SECTION
Section Shown Normal To ℄ Turnpike

Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

W.P.-Work Point

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.



Detail "B"

NO.	REVISIONS	BY	D

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 227 OF 278

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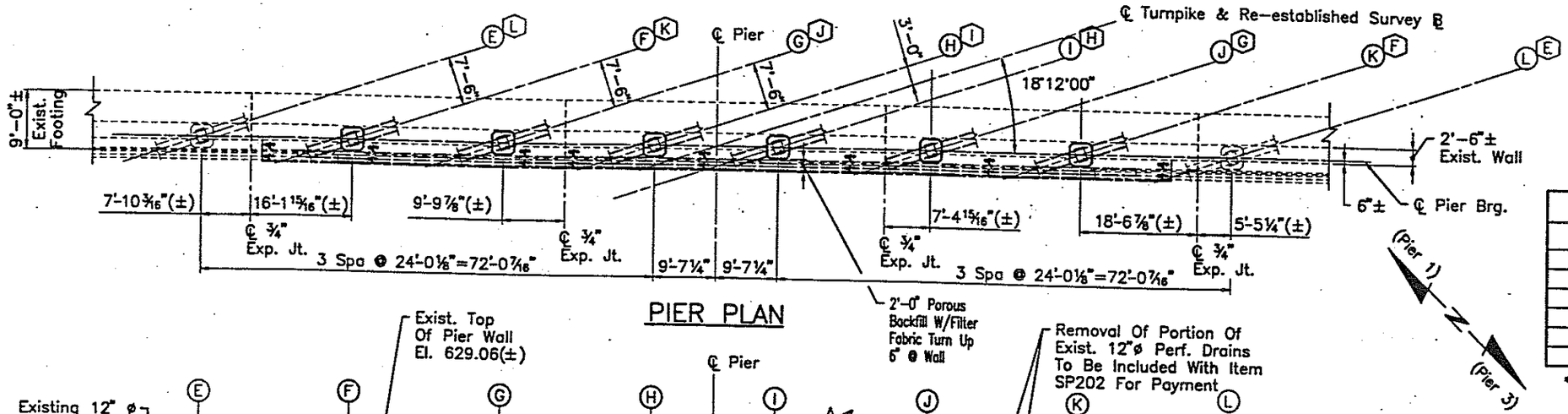
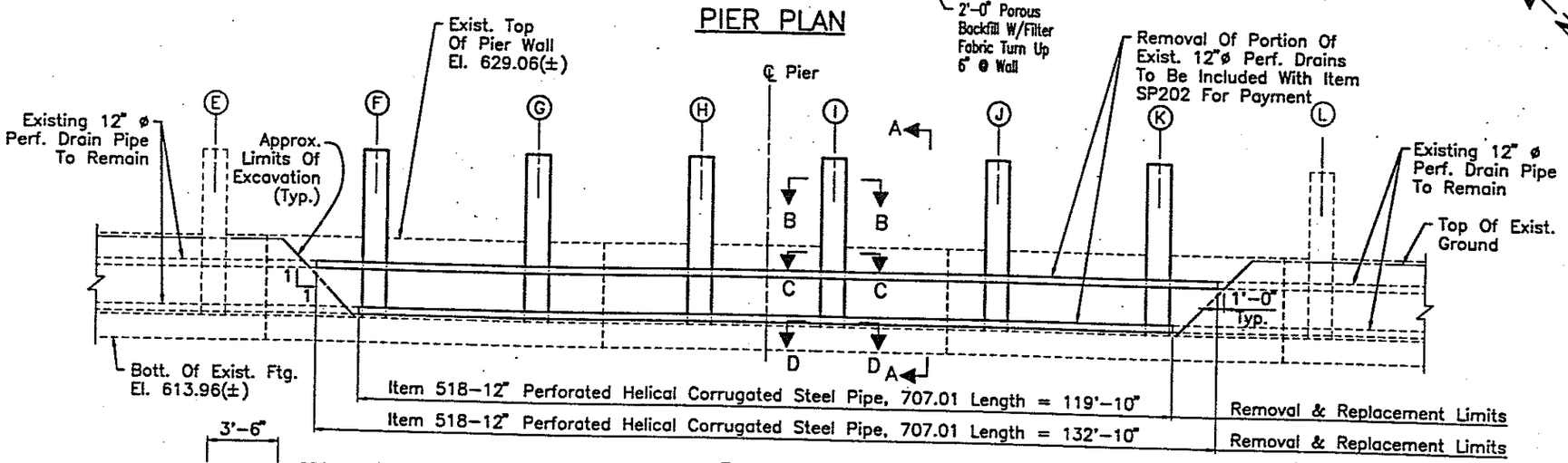


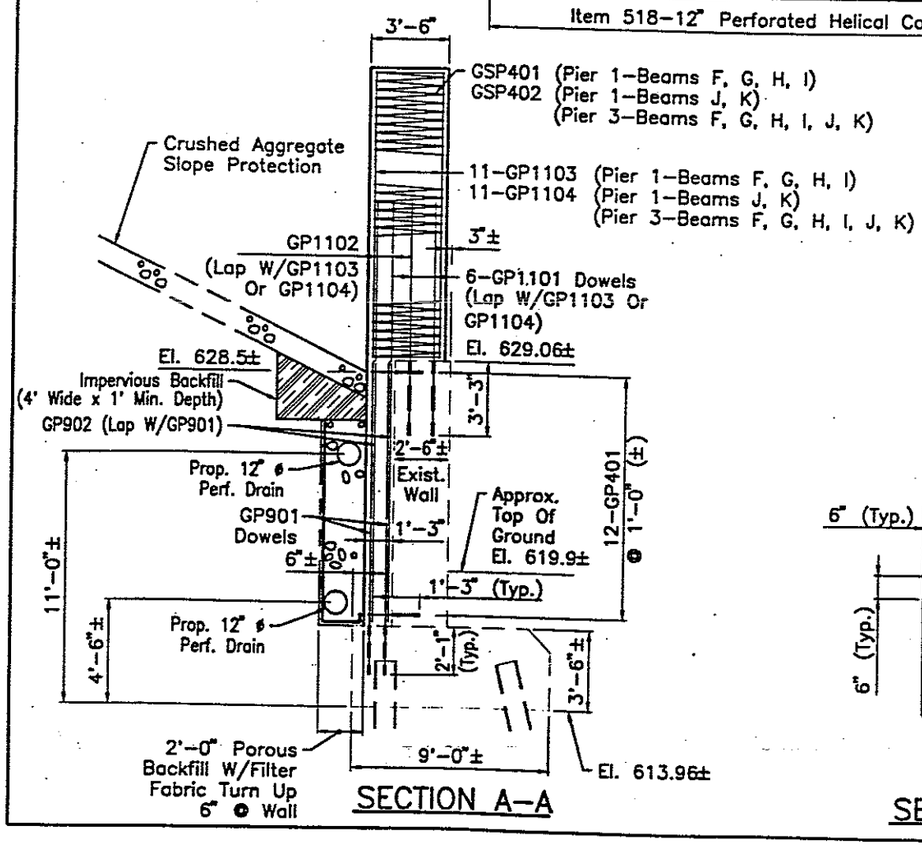
Table Of Pier Seat Elevations		
Location 276	Pier 1	Pier 3
Beam F	641.76	642.13
Beam G	641.73	642.02
Beam H	641.67	641.90
Beam I	641.81	641.90
Beam J	641.98	641.99
Beam K	642.13	642.06

*—Located Along ℄ Pier Bearing

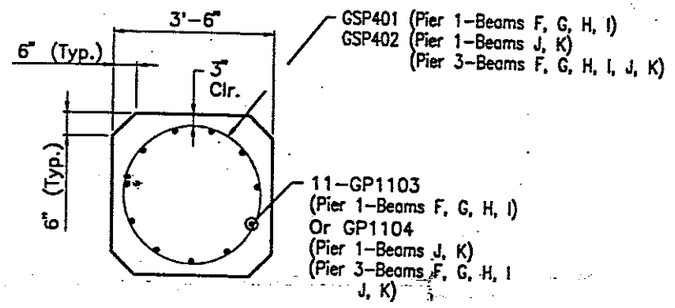
PIER PLAN



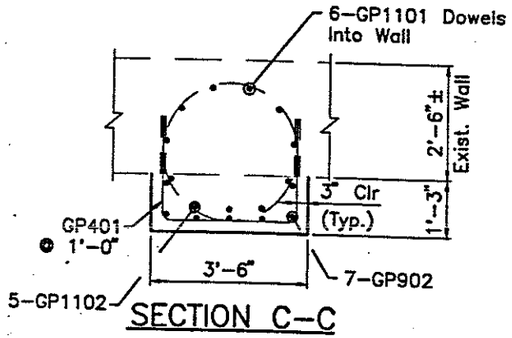
PIER ELEVATION



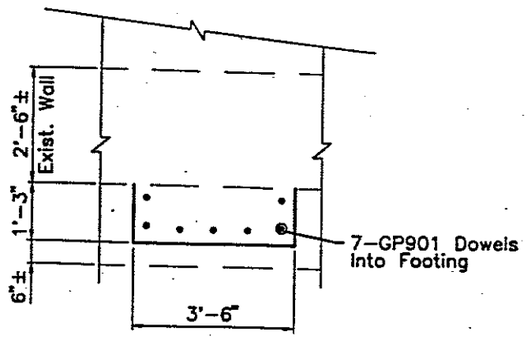
SECTION A—A



SECTION B—B



SECTION C—C



SECTION D—D
(Dowel Layout)

NOTES

1. Galvanized Reinforcing Splice Lengths: Shall Be 6'—9" For # 11 Bars, And 4'—4" For #9 Bars Unless Otherwise Noted.

2. Surface Under Bearings: Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More than 1/16". Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.

3. Minimum Clearance To Reinforcing Shall Be 2" Unless Otherwise Noted.

4. For Existing Foundation Plan Layout See Sheet 5/28.

5. (X) —Denotes Girder @ Pier 1.
   (X) —Denotes Girder @ Pier 3.

6. Reinforcing Shown Is Typical For Both Piers Unless Otherwise Noted.

7. GP901 & GP1101 Dowel Bars, Drill Holes As Shown. Grout Bars In Place As Per SP853.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER 1 & 3
OHIO TURNPIKE OVER ~~ASHTABULA~~ R.R. (M.P. 83.

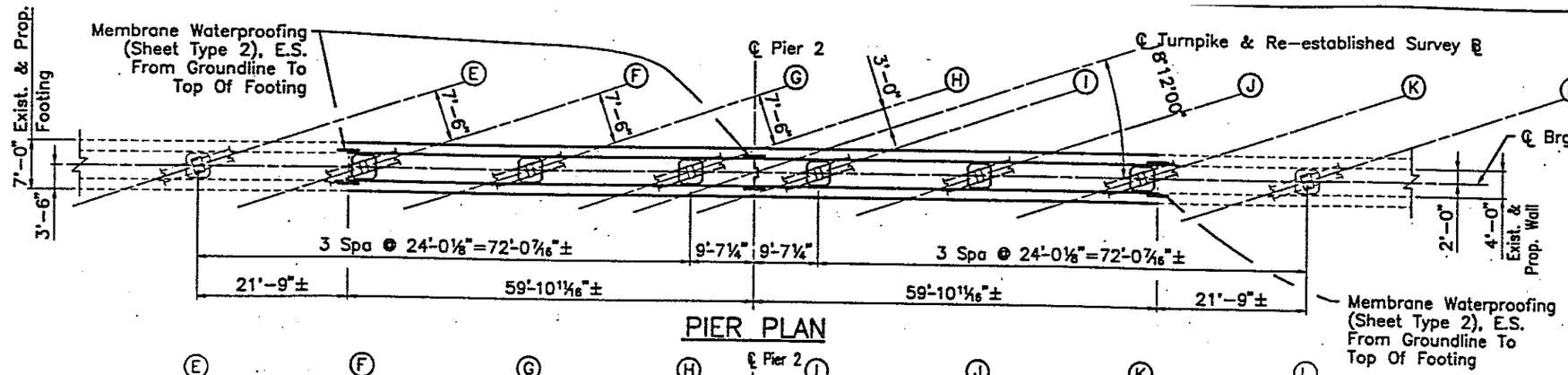
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: JPM	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 229 OF 276

18/28

OTCK90



PIER PLAN

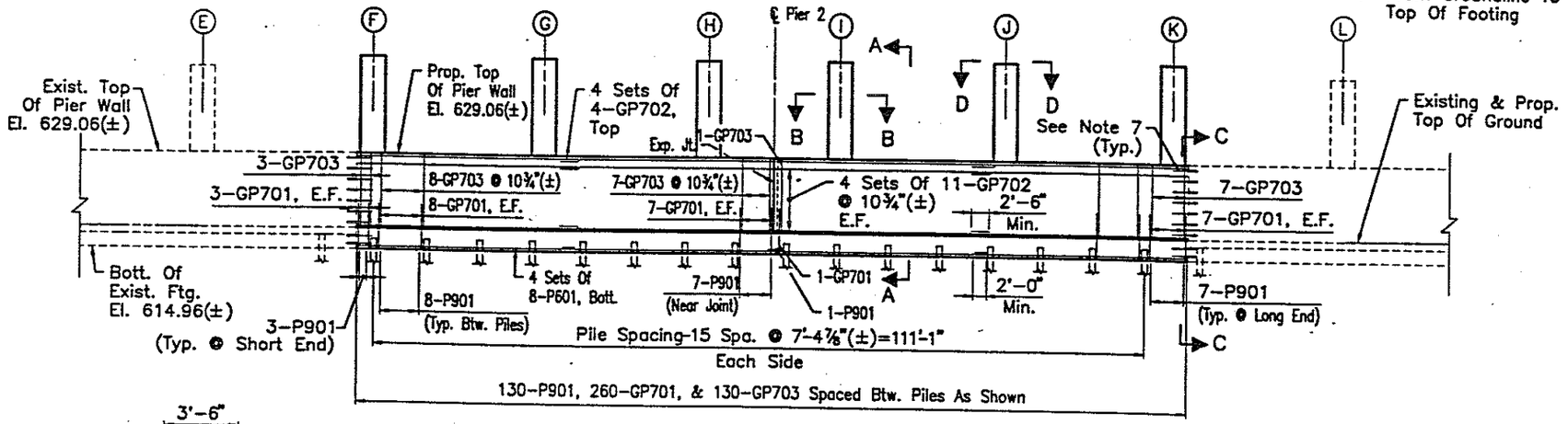
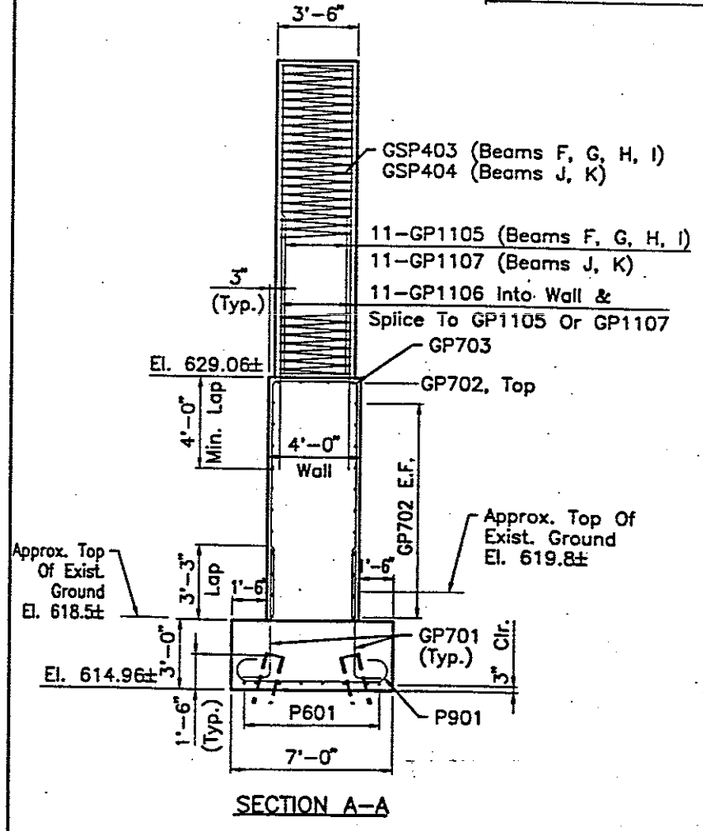


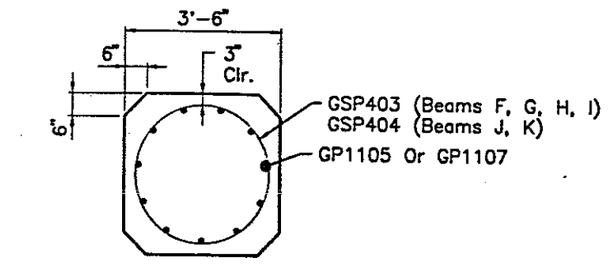
Table Of Pier Seat Elevations	
Location *	Pier 2
Beam F	642.91
Beam G	642.83
Beam H	642.75
Beam I	642.83
Beam J	642.95
Beam K	643.06

*—Located Along ℄ Pier Bearing

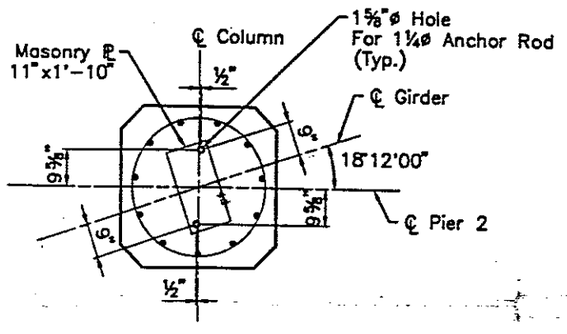
PIER ELEVATION



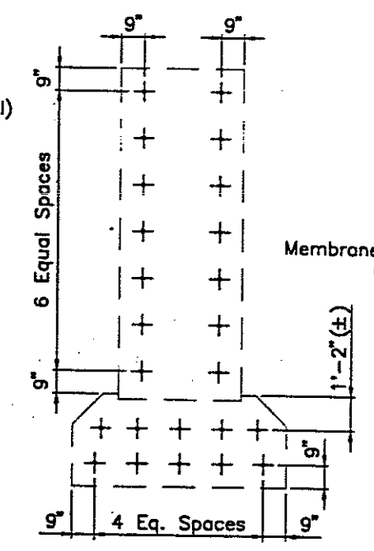
SECTION A–A



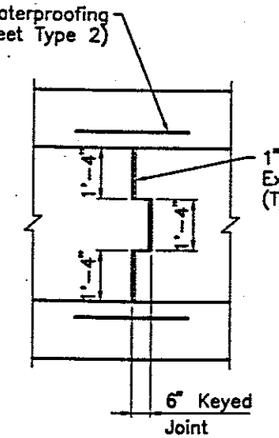
SECTION B–B



SECTION D–D



SECTION C–C
(GP602–Anchor Dowel Details)
See Note 7



KEYED JOINT DETAIL

NOTES

1. Reinforcing Splice Lengths: Shall Be 2'–1" For #6 Bars, 2'–6" For #7 Bars, 6'–9" For #11 Bars, Unless Otherwise Noted.
2. Surface Under Bearings: Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More than 1/16". Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.
3. Minimum Clearance To Reinforcing Shall Be 2" Unless Otherwise Noted.
4. For Foundation Plan Layout See Sheet 5/28
5. Pier Seat Reinforcing In The Vicinity Of The Pier Seat Shall Be Accurately Placed To Avoid Interference With The Drilling Of Anchor Bolt Holes Or The Presetting Of Bearing Anchors.
6. Bearing Anchor Bolts Shall Be Galvanized According To 711.02, And Grouted Using SP853 Grout Anchoring If Not Pre–Set.
7. GP602 Dowel Bars, Drill Holes 1'–3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Details This Sheet.

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

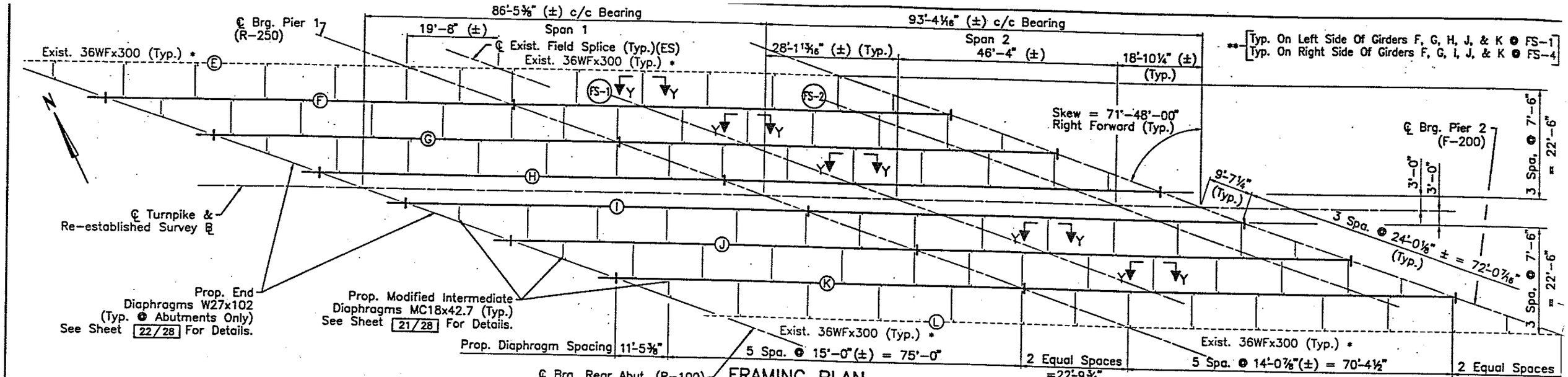
OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER 2
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: JPM	CHECKED: JPM	DATE: 6/98	
DRAWN: CMZ	IN CHARGE: JM	SCALE:	

CONTRACT 77-99-05 SHEET 230 OF 276

OTCK9



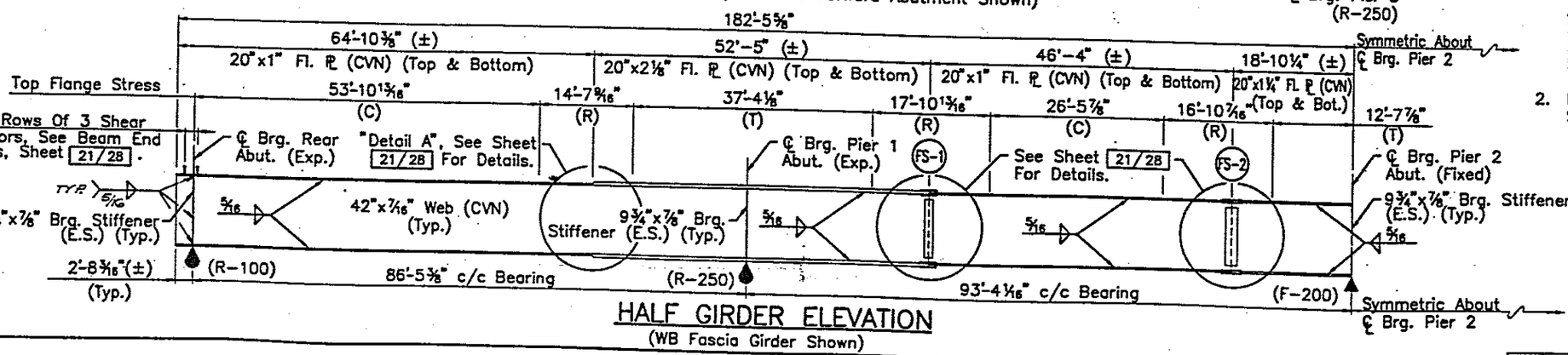
LEGEND

(C) Region Of Compression Only In Top Flange

(T) Region Of Tension Only In Top Flange

(R) Region Of Reversal In Top Flange

(*) Denotes Existing ASTM A7 Steel Beams W/Cover Plates



HALF GIRDER ELEVATION
(WB Fascia Girder Shown)

NOTES

1. For Details Of Expansion Bearings At Abutments And Piers 1 & 3 See ODOT Std. Dwg. RB–1–55. For Details Of Fixed Bearings At Pier 2 See ODOT Std. Dwg. FB–1–82.
2. For Additional Steel Details And Notes See Sheets 21/28 & 22/28.

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FRAMING PLAN & ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

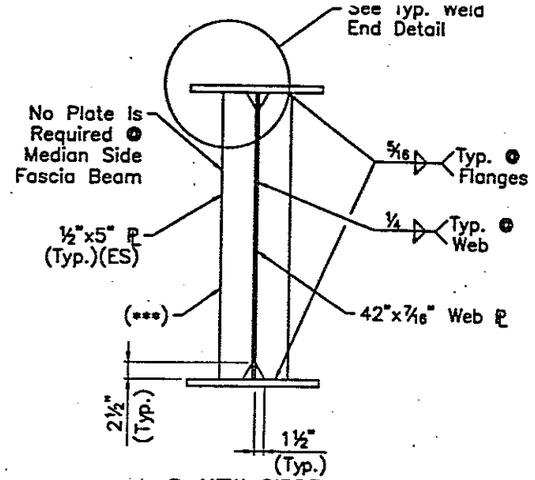
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.F.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.F.W.	IN CHARGE: J.M.	SCALE:

CONTRACT 77–99.05 SHEET 231 OF 276

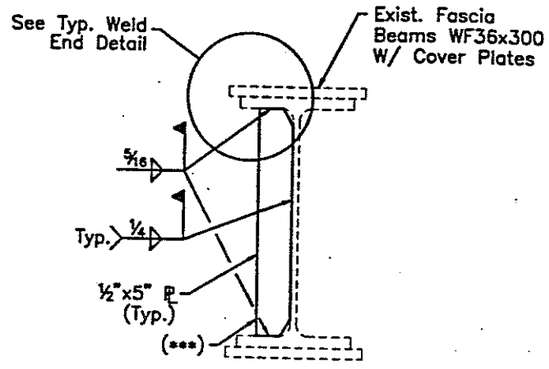
20/28

OTCK9C

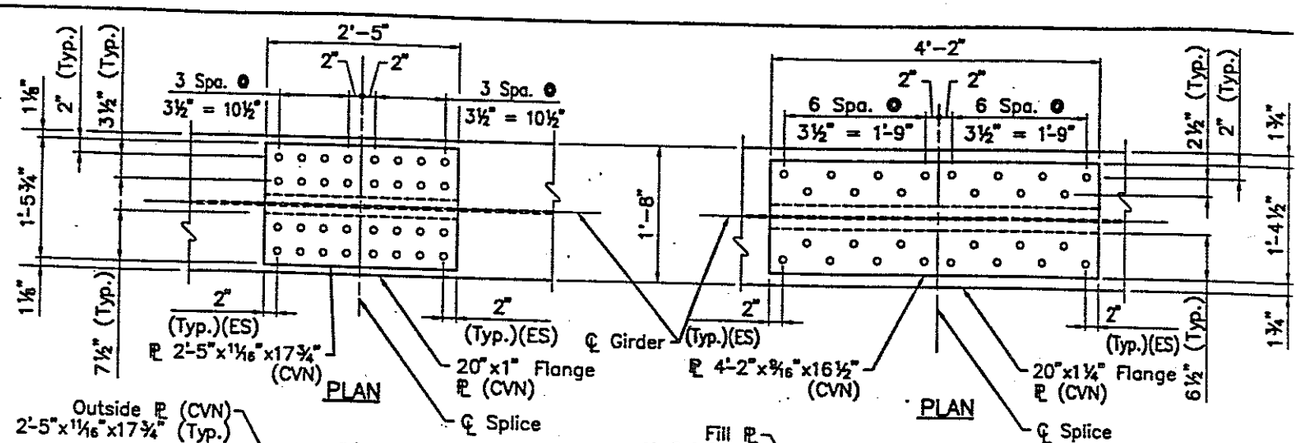


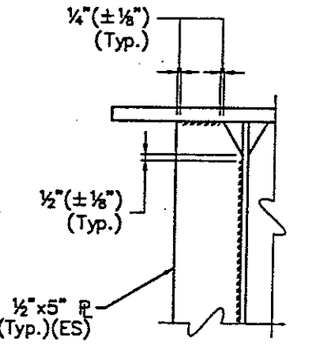
@ NEW GIRDERS

(See Sheet 20/28 For Flange Plate Sizes.)

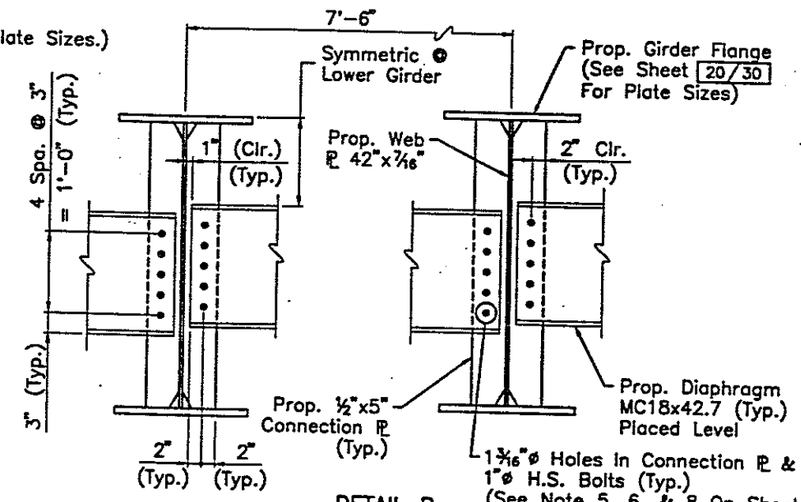


@ EXISTING FASCIA BEAMS



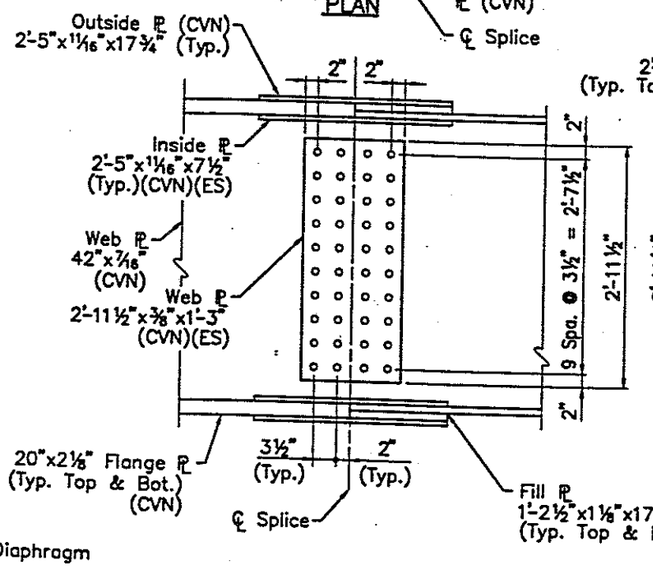


TYPICAL WELD END DETAIL



DETAIL B

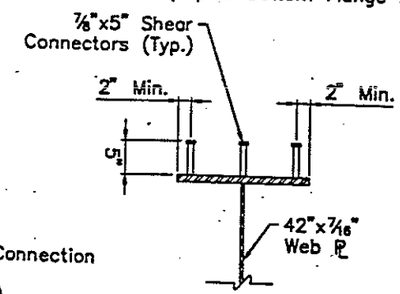
(Typical Intermediate Diaphragm)



ELEVATION

FIELD SPLICE DETAIL 1 & 4

(Top & Bottom Flange PL Typ.)

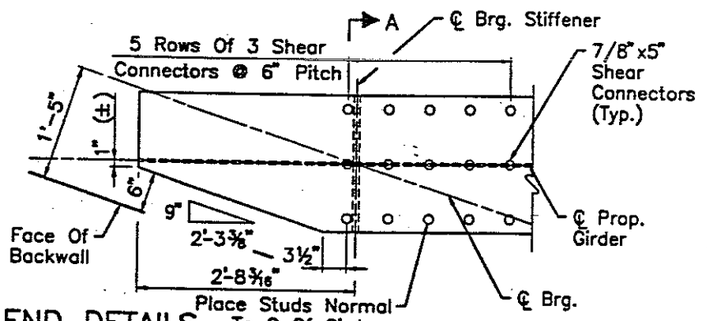


SECTION A–A

ELEVATION

FIELD SPLICE DETAIL 2 & 3

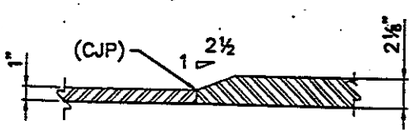
(Top & Bottom Flange PL Typ.)



GIRDER END DETAILS

(Typical For All New Girders)

(See Sheet 20/28 For Flange Plate Sizes.)



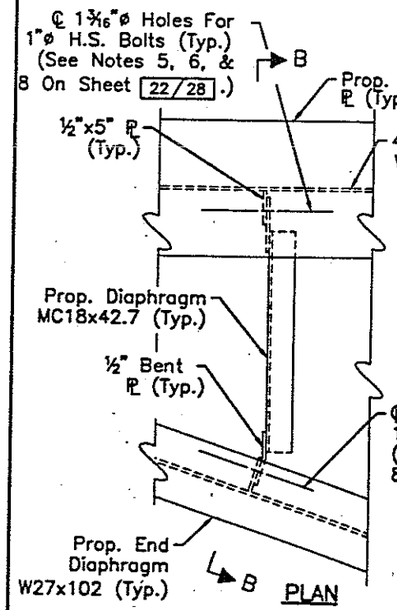
DETAIL A

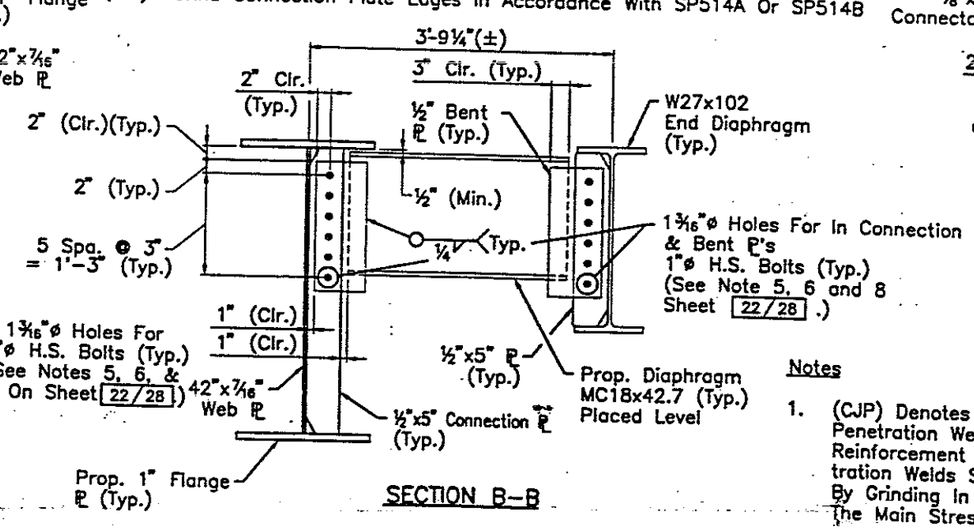
(Top & Bottom Flange PL Typ.)

See Note 1

INTERMEDIATE DIAPHRAGM CONNECTION DETAILS

(***) Grind Connection Plate Edges In Accordance With SP514A Or SP514B





SECTION B–B

Notes

1. (CJP) Denotes Complete Joint Penetration Weld. Weld Reinforcement For Full Penetration Welds Shall Be Removed By Grinding In The Direction Of The Main Stress.
2. For Additional Notes See Sheet 22/28

MODIFIED INTERMEDIATE DIAPHRAGM CONNECTION DETAILS

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS I
OHIO TURNPIKE OVER ABANDONED R.R. (83.3

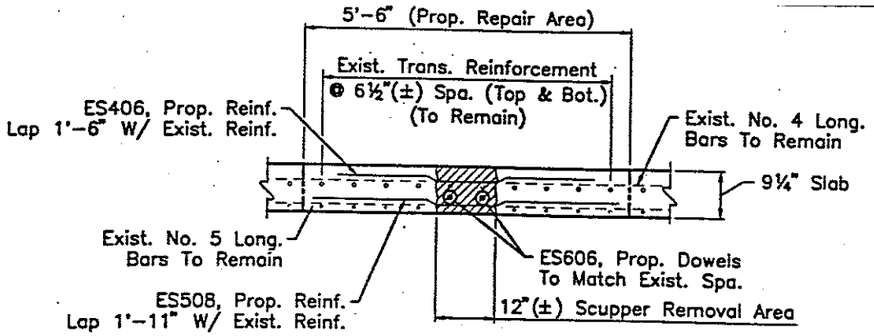
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.E.W.	IN CHARGE: J.M.	SCALE:

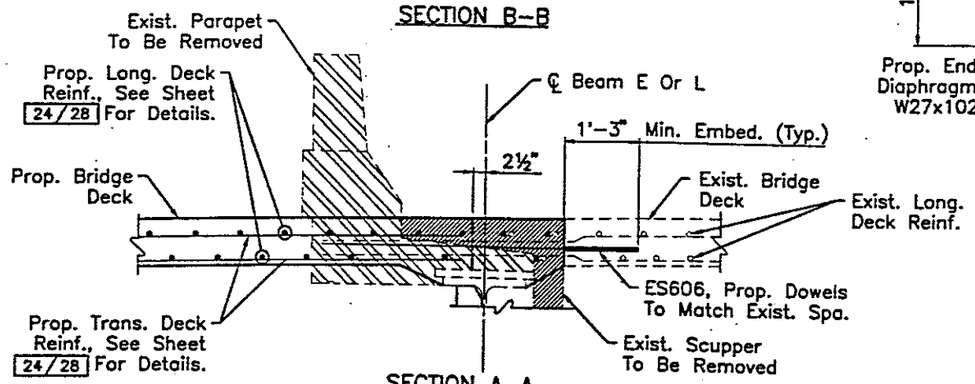
CONTRACT 77-99-05 SHEET 232 OF 276

21/28

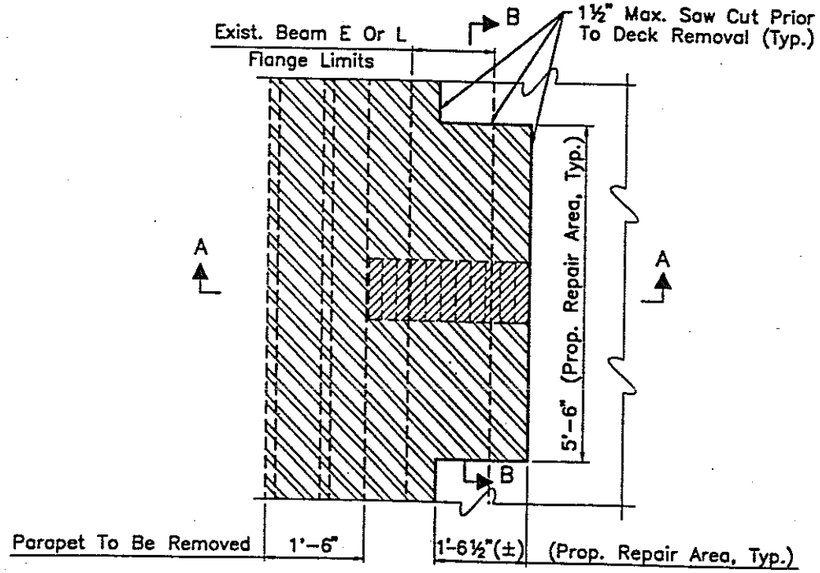
OTCK9C



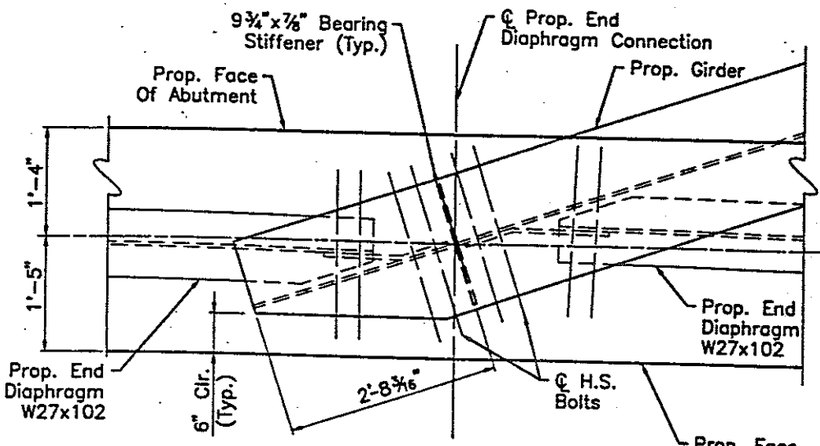
SECTION B-B



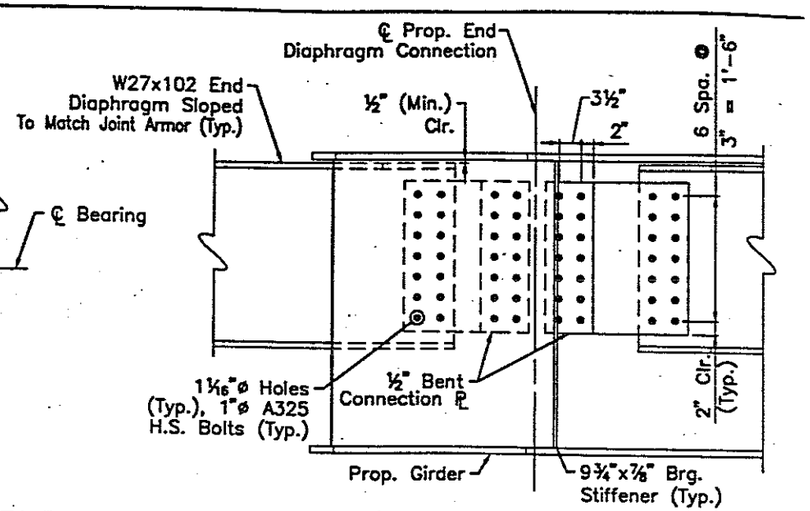
SECTION A-A



EXISTING REMOVAL PLAN
(Reinforcement Not Shown)

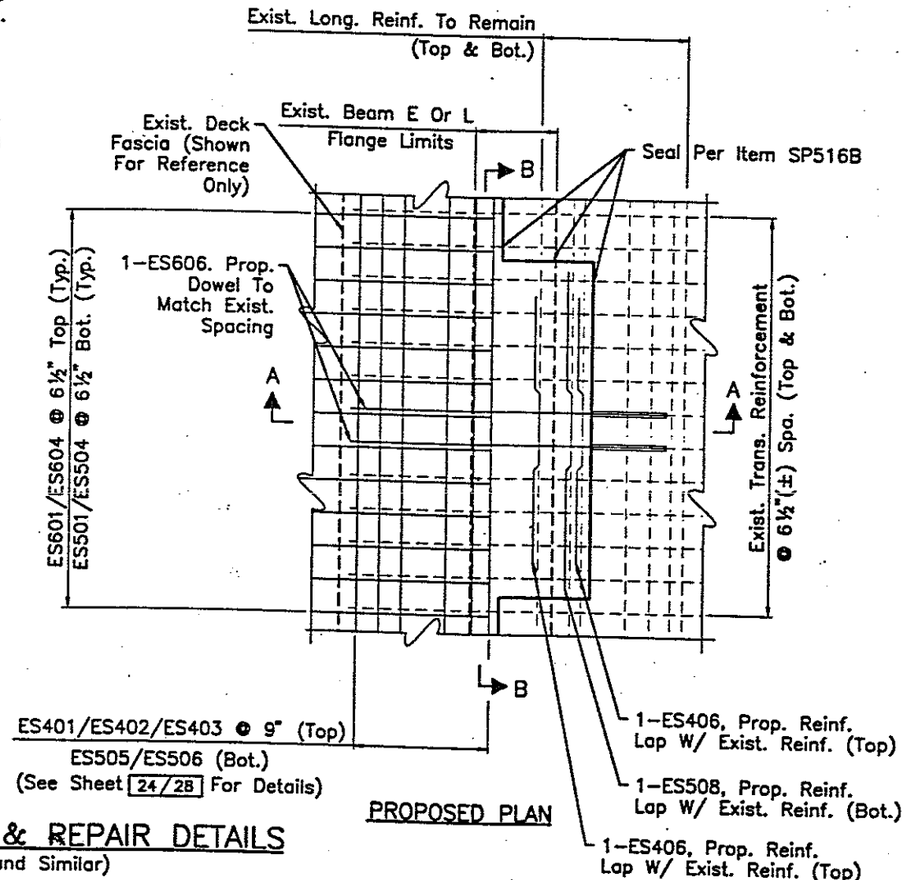


PLAN



ELEVATION

TYPICAL END DIAPHRAGM DETAILS



PROPOSED PLAN

NOTES:

1. Where A Shape Or A Plate Is Designated (CVN) The Material Shall Meet Specified Minimum Notch Toughness Requirements As Specified In 711.01 Of CMS.
2. Welded Attachments For Supports Of Concrete Deck Finishing Machine Or Any Other Purpose Is Prohibited. Only Those Welds Shown On The Plan For Attachment Of Shear Stud Connectors, Bearings, Expansion Joint Supports, And Connection Plates Or Stiffeners Shall Be Permitted.
3. During The Erection Of End Diaphragms, Care Should Be Taken To Ensure That Stringers, Bearing Parts And Bridge Seats Remain In Bearing Contact.
4. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean Any Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
5. High Strength Bolts Shall Be 1" Diameter, Galvanized And Shall Conform To ASTM A325, SP514, SP514A Or SP514B And SP711.
6. Due To Differential Deflections Between Girders, Initially Place Intermediate Diaphragms Between All Girder Lines Finger Tight. Complete Tightening After Bridge Deck Has Cured.
7. Welded Stud Shear Connectors Shall Conform To AASHTO M-169 And Item 513.
8. The Holes In Connection Plates Attached To Existing Beams At Intermediate And End Diaphragms, Shall Be Field Drilled Per CMS 513.14.
9. Trim End Of Existing W.B. Median Beam At The Forward Abut. And The E.B. Outside Beam At The Rear Abut. To A Min. Clear Distance Of 3" Measured Normal To The Backwall. To Be Paid For Per Item SP529.

LEGEND

Deck & Parapet To Be Removed Per Item SP202

Scupper To Be Removed Per Item SP202

MEDIAN SCUPPER REMOVAL & REPAIR DETAILS

(Westbound Shown, Eastbound Similar)

(See Sheet 1/28 For 8 Existing Scupper Locations)

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS II
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

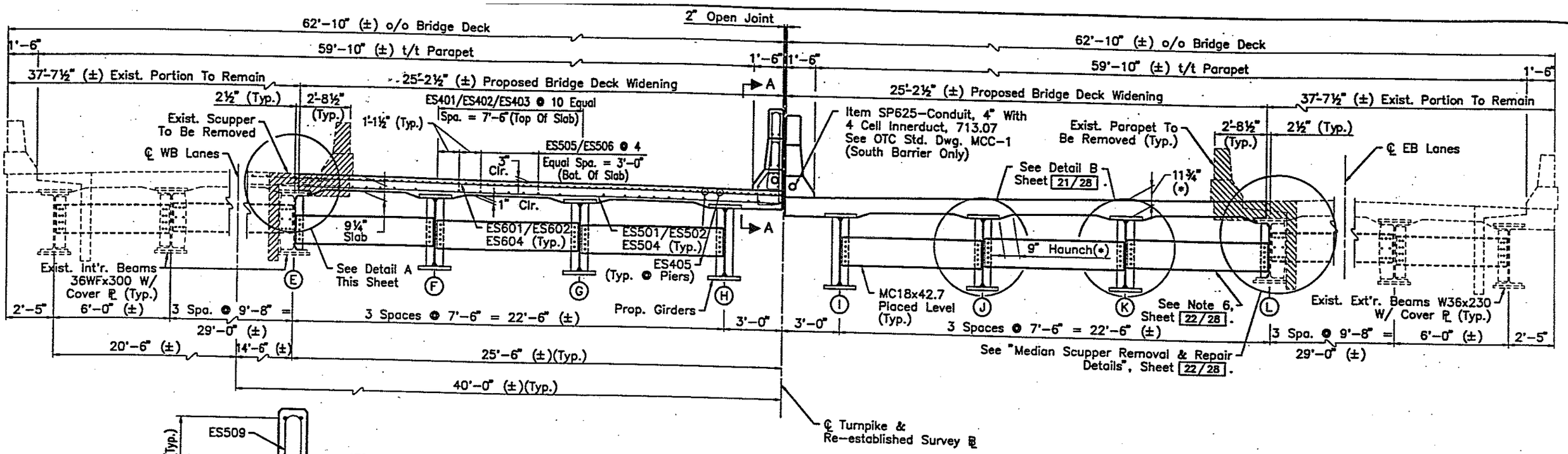
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.F.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.F.W.	IN CHARGE: J.M.	SCALE:

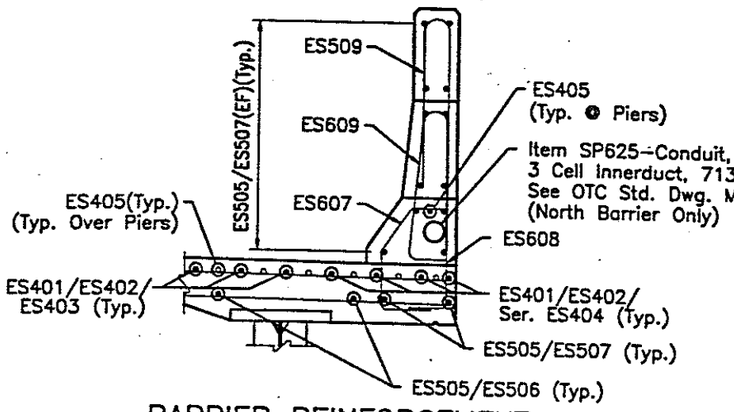
22/28

CONTRACT 77-99-05 SHEET 233 OF 276

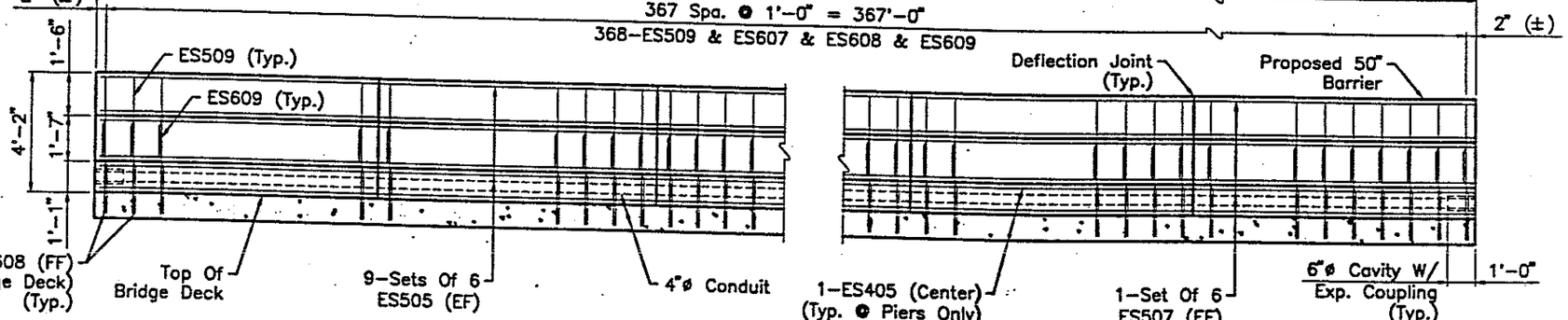
OTCK9C



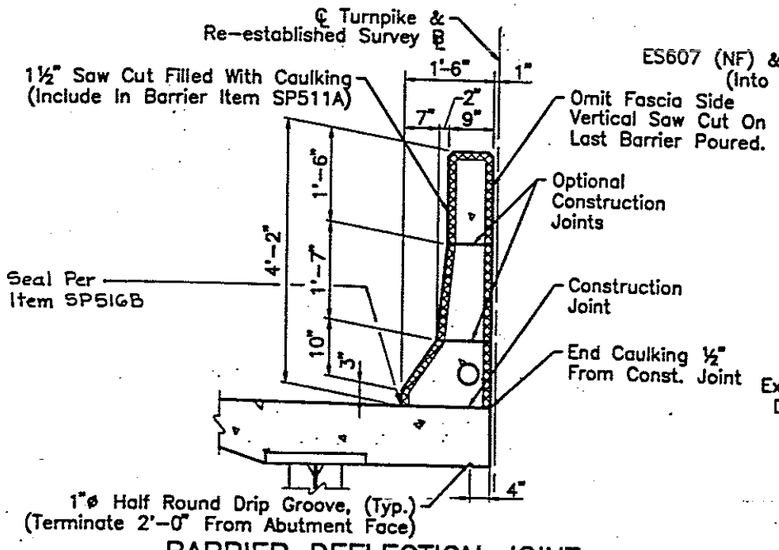
TYPICAL TRANSVERSE SECTION



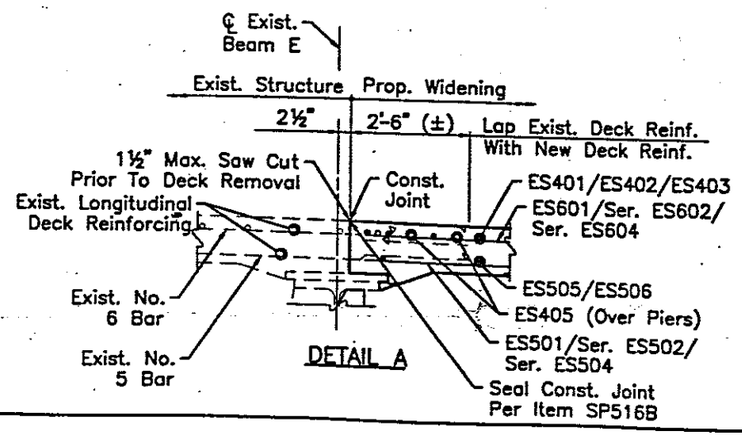
BARRIER REINFORCEMENT



BARRIER PANEL ELEVATION



BARRIER DEFLECTION JOINT



DETAIL A

NOTES:

SECTION A-A

1. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean And Repair Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. EPOXY COATED REINFORCING SPLICE LENGTHS Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars, 2'-3" For #6 Bars Unless Noted Otherwise.
3. (*) See General Note 1, On Sheet 2/28.
4. ▨ Denotes Removal As Per Item SP202- Portions Of Structure Removed.
5. For Additional Diaphragm Notes And Details, See Sheets 21 & 22/28.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
TYPICAL TRANSVERSE SECTION & DETAILS
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

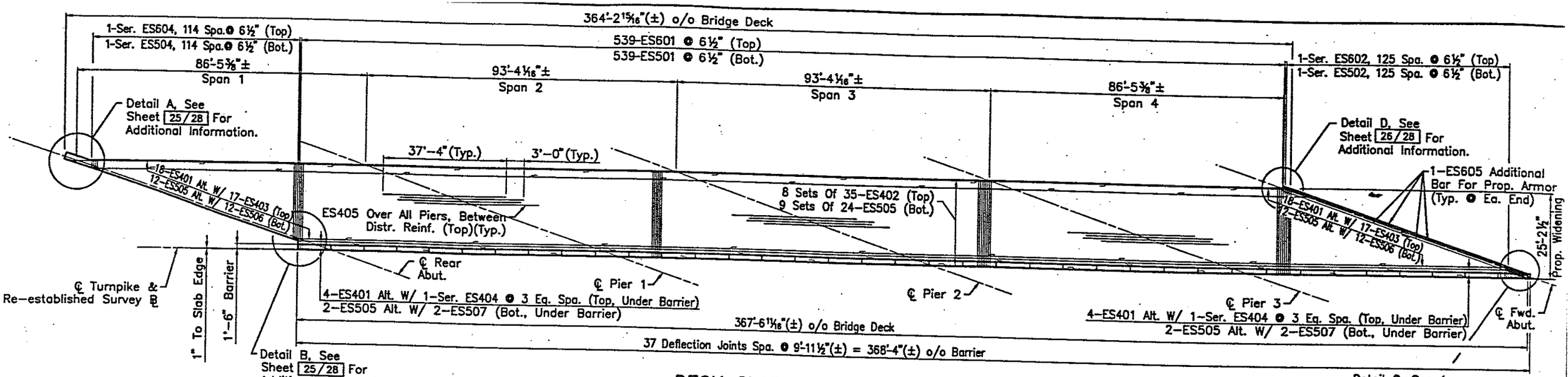
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.F.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.F.W.	IN CHARGE: J.M.	SCALE:

CONTRACT 77-99-05 SHEET 234 OF 276

23/28

OTCK9C



DECK SLAB PLAN

(Westbound Bridge Shown, Eastbound Bridge Similar)
(Scupper Removal Areas Not Shown)

FINISHED PAVEMENT ELEVATIONS: The Elevations Shown Are Finished Deck Elevations. Proper Allowance Shall Be Made For The Dead Load Deflections Caused By The Weight Of The Deck Concrete. Refer To General Notes For Additional Information.

FINISHED DECK ELEVATIONS

LOCATION	SPAN 1				SPAN 2					SPAN 3				SPAN 4				
	℄ Brg. R.A.	¼	½	¾	℄ Brg. Pier-1	FS-1	½	FS-2	℄ Brg. Pier-2	FS-3	½	FS-4	℄ Brg. Pier-3	¼	½	¾	℄ Brg. F.A.
Exist. Beam Line "E"	647.57	67.63	647.74	647.84	647.93	647.98	648.11	648.21	648.24	648.26	648.33	648.35	648.38	648.40	648.40	648.40	648.38
Girder Line "F"	647.52	647.63	647.73	647.82	647.91	647.96	648.12	648.14	648.17	648.19	648.24	648.26	648.28	648.28	648.28	648.26	648.24
Girder Line "G"	647.52	647.62	647.71	647.79	647.87	647.92	648.00	648.06	648.09	648.11	648.15	648.16	648.17	648.16	648.15	648.12	648.09
Toe Median Barrier (W.B.)	647.52	647.60	647.67	647.75	647.81	647.86	647.92	647.96	647.99	648.01	648.02	648.02	648.02	648.00	647.98	647.95	647.90
Toe Median Barrier (E.B.)	647.65	647.74	647.81	647.87	647.93	647.96	648.02	648.05	648.06	648.07	648.07	648.05	648.03	648.00	647.96	647.91	647.86
Girder Line "I"	647.69	647.77	647.84	647.91	647.96	647.99	648.04	648.08	648.09	648.09	648.09	648.07	648.05	648.02	647.98	647.93	647.87
Girder Line "J"	647.90	647.97	648.03	648.08	648.12	648.15	648.19	648.20	648.21	648.21	648.21	648.17	648.13	648.09	648.04	647.98	647.91
Girder Line "K"	648.09	648.15	648.20	648.24	648.28	648.31	648.32	648.31	648.32	648.31	648.29	648.25	648.21	648.15	648.09	648.03	647.95
Exist. Beam Line "L"	648.27	648.32	648.36	648.40	648.42	648.45	648.44	648.33	648.43	648.41	648.37	648.32	648.27	648.21	648.14	648.06	647.97

DEFLECTION AND CAMBER SCHEDULE *

All New Girders

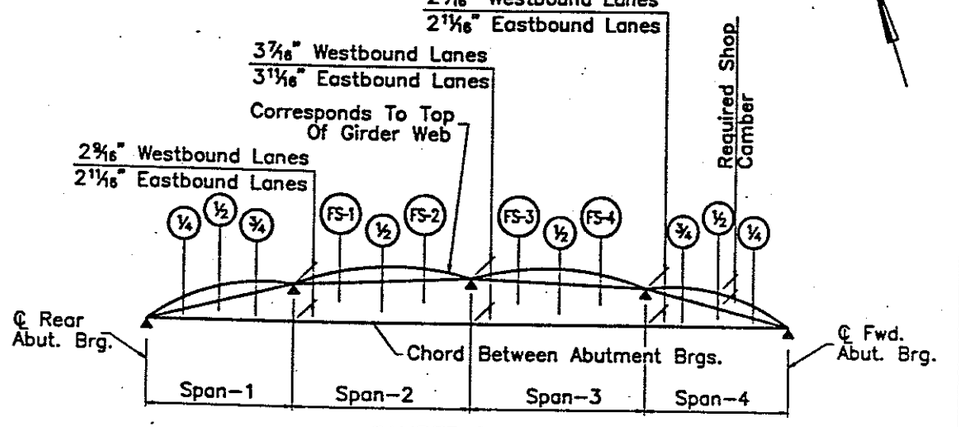
Westbound Lanes	Span-1			Span-2			Span-3			Span-4		
	¼	½	¾	FS-1	½	FS-2	FS-3	½	FS-4	¼	½	¾
Deflection Due To Weight Of Steel	¼"	¼"	⅛"	1/16"	⅛"	1/16"	1/16"	⅛"	1/16"	⅛"	¼"	¼"
Deflection Due To Remaining D.L.	⅞"	⅞"	11/16"	¼"	7/16"	3/16"	3/16"	7/16"	¼"	11/16"	⅞"	⅞"
Adjustment Due To Vertical Curve	⅛"	3/16"	⅛"	⅛"	¼"	1/16"	1/16"	¼"	⅛"	⅛"	3/16"	⅛"
Required Shop Camber	1¼"	1 5/16"	1 5/16"	7/16"	13/16"	5/16"	5/16"	13/16"	7/16"	15/16"	1 5/16"	1¼"

DEFLECTION AND CAMBER SCHEDULE * *

All New Girders

Eastbound Lanes	Span-1			Span-2			Span-3			Span-4		
	¼	½	¾	FS-1	½	FS-2	FS-3	½	FS-4	¼	½	¾
Deflection Due To Weight Of Steel	¼"	¼"	⅛"	1/16"	⅛"	1/16"	1/16"	⅛"	1/16"	⅛"	¼"	¼"
Deflection Due To Remaining D.L.	⅞"	⅞"	7/16"	¼"	7/16"	3/16"	3/16"	7/16"	¼"	7/16"	⅞"	⅞"
Adjustment Due To Vertical Curve	3/16"	¼"	3/16"	⅛"	¼"	1/16"	1/16"	¼"	⅛"	3/16"	¼"	3/16"
Required Shop Camber	1 5/16"	1⅜"	¾"	7/16"	13/16"	5/16"	5/16"	13/16"	7/16"	¾"	1⅜"	1 5/16"

*—Positive Values Indicate Camber Above Chord Between Adjacent Bearings.



CAMBER DIAGRAM

NOTES:

1. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars, 2'-3" For #6 Bars Unless Noted Otherwise.
2. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Deck Slab, Except Where Shown.
3. See "Typical Transverse Section & Details", Sheet 23/28 For Additional Information.
4. See Sheet 25 & 26/28 For Additional Deck Joint Information.
5. Longitudinal Reinforcement Shall Be Alternated, As Shown, For Both Top And Bottom Mats.
6. See "Scupper Removal & Repair Details", Sheet 22/28 For Additional Information.
7. Adjust Reinforcement Bars At Deck Joints To Clear Joint Plates (Typ.). See Sheet 25 & 26/28 For Details.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS III
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

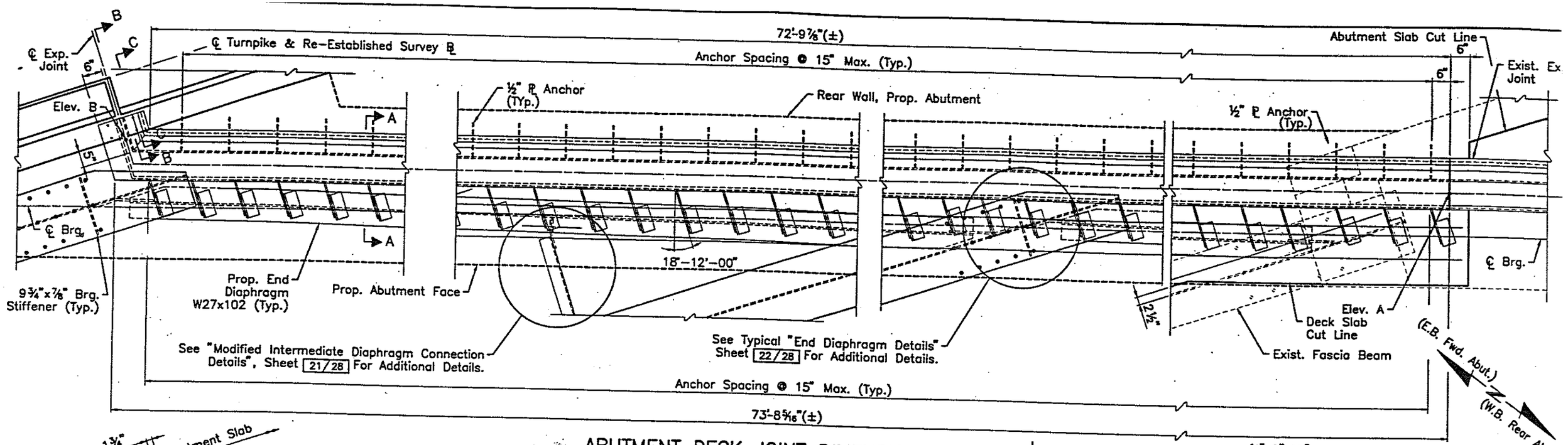
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

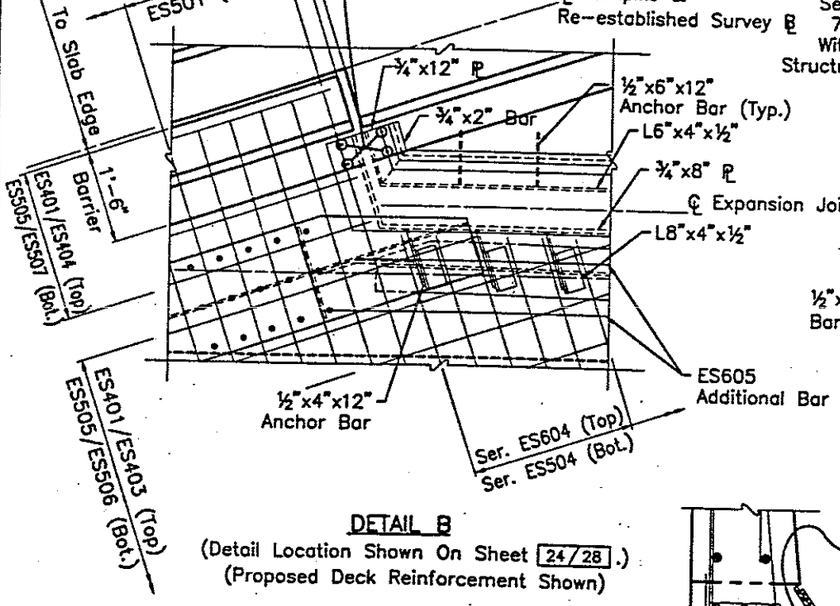
DESIGNED: C.E.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.E.W.	IN CHARGE: J.M.	SCALE:

CONTRACT 77-99-05 SHEET 235 OF 276

24/28

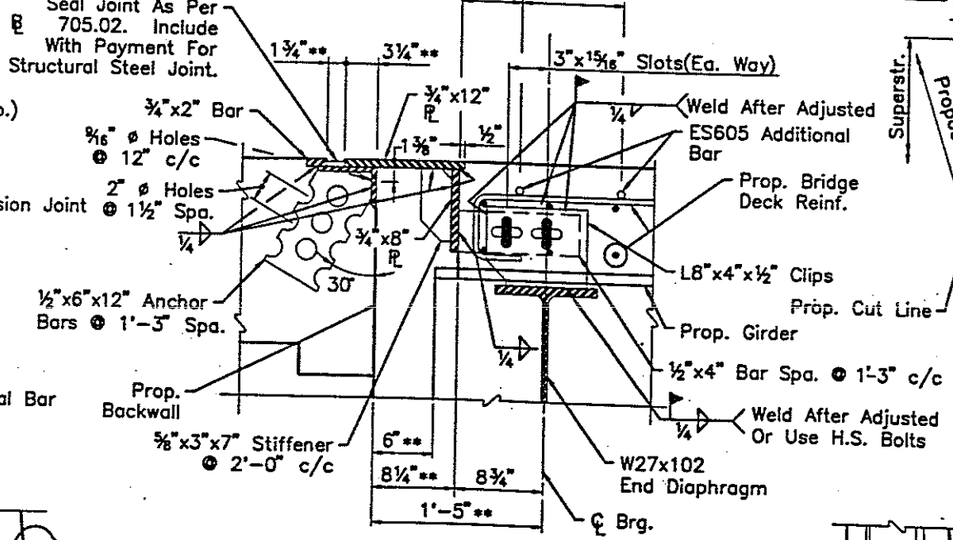
OTCK9C



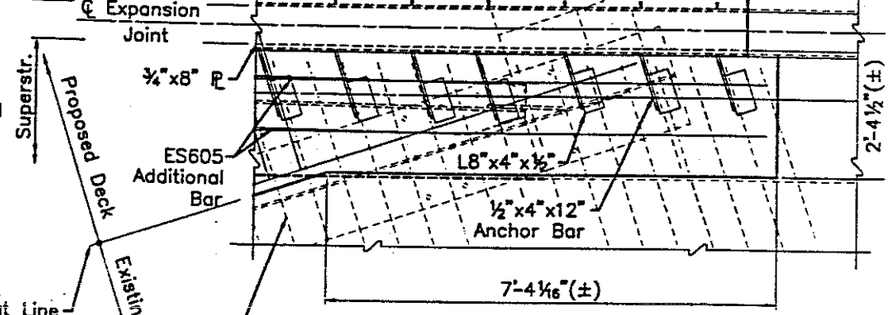


DETAIL B
(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)

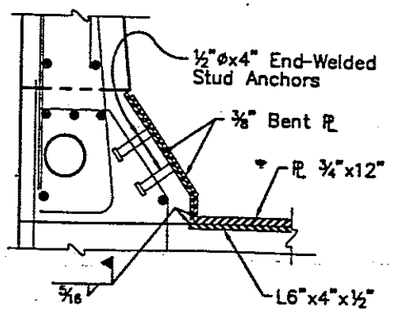
ABUTMENT DECK JOINT DIMENSIONS
(Rear Abutment, WB And Forward Abutment, EB Shown)
(Forward Abutment, WB And Rear Abutment, EB Reverse)



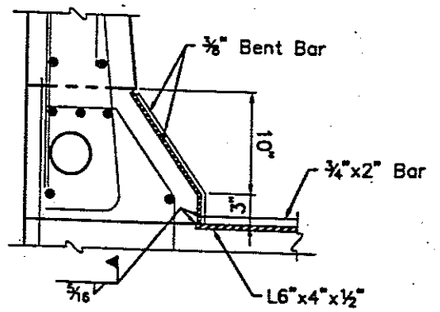
TYPICAL EXPANSION JOINT
(SECTION A-A)
**-Denotes Measured At 60° F



DETAIL A
(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)



SECTION B-B



SECTION C-C

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

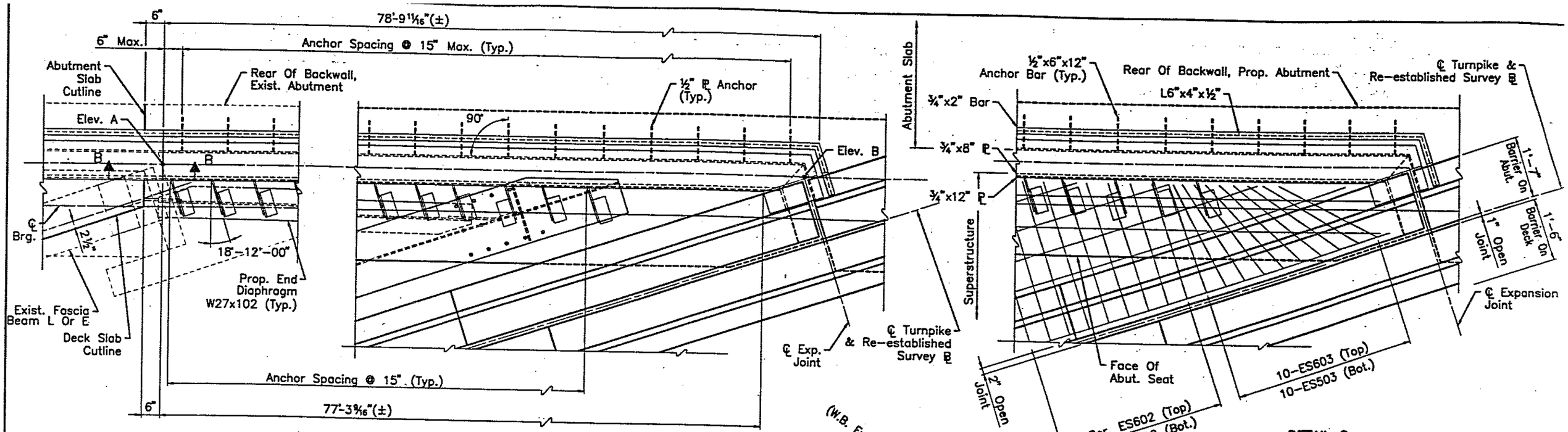
OHIO TURNPIKE 3rd LANE CONSTRUCTION
DECK JOINT DETAILS I
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.E.W.	IN CHARGE: J.M.	SCALE:

25/28

CONTRACT 77-9905 . SHEET 236 OF 2



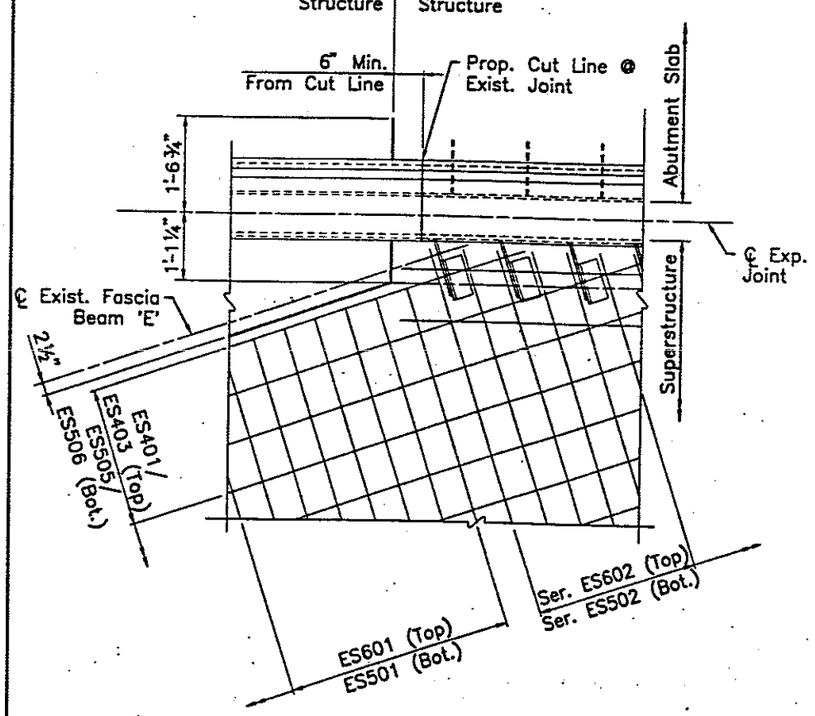
ABUTMENT DECK JOINT DIMENSIONS

(Rear Abutment, EB And Forward Abutment, WB Shown)
(Forward Abutment, EB And Rear Abutment, WB Reverse)

DETAIL C

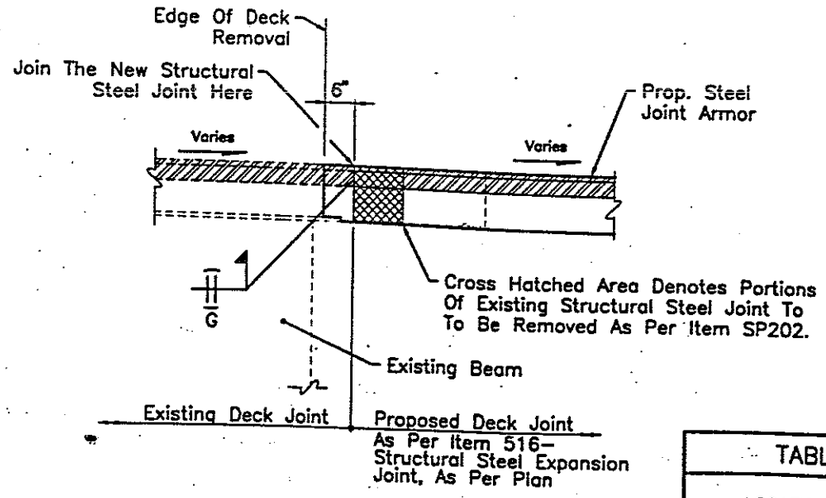
(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)

(W.B. Fwd. Abut.)
(E.B. Rear Abut.)



DETAIL D

(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)



SECTION B-B

Showing Removal Limits Of Existing Joint Where Proposed And Existing Work Meet.

NOTES:

1. Field Cutting Of The Existing Joint Armor At The Proposed Field Splice Locations Shall Be Completed By Methods Of Saw Cutting. No Burning Of The Existing Joint Armor At This Location Will Be Permitted. The Location Of The Field Splice Shall Be Field Verified. This Location Shall Also Extend A Minimum Distance Beyond The Concrete Removal Of The Deck And Abutment Slabs So That Field Weld Attachment Of New Joint Extension Can Be Achieved.
2. Existing Deck Elevations Shall Be Field Verified By The Contractor Before Fabrication Of Deck Joints. See General Note 6, On Sheet G1.
3. Use Extreme Care In Removing Deck And Abutment Slab Concrete In Vicinity Of Existing Joint Armor To Remain.

TABLE OF ELEVATIONS		
LOCATION	ELEV. "A" ℄ Field Splice	ELEV. "B" ℄ Barrier
Rear Abut. (WB)	647.57±	647.51
Forward Abut. (WB)	648.38±	647.89
Rear Abut. (EB)	648.27±	647.64
Forward Abut. (EB)	647.97±	647.85

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
DECK JOINT DETAILS II
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.F.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.F.W.	IN CHARGE: J.M.	SCALE:

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EA401	76	9'-0"		XVI	457
EA501	52	40'-0"		Str.	2169
EA502	10	15'-1"		I	157
EA503	10	14'-6"		IV	151
EA504	24	36'-11"		Str.	924
EA505	192	6'-6"		VII	1302
EA506	2	8'-8"		VII	18
EA507	2 Ser. Of 3	7'-4" To 8'-2"	0'-5"	VII	48
EA508	36	37'-9"		Str.	1418
EA509	146	7'-3"		VII	1104
EA510	2	9'-0"		VII	19
EA511	2	8'-6"		VII	18
EA512	2 Ser. Of 5	6'-8" To 8'-3"	0'-4¾"	VII	78
EA513	141	5'-9"		VII	846
EA514	60	7'-9"		VII	485
EA515	60	7'-11"		VII	495
EA516	1 Ser. Of 3	5'-0" To 5'-9"	0'-4½"	VII	17
EA517	4 Ser. Of 4	5'-9" To 7'-1"	0'-5⅜"(-)	VII	107
EA518	52	38'-1"		Str.	2066
EA519	10	10'-2"		IV	106
EA520	10	8'-8"		IV	91
EA521	24	36'-6"		Str.	914
EA522	4 Ser. Of 4	6'-4" To 7'-11"	0'-6⅜"(-)	VII	119
EA523	2	6'-0"		VII	13
EA524	6	8'-8"		XI	55
EA525	2 Ser. Of 4	7'-1" To 8'-2"	0'-4⅜"(-)	VII	64
EA526	2	5'-6"		VII	11
EA527	4	7'-3"		Str.	31
EA528	4	12'-11"		Str.	54
EA529	4	18'-7"		Str.	78
EA530	8	25'-10"		Str.	216
EA531	4	23'-10"		Str.	100
EA532	4 Ser. Of 17	6'-3" To 11'-7"	0'-4"	VII	633
EA533	8	9'-2"		Str.	77
EA534	8	16'-9"		Str.	140
EA535	8	24'-3"		Str.	203
EA536	16	31'-6"		Str.	526
EA537	8	29'-6"		Str.	247
EA538	8 Ser. Of 20	7'-1" To 12'-7"	0'-3½"(-)	VII	1641
EA539	2	15'-4"		Str.	32
EA540	2	30'-3"		Str.	63
EA541	4	23'-8"		Str.	99
EA542	4	31'-1"		Str.	130
EA543	8	33'-4"		Str.	278
EA544	2 Ser. Of 40	6'-5" To 12'-5"	0'-1⅛"(-)	VII	786
EA545	24	24'-11"		Str.	624
EA546	490	6'-5"		VII	3280
EA547	24	29'-6"		Str.	739
EA548	12	19'-7"		Str.	245
EA549	150	11'-1"		XIV	1734
EA550	2 Ser. Of 3	14'-1" To 33'-8"	9'-9½"	Str.	150
EA551	174	11'-0"		XV	1997
EA552	2 Ser. Of 3	6'-5" To 13'-3"	0'-2¾"(-)	VII	636
EA553	12	23'-6"		Str.	294
EA554	2 Ser. Of 4	5'-4" To 6'-7"	0'-5"	VII	50
EA555	2 Ser. Of 5	4'-7" To 16'-9"	3'-0½"	Str.	112
EA556	3	14'-0"		XII	44
EA557	6	21'-11"		Str.	138
EA558	6	12'-0"		XIII	75
EA559	2 Ser. Of 14	6'-5" To 15'-1"	0'-8"	VII	314
EA560	24	22'-2"		Str.	555
EA561	6	25'-9"		Str.	161
EA562	2 Ser. Of 5	6'-3" To 17'-0"	2'-8¼"(-)	Str.	122
EA563	6	23'-11"		IV	150
EA564	2 Ser. Of 15	6'-3" To 15'-3"	0'-7¾"(+)	VII	337
EA565	3	9'-4"		IV	30
EA566	8	4'-5"		XVII	37
EA601	366	12'-6"		VII	6872
EA602	4	14'-7"		VII	88
EA603	4 Ser. Of 5	12'-4" To 14'-3"	0'-5¼"	VII	400
EA604	6 Ser. Of 5	9'-11" To 11'-11"	0'-6"	VII	492
EA605	6	12'-9"		VII	115
EA606	192	13'-6"		VII	3894
EA607	2	15'-8"		VII	47
ABUTMENT SUB-TOTAL (Lbs.) =					42,318

(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EA608	2 Ser. Of 3	14'-4" To 15'-2"	0'-5"	VII	133
EA609	2	12'-4"		VII	74
EA610	2	25'-0"		V	75
EA611	4 Ser. Of 4	10'-9" To 11'-10"	0'-4⅜"(-)	VII	136
EA612	2	12'-11"		VII	39
EA613	2 Ser. Of 3	14'-6" To 15'-2"	0'-4"	VII	134
EA614	6	27'-2"		Str.	245
EA615	12	32'-8"		Str.	589
EA616	6	33'-10"		Str.	305
EA617	4	9'-10"		VII	59
EA618	2	26'-3"		V	79
EA619	80	3'-6"		Str.	421
EA620	2	24'-2"		Str.	73
EA621	2	24'-2"		V	73
EA801	24	40'-0"		Str.	2564
EA802	2	20'-4"		I	109
EA803	2	15'-5"		IV	83
EA804	48	38'-10"		Str.	4977
EA805	2	8'-8"		IV	47
EA806	2	10'-1"		IV	54
ABUTMENT SUB-TOTAL (Lbs.) =					10,269
(EPOXY COATED) ABUTMENT TOTAL (Lbs.) =					52,587

ABUTMENT SLAB REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EAS401	84	0'-9"		IV	42
EAS501	42	10'-8"		Str.	468
EAS502	1 Ser. Of 24	1'-9" To 9'-6"	0'-4"(+)	Str.	141
EAS503	1 Ser. Of 27	3'-3" To 11'-10"	0'-3⅛"(+)	Str.	213
EAS504	1	32'-11"		Str.	35
EAS505	2	19'-4"		IV	41
EAS506	40	38'-5"		Str.	1603
EAS507	2	38'-9"		IV	81
EAS508	2	38'-10"		IV	81
EAS509	4	37'-11"		Str.	159
EAS510	70	12'-9"		Str.	931
EAS511	2 Ser. Of 36	2'-11" To 14'-5"	0'-4"(-)	Str.	651
EAS512	2 Ser. Of 30	1'-11" To 11'-6"	0'-2⅜"(+)	Str.	420
EAS513	2	12'-7"		IV	27
EAS514	2	13'-10"		IV	29
EAS515	4	21'-11"		Str.	92
EAS516	52	39'-5"		Str.	2138
EAS517	2	38'-6"		Str.	81
EAS518	2	39'-11"		IV	84
EAS519	4	14'-1"		Str.	59
EAS520	1 Ser. Of 14	5'-0" To 40'-0"	2'-8¼"(+)	Str.	329
EAS521	86	40'-0"		Str.	3588
EAS522	1 Ser. Of 10	10'-7" To 37'-6"	2'-11⅛"(+)	Str.	251
EAS523	1 Ser. Of 25	18'-8" To 30'-5"	0'-5⅛"	Str.	640
EAS524	333	5'-8"		VII	1969
EAS525	12	33'-9"		Str.	423
EAS526	48	22'-5"		Str.	1123
EAS527	72	36'-5"		Str.	2735
EAS528	-	NOT USED		-	-
EAS529	12	13'-6"		Str.	169
EAS530	4	13'-6"		VIII	57
EAS531	24	3'-1"		II	78
EAS532	4	31'-6"		Str.	131
EAS533	4	3'-6"		Str.	15
EAS601	85	10'-8"		Str.	1362
EAS602	1 Ser. Of 48	1'-9" To 9'-7"	0'-2"	Str.	409
EAS603	1 Ser. Of 53	3'-3" To 12'-0"	0'-2"(+)	Str.	607
EAS604	1	32'-11"		Str.	50
EAS605	2	19'-8"		IV	60
EAS606	52	39'-7"		Str.	3092
EAS607	2	38'-8"		Str.	117
EAS608	2	39'-11"		IV	120
EAS609	4	14'-5"		Str.	87
EAS610	1 Ser. Of 14	5'-0" To 40'-0"	2'-8¼"(+)	Str.	474
EAS611	86	40'-0"		Str.	5167
EAS612	1 Ser. Of 10	10'-7" To 37'-6"	3'-0"(-)	Str.	362
EAS613	1 Ser. Of 25	20'-0" To 31'-9"	0'-5⅛"	Str.	972
EAS614	333	2'-0"		IV	1001
ABUTMENT SLAB SUB-TOTAL (Lbs.) =					32,764

ABUTMENT SLAB REINFORCEMENT (Cont.)
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EAS615	333	2'-10"		VI	1418
EAS616	333	5'-5"		I	2710
EAS617	-	NOT USED		-	-
EAS618	20	1'-5"		Str.	43
EAS619	36	2'-5"		Str.	131
EAS620	20	2'-2"		VI	66
EAS621	4	31'-6"		Str.	189
EAS622	4	3'-6"		Str.	21
EAS623	8	6'-0"		Str.	72
EAS701	138	12'-9"		Str.	3597
EAS702	2 Ser. Of 72	2'-11" To 14'-5"	0'-2"(-)	Str.	2551
EAS703	2 Ser. Of 60	1'-11" To 11'-7"	0'-2"(-)	Str.	1656
EAS704	2	24'-3"		IV	100
EAS705	2	25'-6"		IV	105
EAS706	4	22'-7"		Str.	185
EAS707	268	23'-9"		Str.	13010
EAS708	1 Ser. Of 20	3'-5" To 22'-7"	1'-0"(+)	Str.	532
EAS709	1 Ser. Of 131	3'-4" To 24'-4"	0'-2"(-)	Str.	3704
EAS710	2	26'-6"		Str.	109
EAS711	4	38'-1"		Str.	312
EAS712	9	18'-4"		Str.	337
EAS801	268	23'-9"		Str.	16995
EAS802	1 Ser. Of 20	3'-5" To 22'-7"	1'-0"(+)	Str.	695
EAS803	1 Ser. Of 131	3'-4" To 24'-4"	0'-2"(-)	Str.	4839
EAS804	9	18'-4"		Str.	441
ABUTMENT SLAB SUB-TOTAL (Lbs.) =					53,818
(EPOXY COATED) ABUTMENT SLAB TOTAL (Lbs.) =					86,582

SUPERSTRUCTURE REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
ES401	88	39'-10"		IX	2342
ES402	560	40'-0"		Str.	14964
ES403	64	18'-0"		IX	770
ES404	4 Ser. Of 4	22'-1" To 18'-11"	1'-0⅜"(+)	IX	219
ES405	204	37'-4"		Str.	5088
ES406	16	4'-4"		Str.	47
ES501	1078	24'-10"		Str.	27922
ES502	2 Ser. Of 126	25'-4½" To 3'-1⅝"	2⅛"	Str.	3747
ES503	20	3'-0"		Str.	63
ES504	2 Ser. Of 115	22'-2¼" To 1'-10¾"	2⅛"	Str.	2889
ES505	648	40'-0"		Str.	27035
ES506	48	20'-4"		Str.	1018
ES507	32	25'-3"		Str.	843
ES508	8	5'-2"		Str.	44
ES509	736	5'-8"		II	4350
ES601	1078	24'-10"		Str.	40209
ES602	2 Ser. Of 126	25'-4½" To 3'-1⅝"	2⅛"	Str.	5396
ES603	20	3'-0"		Str.	91
ES604	2 Ser. Of 115	22'-2¼" To 1'-10¾"	2⅛"	Str.	4160
ES605	16	40'-0"		Str.	962
ES606	16	5'-4"		Str.	129
ES607	736	2'-11"		VI	3225
ES608	736	2'-0"		IV	2211
ES609	736	5'-5"		I	5988
(EPOXY COATED) SUPERSTRUCTURE TOTAL (Lbs.) =					153,712

See Sheet 28/28 For Pier Reinforcement And Bending Diagrams.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE I
OHIO TURNPIKE OVER [illegible] R.R. (M.P. 85.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: DMS	IN CHARGE: JM	SCALE:

CONTRACT 77-92-05, SHEET 238 OF 276

PIER REINFORCEMENT
(Galvanized)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
GP401	144	7'-4"		VII	706
·	·	·		·	·
GP602	48	3'-6"		Str.	253
GP701	260	6'-10"		IV	3632
GP702	104	31'-1"		Str.	6608
GP703	130	24'-10"		VII	6599
GP901	84	6'-7"		Str.	1880
GP902	84	11'-3"		Str.	3213
GP1101	72	10'-2"		Str.	3889
GP1102	60	13'-10"		Str.	4410
GP1103	44	12'-3"		Str.	2864
GP1104	88	12'-7"		Str.	5884
GP1105	44	13'-4"		Str.	3117
GP1106	66	10'-11"		Str.	3828
GP1107	22	13'-6"		Str.	1578
		(Galvanized) PIER TOTAL (Lbs.) =			48,461

PIER FOOTING REINFORCEMENT
(Black)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
P601	32	31'-10"		Str.	1530
P901	130	9'-0"		X	3978
		(Black) FOOTING TOTAL (Lbs.) =			5,508

PIER SPIRAL REINFORCING
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	CORE DIA. OF SPIRAL	LENGTH	PITCH	# TURNS	WEIGHT (Lbs.)
GSP401	4	36"	12'-3"	0'-3"	52	1488
GSP402	8	36"	12'-6"	0'-3"	53	2953
GSP403	4	36"	13'-4"	0'-3"	57	1587
GSP404	2	36"	13'-6"	0'-3"	57	795
		(Galvanized) TYPE III SPIRAL TOTAL (Lbs.) =				6,823

BAR MARKS
Bar Marks With Prefix E Are Epoxy Coated, As Per SP509.
Bar Marks With Prefix G Are Hot Dipped Galvanized As Per SP825.

THE BAR SIZE NUMBER Is Specified On The Plans In The Bar Mark Column. The First Digit Where Three Digits Are Used, And The First Two Digits Where Four Digits Are Used, Indicates The Bar Size Number. For Example, P601 Is A No. 6 Bar. Bar Dimensions Shown Are Out To Out Unless Otherwise Indicated. I.R. Indicates Inside Radius, Unless Otherwise Indicated. "STD." Written In Place Of A Dimension Indicates A Standard Bend At The End Of The Bar.

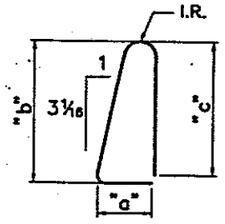
EPOXY COATED REINFORCING STEEL SUPPORT: In Accordance With The Requirements Of SP509 And 509.09, The Top And Bottom Mats Of All Longitudinal And Transverse Epoxy Coated Reinforcing Steel Shall Be Supported By Approved Epoxy Coated Devices With Spacing Not Exceeding 3'-0" Centers In Each Direction. Broken Concrete, Bricks, Etc. Shall Not Be Used For Support Of Reinforcing Steel.

REINFORCEMENT STEEL SAMPLES: Refer to O.T.C. General Conditions G-6.02 And CMS Section 700, 709.01 Through 709.05 And 709.08. Sufficient Additional Reinforcing Steel Shall Be Provided For Sampling. Random Samples Shall Be Replaced In The Structures By The Additional Steel, Spliced In Accordance With 509.08.

SPIRAL REINFORCING BARS: The "Length" Shown In The Steel List For The Spiral Bars Is The Distance From The Top Of Pier Wall To 2" (Min.) Below The Top Of Column. Spiral Reinforcing Bars May Have Deformations And Shall In Other Respects Conform To Item SP825. 1-1/2 Turns Of Closed Coils Shall Be Provided At The Ends Of Each Spiral Unit.

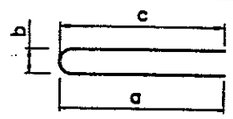
BENDING DIAGRAMS

TYPE I



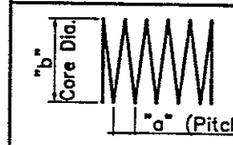
MARK	"a"	"b"	"c"	I.R.
EA502	0'-0"	9'-1"	5'-4"	0'-3¼"
EA802	0'-0"	10'-1"	9'-6"	0'-3¼"
EAS616	0'-7½"	2'-5"	2'-3"	0'-2⅛"
ES609	0'-7½"	2'-5"	2'-3"	0'-2⅛"

TYPE II

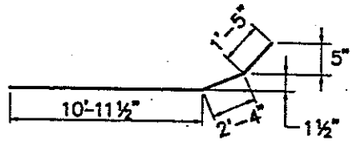


MARK	"a"	"b"	"c"
ES509	2'-9"	0'-5"	2'-9"
EAS531	2'-5"	0'-5"	0'-5"

TYPE III

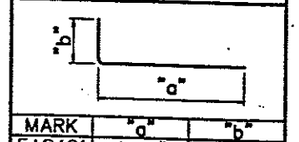


MARK	"a"	"b"
GSP401	0'-3"	3'-0"
GSP402	0'-3"	3'-0"
GSP403	0'-3"	3'-0"
GSP404	0'-3"	3'-0"



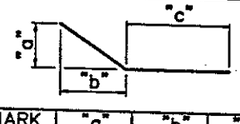
TYPE VIII
EAS530

TYPE IV



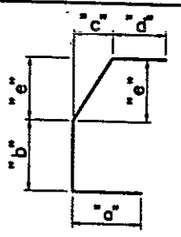
MARK	"a"	"b"
EAS401	0'-8"	0'-2"
EA503	9'-8"	4'-11"
EA519	9'-7"	0'-8"
EA520	7'-5"	1'-5"
EA563	23'-2"	0'-10"
EA565	7'-11"	1'-6"
EA803	10'-8"	4'-11"
EA805	7'-5"	1'-5"
EA806	9'-7"	0'-8"
EAS505	17'-9"	1'-8"
EAS507	37'-6"	1'-4"
EAS508	38'-4"	0'-7"
EAS513	11'-7"	1'-1"
EAS514	11'-7"	2'-4"
EAS518	38'-6"	1'-6"
EAS605	18'-1"	1'-8"
EAS608	38'-8"	1'-6"
EAS614	1'-6"	0'-7½"
EAS704	23'-4"	1'-1"
EAS705	23'-4"	2'-4"
GP701	5'-10"	1'-2"
ES608	1'-6"	0'-7½"

TYPE V



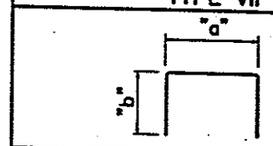
MARK	"a"	"b"	"c"
EA610	1'-6½"	3'-1½"	21'-8"
EA618	0'-4¾"	2'-7½"	23'-9"
EA621	0'-8⅝"	1'-6¾"	22'-7"

TYPE VI



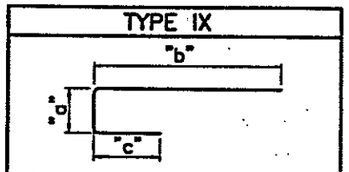
MARK	"a"	"b"	"c"	"d"	"e"
EAS615	0'-10"	0'-10½"	0'-6"	0'-7"	0'-8½"
EAS620	0'-0"	0'-8½"	0'-6"	0'-8"	0'-8½"
ES607	0'-10"	0'-10½"	0'-6"	0'-7"	0'-8½"

TYPE VII

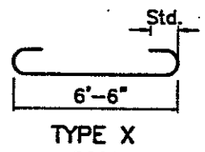


MARK	"a"	"b"	Bar Incr.
EA505	0'-11"	2'-11"	·
EA506	3'-1"	2'-11"	·
EA507	1'-9" To 2'-7"	2'-11"	0'-5"
EA509	2'-8"	2'-5"	·
EA510	3'-5"	2'-11"	·
EA511	2'-11"	2'-11"	·
EA512	1'-1" To 2'-8"	2'-11"	0'-4¾"(+)
EA513	1'-4"	2'-4"	·
EA514	2'-8"	2'-8"	·
EA515	2'-8"	2'-9"	·
EA516	0'-7" To 1'-4"	2'-4"	0'-4½"
EA517	1'-2" To 2'-6"	2'-5"	0'-5⅜"(-)
EA522	1'-1" To 2'-8"	2'-9"	0'-6⅜"(-)
EA523	0'-5"	2'-11"	·
EA525	1'-6" To 2'-7"	2'-11"	0'-4⅜"(-)
EA526	1'-1"	2'-4"	·
EA532	1'-2"	2'-8" To 5'-4"	0'-2"(-)
EA538	1'-2"	3'-1" To 5'-10"	0'-1¾"
EA544	1'-2"	2'-9" To 5'-9"	0'-0⅞"(+)
EA546	1'-2"	2'-9"	
EA552	1'-2"	2'-9" To 6'-2"	1⅜"(-)
EA554	1'-3" To 2'-6"	2'-2"	0'-5"
EA559	1'-2"	2'-9" To 7'-1"	0'-4"
EA564	1'-2"	2'-8" To 7'-2"	0'-3⅞"(-)
EA601	3'-8"	4'-7"	·
EA602	5'-8"	4'-7"	·
EA603	3'-5" To 5'-4"	4'-7"	0'-5¾"
EA604	1'-1" To 3'-1"	4'-7"	0'-6"
EA605	3'-10"	4'-7"	·
EA606	0'-11"	6'-5"	·
EA607	3'-1"	6'-5"	·
EA608	1'-9" To 2'-7"	6'-5"	0'-5"
EA609	3'-5"	4'-7"	·
EA611	1'-11" To 3'-0"	4'-7"	0'-4⅜"(-)
EA612	0'-5"	6'-5"	·
EA613	1'-11" To 2'-7"	6'-5"	0'-4"
EA617	0'-11"	4'-7"	·
EAS524	0'-5"	2'-9"	
GP401	3'-0"	2'-3"	
GP703	3'-8"	10'-9"	

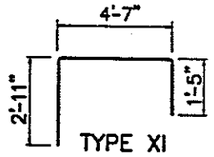
TYPE IX



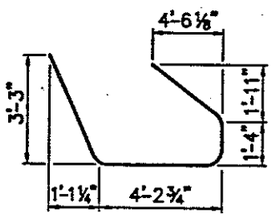
MARK	"a"	"b"	"c"
ES401	0'-4½"	39'-3"	0'-4½"
ES403	0'-4½"	17'-5"	0'-4½"
ES404	0'-4½"	21'-5⅝" To 18'-3¾"	0'-4½"



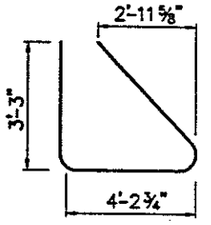
TYPE X
P901



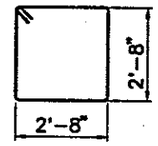
TYPE XI
EA524



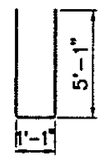
TYPE XII
EA556



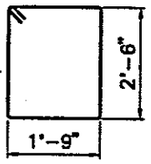
TYPE XIII
EA558



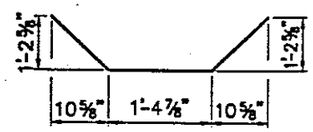
TYPE XIV
EA549



TYPE XV
EA551



TYPE XVI
EA401



TYPE XVII
EA566

SPIRAL PITCH SPACERS: Four Steel Hot-Dipped Galvanized Angle Spacers, Each Weighing Approximately 0.80 Lb. Per Linear Foot, Shall Be Provided For Each Spiral Unit. They Shall Be Equally Spaced Along The Periphery Of Each Coil For Its Full Length. The Total Number Of Pounds Of These Spacers, Based On 3.2 Lb. Per Linear Foot, Will Be Paid For As Reinforcing Steel And Is Included In The Tabulated Spiral Weight.

CONCRETE SPACERS Or Other Approved Noncorrosive Spacing Devices, Equal In Quality And Durability To The Column Concrete, Shall Be Used Near The Bottom And At Intervals Not Exceeding 10' To Ensure A Minimum 3" Clear Space Between The Outside Of The Reinforcing Cage And The Column Design Dimension.

See Sheet 27/28 For Abutment And Superstructure Reinforcement Schedules.

NO.	REVISIONS	BY	DATE

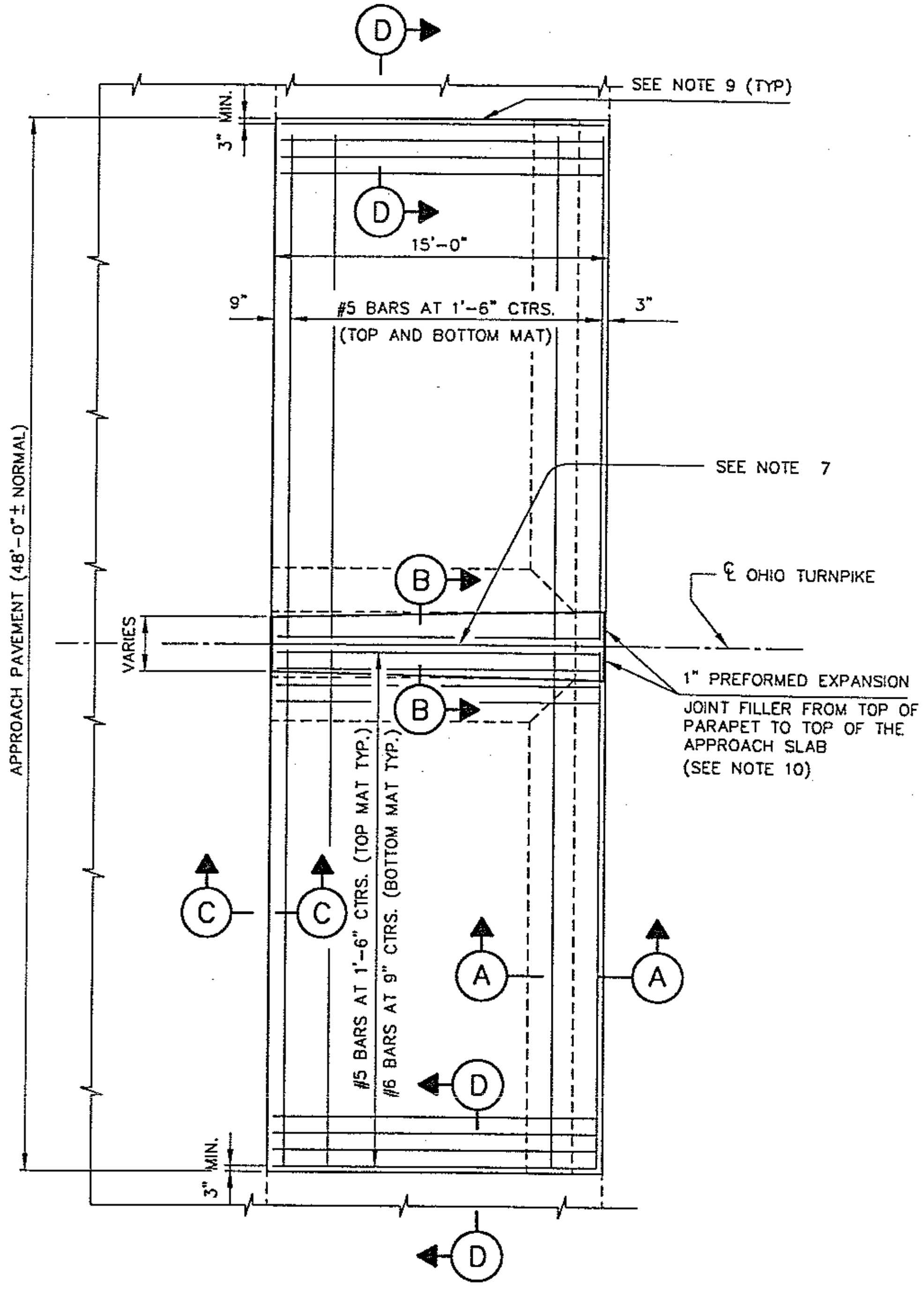
OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE II
OHIO TURNPIKE OVER ASHTABULA R.R. (M.P. 85.3)

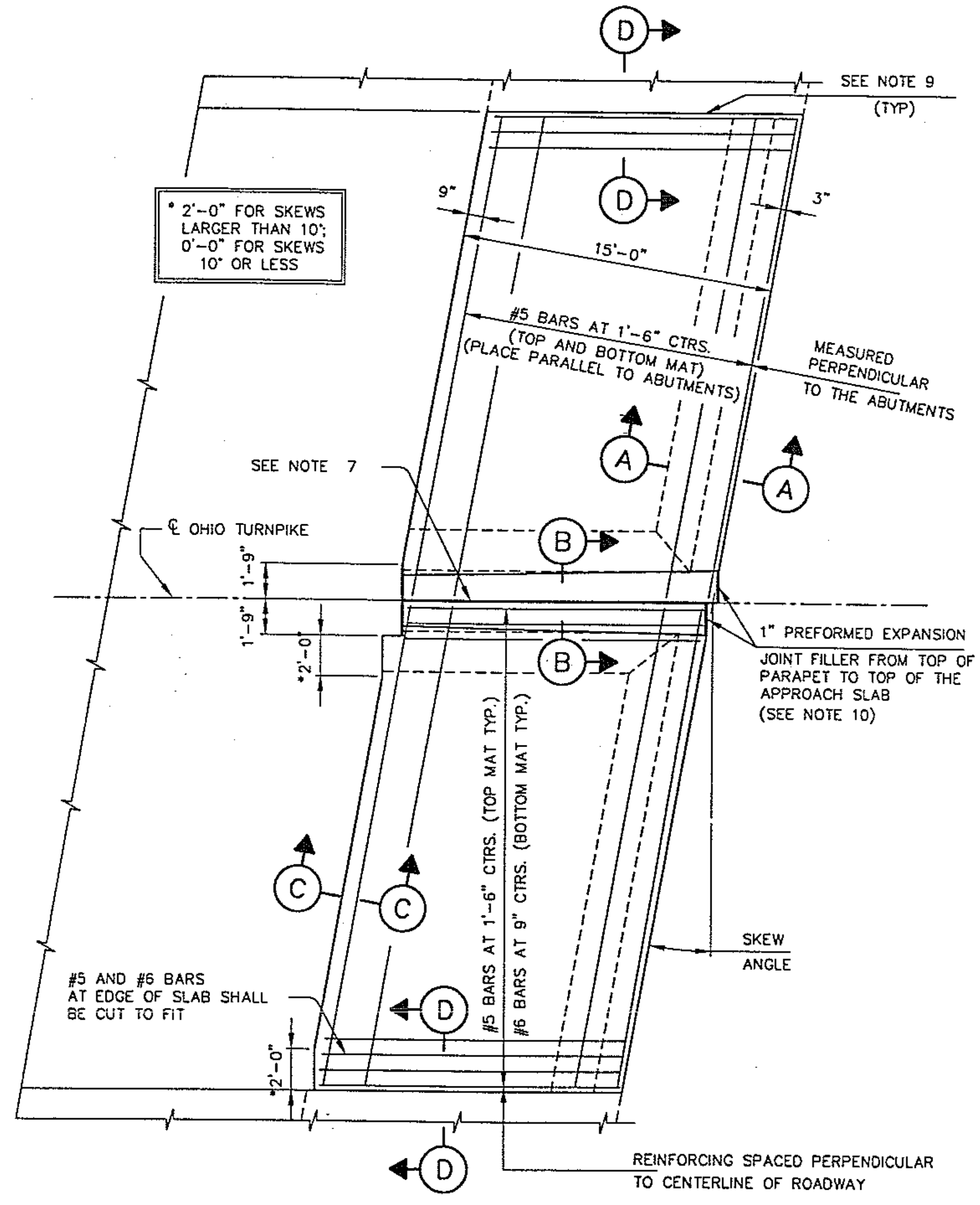
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98	
DRAWN: CMZ	IN CHARGE: JM	SCALE:	

OTCK9C



PLAN



APPROACH SLAB FOR SKEWED BRIDGE

NOTES

1. THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, ESTIMATED QUANTITY (SQ. YDS), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.
2. CONCRETE: CLASS S USING SHRINKAGE COMPENSATING CEMENT. REINFORCING STEEL: ASTM A615, A616 OR A617 – GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09 .
4. CROWN SHALL CONFORM TO THAT OF THE BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH ASPHALT PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED ON THE APPROACH ASPHALT PAVEMENT AT A TRANSITION RATE OF 1 TO 200.
5. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE AS DETAILED ON OTC STANDARD DRAWING AS-2.
6. BASE MATERIAL SHALL BE ITEM SP 310-SUBBASE, TYPE I, GRADING A OR ITEM SP 304-AGGREGATE BASE DEPENDING ON MATERIAL SPECIFIED FOR THE MAINLINE PAVEMENT.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STD. DWG. BP-2.1
8. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.
9. THE JOINT BETWEEN THE EXISTING AND THE NEW APPROACH SLABS SHALL BE AS SHOWN IN SECTION 'D-D'.
10. 1" PREFORMED EXPANSION JOINT FILLER SHALL BE PER 705.03
11. THE TWO 4" DIAMETER PVC CONDUITS WITH MULTI-CELL INNERDUCT SHALL COMPLY WITH SP 625.
12. FOR SECTIONS 'A-A', 'B-B', 'C-C' AND 'D-D' ADDITIONAL INFORMATION SEE OTC STANDARD DRAWING AS-2.
13. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM SP 611, CLASS 'S' CONCRETE, APPROACH SLAB, USING SHRINKAGE COMPENSATING CEMENT (T=12"):

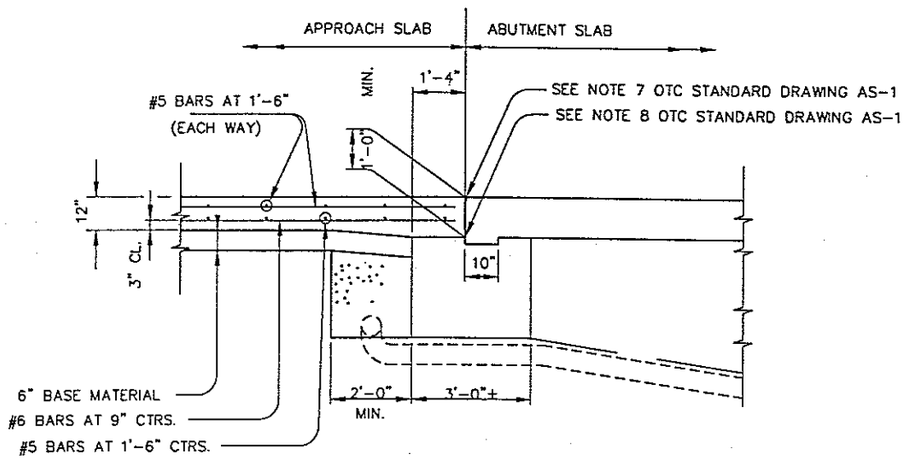
   : ALL JOINTS
   : GROOVE AND JOINT SEAL
   : TYPE 'A' WATERPROOFING
   : 1" PREFORMED EXPANSION JOINT FILLER
   : MEDIAN BARRIERS

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB – MEDIAN WIDENING

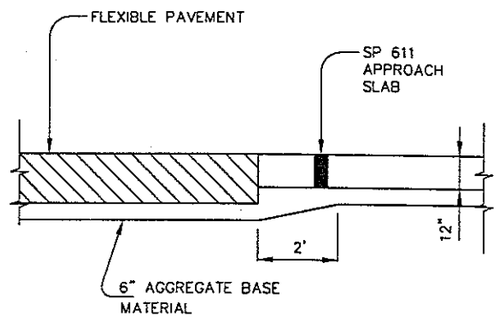
DATE: JANUARY 24, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS-1

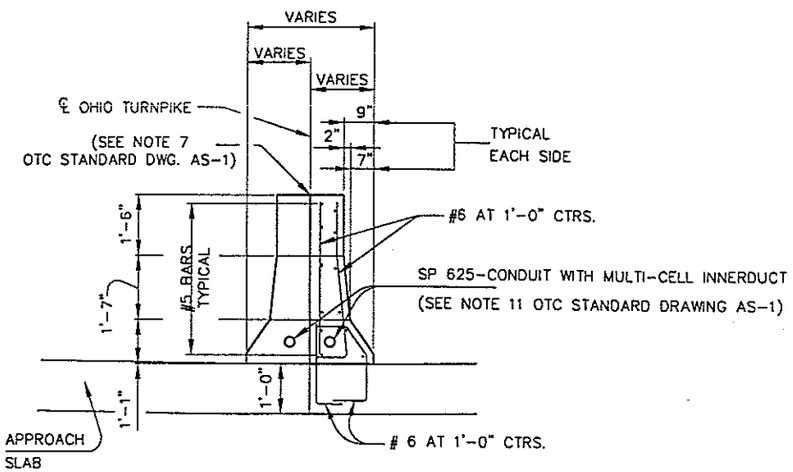


NOTE: ALL REINFORCING BARS SHALL BE EPOXY COATED.

SECTION A–A

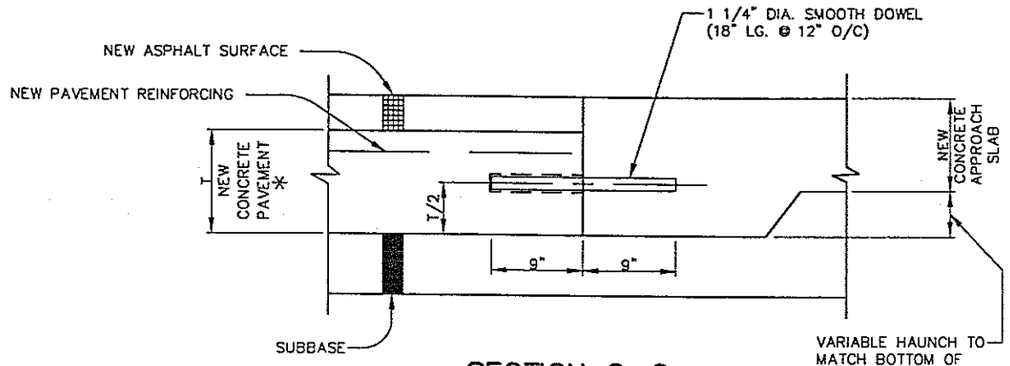


SECTION C–C
FLEXIBLE PAVEMENT

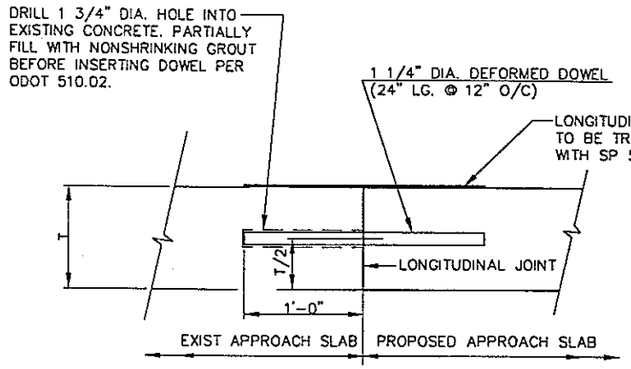


SECTION B–B
REINFORCING AND DIMENSIONS SYMMETRICAL ABOUT CENTERLINE

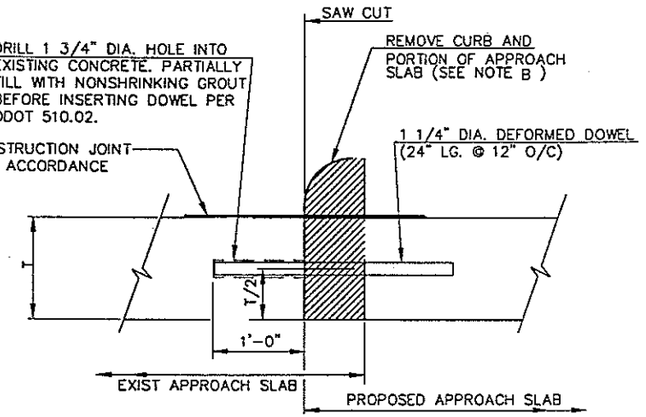
* THICKNESS TO MATCH ADJACENT CONCRETE PAVEMENT.



SECTION C–C
COMPOSITE PAVEMENT



SECTION D–D
(FOR APPROACH SLAB WITHOUT INTEGRAL CONCRETE CURB)

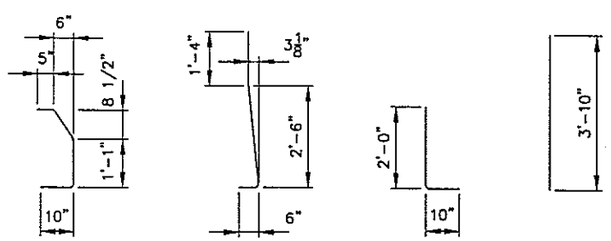


SECTION D–D
(FOR APPROACH SLAB WITH INTEGRAL CONCRETE CURB)

NOTES:

A FOR LOCATIONS OF SECTIONS 'A–A', 'B–B', 'C–C', AND 'D–D' AND ADDITIONAL NOTES, SEE OTC STANDARD DRAWING AS–1

B THE REMOVAL SHALL BE PER 202.05 OF THE ODOT CMS BUT THE COST OF THE REMOVAL SHALL BE INCIDENTAL TO THE COST OF ITEM SP 611



BAR BENDING DIAGRAMS

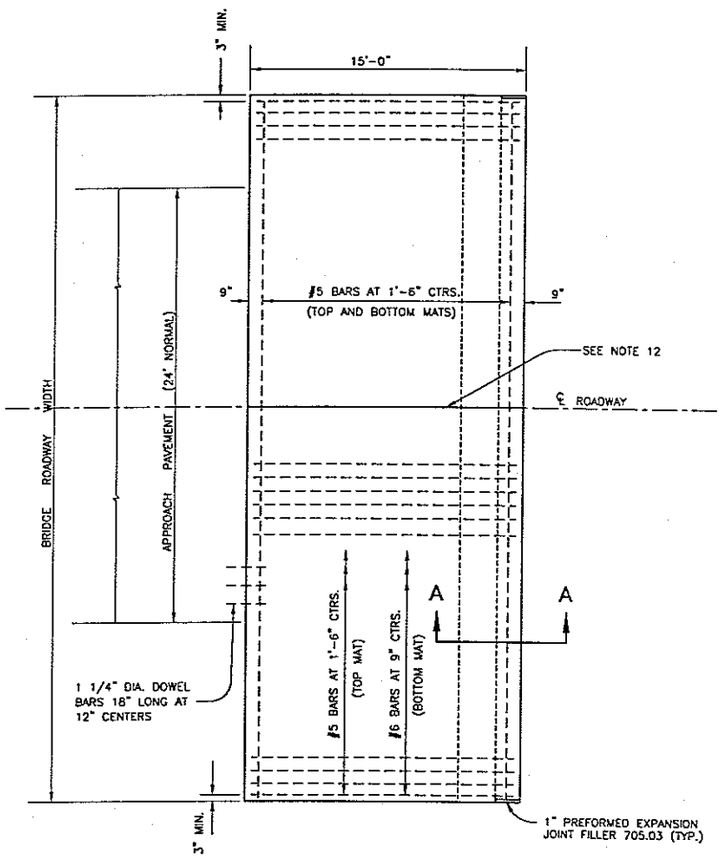
OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB SECTIONS AND DETAILS – MEDIAN WIDENING

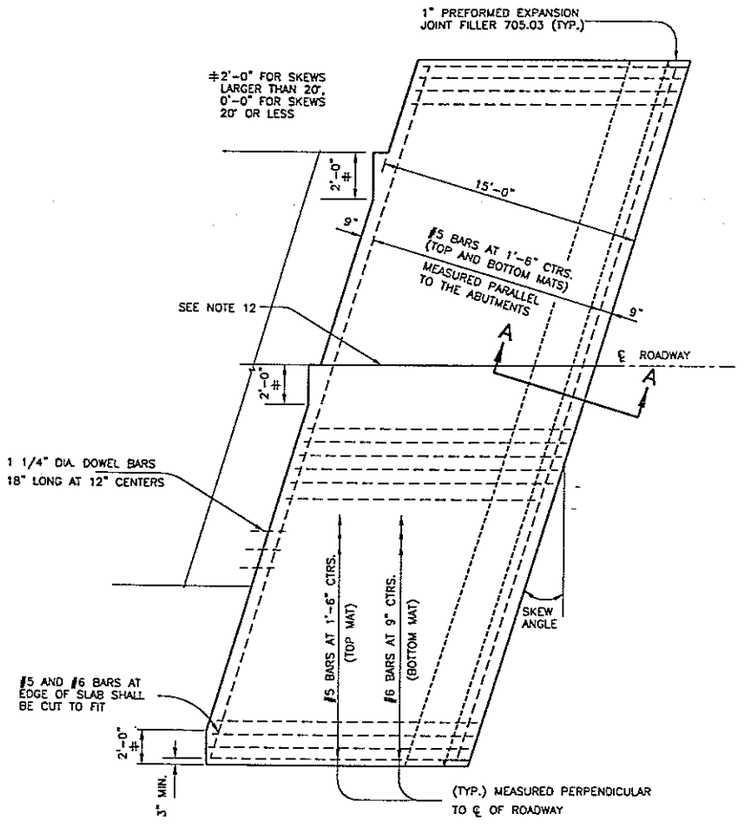
DATE: JANUARY 24, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS–2

CAD FILE NAME: 7026100/AS-2



PLAN
(WITHOUT CURB)



APPROACH SLAB FOR SKEWED BRIDGE
(WITHOUT CURB)

NOTES

1. GENERAL
THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS). AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

2. DESIGN DATA
CONCRETE CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 – GRADE 60, MIN. YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED

3. PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

4. GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

5. TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

6. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

7. CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10FT. BEYOND END OF WINGWALL. WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH, HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY. CURB PLACEMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. STANDARD DRAWING BR-1.

8. APPROACH SLAB WIDTH SHALL EXTEND FROM GUTTER LINE TO GUTTER LINE AND BE 6" WIDER FOR EACH CURB BEYOND THE END OF THE PARAPETS.

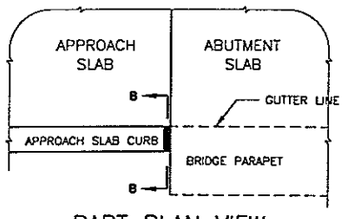
9. CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB.

10. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB ARE USED IN CONJUNCTION WITH CONCRETE PAVEMENT OR CONCRETE BASE COURSE. PAYMENT FOR THE TRANSVERSE JOINT, INCLUDING DOWEL BARS, SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.

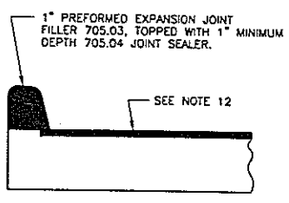
11. ITEM SP 310 SUBBASE TYPE 1 GRADING "A" SHALL BE PROVIDED UNDER ALL APPROACH SLABS.

12. GROOVE AND SEAL WITH 705.04 AS PER O.D.O.T. STD. DWG. BP-2.1.

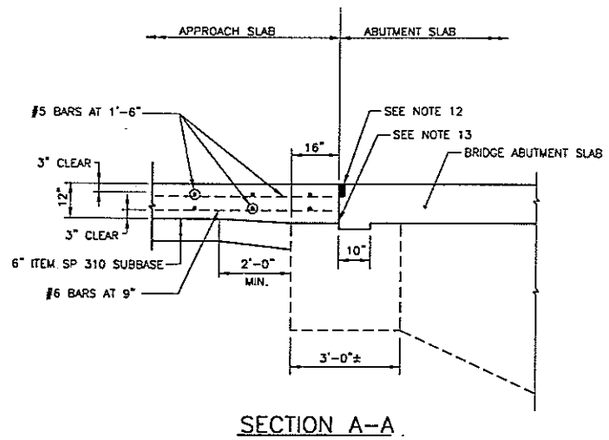
13. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.



PART PLAN VIEW
(WITH CURB)



SECTION B-B



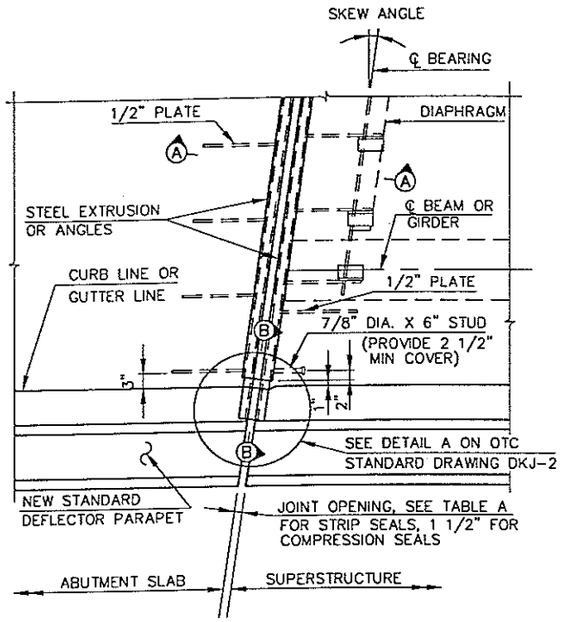
SECTION A-A

OHIO TURNPIKE COMMISSION

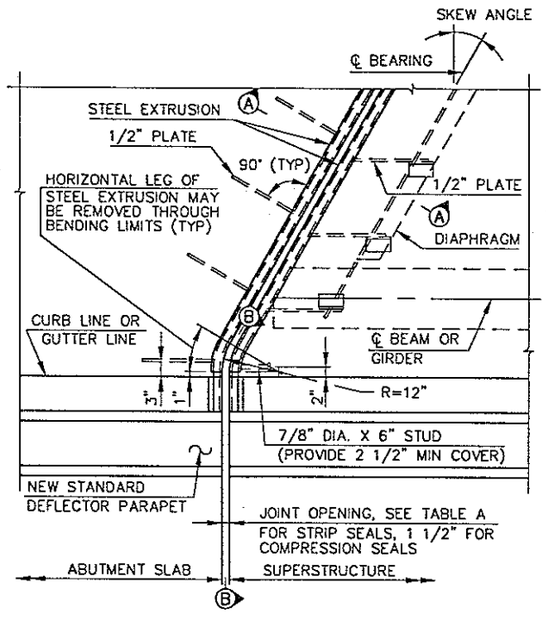
REINFORCED CONCRETE APPROACH SLAB – CELLULAR ABUTMENTS

DATE: APRIL 22, 1997 | SCALE: N.T.S.

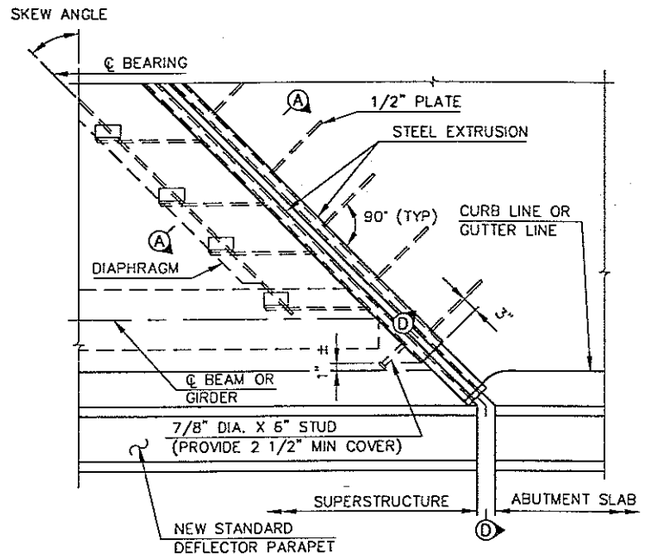
O.T.C. STANDARD DRAWING AS-3



PLAN – SKEW ANGLE < 10°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)



PLAN – SKEW ANGLE 10° TO 45°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)



PLAN – SKEW ANGLE > 45° (STRIP SEAL ONLY)

NOTE: WHEN SKEW ANGLE IS GREATER THAN 45°, FURNISH JOINT ASSEMBLIES IN TWO SECTIONS AND PROVIDE A FIELD SPLICE AT THE CENTERLINE OF ROADWAY.

GENERAL NOTES

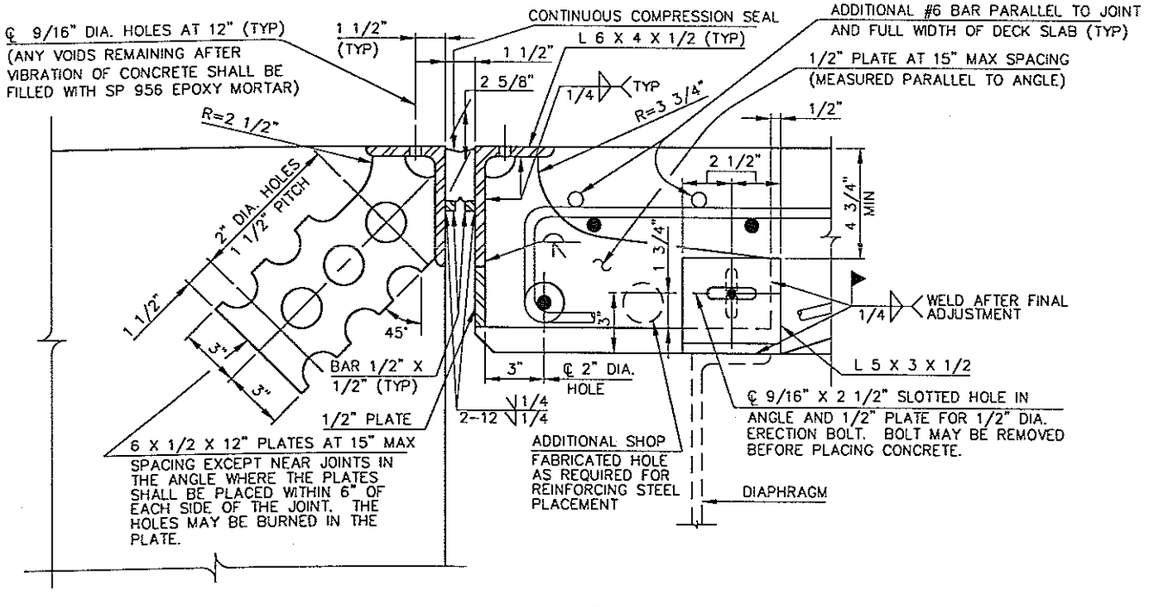
1. INSTALLATION OF SEAL: DURING INSTALLATION OF SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE JOINT SEAL, THE SEATING OF BEAMS ON BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE SUPPORT ANGLES RATHER THAN BY CLAMPING FORCE.
2. ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.
3. STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.
4. THE MINIMUM LENGTH OF RETAINER SHALL BE 6'-0" BETWEEN JOINTS UNLESS OTHERWISE SHOWN.
5. JOINTS IN EXTRUSIONS SHALL HAVE WATERTIGHT, PARTIAL PENETRATION BUTT WELDS COMPLETELY AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS WHICH WILL BE IN CONTACT WITH THE SEAL AND/OR ANCHOR PLATES SHALL BE GROUND SMOOTH.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
7. ELASTOMERIC COMPRESSION SEALS SHALL BE WATSON-BOWMAN ACME WJ-200, D.S. BROWN C-V 2000, ERIE METAL SPECIALTIES BR200 OR APPROVED EQUAL.
8. CONTINUOUS STRIP SEALS SHALL BE AS MANUFACTURED BY WATSON-BOWMAN ACME, D.S. BROWN OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED. SEE STRIP SEAL SELECTION TABLE.
9. DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.
10. TRANSVERSE JOINTS IN COMPRESSION SEAL ARMOR AND VERTICAL LEGS OF EXTRUSIONS SHALL HAVE COMPLETE PENETRATION BUTT WELDS. WELDS WHICH WILL BE IN CONTACT WITH SEALS SHALL BE GROUND FLUSH.
11. ARMOR STEEL COATING: FINISHED STEEL ASSEMBLY SHALL BE METALIZED, SEE SPECIAL PROVISIONS.

NOTE

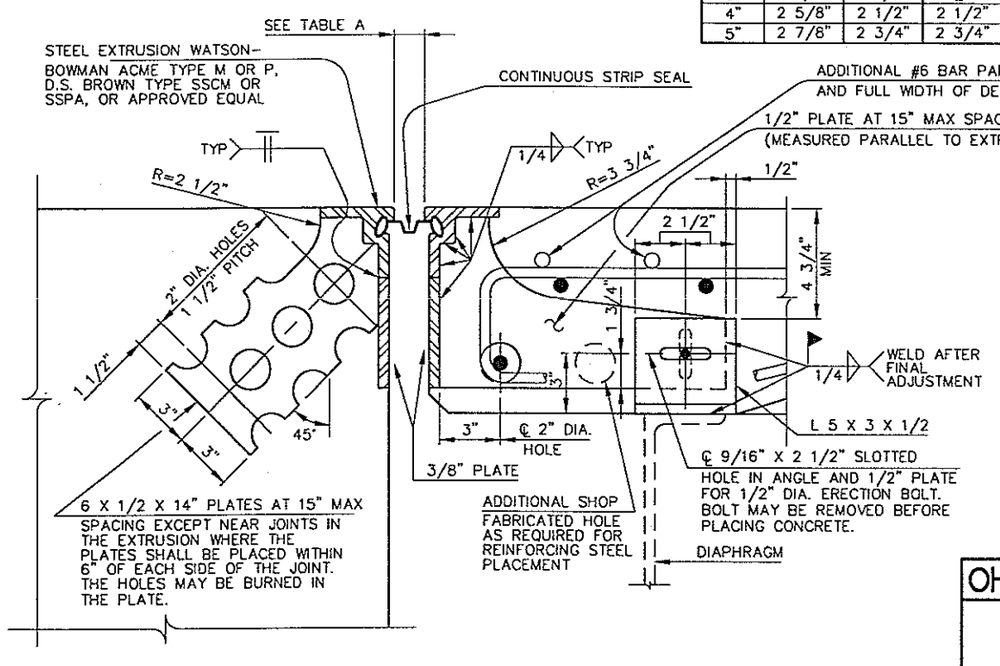
FOR SECTIONS B-B & D-D AND DETAIL A, SEE OTC STANDARD DRAWING DKJ-2.

TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING						
	TEMPERATURE °F						
	30	40	50	60	70	80	90
3"	2 1/4"	2 1/8"	2"	1 7/8"	1 3/4"	1 5/8"	1 1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"



SECTION A-A (COMPRESSION SEAL)



SECTION A-A (STRIP SEAL)
WATSON-BOWMAN ACME TYPE M, OR D.S. BROWN TYPE SSCM EXTRUSIONS SHOWN.

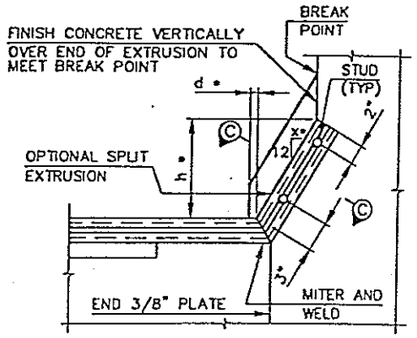
OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS CELLULAR ABUTMENTS

DATE: JUNE 25, 1997 | SCALE: N.T.S.

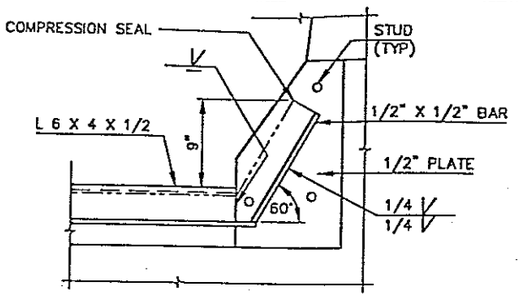
O.T.C. STANDARD DRAWING DJ-1

CAD FILE NAME: K:\OTC3\L.STD\DJ-1

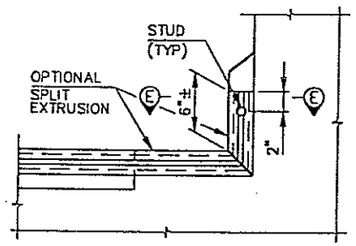


SECTION B–B (STRIP SEAL)

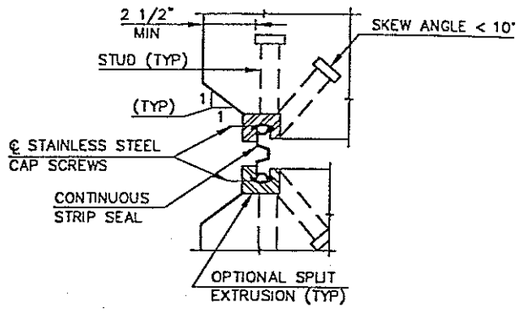
• SEE TABLE B FOR VALUE



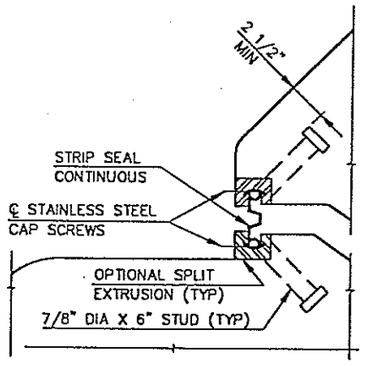
SECTION B–B (COMPRESSION SEAL)



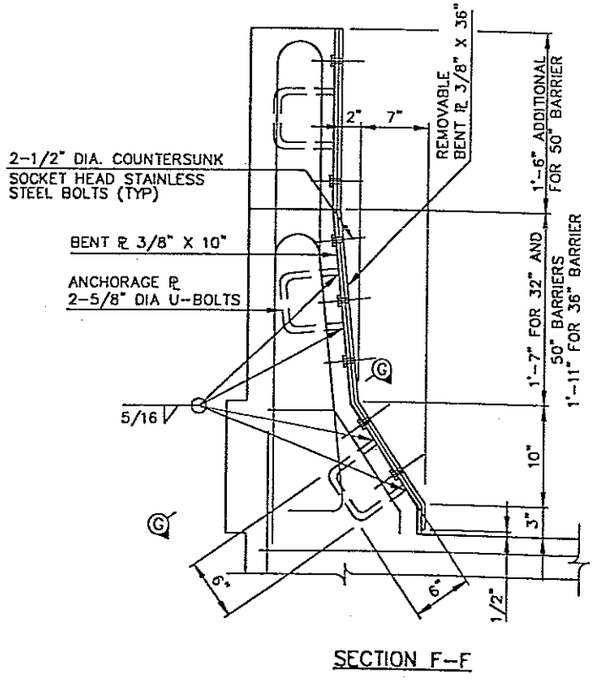
SECTION D–D



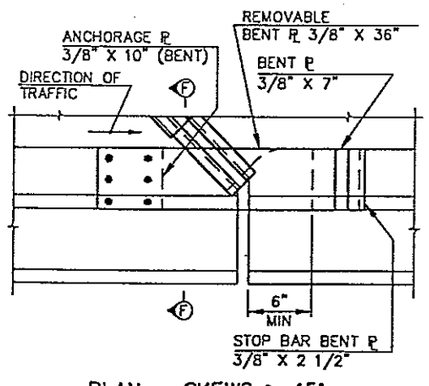
SECTION C–C



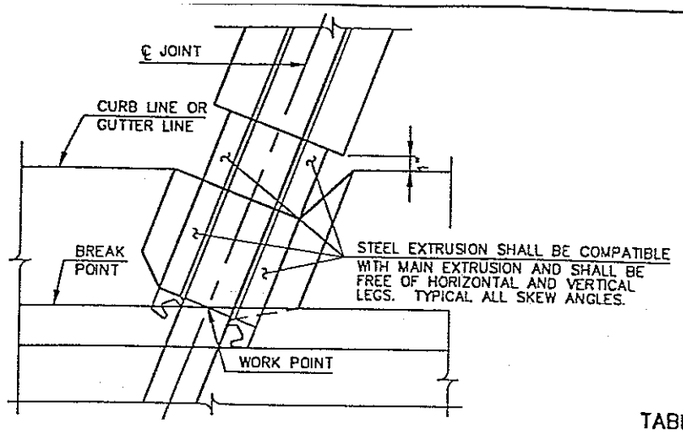
SECTION E–E



SECTION F–F



PLAN – SKEWS > 45°

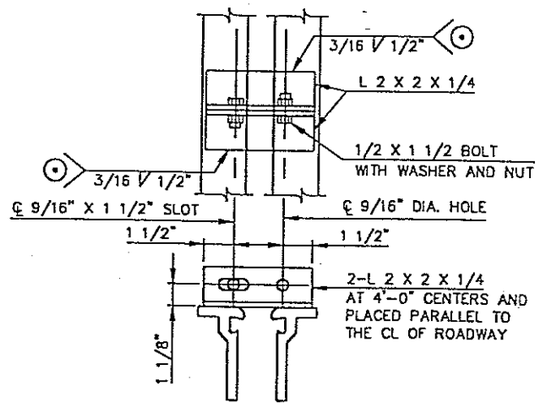


DETAIL A

NOTE: FOR JOINT DETAILS IN SIDEWALK SEE OTC STANDARD DRAWING DJ–3

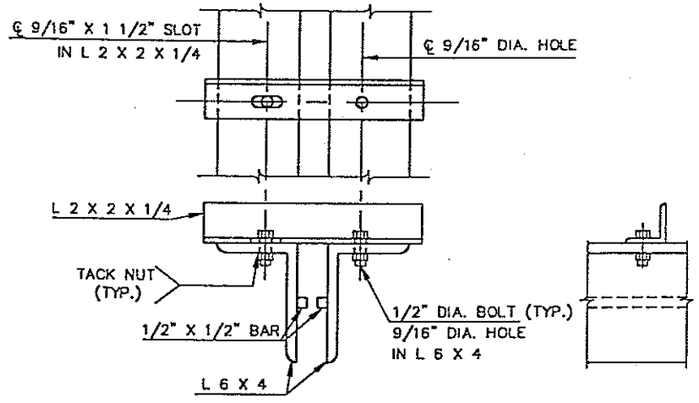
TABLE B

	SKEW ANGLE	
	<10°	10° – 45°
d	3/4" MIN	3/4"
x	6 15/16"	7 1/2"
h	10"	10"

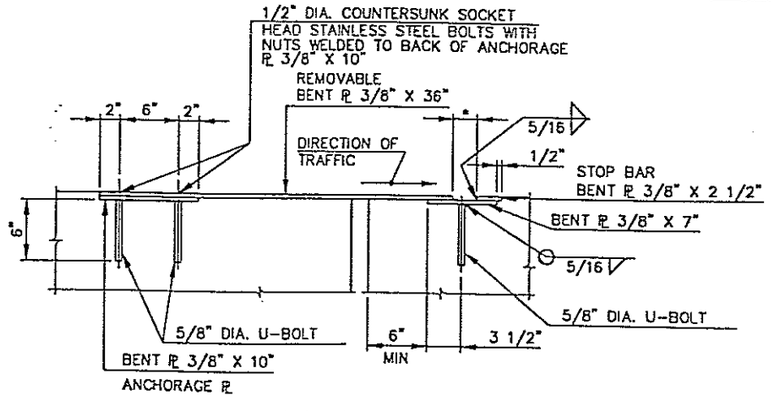


DETAIL – ALIGNMENT BRACKET

⊙ TEMPORARY WELD TO BE REMOVED AND GROUND SMOOTH IN FIELD. LOOSEN TEMPORARY JOINT ARMOR AFTER INITIAL SET OF CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF CONCRETE PLACEMENT.



DETAIL – ALIGNMENT BRACKET



SECTION G–G

• DIMENSION SET EQUAL TO STRIP SEAL JOINT OPENING AT TIME OF INSTALLATION

NOTES

1. THE SPLIT EXTRUSION SHOWN IS A NORMAL EXTRUSION WHICH HAS BEEN MODIFIED. AT JOINT UPTURNS, ESPECIALLY ON SKEWED BRIDGE DECKS, THE USE OF SPLIT EXTRUSIONS MAY BE NECESSARY TO ENSURE GOOD SEAL INSTALLATION. ON SHOP DRAWINGS, WHERE THE SPLIT EXTRUSION IS NOT USED, THE SEAL MANUFACTURER OR HIS AGENT WARRANTS TO THE CHIEF ENGINEER THAT THE FURNISHED CONFIGURATION WILL PROVIDE FOR READY INSTALLATION AND REPLACEMENT OF THE SEAL.

2. SECTION F–F & G–G – THE BENT STEEL PLATES SHALL BE A–36 STEEL, GALVANIZED IN ACCORDANCE WITH ITEM 711.02.

   SHOP DRAWINGS SHALL BE SUBMITTED PER CMS 501.05.

   BASIS OF PAYMENT: THE UNIT PRICE SHALL INCLUDE ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS TO FURNISH AND INSTALL THE BENT PLATES. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER POUND FOR ITEM 513, PARAPET PLATES, AS PER PLAN.

STRIP SEAL SELECTION TABLE

SEAL MOVEMENT RATING (SIZE)	MANUFACTURER & DESIGNATION •	
	THE D.S. BROWN COMPANY	WATSON–BOWMAN & ACME CORP.
3"	300L	SE–300
4"	400L	SE–400
5"	500L	SE–500

• OR APPROVED EQUAL

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS

DATE: NOVEMBER 11, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ–2

CAD FILE NAME: K:\OTC3L_STD\DJ-2

GENERAL: THIS DRAWING PROVIDES DESIGN AND CONSTRUCTION DETAILS. THE PROJECT PLANS SHALL SHOW THE LOCATION OF SPLICES PLUS A REFERENCE TO THIS DRAWING FOR PERTINENT DETAILS AND NOTES. FOR SPLICING BEAMS OF DIFFERENT SIZES OR WHERE SPLICES ARE LOCATED AT BEAM BEND POINTS. THE PROJECT PLANS SHALL INCLUDE SUFFICIENT DETAILS SUPPLEMENTING THIS DRAWING TO COMPLETELY DESCRIBE THE SPLICE.

DESIGN SPECIFICATIONS: THIS DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS, AND THE OHIO DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, 1993.

DESIGN METHOD: LOAD FACTOR DESIGN

ALLOWABLE STRESSES:

STRUCTURAL STEEL	ASTM	A-36	YIELD STRESS = 36 KSI
	ASTM	A-572, A-588	YIELD STRESS = 50 KSI
HIGH STRENGTH BOLTS	ASTM	A-325	DESIGN SLIP RESISTANCE = 21 KSI

(DESIGN SLIP RESISTANCE IS BASED ON THE AASHTO CLASS A MINIMUM SLIP COEFFICIENT OF 0.33)

DESIGN: FOR EACH STRUCTURE THE DESIGNER SHALL CHOOSE A SPLICE LOCATION AND DETERMINE THE MAXIMUM TOTAL STRESSES (MOMENT AND SHEAR) AT THAT POINT. IN CONTINUOUS SPANS, SPLICES PREFERABLY SHALL BE MADE NEAR POINTS OF CONTRAFLEXURE. THE SPLICE SHALL BE DESIGNED FOR NOT LESS THAN (1) THE AVERAGE OF THE REQUIRED STRENGTH AT THE POINT OF SPLICE AND THE STRENGTH OF THE MEMBER AT THE SAME POINT. (2) THE MODIFIED MAXIMUM STRESS SPECIFIED IN THE FATIGUE UNIT STRESSES NOTE, OR (3) 75% OF THE STATIC STRENGTH OF THE BEAM. THE SPLICE DESIGNS SHOWN HEREON ARE DESIGNED FOR (3). SEE NOTE FOR DESIGN LOADS. IF STRESSES (1) OR (2) ARE MORE CRITICAL, THIS DESIGN SHALL NOT BE USED AND SUCH SPLICES SHOULD BE DESIGNED TO MEET THE ESTABLISHED REQUIREMENTS. THE STATIC BEAM STRENGTH AT THE SPLICE IS BASED ON THE NET SECTION FOR BENDING AND THE GROSS SECTION FOR SHEAR USING THE BASIC UNIT STRESSES. WHEN SPLICING BEAMS OF DIFFERENT SIZES, THE SPLICE DESIGN SHALL BE BASED ON THE LIGHTER WEIGHT BEAM.

DESIGN LOADS: DESIGN MOMENT [KIP-IN] = $0.75 \left(\frac{Fy\ I}{d} \right)$

DESIGN SHEAR [KIP] = 0.75 (0.58 Fy Tw (d - 2 Tf))

WHERE:
- I = MOMENT OF INERTIA BASED ON THE BEAM'S GROSS-SECTION OR ON THE NET-SECTION IF THE FLANGE AREA REMOVED EXCEEDING 15% OF THE GROSS-SECTION IS DEDUCTED [IN^4] (SEE AASHTO 10.18.1.1)
- Fy = YIELD STRESS [KSI]
- d = MEMBER DEPTH [IN]
- Tw = WEB THICKNESS [IN]
- Tf = FLANGE THICKNESS [IN]

FATIGUE STRESSES: THIS SPLICE STANDARD HAS NOT BEEN EVALUATED FOR FATIGUE STRESSES. THE DESIGNER IS REQUIRED TO CALCULATE THE MAXIMUM MOMENT RANGE AND EVALUATE THE ACTUAL STRESSES AGAINST ALLOWABLES GIVEN IN AASHTO TABLE 10.3.1A.

FASTENERS:

	ASTM	A-36	1" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325
	ASTM	A-572, A-588	1⅛" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325

SPLICE MATERIAL WEIGHT PLUS THE WEIGHT OF FILLS, WHERE REQUIRED, SHALL BE INCLUDED WITH THE STRUCTURAL STEEL QUANTITY FOR PAYMENT.

FABRICATION AND ASSEMBLY: BEAM ENDS AT SPLICES SHALL BE CUT AND FIT AS PER PLAN. THE OPENING BETWEEN BEAM ENDS AFTER ASSEMBLY SHALL NOT EXCEED ¼".

FILLS SHOWN ON THE PROJECT PLANS AND SHOP DRAWINGS SHALL BE DIMENSIONED TO THE NEAREST 1/16 INCH IN THICKNESS, BUT NOT LESS THAN ⅛ INCH THICK, BASED ON THE DIMENSIONS FOR DETAILING AND INTENDED RELATIVE POSITION OF THE ABUTTING FLANGES AND WEBS TO BE SPLICED. HOWEVER, IN THE FINAL SHOP ASSEMBLY, FILLS SHALL BE FURNISHED WITH THICKNESSES SUFFICIENT TO COMPENSATE FOR ANY MISALIGNMENT OF ABUTTING FLANGES AND WEBS DUE TO STANDARD ROLLING MILL TOLERANCES. THE ACTUAL FILLS USED IN THE SPLICE SHALL BE SUCH AS TO COMPENSATE FOR DIFFERENCES IN TOTAL THICKNESS OR RELATIVE POSITIONS OF MORE THAN 1/16 INCH.

VERTICAL CLEARANCE: FOR GRADE SEPARATION STRUCTURES AN ALLOWANCE OF ¾ INCHES PLUS THE THICKNESS OF THE OUTSIDE FLANGE SPLICE PLATE SHALL BE USED IN COMPUTING THE ACTUAL VERTICAL CLEARANCE UNDER A BEAM SPLICE.

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard P. Engel
ENGINEER OF BRIDGES
12-12-94
DATE

REVISIONS

DESIGNED	DRAWN	CHECKED	REVIEWED
GEA	SAM	SAM	

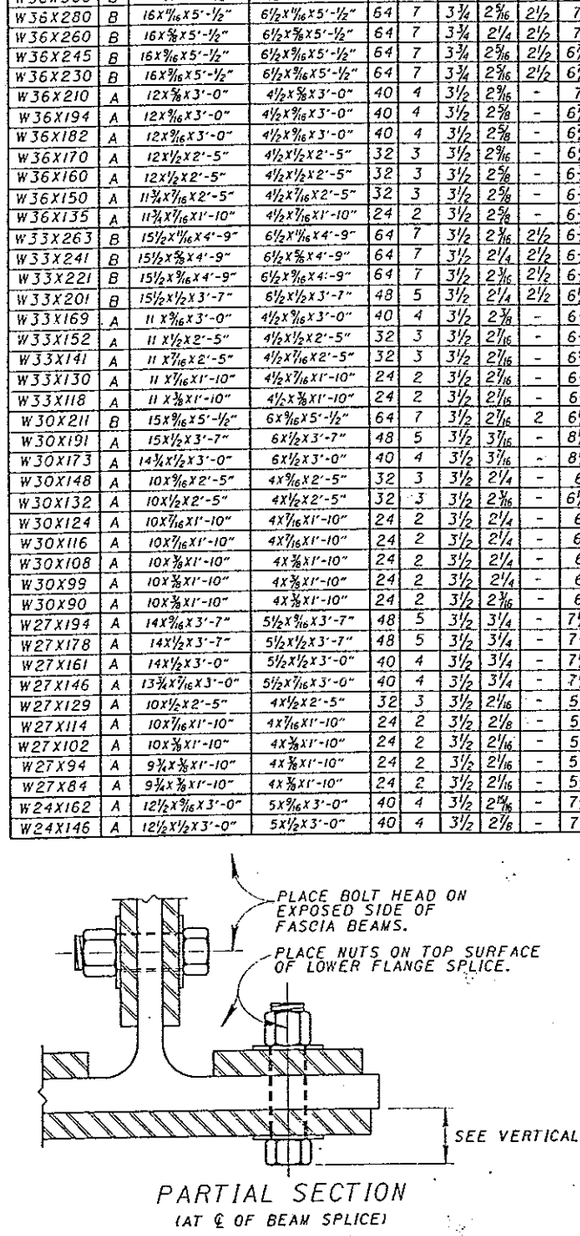
BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES

1 / 3

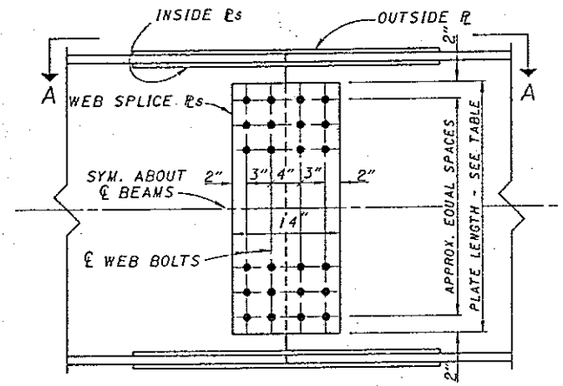
BEAM SPLICE DETAILS

BEAM	FLANGE PLATES TYPE	FLANGE PLATES OUTSIDE 2 REQ'D	FLANGE PLATES INSIDE 4 REQ'D	FLANGE BOLTS NUM.	N SPA.	PITCH	A	B	C	WEB SPLICE TYPE	WEB PLATES 2 REQ'D	WEB BOLTS No.	WEIGHT OF SPLICE MAT'RL lbs. *
W40X268	B	17½ x 7/8 x 4'-2"	7 x 7/8 x 4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼ x ⅜ x 20	60	960
W40X249	B	15½ x 7/8 x 4'-2"	6 x 7/8 x 4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼ x ⅜ x 20	60	890
W40X244	B	17½ x ⅞ x 4'-2"	7 x ⅞ x 4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼ x 7/16 x 20	60	910
W40X221	B	17½ x ½ x 3'-2"	7 x ½ x 3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼ x 5/16 x 20	60	720
W40X215	B	15½ x ⅞ x 4'-2"	6 x ⅞ x 4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼ x ½ x 20	60	820
W40X199	B	15½ x ½ x 3'-2"	6 x ½ x 3'-2"	48	5	3½	2 5/16	2	7⅛	B	33¼ x ½ x 20	60	650
W40X192	B	17½ x ⅜ x 3'-2"	7 x ⅜ x 3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼ x 7/16 x 20	60	630
W40X183	A	11½ x ⅝ x 2'-8"	4 x ⅝ x 2'-8"	40	4	3½	2 5/16	-	7⅛	B	33¼ x ½ x 20	60	560
W40X167	A	11½ x ½ x 2'-2"	4 x ½ x 2'-2"	32	3	3½	2 5/16	-	7⅛	B	33¼ x ½ x 20	60	470
W40X149	A	11½ x 7/16 x 2'-2"	4 x 7/16 x 2'-2"	32	3	3½	2 7/8	-	7	B	33¼ x ½ x 20	60	460
W36X300	B	16 x ¾ x 6'-3½"	6½ x ¾ x 6'-3½"	80	9	3¾	2 5/16	2½	7	C	31 x 1 5/16 x 26	80	1510
W36X280	B	16 x 7/16 x 5'-½"	6½ x 7/16 x 5'-½"	64	7	3¾	2 5/16	2½	7	B	31 x 7/16 x 20	60	1120
W36X260	B	16 x 5/8 x 5'-½"	6½ x 5/8 x 5'-½"	64	7	3¾	2¼	2½	7	B	31 x 7/16 x 20	60	1060
W36X245	B	16 x 9/16 x 5'-½"	6½ x 9/16 x 5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31 x 5/8 x 20	60	970
W36X230	B	16 x 9/16 x 5'-½"	6½ x 9/16 x 5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31 x 5/8 x 20	60	940
W36X210	A	12 x 7/8 x 3'-0"	4½ x 7/8 x 3'-0"	40	4	3½	2 5/16	-	7	B	31 x 7/16 x 20	60	670
W36X194	A	12 x 9/16 x 3'-0"	4½ x 9/16 x 3'-0"	40	4	3½	2⅞	-	6⅞	B	31 x 5/8 x 20	60	620
W36X182	A	12 x 9/16 x 3'-0"	4½ x 9/16 x 3'-0"	40	4	3½	2 5/8	-	6⅞	B	31 x 5/8 x 20	60	600
W36X170	A	12 x ½ x 2'-5"	4½ x ½ x 2'-5"	32	3	3½	2 5/8	-	6⅞	B	31 x 9/16 x 20	60	510
W36X160	A	12 x ½ x 2'-5"	4½ x ½ x 2'-5"	32	3	3½	2 5/8	-	6¾	B	31 x 9/16 x 20	60	500
W36X150	A	11¾ x 7/16 x 2'-5"	4½ x 7/16 x 2'-5"	32	3	3½	2 5/8	-	6¾	A	31 x ½ x 14	40	380
W36X135	A	11¾ x 7/16 x 1'-10"	4½ x 7/16 x 1'-10"	24	2	3½	2 5/8	-	6¾	A	31 x 7/16 x 14	40	310
W33X263	B	15½ x 7/16 x 4'-9"	6½ x 7/16 x 4'-9"	64	7	3½	2 1/16	2½	6⅜	C	28 x 1 5/16 x 26	72	1150
W33X241	B	15½ x 9/16 x 4'-9"	6½ x 9/16 x 4'-9"	64	7	3½	2¼	2½	6⅜	C	28 x 1 1/16 x 26	72	1090
W33X221	B	15½ x 9/16 x 4'-9"	6½ x 9/16 x 4'-9"	64	7	3½	2 1/16	2½	6⅜	B	28 x 7/16 x 20	54	890
W33X201	B	15½ x ½ x 3'-7"	6½ x ½ x 3'-7"	48	5	3½	2¼	2½	6¼	B	28 x 9/16 x 20	54	680
W33X169	A	11 x 9/16 x 3'-0"	4½ x 9/16 x 3'-0"	40	4	3½	2⅜	-	6¼	B	28 x 5/8 x 20	54	570
W33X152	A	11 x ½ x 2'-5"	4½ x ½ x 2'-5"	32	3	3½	2 1/16	-	6¼	B	28 x 9/16 x 20	54	460
W33X141	A	11 x 7/16 x 2'-5"	4½ x 7/16 x 2'-5"	32	3	3½	2 1/16	-	6⅛	B	28 x 9/16 x 20	54	460
W33X130	A	11 x 7/16 x 1'-10"	4½ x 7/16 x 1'-10"	24	2	3½	2 1/16	-	6⅛	A	28 x ½ x 14	36	300
W33X118	A	11 x 3/8 x 1'-10"	4½ x 3/8 x 1'-10"	24	2	3½	2 1/16	-	6⅛	A	28 x 7/16 x 14	36	280
W30X211	B	15 x 9/16 x 5'-½"	6 x 9/16 x 5'-½"	64	7	3½	2 1/16	2	6¼	B	25 x ¾ x 20	48	910
W30X191	A	15 x ½ x 3'-7"	6 x ½ x 3'-7"	48	5	3½	3 1/16	-	8⅛	B	25 x 9/16 x 20	48	670
W30X173	A	14¾ x ½ x 3'-0"	6 x ½ x 3'-0"	40	4	3½	3 1/16	-	8⅛	B	25 x 5/8 x 20	48	570
W30X148	A	10 x 9/16 x 2'-5"	4 x 9/16 x 2'-5"	32	3	3½	2¼	-	6	B	25 x 5/8 x 20	48	460
W30X132	A	10 x ½ x 2'-5"	4 x ½ x 2'-5"	32	3	3½	2 3/16	-	6⅛	B	25 x 9/16 x 20	48	420
W30X124	A	10 x 7/16 x 1'-10"	4 x 7/16 x 1'-10"	24	2	3½	2¼	-	6	B	25 x 9/16 x 20	48	370
W30X116	A	10 x 7/16 x 1'-10"	4 x 7/16 x 1'-10"	24	2	3½	2¼	-	6	A	25 x ½ x 14	32	280
W30X108	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2¼	-	6	A	25 x 7/16 x 14	32	260
W30X99	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2¼	-	6	A	25 x 7/16 x 14	32	260
W30X90	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	6	A	25 x 7/16 x 14	32	260
W27X194	A	14 x 9/16 x 3'-7"	5½ x 9/16 x 3'-7"	48	5	3½	3¼	-	7½	C	22 x 1 1/16 x 26	56	770
W27X178	A	14 x ½ x 3'-7"	5½ x ½ x 3'-7"	48	5	3½	3¼	-	7⅜	B	22 x ½ x 20	42	630
W27X161	A	14 x ½ x 3'-0"	5½ x ½ x 3'-0"	40	4	3½	3¼	-	7½	B	22 x 9/16 x 20	42	540
W27X146	A	13¾ x 7/16 x 3'-0"	5½ x 7/16 x 3'-0"	40	4	3½	3¼	-	7½	B	22 x ⅝ x 20	42	500
W27X129	A	10 x ½ x 2'-5"	4 x ½ x 2'-5"	32	3	3½	2 1/16	-	5⅞	B	22 x 9/16 x 20	42	410
W27X114	A	10 x 7/16 x 1'-10"	4 x 7/16 x 1'-10"	24	2	3½	2 1/16	-	5⅞	B	22 x 9/16 x 20	42	330
W27X102	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	5⅞	A	22 x ½ x 14	28	250
W27X94	A	9¾ x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	5⅞	A	22 x 7/16 x 14	28	240
W27X84	A	9¾ x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	5⅞	A	22 x 7/16 x 14	28	240
W24X162	A	12½ x 9/16 x 3'-0"	5 x 9/16 x 3'-0"	40	4	3½	2 5/16	-	7⅛	C	19 x 1 1/8 x 26	48	620
W24X146	A	12½ x 1/2 x 3'-0"	5 x 1/2 x 3'-0"	40	4	3½	2⅞	-	7⅛	B	19 x ¾ x 20	36	490

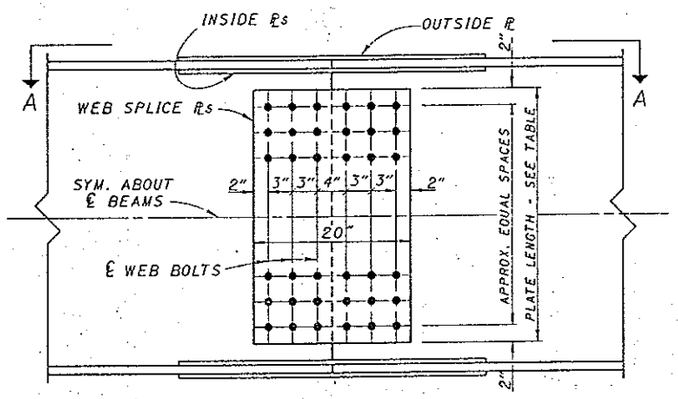


PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)

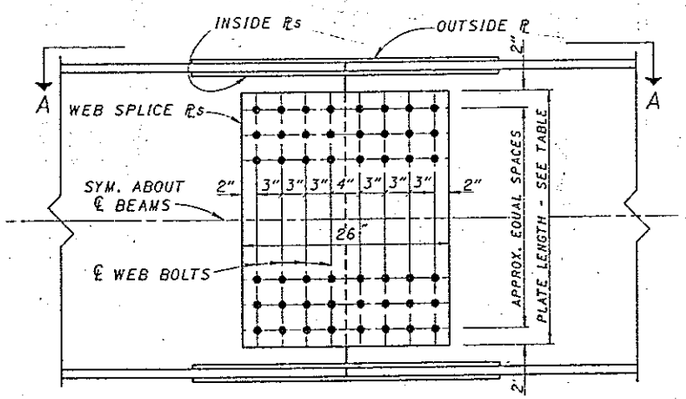
* TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.



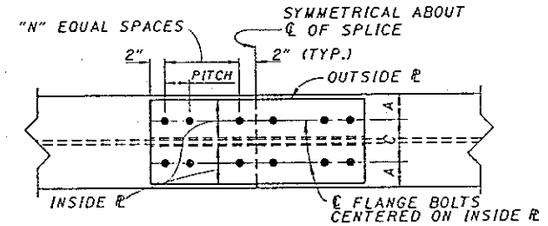
BEAM SPLICE DETAIL
WEB SPLICE - TYPE A



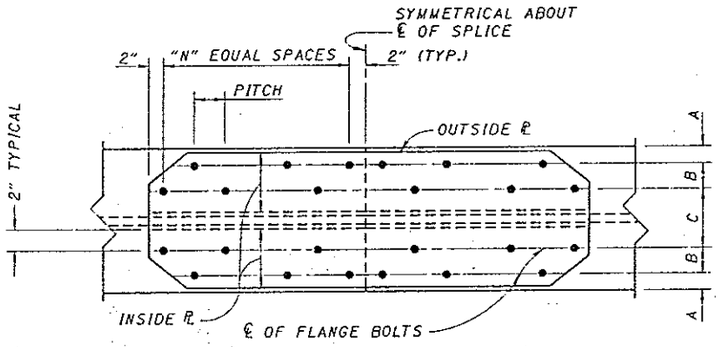
BEAM SPLICE DETAIL
WEB SPLICE - TYPE B



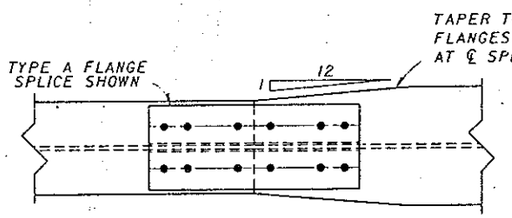
BEAM SPLICE DETAIL
WEB SPLICE - TYPE C



VIEW A-A
FLANGE SPLICE - TYPE A



VIEW A-A
FLANGE SPLICE - TYPE B



VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard A. Engard
ENGINEER OF BRIDGES
12-19-94
DATE

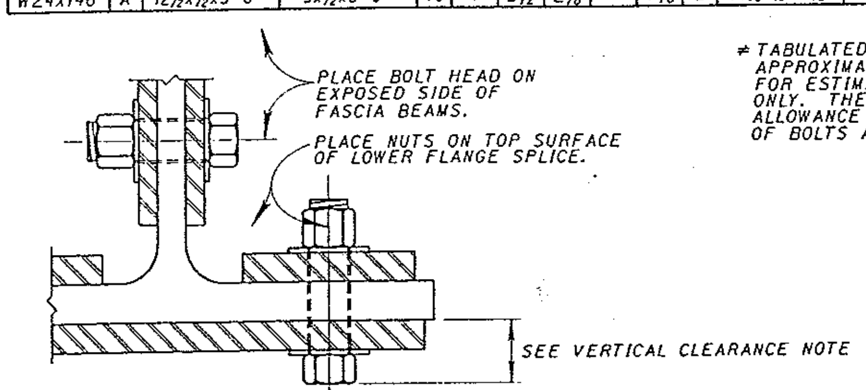
REVISIONS	DESIGNED GEA	DRAWN SAM	CHECKED SAM	REVIEWED	BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 36 KSI STEEL)

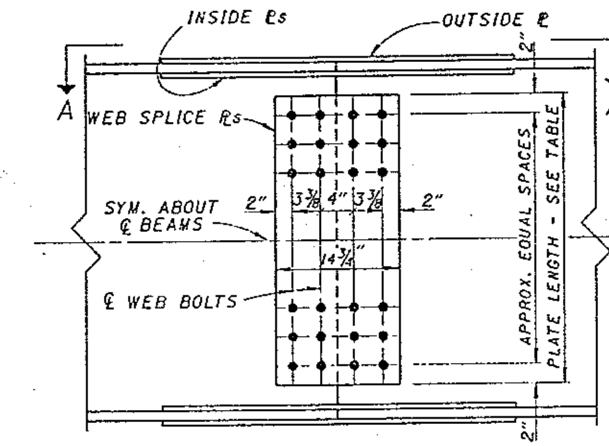
2 / 3

BEAM SPLICE DETAILS													
BEAM	FLANGE PLATES			FLANGE BOLTS						WEB SPLICE			WEIGHT OF SPLICE MAT'RL
	TYPE	OUTSIDE 2 REQ'D	INSIDE 4 REQ'D	NUM.	N SPA.	PITCH	A	B	C	TYPE	WEB PLATES 2 REQ'D	WEB BOLTS No.	lbs. ≠
W40X268	B	17 1/2X5/8X5'-11"	7X5/8X5'-11"	80	9	3 1/2	2 5/16	3	7 1/8	C	33X11/16X28 1/4	72	1390
W40X249	B	15 1/2X5/8X4'-9"	6X5/8X4'-9"	64	7	3 1/2	2 5/16	2	7 1/8	C	33X11/16X28 1/4	72	1130
W40X244	B	17 1/2X9/16X4'-9"	7X9/16X4'-9"	64	7	3 1/2	2 5/16	3	7 1/8	C	33X11/16X28 1/4	72	1150
W40X221	B	17 1/2X1/2X4'-9"	7X1/2X4'-9"	64	7	3 1/2	2 5/16	3	7 1/8	C	33X11/16X28 1/4	72	1080
W40X215	B	15 1/2X9/16X4'-9"	6X9/16X4'-9"	64	7	3 1/2	2 5/16	2	7 1/8	C	33X5/8X28 1/4	72	1040
W40X199	B	15 1/2X1/2X3'-7"	6X1/2X3'-7"	48	5	3 1/2	2 5/16	2	7 1/8	C	33X5/8X28 1/4	72	850
W40X192	B	17 1/2X3/8X3'-7"	7X3/8X3'-7"	48	5	3 1/2	2 5/16	3	7 1/8	C	33X11/16X28 1/4	72	840
W40X183	A	11 1/2X5/8X3'-0"	4X5/8X3'-0"	40	4	3 1/2	2 5/16	-	7 1/8	B	33X9/16X21 1/2	54	620
W40X167	A	11 1/2X1/2X3'-0"	4X1/2X3'-0"	40	4	3 1/2	2 5/16	-	7 1/8	B	33X9/16X21 1/2	54	570
W40X149	A	11 1/2X7/16X2'-5"	4X7/16X2'-5"	32	3	3 1/2	2 3/8	-	7	B	33X9/16X21 1/2	54	500
W36X300	B	16X3/4X6'-3 1/2"	6 1/2X3/4X6'-3 1/2"	80	9	3 3/4	2 5/16	2 1/2	7	C	31X7/8X28 1/4	72	1600
W36X280	B	16X3/4X6'-3 1/2"	6 1/2X3/4X6'-3 1/2"	80	9	3 3/4	2 5/16	2 1/2	7	C	31X13/16X28 1/4	72	1480
W36X260	B	16X5/8X6'-3 1/2"	6 1/2X5/8X6'-3 1/2"	80	9	3 3/4	2 1/4	2 1/2	7	C	31X3/4X28 1/4	72	1380
W36X256	A	12X13/16X4'-2"	4 1/2X13/16X4'-2"	56	6	3 1/2	2 9/16	-	7 1/8	C	31X7/8X28 1/4	72	1090
W36X245	B	16X5/8X5'-1/2"	6 1/2X5/8X5'-1/2"	64	7	3 3/4	2 5/16	2 1/2	6 7/8	C	31X3/4X28 1/4	72	1170
W36X232	A	12X11/16X4'-2"	4 1/2X11/16X4'-2"	56	6	3 1/2	2 9/16	-	7	C	31X13/16X28 1/4	72	1010
W36X230	B	16X5/8X5'-1/2"	6 1/2X5/8X5'-1/2"	64	7	3 3/4	2 5/16	2 1/2	6 7/8	C	31X11/16X28 1/4	72	1100
W36X210	A	12X5/8X3'-7"	4 1/2X5/8X3'-7"	48	5	3 1/2	2 9/16	-	7	C	31X13/16X28 1/4	72	910
W36X194	A	12X5/8X3'-0"	4 1/2X5/8X3'-0"	40	4	3 1/2	2 5/8	-	6 7/8	C	31X3/4X28 1/4	72	780
W36X182	A	12X9/16X3'-0"	4 1/2X9/16X3'-0"	40	4	3 1/2	2 5/8	-	6 7/8	C	31X11/16X28 1/4	72	740
W36X170	A	12X1/2X3'-0"	4 1/2X1/2X3'-0"	40	4	3 1/2	2 9/16	-	6 7/8	B	31X9/16X21 1/2	54	570
W36X160	A	12X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 5/8	-	6 3/4	B	31X9/16X21 1/2	54	510
W36X150	A	11 7/8X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 5/8	-	6 3/4	B	31X9/16X21 1/2	54	510
W36X135	A	11 7/8X7/16X2'-5"	4 1/2X7/16X2'-5"	32	3	3 1/2	2 5/8	-	6 3/4	B	31X1/2X21 1/2	54	460
W33X263	B	15 1/2X11/16X5'-11"	6 1/2X11/16X5'-11"	80	9	3 1/2	2 3/16	2 1/2	6 3/8	C	29 3/8x13/16x28 1/4	64	1350
W33X241	B	15 1/2X5/8X4'-9"	6 1/2X5/8X4'-9"	64	7	3 1/2	2 1/4	2 1/2	6 3/8	C	29 3/8x3/4x28 1/4	64	1100
W33X221	B	15 1/2X9/16X4'-9"	6 1/2X9/16X4'-9"	64	7	3 1/2	2 3/16	2 1/2	6 3/8	C	29 3/8x11/16x28 1/4	64	1010
W33X201	B	15 1/2X1/2X4'-9"	6 1/2X1/2X4'-9"	64	7	3 1/2	2 1/4	2 1/2	6 1/4	C	29 3/8x11/16x28 1/4	64	980
W33X169	A	11X9/16X3'-0"	4 1/2X9/16X3'-0"	40	4	3 1/2	2 3/8	-	6 3/4	B	29 3/8x9/16x21 1/2	48	570
W33X152	A	11X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 7/16	-	6 3/4	B	29 3/8x1/2x21 1/2	48	470
W33X141	A	11X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 7/16	-	6 5/8	B	29 3/8x1/2x21 1/2	48	460
W33X130	A	11X7/16X2'-5"	4 1/2X7/16X2'-5"	32	3	3 1/2	2 7/16	-	6 5/8	B	29 3/8x1/2x21 1/2	48	440
W33X118	A	11X3/8X1'-10"	4 1/2X3/8X1'-10"	24	2	3 1/2	2 7/16	-	6 5/8	B	29 3/8x1/2x21 1/2	48	380
W30X211	B	15X9/16X4'-9"	6X9/16X4'-9"	64	7	3 1/2	2 7/16	2	6 1/4	C	26 1/2x3/4x28 1/4	56	990
W30X191	B	15X1/2X3'-7"	6X1/2X3'-7"	48	5	3 1/2	2 7/16	2	6 1/8	C	26 1/2x11/16x28 1/4	56	780
W30X173	B	14 7/8X1/2X3'-7"	6X1/2X3'-7"	48	5	3 1/2	2 7/16	2	6 1/8	C	26 1/2x5/8x28 1/4	56	730
W30X148	A	10X9/16X2'-5"	4X9/16X2'-5"	32	3	3 1/2	2 1/4	-	6	B	26 1/2x9/16x21 1/2	42	460
W30X132	A	10X1/2X2'-5"	4X1/2X2'-5"	32	3	3 1/2	2 3/16	-	6 1/8	B	26 1/2x1/2x21 1/2	42	420
W30X124	A	10X7/16X2'-5"	4X7/16X2'-5"	32	3	3 1/2	2 1/4	-	6	B	26 1/2x1/2x21 1/2	42	410
W30X116	A	10X7/16X1'-10"	4X7/16X1'-10"	24	2	3 1/2	2 1/4	-	6	B	26 1/2x1/2x21 1/2	42	360
W30X108	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/4	-	6	B	26 1/2x1/2x21 1/2	42	350
W30X99	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/4	-	6	B	26 1/2x7/16x21 1/2	42	330
W30X90	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 3/16	-	6	A	26 1/2x3/8x14 3/4	28	250
W27X194	A	14X9/16X4'-2"	5 1/2X9/16X4'-2"	56	6	3 1/2	3 1/4	-	7 1/2	C	24x3/4x28 1/4	48	850
W27X178	A	14X9/16X3'-7"	5 1/2X9/16X3'-7"	48	5	3 1/2	3 1/4	-	7 5/8	C	24x11/16x28 1/4	48	730
W27X161	A	14X1/2X3'-0"	5 1/2X1/2X3'-0"	40	4	3 1/2	3 1/4	-	7 1/2	C	24x5/8x28 1/4	48	630
W27X146	A	13 7/8X7/16X3'-0"	5 1/2X7/16X3'-0"	40	4	3 1/2	3 1/4	-	7 1/2	B	24x1/2x21 1/2	36	490
W27X129	A	10X1/2X2'-5"	4X1/2X2'-5"	32	3	3 1/2	2 1/16	-	5 7/8	B	24x1/2x21 1/2	36	400
W27X114	A	10X1/2X1'-10"	4X1/2X1'-10"	24	2	3 1/2	2 1/8	-	5 7/8	B	24x1/2x21 1/2	36	340
W27X102	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/16	-	5 7/8	B	24x7/16x21 1/2	36	310
W27X94	A	9 7/8X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/16	-	5 7/8	B	24x7/16x21 1/2	36	300
W27X84	A	9 7/8X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/16	-	5 7/8	A	24x3/8x14 3/4	24	230
W24X162	A	12 1/2X9/16X3'-7"	5X9/16X3'-7"	48	5	3 1/2	2 13/16	-	7 1/8	C	20 7/8x3/4x28 1/4	48	690
W24X146	A	12 1/2X1/2X3'-0"	5X1/2X3'-0"	40	4	3 1/2	2 7/8	-	7 1/8	B	20 7/8x5/8x21 1/2	36	510

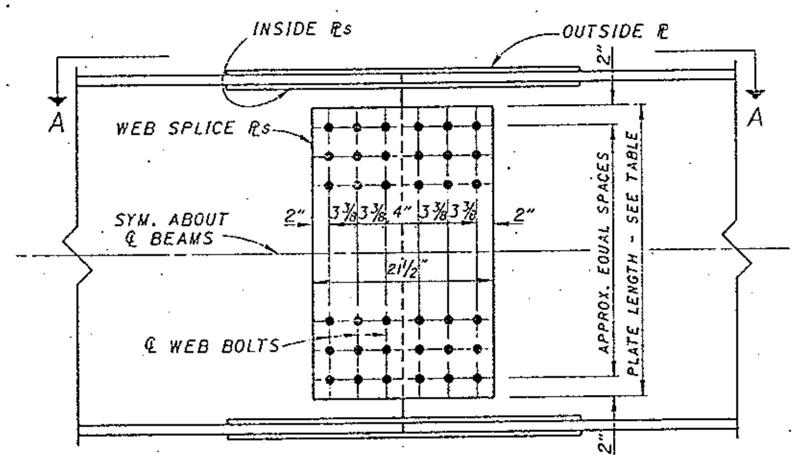
≠ TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.



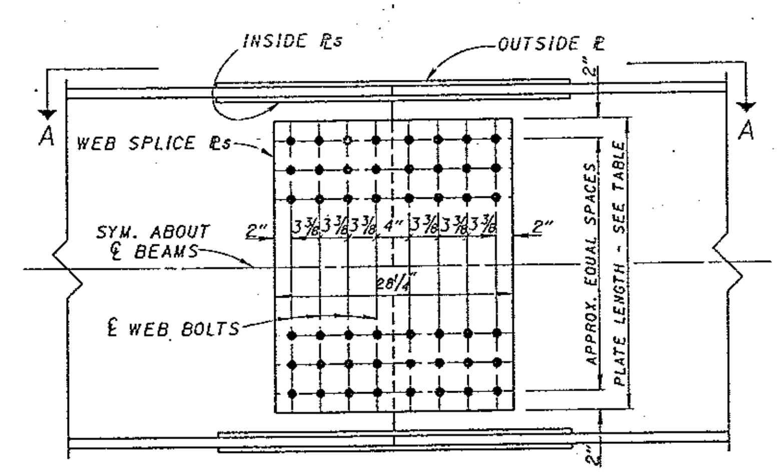
PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)



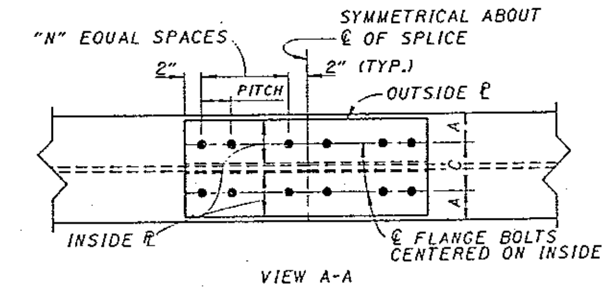
BEAM SPLICE DETAIL
WEB SPLICE - TYPE A



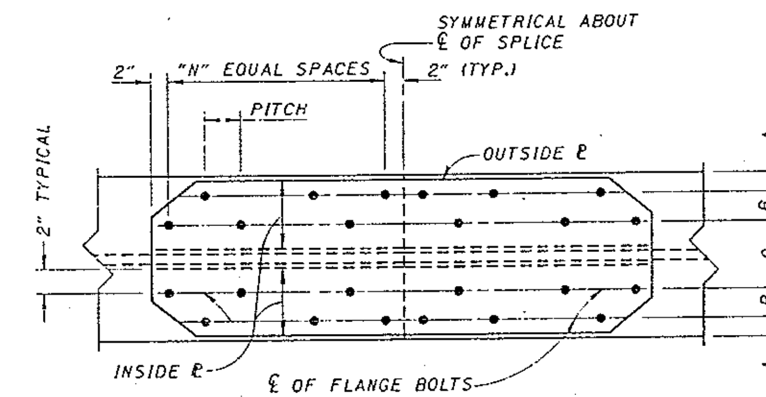
BEAM SPLICE DETAIL
WEB SPLICE - TYPE B



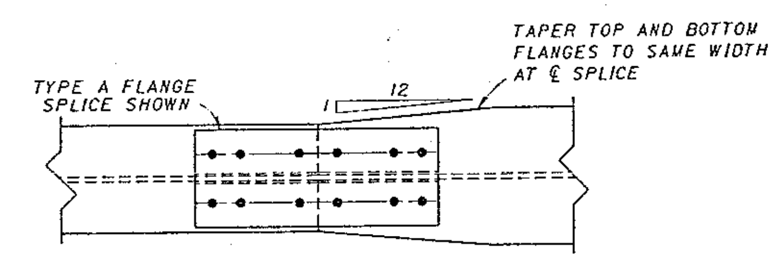
BEAM SPLICE DETAIL
WEB SPLICE - TYPE C



VIEW A-A
FLANGE SPLICE - TYPE A



VIEW A-A
FLANGE SPLICE - TYPE B



VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1 1/8" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ENGINEER OF BRIDGES
12-19-94
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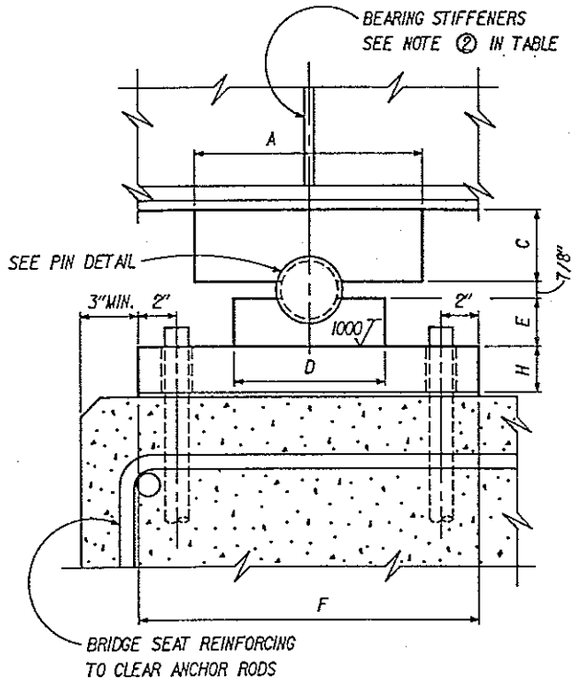
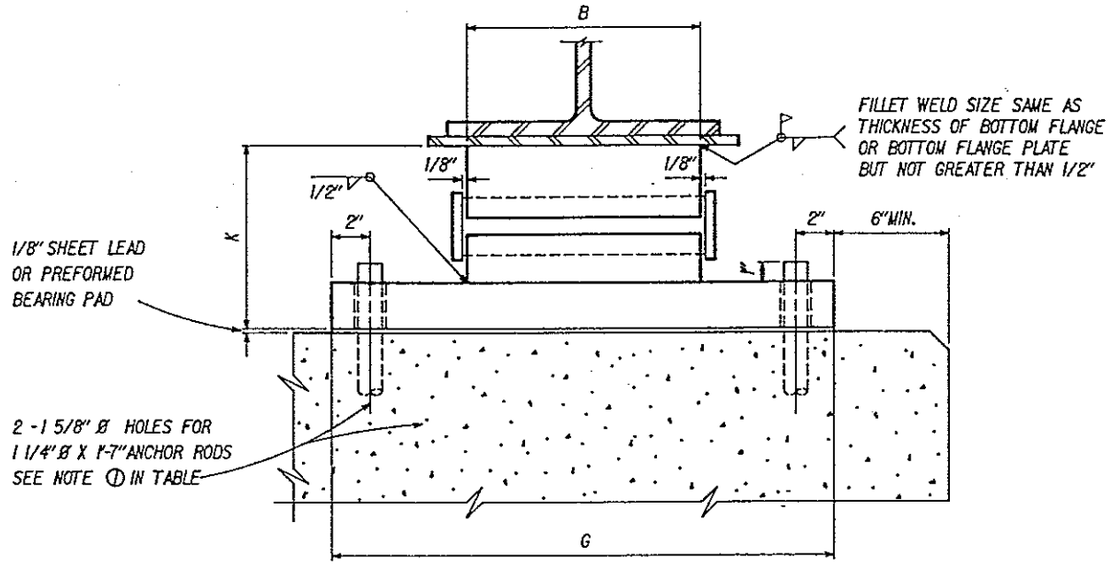
REVIEWED
BS-1-93
DESIGNED GEA
CHECKED SAM
DRAWN SAM
REVISIONS

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 50 KSI STEEL)

3/3





ELEVATIONS OF FIXED BEARING

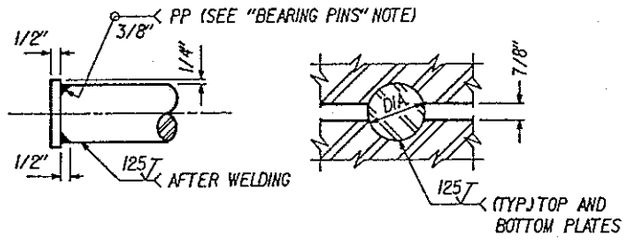
SEE TABLE FOR ADDITIONAL DIMENSIONS

	FIXED BEARING NO.	FIXED BEARINGS DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	K	DIA.	WEIGHT EA. (LBS.)	MAXIMUM LOAD (LBS.)
①	F - 50	6	6	1 1/2	3	1 1/4	8	16	1 1/2	5 1/8	2	100	50,000
①	F - 100	7	9	1 3/4	4	1 1/2	9	18	1 1/2	5 5/8	2	143	100,000
	F - 150	9	9	2 1/2	5	1 1/2	11	20	2	6 7/8	2 1/2	244	150,000
	F - 200	10	10	3	6	2	11	22	2	7 7/8	2 1/2	300	200,000
	F - 250	11	10	3 1/2	7	2	12	24	2 1/2	8 7/8	3	400	250,000
	F - 300	12	11	3 3/4	8	2 1/2	14	25	2 1/2	9 5/8	3	502	300,000
②	F - 350	12	11	3 3/4	8	2 1/2	16	25	2 1/2	9 5/8	3	540	350,000
②	F - 400	12	12	3 3/4	8	2 1/2	18	26	2 1/2	9 5/8	3	610	400,000

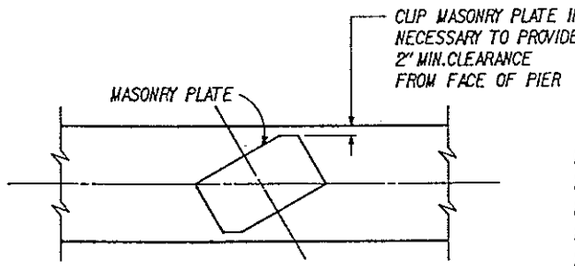
① ONLY 2 ANCHOR RODS REQUIRED, PLACED IN DIAGONALLY OPPOSITE CORNERS OF THE MASONRY PLATE.

② BEARING STIFFENERS ARE REQUIRED ON BOTH SIDES OF THE BEAM OR GIRDER WEB ABOVE.

WEIGHTS GIVEN ARE FOR ONE COMPLETE BEARING, INCLUDING SHEET LEAD AND ANCHOR RODS.



BEARING PIN DETAIL



PLAN VIEW OF TOP OF PIER

SHOWING MASONRY PLATE FOR BRIDGE ON SKEW

MASONRY PLATE DIMENSIONS SHOWN IN TABLE MAY BE USED PROVIDED CLIPPED CORNERS DO NOT REDUCE THE BEARING AREA OF THE PLATE BY MORE THAN 5%. BEARINGS WITH CLIPPED MASONRY PLATES SHALL BE IDENTIFIED ON THE PLANS WITH THE WORD "MODIFIED". THUS : "F - 300 MODIFIED"

NOTES

DESIGN SPECIFICATIONS : THIS STANDARD DRAWING CONFORMS TO THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980 AND 1981 INTERIMS TO THE ABOVE AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS, EXCEPT THAT THE MASONRY PLATES FOR THE BEARINGS ARE DESIGNED ON THE BASIS OF AN ALLOWABLE BENDING STRESS OF 30,000 P.S.I. ASSUMING UNIFORM DISTRIBUTION OF BEARING ON THE CONCRETE.

STEEL PLATES : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PLATES SHALL BE THE SAME MATERIAL AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL, UNPAINTED, THE PLATE ELEMENT ABOVE THE BEARING PIN SHALL ALSO BE A588 STEEL. THE PLATE ELEMENTS BELOW THE BEARING PIN MAY BE EITHER A36, GALVANIZED BEFORE WELDING, OR A588 UNPAINTED, BUT BOTH PLATES SHALL BE OF THE SAME MATERIAL.

BEARING PINS : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PINS SHALL BE MADE FROM STOCK MEETING THE REQUIREMENTS OF 711.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS AS THOSE FOR PAINTING THE SUPERSTRUCTURE MEMBERS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL AND THE BOTTOM PLATES ARE A36, GALVANIZED, THE PINS SHALL BE AS ABOVE, GALVANIZED INSTEAD OF PAINTED. IF THE BOTTOM PLATES ARE A588 THE PINS SHALL ALSO BE A588. BEARING PINS MAY BE FABRICATED FROM ONE PIECE OF STOCK OR FROM ROD STOCK AND PLATES, WELDED AS SHOWN ON THESE DETAILS.

SURFACE FINISH : SURFACE FINISHES SHOWN ON THESE DETAILS SHALL BE MINIMUM BEFORE GALVANIZING. A 500 FINISH OR SMOOTHER SHALL BE USED WHERE NOT OTHERWISE NOTED.

ROADWAY GRADE : IF THE ROADWAY GRADE EXCEEDS 2% THE UPPER LOAD PLATE OF THE BEARING SHALL BE BEVELED TO MATCH THE GRADE. DIMENSION C SHALL BE MAINTAINED AT THE CENTER OF THE PLATE.

LATERAL EXPANSION : ALL BEARINGS MUST BE ACCURATELY PLACED SO THAT PROPER CLEARANCE WILL BE PROVIDED AT ALL BEARINGS FOR LATERAL EXPANSION OF THE SUPERSTRUCTURE. IF THE SUPERSTRUCTURE EXCEEDS 60' IN WIDTH THE 1/8" CLEARANCE SHOWN AT EACH END OF THE BEARING PIN SHALL BE INCREASED. A CLEARANCE OF 1/4" AT EACH END WILL BE ADEQUATE FOR A SUPERSTRUCTURE WIDTH UP TO 120'.

BEARING ANCHOR RODS : AT THE OPTION OF THE CONTRACTOR, THE BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

BRIDGE SEAT REINFORCING : PROJECT PLAN SHALL INCLUDE A PLAN VIEW OF THE SEAT AREA FOR THE FIXED BEARING SHOWING THE OUTLINE OF THE MASONRY PLATE, THE ANCHOR RODS AND THE MAIN REINFORCING BARS IN THE TOP OF THE BRIDGE SEAT. ADEQUATE DIMENSIONS SHALL BE PROVIDED TO ENSURE THAT THERE WILL BE NO INTERFERENCE BETWEEN THE ANCHOR RODS AND THE RE-BARS, AND THAT THE SEAT AREA WILL ACCOMODATE THE BEARING.

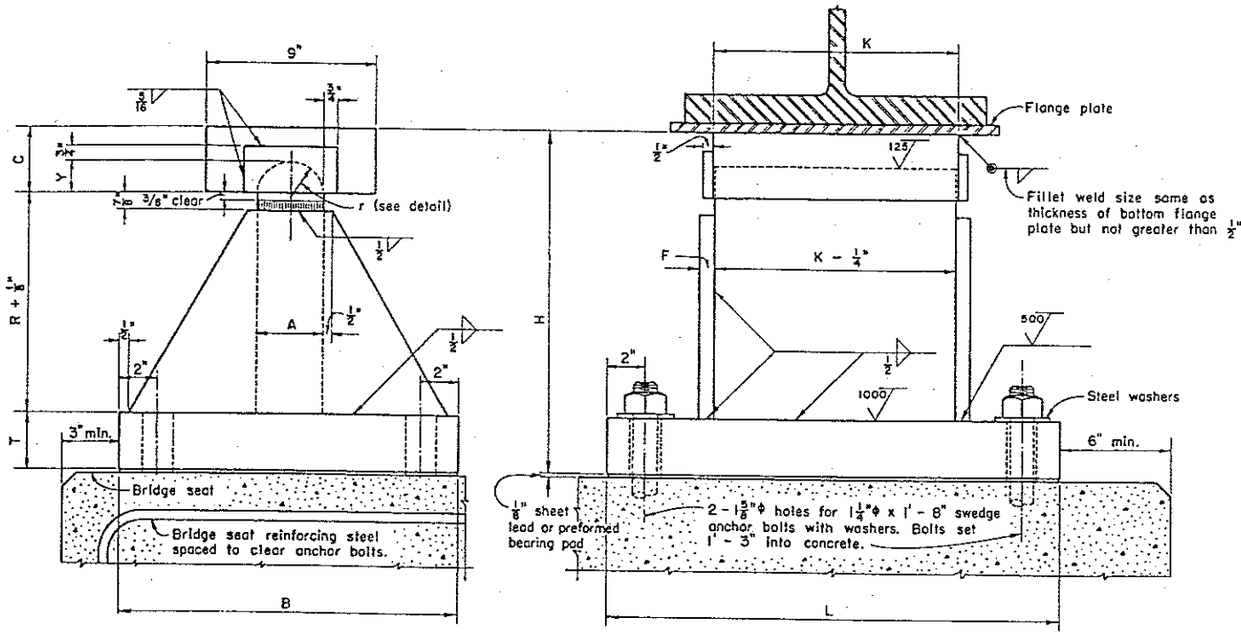
REVISIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD

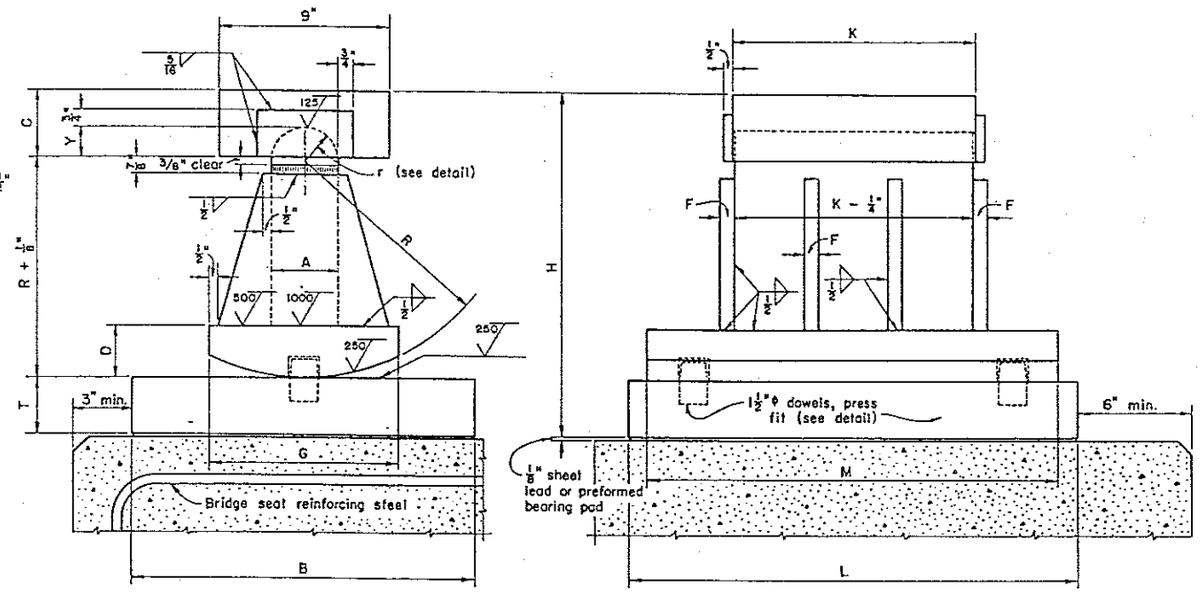
FIXED BEARINGS
FOR STEEL BEAM AND GIRDER BRIDGES

APPROVED : DATE : 5-10-82			ENGINEER OF BRIDGES	DRAWING NO. FB-1-82
PREPARED	TRACED	CHECKED	REVIEWED	
DWI BFG	REF	FFE	WJJ	



STRUCTURAL STEEL BOLSTER

See table below for additional dimensions.

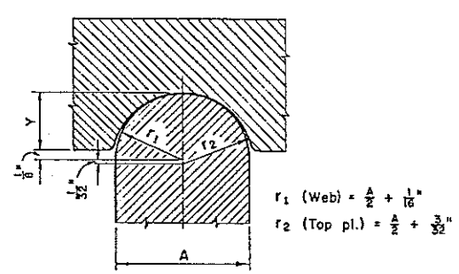


STRUCTURAL STEEL ROCKER

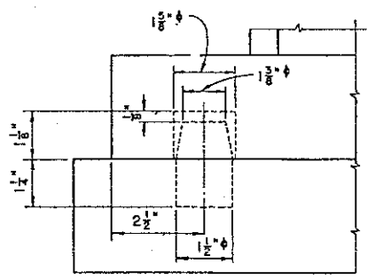
See table below for additional dimensions.

Bolster No.	Rocker No.	Dimensions (inches)													Weight each (lb.)		Maximum Load (lb.)
		A	B	C	D	F	G	H	K	L	M	R	T	Y	Bolster	Rocker	
	R-75	2½	8	2½	1¾	½	7	9 5/8	9	18	16	5½	1½	1 3/16		205	75,000
B-100	R-100	2½	10	2½	2	½	7½	10 5/8	9	19	17	6½	1½	1 5/16	225	250	100,000
B-125	R-125	3	11	3	2	½	8	12 1/8	10½	20	18	7½	1½	1 7/16	295	315	125,000
B-150	R-150	3	12	3	2¼	½	8½	13 3/8	11½	22	19	8½	1¾	1 7/16	360	400	150,000
B-175	R-175	3	14	3½	2½	½	9	15 1/8	12	23	20	9½	2	1 7/16	455	505	175,000
B-200	R-200	3	16	3½	2¾	5/8	9	16 3/8	12	24	21	10½	2¼	1 7/16	540	605	200,000
B-225	R-225	3	17	3½	2¾	5/8	9	16 7/8	13	25	22	11	2¼	1 7/16	590	665	225,000
B-250	R-250	3½	18	3½	2¾	¾	10	17 5/8	13	26	23	11½	2½	1 11/16	695	775	250,000
B-275	R-275	3½	19	3½	3¼	¾	12	18 3/8	14	27	24	12	2¾	1 11/16	800	945	275,000
B-300	R-300	3½	20	3½	3¼	¾	12	19 1/8	14	28	25	12½	3	1 11/16	895	1050	300,000

Weights given are for one rocker or bolster complete (including sheet lead, anchor bolts and washers).



TOP BEARING DETAIL



DOWEL DETAIL

DESIGN SPECIFICATIONS: This standard drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated October 1, 1951, together with revisions thereof dated July 15, 1952, April 1, 1954 and February 1, 1955.

LIMITATION: This rocker and bolster design shall not be used where the anticipated movement is in excess of 2 inches.

REVISIONS
2-2-59

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD

ROCKERS AND BOLSTERS

FOR STEEL BEAM AND GIRDER BRIDGES

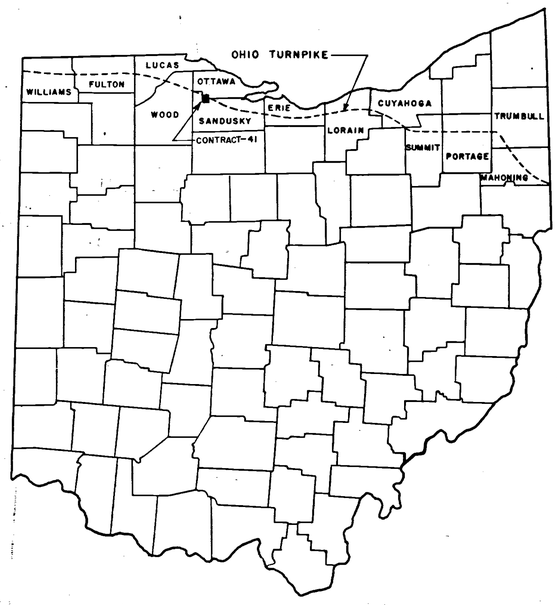
REACTIONS 75,000 lb. TO 300,000 lb.

APPROVED: Richard Dietz ENGINEER OF BRIDGES
DATE: 3-1-55

DRAWING NUMBER
RB-1-55

PREPARED	TRACED	CHECKED	REVIEWED
MPB CFS JCN WHR	JVP	CEN BPH	CSD BFG CHA AJP DHO

CONTRACT NO. C-41
COUNTY - OTTAWA AND SANDUSKY
DATE: MAY 1953



OHIO TURNPIKE COMMISSION

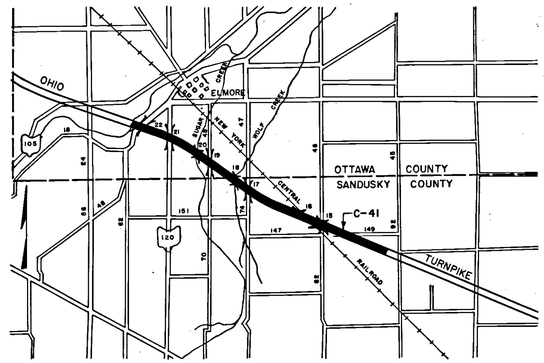
OHIO TURNPIKE PROJECT NO. 1

DESIGN SECTION D-14

CONTRACT NO. C-41

TURNPIKE CONSTRUCTION CONTRACT

STATION 336+35 OTTAWA COUNTY TO STATION 132+00 SANDUSKY COUNTY



LOCATION PLAN
(FROM OTTAWA & SANDUSKY COUNTY MAPS)

0 ½ 1 2 3 4
SCALE IN MILES

APPROVAL RECOMMENDED
PORTER URQUHART ASSOCIATED
CONTRACTING ENGINEER
JUNE 13, 1953

APPROVED
J. E. GREINER CO.
CONSULTING ENGINEER
10-20-53.

APPROVED
OHIO TURNPIKE COMMISSION
CHIEF ENGINEER
10-22-53

© B. K. Elliott Co., Cleveland, Ohio

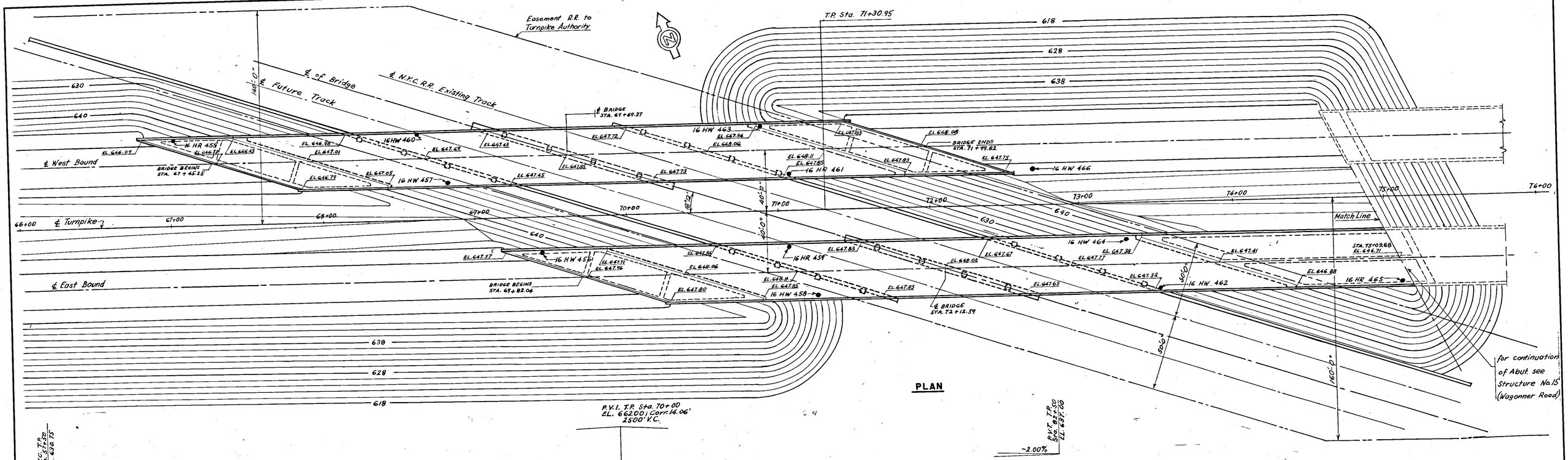


TABLE OF ELEVATIONS
WEST BOUND BRIDGE

Stringer	S1				S5			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	646.49	647.05	647.88	647.87	647.05	647.47	647.74	647.89
Elev. Top of Bearing Pad	642.34	641.08	641.92	643.71	641.08	641.52	641.79	641.92
Stringer	S2				S6			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	646.85	647.34	648.00	648.08	647.34	647.73	647.82	648.00
Elev. Top of Bearing Pad	642.70	641.39	642.05	643.88	641.39	641.78	641.87	642.05
Stringer	S3				S7			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	647.03	647.49	647.96	648.03	647.49	647.82	647.73	647.96
Elev. Top of Bearing Pad	642.88	641.53	642.01	643.88	641.53	641.87	641.78	642.01
Stringer	S4				S8			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	647.05	647.45	647.75	647.87	647.45	647.74	647.47	647.75
Elev. Top of Bearing Pad	642.89	641.50	641.80	643.72	641.50	641.79	641.52	641.80

EAST BOUND BRIDGE

Stringer	S1				S5			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	647.75	647.87	647.37	646.93	646.87	647.86	647.69	647.37
Elev. Top of Bearing Pad	643.60	641.92	641.42	642.78	641.92	641.90	641.74	641.42
Stringer	S2				S6			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	647.97	648.04	647.64	647.25	648.04	647.97	647.91	647.64
Elev. Top of Bearing Pad	643.81	642.08	641.69	643.10	642.08	642.02	641.96	641.69
Stringer	S3				S7			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	648.00	648.03	647.74	647.40	648.03	647.91	647.97	647.74
Elev. Top of Bearing Pad	643.85	642.08	641.79	643.24	642.08	641.96	642.02	641.79
Stringer	S4				S8			
Location	West Stringer		East Stringer		West Stringer		East Stringer	
End of Stringer	West End	East End	West End	East End	West End	East End	West End	East End
Elev. Top of Pavement at ℄ Bearing	647.88	647.86	647.68	647.38	647.86	647.69	647.86	647.68
Elev. Top of Bearing Pad	643.72	641.91	641.73	643.23	641.90	641.74	641.90	641.73

QUANTITIES
NOTE: Quantities include both bridges

Item No.	Item	Remarks	Unit	Est. Quant.	Final Quant.
E-2	Excavation for Structures	Dry	Cu.Yd.	4,170	2,747
1-15	Guard Rail, Type A		Lin.Ft.	2,100	1,969.8
S-1	Concrete for Structures	Class C	Cu.Yd.	4,100	3,971.1
S-1	Concrete for Structures	Class E	Cu.Yd.	1,435	1,423.3
S-3	Premolded Sealing Strip		Lin.Ft.	400	172.3
S-4	Reinforcing Steel		Lb.	942,000	703,028
S-7	Structural Steel		Lb.	1,425,000	1,388,213
S-9	Structural Expansion and Contraction Joints	Type A	Lb.	40,450	40,777
S-14	Rolling		Lin.Ft.	2,113	1,962.1
S-16	Final Test Pile		Ea.	1	1
S-17	Pile Test Load		Ea.	2	1
S-18	Furnishing Bearing Piles, Steel	10 BP 42	Lin.Ft.	6088	7,408
		12 BP 53	Lin.Ft.	8064	8,825
S-18	Driving Bearing Piles, Steel	10 BP 42	Lin.Ft.	6452	14,333.3
		12 BP 53	Lin.Ft.	8240	
S-19	Splices for Bearing Piles		Ea.	293	50
S-29	Drainage of Structures	6" W.I. Pipe	Lin.Ft.	660	1687.7
S-29	Drainage of Structures	6" Pipe	Lin.Ft.	460	216
S-29	Drainage of Structures	8" Perf. Pipe	Lin.Ft.	1920	1919.6
S-29	Drainage of Structures	8" Pipe	Lin.Ft.	230	274
S-29	Drainage of Structures	10" Pipe	Lin.Ft.	360	303
S-29	Drainage of Structures	12" Pipe	Lin.Ft.	260	296
S-29	Drainage of Structures	15" Pipe	Lin.Ft.	176	168
S-29	Scuppers	Type A	Ea.	12	13
S-29	Porous Backfill		Cu.Yd.	1200	1208
S-3	Waterproofing	Type A	Sq.Yd.	1000	1139.2
S-29	Drainage of Structures 18" RCP		Lin.Ft.	80	36

GENERAL NOTES

Specifications
Design specifications for Highway Structures, State of Ohio, Oct. 1, 1957 Revised July 15, 1952 General Specifications C.F. 2,000

Concrete Pier Footings - Class "E"; all other conc. - class "C". All exposed edges to be chamfered 1", unless otherwise shown.

Reinforcement
Intermediate, Hard, or Rail Steel, deformed bars.

Structural Steel
All Structural Steel to be Carbon Steel Rivets 7/8 ϕ; Holes 15/16 ϕ.

Foundations
Any changes in required foundation elevations shall be determined by the Engineer.

Forming - For exposed portions of abutments & piers shall be T & G placed vertically with staggered end joints. Forms for parapets shall be lined for a smooth finish. No construction joints other than shown on the plans.

Finishing
Machine finish for deck slab and abutment slab.

Welding - Class A

For Log of Borings see Sheet #54

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened See CIP: 43-85-05		1986
1	As Built Plans	D.L.M.	1-13-56

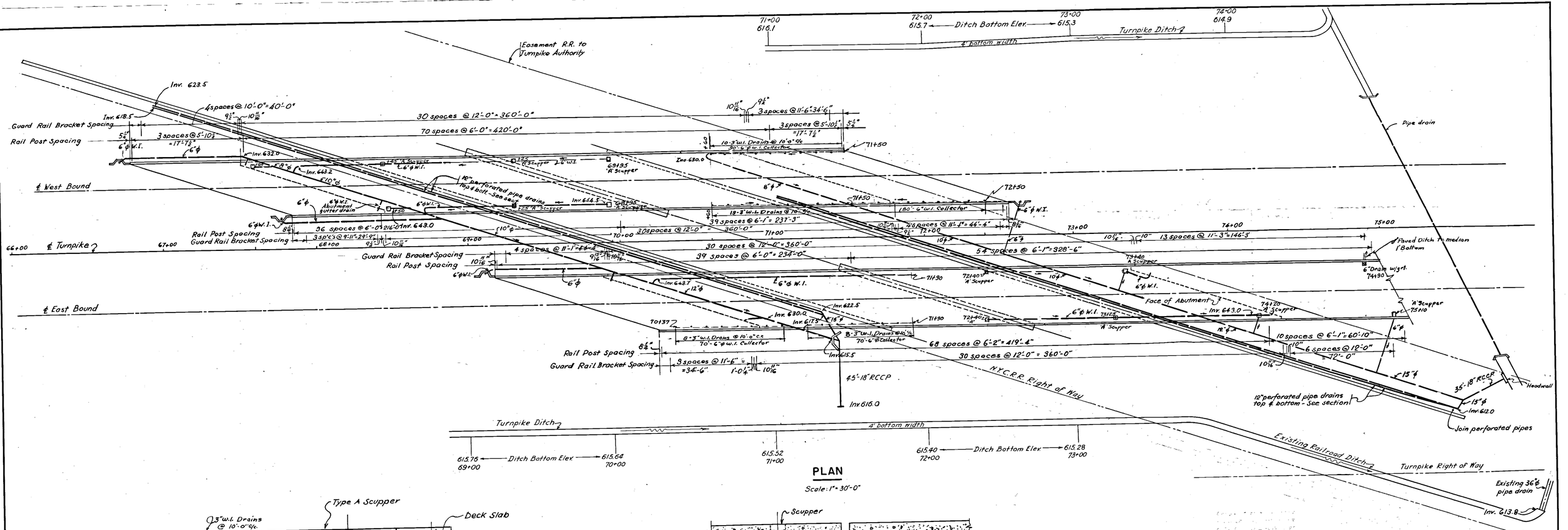
OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
GENERAL PLAN

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

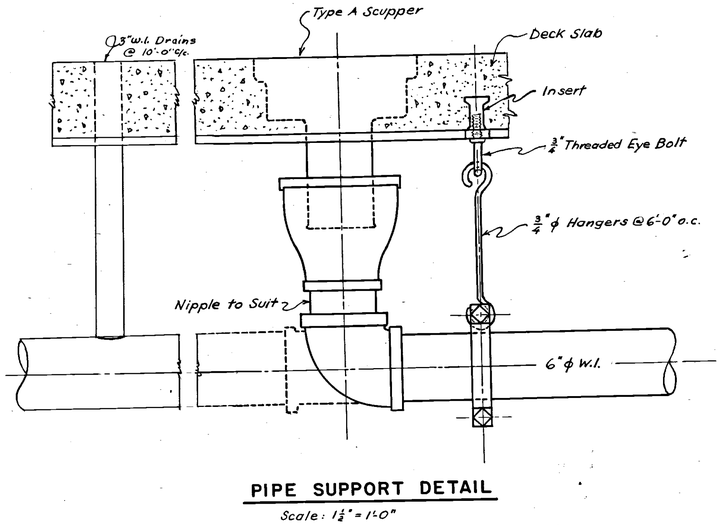
DESIGNED: Vasko | CHECKED: Vasko | DATE: 4-15-53
DRAWN: Lewis | IN CHARGE: Morel | SCALE: 1"=30'-0"

CONTRACT NO. C-41 SHEET 24 OF 57



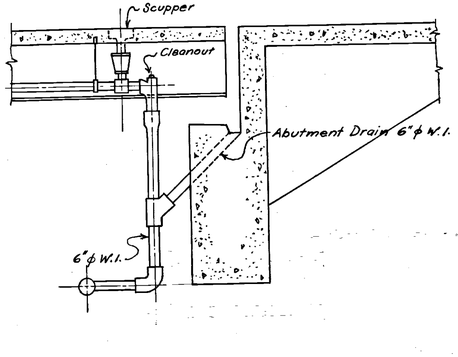
PLAN

Scale: 1" = 30'-0"



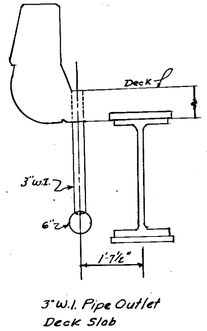
PIPE SUPPORT DETAIL

Scale: 1½" = 1'-0"

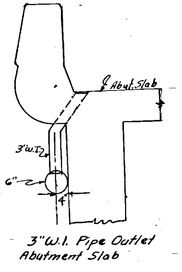


DIAGRAMMATIC SECTION OF PIPING OF ABUTMENT

Scale: ¼" = 1'-0"



3"w.i. Pipe Outlet Deck Slab



3"w.i. Pipe Outlet Abutment Slab

NO.	REVISION	BY	DATE
2	DECK REPLACED & WIDENED SEE CIP: 43-85-05		1986
1	As Built Plans	D.L.M.	1-13-56

OHIO TURNPIKE PROJECT NO. 1

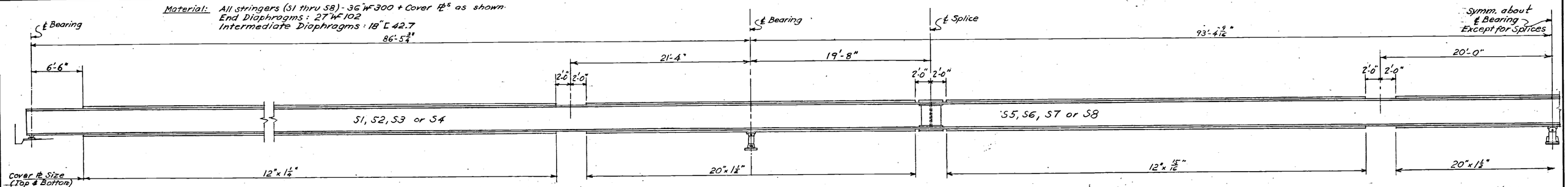
STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
RAILING & DRAINAGE PLAN

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: C.M.	CHECKED: A. Morel	DATE: June 8, 1953
DRAWN: J. Vasko	IN CHARGE A. Morel	SCALE: As shown

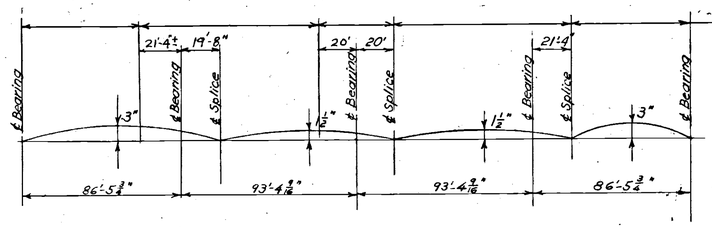
CONTRACT NO. C-41 SHEET 25 OF 57

Material: All stringers (S1 thru S8) - 36"WF300 + Cover ℄s as shown
End Diaphragms : 27"WF102
Intermediate Diaphragms : 18"C 42.7

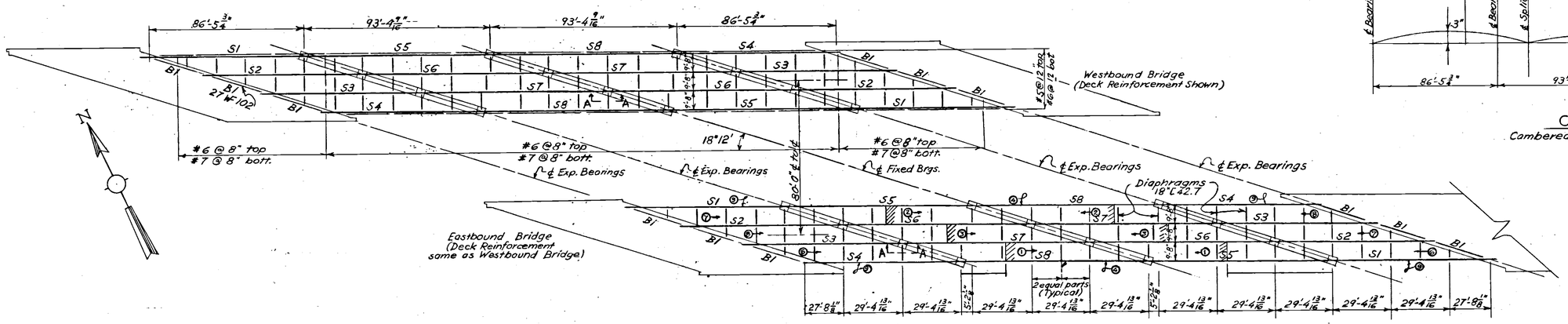


Note: For location of splices see Camber Diagram.
Weld Cover ℄s to 36"WF 300 with 5/16" continuous fillet welds all around ℄
For bearing details see

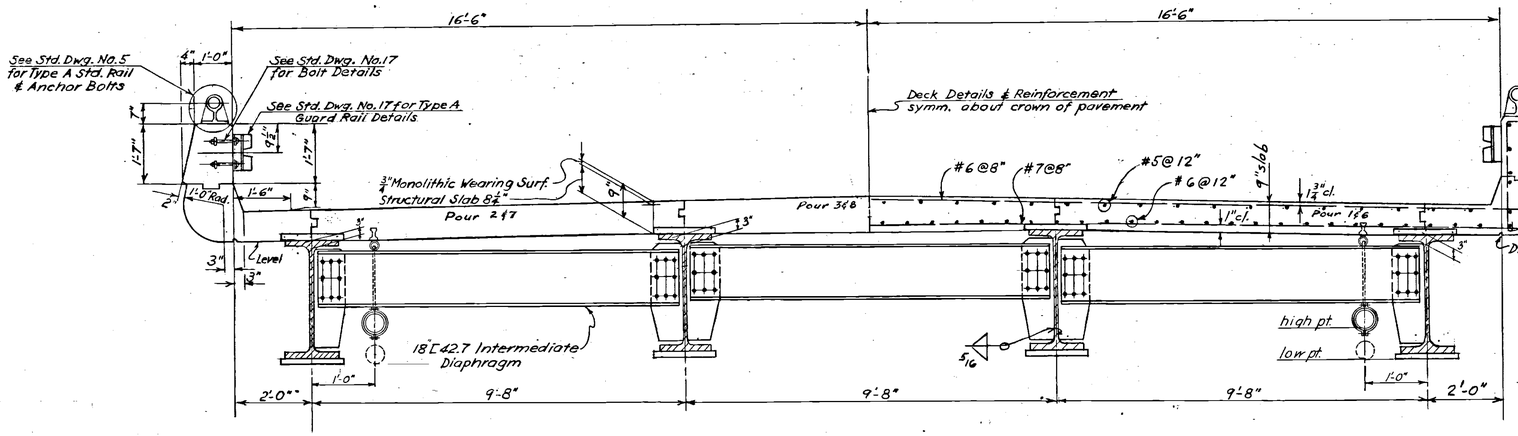
ELEVATION OF HALF STRINGER
Scale: 3/16" = 1'-0"



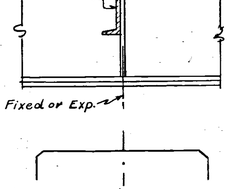
CAMBER DIAGRAM
Cambered for Dead Load & Vert. Curve only.
Not to scale.



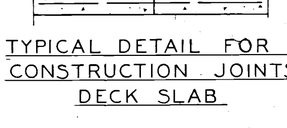
FRAMING PLAN
Scale: 1" = 30'-0"



TYPICAL CROSS - SECTION
Scale: 1/2" = 1'-0"



SECTION A - A
Scale: 3/4" = 1'-0"



TYPICAL DETAIL FOR ALL CONSTRUCTION JOINTS IN DECK SLAB

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened See C.I.P. 43-85-05		1986
1	As Built Plans	D.L.M.	1-12-62

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
FRAMING PLAN

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: PINAR	CHECKED: MOREL	DATE: May 15, 1958
DRAWN: VASKO	IN CHARGE MOREL	SCALE: As Shown

CONTRACT NO. C-41 SHEET 26 OF 57

Note: For Parapet Dimensions, Anchor Bolt, Railing & Guard Rail. Details - See Framing Plan.

SECTION G-G
SCALE 1/8"=1'-0"

SECTION C-C
SCALE 1/2"=1'-0"

SECTION B-B
SCALE 1/2"=1'-0"

SECTION F-F
SCALE 1/2"=1'-0"

DETAIL C
SCALE 1 1/2"=1'-0"

PLAN
SCALE 1/8"=1'-0"

Note: For details of Parapet and corner see detail A.
For Drainage Details See Std Dwg No. 15.
For Pad & Gutter Details See West Abut., West Bound Bridge.

Note: For corner and parapet details see detail B

SIDE ELEVATION F-F
SCALE 1/4"=1'-0"

FRONT ELEVATION
SCALE 1/8"=1'-0"

SECTION D-D
SCALE 1/4"=1'-0"

JOINT DETAIL D
SCALE 1/4"=1'-0"

All Piles - 10" BP 42
Max. Pile Load 40T; Est. Length of Piles 34'

SECTION A-A
SCALE 1/4"=1'-0"

DETAIL A

DETAIL B

SECTION H-H
SCALE 1/4"=1'-0"

SECTION E-E
SCALE 1/4"=1'-0"

SECTION E-E
SCALE 1/4"=1'-0"

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened See CHP: 43-85-05		1980
1	As Built Plans	D.L.M.	1-13-56

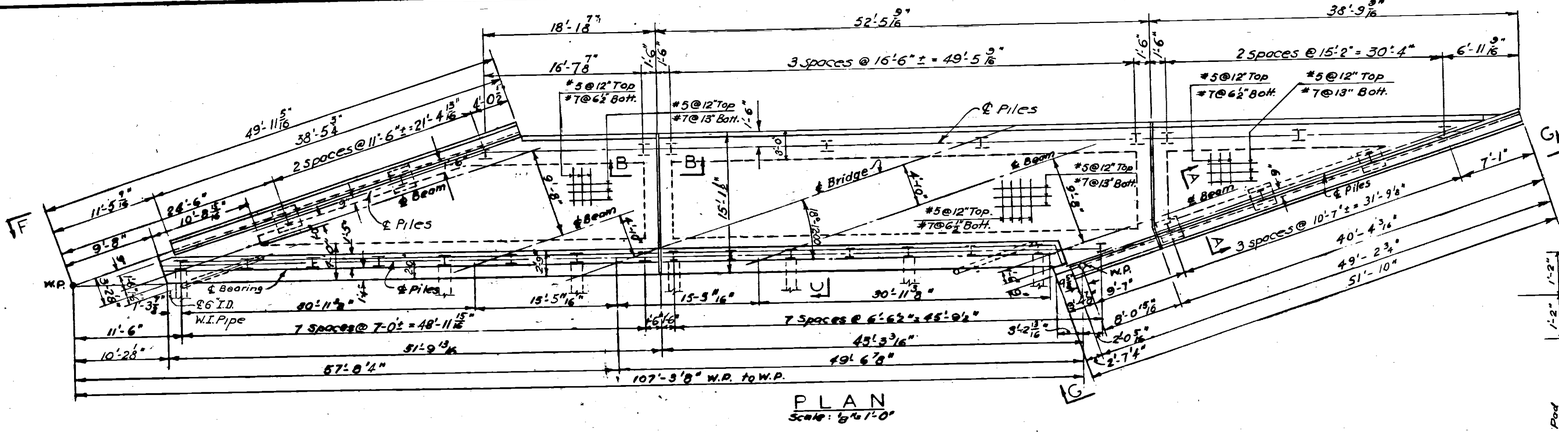
OHIO TURNPIKE PROJECT NO. 1

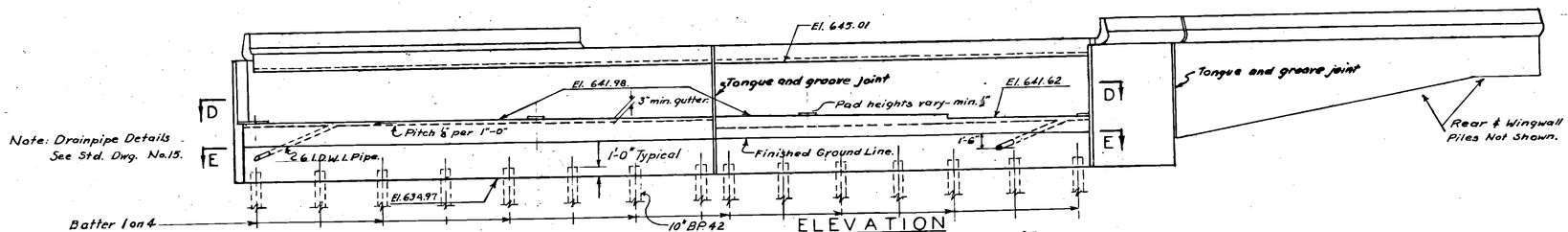
STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
EAST ABUTMENT EAST BOUND BRIDGE

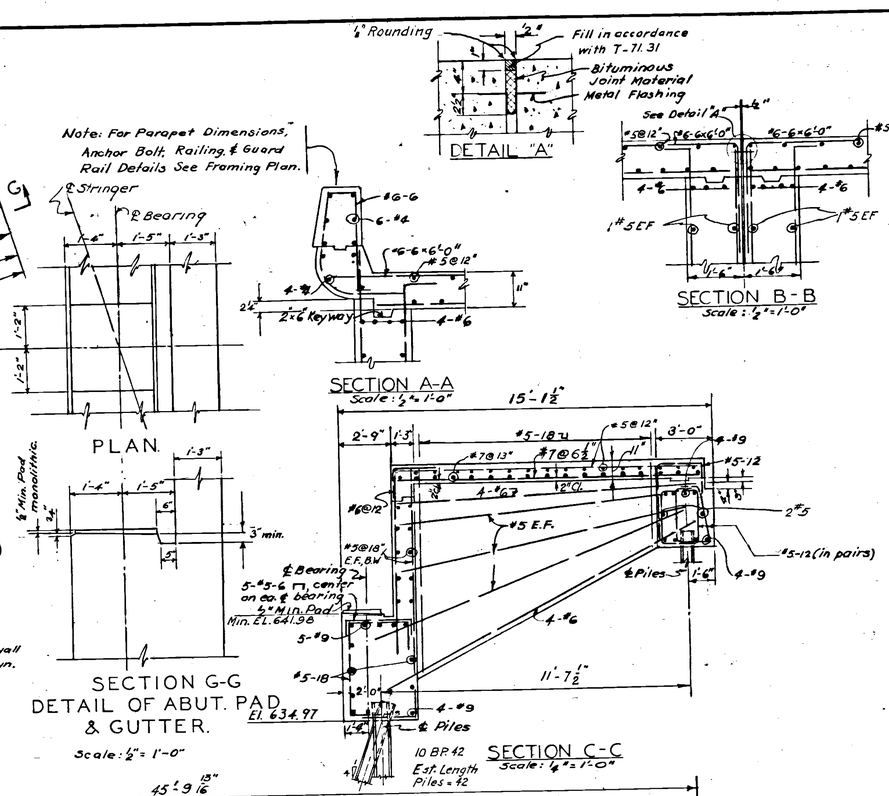
PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

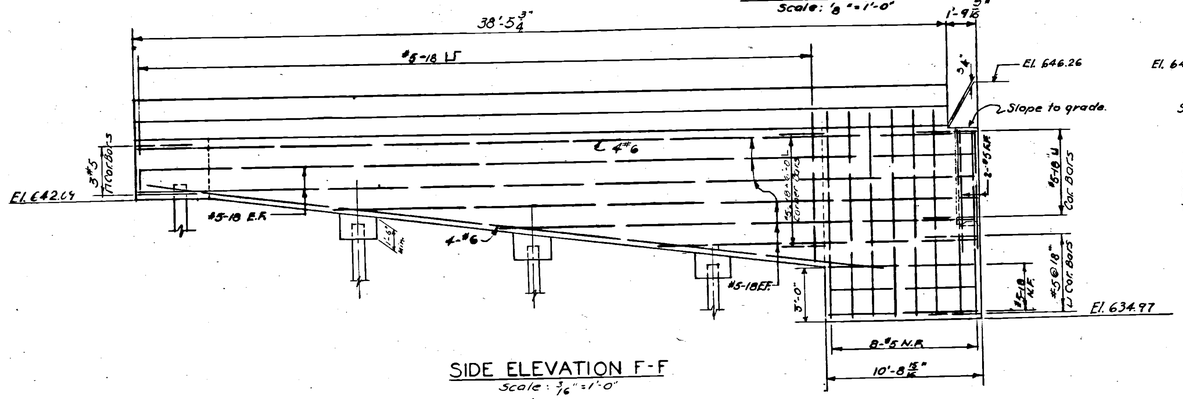
DESIGNED: Valls
DRAWN: V.M.
CHECKED:
IN CHARGE: Morel
DATE: 4-15-1953
SCALE: As noted

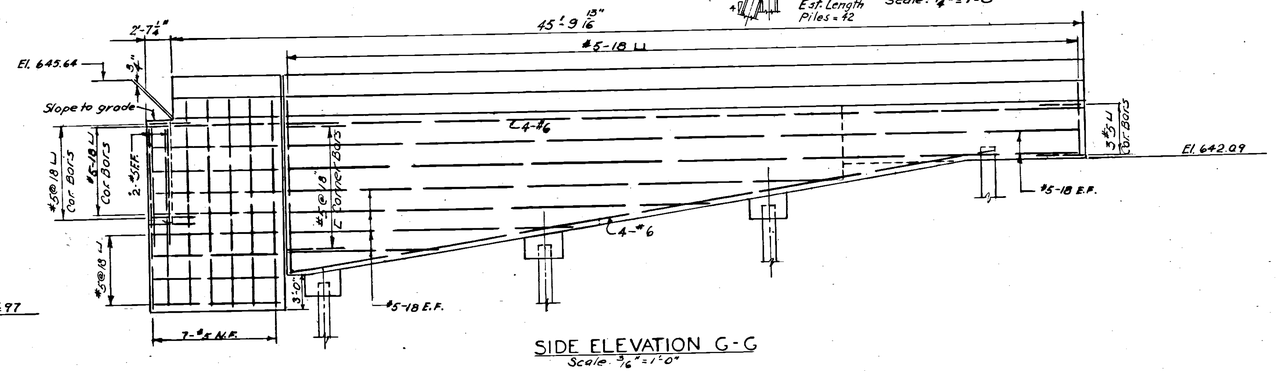
CONTRACT NO. C-41 SHEET 27 OF 57

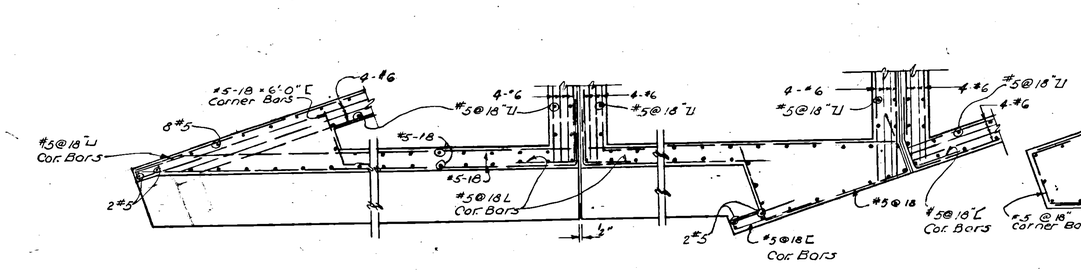


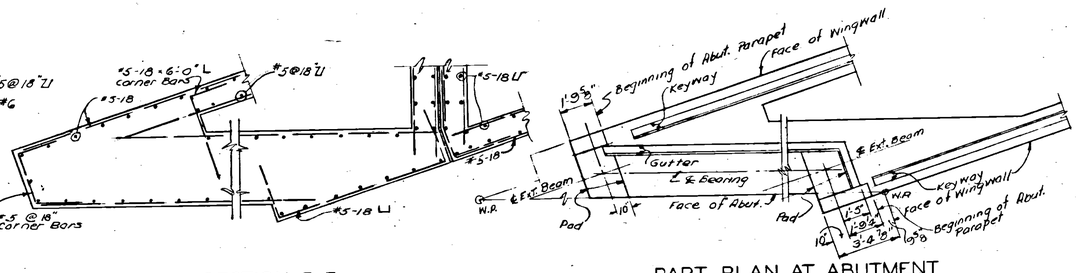












NO.	REVISION	BY	DATE
2	Deck Replaced & Widened		1980
	See CHP: 43-85-05		
1	As Built Plans	D.L.M.	1-18-56

OHIO TURNPIKE PROJECT NO. 1

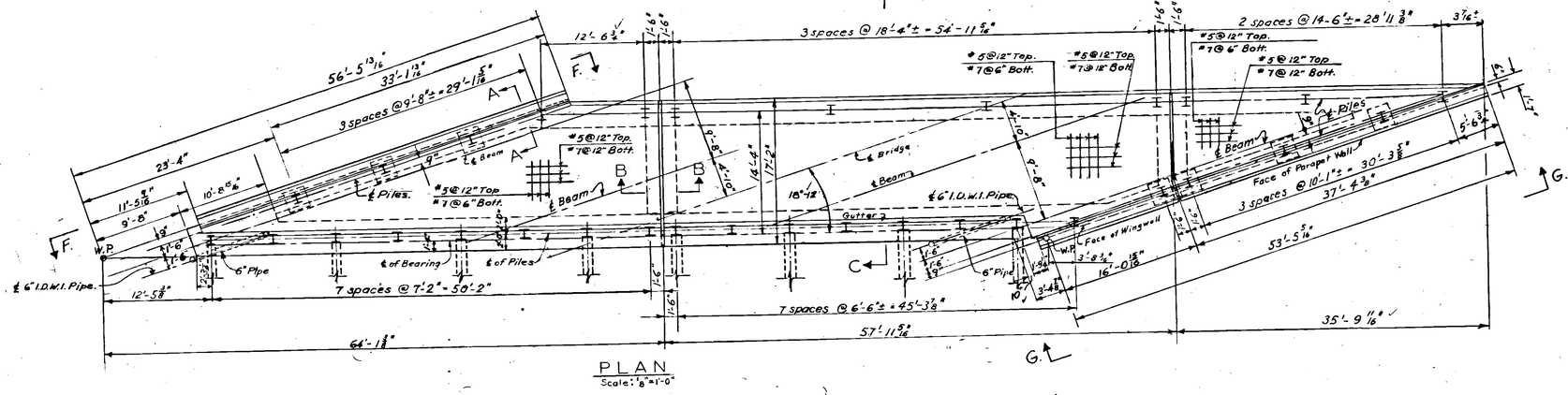
STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
WEST ABUTMENT WEST BOUND BRIDGE

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

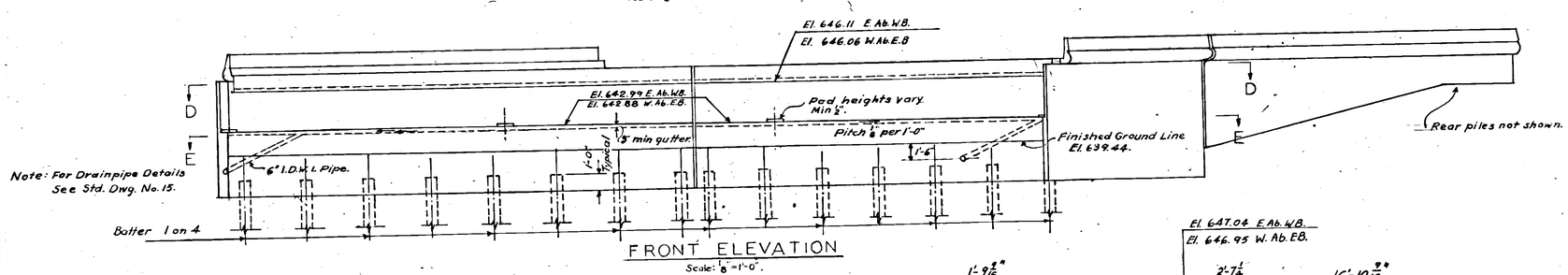
DESIGNED: C.M.	CHECKED: Wellwar	DATE: 4-15-1933
DRAWN: Rummo	IN CHARGE: Morel	SCALE: As noted

CONTRACT NO. C-41 SHEET 28 OF 57

Note: For Parapet Dimensions Anchor Bolt, Railing, & Guard Rail Details see Framing Plan.

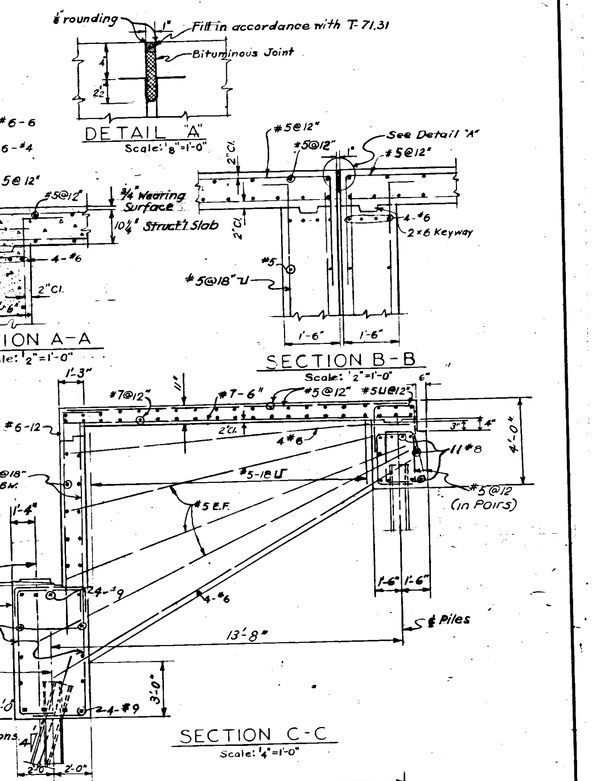


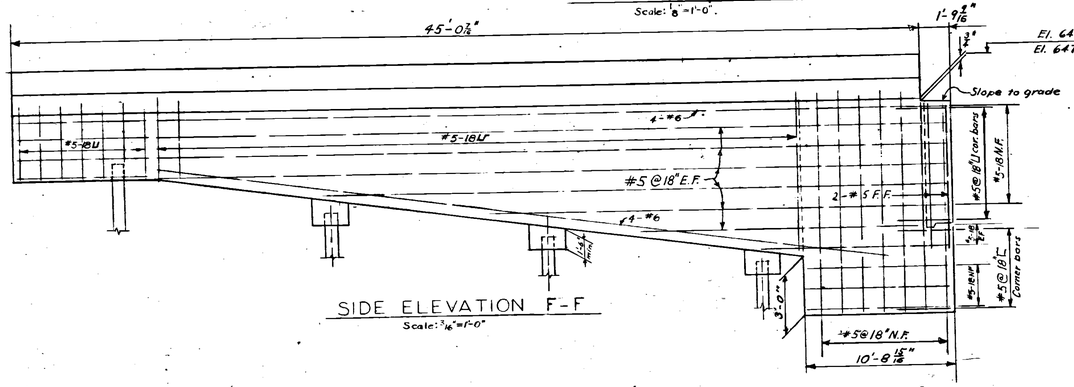
PLAN
Scale: 1/8"=1'-0"

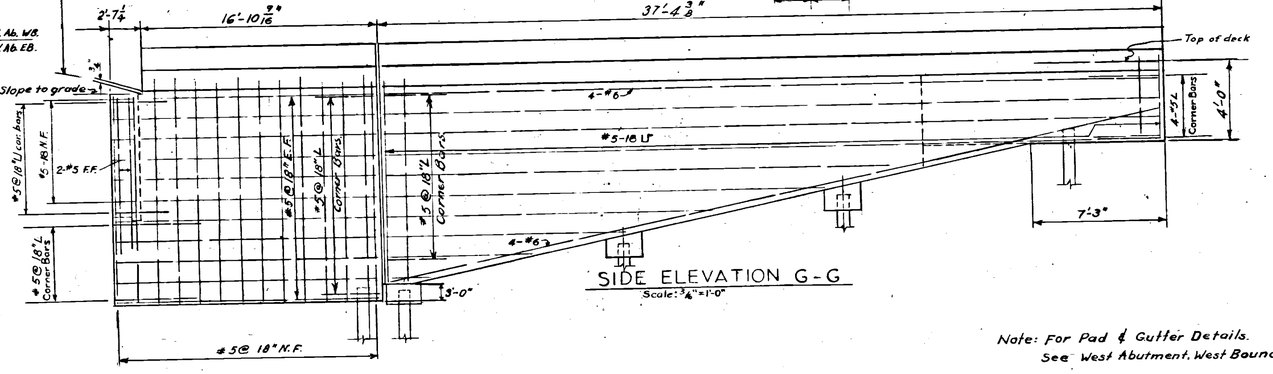


Note: For Drainpipe Details See Std. Dwg. No. 15.

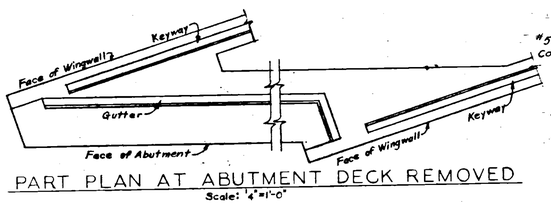
FRONT ELEVATION
Scale: 1/8"=1'-0"



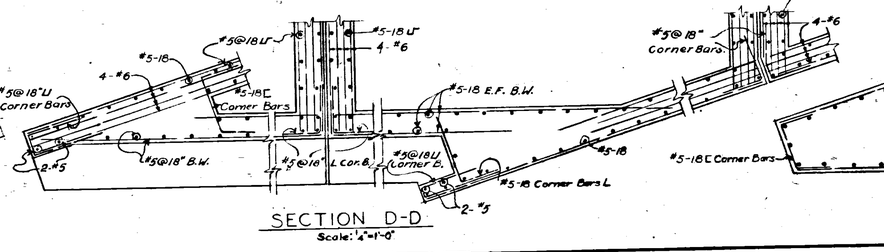




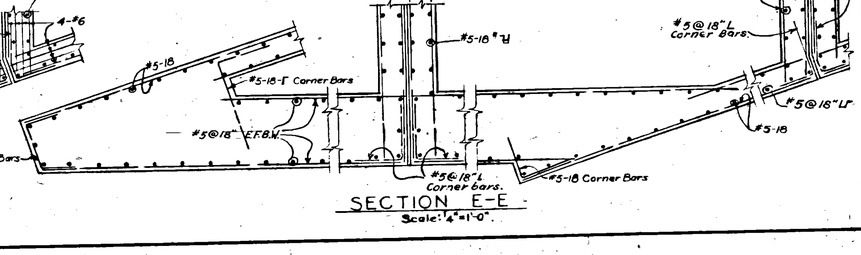
Note: For Pad & Gutter Details. See West Abutment, West Bound Bridge.



PART PLAN AT ABUTMENT DECK REMOVED
Scale: 1/4"=1'-0"



SECTION D-D
Scale: 1/4"=1'-0"



SECTION E-E
Scale: 1/4"=1'-0"

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened		1980
	See CHP: 43-85-05		
1	As Built Plans	D.L.M.	1-13-56

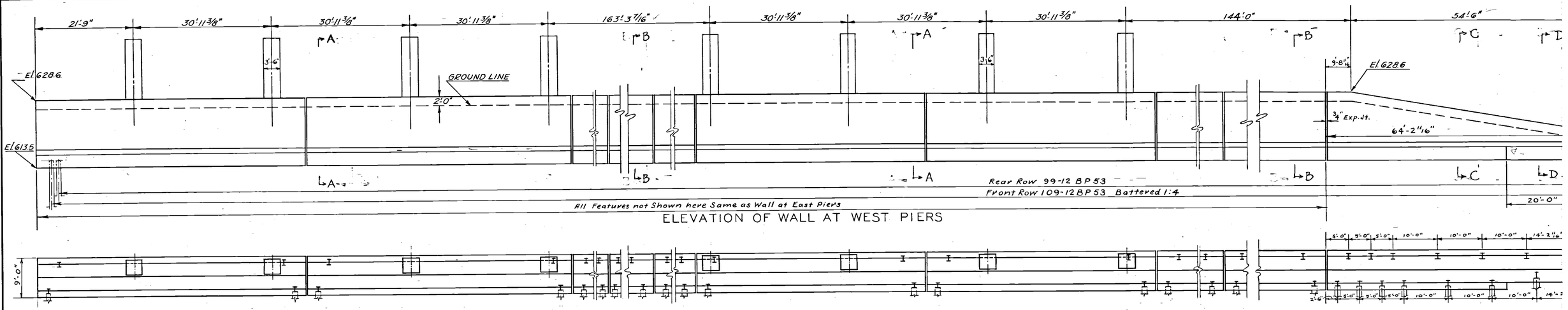
OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
W. ABUT. E. BOUND BRIDGE E. ABUT. W. BOUND BRIDGE

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

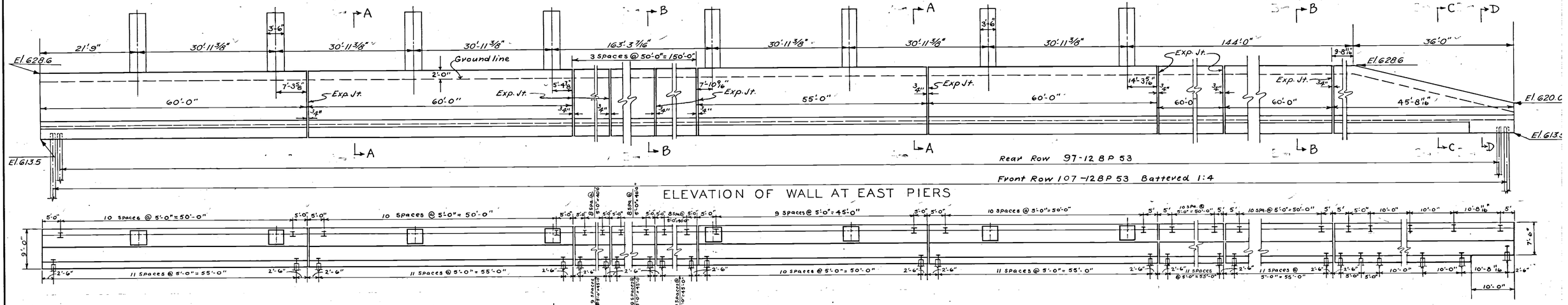
DESIGNED: S. CROSS | CHECKED: J. VASKO | DATE: Apr 14, 1953
DRAWN: E.J. FEPI | IN CHARGE: A. MOREL | SCALE: As noted

CONTRACT NO. C-41 | SHEET 29 OF 57



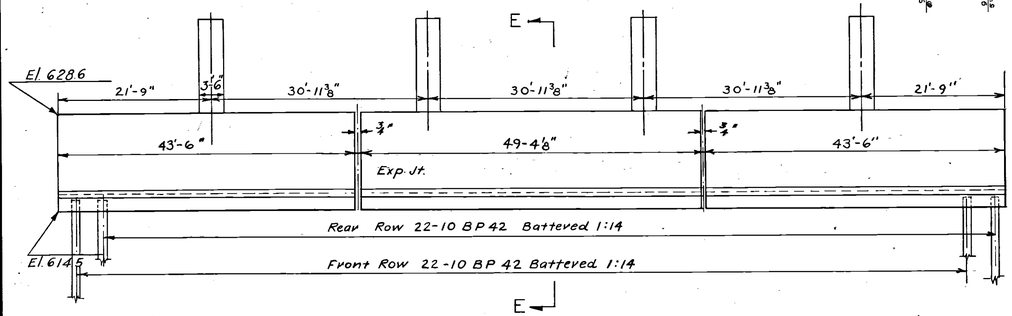
ELEVATION OF WALL AT WEST PIERS

PLAN

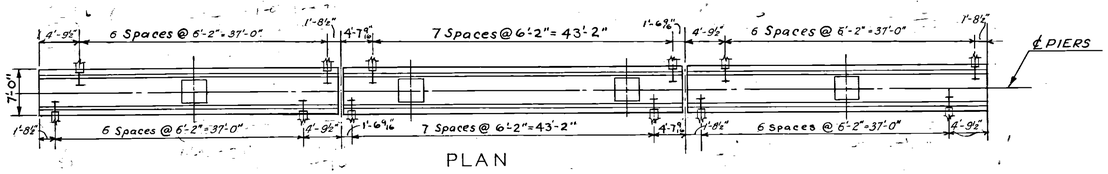


ELEVATION OF WALL AT EAST PIERS

PLAN



ELEVATION OF WALL AT CENTER PIERS



PLAN

Note: for sections see "Pier & ...ections"

NO.	REVISION	DATE
2	DECK REPLACED & WIDENED SEE CIP: 43-85-05	1986
1	AS BUILT PLANS	1-1986

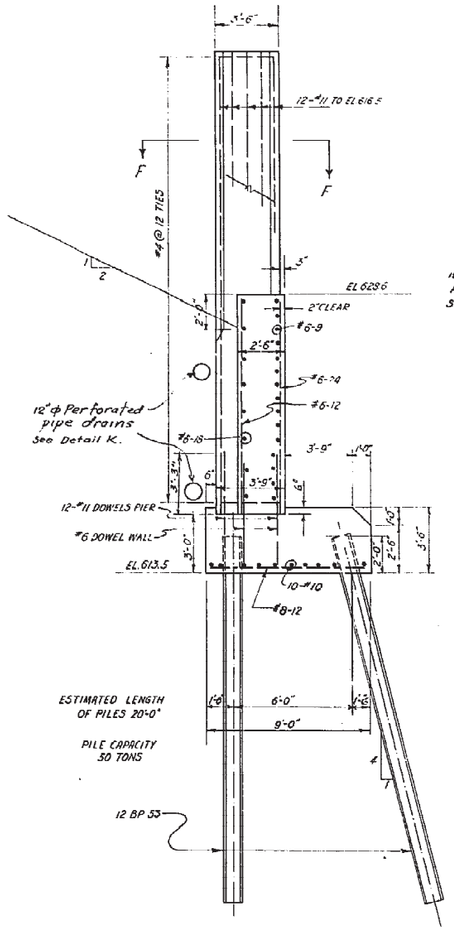
OHIO TURNPIKE PROJEC

STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL
PIER AND WALL DETAI

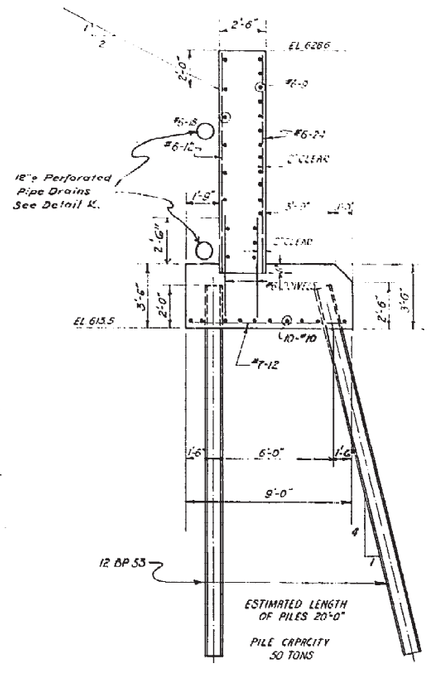
PORTER-URQUHART ASSOCIAT
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: A.M. & R.D.	CHECKED: J.V.	DATE 2-53
DRAWN: A.R.	IN CHARGE: A.M.	SCALE 1'-0"

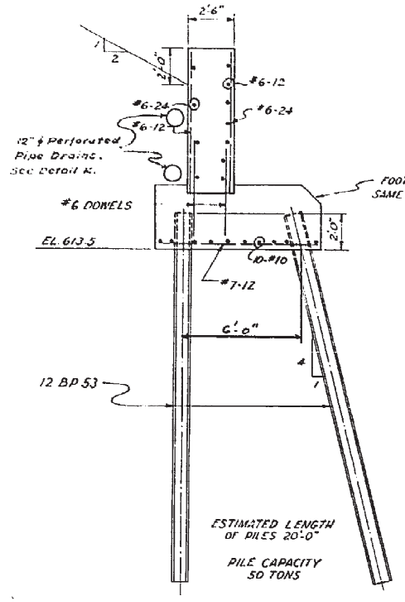
CONTRACT NO. C-41 SHEET 57



SECTION A-A
SCALE: ½"=1'-0"

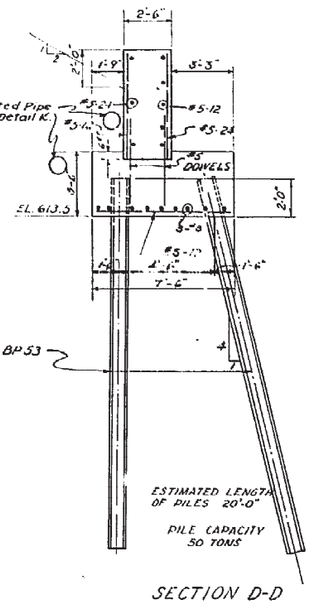


SECTION B-B
SCALE: ½"=1'-0"

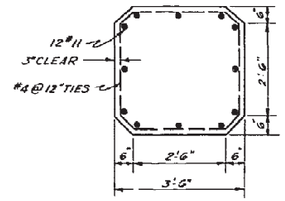


SECTION C-C
SCALE ½"=1'-0"

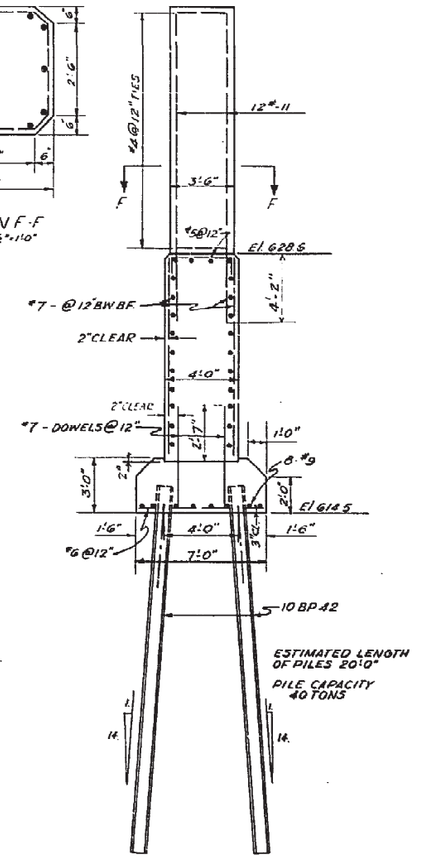
Note: For location of sections see "Piers & Wall Details"



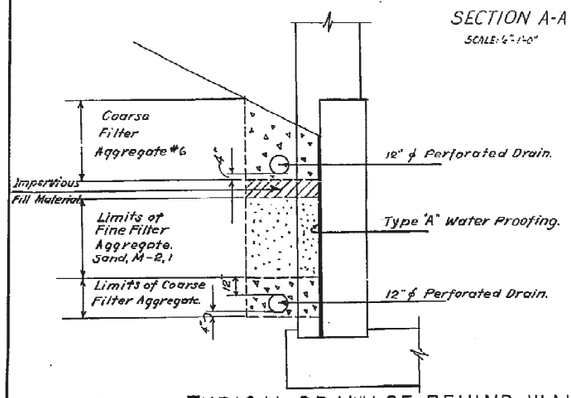
SECTION D-D
SCALE ½"=1'-0"



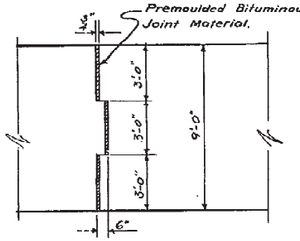
SECTION F-F
SCALE ½"=1'0"



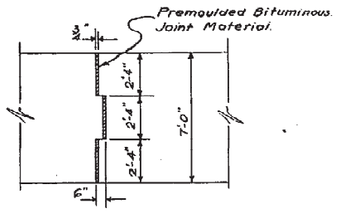
SECTION E-E
SCALE ½"=1'-0"



DETAIL K: TYPICAL DRAINAGE BEHIND WALLS WITH EARTH FILL.
Scale: ½"=1'-0"

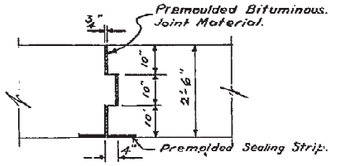


SECTION G-G
(East & West Wall Footing)
Scale: ½"=1'-0"



SECTION H-H
(Center Wall Footing)
Scale: ½"=1'-0"

EXPANSION JOINT DETAILS.



SECTION J-J
(Wall)
Scale: ½"=1'-0"

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened See CIP: 43-85-05		1986
1	As Built Plans	D.L.K.	1-18-56

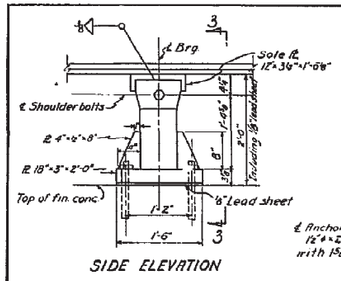
OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
PIER AND WALL SECTIONS

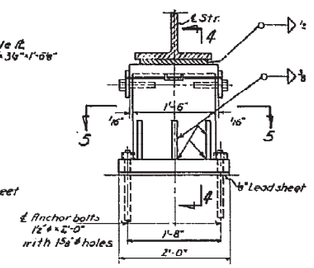
PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: A.M. & R.D.	CHECKED: J.V.	DATE: 5-25-53
DRAWN: C.H. & R.P.	IN CHARGE: R.M.	SCALE: As noted

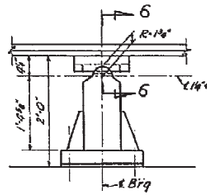
CONTRACT NO. C-41 — SHEET 31 OF 57



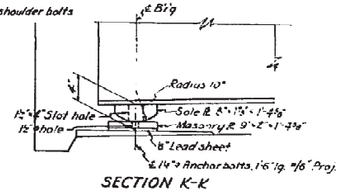
SIDE ELEVATION



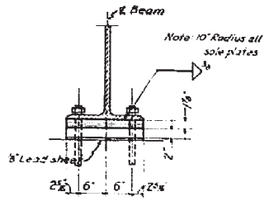
SECTION 3-3



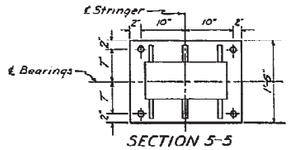
SECTION 4-4



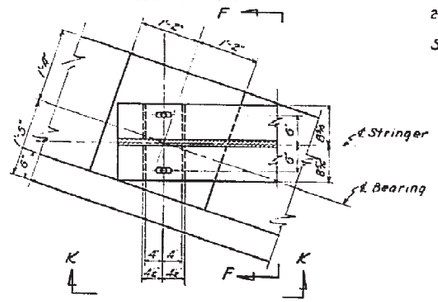
SECTION K-K



SECTION F-F



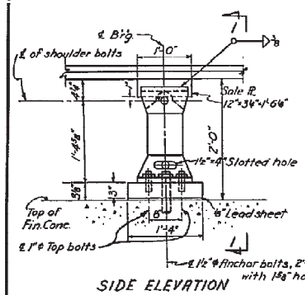
SECTION 5-5



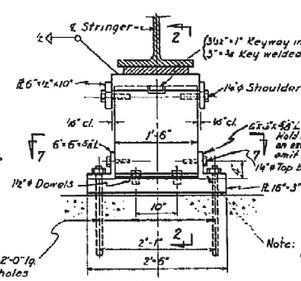
PLAN

FIXED BEARING AT PIER NO. 2

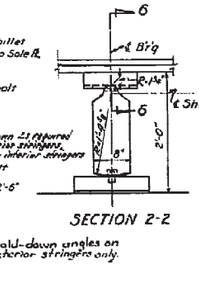
Scale: 3/4"=1'-0"



SIDE ELEVATION



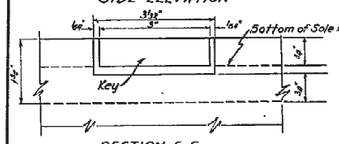
SECTION 1-1



SECTION 2-2

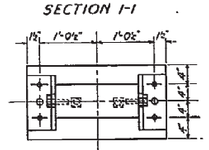
EXPANSION BEARING AT ABUTMENTS

Scale: 3/4"=1'-0"



SECTION 6-6

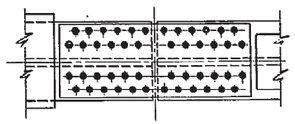
Scale: Half Size

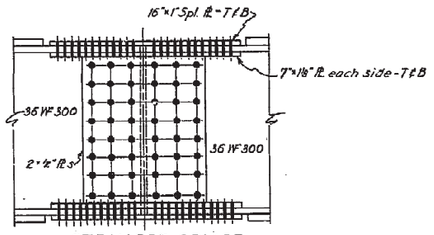


SECTION 7-7

EXPANSION BEARING AT PIER NO. 1 & 3

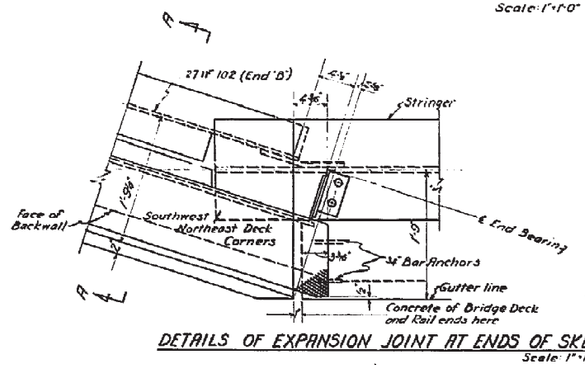
Scale: 3/4"=1'-0"

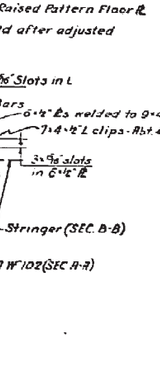




STRINGER SPLICE

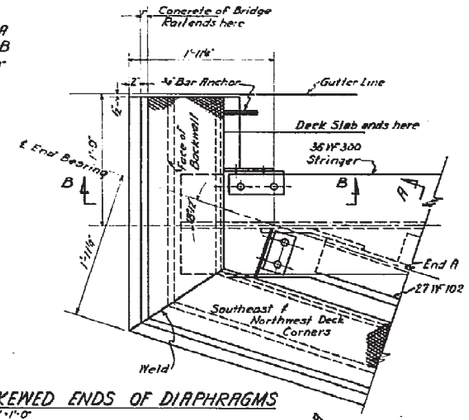
Scale: 3/4"=1'-0"





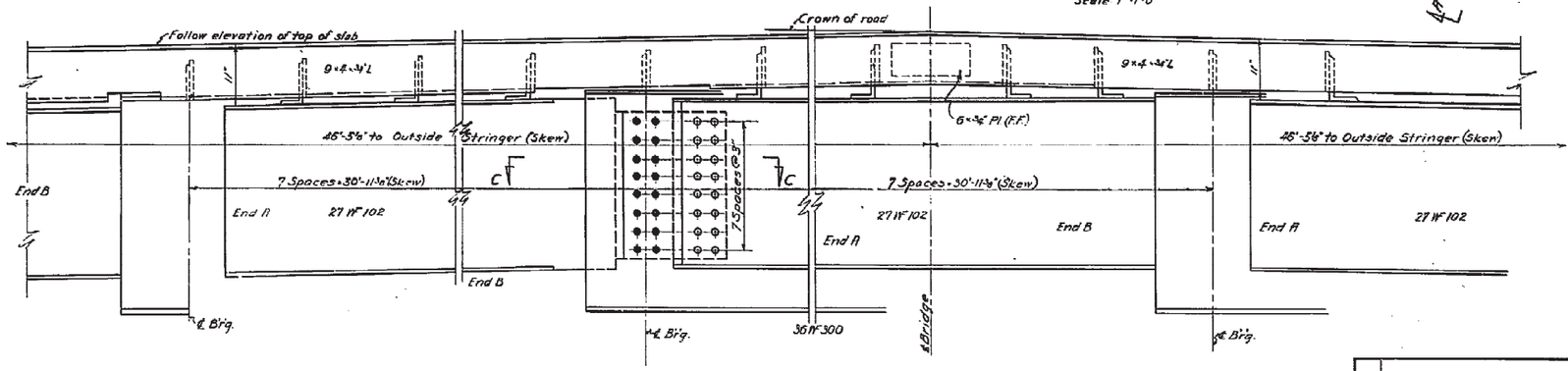
SECTION A-A
SECTION B-B

Scale: 1"=1'-0"



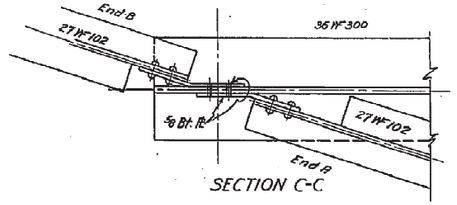
DETAILS OF EXPANSION JOINT AT ENDS OF SKEWED ENDS OF DIAPHRAGMS

Scale: 1"=1'-0"



END DIAPHRAGM AND EXPANSION DAM DETAILS

Scale: 1"=1'-0"



SECTION C-C

NOTE:
Rivets 7/8"ø; Open holes 15/16"ø except noted

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened See CMP. 48-85-05		1986
1	As Built Plans	D.L.M.	1-13-56

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 16
TURNPIKE OVER N.Y. CENTRAL R.R.
MISCELLANEOUS DETAILS

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: C. ANDERSON	CHECKED: J. WASKO	DATE: 6-5-53
DRAWN: G. KOPPELMAN	IN CHARGE: R. MOREL	SCALE: AS SHOWN

CONTRACT NO: C- 4 SHEET 32 OF 57

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
CALL: 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OHIO TURNPIKE COMMISSION

THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT CIP 43-85-05

TURNPIKE BRIDGE DECK REPLACEMENT & WIDENING

OVER

SUGAR CREEK M. P. 81.3

WOLF CREEK M. P. 82.02

CONRAIL M. P. 83.26

WAGGONER RD. (C.R. 82) M. P. 83.30

OTTAWA COUNTY AND SANDUSKY COUNTY

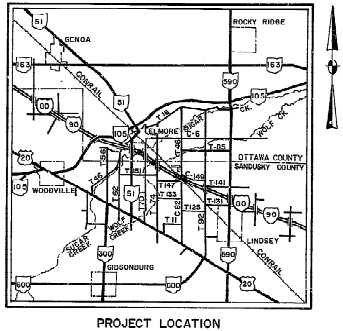
ORIGINAL CONTRACT SECTION C-41

INDEX OF SHEETS

STANDARD DRAWINGS

BP-2	12-6-76
BP-3	12-6-76
BP-5	7-16-81
BP-7	12-6-76
F-2	5-1-76
F-3	5-1-76
GR-1	2-5-82
GR-2B	2-5-82
GR-3	2-5-82
GR-4A	1-30-84
GR-4	2-5-82
MC-3	6-1-73
MC-4	7-26-76
MC-7	10-15-76
MC-9A	5-1-81
MC-11	8-1-78
TC-35.10	8-29-84

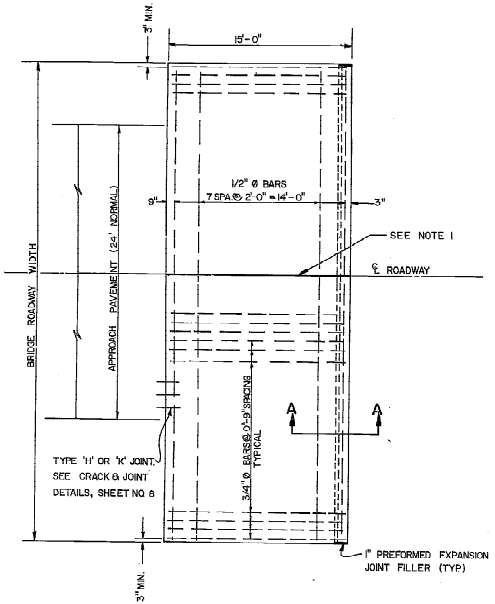
PLANS PREPARED BY
ERIKSSON ENGINEERING, LTD.
COLUMBUS, OHIO



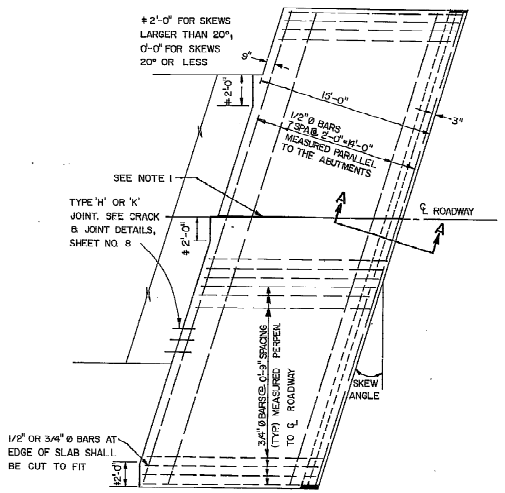
PROJECT LOCATION

AS BUILT
12-16-86

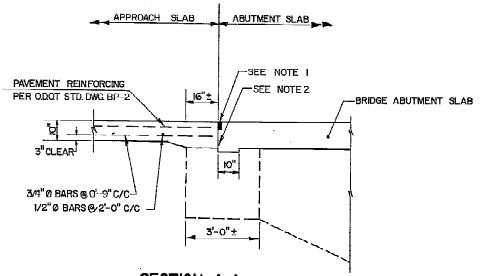
APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
CHIEF ENGINEER
3-13-85
DATE



PLAN



APPROACH SLAB FOR SKEWED BRIDGE



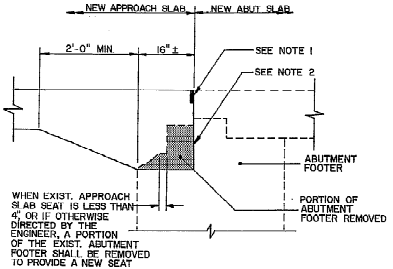
SECTION A-A

NOTE 1: GROOVE AND SEAL AS PER O.D.O.T. STD. CONST. DWG. BP-3.

NOTE 2: TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

NOTE 3: REPAIR OF BROKEN APPROACH SLAB SEAT SHALL BE CONSTRUCTED BY THE CONTRACTOR AS PER DETAIL OR AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE ON THE BASIS OF "DIRECT COSTS" PLUS 15% FOR OVERHEAD AND PROFIT. "DIRECT COSTS" SHALL BE DEFINED UNDER SECTION G-9.02(5) OF THE GENERAL CONDITIONS.

NOTE: SEE SHEET NO. 3 FOR APPROACH SLAB TYPICAL SECTION.



APPROACH SLAB SEAT REPAIR DETAIL

GENERAL: THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS.), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

DESIGN DATA

CONCRETE: CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 - GRADE 60 MIN. YIELD STRENGTH 60,000 P.S.I.

PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB

GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB

TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUNCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10 FT BEYOND END OF WINGWALL. WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH. HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY

APPROACH SLAB WIDTH: APPROACH SLABS SHALL BE THE SAME WIDTH AS THE BRIDGE ROADWAY, UNLESS SHOWN OTHERWISE ON THE PLANS.

CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB.

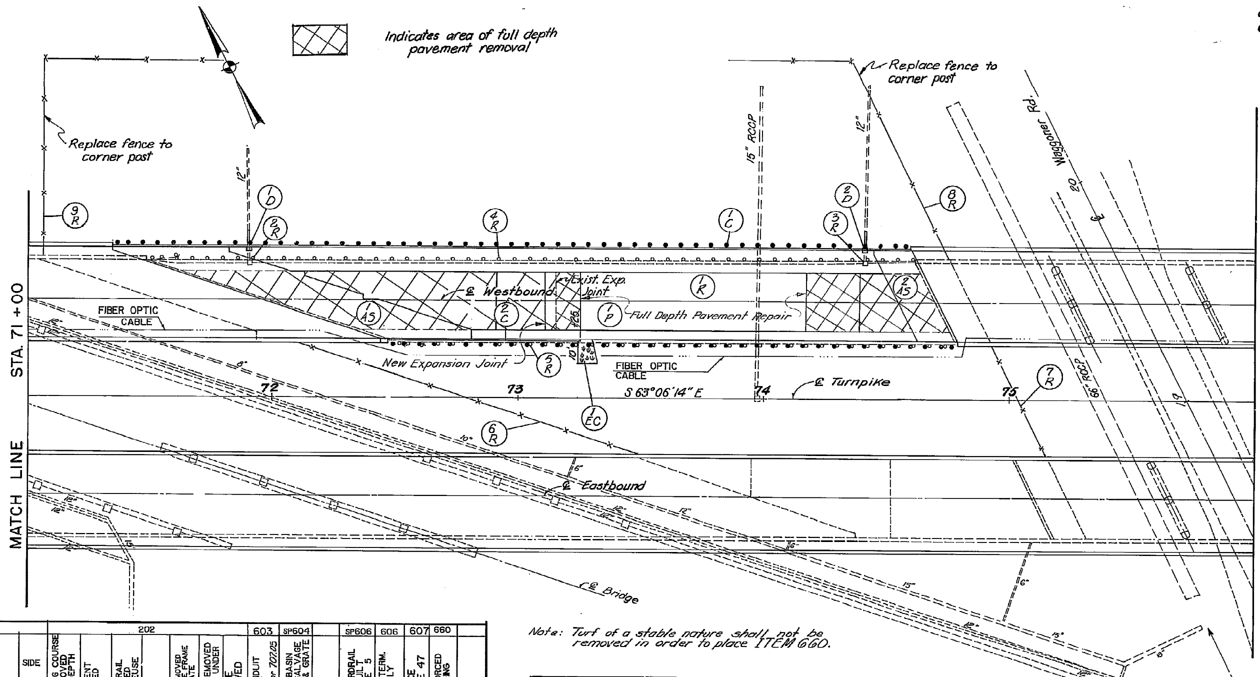
TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE EITHER TYPE 'K' OR 'H' AS DETAILED ON THE PLANS. PAYMENT FOR THE TRANSVERSE JOINT SHALL BE AT THE UNIT PRICE BID PER LIN. FT. FOR THE TYPE OF JOINT FURNISHED.

Nº	REVISION	BY	DATE
2	ADDED IMPRESSED JOINT & CHANGED TYPE OF CEMENT	DFC	11-28-84
1	ADDED SEAT REPAIR DETAIL	DFC	10-2-84

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLABS

DATE: OCTOBER 1983 | SCALE: N.T.S. | SHEET 7 OF 84



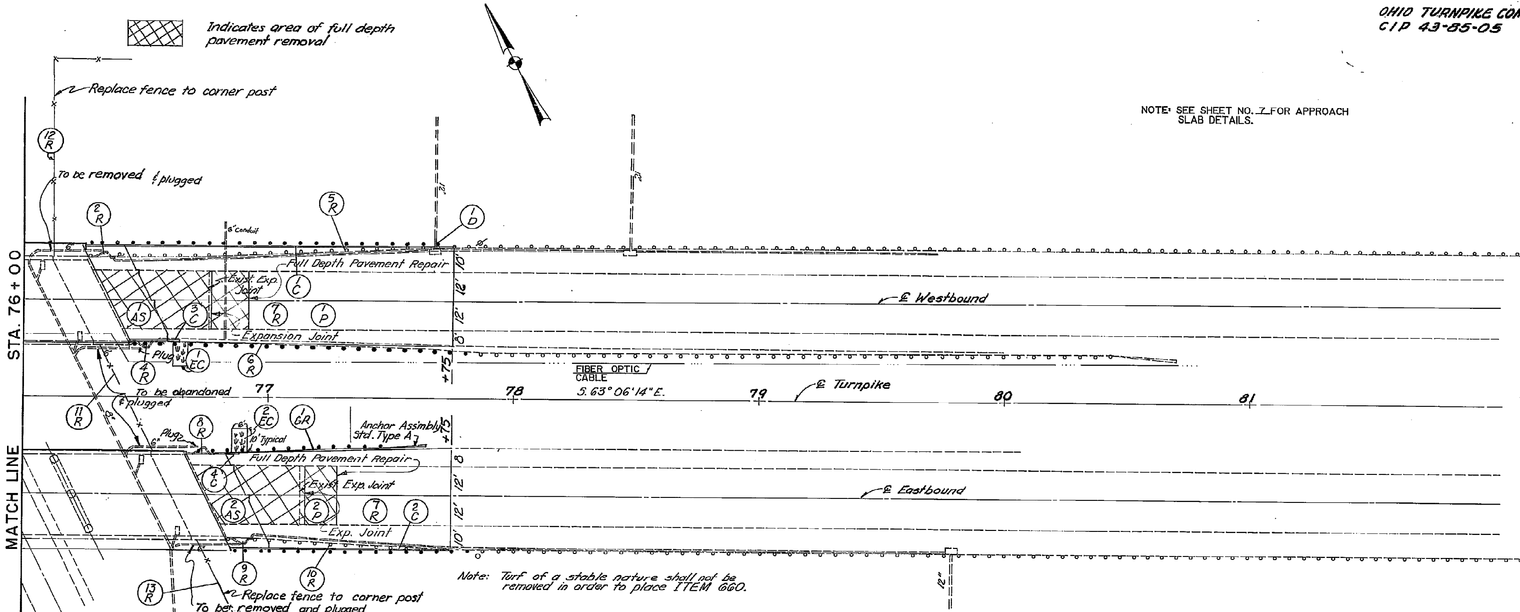
REF. NO.	STATION TO STATION	SIDE	202 WEARING COURSE REMOVED FULL-DEPTH	PAVEMENT REMOVED (RIGID)	GUARDRAIL REMOVED FOR REUSE		C.B. REMOVED SALVAGE FRAME AND GRATE	PIPE REMOVED 24" & UNDER	FENCE REMOVED	603 12" CONDUIT TYPE F 707.01 or 707.05	SP604 CATCH BASIN USING SALVAGE FRAME & GRATE		SP606 GUARDRAIL REBUILT TYPE 5	606 BRIDGE TERM. ASSEMBLY TYPE A	607 FENCE TYPE 47	660 REINFORCED SODDING	
			S. Y.	S.Y.	L.F.		EA.	L.F.		L.F.	EA.		L.F.	EA.		S.Y.	
1-R	71+96.62 TO 74+71.34	LT.	395	169													
2-R	71+92	LT.					1	13									
3-R.	74+42	LT.					1	13									
4-R	71+34.60 TO 74+60.80	LT.		1	313.2								326.15	2			
5-R	72+47 TO 74+80	LT.			229.4								233.03	2			
6-R	72+11 TO 73+48	L/R							143						143		
7-R	74+92 TO 75+15	L/R							50						50		
8-R	74+60 TO 74+75	LT.							95						90		
9-R	71+07.	LT.							85						80		
1-EC	73+27	LT.														7	
1-D	71+92	LT.								7	1						
2-D	74+42	LT.								7	1						
				1													
	TOTALS		395	169	542.6		2	26	373	14	2		559.18	4	363	7	

Note: Turf of a stable nature shall not be removed in order to place ITEM 660.

REF. NO.	STATION TO STATION	SIDE	203 EXCAVATION NOT INCL. EMBANKMENT	EMBANKMENT	SUBGRADE COMPACTION		653 2" TOPSOIL FURNISHED & PLACED	659 SEEDING & MULCHING	SP451 Full Depth Pav't Repairs	SP304 AGGREGATE BASE	SP310 SUBBASE GRADING A TYPE I	402 ASPHALT CONCRETE AC-20	SP404 ASPHALT CONCRETE AC-20	SP407 TACK COAT	SP408 PRIME COAT	SP414 BIT. MATERIAL FOR SHOULDER SURF. TREAT.	AGG. FOR SHOULDER SURF. TREAT.	SP609 ASPHALT CONCRETE CURB	SP611 10" REINF. CONC. APP. SLAB
			C.Y.	C.Y.	S.Y.		C.Y.	S.Y.	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	GAL.	GAL.	GAL.	S.Y.	L.F.	S.Y.
1-P	72+43.58 TO 74+54.98	LT.			591				171	47	29	90	16	57	210	210	420		
1-AS	71+95.55 TO 72+43.58	LT.			208						35								208
2-AS	74+54.98 TO 74+71.71	LT.			74						13								74
1-C	71+81.23 TO 74+45.22	LT.																258	
2-C	72+80 TO 73+25	LT.																45	
1-E	71+35 to 74+78	L/R	118	63			17	537											
	TOTALS		118	63	873		17	537	171	47	77	90	16	57	210	210	420	303	282

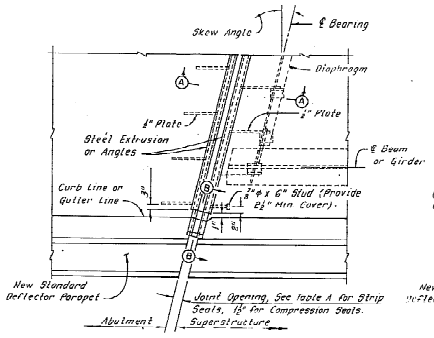
NOTE: SEE SHEET NO. 7 FOR APPROACH SLAB DETAILS.

Rev	Description	By	Date
1	REV. PAV'T REM'D QUANT	DFC	3-27-85

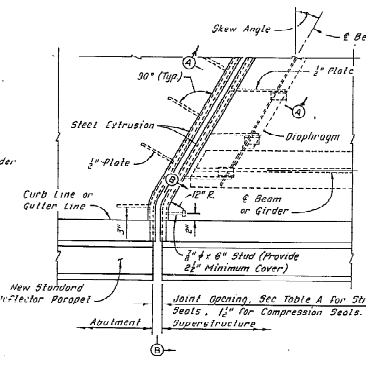


Ref. No.	Station to Station	Side	202 Wearing Course Removed S.Y.	202 Full Depth Pavement Removed (Rigid) S.Y.	202 Guardrail Removed for re-use L.F.	202 Inlet Removed EA.	202	202 Pipe Removed 24" & Under L.F.	202 Fence Removed L.F.	606 Anchor Assmb. Std. Type A Ea.		604 C.B Adjust to grade EA.	606 Guardrail Std. Typ. 5 L.F.	SP606 Guardrail Rebuilt Type 5 L.F.	606 Bridge Term. Assembly Type A EA.	607 Fence Type 47 L.F.	660 Reinforcing Sodding S.Y.
1-R	76+34.39 TO 77+75	LT.	264	45													
2-R	76+33	LT.				1		25									
		LT.															
		LT.		1		1											
5-R	76+24 TO 77+74	LT.			150									150	1		
6-R	76+42.50 TO 77+80	LT.			137.5									137.5	1		
7-R	76+73.93 TO 77+75	RT.	166	45													
8-R	76+74	RT.				1											
9-R	76+91	RT.				1		25									
10-R	76+85 TO 77+82	RT.			100									100	1		
11-R	76+30 TO 76+52	L/R							49							49	
12-R	76+11	LT.							83							78	
13-R	76+70 TO 77+07	RT.							80							75	
1-GR	76+65.77 TO 77+65.77	RT.								1			75		1		
1-D	77+69	LT.										1					
1-EC	76+64	LT.															7
2-EC	76+89	RT.															7
Totals			430	90	387.5	4		50	212	1		1	75	387.5	4	202	14

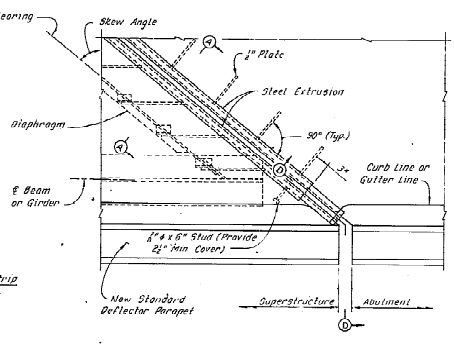
Ref. No.	Station to Station	Side	203 Excavation not Including Embankment C.Y.	203 Embankment C.Y.	203 Sub-grade Compaction S.Y.	203	653 2" Topsoil Furnished & Placed C.Y.	659 Seeding & Mulching S.Y.	SP451 Full Depth Part. Repairs S.Y.	SP304 Aggregate Base C.Y.	SP310 Sub-base Grading A Type 7 C.Y.	402 Asphalt Concrete AC-20 C.Y.	SP404 Asphalt Concrete AC-20 C.Y.	SP407 Tack Coat Gal.	SP408 Prime Coat Gal.	SP414 Bit. Material for Shoulder Surface Treat. Gal.	SP414 Aggregate for Shoulder Surface Treat. S.Y.	SP609 Asphalt Concrete Curb L.F.	SP611 10" Reinf. Concrete Appr. Slab S.Y.
1-P	76+51.12 TO 77+75	LT.			312				67	28	12	53	10	33	123	123	245		
2-P	76+90.66 TO 77+75	RT.			218				60	18	10	35	7	23	79	79	158		
1-AS	76+34.39 TO 76+51.12	LT.			74						12								74
2-AS	76+73.93 TO 76+90.66	RT.			74						12								74
1-C	76+40.24 TO 77+75	LT.																132	
2-C	77+00.79 TO 77+75	RT.																74	
3-C	76+59.28 TO 76+64.28	LT.																5	
4-C	76+82.50 TO 76+87.50	RT.																5	
1-E	76+26 TO 77+75	L/R	107	24			14	442											
Totals			107	24	678		14	442	127	46	46	88	17	56	202	202	403	216	148



PLAN - SKEW ANGLE < 20°
(Strip Seal Shown, Compression Seal Similar)
Scale: ¼"=1'-0"



PLAN - SKEW ANGLE 20° TO 45°
(Strip Seal Shown, Compression Seal Similar)
Scale: ¼"=1'-0"



PLAN - SKEW ANGLE > 45° (STRIP SEAL ONLY)
Scale: ¼"=1'-0"

GENERAL NOTES

ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.

STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.

ALL WELDING SHALL CONFORM WITH A.W.S. AND AASHTO SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

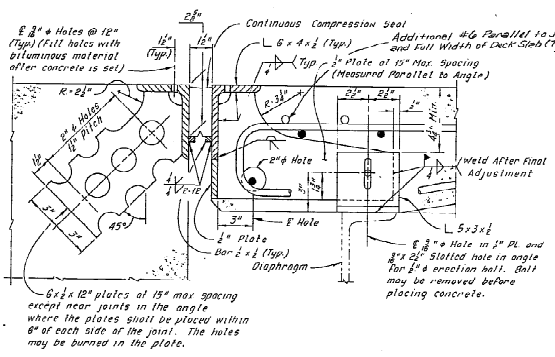
ELASTOMERIC COMPRESSION SEAL SHALL BE WABO-ACME J-200, D.S. BROWN D.S. 200 OR APPROVED EQUAL.

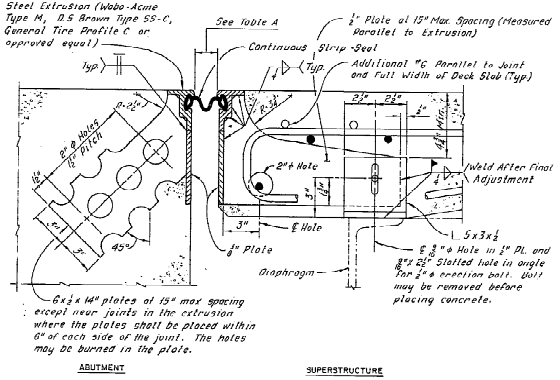
CONTINUOUS STRIP SEAL SHALL BE AS MANUFACTURED BY WABO-ACME, D.S. BROWN, GENERAL TIRE OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED

DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.

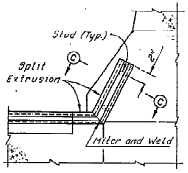
TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING INSTALLATION CHART TEMPERATURE °F						
	30	40	50	60	70	80	90
3"	2-1/4"	2-1/8"	2"	1-7/8"	1-3/4"	1-5/8"	1-1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"

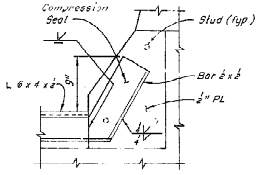




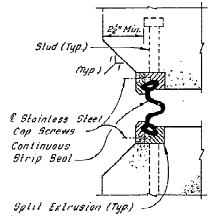
SECTION A-A (COMPRESSION SEAL)
Scale: 3"=1'-0"



SECTION B-B (STRIP SEAL)
Scale: 1½"=1'-0"

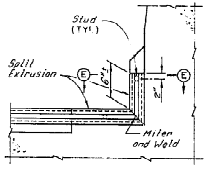


SECTION B-B (COMPRESSION SEAL)
Scale: 1½"=1'-0"

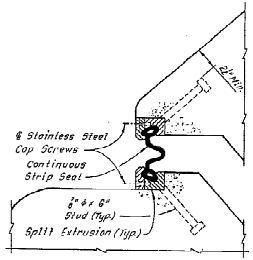


SECTION C-C
No Scale

SECTION A-A (STRIP SEAL)
Scale: 3"=1'-0"



SECTION D-D
Scale: 1½"=1'-0"



SECTION E-E
No Scale

OHIO TURNPIKE COMMISSION

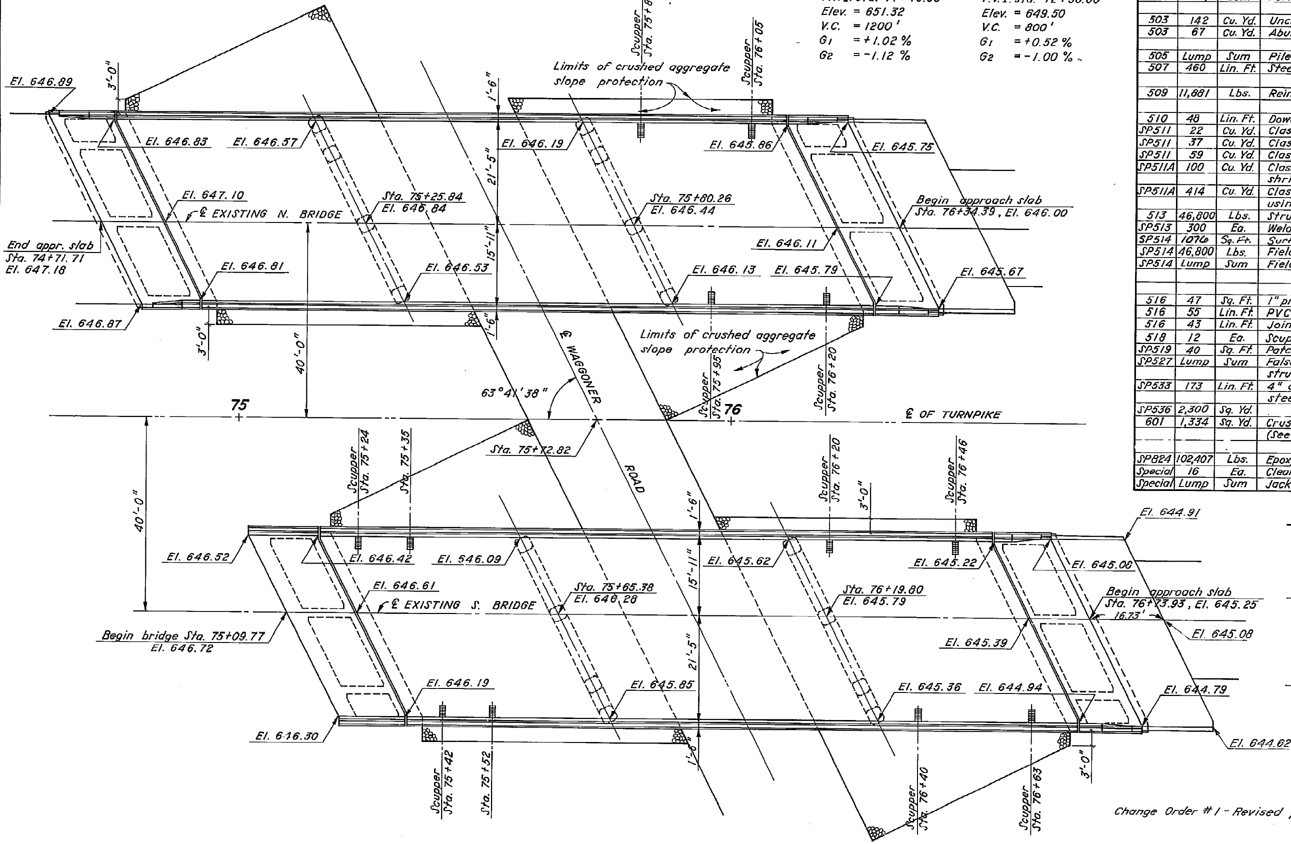
DECK JOINT DETAILS

DATE: JANUARY 1985 | SCALE: AS NOTED
FIP: | SHEET 35 OF 84

For "GENERAL NOTES" reference is made to Structure No. 20, Sheet 1/11.

VERTICAL CURVE DATA

NORTH BRIDGE	SOUTH BRIDGE
P.V.I. Sta. 71+75.00	P.V.I. Sta. 72+50.00
Elev. = 651.32	Elev. = 649.50
V.C. = 1200'	V.C. = 800'
G_1 = +1.02 %	G_1 = +0.52 %
G_2 = -1.12 %	G_2 = -1.00 %



GENERAL PLAN

ESTIMATED QUANTITIES					
ITEM	TOTAL	UNIT	DESCRIPTION	N. BRG.	S. BRG.
SP202	Lump	Sum	Portions of structure removed (See Note A)	L.S.	L.S.
503	142	Cu. Yd.	Unclassified excavation	66	76
503	67	Cu. Yd.	Abutment backfill, as per 503.10	29	38
505	Lump	Sum	Pile driving equipment mobilization	L.S.	L.S.
507	460	Lin. Ft.	Steel piles HP10×42	230	230
509	11,881	Lbs.	Reinforcing steel, grade 60	5,821	6,060
510	48	Lin. Ft.	Dowel holes, using SP853 grout anchoring	24	24
SP511	22	Cu. Yd.	Class C concrete, pier footings	11	11
SP511	37	Cu. Yd.	Class C concrete, piers above footing	19	18
SP511	59	Cu. Yd.	Class C concrete, abutments	26	33
SP511A	100	Cu. Yd.	Class S concrete, slab & barriers using shrinkage compensating cement	49	51
SP511A	414	Cu. Yd.	Class S concrete, superstr. deck & barriers using shrinkage compensating cement	207	207
513	46,800	Lbs.	Structural steel A36 (AISC cert. not req'd.)	23,400	23,400
SP513	300	Ea.	Welded stud shear connectors	150	150
SP514	1076	Sq. Ft.	Surface Preparation - Top Flange Exist. Beam	538	538
SP514	46,800	Lbs.	Field painting of new structural steel	23,400	23,400
SP514	Lump	Sum	Field painting of exist. structural steel	L.S.	L.S.
516	47	Sq. Ft.	1" preformed expansion joint filler	—	47
516	55	Lin. Ft.	PVC Waterstop, as per plan	—	55
516	43	Lin. Ft.	Joint sealer	—	43
518	12	Ea.	Scuppers, including supports	4	8
SP519	40	Sq. Ft.	Patching conc. surfaces (See Note C)	20	20
SP527	Lump	Sum	Falsework, temporary bracing & protective structures	L.S.	L.S.
SP533	173	Lin. Ft.	4" continuous strip seal in structural steel joint	86.50	86.50
SP536	2,300	Sq. Yd.	concrete weatherproofing	1,142	1,158
601	1,334	Sq. Yd.	Crushed aggregate slope protection (See Note B)	667	667
SP824	102,407	Lbs.	Epoxy coated reinforcing steel, grade 60	51,135	51,272
Special	16	Ea.	Cleaning, repairing & painting ex. brng. devices	8	8
Special	Lump	Sum	Jacking, supporting & lowering exist. str. steel	L.S.	L.S.

NOTE "A" Removal of portions of structure shall include approximately 202 cu. yds. of concrete on the N. Bridge and 202 cu. yds. of concrete on the S. Bridge.

NOTE "B" Removal and/or re-use existing aggregate slope protection along with additional material as required to provide at least a 1'-0" thickness of Item 601, crushed aggregate slope protection.

NOTE "C" Area to be repaired will be determined by the Engineer in the field. Estimated 10 sq. ft. at each abutment.

Change Order #1 - Revised pile lengths.

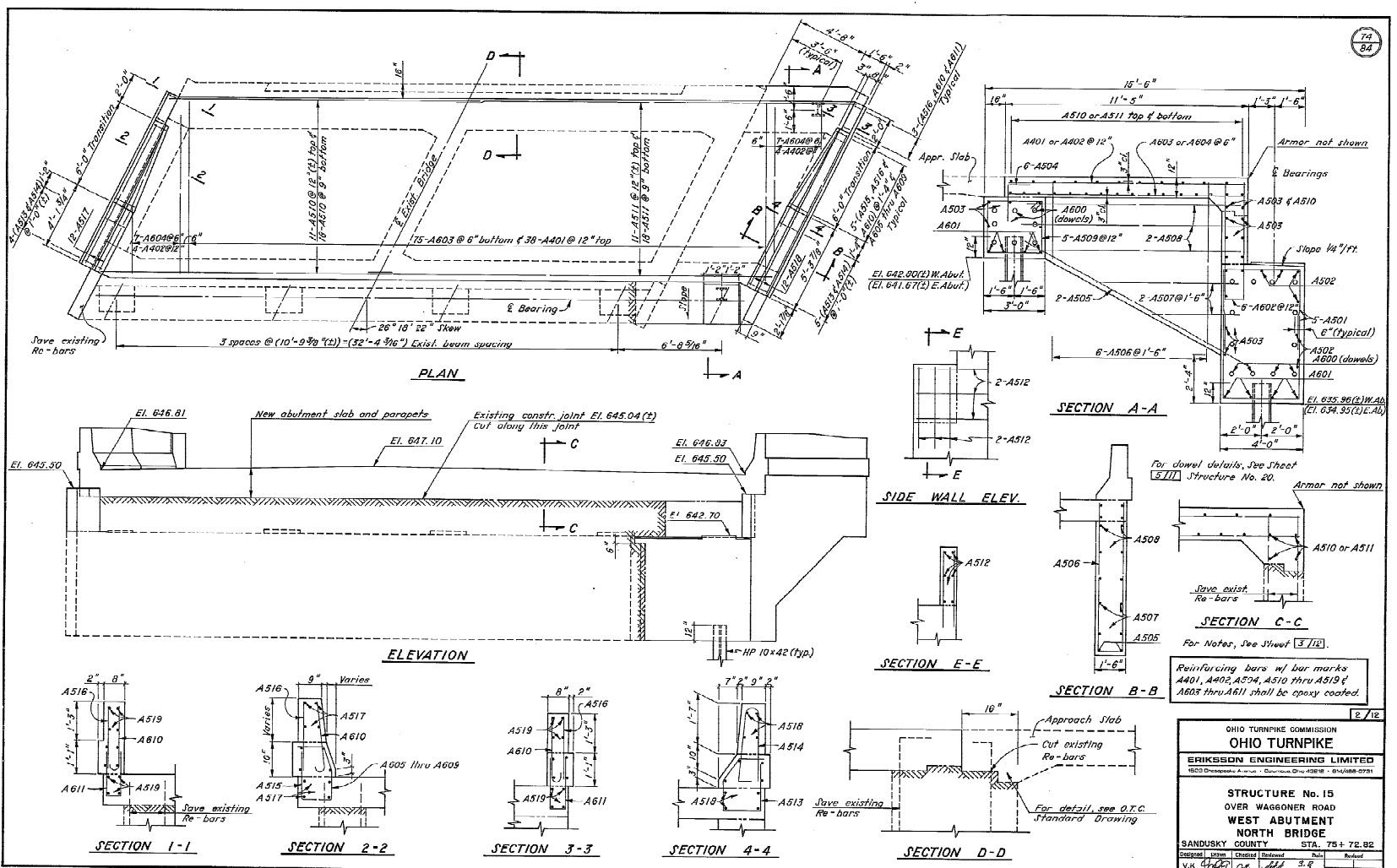
1/12

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 15
OVER WAGGONER ROAD
GENERAL PLAN
ESTIMATED QUANTITIES
SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	MAG	C.G.	[illegible]	3-8-85	



74
84

2/12

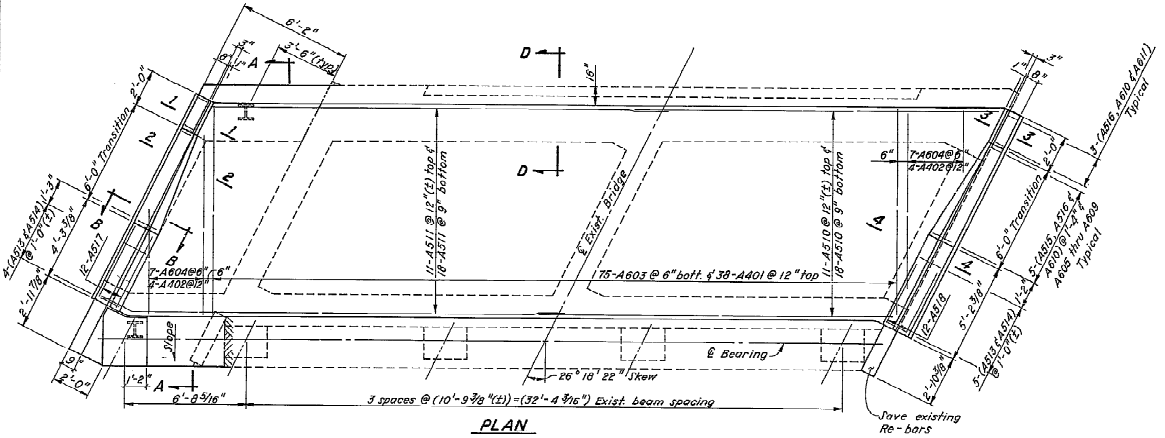
OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED
1623 Chesapeake Avenue · Columbus, Ohio 43212 · 614/488-0791

STRUCTURE No. 15
OVER WAGGONER ROAD
WEST ABUTMENT
NORTH BRIDGE
SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		O.E.		3-8-82	



NOTES: (Typical for all four abutments.)

Removal of abutment slabs shall be performed in such a manner leaving reinforcing steel dowels and remaining concrete undamaged. Dowels must be carefully cleaned before any concrete of new abutment slabs shall be placed.

All piles are, HP10 x 42, steel piles. The estimated average pay-length is 34 Ft. per pile.
The design load is 40 tons per pile.

BACKFILL shall be placed in accordance with Item 503 between the existing wingwalls and the new wingwalls, extending from the existing ground line to the bottom of the deck slab.
The contractor shall provide and place backfill between existing wingwalls as required to bring the till to the level of the proposed slab prior to placing the new deck slab. Include with Item 503, Abutment Backfill, as per 503.10 for payment.

CONCRETE INSERT ASSEMBLIES, as shown on standard construction drawings GR-1 & GR-3, shall be provided at all wingwall terminals for attachment of guardrail terminal connectors, even though guardrail may not be specified on the roadway plans. Where the approach slab is uncurbed, concrete anchor assemblies shall be provided for wheel guard attachment. Include with Item SP811A for payment.

For details of Sections "A-A", "B-B", "C-C", & "D-D", See Sheet 2/12.

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1583 Conestoga Avenue • Columbus Ohio 43212 • 614/488-1731

STRUCTURE No. 15
OVER WAGGONER ROAD
EAST ABUTMENT
NORTH BRIDGE
SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
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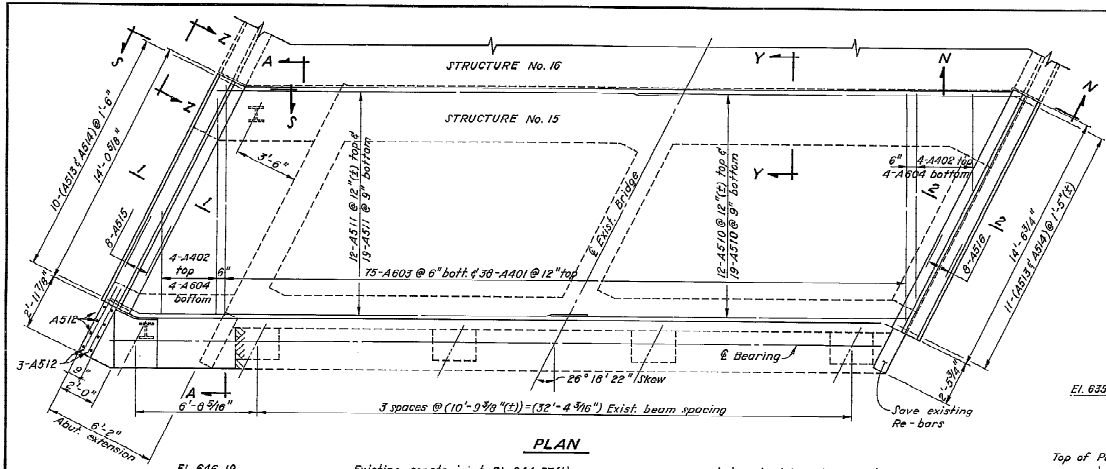
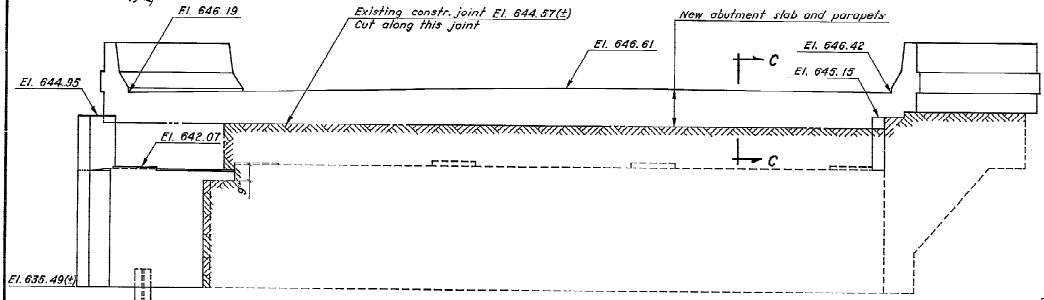
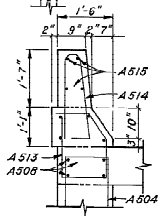


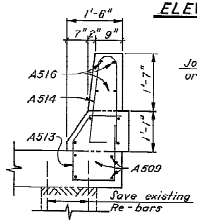
PLAN



ELEVATION



SECTION 1-1



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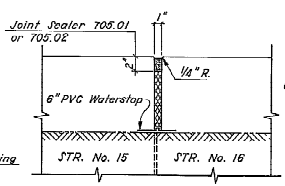

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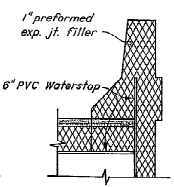
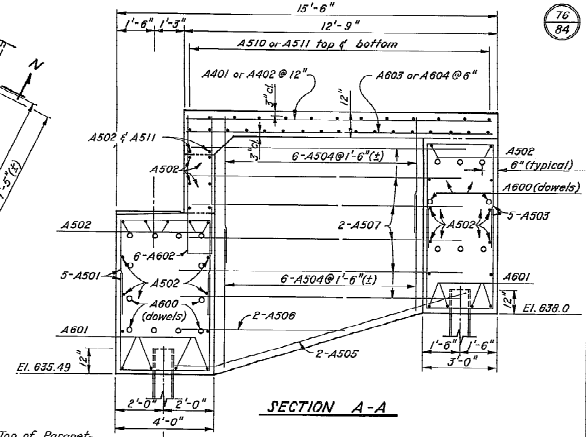
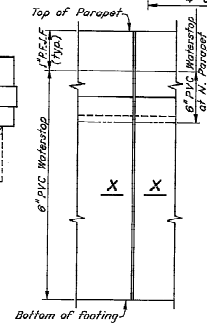


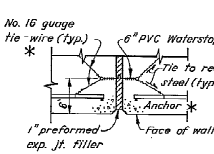
SECTION S-S
(Section N-N similar)



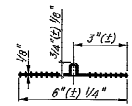
SECTION A-A



VIEW Z-Z



SECTION X-X



WATERSTOP DETAIL

* For the first pour, the waterstop should be held securely in place by the use of split forms and tie-wires. For the second pour, secure the free end of the waterstop in proper position with tie-wires. Alternate methods as approved by the Engineer, may be used to insure the correct positioning of the waterstop.

NOTES:

PVC waterstop, joint sealer, and preformed expansion joint filler are included with Structure No. 15 for payment.

For Section "C-C", See Sheet 2/12.

For additional notes, See Sheet 3/12.

Reinforcing steel w/ bar marks A301, A402, A508 thru A516, A603 & A604 shall be epoxy coated.

TID 84

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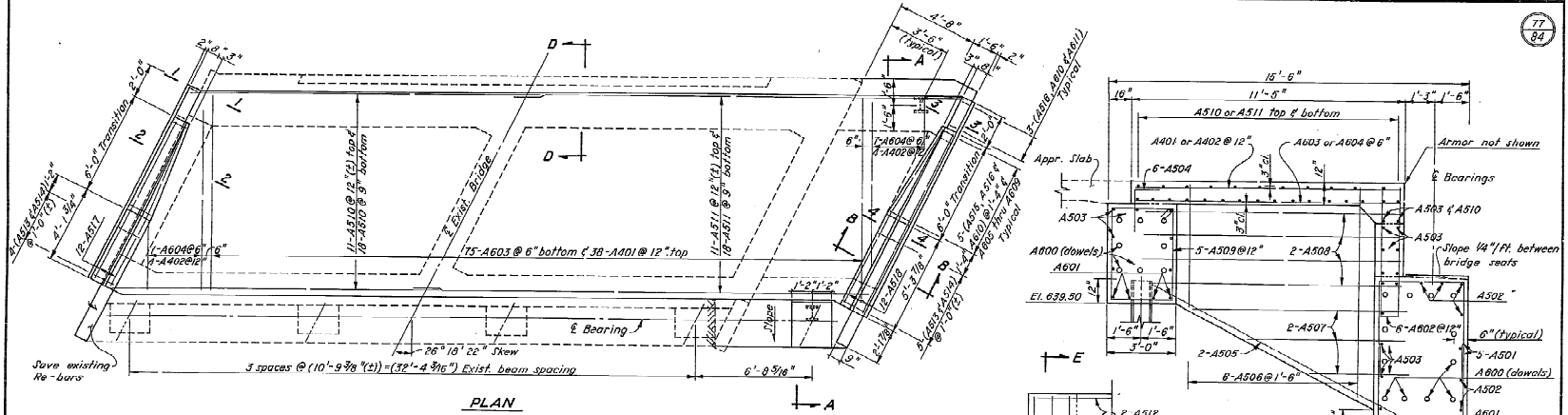
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1600 Cheapeake Avenue · Columbus, Ohio 43212 · 614/488-0791

STRUCTURE No. 15
OVER WAGGONER ROAD
WEST ABUTMENT
SOUTH BRIDGE
SANDUSKY COUNTY STA. 75+ 72.82

Designed	Drawn	Checked	Inspected	Date	Revised
V.K.		C.E.		3-8-84	

SHEET 76 OF 84



Reinforcing bars w/ bar marks A401, A402, A504, A510 thru A519 & A603 thru A611 shall be epoxy coated.

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

STRUCTURE No. 15

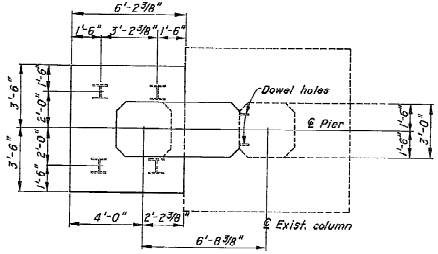
OVER WAGGONER ROAD

EAST ABUTMENT

SOUTH BRIDGE

SANDUSKY COUNTY STA. 75+ 72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	C.L.				

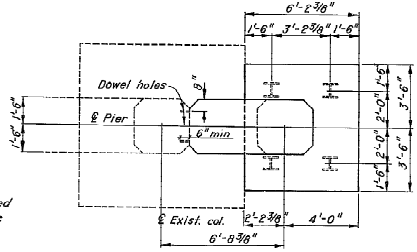


PLAN

NORTH BRIDGE PIER EXTENSION

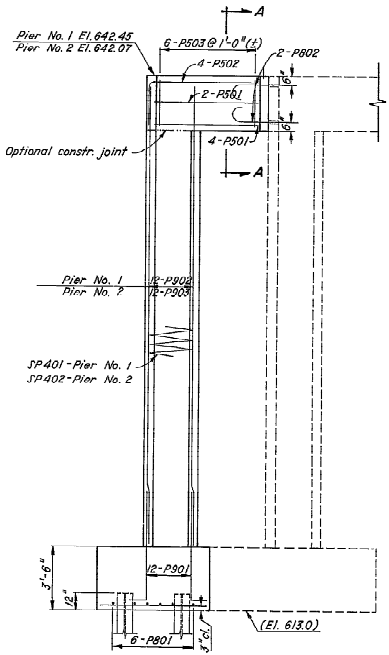
NOTES:

All pier piles are HP10x42 steel piles. Estimated average pay-length is 15 feet per pile, and the design load is 30 tons per pile.



PLAN

SOUTH BRIDGE PIER EXTENSION



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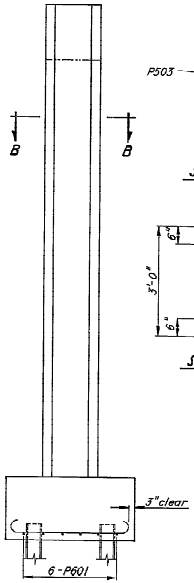

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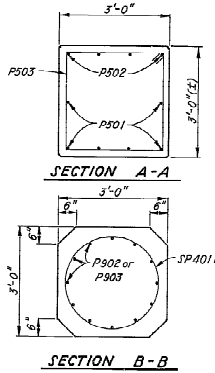
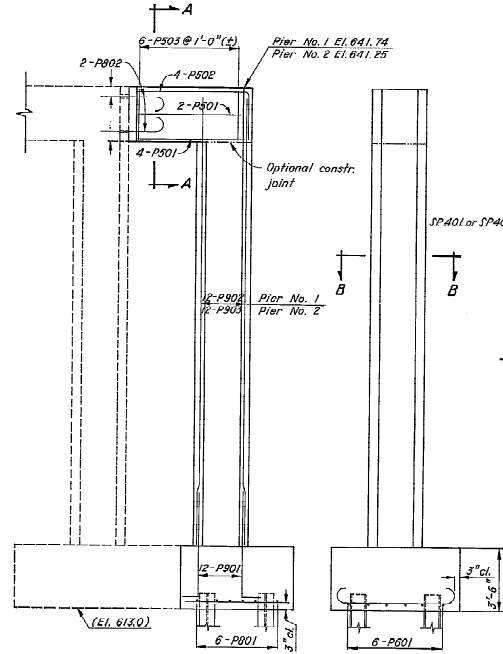


SECTION A-A

SECTION B-B



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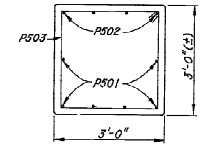
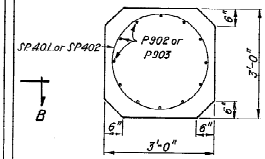
END VIEW



SECTION A-A



SECTION B-B

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1523 Chesapeake Avenue • Columbus, Ohio 43212 • (614)488-0721

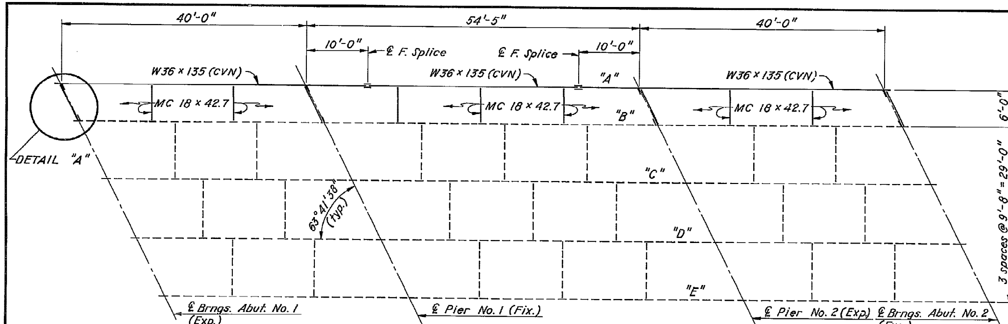
STRUCTURE No. 15

OVER WAGGONER ROAD

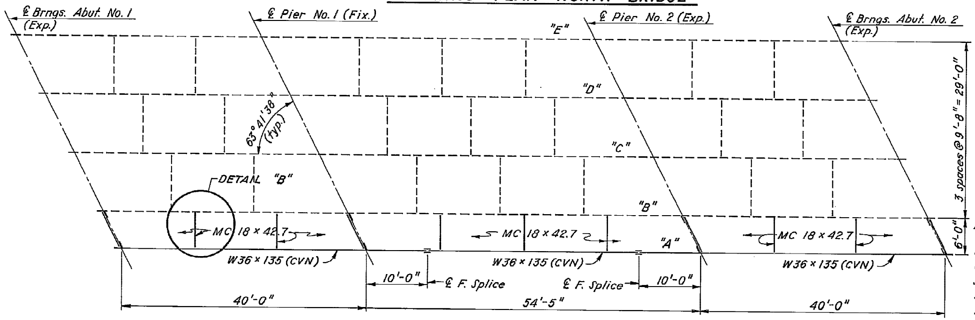
PIERS

SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.		C.G.		5-11-87	



FRAMING PLAN - NORTH BRIDGE



FRAMING PLAN - SOUTH BRIDGE

BEAM	SPAN No. 1		SPAN No. 2		SPAN No. 3		
	ABUT. BRNG.	℄ SPAN	PIER #1	℄ SPAN	PIER #2	℄ SPAN	ABUT. BRNG.
NORTH BRIDGE — TOP OF PAVEMENT ELEVATIONS (FINISHED)							
"A"	646.83	646.71	646.58	646.40	646.20	646.05	645.88
"B"	646.91	646.76	646.66	646.44	646.27	646.40	645.95
"C"	647.03	646.91	646.78	646.59	646.38	646.23	646.06
"D"	647.00	646.88	646.74	646.55	646.35	646.19	646.02
"E"	646.82	646.66	646.56	646.34	646.16	645.97	645.83
SOUTH BRIDGE							
"A"	646.20	646.04	645.87	645.63	645.38	645.20	644.98
"B"	646.32	646.13	645.99	645.72	645.50	645.27	645.10
"C"	646.50	646.35	646.18	645.95	645.69	645.50	645.30
"D"	646.54	646.39	646.22	645.99	645.74	645.55	645.35
"E"	646.42	646.24	646.11	645.85	645.63	645.41	645.25

DEAD LOAD DEFLECTIONS

BEAMS	℄ SPANS #1 or #3	℄ SPAN #2
"A" thru "E"	1/16"	3/16"

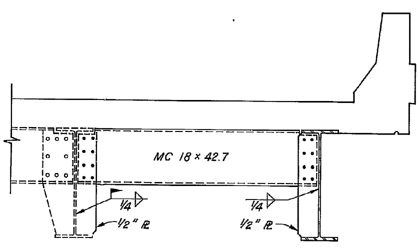
NOTES:

In order to meet established roadway grades, to assure the construction of the required thickness of deck slabs, and to assure the proper location of the reinforcing steel in the deck slabs, the contractor shall obtain the elevations of the top of existing steel beams after the complete removal of existing deck slab at the locations shown in the table for the final pavement elevations, and compute the deck thickness over existing beams. If the computed deck thickness is found to be less than minimum thickness required, the top of final pavement elevations shall be adjusted as directed by the Engineer. The Contractor shall also compute the deck screed elevations, utilizing the dead load deflections.

Payment for the above mentioned work shall be included with the lump sum price for Item SP 623. The quantity of deck concrete to be paid shall be based upon 9 1/4" thick concrete outside the haunch area and 10" thick concrete over existing and new beams at the haunches.

Where a shape or plate is labeled "CVN" the material shall meet minimum notch toughness requirements in accordance with 711.01.

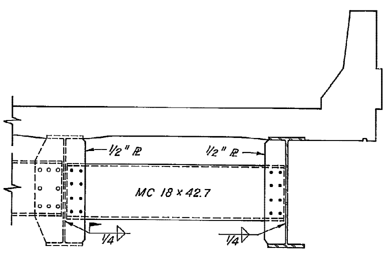
No shop camber required, place beam with the natural camber up.



DETAIL "A"

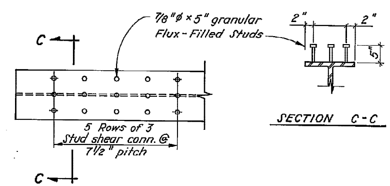
END DIAPHRAGMS AT ABUTMENTS

High strength bolts shall be 7/8"ø dia. A325.



DETAIL "B"

INTERIOR DIAPHRAGMS



STRINGER END DETAILS

(Typical for all stringers, new & existing)

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1523 Chesapeake Avenue • Columbus Ohio 43212 • 614/488-0731

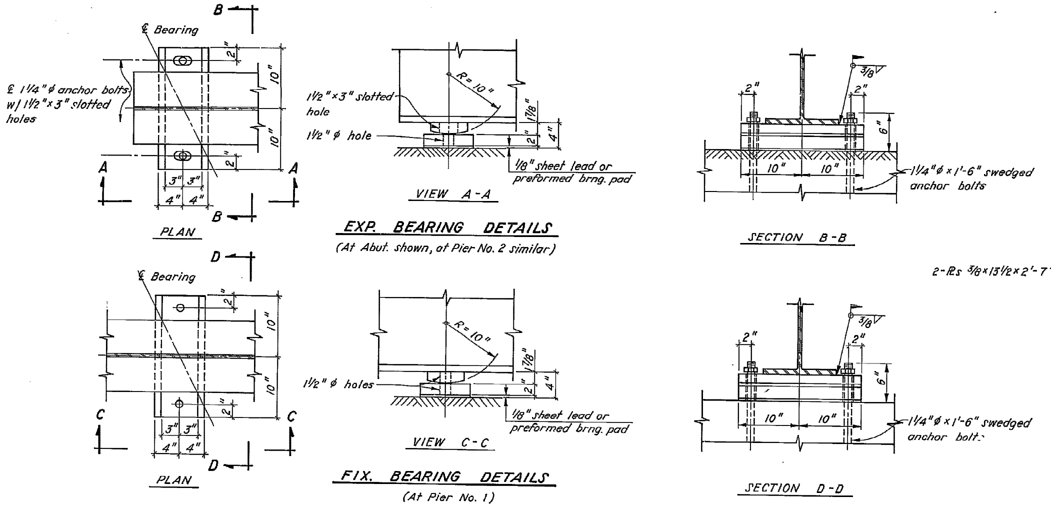
STRUCTURE No. 15

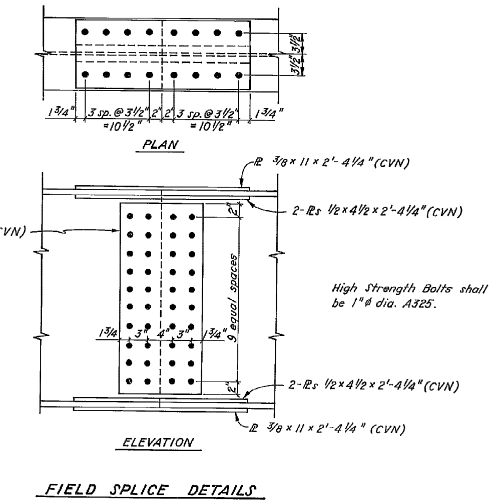
OVER WAGGONER ROAD

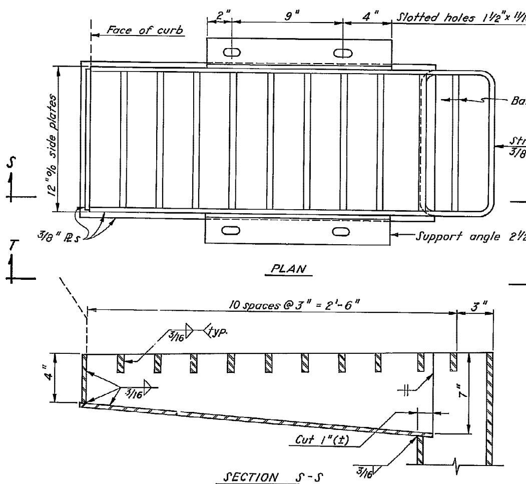
SUPERSTRUCTURE DETAILS

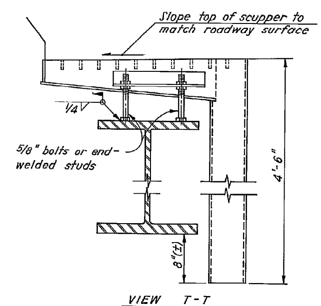
SANDUSKY COUNTY STA. 75+ 72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	[illegible]	C.E.	[illegible]	3.8 85	









SCUPPER DETAILS

The support angles and support bolts are included with scupper for payment.

Scuppers including support angles, shall be galvanized in accordance with 711.

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE

ERIKSSON ENGINEERING LIMITED

1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 15
OVER WAGGONER ROAD
SUPERSTRUCTURE DETAILS

SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
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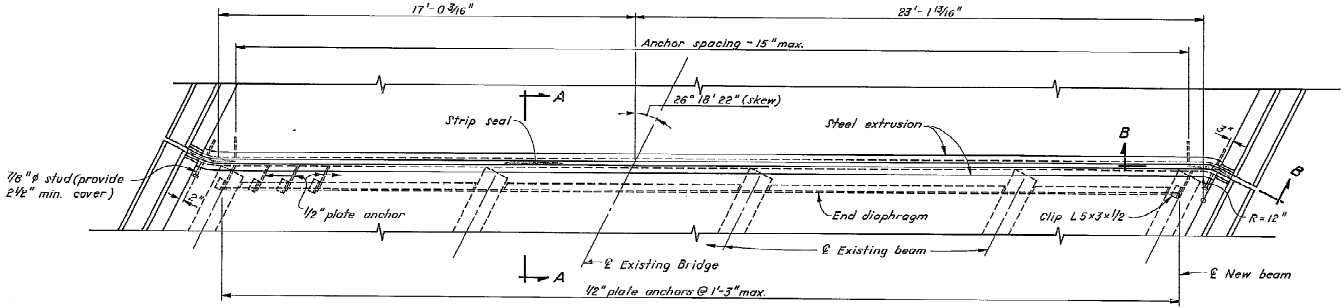
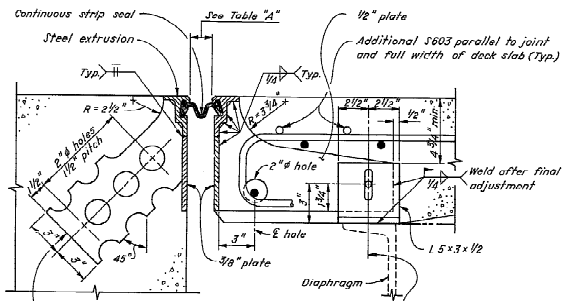
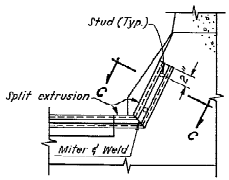


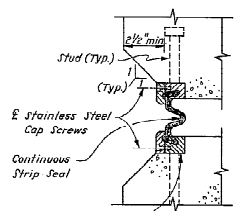
TYPICAL PLAN OF STRUCTURAL EXPANSION JOINT



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

STEEL EXTRUSION: Wabo-Acme Type M, D.S. Brown's Type SS-C, General Tire Profile C or approved equal.

CONTINUOUS STRIP SEAL shall be as manufactured by Wabo-Acme, D.S. Brown, General Tire or approved equal.

STUD ANCHORS shall be low carbon steel ASTM A-108.

WELDING: All welding shall conform with A.W.S. and AASHTO specifications for welded highway and railway bridges.

EXISTING DECK JOINTS, above end diaphragm (L 18x42.7) shall be removed and replaced in accordance with details shown.

Contractor shall verify all dimensions prior to fabrication.

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING INSTALLATION CHART TEMPERATURE °F						
	30	40	50	60	70	80	90
4"	2 7/8"	2 5/8"	2 3/8"	2 1/4"	2"	1 3/4"	1 1/2"

Minimum joint width at time of installation shall be 1½" at temperatures of 90°F. and above.

TABLE "A"

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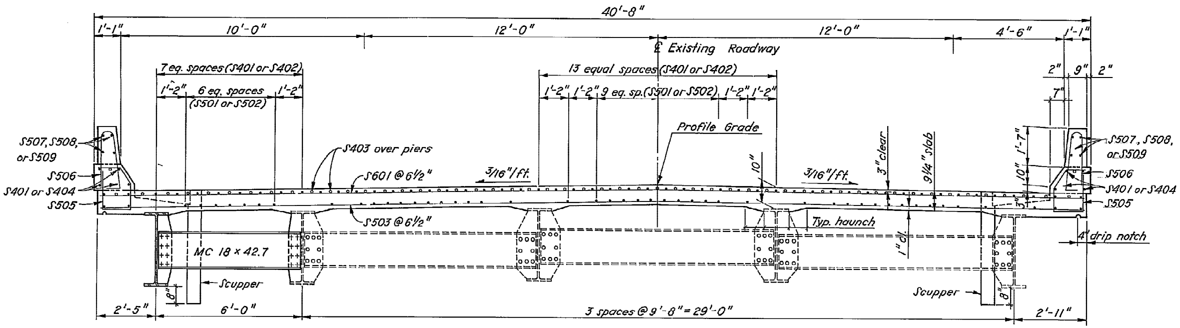
OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Ave., Ste. 1, Columbus, Ohio 43212 • 614/488-0731

STRUCTURE No. 15
OVER WAGGONER ROAD
STRUCTURAL EXPANSION JOINTS
SANDUSKY COUNTY STA. 75+72.82

Drafted	Drawn	Checked	Reviewed	Date	Revised
V.K.	[illegible]	CEE	[illegible]	3-8-82	



TRANSVERSE SECTION NORTH BRIDGE

(Transverse Section for South Bridge - Rotating by 180°)

NOTES:

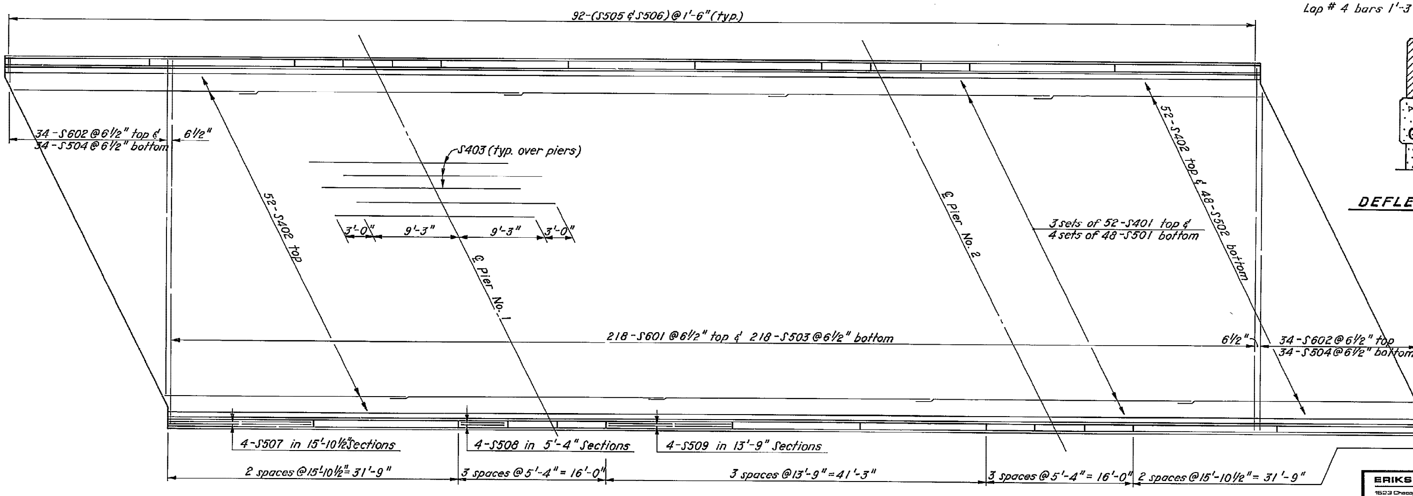
A typical haunch width of 9" shall be used for computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

The deflection joints in the barrier curb may be either 1/4" gray sponge rubber or 1/4" gray cellular polyvinyl chloride (PVC) sponge. Either material shall meet the requirements of AASHTO M-153, Type 1, except the density of the PVC sponge shall not be less than 20 lbs. per cu. ft.

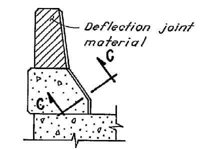
Include with Item SP511A Class S Concrete, superstructure for payment.

All reinforcing steel shown shall be epoxy coated.

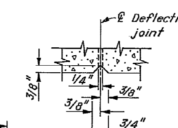
Lap # 4 bars 1'-3" & #5 bars 1'-8" min.



DECK PLAN - TYPICAL FOR NORTH & SOUTH BRIDGES



DEFLECTION JOINT



SECTION C-C

10/12

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue · Columbus, Ohio 43212 · 614/488-0731

STRUCTURE No. 15
OVER WAGGONER ROAD
DECK DETAILS

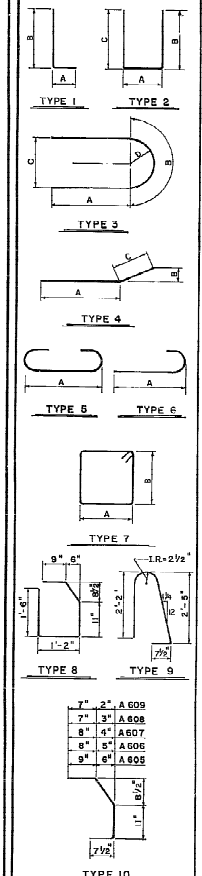
SANDUSKY COUNTY				STA. 75+72.82	
Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	[illegible]	O.E.	[illegible]	3.8.85	

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE

REINFORCING STEEL LIST

83
84

BENDING DIAGRAMS



MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
		WEST ABUTMENT							
A501	10	12-0	125	2	3-8	4-3½	4-3½		
A502	6	6-6	41	3					
A503	18	6-4	119	4	4-5	1-11	0-0		
A505	2	13-0	27	3					
A506	6	16-7 to 18-3	78	2	1-2	7-10 to 3-8	7-10 to 3-8		Vary "B & C" by 10"
A507	4	5-0 to 7-6	26	5					2 sets of 2, vary by 2½"
A508	8	12-0	75	3					
A509	5	11-3	59	7	2-8	2-8			
A600	20	2-6	75	5					Dowels
A601	6	6-4	76	5					Bend in field to fit
A602	6	11-7	104	2	0-11	5-6	5-6		
			805	Lbs.					
A401	88	11-1	2811	3					
A402	8	10-6 to 11-6	40	3					2 sets of 4, vary by 2'-0"
A504	6	3-6	22	1	1-7½	2-0			
A510	29	20-0	605	5					
A511	29	26-6	802	5					
A512	12	4-0	50	5					
A513	9	5-0	47	6					
A514	9	5-3	49	9					
A515	10	2-0	21	1	0-7½	1-6			
A516	16	2-2	36	5					
A517	12	9-10	123	3					
A518	12	11-0	138	3					
A519	24	4-0	100	5					
A603	73	11-1	1249	5					
A604	14	10-6 to 4-6	158	5					2 sets of 7, vary by 12"
A605	2	3-0	9	10					
A606	2	2-11	9	10					
A607	2	2-10	9	10					
A608	2	2-9	8	10					
A609	2	2-8	8	10					
A610	16	2-8	64	6	2-0				
A611	6	3-6	32	2	0-4	1-9	1-9		
			3,860	Lbs.	epoxy coated				
		EAST ABUTMENT							
A501	10	12-0	125	2	3-8	4-3½	4-3½		
A502	6	6-6	41	3					
A503	18	6-4	119	4	4-5	1-11	0-0		
A505	2	13-0	27	3					
A506	6	16-7 to 18-3	78	2	1-2	7-10 to 3-8	7-10 to 3-8		Vary "B & C" by 10"
A507	4	5-0 to 7-6	26	5					2 sets of 2, vary by 2½"
A508	8	12-0	75	3					
A509	5	11-3	59	7	2-8	2-8			
A600	20	2-6	75	5					Dowels
A601	6	6-4	76	5					Bend in field to fit
A602	6	11-7	104	2	0-11	5-6	5-6		
			805	Lbs.					
A401	36	11-1	281	3					
A402	8	10-6 to 4-6	40	3					2 sets of 4, vary by 2'-0"
A504	6	3-6	22	1	1-7½	2-0			
A510	29	20-0	605	5					
A511	29	26-6	802	5					
A512	12	4-0	50	5					
A513	9	5-0	47	6					
A514	9	5-3	49	9					
A515	10	2-0	21	1	0-7½	1-6			
A516	16	2-2	36	5					
A517	12	10-0	125	3					
A518	12	10-10	136	3					
A519	24	4-0	100	5					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
A603	73	11-1	1,249	5					
A604	14	10-6 to 4-6	158	5					2 sets of 7, vary by 12"
A605	2	3-0	9	10					
A606	2	2-11	9	10					
A607	2	2-10	9	10					
A608	2	2-9	8	10					
A609	2	2-8	8	10					
A610	16	2-8	64	6	2-0				
A611	6	4-0	36	2	0-8	1-10	1-10		
			3,864	Lbs.	epoxy coated				
		PIER NO. 1							
P501	6	5-8	35	3					
P502	4	8-0	33	1	5-8	2-5½			
P503	6	11-3	70	7	2-8	2-8			
P601	6	5-10	33	3					
P601	6	0-0	139	5	6-6				
P602	4	3-0	32	6	1-11				
P901	12	7-0	286	1	0-9½	6-6			
P902	12	25-6	1,040	3					
Spiral			427						
			2,115	Lbs.					
		PIER NO. 2							
P501	6	5-8	35	3					
P502	4	8-0	33	1	5-8	2-5½			
P503	6	11-3	70	7	2-8	2-8			
P601	6	5-10	33	3					
P801	6	8-8	139	5	6-6				
P802	4	3-0	32	6	1-11				
P901	12	7-0	286	1	0-9½	6-6			
P903	12	25-2	1,027	5					
Spiral			421						
			2,096	Lbs.					
		SUPERSTRUCTURE							
S401	188	30-0	5,768	3					
S402	104	26-6	1,841	6	26-0				
S403	106	21-6	1,522	3					
S404	8	22-0	118	3					
S501	192	30-0	6,008	3					
S502	48	25-0	1,151	3					
S503	216	40-0	9,093	3					
S504	68	5-6 to 36-6	4,418	3					
S505	184	5-0	980	6					2 sets of 34, vary by 12"
S506	184	5-3	1,008	9					
S507	32	18-6	377	3					
S508	48	5-0	250	3					
S509	24	15-5	336	3					
S601	216	40-0	13,091	3					
S602	68	3-6 to 36-6	2,043	3					2 sets of 34, vary by 12"
S603	8	23-3	279	3					
			43,411	Lbs.	epoxy coated				

Refer to C.M.S. Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 307.09.

MARK	NO.	LENGTH (HEIGHT)	WEIGHT	SHAPE
SPA01	1	22.95	427	Bt.
SPA02	1	22.37	421	Bt.

Spirals - core diam. 32" o/o
- pitch 4 ½" o/c
- other details in accordance with C.R.S.I. Standard practice.

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OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED

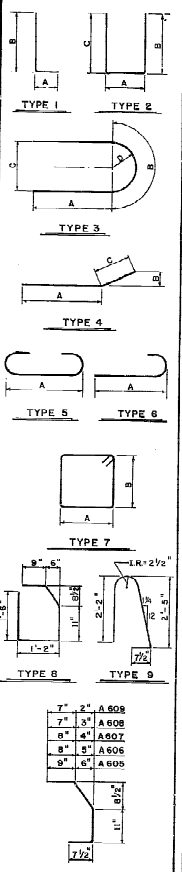
STRUCTURE No. 15
OVER WAGGONER ROAD
REINF. STEEL LIST
NORTH BRIDGE
SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	G.M.	[illegible]	[illegible]	3-8-85	

REINFORCING STEEL LIST

64/84

BENDING DIAGRAMS



Dimensions shown are out to out.

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
			WEST ABUTMENT						
A501	10	12-0	125	2	3-8	4-3½	4-3½		
A502	29	6-4	192	5					
A503	10	11-0	115	2	2-8	4-3½	4-3½		Bend in field to fit
A504	12	18-11 to 10-8	146	2	1-2	6-0 to 5-6	6-0 to 5-6		2 sets of 6, vary by 2"C" by 3"
						4-9	4-9		
A505	2	13-0	27	4	11-0	2-0	0-6		
A506	2	7-6	15	5					
A507	12	12-0	150	5					
A600	20	2-6	75	3					Dowels
A601	8	6-4	76	5					Bend in field
A602	6	11-7	104	2	0-11	5-8	5-8		
			1085	Lbs.					
A401	38	12-3	315	5					
A402	8	11-0 to 5-0	43	5					2 sets of 4, vary by 2'-0"
A508	4	13-8	57	5					
A509	4	14-3	59	5					
A510	31	20-0	647	5					
A511	31	26-6	857	5					
A512	14	4-6	66	5					
A513	21	5-3	110	5					
A514	21	5-3	115	9					
A515	8	13-8	114	3					
A516	8	14-3	119	5					
A605	75	12-5	1,399	5					
A604	8	11-0 to 5-0	96	5					2 sets of 4, vary by 2'-0"
			3,997	Lbs. epoxy coated					
			EAST ABUTMENT						
A501	10	12-6	130	2	3-8	4-6½	4-6½		
A502	7	6-6	47	5					
A603	21	6-4	139	4	4-5	1-11	0-8		
A505	2	13-0	27	5					
A506	6	18-11 to 11-5	95	2	1-2	9-0 to 5-3	9-0 to 5-3		Vary "B&C" by 9"
A507	6	5-0 to 10-0	47	5					3 sets of 2, vary by 2'-6"
A508	9	12-0	100	5					
A509	5	18-10	78	7	2-8	3-11			
A600	20	2-6	75	3					Dowels
A601	8	6-4	78	3					Bend in field
A602	6	11-7	104	2	0-11	5-6	5-6		
			912	Lbs.					
A401	38	11-1	281	5					
A402	3	10-6 to 4-6	40	5					2 sets of 4, vary by 2'-0"
A504	6	3-6	22	1	1-7½	2-0			
A510	29	20-0	605	5					
A511	29	26-6	802	5					
A512	12	4-0	50	5					
A518	9	5-0	47	5					
A514	4	5-3	49	9					
A515	10	2-0	21	1	0-7½	1-6			
A516	16	2-2	36	5					
A517	12	9-10	123	3					
A518	12	11-0	138	3					
A519	24	4-0	100	5					
A603	75	11-1	1249	5					
A604	14	10-6 to 4-6	188	5					2 sets of 7, vary by 12"
A605	2	3-0	9	10					
A606	2	2-11	9	10					
A607	2	2-10	9	10					
A608	2	2-9	8	10					
A609	2	2-8	8	10					
A610	16	2-6	64	6	2-0				
A611	6	4-0	36	2	0-6	1-10	1-10		
			3,864	Lbs. epoxy coated					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
			PIER NO. 1						
P501	6	5-8	35	5					
P502	4	8-0	33	1	5-8	2-5½			
P503	8	11-3	70	7	2-8	2-8			
P601	6	5-10	53	5					
P801	6	8-8	139	5	6-6				
P802	4	3-0	32	6	1-11				
P901	12	7-0	286	1	0-9½	6-6			
P902	12	24-10	1013	5					
Spiral			415						
			2,076	Lbs.					
			PIER NO. 2						
P501	6	5-8	35	5					
P502	4	8-0	33	1	5-8	2-5½			
P503	6	11-3	70	7	2-8	2-8			
P601	6	5-10	53	5					
P801	6	8-8	139	5	6-6				
P802	4	3-0	32	6	1-11				
P901	12	7-0	286	1	0-9½	6-6			
P902	12	24-4	903	5					
Spiral			406						
			2,097	Lbs.					
			SUPERSTRUCTURE						
S401	188	30-0	3,760	5					
S402	104	26-6	1,841	6	26-0				
S405	106	21-6	1,522	5					
S404	8	22-0	110	5					
S501	192	30-0	6,008	5					
S502	48	23-0	1,151	5					
S503	218	40-0	4,095	5					
S504	68	3-6 to 36-6	1,418	5					
S505	184	5-0	960	6					2 sets of 34, vary by 12"
S506	184	5-3	1,008	9					
S507	32	18-6	517	5					
S508	48	5-0	250	5					
S504	24	18-3	456	5					
S601	218	40-0	18,097	5					
S602	68	3-6 to 36-6	2,043	5					
S603	8	23-3	279	5					
			43,411	Lbs. epoxy coated					

MARK	NO.	LENGTH (HEIGHT)	WEIGHT	SHAPE
SP402	1	22.24	415	Bt.
SP403	1	21.75	406	Bt.

Spirals - core diam. 32" c/c
- pitch 4 1/2" c/c
- other details in accordance with C.R.S. I Standard practice.

12/12

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE
ERIKSSON ENGINEERING LIMITED
Consulting Engineers
STRUCTURE No. 15
OVER WAGGONER ROAD
REINF. STEEL LIST
SOUTH BRIDGE
SANDUSKY COUNTY STA. 75+72.82

Designed	Drawn	Checked	Reviewed	Date	Reviewed
V.K.	G.H.				

INDEX OF SHEETS

* SHEETS: 32, 33, 34 NOT USED

OHIO TURNPIKE COMMISSION STANDARD DRAWINGS

AS–1	06–11–98	GR–1	01–15–98	TC–22.20	09–01–92
AS–2	12–26–97	GR–2	06–11–98	TC–31.21	09–01–92
AS–3	06–11–98	JB–1	01–01–97	TC–32.10	09–01–92
		MCC–1	01–01–97	TC–32.11	09–01–92
CB–1	12–30–98	MCC–2	01–01–97	TC–35.10	08–29–84
CB–3	11–11–97	RPM–1	08–18–99	TC–41.10	08–29–84
CB–4	06–25–97	TCB–1	07–11–97	TC–41.20	06–21–94
CB–5	06–25–97	TCB–2	06–25–97	TC–41.40	06–18–79
CBM–1	06–11–98	TCR–1	04–28–98	TC–42.10	08–19–77
CBM–2	11–11–97	TCR–2	04–28–98	TC–42.20	03–26–79
CBM–3	06–11–98	TCR–9	04–28–98	TC–51.11	09–30–94
CBM–4	06–11–98	TCR–10	01–12–98	TC–52.10	04–03–79
CBM–5	11–11–97	TCR–11PM	01–12–98	TC–52.20	04–03–79
CBR–1	06–25–97	TCR–11PS	01–12–98	PCB–91	04–24–92
		TCR–12	07–08–99	BS–1–93	12–19–94
CBR–3	06–11–98	TCR–13	01–01–97	FB–1–82	05–10–82
CJ–1	03–17–99	TCR–14	05–22–97	RB–1–55	02–02–59
CJ–2	01–13–99	TCR–15	04–28–98		
DJ–1	11–11–97	UD–1	01–01–97		
DJ–2	11–11–97	XOV–3	01–01–97		
DR–1	01–01–97				
EPA–1	04–21–97				

FIBER OPTIC CABLE AS-BUILT DRAWINGS LCI COMMUNICATIONS CORP. 1, 2, 20–34, 67–69

OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS

BP–2.1	10–28–94	HL–30.11	05–01–87	TC–22.20	09–01–92
BP–3.1	02–22–92	HL–60.11	05–01–87	TC–31.21	09–01–92
BP–5.1	10–28–94	MH–1	12–18–84	TC–32.10	09–01–92
GR–1.1	05–06–91	I–3A&B	04–01–80	TC–32.11	09–01–92
GR–1.2	10–30–92	MC–4	07–26–76	TC–35.10	08–29–84
GR–1.3	02–21–92	MC–11	08–01–78	TC–41.10	08–29–84
GR–2.1	05–06–91	MT–97.10	04–29–88	TC–41.20	06–21–94
GR–3.1	05–06–91	MT–99.10	11–14–86	TC–41.40	06–18–79
GR–4.2	05–06–91	MT–101.60	07–01–92	TC–42.10	08–19–77
GR–8.1	01–31–94	MT–105.10	07–01–92	TC–42.20	03–26–79
MC–1	06–13–69	MT–105.11	07–01–92	TC–51.11	09–30–94
MC–9.1	10–30–92	TC–7.65	03–01–79	TC–52.10	04–03–79
MC–9.2	05–06–91	TC–12.30	01–20–84	TC–52.20	04–03–79
MC–9.3	10–30–92	TC–21.10	09–01–92	PCB–91	04–24–92
MC–9.4	10–30–92	TC–21.20	09–01–92	BS–1–93	12–19–94
HL–20.11	05–01–87	TC–21.40	09–01–92	FB–1–82	05–10–82
		TC–22.10	09–01–92	RB–1–55	02–02–59

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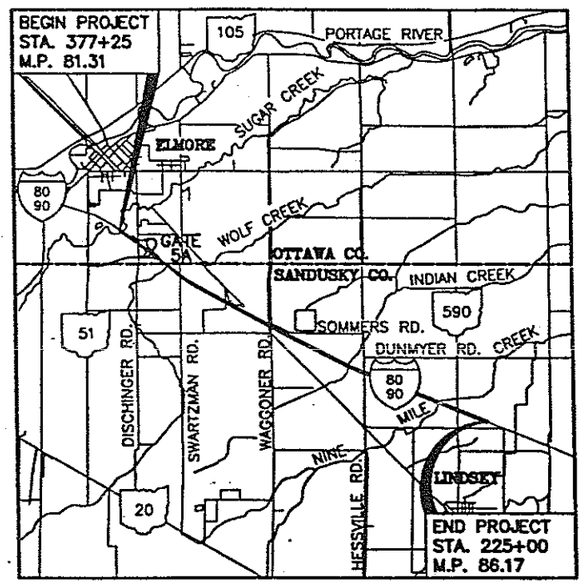
OHIO TURNPIKE COMMISSION
THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT 77-99-05
THIRD LANE CONSTRUCTION
MP. 81.31 TO MP. 86.17
STATION 377+25 TO STATION 410+65.39 OTTAWA COUNTY
STATION 1+70.91 TO STATION 225+00 SANDUSKY COUNTY



SCALES

PLAN ..... 0" 50"

PROFILE ..... HORIZONTAL 0" 50" VERTICAL 0" 5"

CROSS SECTIONS ..... HORIZONTAL 0" 10" VERTICAL 0" 10"

RECOMMENDED FOR APPROVAL
BY
URS GREINER, INC.

REVIEW CONSULTANT
7-27-99
DATE

APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
David B. Ransbury
CHIEF ENGINEER
8/2/99
DATE

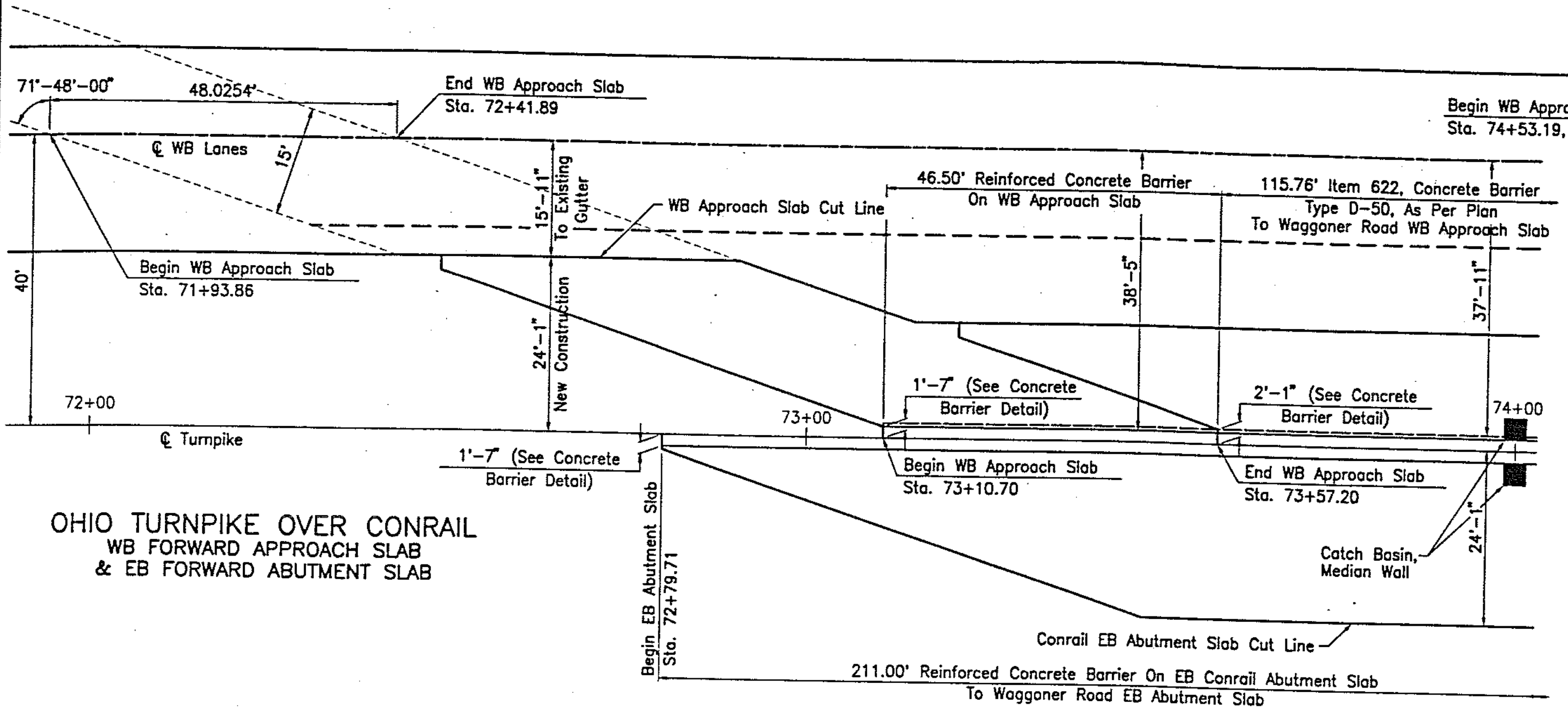
PLANS PREPARED BY
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537
(419) 891–2222

STATE OF OHIO
JOAN MANNIK
PROFESSIONAL ENGINEER

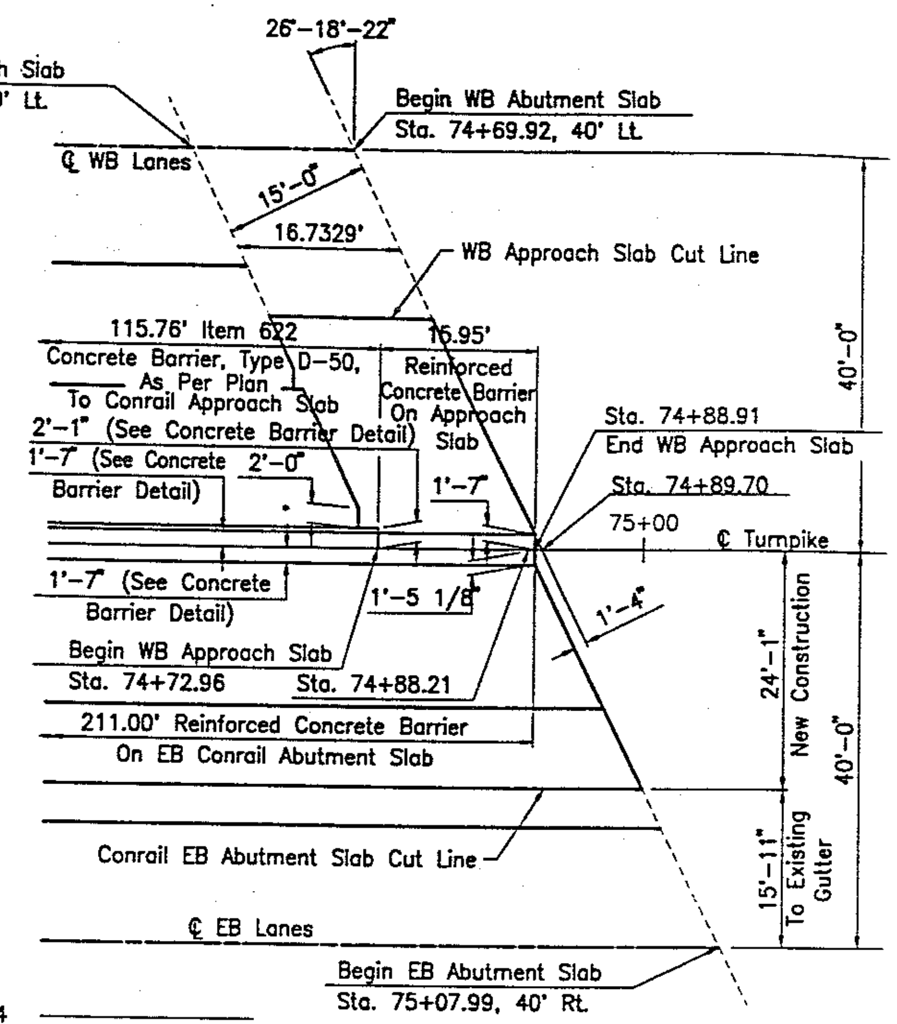
Joan Mannik

Consultants For Nine Mile Creek Bridge
ULRICH-CH'ANG & ASSOCIATES, INC.
3220 CENTRAL PARK WEST
TOLEDO, OHIO 43617
(419) 841–4704

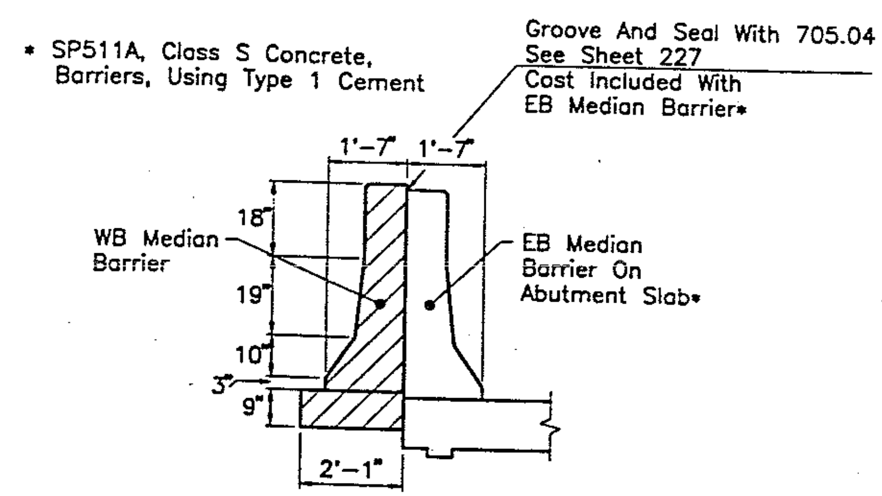
DESIGN CONTRACT NO. 71–96–43



OHIO TURNPIKE OVER CONRAIL
WB FORWARD APPROACH SLAB
& EB FORWARD ABUTMENT SLAB

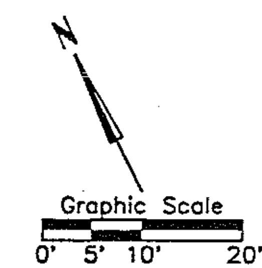


OHIO TURNPIKE OVER WAGGONER ROAD
WB REAR APPROACH SLAB
& EB REAR ABUTMENT SLAB



CONCRETE BARRIER DETAIL
ITEM 622 – CONCRETE BARRIER, TYPE D-50, AS PER PLAN

ITEM 622 – Concrete Barrier Type D-50, As Per Plan Shall Include All Items To Construct The W.B. Median Barrier (2'-1" In Width) As Shown. For Additional Details See Page 227 And ODOT Std. Dwg. MC-9.3



For Additional Details See OTC Std. Dwgs. AS-1 And AS-2.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
WIDENING DETAILS

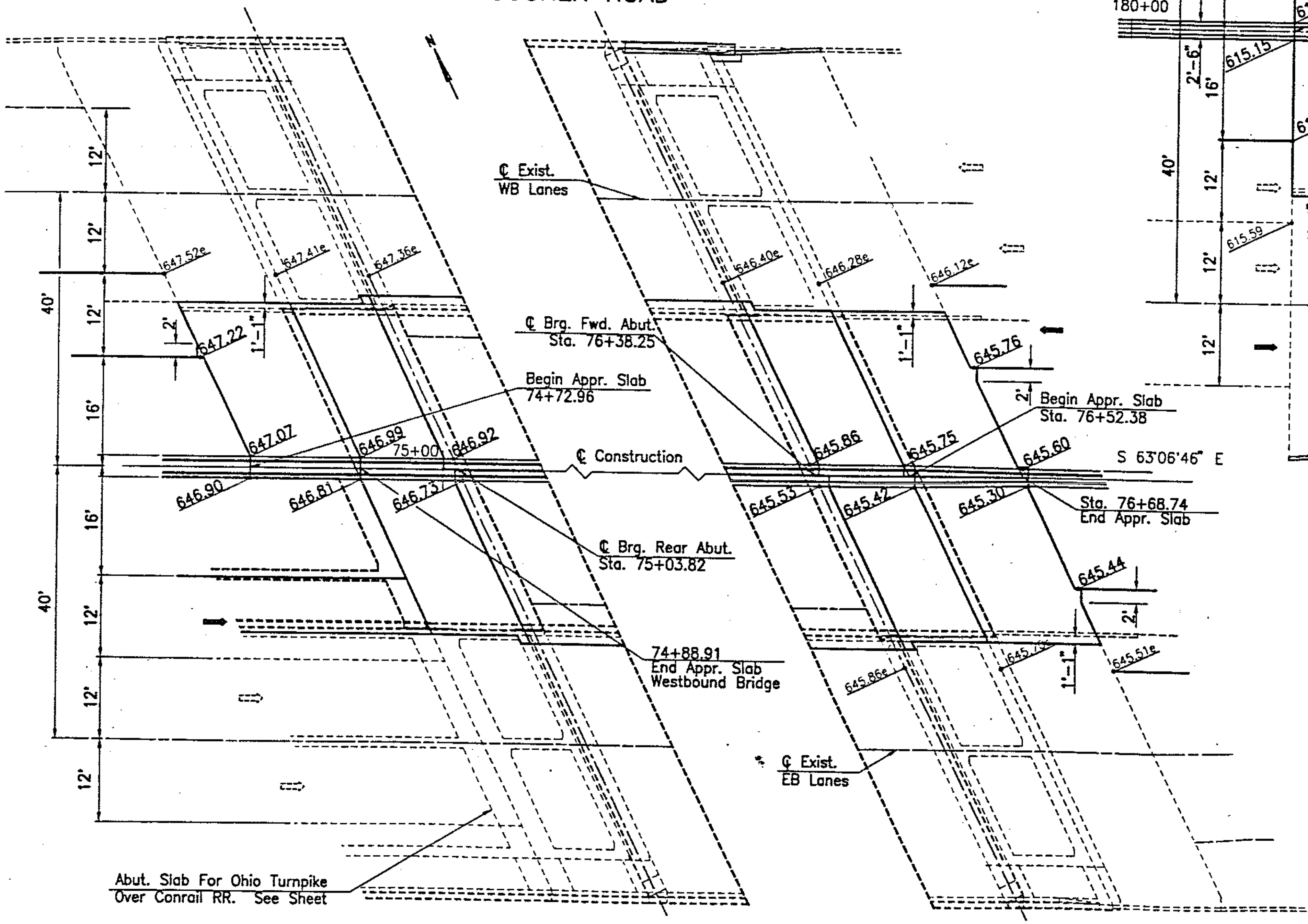
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

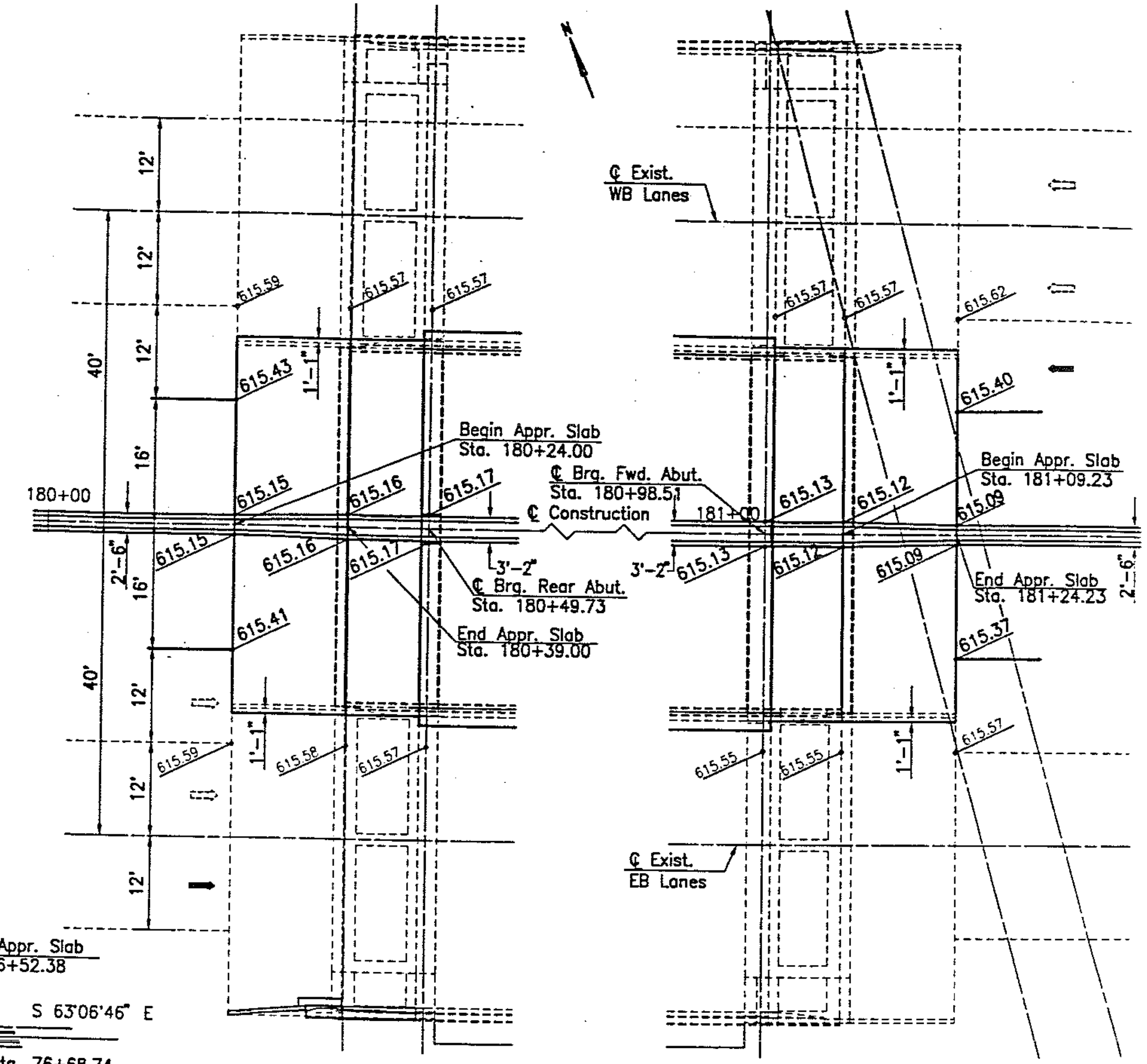
DESIGNED: C.F.B.	CHECKED: E.G.T.	DATE: 6-98
DRAWN: E.G.T.	IN CHARGE: J.M.	SCALE: As Noted

CONTRACT 77-99-03 SHEET 160 OF 276

OTCK9

OHIO TURNPIKE OVER WAGGONER ROAD





OHIO TURNPIKE OVER NINE MILE CREEK

Graphic Scale
0' 5' 10' 20'

LEGEND

000.00 = Proposed Grades

000.00e = Existing Grades

For Additional Details See OTC Std. Dwgs. AS-1 And AS-2.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

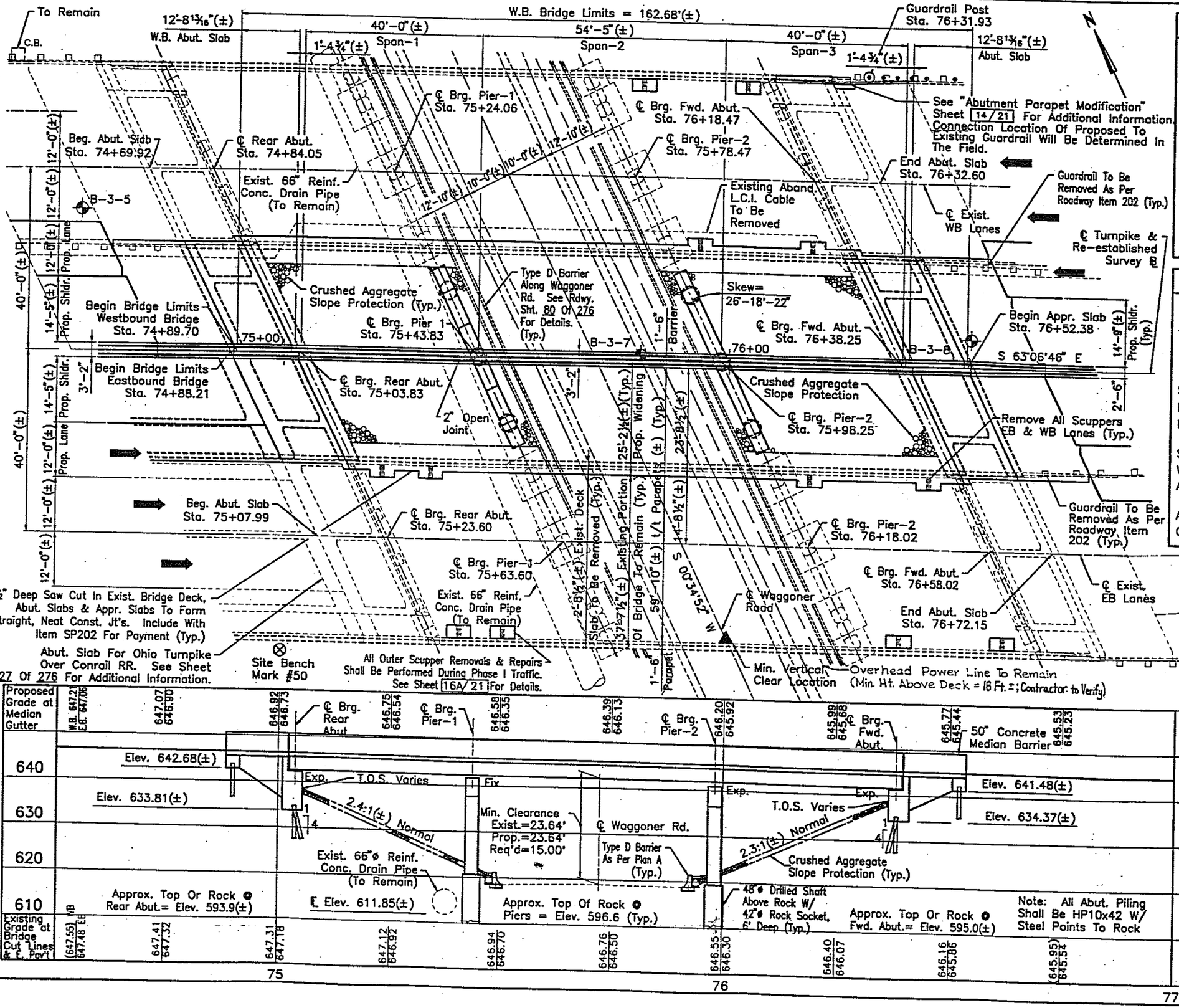
OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
ELEVATION DETAILS

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.B. CHECKED: E.R.P. DATE: 6-98
DRAWN: D.M.V. IN CHARGE: J.M. SCALE: As Noted

CONTRACT 77-99-065 SHEET 161 OF 276

OTCK9



EXISTING STRUCTURE

TYPE: Twin 3-Span Continuous A7 And A36 Steel Beam Bridges With Reinforced Concrete Decks On Cellular Abutments With Reinforced Concrete Cap & Column Piers

SPAN: 40'-0"±, 54'-5"±, 40'-0"± c/c Brgs.

ROADWAY: 37'-4" ± t/t Parapets

LOADING: HS20-44 Case I & Alternate Military

SKEW: 26°-18'-22"± Right Forward

WEARING SURFACE: Monolithic Concrete

APPROACH SLABS: 15'-0"± Long, Except None ● EB Rear Abutment

ALIGNMENT: Tangent

DATE BUILT: 1954, Widened & Redecked 1986

CONDITION: Good

STRUCTURE FILE NO.: 7228597 EB, 7228600 WB

PROPOSED STRUCTURE

PROPOSED WORK: Widening Turnpike By One Lane Both Directions To The Median

TYPE: Twin 3-Span Continuous A36 Steel Beams For Widening With Reinforced Concrete Decks On Reinforced Concrete Cellular Abutments & Cap And Column Piers

SPAN: 40'-0"±, 54'-5"±, 40'-0"± c/c Brgs.

ROADWAY: 2 ● 59'-10"± t/t Parapets

LOADING: HS20-44 Case I & Alternate Military Loading, W/ FWS = 30 psf

SKEW: 26°-18'-22"± Right Forward

WEARING SURFACE: Monolithic Concrete

APPROACH SLABS: 15'-0"± Long, Except None ● EB Rear Abutment

ALIGNMENT: Tangent

CROWN: .0156± Ft./Ft.

SITE BENCH MARK NO. 50

Feno Monument
Sta. 75+00, 65'(±) Right
Elevation = 649.62

NOTES:

Information Obtained From Existing As-Built Plans. The Elevations Have Been Increased 0.46' From The Existing As Built Plans To Match Vanguarde Survey

BORING LEGEND

⊕ Drive Sample Core Boring

( )-Indicates Elevations Taken At The Exist. Edge Of Pav't.

▲-Denotes Min. Vertical Clear Location

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL PLAN & ELEVATION
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRLCE, MAUMEE OHIO 43537

DESIGNED: C.E.W.	CHECKED: J.P.M.	DATE: 6/98
DRAWN: C.E.W.	IN CHARGE: J.M.	SCALE:

CONTRACT 77-99-05 . SHEET 240 OF 276

1/21

OTCK90

GENERAL NOTES

1. BRIDGE DECK ELEVATIONS, SLAB THICKNESS, AND APPROACH PROFILES: IN ORDER TO MEET ROADWAY GRADES, TO ASSURE THE CONSTRUCTION OF THE REQUIRED THICKNESS OF DECK SLABS, AND TO ASSURE THE PROPER LOCATION OF THE REINFORCING STEEL IN THE DECK SLABS, THE CONTRACTOR SHALL OBTAIN THE ELEVATIONS OF THE TOP OF THE NEW AND EXISTING STEEL BEAMS AFTER THE PARTIAL REMOVAL OF THE EXISTING DECK SLAB, AT THE LOCATIONS SHOWN ON SHEET 17/21 FOR THE FINAL PAVEMENT ELEVATIONS. THE CONTRACTOR SHALL COMPUTE THE DECK SCREED ELEVATIONS UTILIZING THE DEAD LOAD DEFLECTIONS THE CONTRACTOR SHALL THEN CALCULATE THE DECK THICKNESS OVER THE BEAMS USING THE DECK SCREED ELEVATIONS AND THE TOP OF BEAM ELEVATIONS. THE CONTRACTOR SHALL FURNISH THE ELEVATIONS TO THE ENGINEER FOR FINAL CHECKING. IF THE COMPUTED DECK THICKNESS IS FOUND TO BE LESS THAN THE MINIMUM THICKNESS REQUIRED, THE FINAL PAVEMENT ELEVATIONS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. FORM WORK SHALL NOT PROCEED UNTIL A CHECK OF THE FINAL ELEVATIONS HAS BEEN PERFORMED BY THE ENGINEER.

   THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON 9¼" THICK CONCRETE OUTSIDE THE HAUNCH AREAS, AND THE AVERAGE THICKNESS OF CONCRETE PLACED OVER THE EXISTING OR PROPOSED BEAMS AT THE HAUNCHES. A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING THE QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12", PROVIDED THAT THE SLOPE SHALL NOT BE MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

   PLACEMENT OF THE ABUTMENT SLAB PRIOR TO THE DECK SLAB WILL NOT BE PERMITTED. HOWEVER, THE ABUTMENT SLAB AND THE DECK SLAB MAY BE POURED AT THE SAME TIME. UPON THE COMPLETION OF THESE POURS AND PRIOR TO POURING THE CONCRETE APPROACH SLABS, THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH FINISH GRADES AND ELEVATIONS REQUIRED TO PROVIDE A SMOOTH TRANSITION FROM THE ROADWAY PAVEMENT AND APPROACH SLABS TO THE CONCRETE ABUTMENT AND DECK SLABS.

   PRIOR TO PLACING THE APPROACH SLABS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER THE EDGE OF NEW AND EXISTING PAVEMENT ELEVATIONS AND EDGE OF SHOULDER ELEVATIONS AT 25' INTERVALS FOR A DISTANCE OF 200' BEYOND THE END OF THE APPROACH SLAB, AND AS BUILT ELEVATIONS OF THE ABUTMENT AND DECK SLABS. AFTER RECEIPT OF THESE ELEVATIONS, THE ENGINEER WILL CALCULATE AND PROVIDE TO THE CONTRACTOR FINAL ELEVATIONS FOR THE APPROACH SLABS AND APPROACH PAVEMENT. NO APPROACH SLABS SHALL BE POURED NOR SHALL PAVING COMMENCE UNTIL RECEIPT OF THESE FINAL ELEVATIONS.

   PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE INCLUDED WITH THE LUMP SUM PRICE BID FOR ITEM SP 623 CONSTRUCTION LAYOUT SURVEY.

2. IF EQUIPMENT FOR DRILLED SHAFT OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE, STRESS CALCULATIONS BY A REGISTERED PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE CMS.

3. PATCHING CONCRETE STRUCTURES
   A CONTINGENCY QUANTITY OF 20 SQ. FT. OF SP519 PATCHING CONCRETE STRUCTURES HAS BEEN INCLUDED ON THE SUMMARY OF QUANTITIES FOR THIS STRUCTURE FOR USE AS DIRECTED BY THE ENGINEER.

4. PILE DRIVING
   IF EQUIPMENT FOR PILE DRIVING OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE. STRESS CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE SPECIFICATIONS.

5. PILE DRIVEN TO BEDROCK
   PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

   REFER TO FOUNDATION PLAN SHEET 4 /21 FOR PILE DESIGN LOADS.

6. ITEM 507 – STEEL POINT (OR SHOE), AS PER PLAN
   STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BOULEVARD, CLIFTON, NEW JERSEY 07014; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL, INC., 3061 NW YEON AVENUE, P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, N.C. 28105; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE ENGINEER. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27 65/35 – CLASS 2, HEAT TREATED OR AASHTO M103 65/35, HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

7. PAINTING OF STRUCTURAL STEEL
   THE NEW STRUCTURAL STEEL SHALL BE TOTALLY SHOP PAINTED WITH ALL COATS IN ACCORDANCE WITH SPECIAL PROVISION SP514A – TOTAL SHOP PAINTING – SYSTEM IZEU. THE THREE COAT SHOP APPLICATION OF THE PAINT IS INCLUDED FOR PAYMENT UNDER ITEM 513 – STRUCTURAL STEEL, AISC CATEGORY I, AS PER PLAN.

   ANY FIELD TOUCHUP OF DAMAGED AREAS SHALL BE INCIDENTAL TO ITEM 513.

8. SURFACE PREPARATION OF STEEL PRIOR TO PAINTING
   THE CONTRACTOR'S ATTENTION IS CALLED TO SPECIAL PROVISION SP514A PART 3 – EXECUTION, SECTION 3.02 SURFACE PREPARATION. SPECIFICALLY PARAGRAPH A WHICH ADDRESSES SURFACE PREPARATION.

   ALL SHARP EDGES SUCH AS THOSE CREATED BY THE FLAME CUTTING AND SHEARING OF STEEL SHALL BE ADDRESSED ACCORDING TO THIS SPECIFICATION IN ORDER TO ENSURE A PROPER PAINT SYSTEM. BREAKING THE EDGE CAN BE ACCOMPLISHED BY A SINGLE PASS OF A GRINDER IN ORDER TO FLATTEN THE EDGE. HOWEVER, CARE SHALL BE TAKEN TO ENSURE THAT DURING THE REMOVAL OPERATION NEW SHARP EDGES ARE NOT CREATED. THIS REQUIREMENT IS APPLICABLE TO ALL STRUCTURES WHETHER OR NOT IT IS SPECIFICALLY ADDRESSED IN THE CONTRACT DRAWINGS.

   NO SEPARATE PAYMENT FOR ANY GRINDING REQUIRED TO CONFORM TO THE SPECIFICATIONS WILL BE MADE. PAYMENT FOR THE SHOP APPLIED COATING SYSTEM IS INCLUDED IN THE COMPLETED WORK ITEM – 513 STRUCTURAL STEEL, AISC CATEGORY I, AS PER PLAN, PER PART 4 – MEASUREMENT AND PAYMENT OF SPECIAL PROVISION SP514A.

9. PROTECTION OF PAINTED STEEL DURING ERECTION
   THE NEW STRUCTURAL STEEL THAT IS TOTALLY PAINTED IN THE SHOP SHALL CONFORM IN ALL RESPECTS TO THE REQUIREMENTS OF SP514A – TOTAL SHOP PAINTING, SYSTEM IZEU AND SPECIFICALLY TO PART 3 – EXECUTION, SECTION 3.05 "SHIPPING, STORAGE, AND HANDLING OF SHOP PAINTED STEEL".

   IN ADDITION TO THESE REQUIREMENTS THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PROTECT THE FINISHED PAINTED SURFACE FROM DAMAGE DURING THE ERECTION OF THE STEEL, THE INSTALLATION OF THE FALSEWORK AND FRAMEWORK, AND POURING OF THE CONCRETE DECK AND PARAPETS. THIS PROTECTION SHALL INCLUDE THE USE OF PADDING ON BRACKETS AND SUPPORTS, CONSTRUCTION OF TIGHT FITTING FORMS AND OTHER PROTECTIVE METHODS THE CONTRACTOR MAY DEEM NECESSARY FOR PROTECTING THE NEWLY PAINTED SURFACE.

   THE CHIEF ENGINEER SHALL HAVE THE AUTHORITY TO INSTRUCT THE CONTRACTOR TO DELAY THE START OF HIS OPERATIONS OR SUSPEND HIS OPERATIONS IN WHOLE OR IN PART IF HE DOES NOT UTILIZE PROPER CARE OR MEANS TO PROTECT THE NEWLY PAINTED STEEL DURING ERECTION OR HIS FORMING OPERATIONS.

10. ITEM 506 – STATIC LOAD TEST AS PER PLAN
    ITEM 506 – SUBSEQUENT STATIC LOAD TEST AS PER PLAN
    FOR STATIC LOAD TESTS PERFORMED ON SERVICE PILES AS DIRECTED BY THE ENGINEER, THE APPLICATION OF LOAD SHALL BE IN ACCORDANCE WITH SECTION 506.03 OF THE CMS EXCEPT THAT THE MAXIMUM APPLIED TEST LOAD SHALL BE LIMITED TO TWO (2) TIMES THE PLAN DESIGN LOAD.

11. ADDITIONAL NOTES
    PLEASE REFER TO SHEET G1 OF G1 FOR ADDITIONAL BRIDGE NOTES.

12. PAINTING REQUIREMENTS AT REMOVED APPURTENANCES
    REGIONS WHERE THE APPURTENANCES FOR THE ABANDONED F.O.C. CONDUIT ARE REMOVED FROM THE EXISTING STEEL SUPERSTRUCTURE PER ITEM SP202 SHALL HAVE SURFACE PREPARATION AND FIELD PAINTING INCLUDED IN ITEMS SP514.

NO.	REVISIONS	BY	DATE
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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW | CHECKED: JPM | DATE: 6/98
DRAWN: CEW | IN CHARGE: JM | SCALE:

ESTIMATED QUANTITIES

CALC'D BY: CMZ DATE: 6/98
CHECKED BY: RCH DATE: 6/98

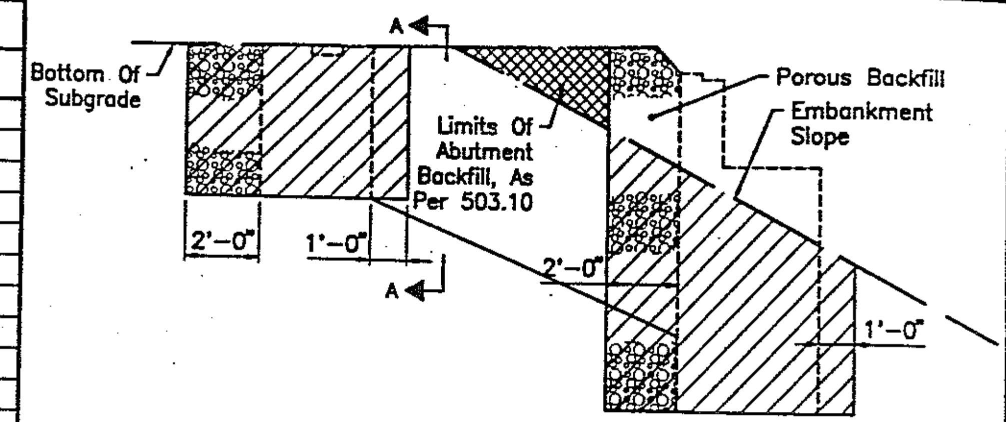
ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GEN.	AS PER PLAN SHT. NO.
SP202	Lump Sum		Portions Of Structure Removed					
503	Lump Sum		Cofferdams, Cribs And Sheeting				Lump	
503	292	Cu.Yd.	Unclassified Excavation				Lump	
503	50	Cu.Yd.	Abutment Backfill, As Per 503.10	292				
505	Lump Sum		Pile Driving Equipment Mobilization	50				G1/G1
506	Lump Sum		Static Load Test, As Per Plan				Lump	
506	1	Each	Subsequent Static Load Test, As Per Plan				Lump ‡	2/21
507	1622	Lin. Ft.	Steel Piles HP10x42				1 ‡	2/21
507	36	Each	Steel Points (Or Shoes), As Per Plan	1622				
SP509	81019	Pound	Epoxy Coated Reinforcing Steel, Grade 60	36				2/21
510	135	Each	Dowel Holes, Using SP853 Grout Anchoring	26093		54626	300 (**)	
SP511	198	Cu.Yd.	Class C Concrete, Abutments	111		24		
SP511	73	Cu.Yd.	Class C Concrete, Pier Caps & Columns	198				
SP511A	54	Cu.Yd.	Class S Concrete, Abutment Slabs, Using Shrinkage Compensating Cement		73			
SP511A	220	Cu.Yd.	Class S Concrete, Superstructure Deck Slab, Using Shrinkage Compensating Cement	54				
SP511A	49	Cu.Yd.	Class S Concrete, Barriers And Parapets, Using Type I Cement			214	6 (*)	
SP512	20	Sq. Yd.	Membrane Waterproofing (Sheet Type 2)	10		39		
513	139,171	Pound	Structural Steel, AISC Category I, As Per Plan	20				
513	180	Each	Welded Stud Shear Connector			139,171		2/21
SP514	Lump Sum		Surface Preparation Of Existing Steel, System UUU			180		
SP514	Lump Sum		Field Painting Of Existing Steel, Prime Coat, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Intermediate Coat, System UUU			Lump		
[illegible]	Lump Sum		Field Painting Of Existing Steel, Finish Coat, System UUU			Lump		
[illegible]	Lump Sum		Field Cleaning And Touch-Up Of Shop Primer And Connections, System OZEU (Application Of			Lump		
			Shop Primer For System IZEU Is Included In The Cost Of Steel), And Field Cleaning And			Lump		
			Painting Of Faying Surfaces With Inorganic Zinc					
516	6	Each	Bearing Devices, Fixed					
516	18	Each	Bearing Devices, Expansion		6			
SP516B	794	Lin.Ft.	Sealing Of Construction Joints	12	6			
518	93	Cu.Yd.	Porous Backfill With Filter Fabric	228		566		
518	174	Lin.Ft.	6" Perforated Corrugated Plastic Pipe, As Per Plan	93				
518	121	Lin.Ft.	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	174				G1/G1
SP519	50	Sq. Ft.	Patching Concrete Structures	121				G1/G1
523	3	Hour	Dynamic Load Test	30			20 (***)	
SP525A	Lump Sum		Worker Protection				3 ‡	
SP525A	20	Each	Protective Clothing/Equipment Set				Lump	
SP525A	Lump Sum		Establish Regulated Areas				20	
SP525A	Lump Sum		Paint Waste/Hazardous Waste Classification, Handling And Disposal				Lump	
SP525A	Lump Sum		Containment System				Lump	
SP527	Lump Sum		Falsework, Temporary Bracing And Protective Structures				Lump	
SP533W	106	Lin.Ft.	4 Inch Continuous Strip Seal In Structural Steel Joint (Widening)			Lump		
SP533R	151	Lin.Ft.	Replacement Of 4 Inch Continuous Strip Seal In Structural Steel Joint			106		
SP536	975	Sq.Yd.	Concrete Weatherproofing, Deck, Abutment Slabs And Approach Slabs			151		
SP536	363	Sq.Yd.	Concrete Weatherproofing, Barriers And Parapets	254		721		
SP536	359	Sq.Yd.	Concrete Weatherproofing, Substructure	40		323		
601	465	Sq.Yd.	Crushed Aggregate Slope Protection	107	252			
SP825	14225	Pound	Galvanized Reinforcing Steel, Grade 60	465				
Special	140	Lin.Ft.	Drilled Shaft, 48" Diameter, Above Bedrock		14225			
Special	36	Lin.Ft.	Drilled Shaft, 42" Diameter, Into Bedrock		140			
Special	20	Lin.Ft.	Proof Testing Drilled Shaft		36			
					20			

(*) As A Contingency 6 Cu. Yd. Of Concrete Has Been Included In The Estimated Quantity For Superstructure Concrete In The General Column, To Be Used As Directed By The Engineer For Additional Concrete Required In The Haunches Due To Profile Adjustment.

(**) See Note 14 On Bridge General Notes Sheet G1/G1.

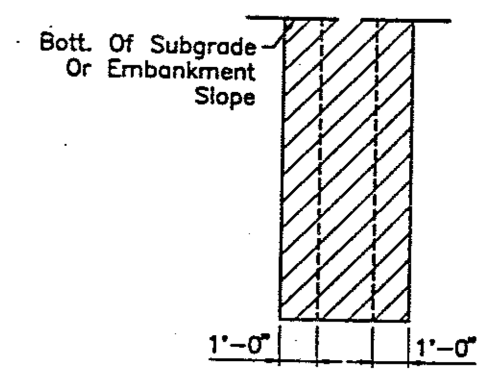
(***) See Note 3 On Sheet 2/21.

(‡) Load Tests Are Contingency Items To Be Used As Directed By The Engineer.



ABUT./APPR. SLAB FOUNDATION & ABUTMENT

(Limits of Unclassified Excavation)



Denotes Limits Of Item 503 Unclassified Excavation

SECTION A-A

(Wingwalls)

NOTE:

Item SP202, Portions Of Structure Removed, Includes But Is Not Limited To The Following:

- Superstructure Concrete 30 C.Y.
- Concrete Parapets 329 Lin. Ft.
- Abutment Slab Concrete 3 C.Y.
- Approach Slab Concrete 1 C.Y.
- Substructure Concrete 1 C.Y.
- Scuppers 12 Each
- Expansion Joints 8 Lin. Ft.
- F.O.C. Conduit And Appurtenances 166 Lin.Ft.

The Above Quantities Are Given For Information Only. The Contractor Shall Obtain His Own Quantities To Be Used As A Basis For Determining His Bid Price For The Item SP202, Portions Of Structure Removed.

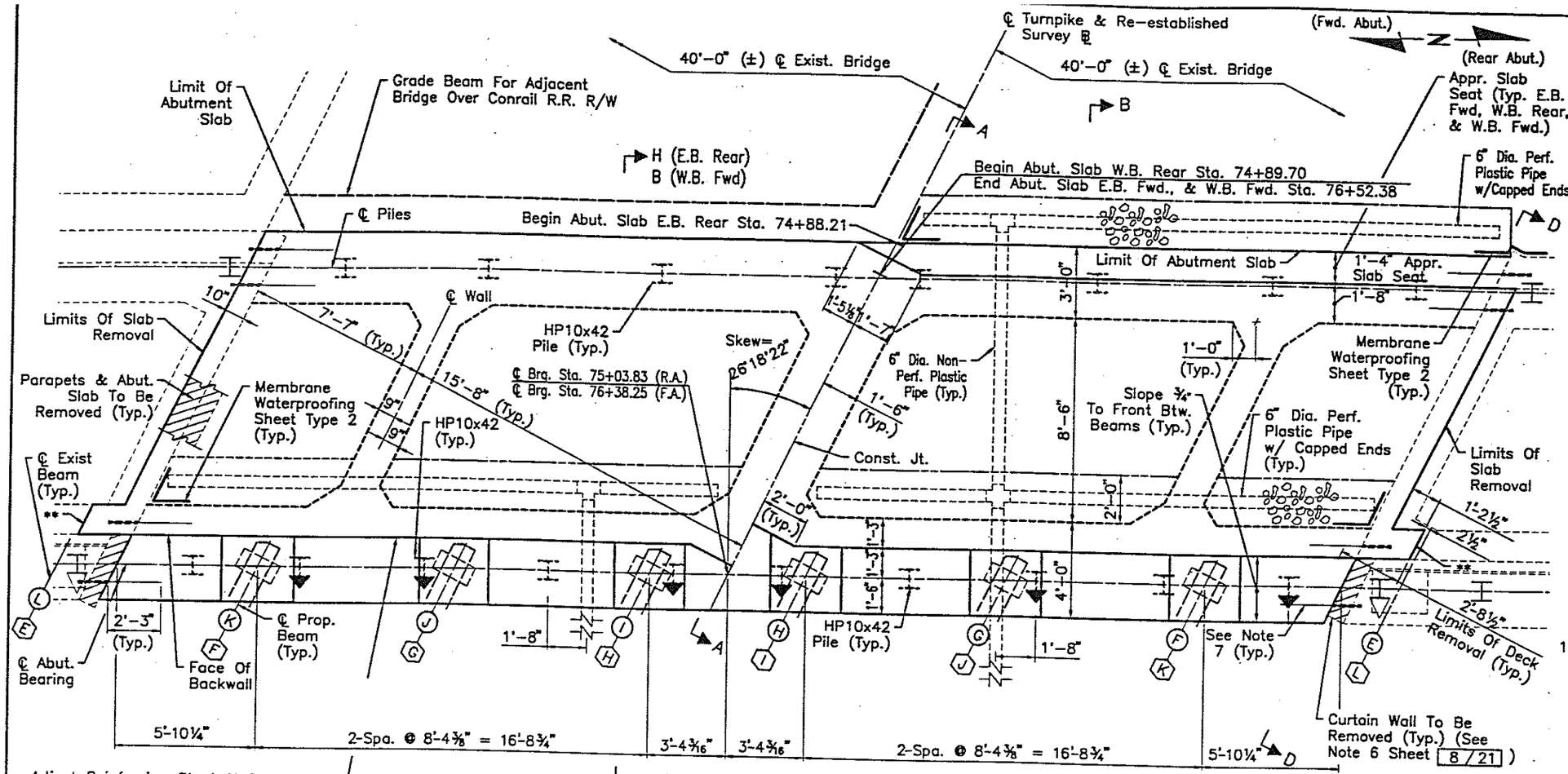
NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ESTIMATED QUANTITIES
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
DRAWN: CMZ IN CHARGE: JM SCALE:



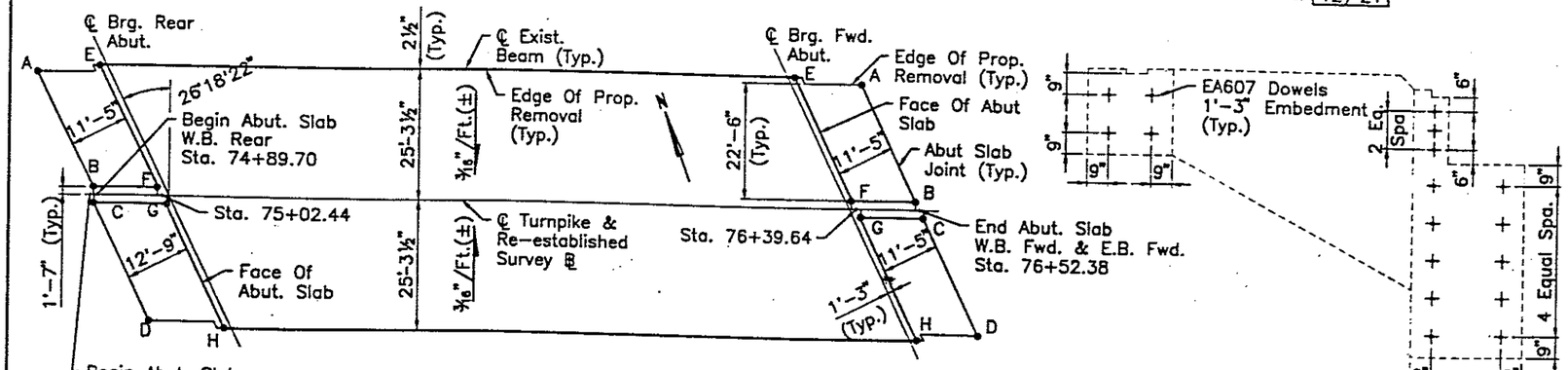
ABUTMENT PLAN

(Rear Abutment Shown–
Forward Abutment Similar Except Approach
Slab Seats Are At EB & WB Sides)

Note: Median Barrier Not Shown On Plan View For Clarity. For Dimensions And Details See Sheet No. 10/21, 11/21 & 12/21

NOTES

1. Ⓖ Indicates Rear Abutment Beam
   Ⓛ Indicates Forward Abutment Beam
2. For Sections A–A, B–B & H–H See Sheet No. 10/21
3. For Abutment Seat Elevations See Sheet No. 8/21 & 9/21
4. For Foundation Plan & Dimensions See Sheet No. 4/21
5. For Abutment Slab Reinforcing See Sheet No. 11/21 & 12/21
6. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab Or Approach Slab And Laterally As Shown On The Plans. See Porous Backfill Detail On Sheet No. 10/21
7. (*) Drill EA607 Dowel Holes 1'-3" Deep And Grout Bars Per Item 510. See Anchor Dowel Detail On This Sheet.
8. (**) Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
9. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
10. ▨ Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.



SCHEMATIC PLAN

(Finished Abutment Slab Elevations)

SECTION D–D

(Typ. Anchor Dowel Layout)

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS

POINT/LOCATION	REAR ABUT.	FORWARD ABUT.
A	647.42 ±	646.05 ±
B	646.87	645.81
C	646.68	645.48
D	647.07 ±	645.52 ±
E	647.37 ±	646.22 ±
F	646.92	645.86
G	646.73	645.53
H	647.12 ±	645.71 ±

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ABUTMENT PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

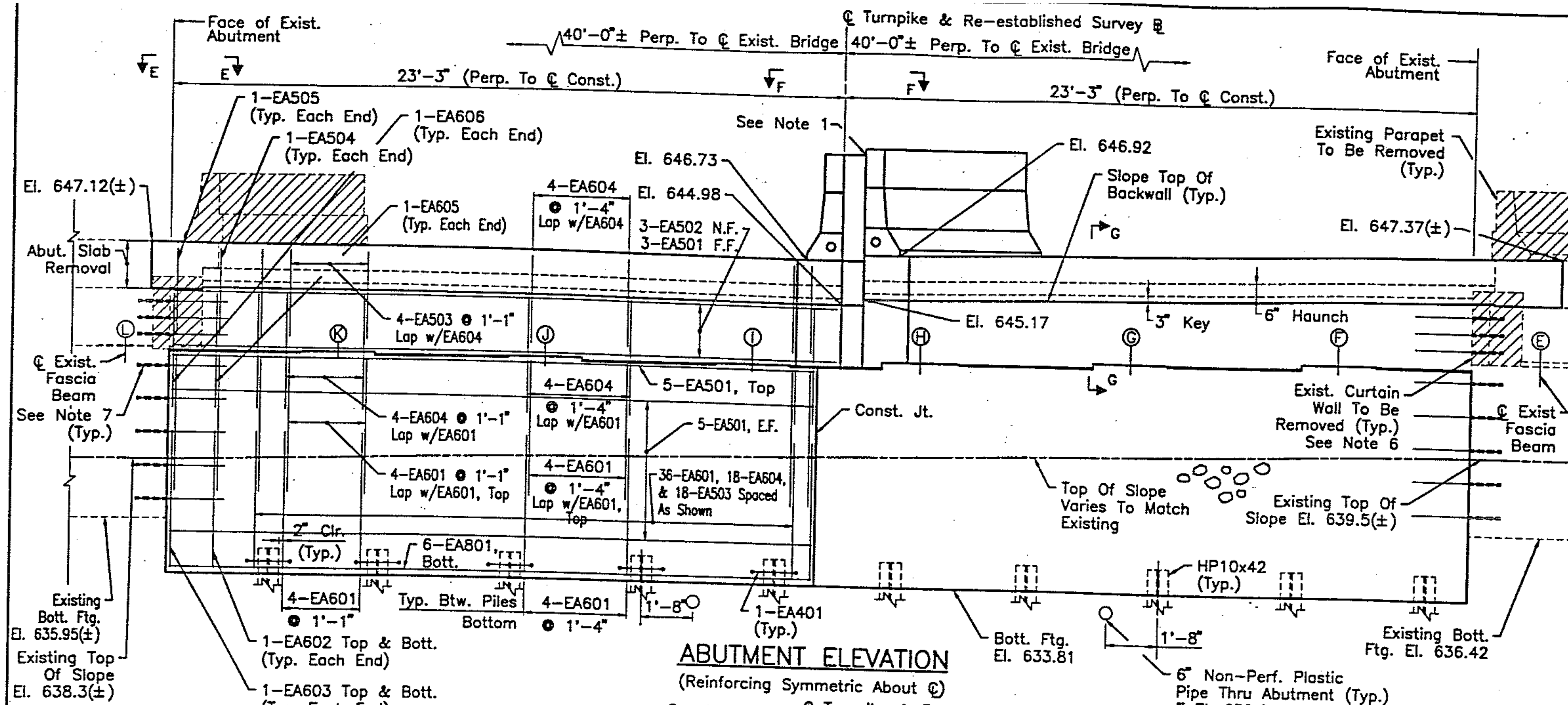
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 5/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

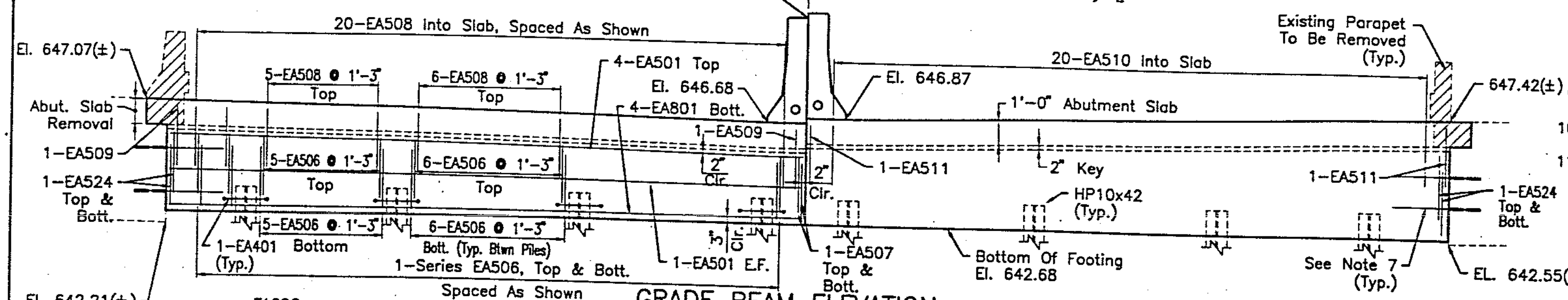
CONTRACT 77-99-05 SHEET 246 OF 276

7/21

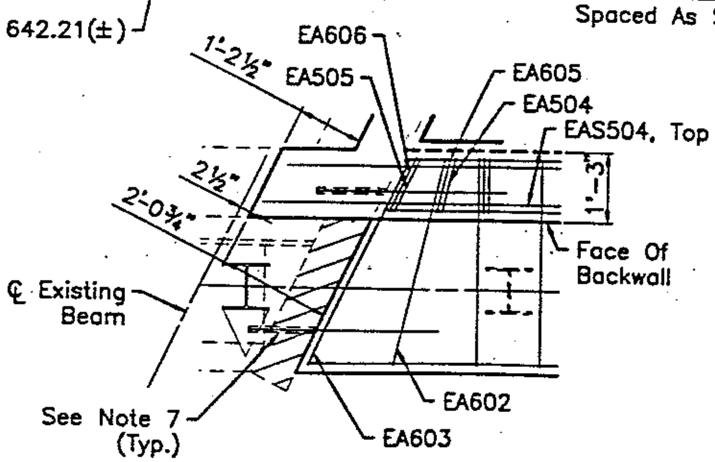
OTCK9D



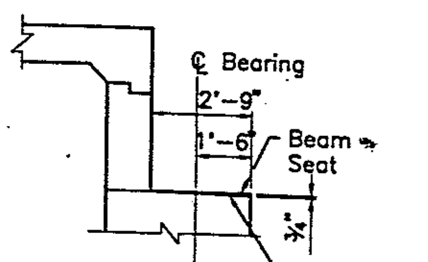
ABUTMENT ELEVATION
(Reinforcing Symmetric About ℄)



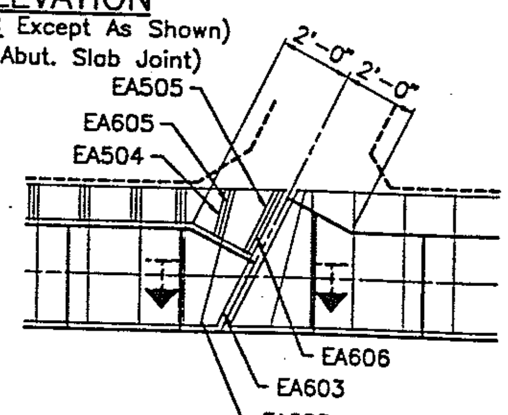
GRADE BEAM ELEVATION
(Reinforcing Symmetric About ℄ Except As Shown)
(Elevations Shown Are Along Abut. Slab Joint)



VIEW E-E
(Typ. All Quadrants)



SECTION G-G
(Typical Of All)



VIEW F-F

TABLE OF ABUTMENT SEAT ELEVATIONS

BEAM LINE	Rear Abut.
F	642.48
G	642.34
H	642.19
I	641.99
J	642.08
K	642.15

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 7/21
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.
4. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars Unless Noted Otherwise.
5. For Foundation Plan See Sheet 4/21
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal.
7. See Anchor Dowel Detail And Note 7 On Sheet 7/21.
8. See Sheet 10/21 For Porous Backfill Details.
9. ○ Rear Abut. Beam
10. For Abutment Deck Joint Details See Sheet No. 19/21.
11. ▨ Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

SP519-PATCHING CONCRETE STRUCTURES

LOCATION	Measured Qty.	Estimated Qty.
Rear Abutments	10 S.F.	15 S.F.
Fwd. Abutments	10 S.F.	15 S.F.
Contingency		20 S.F. **
Total		50 S.F. *

**- See Note On Sheet 2/21.
*- This quantity Is Carried To The Estimated Quantity Table On Sheet 3/21.

ITEM SP519-PATCHING CONCRETE STRUCTURES: Physical Inventory Of Measured Quantities Of Deterioration Was Performed In November, 1996.

Estimated Quantities Have Been Increased By 50% Over Measured Quantities To Allow For Additional Deterioration.

Exact Dimensions And Locations Of Patches Shall Be Determined By The Engineer In The Field For Final Pay Quantity.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REAR ABUTMENT ELEVATION
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

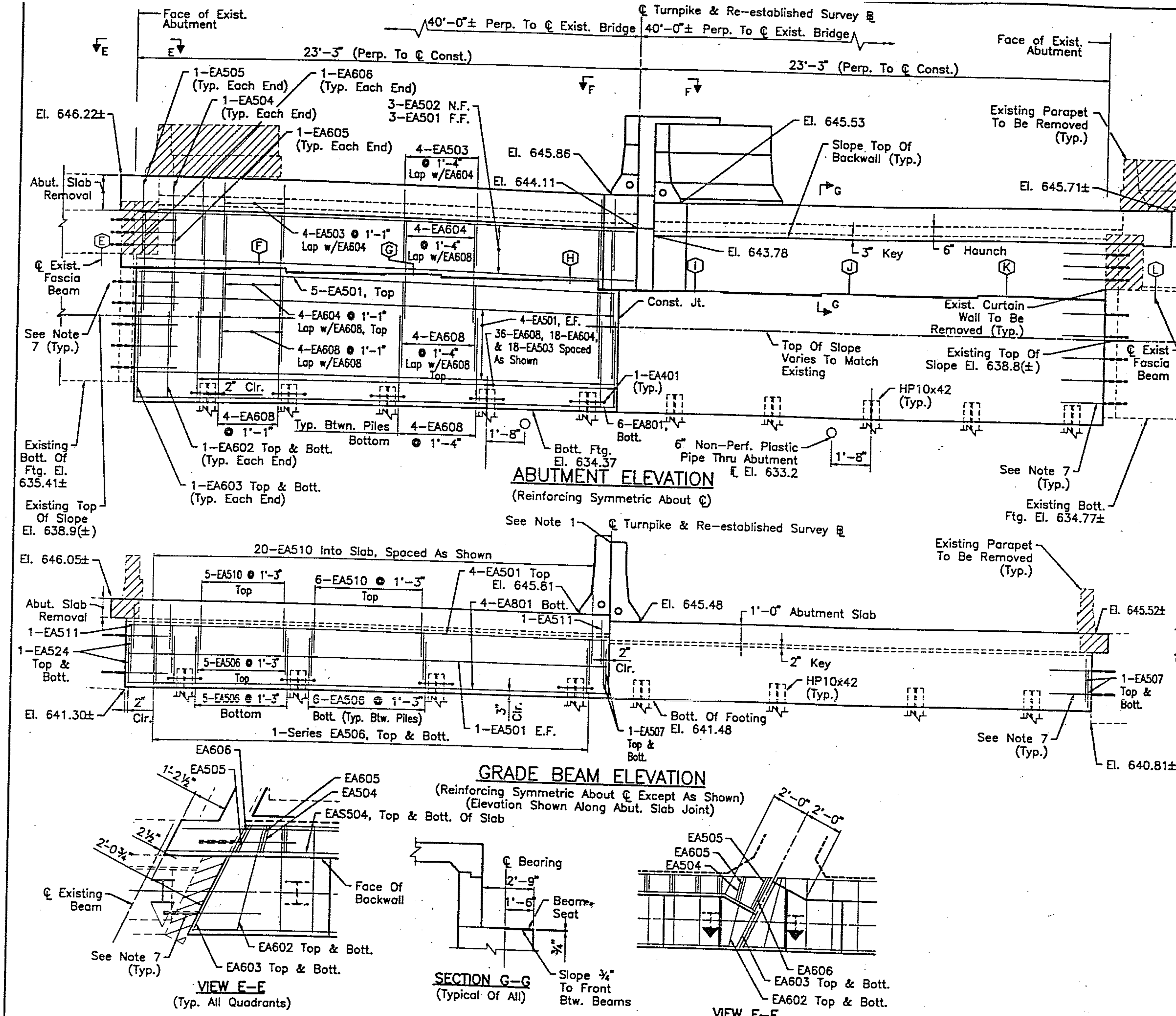


TABLE OF ABUTMENT SEAT ELEVATIONS

BEAM LINE	Forward Abut.
F	641.49
G	641.33
H	641.24
I	640.84
J	640.92
K	641.00

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 7/21.
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable
4. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars, Unless Noted Otherwise.
5. For Foundation Plan See Sheet 4/21.
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal.
7. See Anchor Dowel Detail And Note 7 On Sheet 7/21.
8. See Sheet 10/21 For Porous Backfill Details.
9. ⬡ Forward Abut. Beam
10. For Abutment Deck Joint Details See Sheet No. 19/21.
11. ▨ Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FORWARD ABUTMENT ELEVATION
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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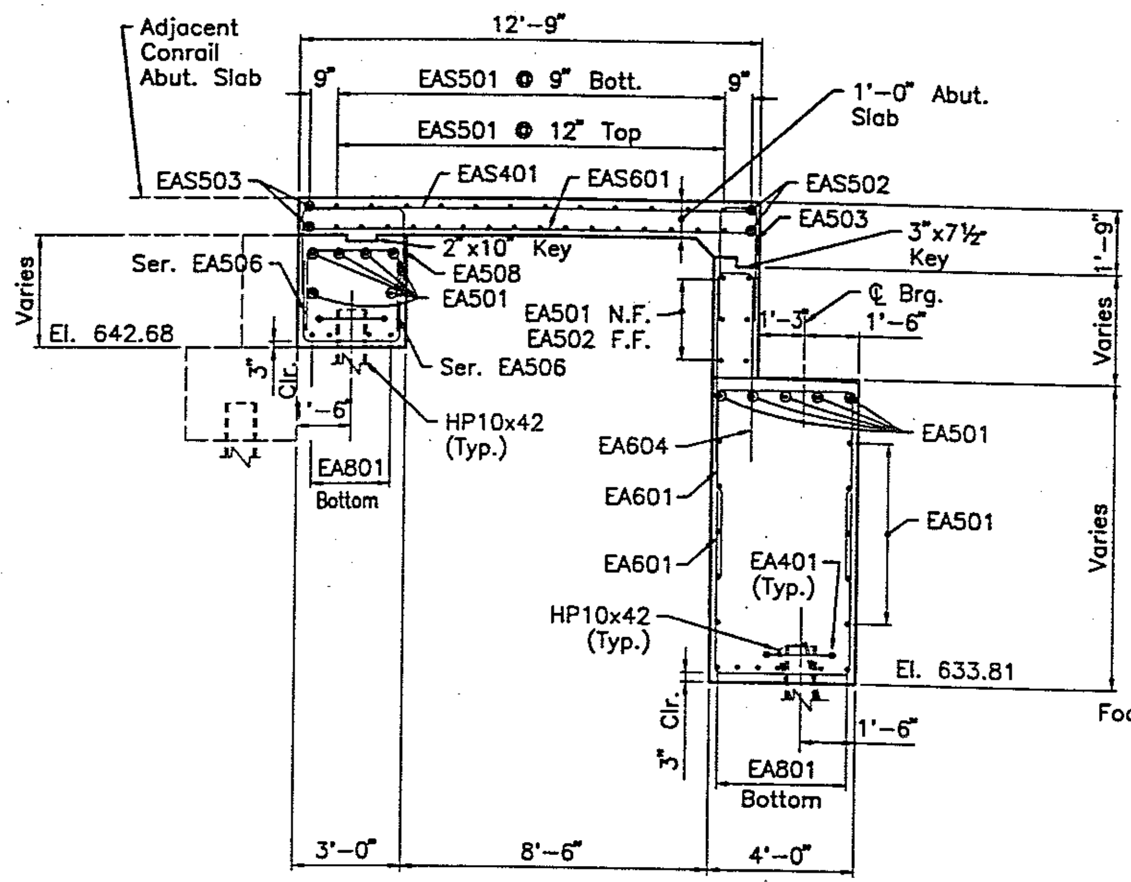
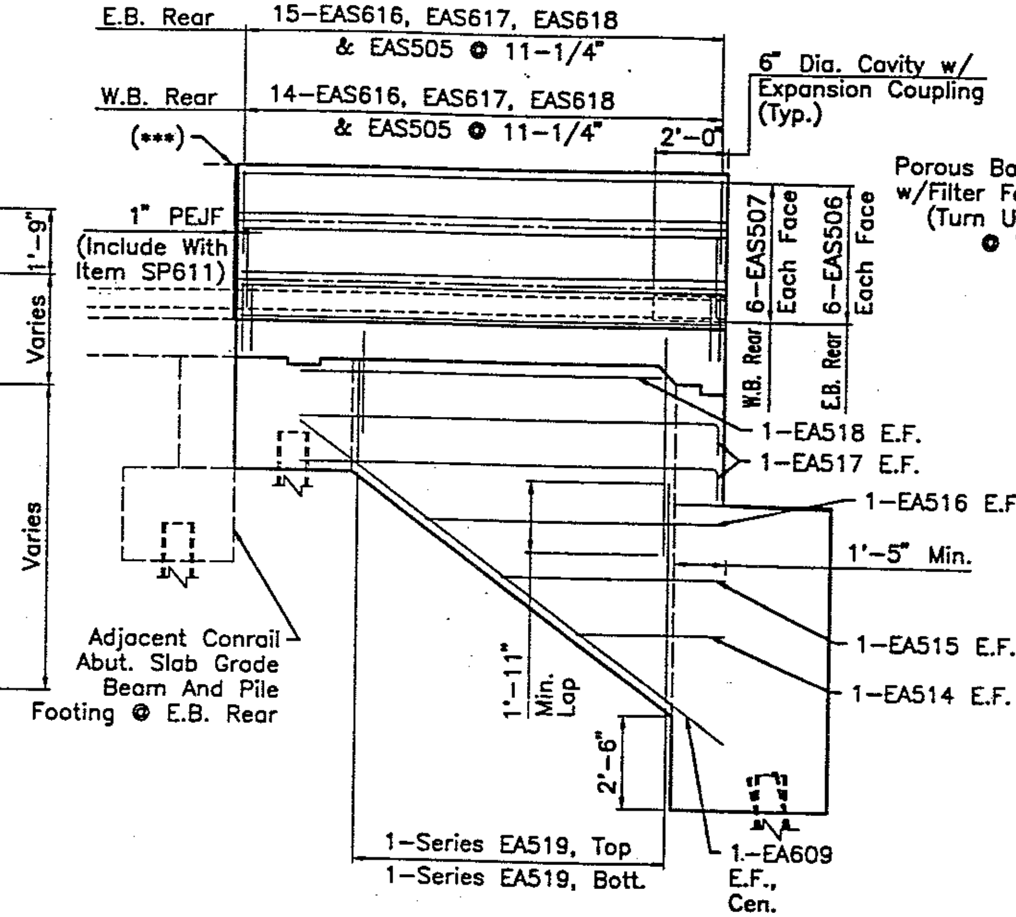


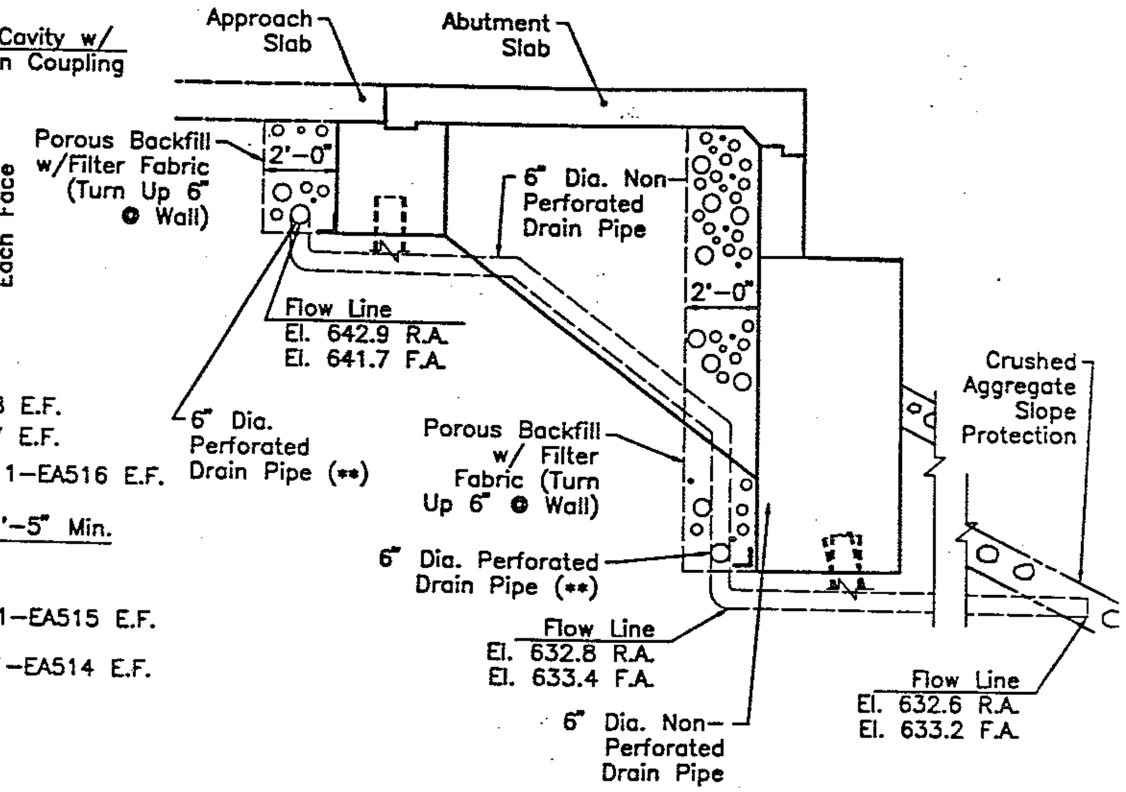
SECTION H-H (REAR ABUTMENTS)

(E.B. Rear Shown-W.B. Similar Except With Approach Seat)
(See Sht. 7/21 For Location)



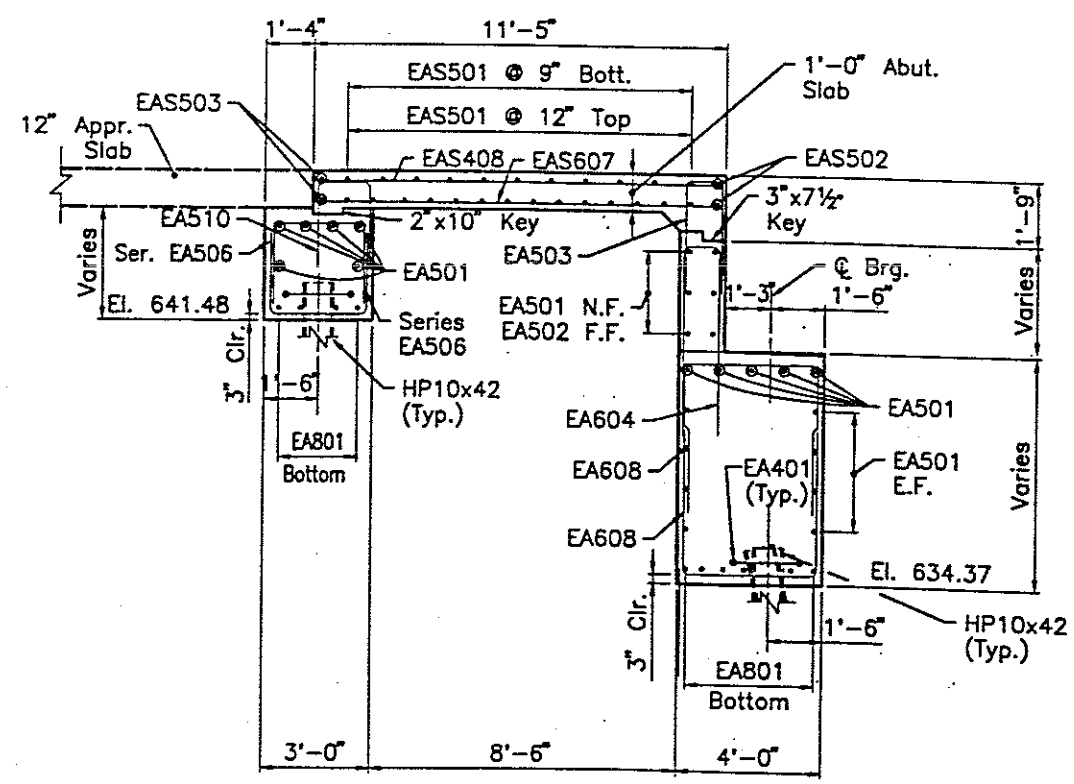
SECTION A-A (REAR ABUTMENTS)

(E.B. Rear Shown-W.B. Rear Similar Except With Approach Seat)
(See Sht. 7/21 For Location)



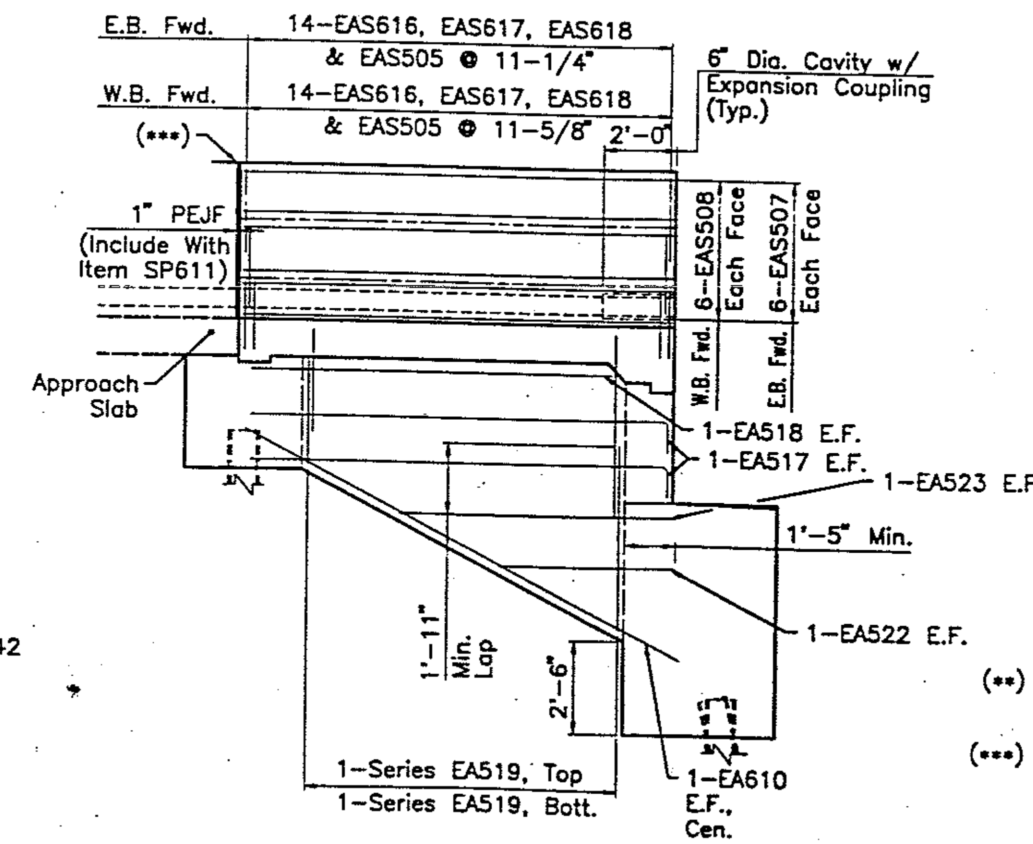
POROUS BACKFILL DETAIL

(Typ. Both Abutments)



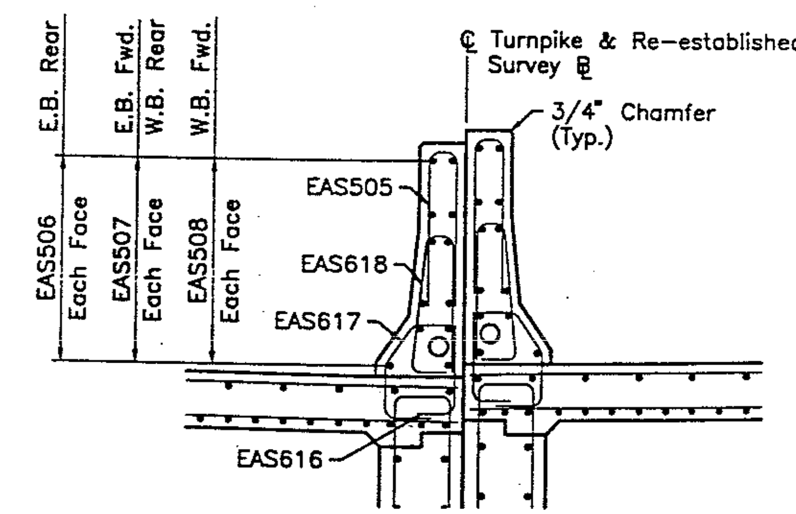
SECTION B-B (FORWARD ABUTMENTS)

(See Sht. 7/21 For Location)



SECTION A-A (FORWARD ABUTMENTS)

(See Sht. 7/21 For Location)



DETAIL A

(Slab Barrier Reinforcement)
(Reinf. Symmetric About ℄)

(**) Slope @ 1/8"/Ft. To Drain

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ABUTMENT DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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10/21

CONTRACT 77-99-05 SHEET 249 OF 276

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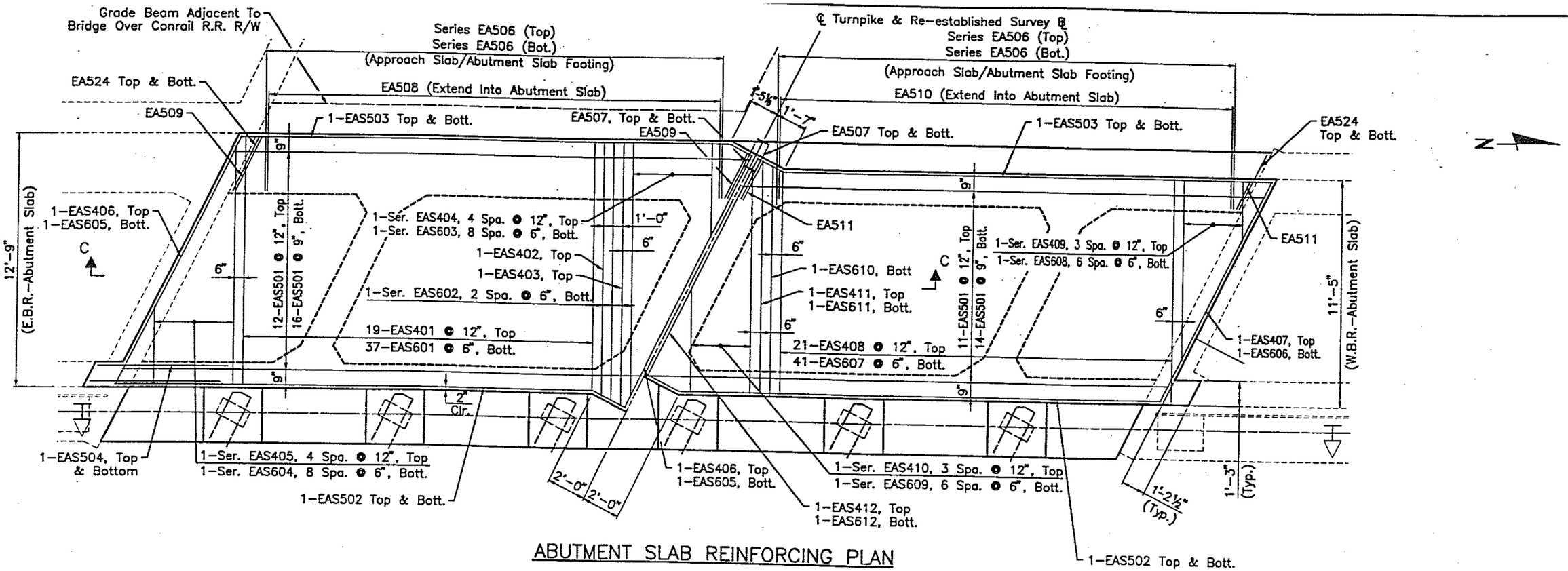
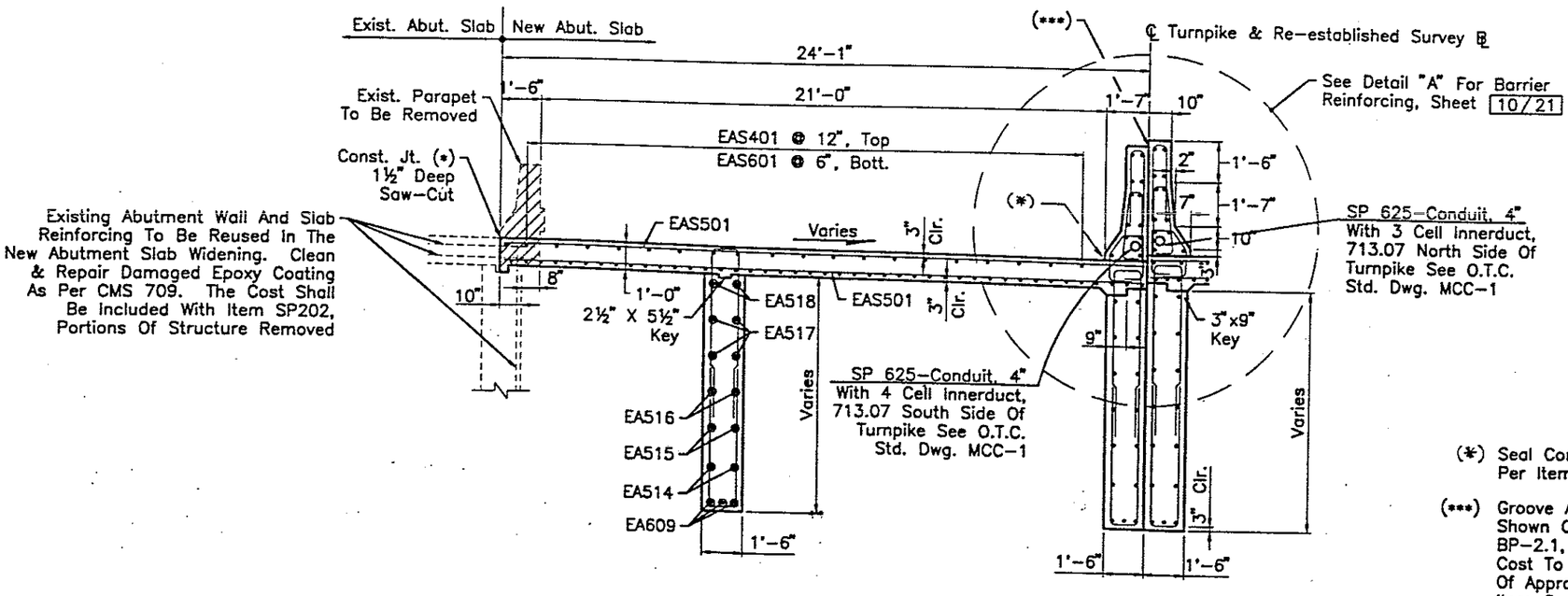


ABUTMENT SLAB REINFORCING PLAN



SECTION C-C

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REAR ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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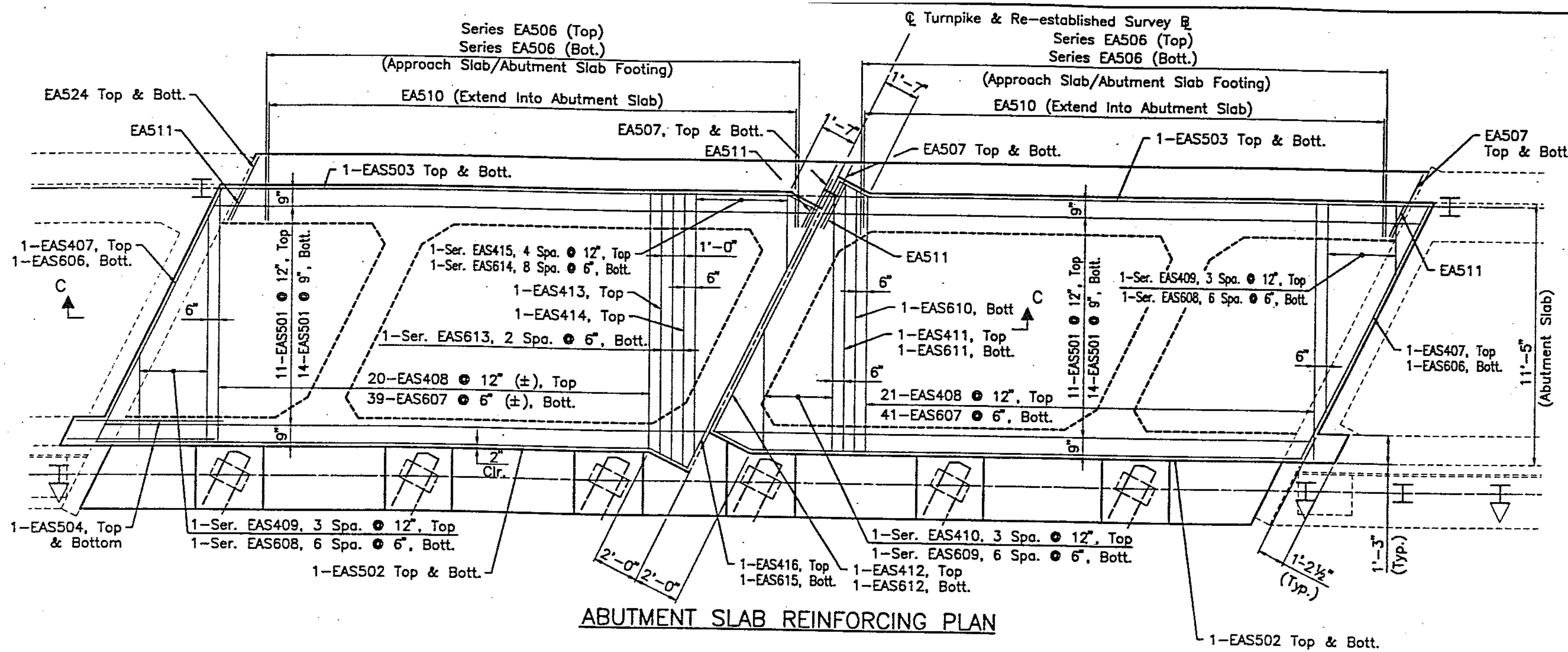
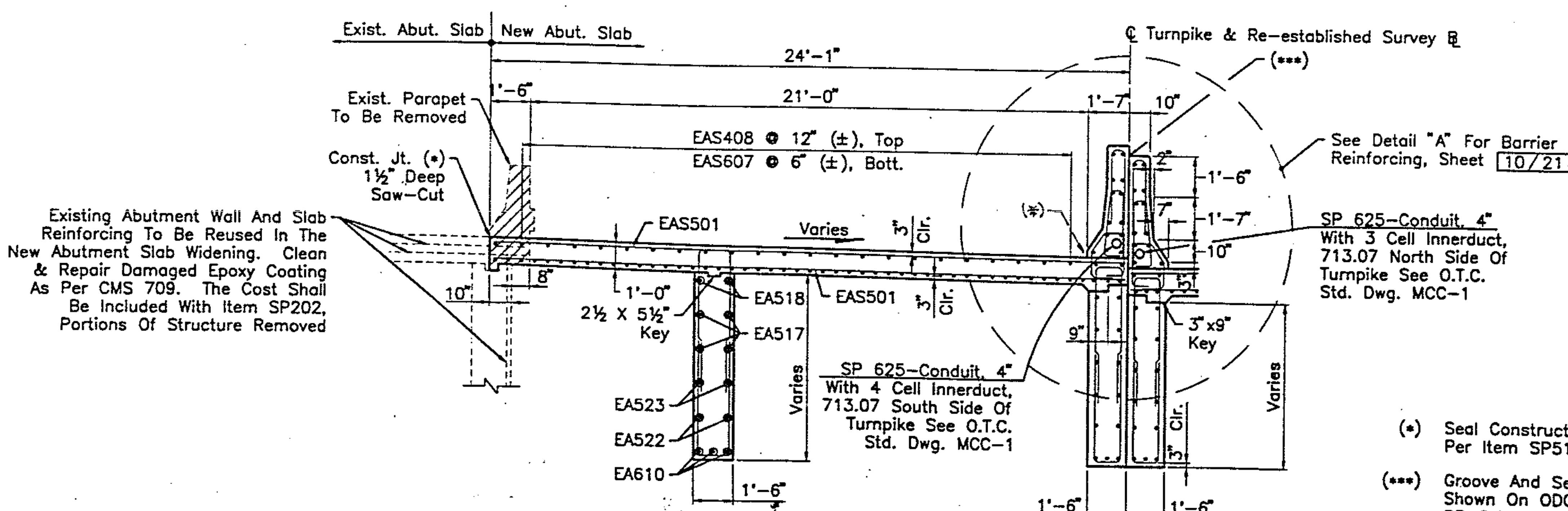
11/21

CONTRACT 77-99-05 SHEET 250 OF 276

OTCK90



ABUTMENT SLAB REINFORCING PLAN



SECTION C-C

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

▨ Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FORWARD ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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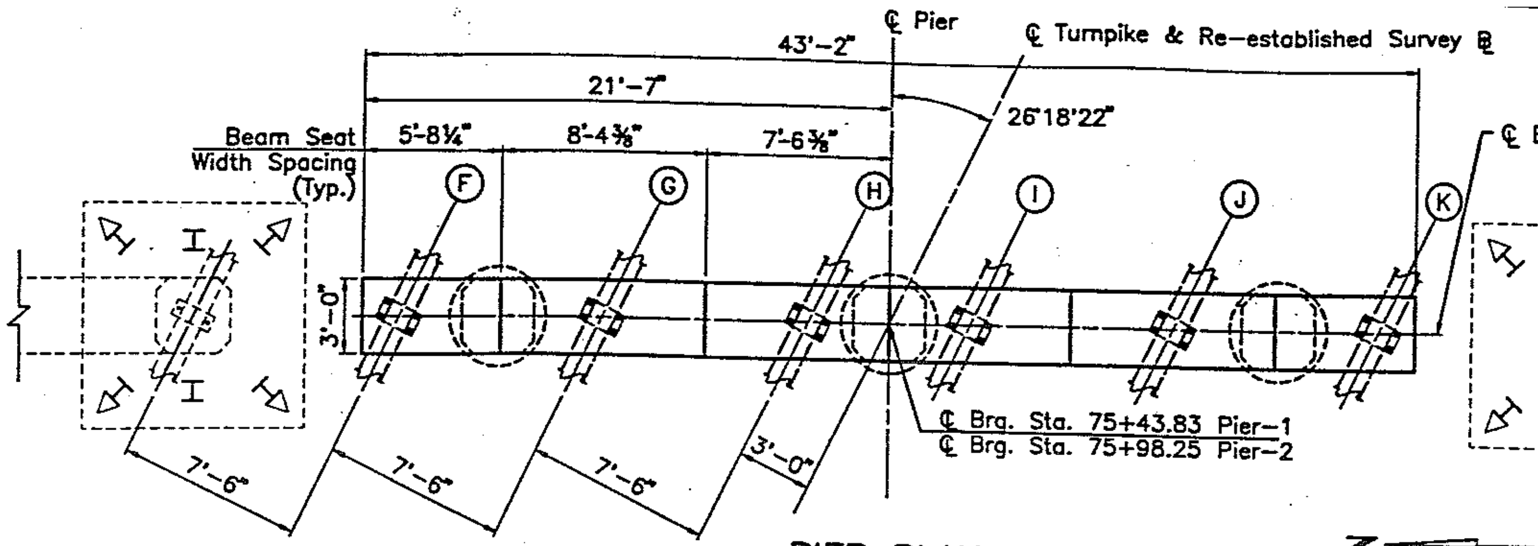
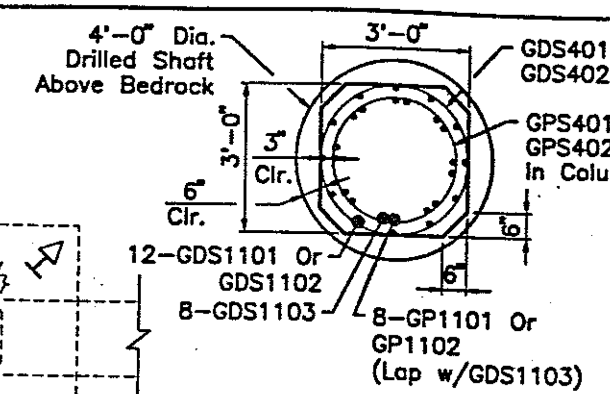
12/21

CONTRACT 77-99-05 SHEET 251 OF 276

OTCK9C



PIER PLAN
(Anchor Rods Shown Are @ Pier 1 Only)

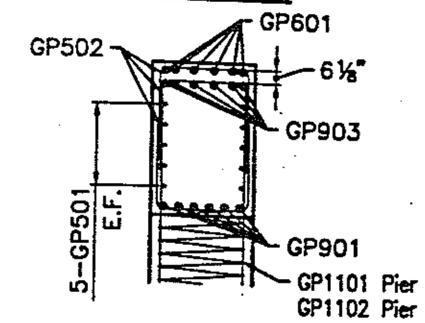


SECTION B-B

Location	Pier 1	Pier 2
Beam F	642.53	641.69
Beam G	642.39	641.53
Beam H	642.26	641.41
Beam I	642.00	641.10
Beam J	642.08	641.17
Beam K	642.15	641.24

Table Of Pier Seat Elevations
*-Located Along ℄ Pier Bearing

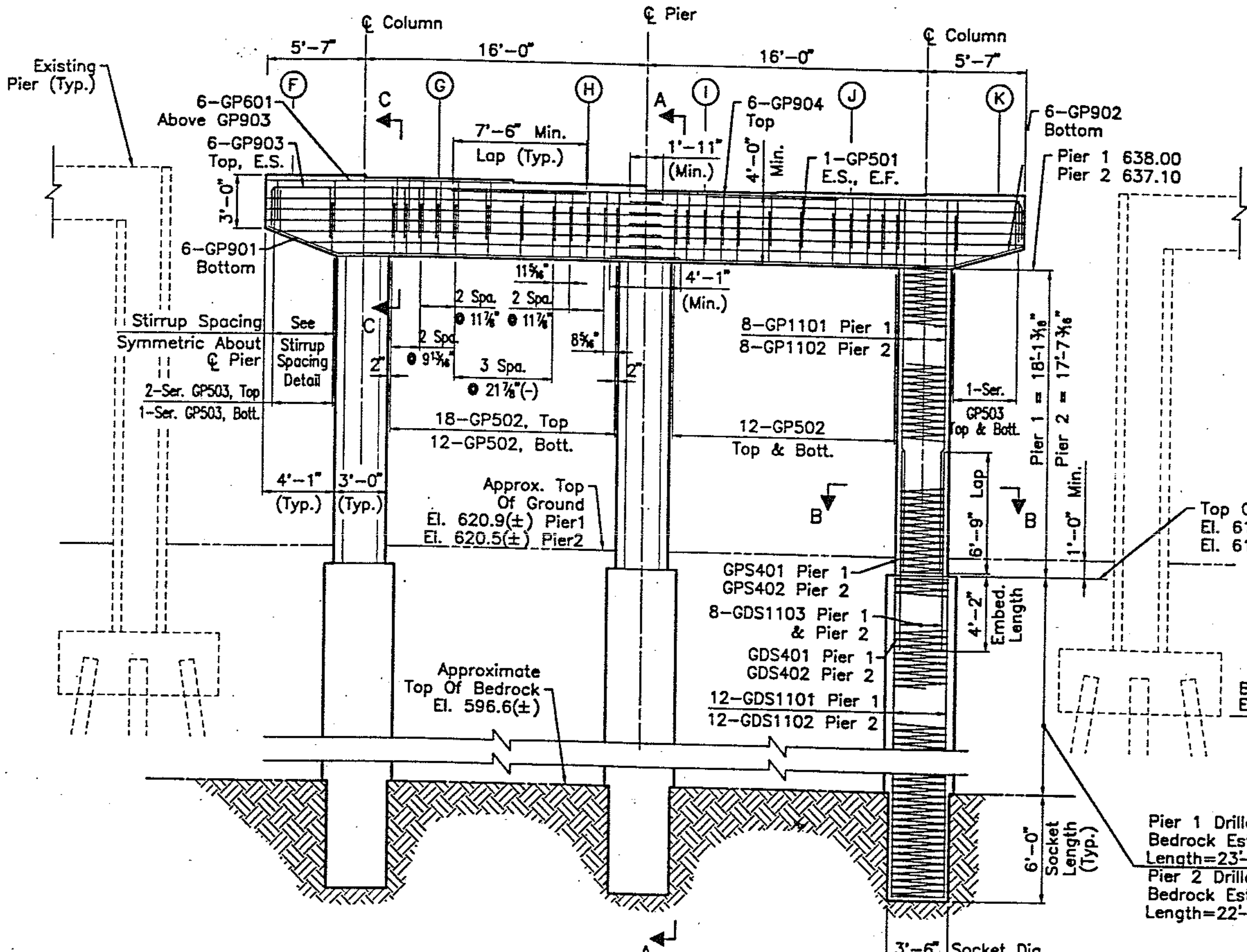
N



SECTION C-C

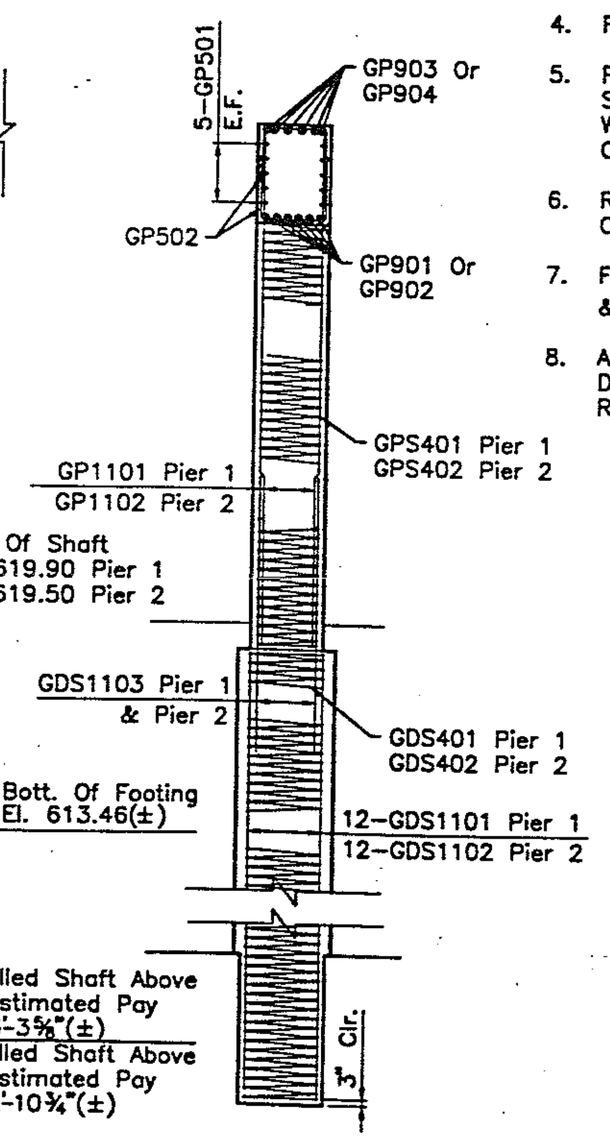
NOTES

1. Galvanized Reinforcing Splice Lengths: Shall Be 1'-11" For #5 Bars, 4'-1" For #9 Bars & 6'-9" For #11 Bars Unless Otherwise Noted.
2. Surface Under Bearings: Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More than 1/16". Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.
3. Minimum Clearance To Reinforcing Shall Be 2" Unless Otherwise Noted.
4. For Foundation Plan Layout See Sheet 4 / 21
5. Pier 1 Cap Reinforcing In The Vicinity Of The Pier Seat Shall Be Accurately Placed To Avoid Interference With The Drilling Of Anchor Rod Dowels Or Presetting Of Bearing Anchors.
6. Reinforcing Shown Is Typical For Both Piers Unless Otherwise Noted.
7. For Drilled Shaft Notes & Details, See Sheet 5 / 21 & 6 / 21
8. All Reinforcing Designated GDSxxx Shall Be Included With Drilled Shaft Items For Payment. See Drilled Shaft Reinforcement Schedule Sht. 21/21 For Details.

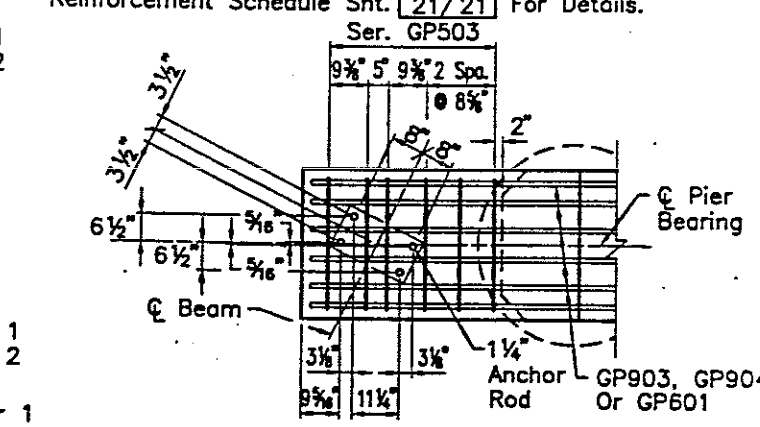


Pier 1 Drilled Shaft Above Bedrock Estimated Pay Length=23'-3⅝"(±)
Pier 2 Drilled Shaft Above Bedrock Estimated Pay Length=22'-10¾"(±)

PIER ELEVATION



SECTION A-A



ANCHOR BOLT DETAIL @ PIER 1
& STIRRUP SPACING @ ENDS OF PIERS

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
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14 / 21 CONTRACT 77-99-05 SHEET 253 OF 276

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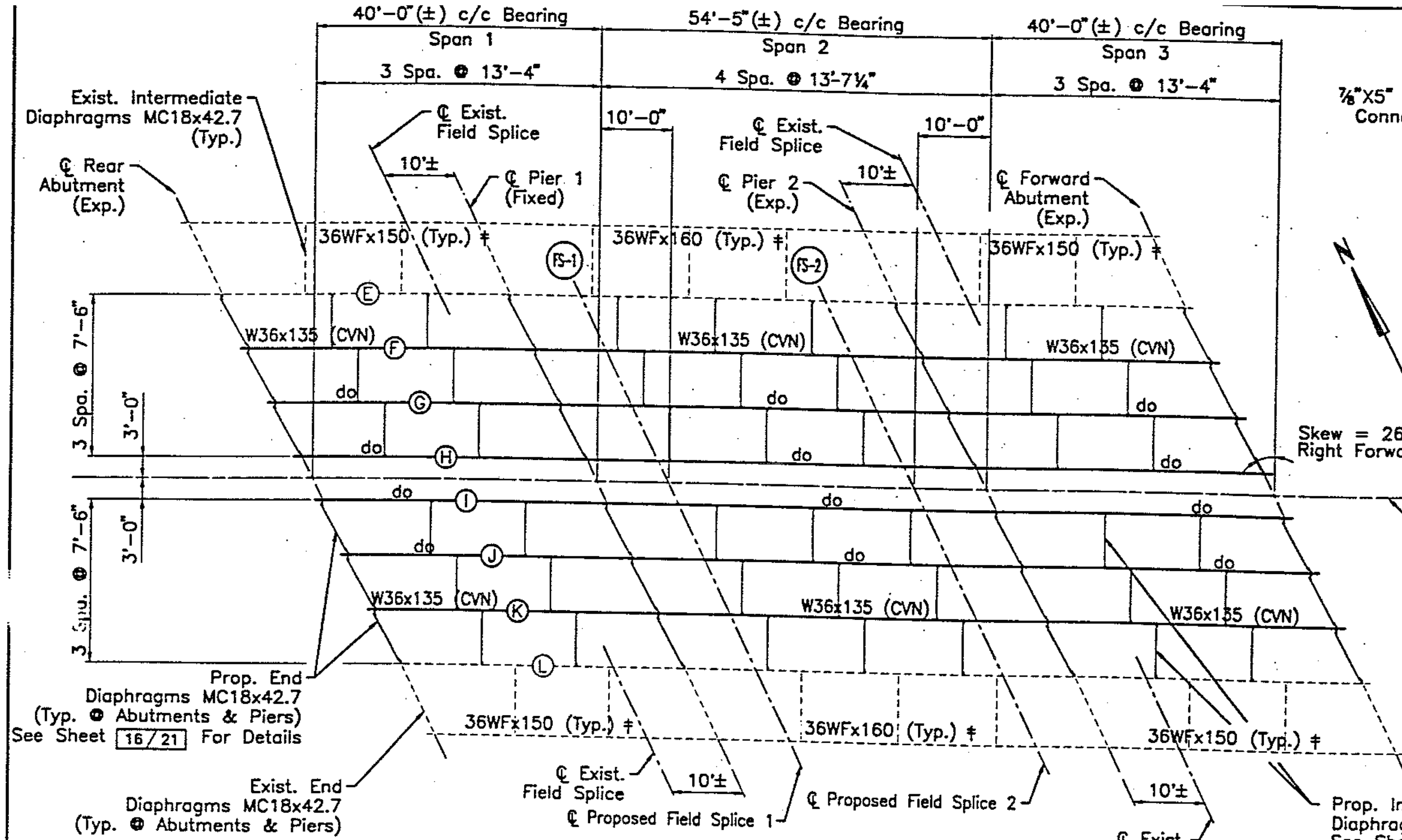
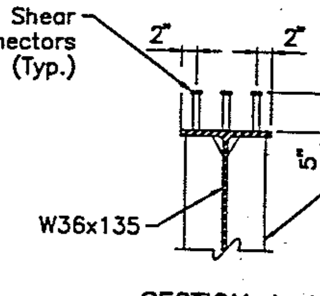
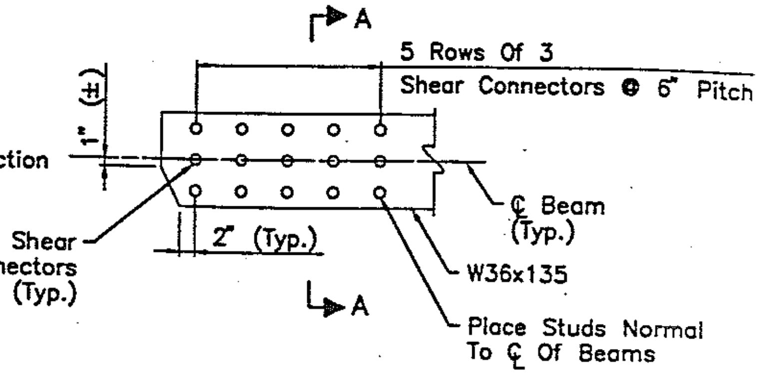


FRAMING PLAN

‡ Denotes Existing ASTM A7 Steel Beams



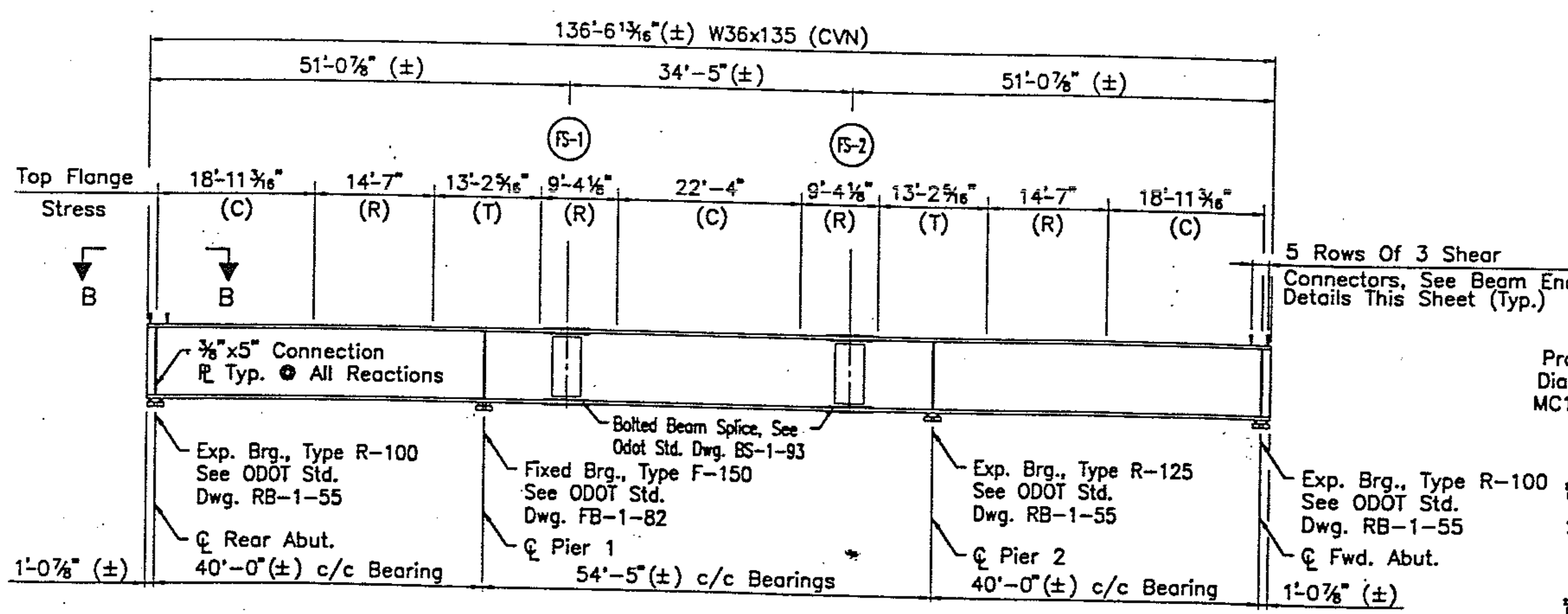
SECTION A–A



BEAM END DETAILS
(Typical For All New Stringers)

STRUCTURAL NOTES:

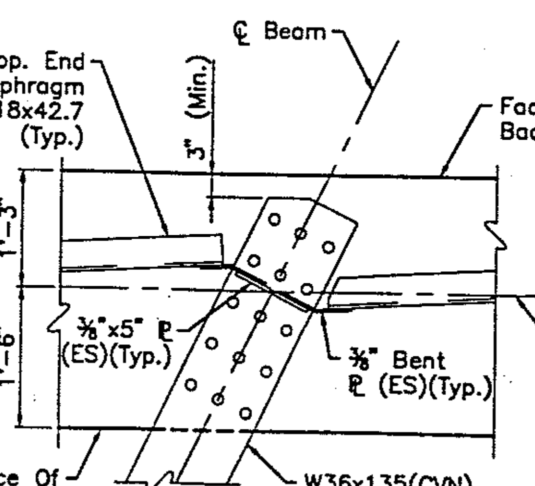
1. Where A Shape Or A Plate Is Designated (CVN) The Material Shall Meet Specified Minimum Notch Toughness Requirements As Specified In 711.01 Of CMS.
2. Welded Attachments For Supports Of Concrete Deck Finishing Machine Or Any Other Purpose Is Prohibited. Only Those Welds Shown On The Plan For Attachment Of Shear Stud Connectors, Bearings, Expansion Joint Supports And Connection Plates Shall Be Permitted.
3. During The Erection Of Diaphragms, Care Should Be Taken To Insure That Stringers, Bearing Parts And Bridge Seats Remain In Bearing Contact.
4. See "Typical Weld End Detail" For Connection Plates, Sheet 16/21.
5. High Strength Bolts Shall Be 1" Diameter, Galvanized And Shall Conform To ASTM A325, SP513, SP514, SP514A Or SP514B And SP711.
6. All Bearing Anchor Rods Are 1¼"øx1'-7" (ASTM A307) And Shall Be Galvanized According To 711.02, And Grouted Using SP853 Grout Anchoring.
7. Use Std. Bolted Beam Splice. See ODOT Std. Dwg. BS-1-93 For Details.
8. Place Diaphragms Between Beam Lines E-F & K-L Finger Tight. Complete Tightening After Deck Has Cured.
9. Use ⅜"x5" Plates For Bearing & Intermediate Connection Plates.
10. Welded Stud Shear Connectors Shall Conform To AASHTO M-169 And Item 513.
11. All Structural Steel Shall Be ASTM A-36, Unless Noted Otherwise.



BEAM ELEVATION
(WB Fascia Beam Shown)

LEGEND:

(C)–Region Of Comp. Only In Top Flange
(T)–Region Of Tension Only In Top Flange
(R)–Region Of Stress Reversal In Top Flange



SECTION B–B

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FRAMING PLAN & DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CFW — CHECKED: JPM — DATE: 6/98
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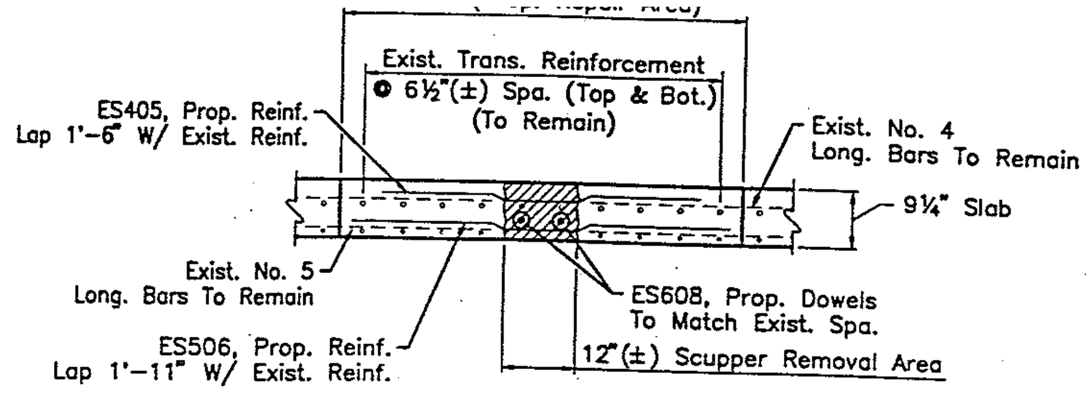
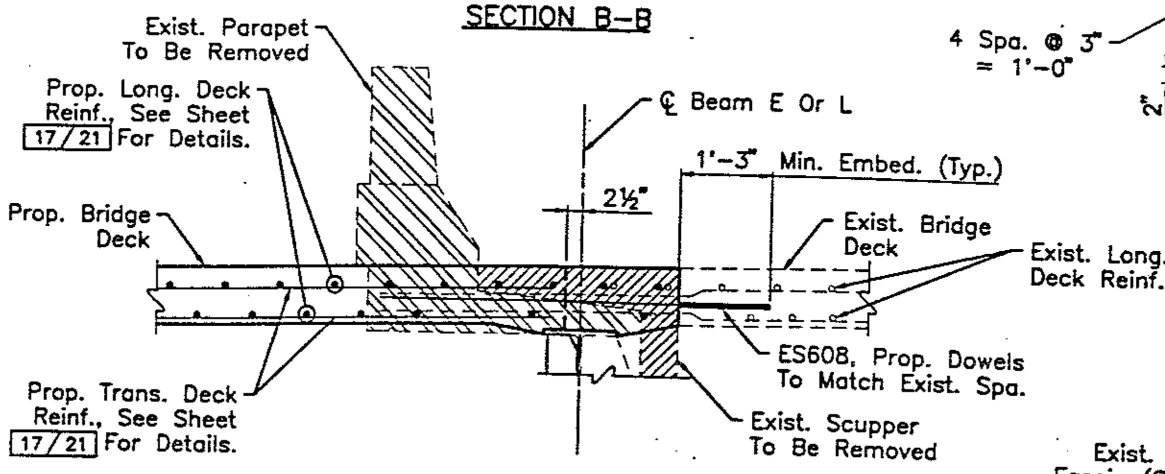
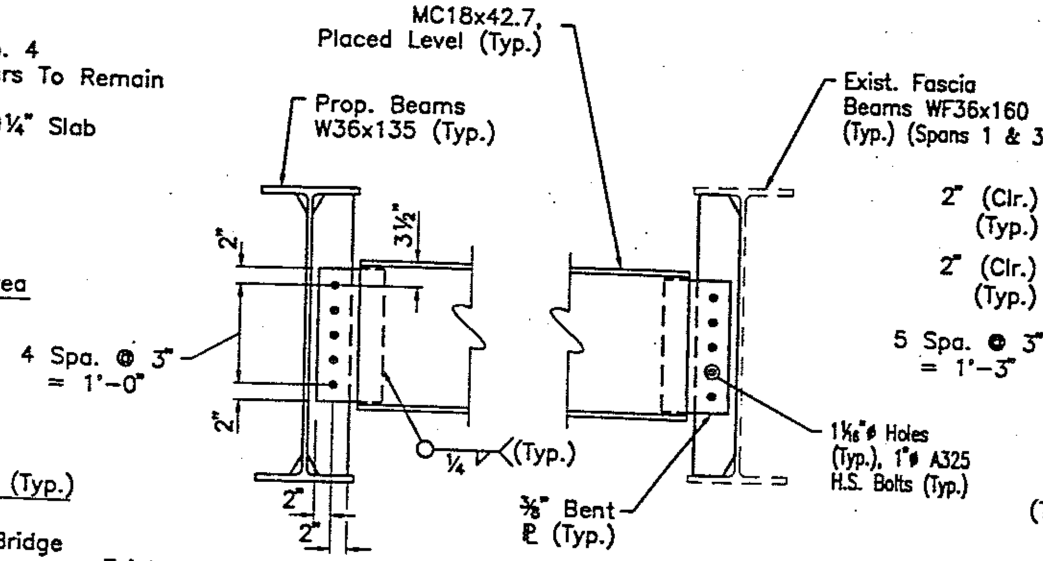
15/21 — CONTRACT 77-99-05 — SHEET 254 OF 276



SECTION B–B

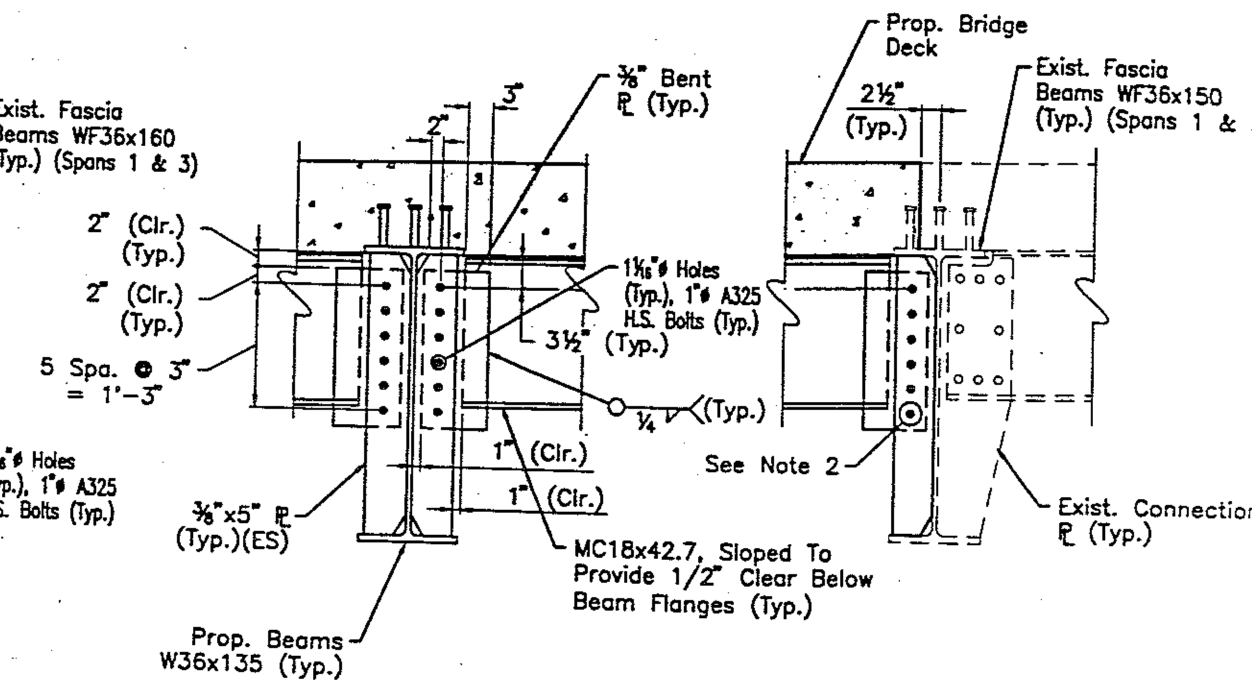


SECTION A–A

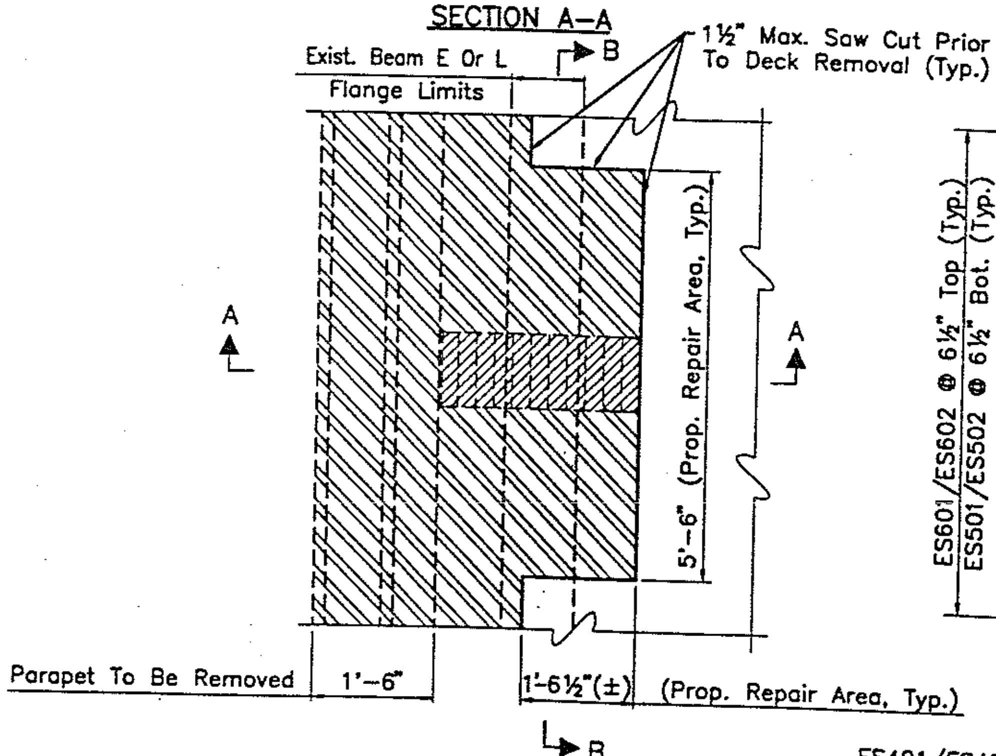


PIER DIAPHRAGMS

For Intermediate Diaphragms, See "Typical Transverse Section & Details", Sheet 18/21.

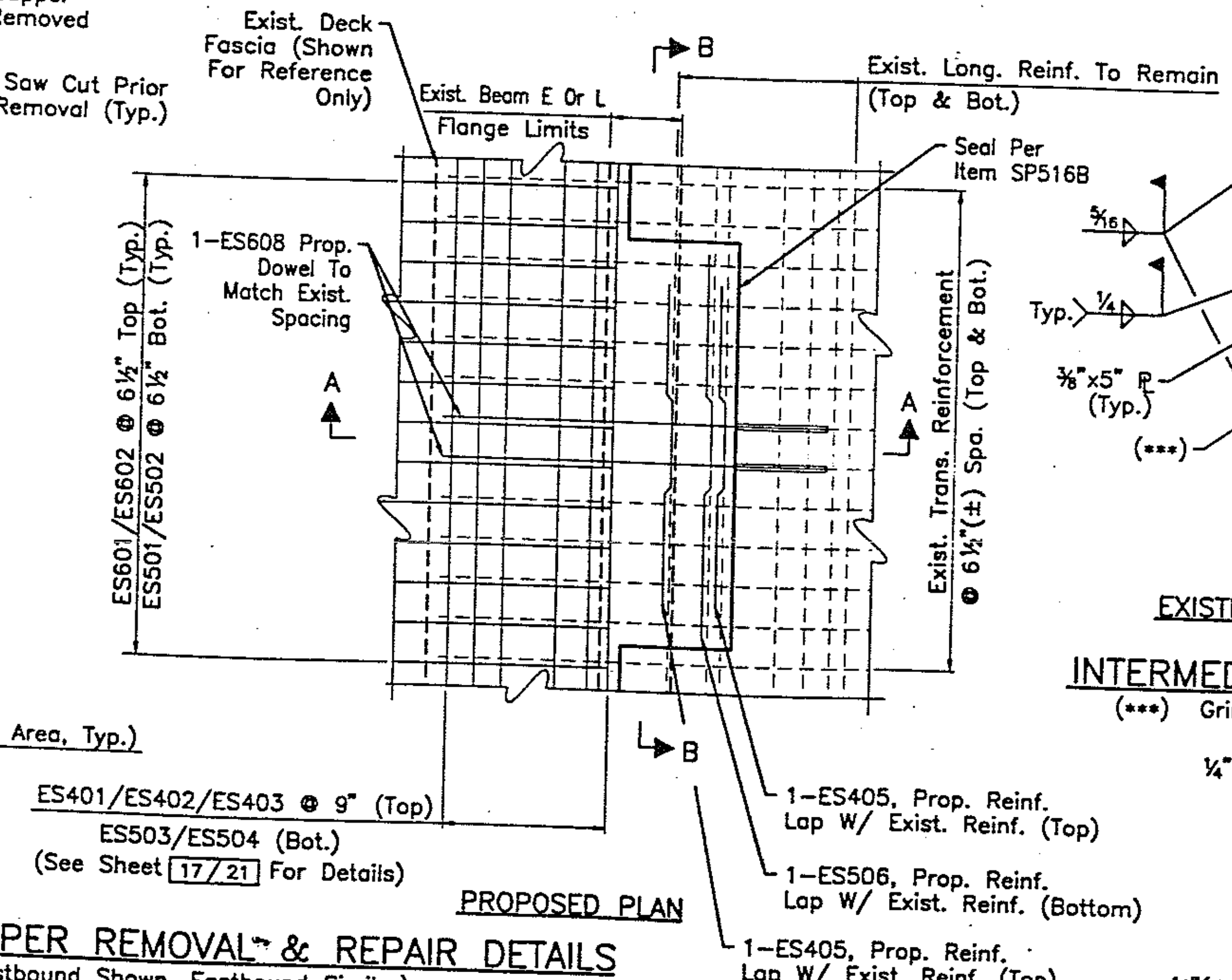


END DIAPHRAGMS



EXISTING REMOVAL PLAN

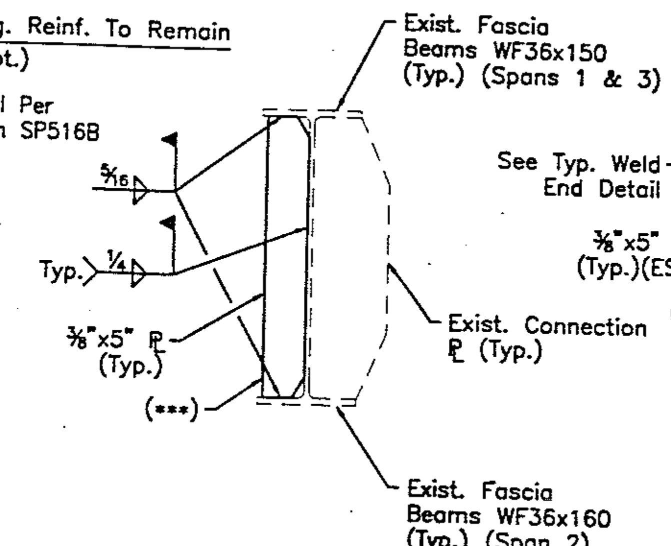
(Reinforcement Not Shown)



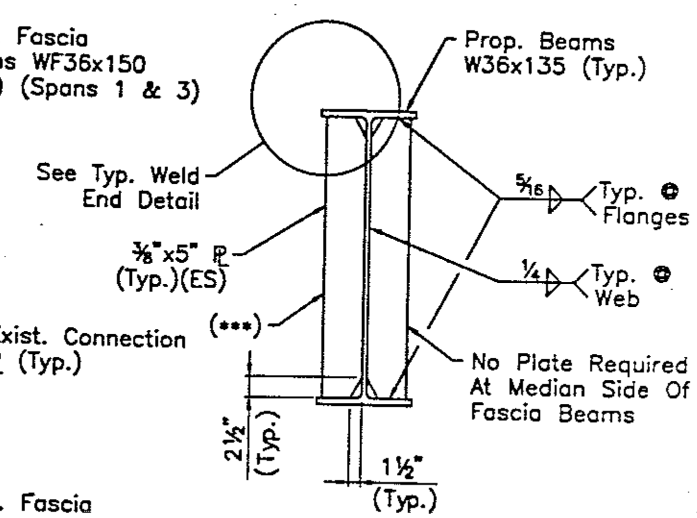
PROPOSED PLAN

MEDIAN SCUPPER REMOVAL & REPAIR DETAILS

(Westbound Shown, Eastbound Similar)
[At 6 Existing Scupper Locations]



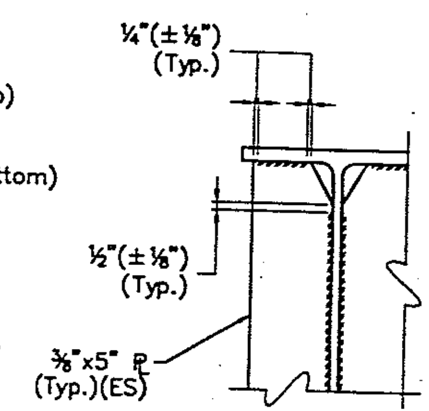
EXISTING FASCIA BEAMS



NEW BEAMS

INTERMEDIATE & BEARING CONNECTION PLATE DETAILS

(***) Grind Connection Plate Edges In Accordance With SP514A Or SP514B



TYPICAL WELD END DETAIL

LEGEND

- Deck & Parapet To Be Removed Per Item SP202
- Scupper To Be Removed Per Item SP202

NOTES

1. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean Any Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. The Holes In Connection Plates Attached To Existing Beams At Intermediate And End Diaphragms, Shall Be Field Drilled Per CMS 513.14.
3. For Additional Notes See Sheet 15/21
4. For Outer Scupper Removal And Repair Details, See Sheet 16A/21.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS I
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
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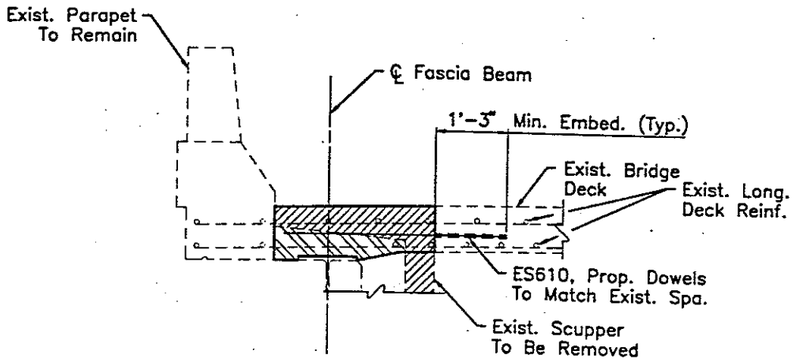
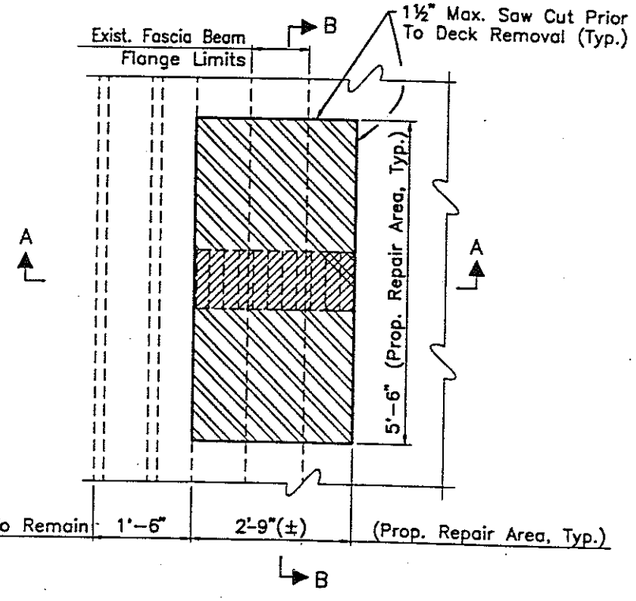
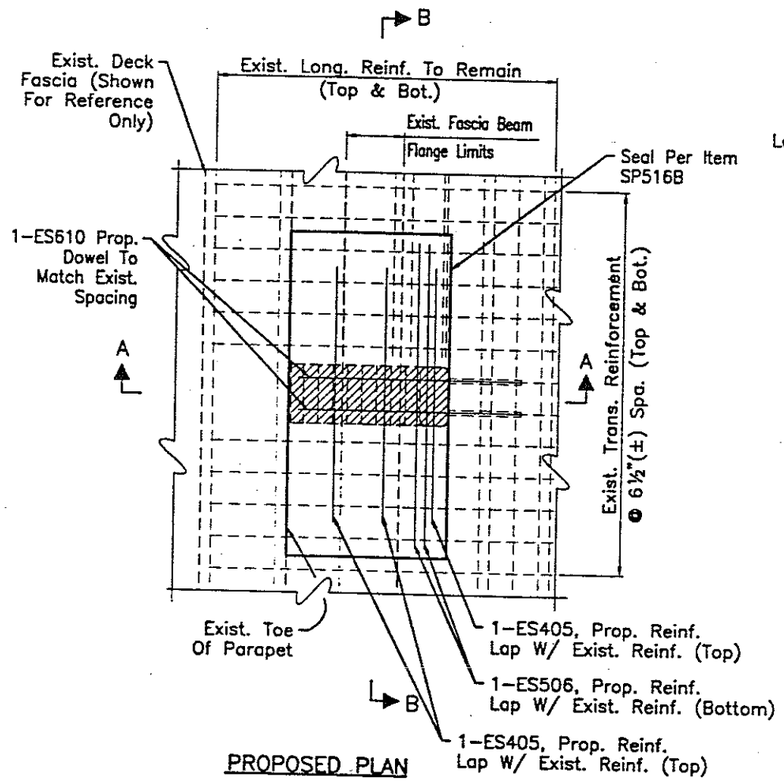


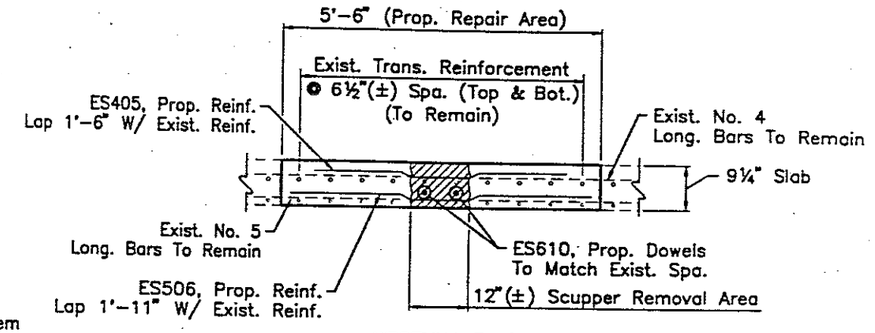
SECTION A–A



EXISTING REMOVAL PLAN
(Reinforcement Not Shown)



PROPOSED PLAN



SECTION B–B

OUTER SCUPPER REMOVAL & REPAIR DETAILS

(Westbound Shown, Eastbound Similar)
[At 6 Existing Scupper Locations]

LEGEND

Deck To Be Removed Per Item SP202

Scupper To Be Removed Per Item SP202

NOTES

1. Reuse Portion Of Exposed Exist. Deck Reinforcing. Clean Any Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. For Median Scupper Removal And Repair Details, See Sheet 16/21.
3. All Outer Scupper Removals & Repairs Shall Be Performed During Phase I Traffic.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS IA
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

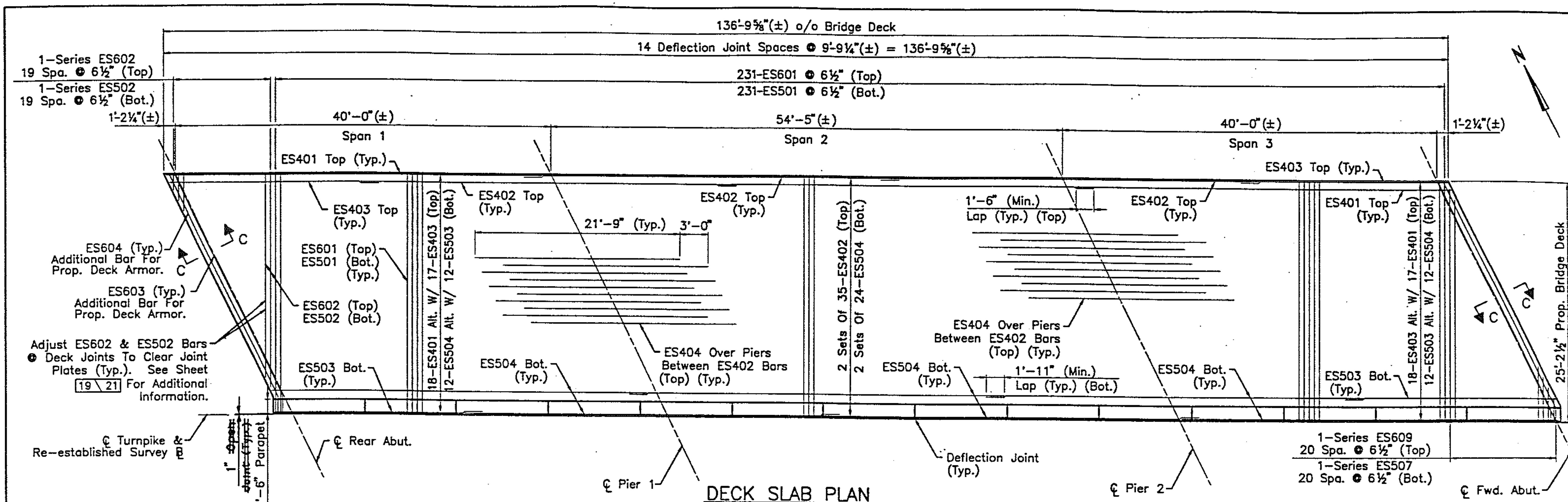
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

16A/21

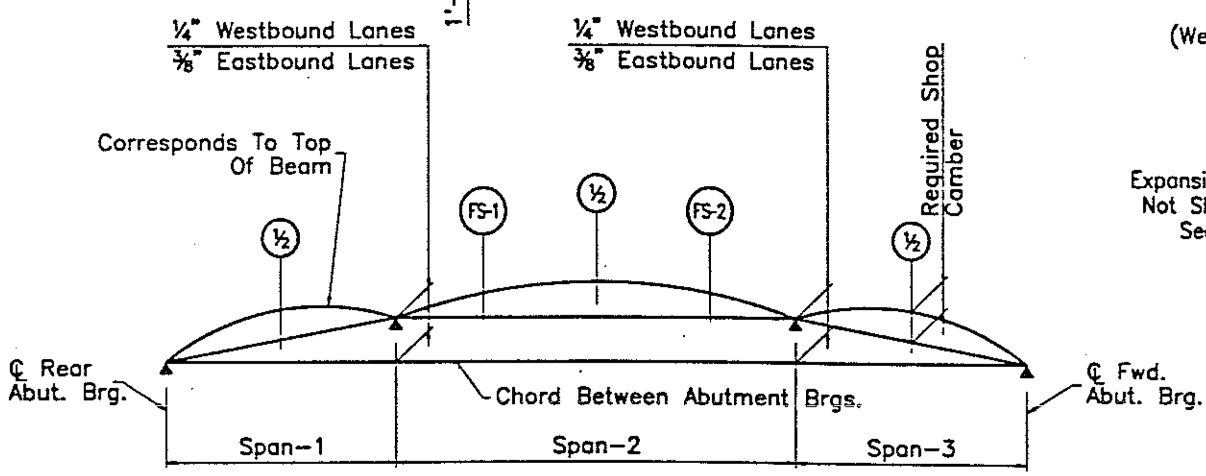
CONTRACT 77-99-05 . SHEET 256 OF 276

OTCK9D

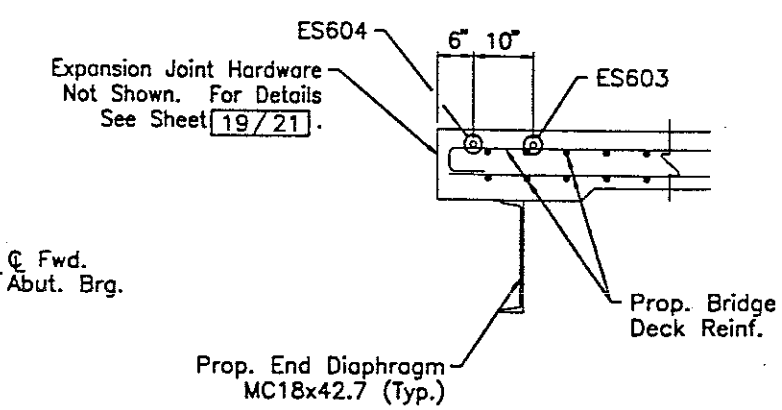


DECK SLAB PLAN

(Westbound Bridge Shown, Eastbound Bridge Similar)
(Scupper Removal Areas Not Shown)



CAMBER DIAGRAM



SECTION C-C

FINISHED DECK ELEVATIONS									
	SPAN 1			SPAN 2				SPAN 3	
LOCATION	℄ Brg. R.A.	½	℄ Brg. Pier-1	FS-1	½	FS-2	℄ Brg. Pier-2	½	℄ Brg. F.A.
Exist. Beam Line "E"	647.37	647.18	647.06	646.99	646.87	646.73	646.68	646.49	646.38
Beam Line "F"	647.19	647.05	646.93	646.85	646.72	646.59	646.53	646.37	646.20
Beam Line "G"	647.05	646.93	646.79	646.71	646.58	646.44	646.37	646.21	646.04
Beam Line "H"	646.90	646.78	646.66	646.58	646.45	646.31	646.25	646.11	645.95
Toe Median Barrier (W.B.)	646.88	646.75	646.62	646.54	646.41	646.27	646.21	646.03	645.86
Toe Median Barrier (E.B.)	646.67	646.53	646.38	646.29	646.15	645.99	645.92	645.73	645.53
Beam Line "I"	646.70	646.55	646.40	646.31	646.15	646.00	645.94	645.74	645.55
Beam Line "J"	646.79	646.64	646.48	646.39	646.26	646.08	646.01	645.82	645.63
Beam Line "K"	646.86	646.71	646.55	646.47	646.33	646.16	646.08	645.90	645.71
Exist. Beam Line "L"	647.02	646.80	646.64	646.56	646.40	646.27	646.20	645.99	645.84

FINISHED PAVEMENT ELEVATIONS: The Elevations Shown Are Finished Deck Elevations. Proper Allowance Shall Be Made For The Dead Load Deflections Caused By The Weight Of The Deck Concrete. Refer To Structure General Notes For Additional Information.

DEFLECTION AND CAMBER SCHEDULE *						
	Westbound Lanes	Span-1	Span-2			Span-3
All New Beams		½	FS-1	½	FS-2	½
	Deflection Due To Weight Of Steel	0	1/16"	1/16"	1/16"	0
	Deflection Due To Remaining D.L.	⅛"	⅛"	⅛"	⅛"	⅛"
	Adjustment Due To Vertical Curve	¼"	¼"	¼"	¼"	¼"
	Required Shop Camber	⅜"	7/16"	7/16"	7/16"	⅜"

* Positive Values Indicate Camber Above Chord Between Adjacent Bearings

DEFLECTION AND CAMBER SCHEDULE *						
	Eastbound Lanes	Span-1	Span-2			Span-3
All New Beams		½	FS-1	½	FS-2	½
	Deflection Due To Weight Of Steel	0	1/16"	1/16"	1/16"	0
	Deflection Due To Remaining D.L.	⅛"	⅛"	⅛"	⅛"	⅛"
	Adjustment Due To Vertical Curve	⅜"	⅜"	⅜"	⅜"	⅜"
	Required Shop Camber	½"	9/16"	9/16"	9/16"	½"

NOTES:

1. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars Unless Noted Otherwise.
2. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Deck Slab, Except Where Shown.
3. See "Typical Transverse Section & Details", Sheet 18/21 For Additional Information.
4. See Sheet 19/21 And Ohio Turnpike Standard Drawings DJ-1 And DJ-2 For Additional Deck Joint Information.
5. Longitudinal Reinforcement Shall Be Alternated, As Shown, For Both Top And Bottom Mats.
6. See "Scupper Removal & Repair Details", Sheet 16/21 & 16A/21 For Additional Information.

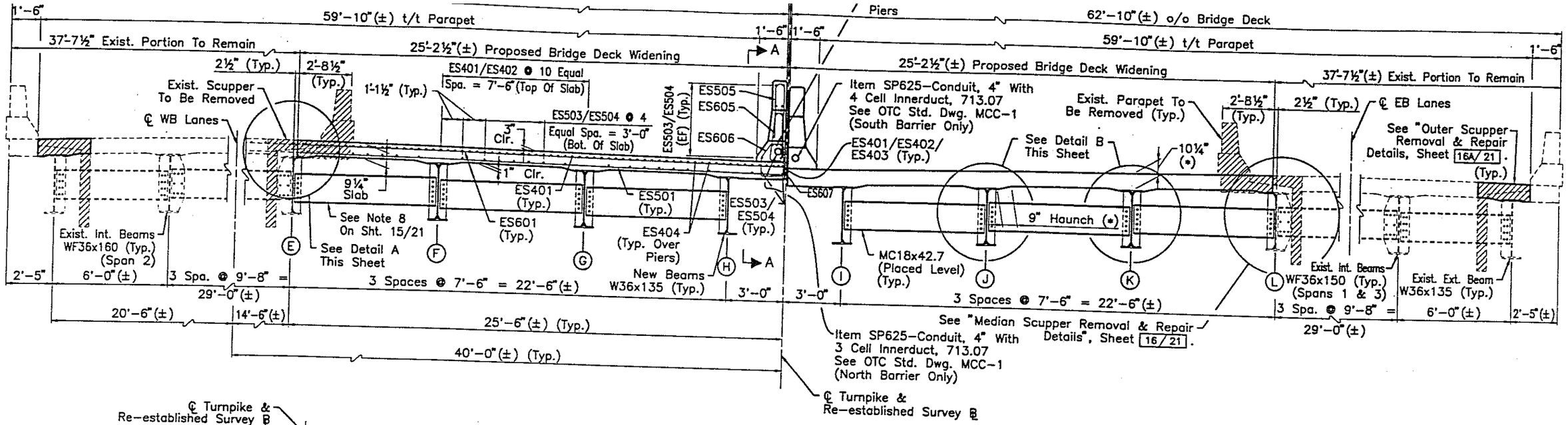
NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

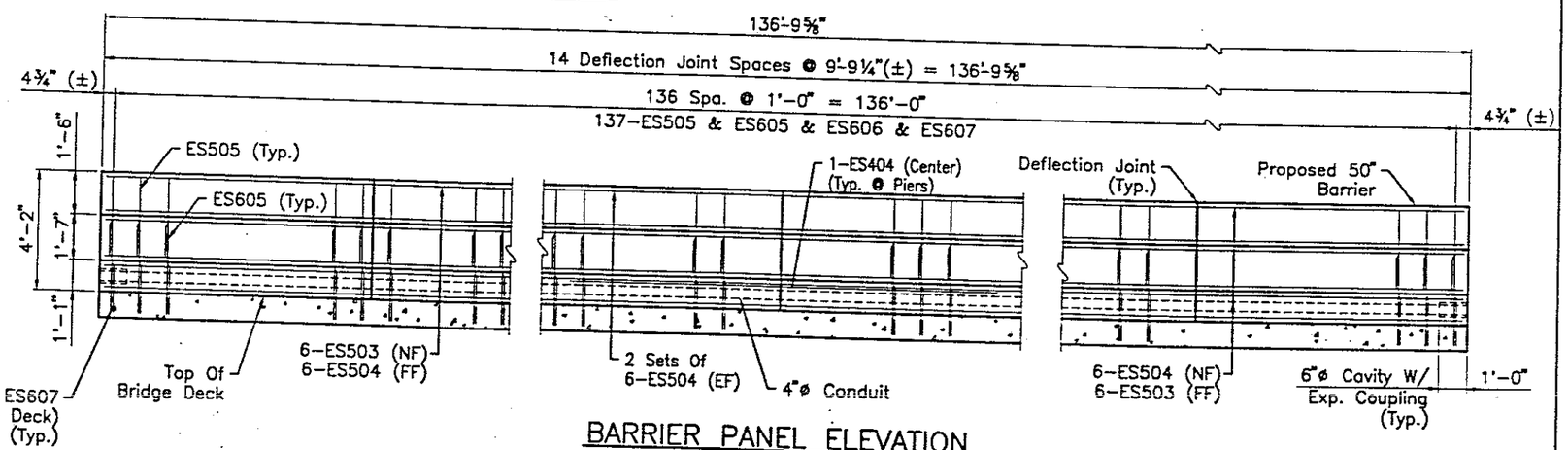
OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS II
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

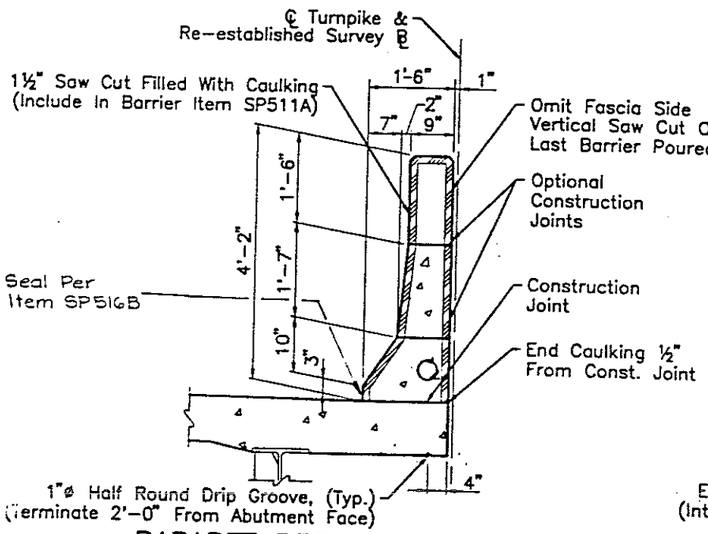
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW
DRAWN: CEW
CHECKED: JPM
IN CHARGE: JM
DATE: 6/98
SCALE:

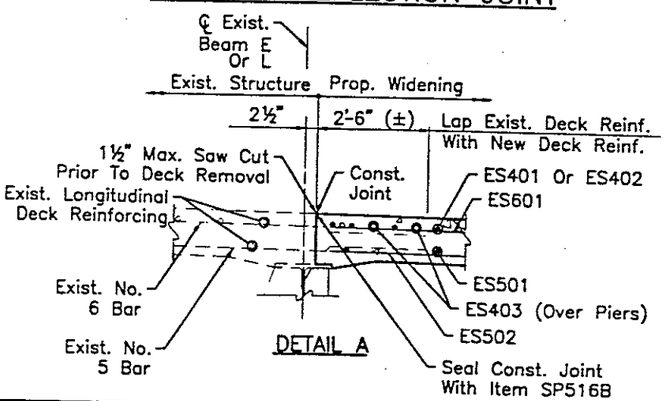


TYPICAL TRANSVERSE SECTION

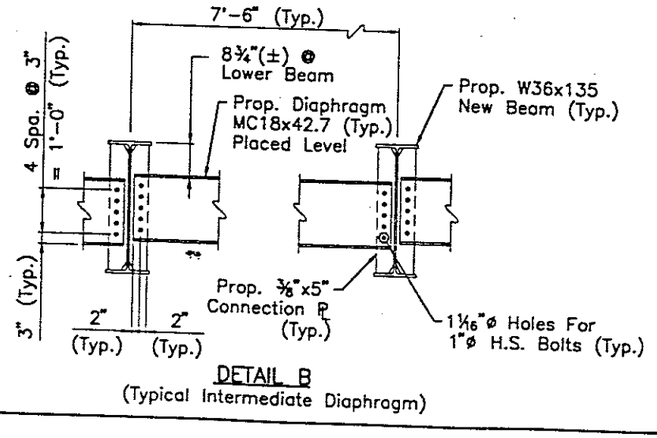




PARAPET DEFLECTION JOINT



DETAIL A



DETAIL B
(Typical Intermediate Diaphragm)

BARRIER PANEL ELEVATION

SECTION A-A

NOTES:

1. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean And Repair Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. EPOXY COATED REINFORCING SPLICE LENGTHS Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars, Unless Noted Otherwise.
3. (*) See General Note 1, On Sheet 2/21.
4. ▨ Denotes Removal Per Item SP202.
5. For Additional Diaphragm Notes, See Sheets 15/21 & 16/21

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
TYPICAL TRANSVERSE SECTION & DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

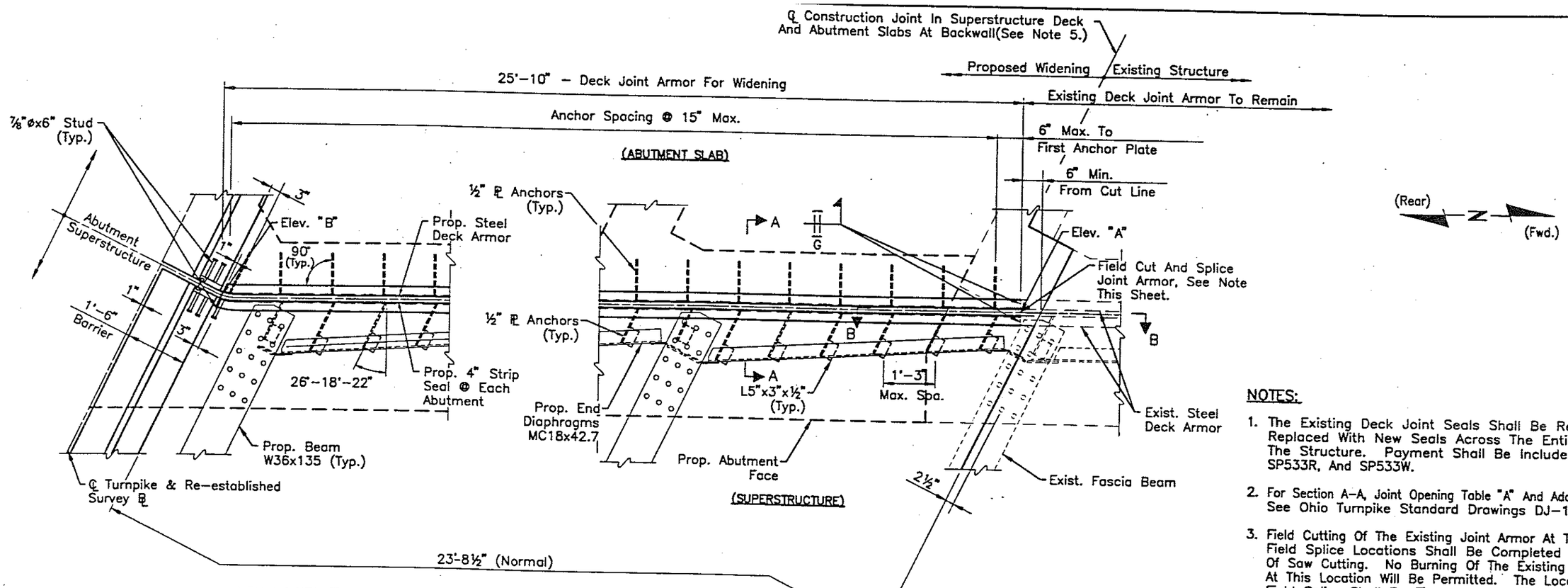
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
DRAWN: CEW	IN CHARGE: JM	SCALE:

CONTRACT 77-99-09 . SHEET 258 OF 276

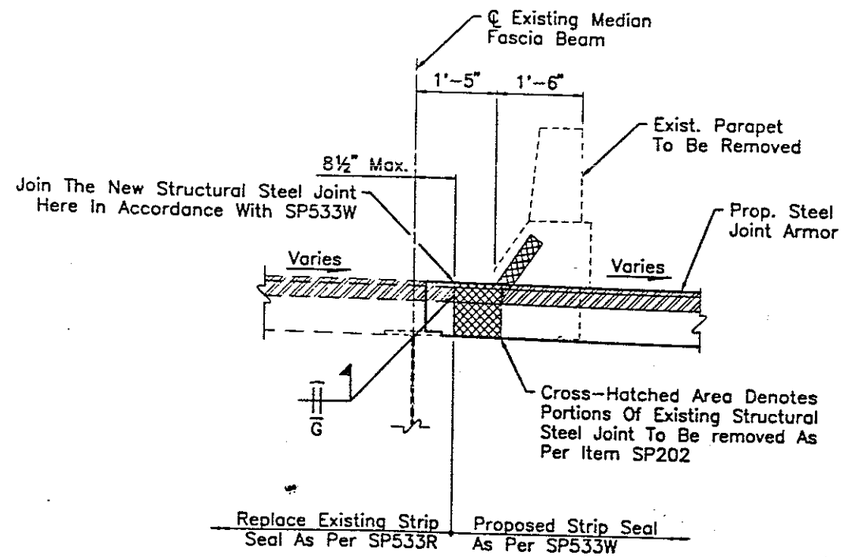
18/21

OTC-90



ABUTMENT DECK JOINT DIMENSIONS

(Rear Abutment, WB And Forward Abutment, EB Shown)
(Forward Abutment, WB And Rear Abutment, EB Similar)



SECTION B–B

Showing Removal Limits Of Existing Joint Where Proposed And Existing Work Meet.

TABLE OF ELEVATIONS		
LOCATION	ELEV. "A" @ Field Splice	ELEV. "B" @ Barrier
Rear Abut. (WB)	647.37±	646.88
Forward Abut. (WB)	646.38±	645.86
Rear Abut. (EB)	647.02±	646.67
Forward Abut. (EB)	645.84±	645.53

NOTES:

1. The Existing Deck Joint Seals Shall Be Removed And Replaced With New Seals Across The Entire Width Of The Structure. Payment Shall Be Included With Item SP533R, And SP533W.
2. For Section A–A, Joint Opening Table "A" And Additional Details See Ohio Turnpike Standard Drawings DJ–1 And DJ–2.
3. Field Cutting Of The Existing Joint Armor At The Proposed Field Splice Locations Shall Be Completed By Methods Of Saw Cutting. No Burning Of The Existing Joint Armor At This Location Will Be Permitted. The Location Of The Field Splice Shall Be Field Verified. This Location Shall Also Extend A Minimum Distance Beyond The Concrete Removal Of The Deck And Abutment Slabs So That Field Weld Attachment Of New Joint Extension Can Be Achieved.
4. Existing Deck Elevations Shall Be Field Verified By The Contractor Before Fabrication Of Deck Joints. See General Note 6 On Sheet G1.
5. Use Extreme Care In Removing Deck And Abutment Slab Concrete In Vicinity Of Existing Joint Armor To Remain.
6. The Existing Steel Extrusions For The Strip Seals Is ACME Type M.
7. All Seals Shall Be Installed In One Piece In Each Deck After The Superstructure And Abutment Concrete Is Completed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rD LANE CONSTRUCTION
DECK JOINT DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
DRAWN: CEW	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 . SHEET 259 OF 276

19/21

07CK9D

ABUTMENT REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EA401	36	9'-0"		X	217
EA501	92	25'-6"		Str.	2447
EA502	12	25'-3"		V	316
EA503	72	7'-6"		VII	564
EA504	8	7'-11"		VII	67
EA505	8	8'-6"		VII	71
EA506	8 Ser. 20	7'-1" To 7'-5"	3/16"(+)	VII	1210
EA507	10	7'-6"		VII	79
EA508	20	7'-1"		VII	148
EA509	2	7'-4"		VII	16
EA510	60	5'-9"		VII	360
EA511	6	6'-2"		VII	39
EA512	·	NOT USED		·	
EA513	·	NOT USED		·	
EA514	8	4'-1"		Str.	34
EA515	8	6'-2"		Str.	52
EA516	8	8'-3"		Str.	69
EA517	32	11'-9"		IV	393
EA518	16	9'-11"		Str.	166
EA519	16 Ser. Of 7	6'-5" To 13'-9"	1'-2 1/16"(-)	VII	1178
EA520	·	NOT USED		·	
EA521	·	NOT USED		·	
EA522	8	4'-11"		Str.	41
EA523	8	7'-8"		Str.	64
EA524	6	7'-10"		VII	50
EA601	72	14'-1"		VII	1523
EA602	8	14'-3"		VII	172
EA603	8	14'-7"		VII	176
EA604	72	10'-0"		VII	1082
EA605	8	10'-5"		VII	126
EA606	8	11'-0"		VII	133
EA607	68	3'-6"		Str.	358
EA608	72	12'-5"		VII	1343
EA609	12	14'-6"		Str.	262
EA610	12	13'-6"		Str.	244
EA801	40	25'-6"		Str.	2724
(EPOXY COATED) ABUTMENT TOTAL (Lbs.) =					15724

ABUTMENT SLAB REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EAS401	19	12'-5"		Str.	158
EAS402	1	12'-8"		Str.	9
EAS403	1	13'-1"		Str.	9
EAS404	1 SER. OF 5	4'-8" To 12'-9"	2'-0 1/4"	Str.	30
EAS405	1 SER. OF 5	3'-10" To 11'-11"	2'-0 1/4"	Str.	27
EAS406	2	14'-0"		Str.	19
EAS407	3	12'-6"		Str.	25
EAS408	62	11'-1"		Str.	460
EAS409	3 SER. OF 4	2'-11" To 9'-0"	2'-0 5/16"(+)	Str.	48
EAS410	2 SER OF 4	5'-2" To 11'-3"	2'-0 5/16"(+)	Str.	44
EAS411	2	11'-7"		Str.	16
EAS412	2	12'-2"		Str.	17
EAS413	1	11'-3"		Str.	8
EAS414	1	11'-9"		Str.	8
EAS415	1 SER. OF 5	3'-3" To 12'-4"	2'-3 1/4"	Str.	27
EAS416	1	12'-7"		Str.	9
EAS417	13	0'-9"		IV	7
EAS501	103	26'-6"		Str.	2847
EAS502	8	26'-2"		V	219
EAS503	8	26'-4"		V	220
EAS504	16	6'-0"		Str.	101
EAS505	57	5'-8"		II	337
EAS506	12	14'-1"		Str.	177
EAS507	24	12'-3"		Str.	307
EAS508	12	12'-9"		Str.	160
EAS509	6	15'-11"		Str.	100
EAS510	2	15'-8"		VIII	33
EAS511	14	3'-1"		II	45
EAS601	37	12'-5"		Str.	690
EAS602	1 Ser. Of 3	12'-8" TO 13'-1"	0'-2 1/2"	Str.	58
EAS603	1 Ser. Of 9	4'-8" To 12'-9"	1'-0 1/8"	Str.	118
EAS604	1 Ser. Of 9	3'-10" To 11'-11"	1'-0 1/8"	Str.	107
EAS605	2	14'-0"		Str.	42
EAS606	3	12'-6"		Str.	57
EAS607	121	11'-1"		Str.	2015
EAS608	3 Ser. Of 7	2'-11" To 9'-0"	1'-0 5/16"(-)	Str.	188
EAS609	2 Ser. Of 7	5'-2" To 11'-3"	1'-0 5/16"(-)	Str.	173
EAS610	2	11'-4"		Str.	35
EAS611	2	11'-7"		Str.	35
EAS612	2	12'-2"		Str.	37
EAS613	1 Ser. Of 3	11'-3" To 11'-9"	0'-3"	Str.	52
EAS614	1 Ser. Of 9	3'-3" To 12'-4"	1'-1 5/8"	Str.	106
EAS615	1	12'-7"		Str.	19
EAS616	57	2'-0"		IV	172
EAS617	57	2'-11"		VI	250
EAS618	57	5'-5"		I	464
EAS619	4	8'-7"		VII	52
EAS620	10	3'-8"		Str.	55
EAS621	2	4'-10"		Str.	15
EAS622	9	4'-6"		Str.	61
EAS623	8	1'-6"		Str.	18
EAS624	1	3'-6"		VI	6
EAS625	14	2'-5"		Str.	51
EAS626	8	2'-2"		VI	26
(EPOXY COATED) ABUTMENT SLAB TOTAL (Lbs.) =					10369

BAR MARKS
Bar Marks With Prefix E Are Epoxy Coated, As Per SP509. Bar Marks With Prefix G Are Hot Dipped Galvanized As Per SP825.

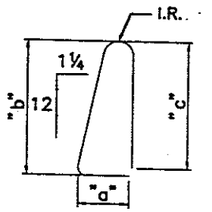
THE BAR SIZE NUMBER Is Specified On The Plans In The Bar Mark Column. The First Digit Where Three Digits Are Used, And The First Two Digits Where Four Digits Are Used, Indicates The Bar Size Number. For Example, P601 Is A No. 6 Bar. Bar Dimensions Shown Are Out To Out Unless Otherwise Indicated. I.R. Indicates Inside Radius, Unless Otherwise Indicated. "STD." Written In Place Of A Dimension Indicates A Standard Bend At The End Of The Bar.

EPOXY COATED REINFORCING STEEL SUPPORT: In Accordance With The Requirements Of SP509 And 509.09, The Top And Bottom Mats Of All Longitudinal And Transverse Epoxy Coated Reinforcing Steel Shall Be Supported By Approved Epoxy Coated Devices With Spacing Not Exceeding 3'-0" Centers In Each Direction. Broken Concrete, Bricks, Etc. Shall Not Be Used For Support Of Reinforcing Steel.

REINFORCEMENT STEEL SAMPLES: Refer to O.T.C. General Conditions G-6.02 And CMS Section 700, 709.01 Through 709.05 And 709.08. Sufficient Additional Reinforcing Steel Shall Be Provided For Sampling. Random Samples Shall Be Replaced In The Structures By The Additional Steel, Spliced In Accordance With 509.08.

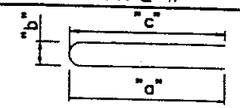
BENDING DIAGRAMS

TYPE I



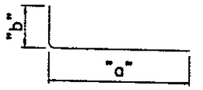
MARK	"a"	"b"	"c"	I.R.
EAS618	7½"	2'-5"	2'-3"	2⅛"

TYPE II



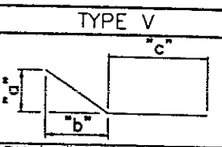
MARK	"a"	"b"	"b"
EAS505	2'-9"	0'-5"	2'-9"
EAS511	2'-5"	0'-5"	0'-5"

TYPE IV



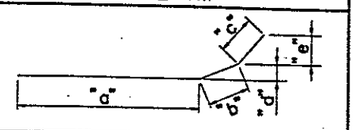
MARK	"a"	"b"
EA517	11'-0"	0'-10"
EAS616	1'-6"	0'-7½"
EAS417	0'-8"	0'-2"

TYPE V



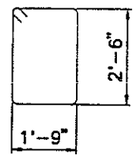
MARK	"a"	"b"	"c"
EAS502	0'-10⅛"	1'-10"	24'-3"
EAS503	0'-6¾"	1'-2½"	25'-1"
EA502	0'-10⅛"	1'-10"	23'-4"

TYPE VIII



MARK	"a"	"b"	"c"	"d"	"e"
EAS510	12'-2"	2'-4"	1'-5"	1½"	5"

TYPE X
EA401



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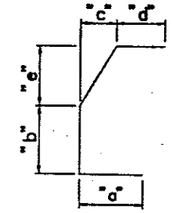
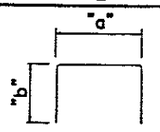


MARK	"a"	"b"	"c"	"d"	"e"
EAS617	10"	10½"	6"	7"	8½"
EAS624	0'-0"	2'-2½"	6"	8"	8½"
EAS626	0'-0"	10"	6"	8"	8½"

TYPE VII



MARK	"a"	"b"
EA503	0'-11"	3'-5"
EA504	1'-4"	3'-5"
EA505	1'-11"	3'-5"
EA506	2'-8"	2'-4" To 2'-6" Incr.=⅛"(-)
EA507	2'-11"	2'-5"
EA508	2'-8"	2'-4"
EA509	2'-11"	2'-4"
EA510	1'-4"	2'-4"
EA511	1'-9"	2'-4"
EA519	1'-2"	2'-9" To 6'-5" Incr.=7 5/16"(+)
EA524	2'-11"	2'-7"
EA601	3'-8"	5'-4"
EA602	3'-10"	5'-4"
EA603	4'-2"	5'-4"
EA604	0'-11"	4'-8"
EA605	1'-4"	4'-8"
EA606	1'-11"	4'-8"
EA608	3'-8"	4'-6"
EAS619	1'-2"	3'-10"

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE I
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: J.P.M.	DATE: 6/98
DRAWN: CMZ	IN CHARGE: J.M.	SCALE:

20/21 CONTRACT 77-99-05 SHEET 260 OF 276

SUPERSTRUCTURE REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
ES401	70	39'–10"		IX	1863
ES402	140	40'–0"		Str.	3741
ES403	70	22'–4"		IX	1044
ES404	140	21'–9"		Str.	2034
ES405	30	4'–4"		Str.	87
ES501	462	24'–10"		Str.	11966
ES502	2 Ser. Of 20	22'–4" To 1'–6"	1'-1⅛"(+)	Str.	497
ES503	24	22'–3"		Str.	557
ES504	168	40'–0"		Str.	7009
ES505	274	5'–8"		II	1620
ES506	18	5'–2"		Str.	97
ES507	2 Ser. Of 21	24'–2" To 2'–3"	1'-1⅛"(+)	Str.	579
ES601	462	24'–10"		Str.	17232
ES602	2 Ser. Of 20	22'–4" To 1'–6"	1'-1⅛"(+)	Str.	716
ES603	4	27'–6"		V	166
ES604	4	27'–7"		V	166
ES605	274	5'–5"		I	2230
ES606	274	2'–11"		VI	1201
ES607	274	2'–0"		IV	823
ES608	12	5'–4"		Str.	96
ES609	2 Ser. Of 21	24'–2" To 2'–3"	1'-1⅛"(+)	Str.	833
ES610	12	3'–10"		Str.	69
(EPOXY COATED) SUPERSTRUCTURE TOTAL (Lbs.) =					54626

PIER REINFORCEMENT
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
GP501	40	22'–5"		Str.	936
GP502	108	8'–1"		VII	911
GP503	10 Sets Of 6	7'–1" To 8'–1"	2"	VII	475
GP601	10	13'–8"		Str.	206
GP901	12	23'–3"		V	950
GP902	12	23'–2"		V	946
GP903	24	19'–3"		IV	1571
GP904	12	21'–10"		Str.	891
GP1101	24	21'–9"		Str.	2774
GP1102	24	21'–3"		Str.	2710
(Galvanized) PIER TOTAL (Lbs.) =					12370

BAR MARKS
Bar Marks With Prefix E Are Epoxy Coated, As Per SP509
Bar Marks With Prefix G Are Hot Dipped Galvanized As Per SP825.

THE BAR SIZE NUMBER Is Specified On The Plans In The Bar Mark Column. The First Digit Where Three Digits Are Used, And The First Two Digits Where Four Digits Are Used, Indicates The Bar Size Number. For Example, P601 Is A No. 6 Bar. Bar Dimensions Shown Are Out To Out Unless Otherwise Indicated. I.R. Indicates Inside Radius, Unless Otherwise Indicated. "STD." Written In Place Of A Dimension Indicates A Standard Bend At The End Of The Bar.

EPOXY COATED REINFORCING STEEL SUPPORT: In Accordance With The Requirements Of SP509 And 509.09, The Top And Bottom Mats Of All Longitudinal And Transverse Epoxy Coated Reinforcing Steel Shall Be Supported By Approved Epoxy Coated Devices With Spacing Not Exceeding 3'–0" Centers. In Each Direction. Broken Concrete, Bricks, Etc. Shall Not Be Used For Support Of Reinforcing Steel.

REINFORCEMENT STEEL SAMPLES: Refer to O.T.C. General Conditions G–6.02 And CMS Section 700, 709.01 Through 709.05 And 709.08. Sufficient Additional Reinforcing Steel Shall Be Provided For Sampling. Random Samples Shall Be Replaced In The Structures By The Additional Steel, Spliced In Accordance With 509.08.

SPIRAL REINFORCING (PIER)
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	CORE DIA. OF SPIRAL	LENGTH	PITCH	# TURNS	WEIGHT (Lbs.)
GPS401	3	30	18'–4"	4½"	52	937
GPS402	3	30	17'–10"	4½"	51	918
SPIRAL TOTAL (Lbs.) =						1855

DRILLED SHAFT REINFORCING NOTES

1. Bars In The Tables Below Are Included With Drilled Shaft Items For Payment. Lengths And Weights Are Estimates Only.
2. The Length Shown For The Spiral Reinforcing Bars Is The Vertical Distance From 2" Below The Top Of The Drilled Shaft To 3" Above The Base Of Drilled Shaft. The No. Of Turns Is The Length Divided By The Pitch + 1 1/2 Turns Provided At Each End, Expressed As The Nearest Whole Number. Spiral Reinforcing Bars May Have Deformations And Shall In Other Respects Conform To Item SP825.
3. For Additional Notes & Details, See Sheets 5/21, 6/21 & 14/21.

SPIRAL REINFORCING (DRILLED SHAFT)
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	CORE DIA. OF SPIRAL	LENGTH	PITCH	# TURNS	WEIGHT (Lbs.)
GDS401	3	36	28'–10"	3"	119	2493
GDS402	3	36	28'–5"	3"	117	2451
SPIRAL TOTAL (Lbs.) =						4944

DRILLED SHAFT REINFORCING
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
GDS1101	36	28'–10"		Str.	5515
GDS1102	36	28'–5"		Str.	5436
GDS1103	48	11'–1"		Str.	2827
(Galvanized) DRILLED SHAFT TOTAL (Lbs.) =					13778

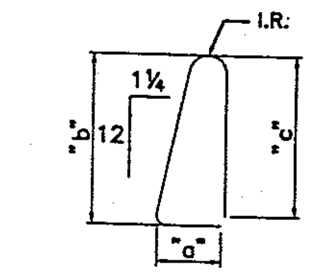
PIER SPIRAL REINFORCING BARS: The "Length" Shown In The Steel List For The Spiral Bars Is The Distance From The Top Of The Drilled Shaft To The Bottom Layer Of Reinforcing In The Pier Cap. Spiral Reinforcing Bars May Have Deformations And Shall In Other Respects Comform To Item SP825. 1-1/2 Turns Of Closed Coils Shall Be Provided At The Ends Of Each Spiral Unit.

PIER SPIRAL PITCH SPACERS: Three Steel Hot-Dipped Galvanized Angle Spacers, Each Weighing Approximately 0.80 Lb. Per Linear Foot, Shall Be Provided For Each Spiral Unit. They Shall Be Equally Spaced Along The Periphery Of Each Coil For Its Full Length. The Total Number Of Pounds Of These Spacers In The Pier Column Portion, Based On 2.4 Lb. Per Linear Foot, Will Be Paid For As Reinforcing Steel And Is Included In The Tabulated Spiral Weight. (For Drilled Shaft 36" Core Diameter Of The Spiral, Four Spacers At A Total Of 3.20 Lb. Per Linear Foot Shall Be Used, With Payment Included With The Drilled Shaft Items.)

PIER CONCRETE SPACERS Or Other Approved Noncorrosive Spacing Devices, Equal In Quality And Durability To The Column Concrete, Shall Be Used Near The Bottom And At Intervals Not Exceeding 10' To Ensure A Minimum 3" Clear Space Between The Outside Of The Reinforcing Cage And The Column Design Dimension.

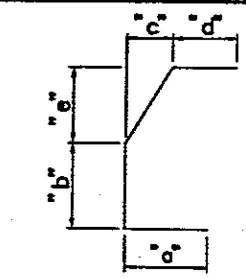
BENDING DIAGRAMS

TYPE I



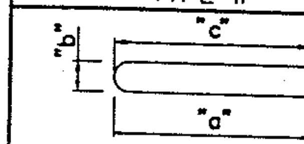
MARK	"a"	"b"	"c"	I.R.
ES605	7½"	2'–5"	2'–3"	2⅛"

TYPE VI



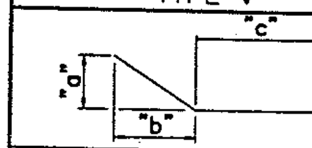
MARK	"a"	"b"	"c"	"d"	"e"
ES606	10"	10½"	6"	7"	8½"

TYPE II



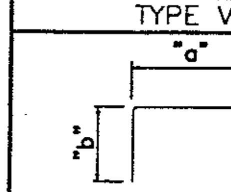
MARK	"a"	"b"	"b"
ES505	2'–9"	5"	2'–9"

TYPE V



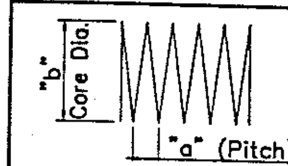
MARK	"a"	"b"	"c"
GP901	1'-5½"	3'-9¾"	19'–8"
GP902	1'-1¼"	3'-10⅛"	19'–8"
ES603	9½"	1'-7½"	25'–9"
ES604	9"	1'-6¼"	25'–11"

TYPE VII



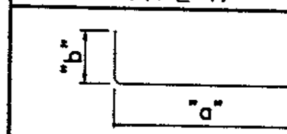
MARK	"a"	"b"
GP502	2'–8"	2'–10"
GP503	2'–8"	2'–4" To 2'–10" Incr.=0'–1"

TYPE III



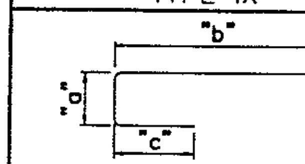
MARK	"a"	"b"
GDS401	3"	36"
GDS402	3"	36"
GPS401	4½"	30"
GPS402	4½"	30"

TYPE IV



MARK	"a"	"b"
GP903	18'–0"	1'–6"
ES607	1'–6"	7½"

TYPE IX



MARK	"a"	"b"	"c"
ES401	4"	39'-3½"	4½"
ES403	4"	21'–9"	4½"

NO.	REVISIONS	BY	DATE

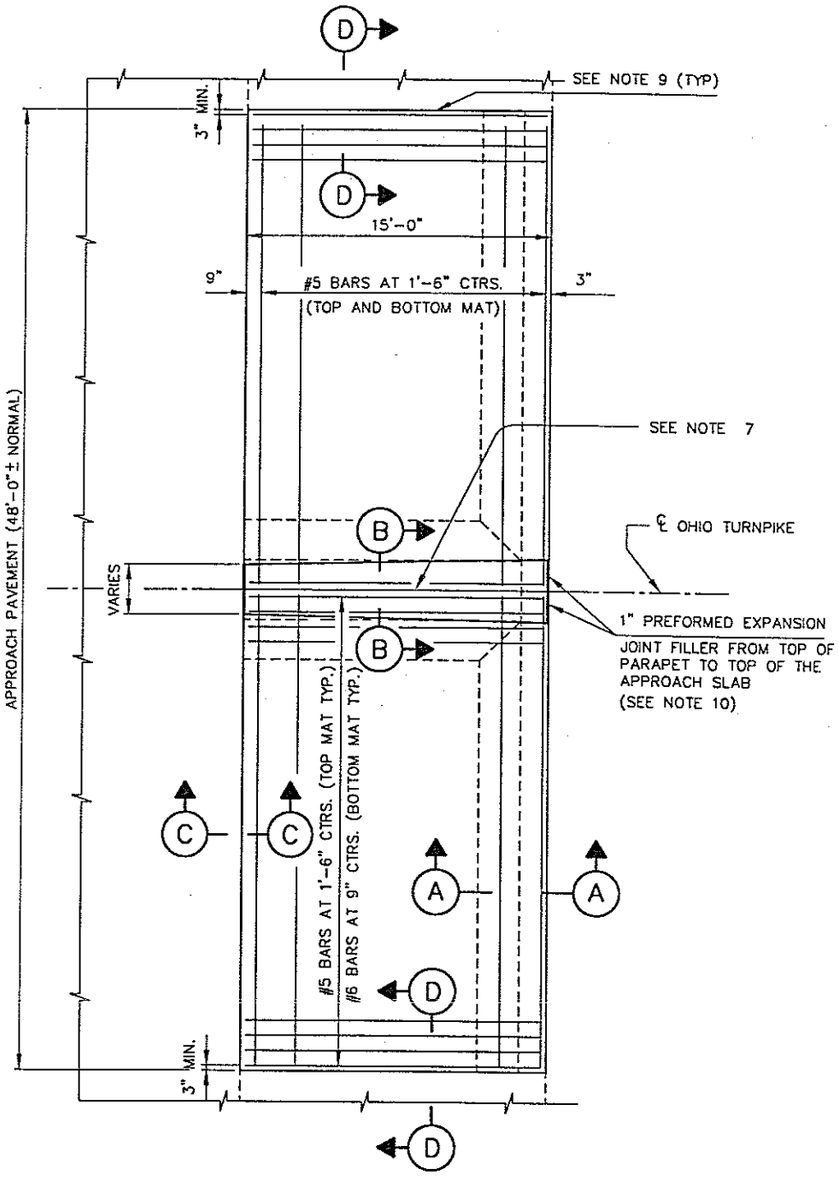
OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE II
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

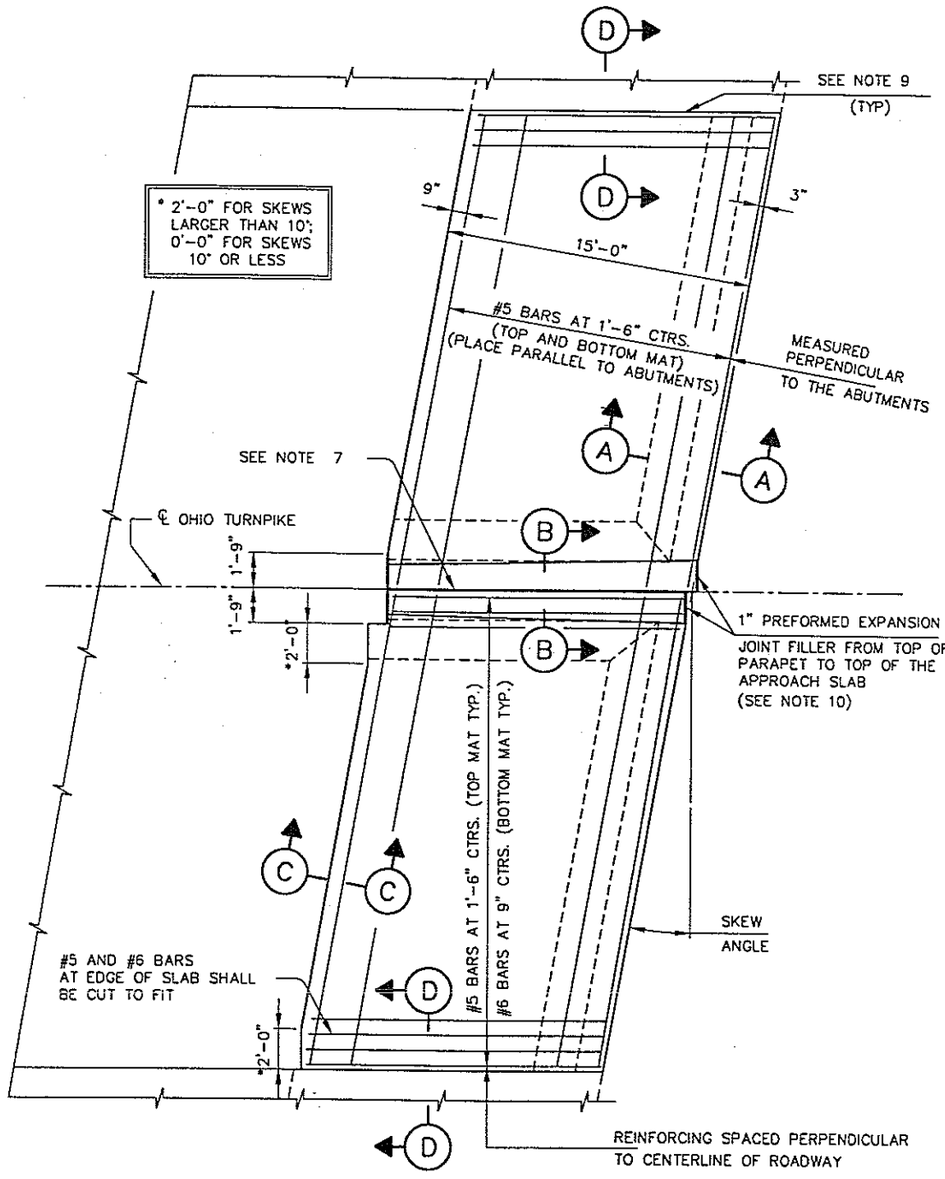
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW CHECKED: JPM DATE: 6/98
DRAWN: CEW IN CHARGE: JM SCALE:

21/21 CONTRACT 77-99-03 SHEET 261 OF 276



PLAN



APPROACH SLAB FOR SKEWED BRIDGE

NOTES

1. THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, ESTIMATED QUANTITY (SQ. YDS), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.
2. CONCRETE: CLASS S USING SHRINKAGE COMPENSATING CEMENT. REINFORCING STEEL: ASTM A615, A616 OR A617 – GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09 .
4. CROWN SHALL CONFORM TO THAT OF THE BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH ASPHALT PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED ON THE APPROACH ASPHALT PAVEMENT AT A TRANSITION RATE OF 1 TO 200.
5. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE AS DETAILED ON OTC STANDARD DRAWING AS–2.
6. BASE MATERIAL SHALL BE ITEM SP 310–SUBBASE, TYPE I, GRADING A OR ITEM SP 304–AGGREGATE BASE DEPENDING ON MATERIAL SPECIFIED FOR THE MAINLINE PAVEMENT.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STD. DWG. BP–2.1
8. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.
9. THE JOINT BETWEEN THE EXISTING AND THE NEW APPROACH SLABS SHALL BE AS SHOWN IN SECTION 'D–D'.
10. 1" PREFORMED EXPANSION JOINT FILLER SHALL BE PER 705.03
11. THE TWO 4" DIAMETER PVC CONDUITS WITH MULTI–CELL INNERDUCT SHALL COMPLY WITH SP 625.
12. FOR SECTIONS 'A–A', 'B–B', 'C–C' AND 'D–D' ADDITIONAL INFORMATION SEE OTC STANDARD DRAWING AS–2.
13. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM SP 611, CLASS 'S' CONCRETE, APPROACH SLAB, USING SHRINKAGE COMPENSATING CEMENT (T=12"):

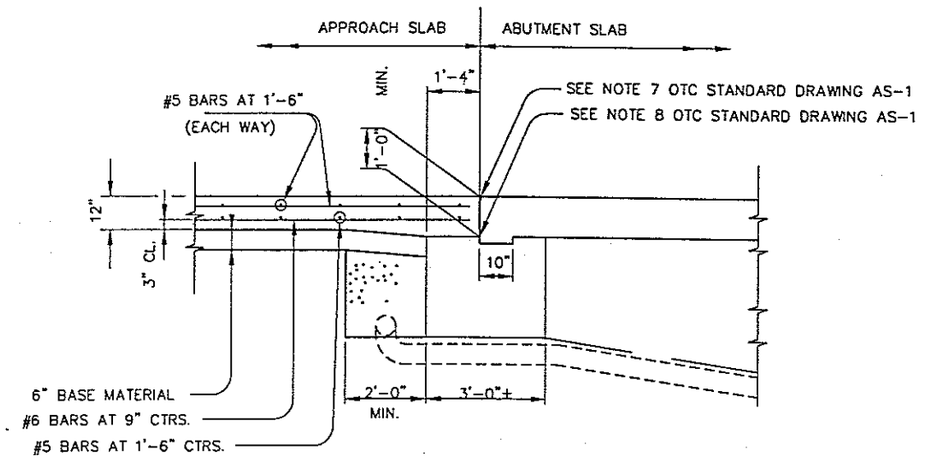
    : ALL JOINTS
    : GROOVE AND JOINT SEAL
    : TYPE 'A' WATERPROOFING
    : 1" PREFORMED EXPANSION JOINT FILLER
    : MEDIAN BARRIERS

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB – MEDIAN WIDENING

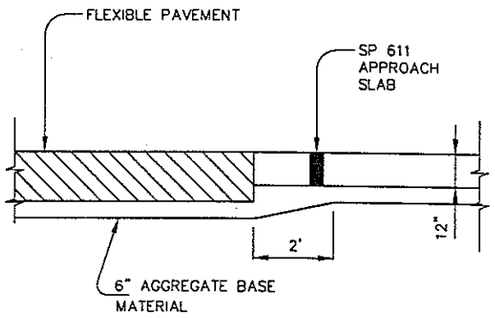
DATE: JANUARY 24, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS–1

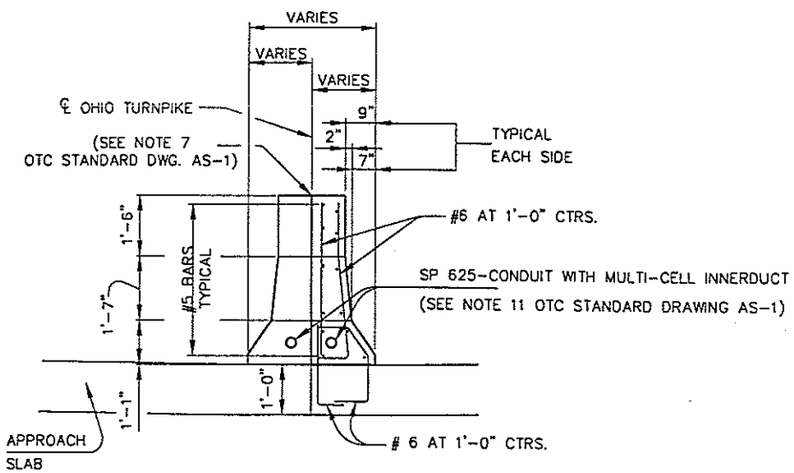


NOTE: ALL REINFORCING BARS SHALL BE EPOXY COATED.

SECTION A–A

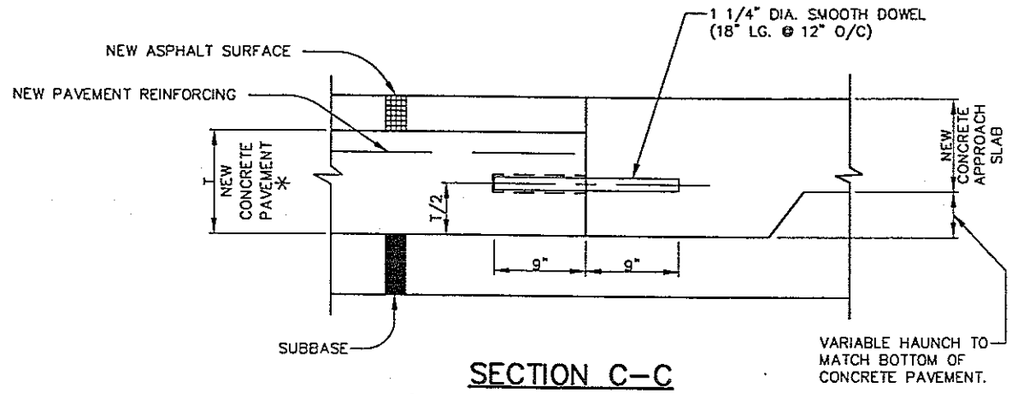


SECTION C–C
FLEXIBLE PAVEMENT

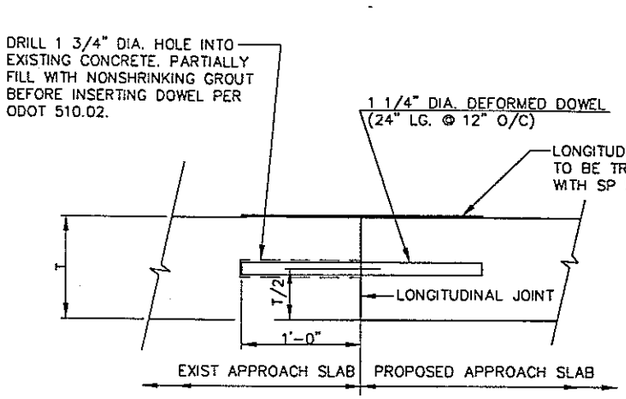


SECTION B–B
REINFORCING AND DIMENSIONS SYMMETRICAL ABOUT CENTERLINE

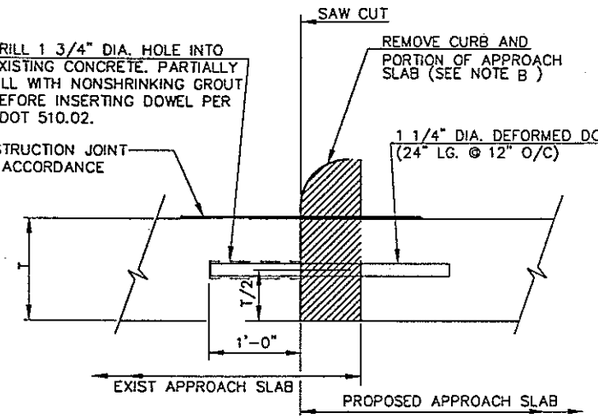
* THICKNESS TO MATCH ADJACENT CONCRETE PAVEMENT.



SECTION C–C
COMPOSITE PAVEMENT



SECTION D–D
(FOR APPROACH SLAB WITHOUT INTEGRAL CONCRETE CURB)

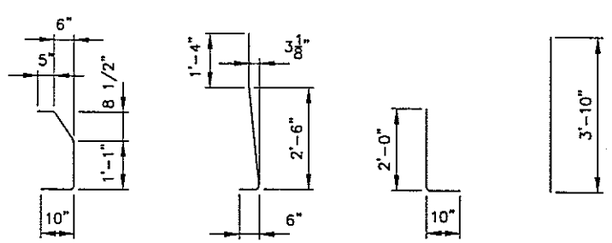


SECTION D–D
(FOR APPROACH SLAB WITH INTEGRAL CONCRETE CURB)

NOTES:

A FOR LOCATIONS OF SECTIONS 'A–A', 'B–B', 'C–C', AND 'D–D' AND ADDITIONAL NOTES, SEE OTC STANDARD DRAWING AS–1

B THE REMOVAL SHALL BE PER 202.05 OF THE ODOT CMS BUT THE COST OF THE REMOVAL SHALL BE INCIDENTAL TO THE COST OF ITEM SP 611



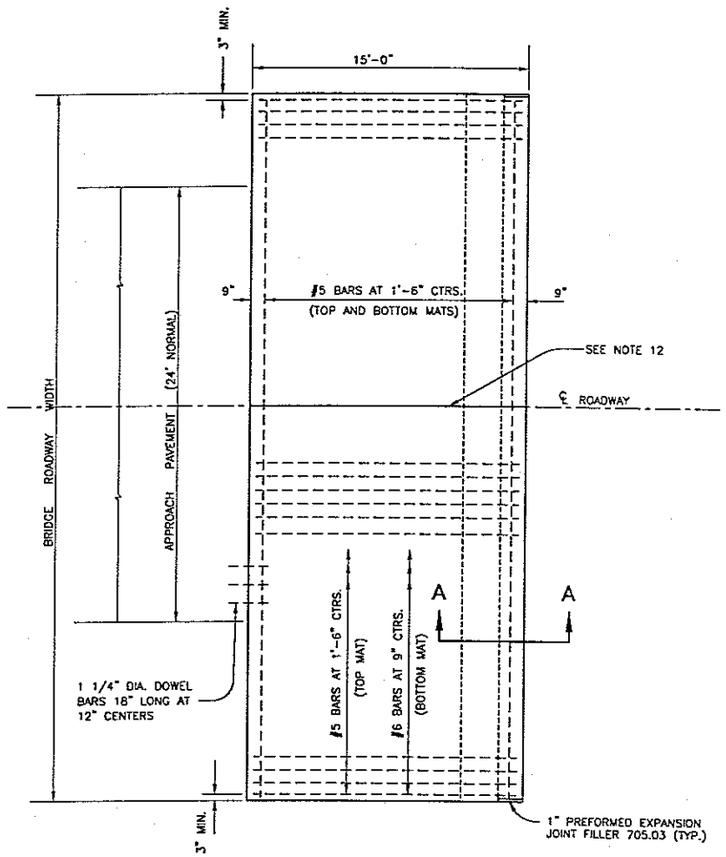
BAR BENDING DIAGRAMS

OHIO TURNPIKE COMMISSION

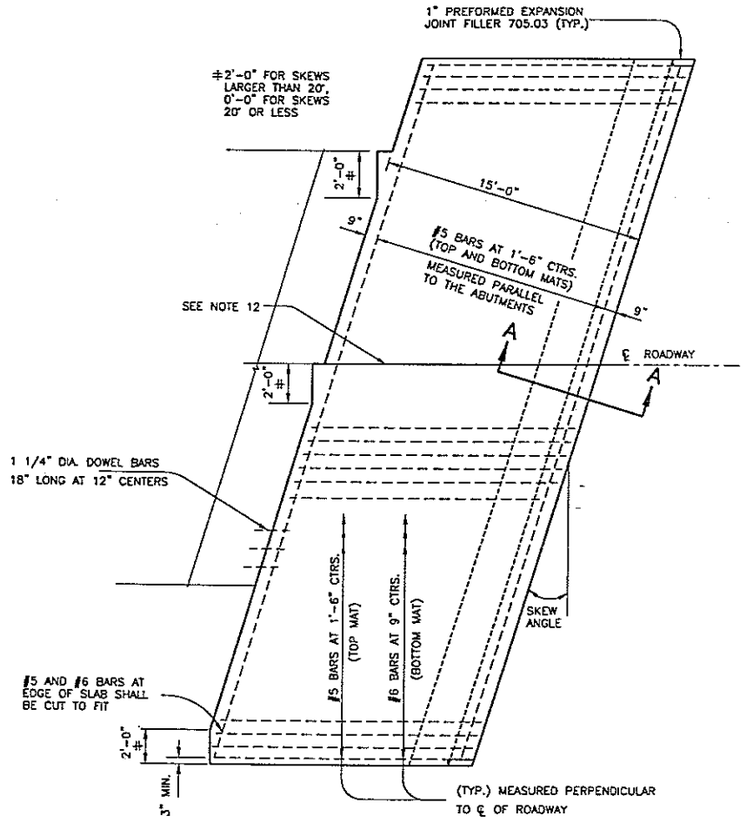
REINFORCED CONCRETE APPROACH SLAB SECTIONS AND DETAILS – MEDIAN WIDENING

DATE: JANUARY 24, 1997 | SCALE: N.T.S.

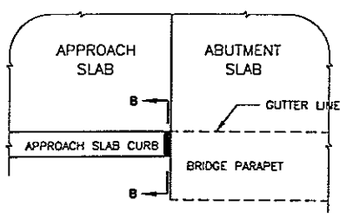
O.T.C. STANDARD DRAWING AS–2



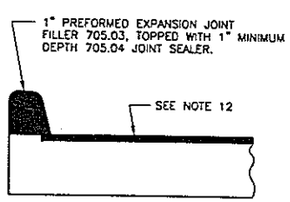
PLAN
(WITHOUT CURB)



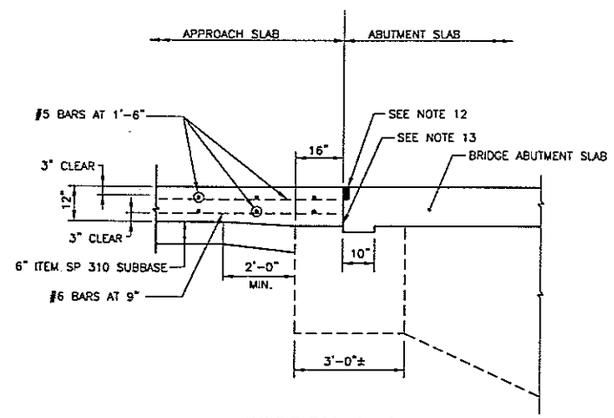
APPROACH SLAB FOR SKEWED BRIDGE
(WITHOUT CURB)



PART PLAN VIEW
(WITH CURB)



SECTION B–B



SECTION A–A

NOTES

1. GENERAL
THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS). AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

2. DESIGN DATA
CONCRETE CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 – GRADE 60, MIN. YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED

3. PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

4. GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

5. TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

6. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

7. CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10FT. BEYOND END OF WINGWALL. WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH, HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY. CURB PLACEMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. STANDARD DRAWING BR–1.

8. APPROACH SLAB WIDTH SHALL EXTEND FROM GUTTER LINE TO GUTTER LINE AND BE 6" WIDER FOR EACH CURB BEYOND THE END OF THE PARAPETS.

9. CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB.

10. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB ARE USED IN CONJUNCTION WITH CONCRETE PAVEMENT OR CONCRETE BASE COURSE. PAYMENT FOR THE TRANSVERSE JOINT, INCLUDING DOWEL BARS, SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.

11. ITEM SP 310 SUBBASE TYPE 1 GRADING "A" SHALL BE PROVIDED UNDER ALL APPROACH SLABS.

12. GROOVE AND SEAL WITH 705.04 AS PER O.D.O.T. STD. DWG. BP–2.1.

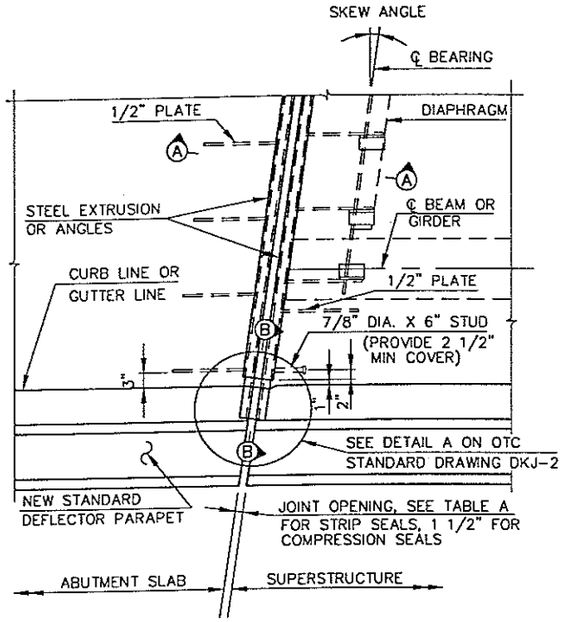
13. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

OHIO TURNPIKE COMMISSION

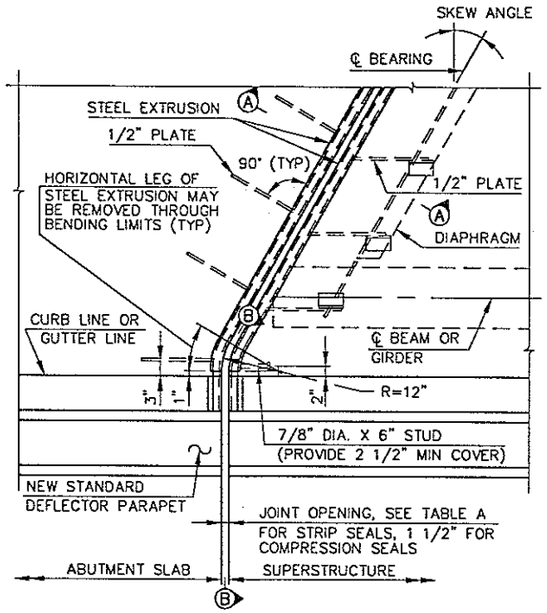
REINFORCED CONCRETE APPROACH SLAB – CELLULAR ABUTMENTS

DATE: APRIL 22, 1997 | SCALE: N.T.S.

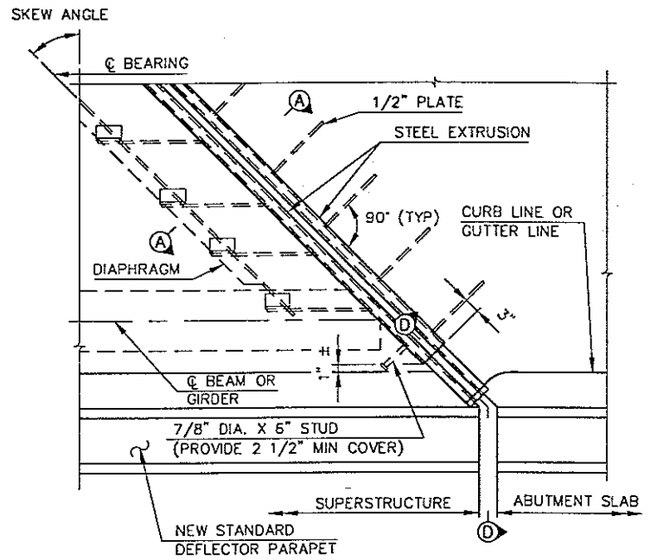
O.T.C. STANDARD DRAWING AS–3



PLAN – SKEW ANGLE < 10°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)



PLAN – SKEW ANGLE 10° TO 45°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)



PLAN – SKEW ANGLE > 45° (STRIP SEAL ONLY)

NOTE: WHEN SKEW ANGLE IS GREATER THAN 45°, FURNISH JOINT ASSEMBLIES IN TWO SECTIONS AND PROVIDE A FIELD SPLICE AT THE CENTERLINE OF ROADWAY.

GENERAL NOTES

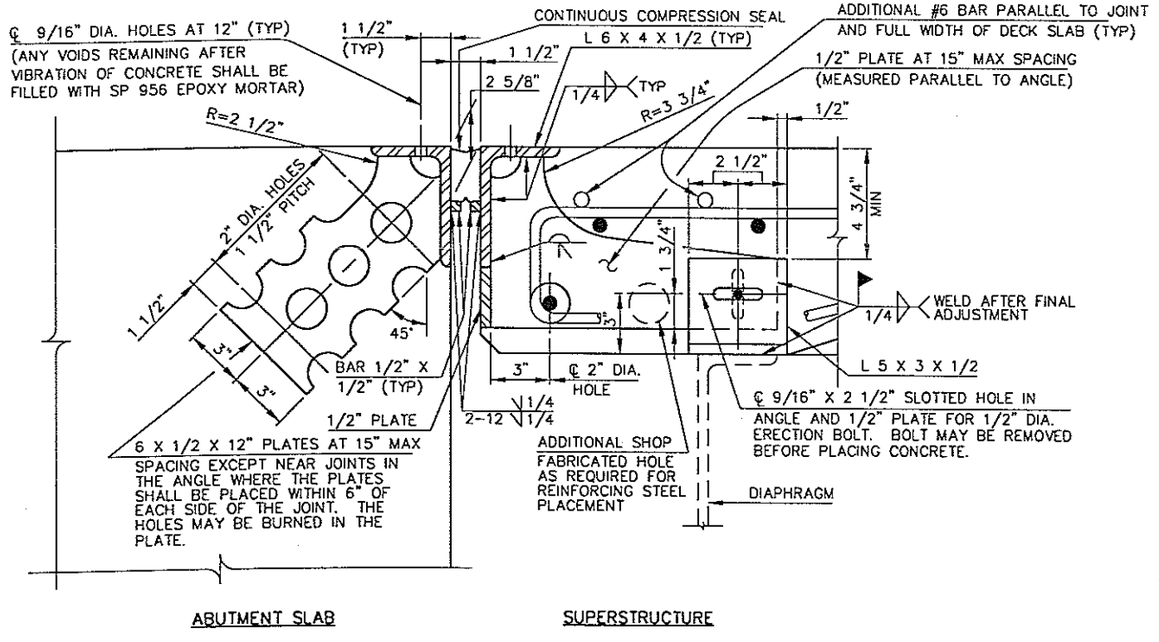
1. INSTALLATION OF SEAL: DURING INSTALLATION OF SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE JOINT SEAL, THE SEATING OF BEAMS ON BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE SUPPORT ANGLES RATHER THAN BY CLAMPING FORCE.
2. ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.
3. STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.
4. THE MINIMUM LENGTH OF RETAINER SHALL BE 6'-0" BETWEEN JOINTS UNLESS OTHERWISE SHOWN.
5. JOINTS IN EXTRUSIONS SHALL HAVE WATERTIGHT, PARTIAL PENETRATION BUTT WELDS COMPLETELY AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS WHICH WILL BE IN CONTACT WITH THE SEAL AND/OR ANCHOR PLATES SHALL BE GROUND SMOOTH.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
7. ELASTOMERIC COMPRESSION SEALS SHALL BE WATSON-BOWMAN ACME WJ-200, D.S. BROWN C-V 2000, ERIE METAL SPECIALTIES BR200 OR APPROVED EQUAL.
8. CONTINUOUS STRIP SEALS SHALL BE AS MANUFACTURED BY WATSON-BOWMAN ACME, D.S. BROWN OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED. SEE STRIP SEAL SELECTION TABLE.
9. DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.
10. TRANSVERSE JOINTS IN COMPRESSION SEAL ARMOR AND VERTICAL LEGS OF EXTRUSIONS SHALL HAVE COMPLETE PENETRATION BUTT WELDS. WELDS WHICH WILL BE IN CONTACT WITH SEALS SHALL BE GROUND FLUSH.
11. ARMOR STEEL COATING: FINISHED STEEL ASSEMBLY SHALL BE METALIZED, SEE SPECIAL PROVISIONS.

NOTE

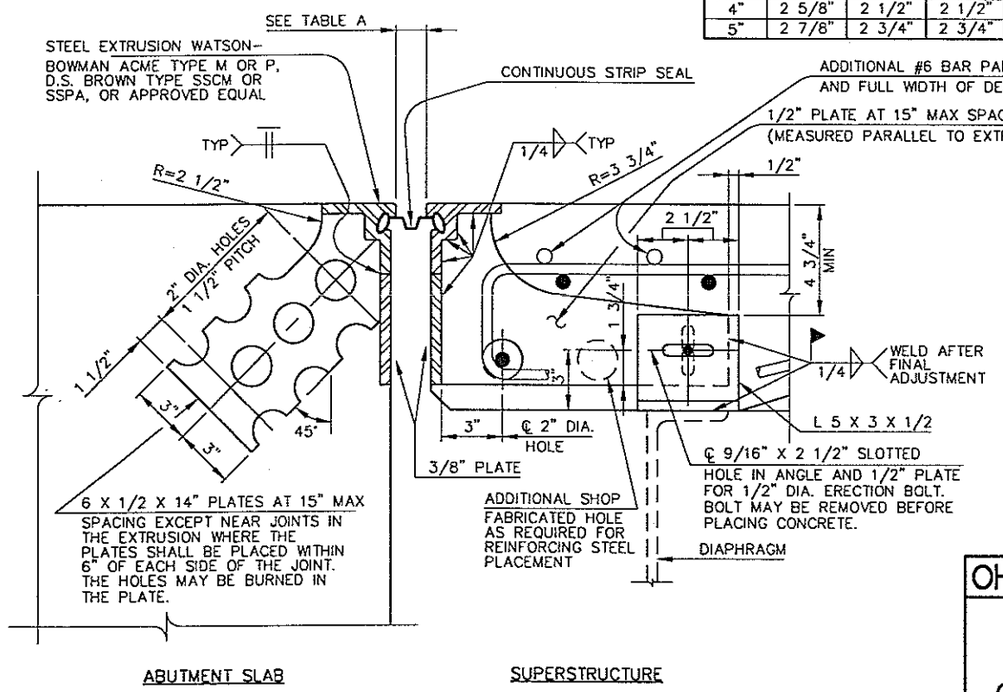
FOR SECTIONS B-B & D-D AND DETAIL A, SEE OTC STANDARD DRAWING DKJ-2.

TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING						
	TEMPERATURE °F						
	30	40	50	60	70	80	90
3"	2 1/4"	2 1/8"	2"	1 7/8"	1 3/4"	1 5/8"	1 1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"



SECTION A-A (COMPRESSION SEAL)



SECTION A-A (STRIP SEAL)
WATSON-BOWMAN ACME TYPE M, OR D.S. BROWN TYPE SSCM EXTRUSIONS SHOWN.

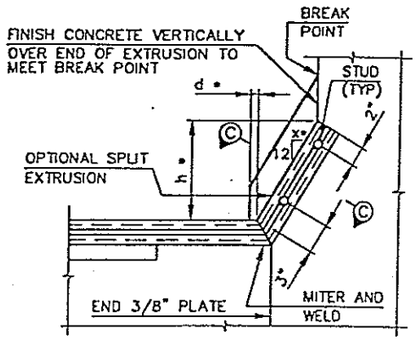
CAD FILE NAME: K:\OTCSL.STD\DJ-1

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS CELLULAR ABUTMENTS

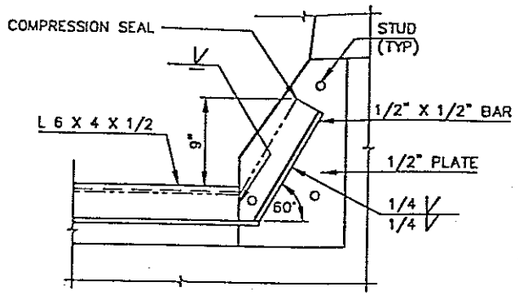
DATE: JUNE 25, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ-1

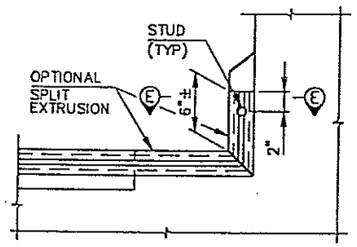


SECTION B-B (STRIP SEAL)

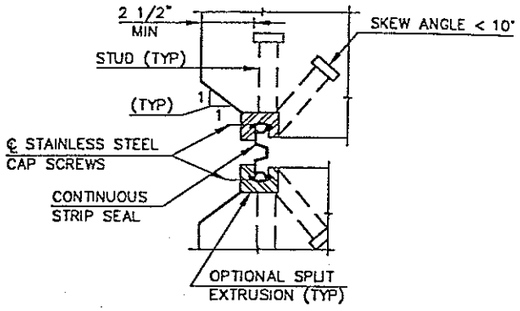
* SEE TABLE B FOR VALUE



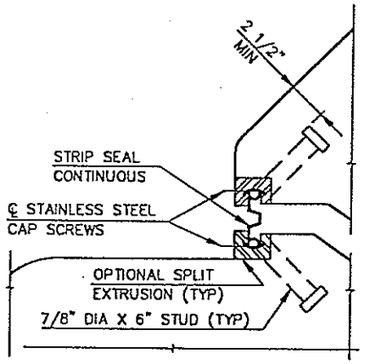
SECTION B-B (COMPRESSION SEAL)



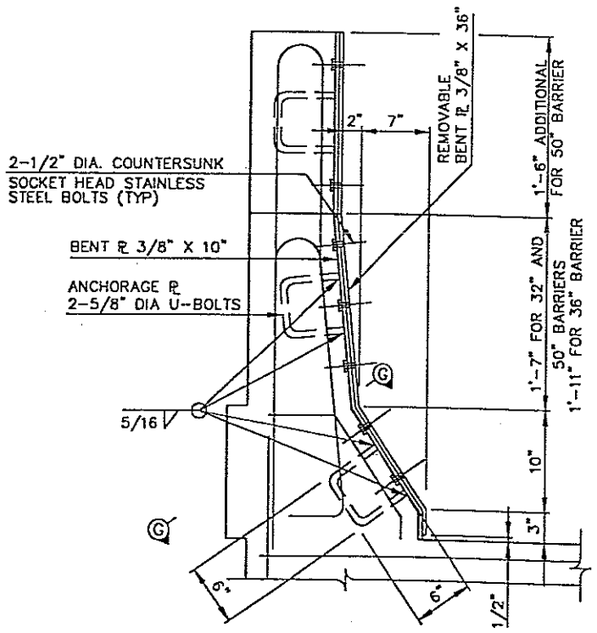
SECTION D-D



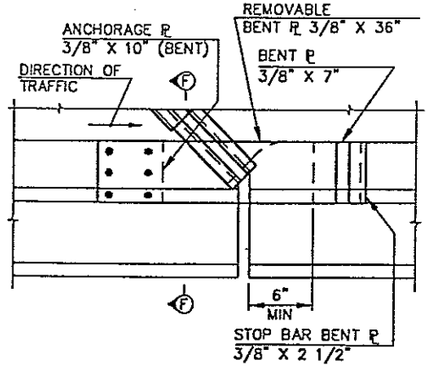
SECTION C-C



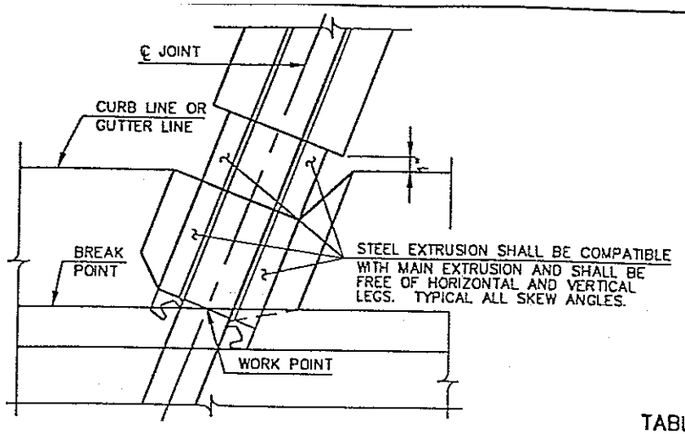
SECTION E-E



SECTION F-F

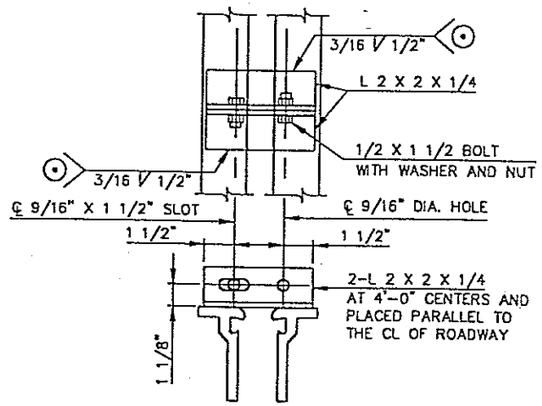


PLAN - SKEWS > 45°



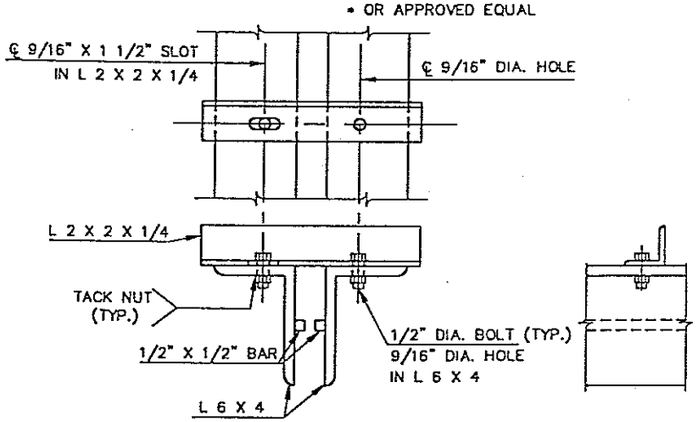
DETAIL A

NOTE: FOR JOINT DETAILS IN SIDEWALK SEE OTC STANDARD DRAWING DJ-3

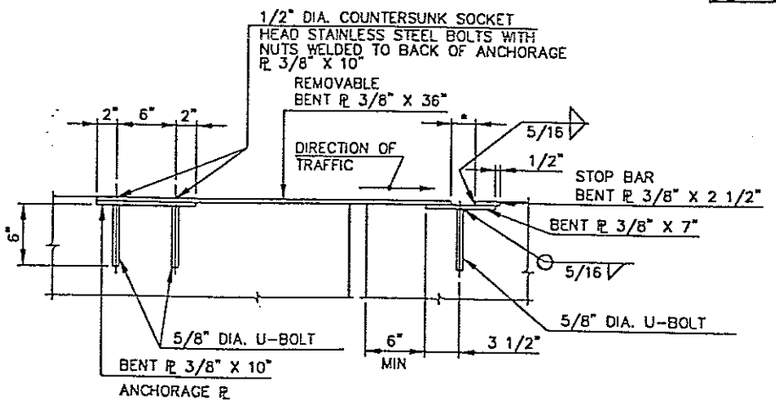


DETAIL - ALIGNMENT BRACKET

⊙ TEMPORARY WELD TO BE REMOVED AND GROUND SMOOTH IN FIELD. LOOSEN TEMPORARY JOINT ARMOR AFTER INITIAL SET OF CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF CONCRETE PLACEMENT.



DETAIL - ALIGNMENT BRACKET



SECTION G-G

* DIMENSION SET EQUAL TO STRIP SEAL JOINT OPENING AT TIME OF INSTALLATION

NOTES

1. THE SPLIT EXTRUSION SHOWN IS A NORMAL EXTRUSION WHICH HAS BEEN MODIFIED. AT JOINT UPTURNS, ESPECIALLY ON SKEWED BRIDGE DECKS, THE USE OF SPLIT EXTRUSIONS MAY BE NECESSARY TO ENSURE GOOD SEAL INSTALLATION. ON SHOP DRAWINGS, WHERE THE SPLIT EXTRUSION IS NOT USED, THE SEAL MANUFACTURER OR HIS AGENT WARRANTS TO THE CHIEF ENGINEER THAT THE FURNISHED CONFIGURATION WILL PROVIDE FOR READY INSTALLATION AND REPLACEMENT OF THE SEAL.

2. SECTION F-F & G-G - THE BENT STEEL PLATES SHALL BE A-36 STEEL, GALVANIZED IN ACCORDANCE WITH ITEM 711.02.

   SHOP DRAWINGS SHALL BE SUBMITTED PER CMS 501.05.

   BASIS OF PAYMENT: THE UNIT PRICE SHALL INCLUDE ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS TO FURNISH AND INSTALL THE BENT PLATES. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER POUND FOR ITEM 513, PARAPET PLATES, AS PER PLAN.

TABLE B

	SKEW ANGLE	
	<10°	10° - 45°
d	3/4" MIN	3/4"
x	6 15/16"	7 1/2"
h	10"	10"

STRIP SEAL SELECTION TABLE

SEAL MOVEMENT RATING (SIZE)	MANUFACTURER & DESIGNATION *	
	THE D.S. BROWN COMPANY	WATSON-BOWMAN & ACME CORP.
3"	300L	SE-300
4"	400L	SE-400
5"	500L	SE-500

* OR APPROVED EQUAL

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS

DATE: NOVEMBER 11, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ-2

GENERAL: THIS DRAWING PROVIDES DESIGN AND CONSTRUCTION DETAILS. THE PROJECT PLANS SHALL SHOW THE LOCATION OF SPLICES PLUS A REFERENCE TO THIS DRAWING FOR PERTINENT DETAILS AND NOTES. FOR SPLICING BEAMS OF DIFFERENT SIZES OR WHERE SPLICES ARE LOCATED AT BEAM BEND POINTS. THE PROJECT PLANS SHALL INCLUDE SUFFICIENT DETAILS SUPPLEMENTING THIS DRAWING TO COMPLETELY DESCRIBE THE SPLICE.

DESIGN SPECIFICATIONS: THIS DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS, AND THE OHIO DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, 1993.

DESIGN METHOD: LOAD FACTOR DESIGN

ALLOWABLE STRESSES:

STRUCTURAL STEEL	ASTM	A-36	YIELD STRESS = 36 KSI
	ASTM	A-572, A-588	YIELD STRESS = 50 KSI
HIGH STRENGTH BOLTS	ASTM	A-325	DESIGN SLIP RESISTANCE = 21 KSI

(DESIGN SLIP RESISTANCE IS BASED ON THE AASHTO CLASS A MINIMUM SLIP COEFFICIENT OF 0.33)

DESIGN: FOR EACH STRUCTURE THE DESIGNER SHALL CHOOSE A SPLICE LOCATION AND DETERMINE THE MAXIMUM TOTAL STRESSES (MOMENT AND SHEAR) AT THAT POINT. IN CONTINUOUS SPANS, SPLICES PREFERABLY SHALL BE MADE NEAR POINTS OF CONTRAFLEXURE. THE SPLICE SHALL BE DESIGNED FOR NOT LESS THAN (1) THE AVERAGE OF THE REQUIRED STRENGTH AT THE POINT OF SPLICE AND THE STRENGTH OF THE MEMBER AT THE SAME POINT. (2) THE MODIFIED MAXIMUM STRESS SPECIFIED IN THE FATIGUE UNIT STRESSES NOTE, OR (3) 75% OF THE STATIC STRENGTH OF THE BEAM. THE SPLICE DESIGNS SHOWN HEREON ARE DESIGNED FOR (3). SEE NOTE FOR DESIGN LOADS. IF STRESSES (1) OR (2) ARE MORE CRITICAL, THIS DESIGN SHALL NOT BE USED AND SUCH SPLICES SHOULD BE DESIGNED TO MEET THE ESTABLISHED REQUIREMENTS. THE STATIC BEAM STRENGTH AT THE SPLICE IS BASED ON THE NET SECTION FOR BENDING AND THE GROSS SECTION FOR SHEAR USING THE BASIC UNIT STRESSES. WHEN SPLICING BEAMS OF DIFFERENT SIZES, THE SPLICE DESIGN SHALL BE BASED ON THE LIGHTER WEIGHT BEAM.

DESIGN LOADS: DESIGN MOMENT [KIP-IN] = $0.75 \left(\frac{Fy\ I}{d} \right)$

DESIGN SHEAR [KIP] = $0.75\ (0.58\ Fy\ Tw\ (d - 2\ Tf))$

WHERE:
- I = MOMENT OF INERTIA BASED ON THE BEAM'S GROSS-SECTION OR ON THE NET-SECTION IF THE FLANGE AREA REMOVED EXCEEDING 15% OF THE GROSS-SECTION IS DEDUCTED [IN^4] (SEE AASHTO 10.18.1.1)
- Fy = YIELD STRESS [KSI]
- d = MEMBER DEPTH [IN]
- Tw = WEB THICKNESS [IN]
- Tf = FLANGE THICKNESS [IN]

FATIGUE STRESSES: THIS SPLICE STANDARD HAS NOT BEEN EVALUATED FOR FATIGUE STRESSES. THE DESIGNER IS REQUIRED TO CALCULATE THE MAXIMUM MOMENT RANGE AND EVALUATE THE ACTUAL STRESSES AGAINST ALLOWABLES GIVEN IN AASHTO TABLE 10.3.1A.

FASTENERS:

	ASTM	A-36	1" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325
	ASTM	A-572, A-588	1⅛" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325

SPLICE MATERIAL WEIGHT PLUS THE WEIGHT OF FILLS, WHERE REQUIRED, SHALL BE INCLUDED WITH THE STRUCTURAL STEEL QUANTITY FOR PAYMENT.

FABRICATION AND ASSEMBLY: BEAM ENDS AT SPLICES SHALL BE CUT AND FIT AS PER PLAN. THE OPENING BETWEEN BEAM ENDS AFTER ASSEMBLY SHALL NOT EXCEED ¼".

FILLS SHOWN ON THE PROJECT PLANS AND SHOP DRAWINGS SHALL BE DIMENSIONED TO THE NEAREST 1/16 INCH IN THICKNESS, BUT NOT LESS THAN ⅛ INCH THICK, BASED ON THE DIMENSIONS FOR DETAILING AND INTENDED RELATIVE POSITION OF THE ABUTTING FLANGES AND WEBS TO BE SPLICED. HOWEVER, IN THE FINAL SHOP ASSEMBLY, FILLS SHALL BE FURNISHED WITH THICKNESSES SUFFICIENT TO COMPENSATE FOR ANY MISALIGNMENT OF ABUTTING FLANGES AND WEBS DUE TO STANDARD ROLLING MILL TOLERANCES. THE ACTUAL FILLS USED IN THE SPLICE SHALL BE SUCH AS TO COMPENSATE FOR DIFFERENCES IN TOTAL THICKNESS OR RELATIVE POSITIONS OF MORE THAN 1/16 INCH.

VERTICAL CLEARANCE: FOR GRADE SEPARATION STRUCTURES AN ALLOWANCE OF ¾ INCHES PLUS THE THICKNESS OF THE OUTSIDE FLANGE SPLICE PLATE SHALL BE USED IN COMPUTING THE ACTUAL VERTICAL CLEARANCE UNDER A BEAM SPLICE.

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard L. Engel 12-17-94
ENGINEER OF BRIDGES DATE

REVISIONS	DESIGNED	DRAWN	CHECKED	REVIEWED
	GEA	SAM	SAM	

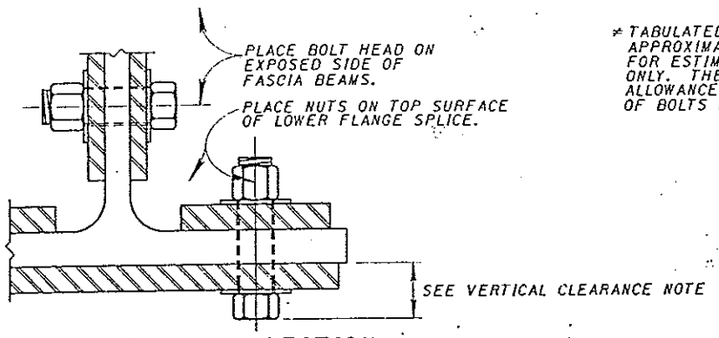
BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES

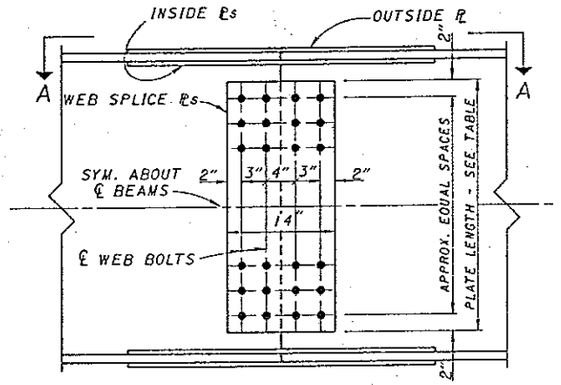
BEAM SPLICE DETAILS

BEAM	FLANGE PLATES TYPE	FLANGE PLATES OUTSIDE 2 REQ'D	FLANGE PLATES INSIDE 4 REQ'D	FLANGE BOLTS NUM.	N SPA.	PITCH	A	B	C	WEB SPLICE TYPE	WEB PLATES 2 REQ'D	WEB BOLTS No.	WEIGHT OF SPLICE MAT'RL lbs. /
W40X268	B	17½ x ⅝ x 4'-2"	7 x ⅝ x 4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼ x ⅜ x 20	60	960
W40X249	B	15½ x ⅝ x 4'-2"	6 x ⅝ x 4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼ x ⅜ x 20	60	890
W40X244	B	17½ x 7/16 x 4'-2"	7 x 7/16 x 4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼ x 7/16 x 20	60	910
W40X221	B	17½ x 1/2 x 3'-2"	7 x 1/2 x 3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼ x 7/16 x 20	60	720
W40X215	B	15½ x 7/16 x 4'-2"	6 x 7/16 x 4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼ x 1/2 x 20	60	820
W40X199	B	15½ x 1/2 x 3'-2"	6 x 1/2 x 3'-2"	48	5	3½	2 5/16	2	7⅛	B	33¼ x 1/2 x 20	60	650
W40X192	B	17½ x 3/8 x 3'-2"	7 x 3/8 x 3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼ x 7/16 x 20	60	630
W40X183	A	11½ x 5/8 x 2'-8"	4 x 5/8 x 2'-8"	40	4	3½	2 5/16	-	7⅛	B	33¼ x 1/2 x 20	60	560
W40X167	A	11½ x 1/2 x 2'-2"	4 x 1/2 x 2'-2"	32	3	3½	2 5/16	-	7⅛	B	33¼ x 1/2 x 20	60	470
W40X149	A	11½ x 7/16 x 2'-2"	4 x 7/16 x 2'-2"	32	3	3½	2 3/8	-	7	B	33¼ x 1/2 x 20	60	460
W36X300	B	16 x ¾ x 6'-3½"	6½ x ¾ x 6'-3½"	80	9	3¾	2 5/16	2½	7	C	31 x 11/16 x 26	80	1510
W36X280	B	16 x 11/16 x 5'-½"	6½ x 11/16 x 5'-½"	64	7	3¾	2 5/16	2½	7	B	31 x 11/16 x 20	60	1120
W36X260	B	16 x ⅝ x 5'-½"	6½ x ⅝ x 5'-½"	64	7	3¾	2¼	2½	7	B	31 x 11/16 x 20	60	1060
W36X245	B	16 x 9/16 x 5'-½"	6½ x 9/16 x 5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31 x ⅝ x 20	60	970
W36X230	B	16 x 9/16 x 5'-½"	6½ x 9/16 x 5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31 x ⅝ x 20	60	940
W36X210	A	12 x ⅝ x 3'-0"	4½ x ⅝ x 3'-0"	40	4	3½	2 5/16	-	7	B	31 x 11/16 x 20	60	670
W36X194	A	12 x 9/16 x 3'-0"	4½ x 9/16 x 3'-0"	40	4	3½	2⅝	-	6⅞	B	31 x ⅝ x 20	60	620
W36X182	A	12 x 9/16 x 3'-0"	4½ x 9/16 x 3'-0"	40	4	3½	2⅝	-	6⅞	B	31 x ⅝ x 20	60	600
W36X170	A	12 x 1/2 x 2'-5"	4½ x 1/2 x 2'-5"	32	3	3½	2 5/16	-	6⅞	B	31 x 9/16 x 20	60	510
W36X160	A	12 x 1/2 x 2'-5"	4½ x 1/2 x 2'-5"	32	3	3½	2⅝	-	6¾	B	31 x 9/16 x 20	60	500
W36X150	A	11¾ x 7/16 x 2'-5"	4½ x 7/16 x 2'-5"	32	3	3½	2⅝	-	6¾	A	31 x 1/2 x 14	40	380
W36X135	A	11¾ x 7/16 x 1'-10"	4½ x 7/16 x 1'-10"	24	2	3½	2⅝	-	6¾	A	31 x 7/16 x 14	40	310
W33X263	B	15½ x 11/16 x 4'-9"	6½ x 11/16 x 4'-9"	64	7	3½	2 5/16	2½	6⅜	C	28 x 13/16 x 26	72	1150
W33X241	B	15½ x ⅝ x 4'-9"	6½ x ⅝ x 4'-9"	64	7	3½	2¼	2½	6⅜	C	28 x 13/16 x 26	72	1090
W33X221	B	15½ x 9/16 x 4'-9"	6½ x 9/16 x 4'-9"	64	7	3½	2 5/16	2½	6⅜	B	28 x 11/16 x 20	54	890
W33X201	B	15½ x 1/2 x 3'-7"	6½ x 1/2 x 3'-7"	48	5	3½	2¼	2½	6¼	B	28 x ⅝ x 20	54	680
W33X169	A	11 x 9/16 x 3'-0"	4½ x 9/16 x 3'-0"	40	4	3½	2⅜	-	6¾	B	28 x ⅝ x 20	54	570
W33X152	A	11 x 1/2 x 2'-5"	4½ x 1/2 x 2'-5"	32	3	3½	2 1/16	-	6¾	B	28 x 9/16 x 20	54	460
W33X141	A	11 x 7/16 x 2'-5"	4½ x 7/16 x 2'-5"	32	3	3½	2 1/16	-	6⅝	B	28 x 9/16 x 20	54	460
W33X130	A	11 x 7/16 x 1'-10"	4½ x 7/16 x 1'-10"	24	2	3½	2 1/16	-	6⅝	A	28 x 1/2 x 14	36	300
W33X118	A	11 x 3/8 x 1'-10"	4½ x 3/8 x 1'-10"	24	2	3½	2 1/16	-	6⅝	A	28 x 7/16 x 14	36	280
W30X211	B	15 x 9/16 x 5'-½"	6 x 9/16 x 5'-½"	64	7	3½	2 1/16	2	6¼	B	25 x ¾ x 20	48	910
W30X191	A	15 x 1/2 x 3'-7"	6 x 1/2 x 3'-7"	48	5	3½	3 1/16	-	8⅛	B	25 x 11/16 x 20	48	670
W30X173	A	14¾ x 1/2 x 3'-0"	6 x 1/2 x 3'-0"	40	4	3½	3 1/16	-	8⅛	B	25 x ⅝ x 20	48	570
W30X148	A	10 x 9/16 x 2'-5"	4 x 9/16 x 2'-5"	32	3	3½	2¼	-	6	B	25 x ⅝ x 20	48	460
W30X132	A	10 x 1/2 x 2'-5"	4 x 1/2 x 2'-5"	32	3	3½	2 5/16	-	6⅛	B	25 x 9/16 x 20	48	420
W30X124	A	10 x 7/16 x 1'-10"	4 x 7/16 x 1'-10"	24	2	3½	2¼	-	6	B	25 x 9/16 x 20	48	370
W30X116	A	10 x 7/16 x 1'-10"	4 x 7/16 x 1'-10"	24	2	3½	2¼	-	6	A	25 x 1/2 x 14	32	280
W30X108	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2¼	-	6	A	25 x 7/16 x 14	32	260
W30X99	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2¼	-	6	A	25 x 7/16 x 14	32	260
W30X90	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	6	A	25 x 7/16 x 14	32	260
W27X194	A	14 x 9/16 x 3'-7"	5½ x 9/16 x 3'-7"	48	5	3½	3¼	-	7½	C	22 x 11/16 x 26	56	770
W27X178	A	14 x 1/2 x 3'-7"	5½ x 1/2 x 3'-7"	48	5	3½	3¼	-	7⅜	B	22 x ¾ x 20	42	630
W27X161	A	14 x 1/2 x 3'-0"	5½ x 1/2 x 3'-0"	40	4	3½	3¼	-	7½	B	22 x 11/16 x 20	42	540
W27X146	A	13¾ x 7/16 x 3'-0"	5½ x 7/16 x 3'-0"	40	4	3½	3¼	-	7½	B	22 x ⅝ x 20	42	500
W27X129	A	10 x 1/2 x 2'-5"	4 x 1/2 x 2'-5"	32	3	3½	2 1/16	-	5⅞	B	22 x ⅝ x 20	42	410
W27X114	A	10 x 7/16 x 1'-10"	4 x 7/16 x 1'-10"	24	2	3½	2⅛	-	5⅞	B	22 x 9/16 x 20	42	330
W27X102	A	10 x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	5⅞	A	22 x 1/2 x 14	28	250
W27X94	A	9¾ x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	5⅞	A	22 x 7/16 x 14	28	240
W27X84	A	9¾ x 3/8 x 1'-10"	4 x 3/8 x 1'-10"	24	2	3½	2 1/16	-	5⅞	A	22 x 7/16 x 14	28	240
W24X162	A	12½ x 9/16 x 3'-0"	5 x 9/16 x 3'-0"	40	4	3½	2 5/16	-	7⅛	C	19 x 13/16 x 26	48	620
W24X146	A	12½ x 1/2 x 3'-0"	5 x 1/2 x 3'-0"	40	4	3½	2⅛	-	7⅛	B	19 x ¾ x 20	36	490

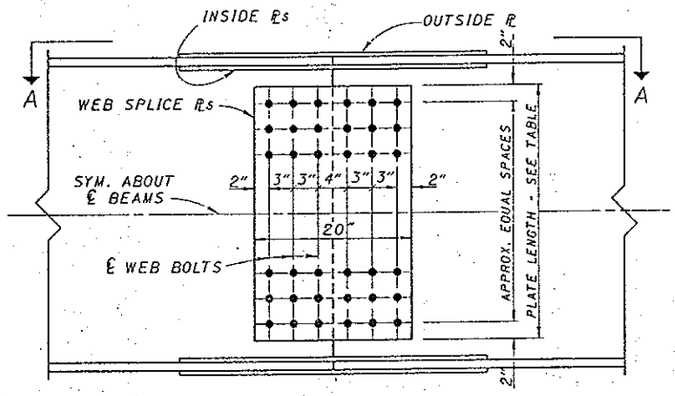
≠ TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.



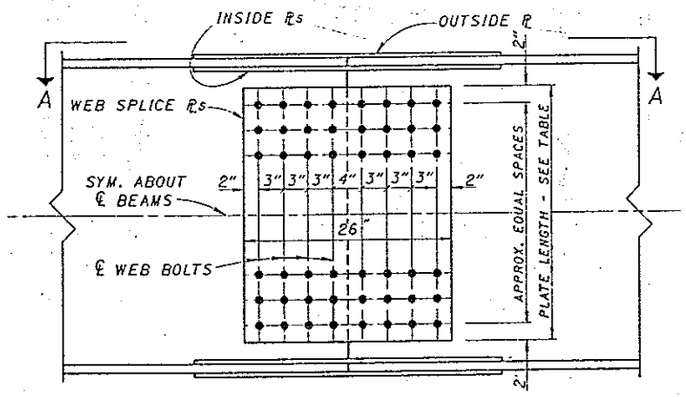
PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)



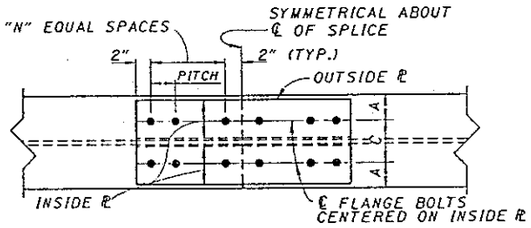
BEAM SPLICE DETAIL
WEB SPLICE - TYPE A



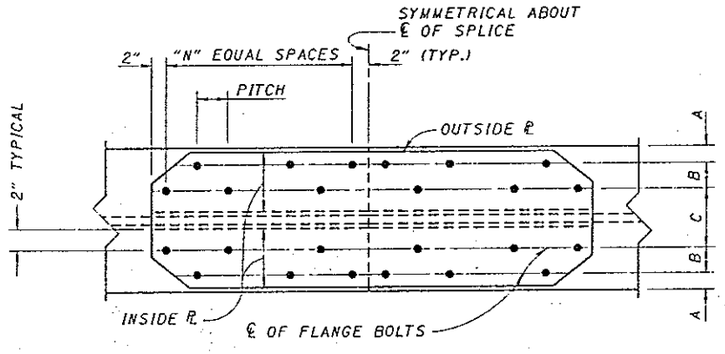
BEAM SPLICE DETAIL
WEB SPLICE - TYPE B



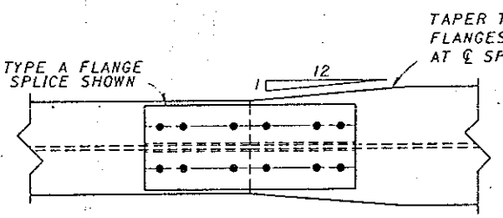
BEAM SPLICE DETAIL
WEB SPLICE - TYPE C



VIEW A-A
FLANGE SPLICE - TYPE A



VIEW A-A
FLANGE SPLICE - TYPE B



VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard D. Howard
ENGINEER OF BRIDGES
12-12-94
DATE

REVISIONS | DESIGNED GEA | DRAWN SAM | CHECKED SAM | REVIEWED

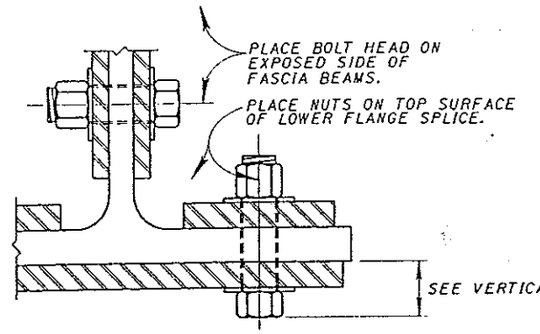
STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 36 KSI STEEL)

BS-1-93

2 / 3

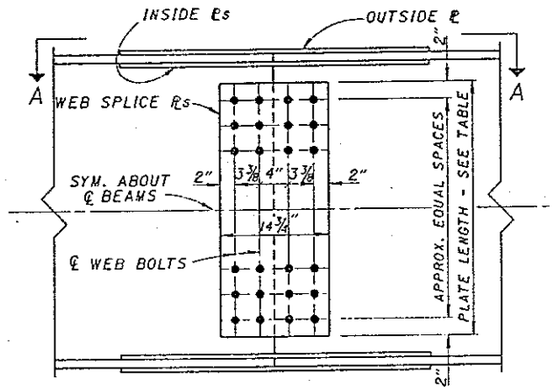
BEAM SPLICE DETAILS

BEAM	FLANGE PLATES			FLANGE BOLTS						WEB SPLICE			WEIGHT OF SPLICE MAT'RL
	TYPE	OUTSIDE 2 REQ'D	INSIDE 4 REQ'D	NUM.	N SPA.	PITCH	A	B	C	TYPE	WEB PLATES 2 REQ'D	WEB BOLTS No.	lbs. #
W40X268	B	17½x⅝x5'-11"	7x⅝x5'-11"	80	9	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	1390
W40X249	B	15½x⅝x4'-9"	6x⅝x4'-9"	64	7	3½	2 5/16	2	7⅛	C	33x11/16x28¼	72	1130
W40X244	B	17½x9/16x4'-9"	7x9/16x4'-9"	64	7	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	1150
W40X221	B	17½x½x4'-9"	7x½x4'-9"	64	7	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	1080
W40X215	B	15½x9/16x4'-9"	6x9/16x4'-9"	64	7	3½	2 5/16	2	7⅛	C	33x⅝x28¼	72	1040
W40X199	B	15½x½x3'-7"	6x½x3'-7"	48	5	3½	2 5/16	2	7⅛	C	33x⅝x28¼	72	850
W40X192	B	17½x⅜x3'-7"	7x⅜x3'-7"	48	5	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	840
W40X183	A	11½x⅝x3'-0"	4x⅝x3'-0"	40	4	3½	2 5/16	-	7⅛	B	33x9/16x21½	54	620
W40X167	A	11½x½x3'-0"	4x½x3'-0"	40	4	3½	2 5/16	-	7⅛	B	33x9/16x21½	54	570
W40X149	A	11½x7/16x2'-5"	4x7/16x2'-5"	32	3	3½	2⅛	-	7	B	33x9/16x21½	54	500
W36X300	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x⅞x28¼	72	1600
W36X280	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x11/16x28¼	72	1480
W36X260	B	16x⅝x6'-3½"	6½x⅝x6'-3½"	80	9	3¾	2¼	2½	7	C	31x¾x28¼	72	1380
W36X256	A	12x13/16x4'-2"	4½x13/16x4'-2"	56	6	3½	2 5/16	-	7⅛	C	31x⅞x28¼	72	1090
W36X245	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2 5/16	2½	6⅞	C	31x¾x28¼	72	1170
W36X232	A	12x11/16x4'-2"	4½x11/16x4'-2"	56	6	3½	2 5/16	-	7	C	31x11/16x28¼	72	1010
W36X230	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2 5/16	2½	6⅞	C	31x11/16x28¼	72	1100
W36X210	A	12x⅝x3'-7"	4½x⅝x3'-7"	48	5	3½	2 5/16	-	7	C	31x11/16x28¼	72	910
W36X194	A	12x⅝x3'-0"	4½x⅝x3'-0"	40	4	3½	2⅝	-	6⅞	C	31x¾x28¼	72	780
W36X182	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅝	-	6⅞	C	31x11/16x28¼	72	740
W36X170	A	12x½x3'-0"	4½x½x3'-0"	40	4	3½	2⅛	-	6⅞	B	31x9/16x21½	54	570
W36X160	A	12x½x2'-5"	4½x½x2'-5"	32	3	3½	2⅝	-	6¾	B	31x9/16x21½	54	510
W36X150	A	11⅞x½x2'-5"	4½x½x2'-5"	32	3	3½	2⅝	-	6¾	B	31x9/16x21½	54	510
W36X135	A	11⅞x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2⅝	-	6¾	B	31x½x21½	54	460
W33X263	B	15½x11/16x5'-11"	6½x11/16x5'-11"	80	9	3½	2 5/16	2½	6⅜	C	29⅞x13/16x28¼	64	1350
W33X241	B	15½x⅝x4'-9"	6½x⅝x4'-9"	64	7	3½	2¼	2½	6⅜	C	29⅞x¾x28¼	64	1100
W33X221	B	15½x9/16x4'-9"	6½x9/16x4'-9"	64	7	3½	2 5/16	2½	6⅜	C	29⅞x11/16x28¼	64	1010
W33X201	B	15½x½x4'-9"	6½x½x4'-9"	64	7	3½	2¼	2½	6¼	C	29⅞x11/16x28¼	64	980
W33X169	A	11x5/16x3'-0"	4½x5/16x3'-0"	40	4	3½	2⅛	-	6¾	B	29⅞x½x21½	48	570
W33X152	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 1/16	-	6¾	B	29⅞x½x21½	48	470
W33X141	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 1/16	-	6⅝	B	29⅞x½x21½	48	460
W33X130	A	11x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2 1/16	-	6⅝	B	29⅞x½x21½	48	440
W33X118	A	11x⅜x1'-10"	4½x⅜x1'-10"	24	2	3½	2 1/16	-	6⅝	B	29⅞x½x21½	48	380
W30X211	B	15x9/16x4'-9"	6x9/16x4'-9"	64	7	3½	2 1/16	2	6¼	C	26½x¾x28¼	56	990
W30X191	B	15x½x3'-7"	6x½x3'-7"	48	5	3½	2 1/16	2	6⅛	C	26½x11/16x28¼	56	780
W30X173	B	14⅞x½x3'-7"	6x½x3'-7"	48	5	3½	2 1/16	2	6⅛	C	26½x⅝x28¼	56	730
W30X148	A	10x9/16x2'-5"	4x9/16x2'-5"	32	3	3½	2¼	-	6	B	26½x9/16x21½	42	460
W30X132	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 1/16	-	6⅛	B	26½x½x21½	42	420
W30X124	A	10x7/16x2'-5"	4x7/16x2'-5"	32	3	3½	2¼	-	6	B	26½x½x21½	42	410
W30X116	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2¼	-	6	B	26½x½x21½	42	360
W30X108	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	B	26½x½x21½	42	350
W30X99	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	B	26½x7/16x21½	42	330
W30X90	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	6	A	26½x⅜x14¾	28	250
W27X194	A	14x9/16x4'-2"	5½x9/16x4'-2"	56	6	3½	3¼	-	7½	C	24x¾x26¼	48	850
W27X178	A	14x9/16x3'-7"	5½x9/16x3'-7"	48	5	3½	3¼	-	7⅝	C	24x11/16x28¼	48	730
W27X161	A	14x½x3'-0"	5½x½x3'-0"	40	4	3½	3¼	-	7½	C	24x⅝x28¼	48	630
W27X146	A	13⅞x7/16x3'-0"	5½x7/16x3'-0"	40	4	3½	3¼	-	7½	B	24x½x21½	36	490
W27X129	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 1/16	-	5⅞	B	24x½x21½	36	400
W27X114	A	10x½x1'-10"	4x½x1'-10"	24	2	3½	2⅛	-	5⅞	B	24x½x21½	36	340
W27X102	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	B	24x7/16x21½	36	310
W27X94	A	9⅞x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	B	24x7/16x21½	36	300
W27X84	A	9⅞x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	A	24x⅜x14¾	24	230
W24X162	A	12½x9/16x3'-7"	5x9/16x3'-7"	48	5	3½	2 15/16	-	7⅛	C	20⅞x¾x28¼	48	690
W24X146	A	12½x½x3'-0"	5x½x3'-0"	40	4	3½	2⅞	-	7⅛	B	20⅞x⅝x21½	36	510

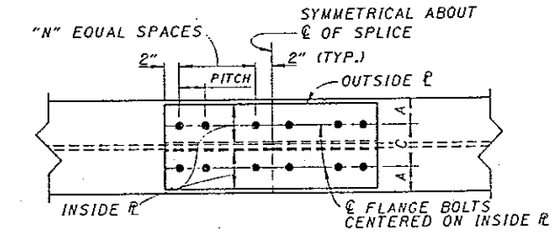


PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)

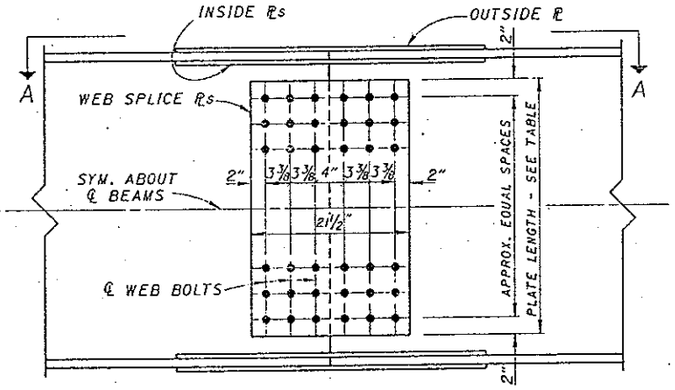
TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.



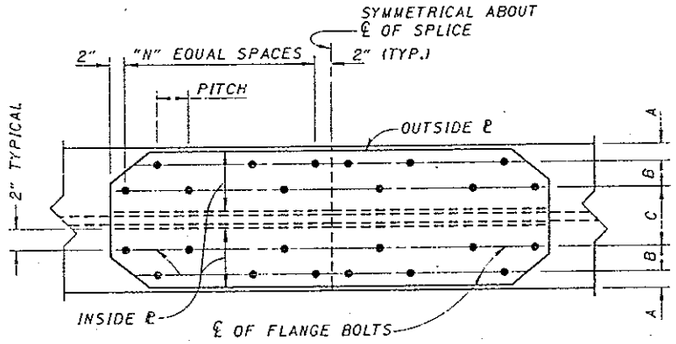
BEAM SPLICE DETAIL
WEB SPLICE - TYPE A



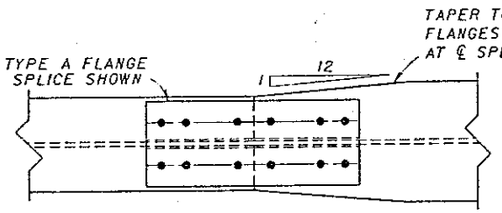
VIEW A-A
FLANGE SPLICE - TYPE A



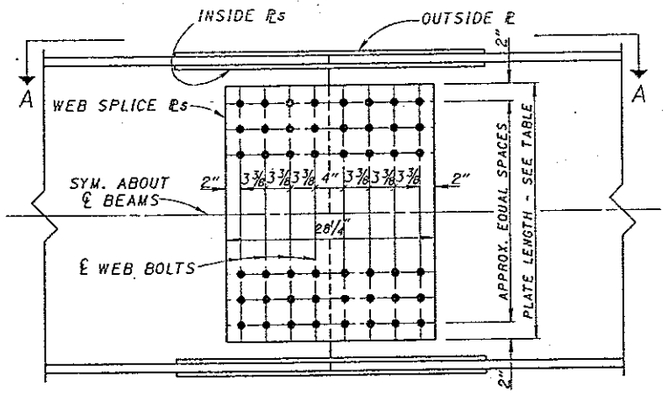
BEAM SPLICE DETAIL
WEB SPLICE - TYPE B



VIEW A-A
FLANGE SPLICE - TYPE B



VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS



BEAM SPLICE DETAIL
WEB SPLICE - TYPE C

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1⅛" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

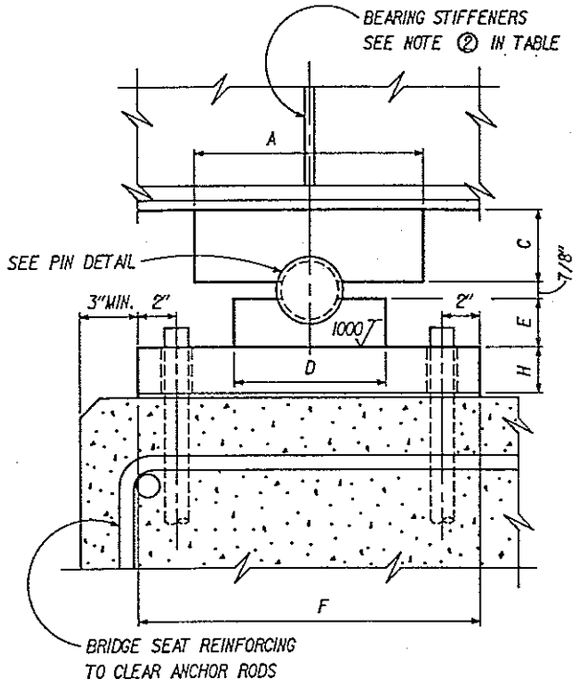
STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard D. Conrad
ENGINEER OF BRIDGES
12-18-94
DATE

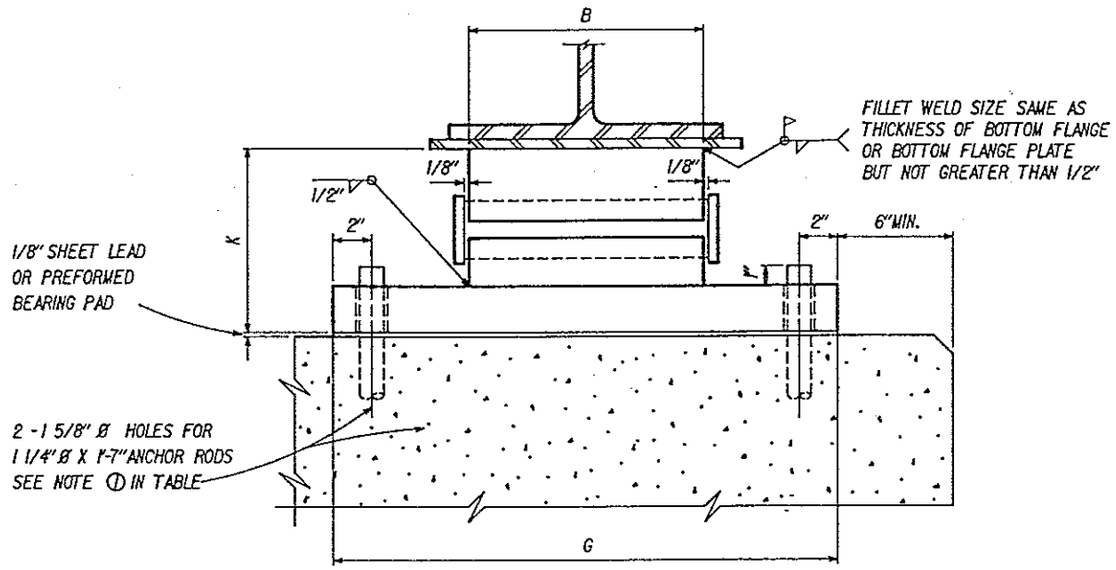
REVISED
CHECKED SAM
DESIGNED GEA
DRAWN SAM
REVISIONS

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 50 KSI STEEL)

BS-1-93

3 / 3





ELEVATIONS OF FIXED BEARING

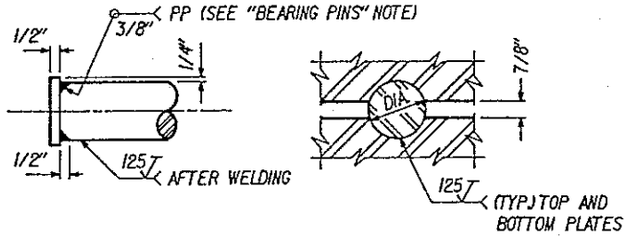
SEE TABLE FOR ADDITIONAL DIMENSIONS

FIXED BEARING NO.	FIXED BEARINGS DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	K	DIA.	WEIGHT EA. (LBS.)	MAXIMUM LOAD (LBS.)
① F - 50	6	6	1 1/2	3	1 1/4	8	16	1 1/2	5 1/8	2	100	50,000
① F - 100	7	9	1 3/4	4	1 1/2	9	18	1 1/2	5 5/8	2	143	100,000
F - 150	9	9	2 1/2	5	1 1/2	11	20	2	6 7/8	2 1/2	244	150,000
F - 200	10	10	3	6	2	11	22	2	7 7/8	2 1/2	300	200,000
F - 250	11	10	3 1/2	7	2	12	24	2 1/2	8 7/8	3	400	250,000
F - 300	12	11	3 3/4	8	2 1/2	14	25	2 1/2	9 5/8	3	502	300,000
② F - 350	12	11	3 3/4	8	2 1/2	16	25	2 1/2	9 5/8	3	540	350,000
② F - 400	12	12	3 3/4	8	2 1/2	18	26	2 1/2	9 5/8	3	610	400,000

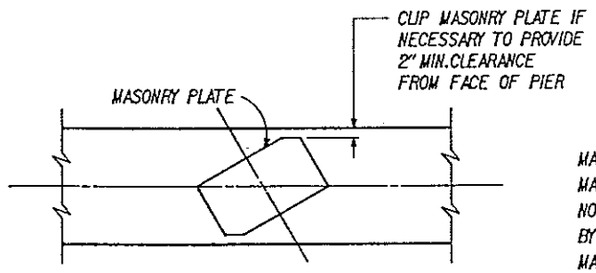
① ONLY 2 ANCHOR RODS REQUIRED, PLACED IN DIAGONALLY OPPOSITE CORNERS OF THE MASONRY PLATE.

② BEARING STIFFENERS ARE REQUIRED ON BOTH SIDES OF THE BEAM OR GIRDER WEB ABOVE.

WEIGHTS GIVEN ARE FOR ONE COMPLETE BEARING, INCLUDING SHEET LEAD AND ANCHOR RODS.



BEARING PIN DETAIL



PLAN VIEW OF TOP OF PIER

SHOWING MASONRY PLATE FOR BRIDGE ON SKEW

MASONRY PLATE DIMENSIONS SHOWN IN TABLE MAY BE USED PROVIDED CLIPPED CORNERS DO NOT REDUCE THE BEARING AREA OF THE PLATE BY MORE THAN 5%. BEARINGS WITH CLIPPED MASONRY PLATES SHALL BE IDENTIFIED ON THE PLANS WITH THE WORD "MODIFIED". THUS : "F - 300 MODIFIED"

NOTES

DESIGN SPECIFICATIONS : THIS STANDARD DRAWING CONFORMS TO THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980 AND 1981 INTERIMS TO THE ABOVE AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS, EXCEPT THAT THE MASONRY PLATES FOR THE BEARINGS ARE DESIGNED ON THE BASIS OF AN ALLOWABLE BENDING STRESS OF 30,000 P.S.I. ASSUMING UNIFORM DISTRIBUTION OF BEARING ON THE CONCRETE.

STEEL PLATES : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PLATES SHALL BE THE SAME MATERIAL AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL, UNPAINTED, THE PLATE ELEMENT ABOVE THE BEARING PIN SHALL ALSO BE A588 STEEL. THE PLATE ELEMENTS BELOW THE BEARING PIN MAY BE EITHER A36, GALVANIZED BEFORE WELDING, OR A588 UNPAINTED, BUT BOTH PLATES SHALL BE OF THE SAME MATERIAL.

BEARING PINS : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PINS SHALL BE MADE FROM STOCK MEETING THE REQUIREMENTS OF 711.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS AS THOSE FOR PAINTING THE SUPERSTRUCTURE MEMBERS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL AND THE BOTTOM PLATES ARE A36, GALVANIZED, THE PINS SHALL BE AS ABOVE, GALVANIZED INSTEAD OF PAINTED. IF THE BOTTOM PLATES ARE A588 THE PINS SHALL ALSO BE A588. BEARING PINS MAY BE FABRICATED FROM ONE PIECE OF STOCK OR FROM ROD STOCK AND PLATES, WELDED AS SHOWN ON THESE DETAILS.

SURFACE FINISH : SURFACE FINISHES SHOWN ON THESE DETAILS SHALL BE MINIMUM BEFORE GALVANIZING. A 500 FINISH OR SMOOTHER SHALL BE USED WHERE NOT OTHERWISE NOTED.

ROADWAY GRADE : IF THE ROADWAY GRADE EXCEEDS 2% THE UPPER LOAD PLATE OF THE BEARING SHALL BE BEVELED TO MATCH THE GRADE. DIMENSION C SHALL BE MAINTAINED AT THE CENTER OF THE PLATE.

LATERAL EXPANSION : ALL BEARINGS MUST BE ACCURATELY PLACED SO THAT PROPER CLEARANCE WILL BE PROVIDED AT ALL BEARINGS FOR LATERAL EXPANSION OF THE SUPERSTRUCTURE. IF THE SUPERSTRUCTURE EXCEEDS 60' IN WIDTH THE 1/8" CLEARANCE SHOWN AT EACH END OF THE BEARING PIN SHALL BE INCREASED. A CLEARANCE OF 1/4" AT EACH END WILL BE ADEQUATE FOR A SUPERSTRUCTURE WIDTH UP TO 120'.

BEARING ANCHOR RODS : AT THE OPTION OF THE CONTRACTOR, THE BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

BRIDGE SEAT REINFORCING : PROJECT PLAN SHALL INCLUDE A PLAN VIEW OF THE SEAT AREA FOR THE FIXED BEARING SHOWING THE OUTLINE OF THE MASONRY PLATE, THE ANCHOR RODS AND THE MAIN REINFORCING BARS IN THE TOP OF THE BRIDGE SEAT. ADEQUATE DIMENSIONS SHALL BE PROVIDED TO ENSURE THAT THERE WILL BE NO INTERFERENCE BETWEEN THE ANCHOR RODS AND THE RE-BARS, AND THAT THE SEAT AREA WILL ACCOMODATE THE BEARING.

REVISIONS

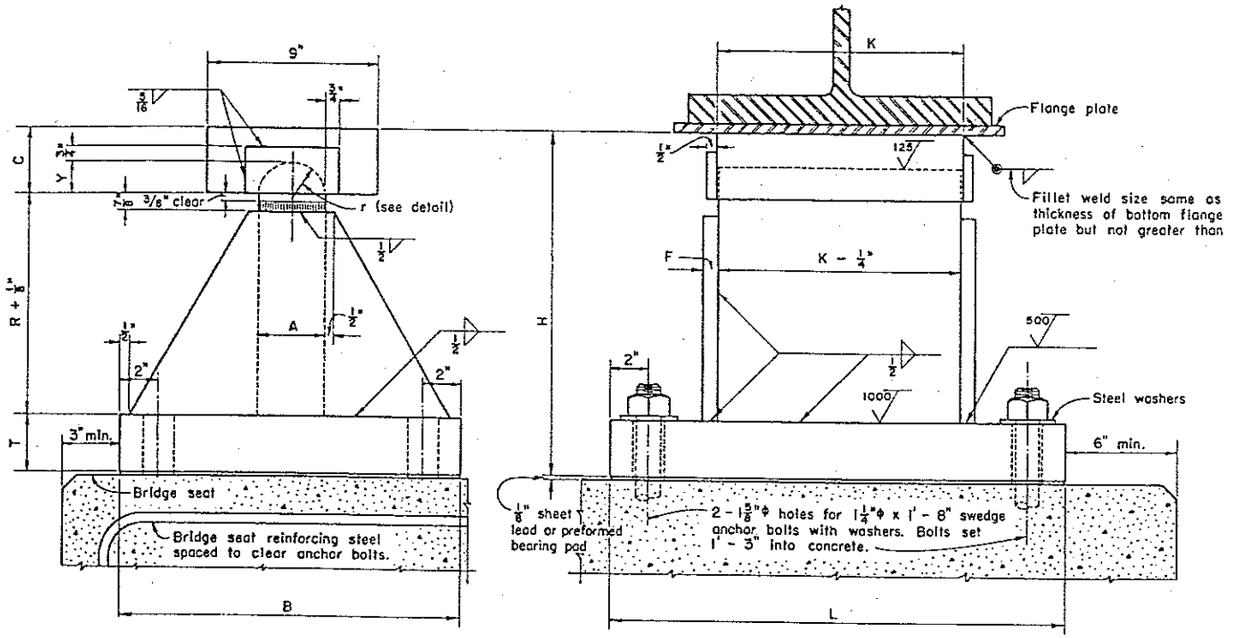
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD

FIXED BEARINGS
FOR STEEL BEAM AND GIRDER BRIDGES

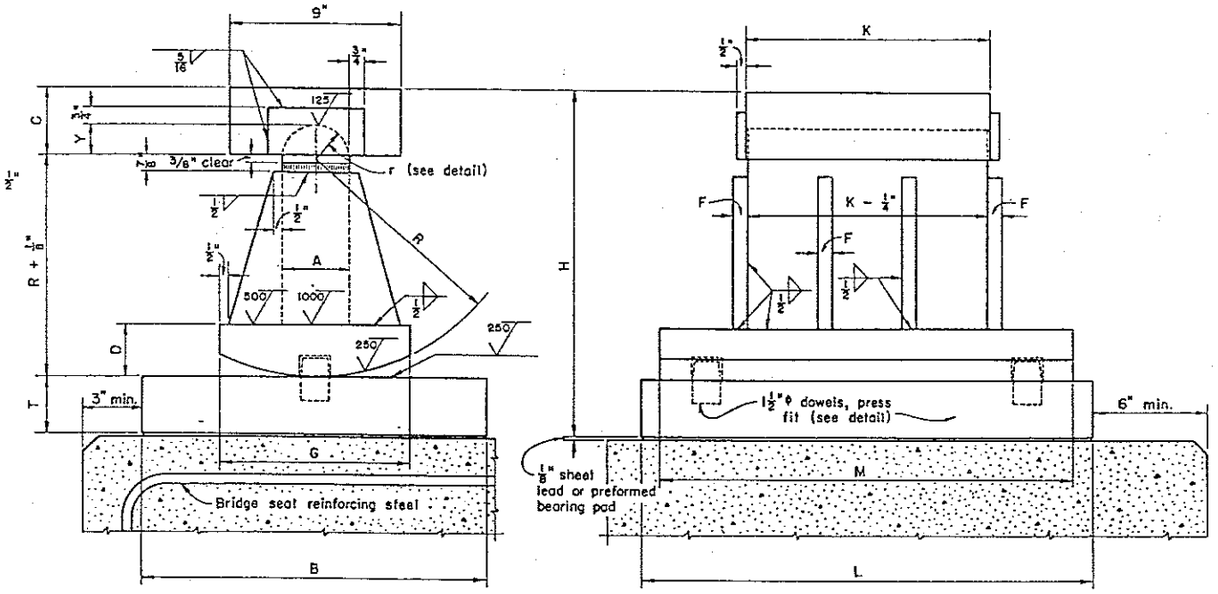
APPROVED : Robert B Pfeifer ENGINEER OF BRIDGES
DATE : 5-10-82
DRAWING NO. FB-1-82

PREPARED	TRACED	CHECKED	REVIEWED	
DWI BFG	REF	FFE	WJJ	



STRUCTURAL STEEL BOLSTER

See table below for additional dimensions.

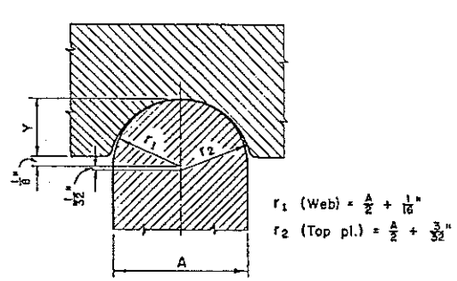


STRUCTURAL STEEL ROCKER

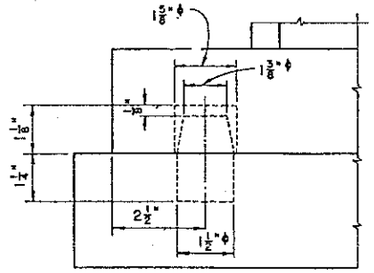
See table below for additional dimensions.

Bolster No.	Rocker No.	Dimensions (inches)													Weight each (lb.)		Maximum Load (lb.)
		A	B	C	D	F	G	H	K	L	M	R	T	Y	Bolster	Rocker	
	R-75	2 1/2	8	2 1/2	1 3/4	1/2	7	9 5/8	9	18	16	5 1/2	1 1/2	1 3/16		205	75,000
B-100	R-100	2 1/2	10	2 1/2	2	1/2	7 1/2	10 5/8	9	19	17	6 1/2	1 1/2	1 3/16	225	250	100,000
B-125	R-125	3	11	3	2	1/2	8	12 1/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	295	315	125,000
B-150	R-150	3	12	3	2 1/4	1/2	8 1/2	13 3/8	11 1/2	22	19	8 1/2	1 3/4	1 7/16	360	400	150,000
B-175	R-175	3	14	3 1/2	2 1/2	1/2	9	15 1/8	12	23	20	9 1/2	2	1 7/16	455	505	175,000
B-200	R-200	3	16	3 1/2	2 3/4	5/8	9	16 3/8	12	24	21	10 1/2	2 1/4	1 7/16	540	605	200,000
B-225	R-225	3	17	3 1/2	2 3/4	5/8	9	16 7/8	13	25	22	11	2 1/4	1 7/16	590	665	225,000
B-250	R-250	3 1/2	18	3 1/2	2 3/4	3/4	10	17 5/8	13	26	23	11 1/2	2 1/2	1 11/16	695	775	250,000
B-275	R-275	3 1/2	19	3 1/2	3 1/4	3/4	12	18 3/8	14	27	24	12	2 3/4	1 11/16	800	945	275,000
B-300	R-300	3 1/2	20	3 1/2	3 1/4	3/4	12	19 1/8	14	28	25	12 1/2	3	1 11/16	895	1050	300,000

Weights given are for one rocker or bolster complete (including sheet lead, anchor bolts and washers).



TOP BEARING DETAIL



DOWEL DETAIL

DESIGN SPECIFICATIONS: This standard drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated October 1, 1951, together with revisions thereof dated July 15, 1952, April 1, 1954 and February 1, 1955.

LIMITATION: This rocker and bolster design shall not be used where the anticipated movement is in excess of 2 inches.

REVISIONS
2-2-59

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD

ROCKERS AND BOLSTERS

FOR STEEL BEAM AND GIRDER BRIDGES

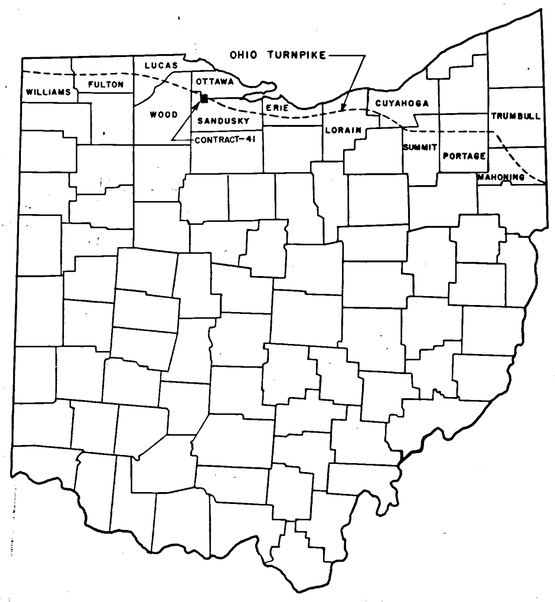
REACTIONS 75,000 lb. TO 300,000 lb.

APPROVED: Richard D. Pratt, ENGINEER OF BRIDGES
DATE: 3-1-55

PREPARED	TRACED	CHECKED	REVIEWED
NPB CFB JCM WHR	JVP	GEM GPH	CSO BFG CHA AJF DHO

DRAWING NUMBER
RB-1-55

CONTRACT NO. C-41
COUNTY - OTTAWA AND SANDUSKY
DATE: MAY 1953



OHIO TURNPIKE COMMISSION

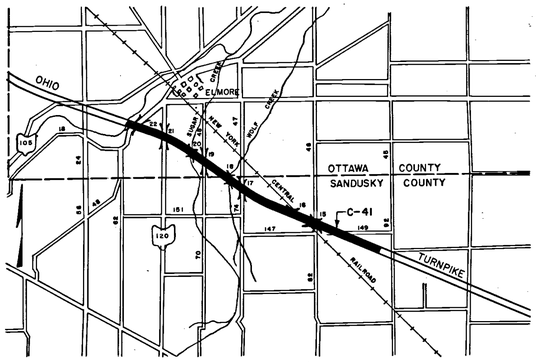
OHIO TURNPIKE PROJECT NO. 1

DESIGN SECTION D-14

CONTRACT NO. C-41

TURNPIKE CONSTRUCTION CONTRACT

STATION 336+35 OTTAWA COUNTY TO STATION 132+00 SANDUSKY COUNTY



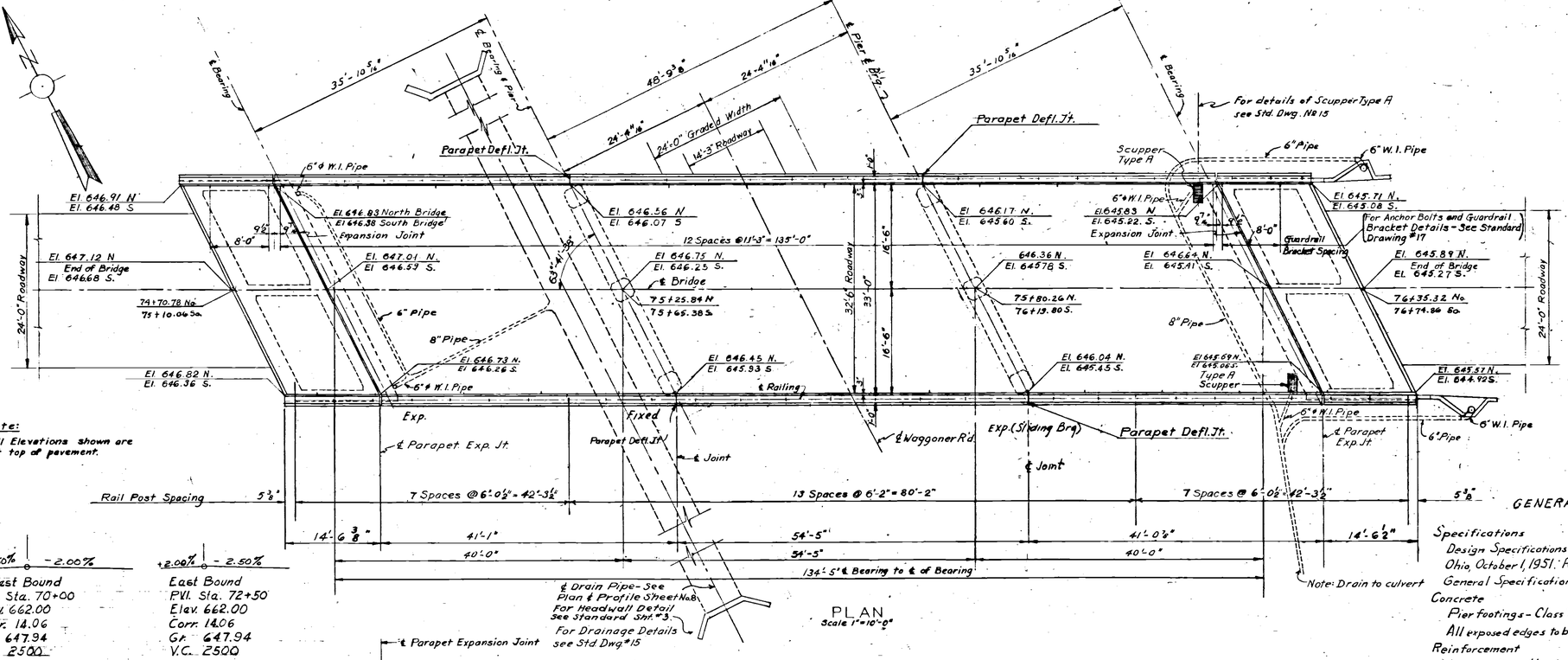
LOCATION PLAN
(FROM OTTAWA & SANDUSKY COUNTY MAPS)

APPROVAL RECOMMENDED
PORTER URQUHART ASSOCIATED
CONTRACTING ENGINEER
JUNE 13, 1953

APPROVED
J. E. GREINER CO.
CONSULTING ENGINEER
10-20-53.

APPROVED
OHIO TURNPIKE COMMISSION
CHIEF ENGINEER
10-22-53

© B. K. Elliott Co., Cleveland, Ohio



PLAN
Scale 1"=10'-0"

Note:
All Elevations shown are at top of pavement.

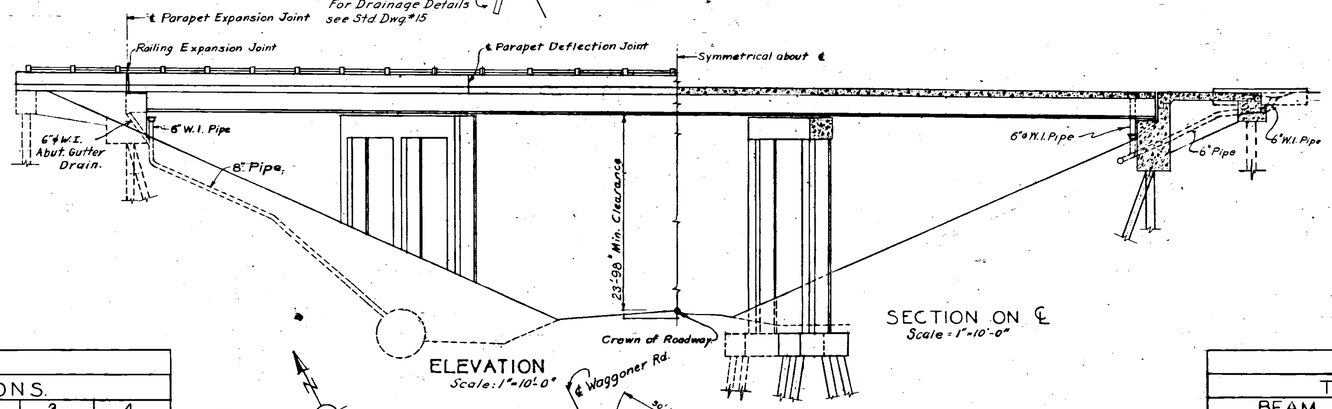
Notes:
Bridge Dimensions & Railing Spacing are similar for both North & South Bridges.
Spacing for Anchor Bolts & Guard Rail Brackets are identical for both bridges.

+2.50% ○ -2.00%

West Bound
P.V.I. Sta. 70+00
Elev. 662.00
Corr. 14.06
Gr. 647.94
V.C. 2500

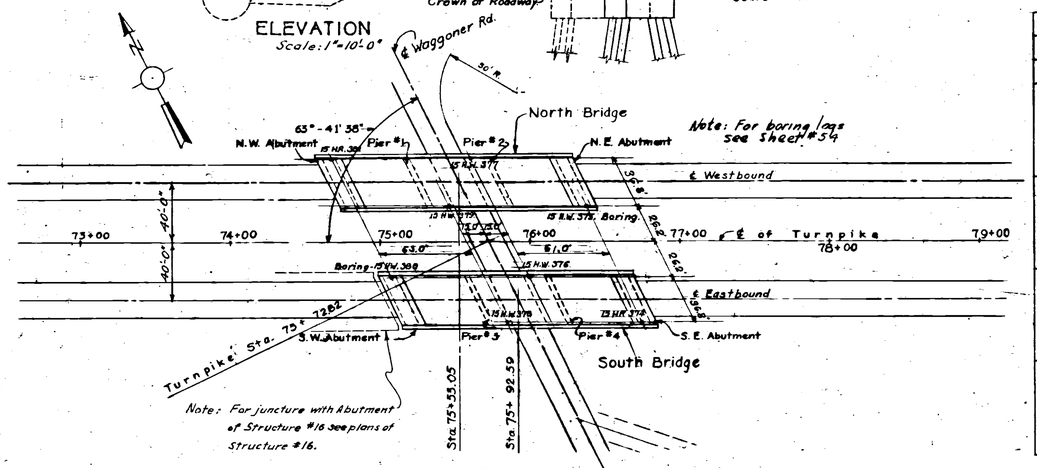
+2.00% ○ -2.50%

East Bound
P.V.I. Sta. 72+50
Elev. 662.00
Corr. 14.06
Gr. 647.94
V.C. 2500



ELEVATION
Scale: 1"=10'-0"

SECTION ON ℄
Scale = 1"=10'-0"



KEY PLAN Scale 1"=50'

QUANTITIES

Item No.	Item	Location & Remarks	Unit	Estimated Quantity	Final Quantity
E2	Excavation	Dry	C.Y.	185	525.6
I-15	Guard Rail	Type A	L.F.	663	662.4
S-1	Concrete for Structures	Class C	C.Y.	792	800.2
S-1	Concrete for Structures	Class E	C.Y.	126	125.6
S-4	Reinforcing Steel		Lbs.	176,000	192,193
S-7	Structural Steel		"	212,000	217,271
S-9	Structural Expansion and/or Contraction Joints		L.b	16,080	14,384
S-14	Railing	Type A	L.F.	659	660.9
S-16	First test pile		EA.	1	1
S-17	Pile test load		EA.	2	1
S-18	Furnishing Bearing Piles Steel	10BP42	L.F.	3032	3342
S-18	Driving Bearing Piles Steel	10 BP 42	L.F.	2744	3,114.9
S-18	Splices for Bearing Piles Steel	10BP42	EA.	32	0
S-23	Scuppers	Type A	EA.	4	4
S-29	Drainage of Structures	6" Pipe	L.F.	230	264
S-29	Drainage of Structures	8" Pipe	L.F.	250	322
S-29	Drainage of Structures	6" Wrought Iron Pipe	L.F.	75	136.4

NOTE: Quantities include both Bridges.

GENERAL NOTES.

Specifications
Design Specifications for Highway Structures, State of Ohio, October 1, 1951. Revised July 15, 1952.
General Specifications. C.F. 2000.

Concrete
Pier footings - Class "E". All other concrete - Class "C".
All exposed edges to be chamfered 1" unless otherwise shown.

Reinforcement
Intermediate, Hard, or Rail steel, deformed bars.

Structural Steel
All Structural Steel to be carbon steel, -
Rivets 7/8 ϕ, Holes 15/16 ϕ.

Foundations
Any changes in required foundation elevations shall be determined by the Engineer.

Forming for exposed portions of abutments and piers shall be T & G placed vertically with staggered end joints. Forms for parapets shall be lined for a smooth finish. No Constr. Joints, other than those shown on the plans.

Finishing
Machine finish for deck slab and abutment slab.

Welding - Class "A".

NORTH BRIDGE
TABLE OF ELEVATIONS.

BEAM NO.		1	2	3	4
N. W. ABUT.	El. Top of Pav't @ ℄ Brg.	646.85	646.97	646.92	646.76
	El. Top of Bearing Pad	642.85	642.97	642.94	642.76
PIER 1	El. Top of Pav't @ ℄ Brg.	646.57	646.71	646.67	646.49
	El. Top of Bearing Pad	642.58	642.70	642.66	642.48
PIER 2	El. Top of Pav't @ ℄ Brg.	646.19	646.30	646.26	646.07
	El. Top of Bearing Pad	642.18	642.30	642.26	642.07
N. E. ABUT.	El. Top of Pav't @ ℄ Brg.	645.86	645.97	645.93	645.74
	El. Top of Bearing Pad	641.86	641.97	641.93	641.74

SOUTH BRIDGE
TABLE OF ELEVATIONS.

BEAM NO.		1	2	3	4
S. W. ABUT.	El. Top of Pav't @ ℄ Brg.	646.39	646.51	646.47	646.29
	El. Top of Bearing Pad	642.39	642.51	642.47	642.29
PIER 3	El. Top of Pav't @ ℄ Brg.	646.08	646.20	646.16	645.97
	El. Top of Bearing Pad	642.08	642.19	642.15	641.96
PIER 4	El. Top of Pav't @ ℄ Brg.	645.62	645.73	645.68	645.49
	El. Top of Bearing Pad	641.61	641.72	641.68	641.48
S. E. ABUT.	El. Top of Pav't @ ℄ Brg.	645.24	645.35	645.30	645.10
	El. Top of Bearing Pad	641.24	641.35	641.30	641.10

NO.	REVISION	BY	DATE
2	DECK REPLACED & WIDENED SEE CIP: 43-85-05		1986
1	As Built Plans	D.L.M.	1-13-56

OHIO TURNPIKE COMMISSION
OHIO TURNPIKE PROJECT NO.

STRUCTURE NO. 15
TURNPIKE OVER WAGGONER ROAD
GENERAL PLAN

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: CONLON | CHECKED: PINAR | DATE: MAR 27 1953
DRAWN: F. PEPI | IN CHARGE: MOREL | SCALE: As shown.

CONTRACT NO. C-41 SHEET 20 OF 57

PLAN
Scale: 1/4" = 1'-0"

SECTION G-G
Scale: 1/2" = 1'-0"

SECTION F-F
Scale: 1/2" = 1'-0"

PLAN
Scale: 1/4" = 1'-0"

HALF SECTION & ELEVATION
Scale: 1/4" = 1'-0"

DETAIL OF "V" GROOVE

SECTION H-H
ABUTMENT PAD & GUTTER DET.
Scale: 3/8" = 1'-0"

FRONT ELEVATION
Scale: 1/4" = 1'-0"

SECTION A-A
Scale: 1/4" = 1'-0"

PART PLAN AT ABUT
DECK REMOVED
Scale: 3/8" = 1'-0"

SECTION B-B
Scale: 3/4" = 1'-0"

SECTION C-C
Scale: 3/4" = 1'-0"

SIDE ELEVATION
Scale: 1/4" = 1'-0"

SECTION D-D
Scale: 3/8" = 1'-0"

SECTION E-E
Scale: 3/8" = 1'-0"

NO.	REVISION	BY	DATE
2	DECK REPLACED & WIDENED		
	SEE CIP: 43-85-05		1980
1	AS BUILT PLANS	D.L.M.	1-13-56

OHIO TURNPIKE COMMISSION

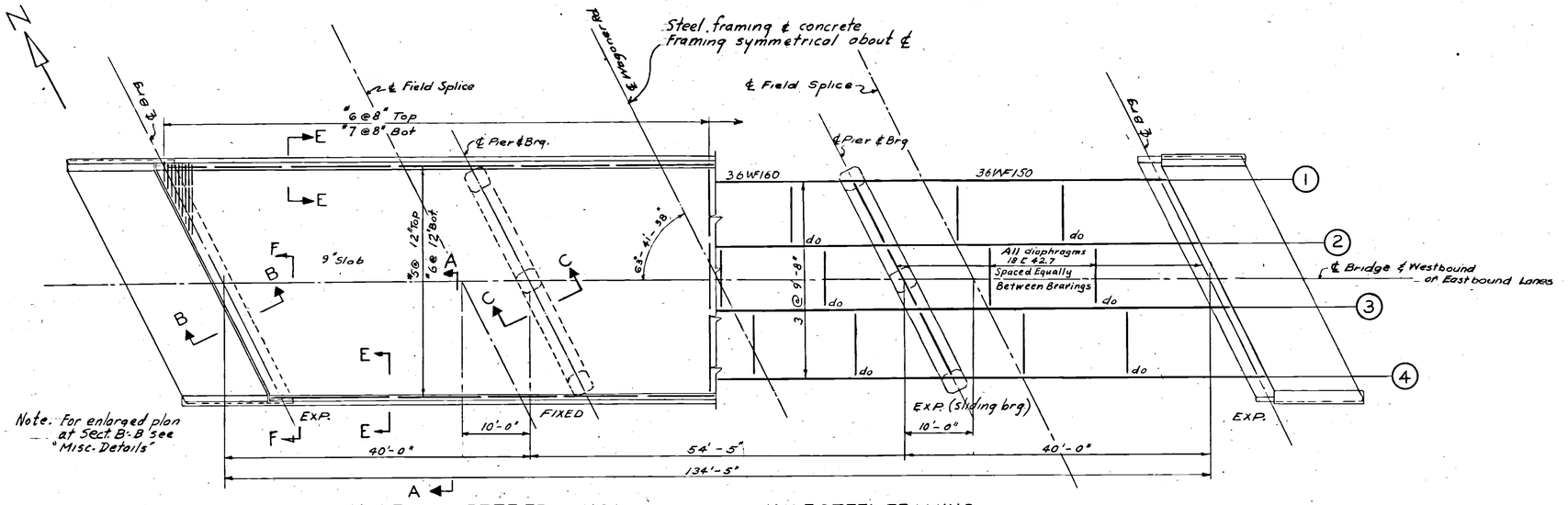
OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 15
TURNPIKE OVER WAGGONER ROAD
ABUTMENTS AND PIERS

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

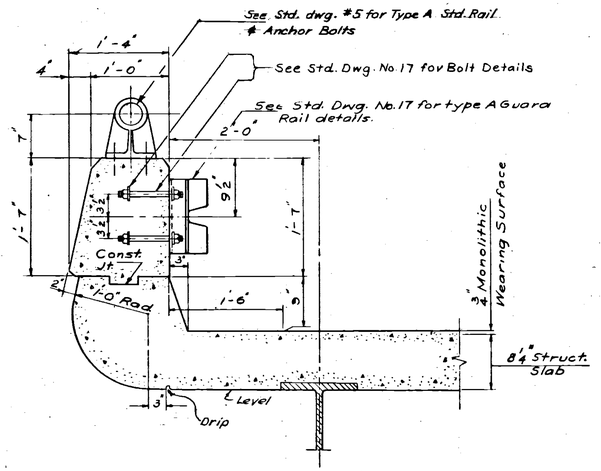
DESIGNED: MOREL	CHECKED: CANLON	DATE: MAR 27 1953
DRAWN: SCHAM	IN CHARGE: MOREL	SCALE: As noted

CONTRACT NO. C-41 SHEET 21 OF 57



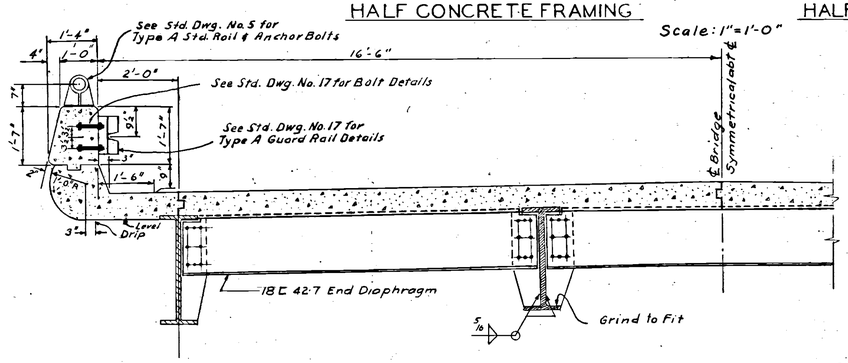
HALF CONCRETE FRAMING

HALF STEEL FRAMING

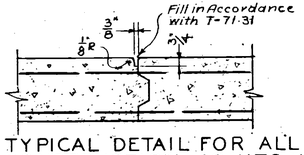


SECTION E-E
PARAPET WITH GUARD RAIL
Scale: 1"=1'-0"

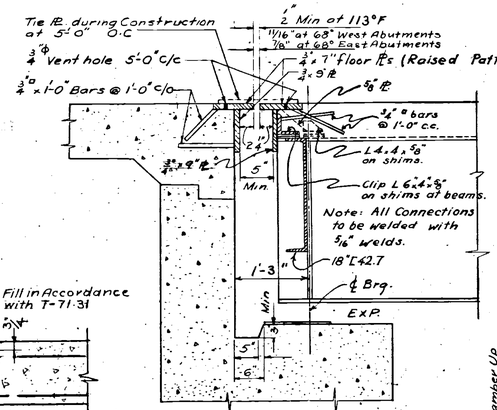
Scale: 1"=1'-0"



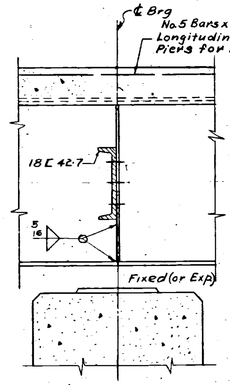
SECTION F-F
END DIAPHRAGMS
Scale: 1"=20'-0"



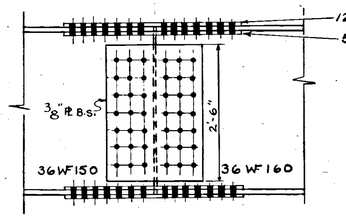
TYPICAL DETAIL FOR ALL CONSTRUCTION JOINTS IN DECK SLAB



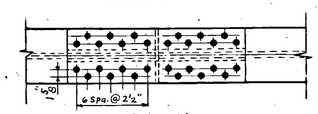
SECTION B-B
Scale: 3/4"=1'-0"



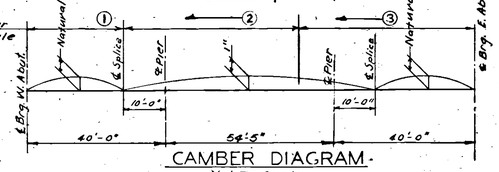
SECTION C-C
Scale: 3/4"=1'-0"



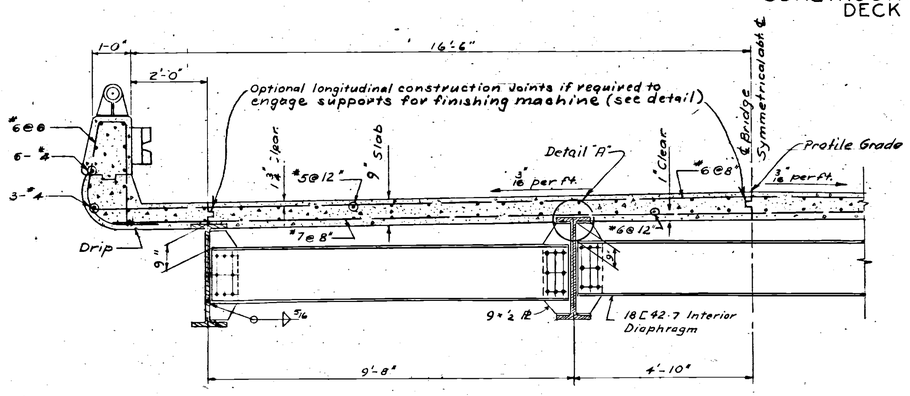
ELEVATION



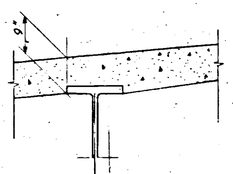
PLAN
STRINGER SPLICE
Scale 3/4"=1'-0"



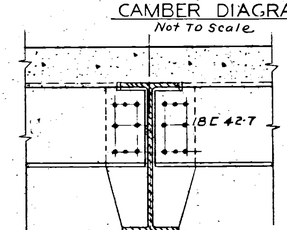
CAMBER DIAGRAM
Not To Scale.



SECTION A-A
INTERIOR DIAPHRAGMS
Scale: 1"=20'-0"



DETAIL A



DETAIL AT END DIAPHRAGM
Scale: 3/4"=1'-0"

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened		1980
	See CIP: 43-85-05		
1	As Built Plans	D.L.M.	1-13-56

OHIO TURNPIKE COMMISSION

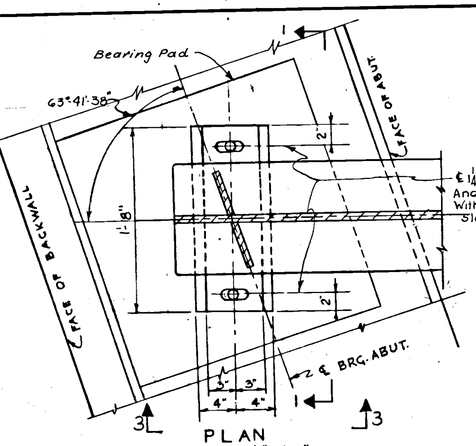
OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 15
TURNPIKE OVER WAGGONER ROAD
FRAMING PLAN

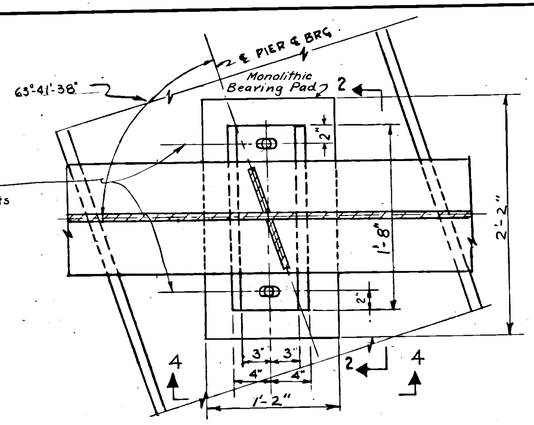
PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: Pinar	CHECKED: MORRISON	DATE: MAR 27 1953
DRAWN: VALMONTE	IN CHARGE: MOREL	SCALE: AS Noted

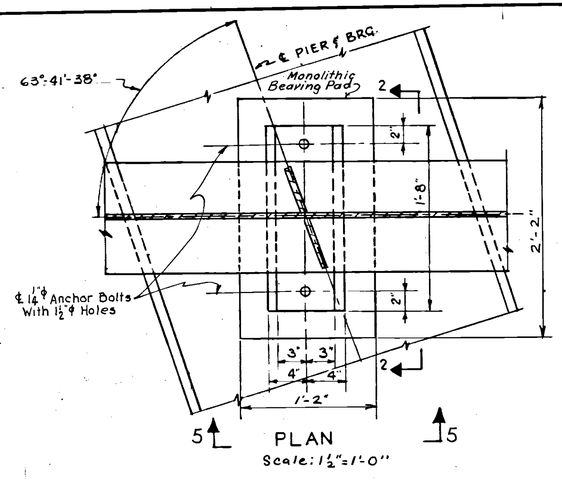
CONTRACT NO. C-41 SHEET 22 OF 57



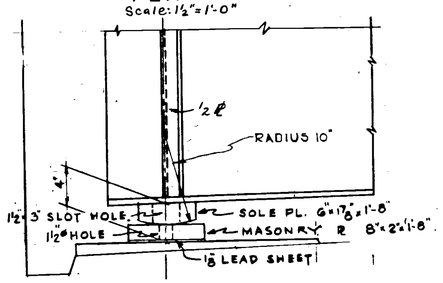
PLAN
Scale: 1½"=1'-0"



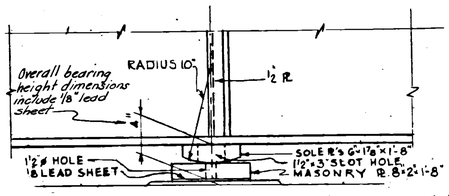
PLAN
Scale: 1½"=1'-0"



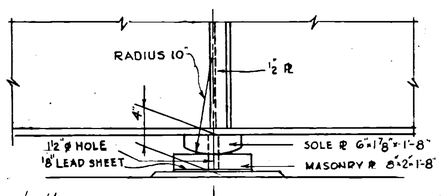
PLAN
Scale: 1½"=1'-0"



SECTION 3-3
Scale: 1½"=1'-0"



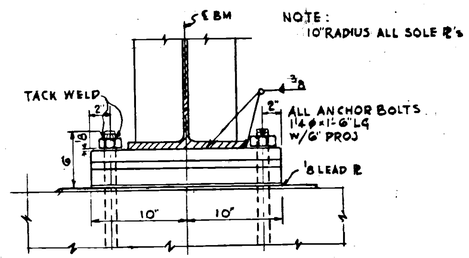
SECTION 4-4
Scale: 1½"=1'-0"



SECTION 5-5
Scale: 1½"=1'-0"

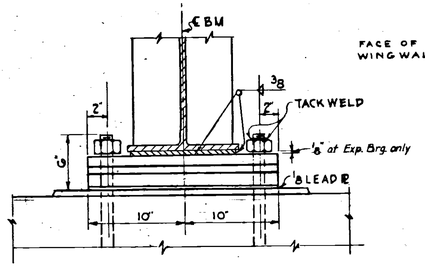
Note: All anchor bolts 1¼ϕ x 1'-6" With 6" Proj.

EXPANSION BEARING AT ABUT.

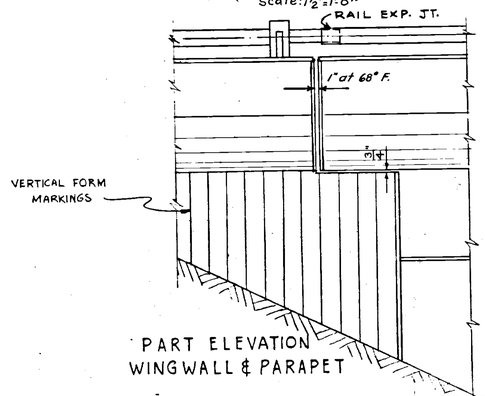


SECTION 1-1
Scale: 1½"=1'-0"

EXPANSION BEARING AT PIER

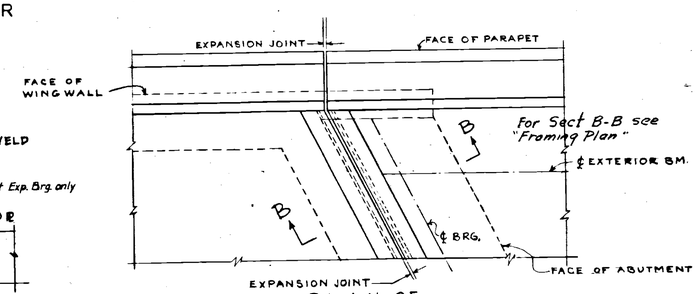


SECTION 2-2
Scale: 1½"=1'-0"

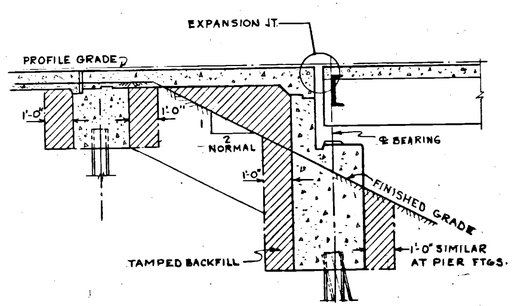


PART ELEVATION
WINGWALL & PARAPET

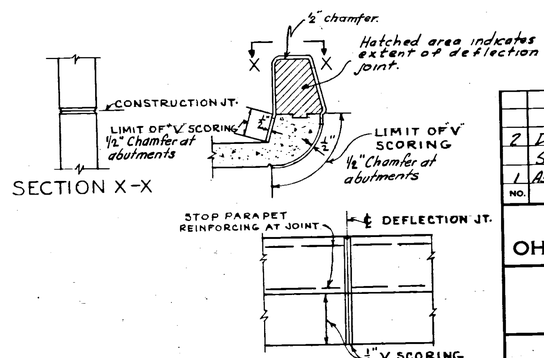
FIXED BEARING AT PIER



PLAN OF
EXPANSION JOINT AT ABUTMENT



TYPICAL SECTION THRU ABUTMENT
Scale ⅜"=1'-0"



SECTION X-X

PARAPET DEFLECTION JOINT
AT PIERS

NO.	REVISION	BY	DATE
2	Deck Replaced & Widened See CIP: 43-85-05		1986
1	As Built Plans	D.L.M.	4-8-56

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE PROJECT NO. 1

STRUCTURE NO. 15
TURNPIKE OVER WAGGONER ROAD
BEARINGS & MISC. DETAILS

PORTER-URQUHART ASSOCIATED
CONTRACTING ENGINEER
DESIGN SECTION D-14

DESIGNED: MOREL	CHECKED: A.D.K.	DATE: MAR 27 1952
DRAWN: YALLS	IN CHARGE: MOREL	SCALE: AS NOTED

CONTRACT NO. C-41 SHEET 23 OF 57