CUY-90-14.90

PID 77332/85531

APPENDIX EX-78

CUY-090-1524 PID 82069

(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

Innerbelt Bridge
Construction Contract Group 1 (CCG1)

Revision Date: 2009

Project Number:	**090466**
PID #:	**82069**
Contract ID:	**CCUY82069**

Cuyahoga
IR-90-15.24
(CITY OF CLEVELAND)
E080(255)

BRIDGE REPAIR

Work Type Percentage Performed by Prime: 50

THE 2008 CONSTRUCTION AND MATERIAL SPECIFICATION BOOK IS PART OF THE BIDDING DOCUMENTS ON THIS PROJECT

PROPOSAL

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

Jolene M. Molitoris, Director

September 16, 2009

Submitted by ______________________________

Bidder Id ______________________________

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PN 003 - 10/15/2004 - TITLE VI RELATED STATUTES NON-DISCRIMINATION STATEMENT

The Ohio Department of Transportation, under Title VI of the Civil Rights Act and related statutes, ensures that no person in the Department of Transportation, shall on the grounds of race, color, national origin, sex, disability or age be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

PN 006 10/15/2004 - NOTICE TO BIDDERS

Prequalification

Bidders must apply for prequalification with the Department's Office of Contracts, Contractor Qualifications Section, at least 30 days before the date set to open bids.

Certificate of Compliance with Affirmative Action Programs

No contract shall be entered into unless the bidder possesses a valid Certificate of Compliance with Affirmative Action Programs, issued by the State EEO Coordinator, Certification Section, 77 South High Street, 24th Floor, Columbus, Ohio 43215, dated no earlier than 180 days prior to the date fixed for the opening of bids.

PN 019 – 04/15/2005 - PREPARATION OF PROPOSAL

ELECTRONIC BIDDING REQUIREMENTS

The Department uses the Bid Express website (http://www.bidx.com) as an official repository for electronic bid submittal. Bidders must prepare their bids electronically using Expedite and submitted via Bid Express.

The Department will not accept handwritten bids or bids generated electronically from software other than that used and supplied by the Department. All handwritten bids and bids generated electronically from software other than that used and supplied by the Department shall be considered non-responsive and ineligible for award. The Department will only accept and consider bids that have been produced using Expedite and submitted via Bid Express.

The Department's Office of Contracts will provide planholders with a proposal, plan set and any required addenda. Most addenda will not be provided by hard copy, but will be available on the Office of Contracts website at: http://contracts.dot.state.oh.us. Planholders will be notified of all addenda via email. All proposals, plans, Expedite (EBS) files and addenda are also available on the Office of Contracts web site.

Electronic bids must comply with all special provisions, the Construction and Material Specifications, Supplemental Specifications and the rules and regulations of the Ohio Department of Transportation regarding bid preparation and bid submittal.

Blank unit prices will be considered an invalid bid EXCEPT in the case of optional designs (projects where the bidder is required to bid on only one design). Unit prices of zero are not permitted at any time.

Addenda and/or amendments must be acknowledged in the Miscellaneous Section of the Expedite (EBS) file in order for your bid to be considered for award of this project. The section contains the certification of receipt of all hard copy proposals, addenda, amendments, plans, standard specifications and supplemental specifications. Supplemental Questionnaire information regarding the bidder's outstanding ODOT and non-ODOT work, EEO certification (on Federally-funded projects only), and certification against debarment and suspension have also been included in this section. Bid Express will not accept bids that do not have amendments incorporated. Failure to incorporate changed quantities or items in your Expedite (EBS) submissions will result in the rejection of your bid.

Each bidder is required to file with his bid a certified check or cashier's check for an amount equal to five percent (5%) of its bid, but in no event more than fifty thousand dollars, or a bid bond for ten percent (10%) of its bid payable to the "Director of Transportation." Electronic bid bonds will be verified upon submission of bids through Bid Express. Bidders must obtain and verify a Bond ID number from the surety. This Bond ID must be entered in the "Bond ID Number" field in the Bid Bond Section of the Expedite file.

If the contractor chooses to submit a certified check to guaranty its bid, the Department's Office of Contracts will accept a check up to 72 hours in advance of the letting. The Office of Contracts must receive the certified check by 10:00 a.m. on the day the project sells. All checks must be sent to ODOT, Office of Contracts, Attention: Letting Manager, First Floor, 1980 W. Broad St., Columbus, Ohio 43223.

The successful bidder must furnish a performance bond and a payment bond in an amount equal to one hundred percent (100%) of the state's estimate. (Ohio Revised Code Section 5525.16)

Any bid received after 10:00 a.m. on the scheduled day of opening will receive no further consideration for award. The Department will not be responsible for a late bid due to failure of the bidder to allow sufficient time for delivery of the bid.

The Department will ensure that this electronic bid depository is available for a two-hour period prior to the deadline for submission of bids. In the case of disruption of national communications or loss of services by http://www.bidx.com during this two-hour period, the Department will delay the deadline for bid submissions to ensure the ability of potential bidders to submit bids. If this occurs, instructions will be communicated to potential bidders.

PN 033 - 04/18/2008 - AS PER PLAN DESIGNATION - PROPOSAL NOTE

For the last several years the "As Per Plan" designation has been added to some item descriptions in the proposal to assist the Contractors to easily identify standard items that have been altered by plan notes.

The "As Per Plan" designation has proven to be a very useful tool for the Contractors. However, its use was never intended to relieve the Contractors of their responsibility to read, bid and construct all items in accordance with all governing plan notes. Therefore, the absence of an "As Per Plan" designation on some item descriptions in the proposal for which there are clear and controlling plan notes does not relieve the Contractors of the responsibility to read, bid and construct those particular items in accordance with the governing plan notes.

Be advised that the item descriptions in the bidding proposal must be read or interpreted with the governing plan notes and the Ohio Department of Transportation Construction and Materials Specifications. A claim based upon an "order of precedence" basis will be denied. In the event that a conflict, either real or perceived, exists between the item description and the governing plan note, the Contractors are to request clarification through the pre-bid process.

PN 014 - 10/15/2004 - DRUG-FREE WORKPLACE

The prime contractor agrees to comply with all applicable state and federal laws regarding drug-free workplace. The prime contractor shall make a good faith effort to ensure that all its employees, while working on an ODOT project, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.

The prime contractor shall also requires that this contractual obligation be placed in all subcontractor and materialman contracts that it enters into and further requires that all subcontractors and materialmen place the same contractual obligations in each of their lower tier contracts.

PN 038 - 10/15/2004 - UNRESOLVED FINDING FOR RECOVERY

The Contractor affirmatively represents to the Department that it is not subject to a finding for recovery under Ohio Revised Code §9.24, or that it has taken the appropriate remedial steps required under §9.24 or otherwise qualifies under that section. The Contractor agrees that if this representation is deemed to be false, the contract shall be void ab initio as between the parties to this contract, and any funds paid by the state hereunder shall be immediately repaid to the Department, or an action for recovery may be immediately commenced by the Department for recovery of said funds.

PN 039 - 10/15/2004 - ASSIGNMENT OF ANTITRUST CLAIMS IN STATE CONTRACT LANGUAGE

It is the policy of the Ohio Department of Transportation that ODOT and the Contractor recognize that in actual economic practice, overcharges resulting from antitrust violations are usually borne by ODOT. As consideration for the Award of the Contract and intent to be legally bound, the Contractor acting herein by and through the person signing this contract on behalf of the Contractor as a duly authorized agent, hereby assigns, sells, conveys, and transfers to ODOT any and all right, title and interest to any and all claims and causes of action the Contractor now has or hereafter requires under state or federal antitrust laws provided that the claims or causes of action related to the goods or services that are the subject to the contract. In addition, the Contractor warrants and represents that it will require any and all of its subcontractors and first tier suppliers to assign any and all federal and state antitrust claims and causes of action to ODOT. The provisions of this article shall become effective at the time ODOT executes this contract without further acknowledgment by any of the parties.

All contracting entities shall assign their rights and responsibilities to ODOT for all antitrust claims and causes of action regarding subcontractors.

PN 008 - 04/17/2009 - SPECIFICATION AND SUPPLEMENTAL SPECIFICATIONS , POLICIES AND SPECIAL PROVISIONS INCORPORATED BY REFERENCE AS IF REWRITTEN HEREIN

The version of the following in effect at the time of bid will govern this improvement:
Policies:
Policy 27-003 (P) Partnering On Construction Projects
Policy 27-008 (P) Value Engineering
Policy 27-009 (P) Acceptance of Nonspecification Material on Construction Projects
Standard Procedures:
510-003 (SP) Standard Procedure for Formal Partnering of Construction Projects
510-004 (SP) Standard Procedure for Preconstruction Conferences & Informal Partnering
510-008 (SP) Standard Procedure for Value Engineering In Construction
510-009 (SP) Acceptance of Nonspecification Material on Construction Projects
Copies of the above-referenced Policies, Standard Procedures and Special Provisions policies can be found on our website at
http://www.dot.state.oh.us/DIVISIONS/CONSTRUCTIONMGT/Pages/ConstructionPolicies.aspx

PN 027 - 10/15/2004 - IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

PN 037 - 04/18/2008 - UTILITY NOTE

The contractor must exercise caution when working in proximity to the existing and /or relocated utility facilities.

Sections 105.07 and 107.16 of the Department of Transportation Construction and Material Specifications require that the contractor cooperate with all utilities located within the limits of this construction project and take responsibility for the protection of the utility property and services.

If the contractor is directed by a utility company to perform any work not specifically contained in this note, the Department will not compensate the contractor for this work unless the Department approves the request in writing before the work begins. If the work is not preapproved by the Department, the contractor will be responsible for obtaining reimbursement for its work from the utility company which directed the contractor to perform the work.

In the event that the contractor requests that additional work, not specifically contained in this note, be performed by a utility company, the contractor will be responsible for reimbursing the utility company for the additional work unless the Department has agreed in writing to pay for the additional work before the work begins.

PN 015 - 10/15/2004 - CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

The required contract provisions for federal-aid construction contracts (contained in Form FHWA 1273 revised April 1993) are hereby incorporated reference as if rewritten herein.

PN 017 - 10/15/2004 - FEDERALLY REQUIRED EEO CERTIFICATION CLAUSE

The Federally Required EEO Certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7 (b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontractors which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

PN 020 – 10/17/2008 - NOTICE OF REQUIREMENT OF AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

The Bidder's attention is called to the affirmative action obligations required by the specifications set forth in 23 CFR Part 230, 41 CFR Part 60, Executive Order 11246, Section 503, and the affirmative action provisions of Vietnam Era Veterans' Readjustment Assistance Act (VEVRAA) of 1974.

Utilization goals applicable to the project, expressed in percentages, for minority and female participation for each construction craft can be found on ODOT's website at **http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/default.aspx.** These goals are based on 2000 census data and represent the area, per craft, minority and female availability pool.

Minority and female utilization obligations by craft per county (applicable to project):
http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Construction/CountyAvailability-ByTrade.pdf

Statewide utilization obligations by craft (applicable to the Contractor's statewide workforce):
http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Construction/StatewideAverages-ByTrade.pdf

Effective 1/1/08 the New Hire Definition will be as follows:
Individual who has a break in service (not on an employer's payroll) for a period of 60 days or longer and the person affected is not a salaried employee, but belongs to a union craft. If this person is rehired the following Spring (construction industry), that person is to be considered a new hire even though the individual may have worked for the contractor the previous construction season or prior years. Individuals compensated for training or incidental work which does **not cause a break in unemployment compensation**, i.e., paid by voucher check or petty cash, are considered new hires if the individual's break in service is 60 days or longer.

Effective 4/1/09:
A new hire shall be associated with the first project worked for that contractor regardless of whether it is public or private. When reporting new hires the contractor shall identify that

employee as a new hire on that specific project only. Subsequent work, barring a break in service of 60 days or more, would **not** qualify the employee as a new hire for that contractor.

The Contractor's compliance shall be based on the implementation of affirmative action obligations required by the specifications set forth in 23 CFR Part 230, and its good faith efforts to meet these obligations. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and females on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the affirmative action obligations shall be a violation of the contract and regulations in 23 CFR Part 230. The good faith efforts put forth by the contractor will be measured against the total work hours performed. Under FHWA, ODOT is the authority tasked with ensuring that the contractor adheres to the aforementioned regulations. In addition to complying with the Required Contract Provisions as outlined in the attached subcontract agreement the Contractor shall provide immediate written notification to the ODOT and the Prime Contractor when referral practices of the union or unions with which the Contractor has a collective bargaining agreement impede the company's efforts to meet its equal opportunity obligations.

The Office of Federal Contract Compliance Programs (OFCCP) administers and enforces equal employment opportunity laws that apply to Federal government contractors and subcontractors supplying goods and services, including construction, to the Federal Government under 41 CFR Part 60, Executive Order 11246, Section 503, and the affirmative action provisions of VEVRAA. The OFCCP monitors compliance with these laws primarily through compliance evaluations, during which a compliance officer examines the contractor's affirmative action efforts and employment practices. Under Executive Order 11246, the OFCCP may perform contract compliance reviews on contractors involved with federally funded ODOT projects.

Requirements for affirmative action obligations governing OFCCP contract compliance reviews are those listed in the Federal Register for the Economic Area. **http://www.dol.gov/esa/ofccp/TAguides/consttag.pdf** page E-32

The Department of Administrative Services (DAS), Equal Opportunity Division, is responsible for ensuring state contractors implement and adhere to the State of Ohio's affirmative action program pursuant to Ohio Administrative Code (OAC) 123:2-3-02. Specifically, this unit's responsibilities includes the issuance of certificates of compliance under ORC 9.47 and 153.08, conducting project site visits and compliance reviews (desk audits) to ensure contractors utilize minorities and women in the construction trades, as well as maintaining a working environment free of discrimination, harassment and intimidation. The DAS may perform contract compliance reviews on contractors involved with state funded ODOT projects. Requirements for affirmative action obligations governing DAS contract compliance reviews are those listed in the O.A.C. for the Metropolitan Statistical Area in which a project is located. **http://www.das.ohio.gov/Eod/123_2_3_02.htm**

All prime and subcontractors regardless on the number of employees or the state contract amount are required to submit monthly utilization reports (Input Form 29) to Ohio Department of Administrative Services covering the contractor's total workforce within the state of Ohio. The reports must be filed electronically by the 10th of each month, beginning with the contract award and continuing until the contractor or subcontractor completes performance of the state contract. **http://www.das.ohio.gov/Eod/ccinputform29.htm**

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs, 200 N. High Street, Room 409, Columbus, Ohio 43215, within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract and the geographical area in which the subcontract is to be performed.

PN 029 – 10/15/2004 – ON THE JOB TRAINING PROVISIONS

The requirements of this Training Special Provision supersede subparagraph 7b of the Special Provision entitled Special Employment Opportunity Responsibilities, and implements 23 U.S.C. 140(a).

The following must be included as part of the Contractor's equal employment opportunity affirmative action training program:

The Contractor must provide on-the-job training aimed at developing full journey persons in the type or job classification in which they work.

The contractor is not required to have a specific number of trainees assigned to this project. The number of trainees will be distributed among the work classifications on the basis of the Contractor's needs and the availability of the journey persons in the various classifications. The Contractor will be credited for each trainee employed by him or her who is currently enrolled or becomes enrolled in an approved program.

Training and upgrading of minorities and women toward journey person status is a primary objective of this Training Special Provision. Accordingly, the Contractor must make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and will not be used, to discriminate against any applicant for training, regardless of whether the applicant is a member of a minority group or not.

No employee will be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journey person status or in which he or she has been employed as a journey person. The Contractor must satisfy this requirement by including appropriate questions in the employee's application or by other suitable means. Regardless of the method used, the Contractor's records must document the findings in each case.

The minimum length and type of training for each classification will be established in the training program selected by the Contractor.

No payment by ODOT will be made to the Contractor for providing this training. However, if the Contractor fails to provide adequate training and cannot show good faith efforts on its part to provide adequate training, it will be subject to a formal compliance review to determine the Contractor's efforts in meeting the EEO laws and regulations.

The Contractor must provide the following reports:

1. CR1 Report

A. To be completed on each trainee
B. To be filled out at the start of training and finish of training or at the end of the year, whichever comes first
C. To be submitted to the District in which the Contractor's home office is located.

2. Tracking will be on an annual basis. The Contractor must submit the subsequent CR1 to the District in which the Contractors home office is located.

The prime or subcontractor conducting the training must be involved in at least one Federal project per calendar year in order to get FHWA training credit. Participation in the OJT Program is not project or contract specific.

All Contractors are encouraged to participate in the OJT program. Such a program will be considered when examining the contractor's Good Faith Efforts toward meeting its contractual affirmative action obligations.

All Contractors shall submit their own Training Program or Apprenticeship Certificate, for approval, to the District in which the company's home office is located.

All OJT Trainees must have the appropriate certification. Apprenticeship Certificates can be obtained from the State of Ohio, Bureau of Apprenticeship and Training. The union apprenticeship agreement is not acceptable verification of an apprentice's enrollment in a union sponsored training program. A copy of the Apprenticeship Certificate along with a statement indicating the number of months/years the employee has been in the apprenticeship program must be submitted to the EEO Coordinator in the company's home district and to the prevailing wage coordinator in the district responsible for the project within 90 days of the apprentice beginning work on the project.

PN 035 - 10/15/2004 - SPECIAL PROVISIONS OF FEDERAL-AID HIGHWAY PROGRAM OF MANUAL 6-4-1-2 SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES

1. GENERAL

a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (Form PR- 1273 or 1316, as appropriate) and these Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

b. The contractor will work with the State Highway Agencies and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.

c. The contractor and all his/her subcontractors holding subcontracts not including material suppliers, of $10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal Employment Opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection I of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors.) The contractor will include these requirements in every subcontract of $10,000 or more with such modification of language as is necessary to make them binding on the subcontractor.

2. EQUAL EMPLOYMENT OPPORTUNITY POLICY

The contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include: employment, upgrading, demotion, or transfer recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship, pre-apprenticeship, and/or on-the-job training.

3. EQUAL EMPLOYMENT OPPORTUNITY OFFICE

The contractor will designate and make known to the State Highway Agency contracting officers an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable to effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. DISSEMINATION OF POLICY

a. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

(1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

(2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the contractor.

(3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the contractor's procedures for locating and hiring minority group employees.

b. In order to make the contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor will the following actions:

(1) Notices and posters setting forth the contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

(2) The contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. RECRUITMENT

a. When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Employment Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the contractor will, through his EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to extent that the systems permits the contractor's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women or obligates the contractor to do the same, such implementation violates Executive Order 1 1246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. PERSONNEL ACTIONS

Wages, working conditions and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

7. TRAINING AND PROMOTION

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the "Training Special Provisions" are included in this bid proposal, this subparagraph will be superseded as indicated in said provisions.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. UNIONS

If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion. sex, or national origin.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to fumish such information to the contractor, the contractor shall so certify to the State Highway Department and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the State highway agency.

9. SUBCONTRACTING

a. The contractor will use his best efforts to solicit bids from and to utilize minority group subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from State Highway Agency personnel.

b. The contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

10. RECORDS AND REPORTS

a. The contractor will-keep such records as are necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate:

(1) the number of minority and non-minority group members and women employed in each work classification on the project,

(2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractors who rely in whole or in part on unions as a source of their work force),

(3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and

(4) the progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State Highway Agency and the Federal Highway Administration.

c. The contractors will submit to the State Highway Agency a monthly report for the first three months after construction begins and every month of July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR 139 1. If on-the-job training is being required by "Training Special Provisions," the contractor will be required to furnish Form FHWA 1409.

PN 026 - 10/15/2004 - CERTIFICATION OF NONSEGREGATED FACILITIES

(a) A Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities (is included in the proposal and must be submitted prior to the award of a Federal-aid highway construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause).

(b) Bidders are cautioned as follows: By signing this bid, the bidder will be deemed to have signed and agreed to the provisions of the “Certification of Nonsegregated Facilities" in this proposal. This certification provides that the bidder does not maintain or provide for his employees facilities which are segregated on a basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the bidder will not maintain such segregated facilities.

(c) Bidders receiving Federal-aid highway construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause, will be required to provide for the forwarding of the following notice to prospective subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed $10,000 and are not exempt from the provisions of the Equal Opportunity clause.

"Notice to Prospective Subcontractors and Material Suppliers of Requirement for Certification of Nonsegregated Facilities" **-**

(a) A Certification of Nonsegregated Facilities as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, which is included in the proposal, or attached hereto, must be submitted by each subcontractor and material supplier prior to the award of the subcontract or consummation of a material supply agreement if such subcontract or agreement exceeds $10,000 and is not exempt from the provisions of the Equal Opportunity clause.

(b) Subcontractors and material suppliers are cautioned as follows: By signing the subcontract or entering into a material supply agreement, the subcontractor or material supplier will be deemed to have signed and agreed to the provisions of the "Certification of Nonsegregated Facilities" in the subcontract or material supply agreement. This certification provides that the subcontractor or material supplier does not maintain or provide for his employees facilities which are segregated on the basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the subcontractor or material supplier will not maintain such segregated facilities.

(c) Subcontractors or material suppliers receiving subcontract awards or material supply agreements exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause will be required to provide for the forwarding of this notice to prospective subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed $10,000 and are not exempt from the provisions of the Equal Opportunity clause.

PN 034 - 04/18/2008 - Drug Free Workplace Program Participation

During the life of this project, the Contractor and all its Subcontractors, that provide labor on the Project site, must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

In addition to being enrolled in and in good standing in an OBWC-approved DFWP or a comparable program approved by the OBWC, the Department requires each Contractor and Subcontractor that provides labor, to subject its employees who perform labor on the project site to random drug testing of 5 percent of its employees. The random drug testing percentage must also include the on-site supervisors of the Contractors and Subcontractors. Upon request, the Contractor and Subcontractor shall provide evidence of required testing to the Department.

Each Subcontractor shall require all lower-tier Subcontractors that provides labor on the project site with whom the Subcontractor is in contract for the Work to be enrolled in and be in good standing in the OBWC DFWP or an OBWC-approved DFWP prior to a lower-tier Subcontractor providing labor at the Site.

The Department will declare a bid non-responsive and ineligible for award if the Contractor is not enrolled and in good standing in the Ohio Bureau of Workers' Compensation's Drug-Free Workplace (DFWP) Discount Program or a similar program approved by the Bureau of Workers' Compensation within 8 days of the bid opening. Furthermore, the Department will deny all requests to sublet when the subcontractor does not comply with the provisions of this proposal note.

Failure of the Contractor to require a Subcontractor to be enrolled in and be in good standing in the OBWC DFWP or an OBWC-approved DFWP prior to the time that the Subcontractor provides labor at the Site, shall result in the Contractor being found in breach of the Contract and that breach shall be used in the responsibility analysis of that Contractor or the Subcontractor who was not enrolled in a program for future contracts with the State for five years after the date of the breach.

PN 090 - 4/18/2008 - WORK TYPE CODES AND DESCRIPTIONS

The Department will indicate the work type required for each pay item. If the line item does not have a corresponding work type, NR will be shown in the work type column. This proposal note will govern the assignment of work types to pay items.

However, the Contractor may perform incidental work items for which it does not hold the required work type provided the cost of the work does not exceed 5% of the total bid. The Contractor may also perform Work Type 26 (Structural steel painting) without holding the required work type provided the total area to be painted does not exceed 400 SF.

Listed below are the work types for this proposal. In accordance with Ohio law, a bidder must possess work types, and perform work equal to the percentage included on the front cover of this proposal. This is a percentage of the total amount of the submitted bid price. The Director may, by insertion of a contract provision, reduce the fifty percent amount.

Work Type Code	Work Type Description	Work Type Code	Work Type Description
1	Clearing & Grubbing	29	Structure Repairs
2	Building Removal	30	Hydrodemolition
3	Gas, Oil, Water Well Abandonments	31	Structural Steel Repairs
4	Roadway Excavation & Embankment Construction	32	Heat Straightening
5	Major Roadway Excavations	33	Tieback Installation
6	Incidental Grading	34	Earth Retaining Structures
7	Soil Stabilization	35	Drainage (Culverts, Misc.)
8	Temporary Soil Erosion & Sediment Control	36	Guardrail / Attenuators
9	Aggregate Bases	37	Fence
10	Flexible Paving	38	Misc. Concrete
11	Apply Bituminous Treatments	39	Maintenance of Traffic
12	Rigid Paving	40	Waterproofing
13	Pavement Planning, Milling, Scarification	41	Raised Pavement Markers
14	Concrete Texturing	42	Signing
15	Sawing	43	Highway Lighting
16	Flexible Replacement	44	Traffic Signals - Standard
17	Rigid Pavement Replacement	45	Pavement Markings
18	Pavement Rubblizing, Breaking, Pulverizing	46	Landscaping
19	Structure Removal	47	Mowing
20	Level 1 Bridge	48	Trucking
21	Level 2 Bridge	49	Herbicidal Spraying
22	Level 3 Bridge	50	Railroad Track Construction
23	Reinforcing Steel	51	Micro Tunneling
24	Structural Steel Erection	52	Tunneling
25	Stud Welding	53	Piling

26	Structural Steel Painting	54	Post-Tensioning Bridge Members
27	Expansion & Contraction Joints, Joint sealers, Bearing Devices	55	Fiber Optic Cable Installation, Splicing, Termination and Testing – Traffic Signal System
28	Caissons / Drilled Shafts	56	Fiber Optic Cable Installation, Splicing, Termination and Testing – Intelligent Transportation System
		57	Sealing of Concrete Surfaces with Epoxy or Non-Epoxy Sealers

PN 059 - 10/15/2004 - WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:
- an existing published wage determination
- a survey underlying a wage determination
- a Wage and Hour Division letter setting forth a position on a wage determination matter
- a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response for this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determination
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (see 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U. S Department of Labor
200 Constitution Avenue, N.W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requester considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

PN 061 - 07/09/2009 -WAGE SCALE ON ALL FEDERAL-AID PROJECTS

The wage rates for this project were determined by the Secretary of Labor in accordance with Federal-Aid requirements.

Contractors shall use only the classifications and wage rates set forth in the United States Department of Labor (USDOL) wage decision found at the website noted below on payrolls submitted to the District Office. Additionally, please note that the wage modification in effect at the time of the project sale date, shall be used by all contractors.

This USDOL wage decision may be viewed, by accessing the United States Department of Labor (USDOL) website at:

http://www.wdol.gov/dba.aspx#3

This contract requires the payment of the total of the basic hourly rates plus the fringe benefits payments for each classification in accordance with the following regulations which by reference are made part of this contract:

1) The U.S. Department of Labor Regulations, Title 29, Subtitle A, Part 5, Sections 5.5, 5.31, and 5.32, most recent revision at contract execution.

Form FHWA-1273 (most recent revision at contract execution) Part IV. Payment of Predetermined Minimum Wage and Part V. Statements and Payrolls.

The failure to pay prevailing wages to all laborers and mechanics employed on this project, shall be considered a breach of contract. Such a failure may result in the termination of the contract and debarment.

The Contractor and all subcontractors shall pay all wages and fringe benefits by company check. All payroll records and canceled pay checks shall be maintained for at least three years after final acceptance as defined in section 109.12 of the Ohio Department of Transportation Construction and Materials Specifications. The Contractor's and all subcontractors payroll records and canceled pay checks shall be made available for inspection by the Department and the U.S. Department of Labor, upon request, anytime during the life of the contract, and for three years thereafter by the U.S. Department of Labor. Additionally, the Contractor and all subcontractors shall permit such representatives to interview any employees during working hours while the employee is on the job.

The wage and fringe rates determined for this project shall be posted by the Contractor in a prominent and accessible place on the project, field office, or equipment yard where they can be easily read by the workers.

The Contractor and all subcontractors shall submit to the District Construction Office, certified payrolls each week beginning three weeks after the start of work. These payrolls shall be on a Form WH-347 or equivalent and shall show the following:

Employee name, address, classification, and
hours worked.

2. The basic hourly and overtime rate paid, total pay, and the manner in which fringe benefit payments have been irrevocably made.

3. The project number and pay week dates.

4. Original signature of a company officer on the certification statement.

Additionally, a copy of the “Apprentice Certification” obtained from the Ohio State Apprenticeship Council, must accompany all certified payrolls submitted for all apprentices working on this project.

Please be aware that it is ultimately the responsibility of the Contractor to ensure that all laws relating to prevailing wages in the USDOL Regulations, Title 29, parts 1 and 5, are strictly adhered to by all subcontractors on the project.

If the Contractor or any subcontractor fails to comply with any of the provisions contained in this proposal note, the Department may terminate the contract, debar the Contractor or Subcontractor and/or withhold or suspend pay estimates after written notice and a reasonable opportunity to comply has been provided.

PN 050 - 10/15/2004 - LIMITATION ON USE OF CONTRACT FUNDS FOR LOBBYING

1. The prospective bidder certifies, by signing and submitting this bid proposal, to the best of his or her knowledge and belief, that:

    a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

    b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. This certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective bidder also agrees by submitting his or her bid proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such sub-recipients shall certify and disclose accordingly.

PN 045 - 10/15/2004 - NON - COLLUSION AFFIDAVIT

In accordance with Title 23 United States Code, Section 112 and Ohio Revised Code, Chapter 1331 et. seq: and Sections 2921.11 and 2921.13, the bidder hereby states, under penalty of perjury and under other such penalties as the law provides, that he or his agents or employees have not entered either directly or indirectly into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal. Execution of this proposal on the signature portion thereof shall constitute also signature of this Non-Collusion Affidavit as permitted by title 28 United States Code, Section 1746.

REPORTING BID RIGGING

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

PN 103 – 1/7/1998 - VALUE ENGINEERING CHANGE PROPOSAL - CONSTRUCTION COSTS

The Department will consider the Contractor’s submission of a Value Engineering Change Proposal (VECP) which will reduce project costs. The purpose of this provision is to encourage the use of the ingenuity and expertise of the Contractor in arriving at alternate plans, specifications or other requirements of the contract. Any savings will be shared equally between the Contractor and the Department. The Contractor’s costs for development, design and implementation of the VECP are not eligible for reimbursement. The VECP must not impair any of the essential functions and characteristics of the project such as service life, reliability, economy of operation, ease of maintenance, safety and necessary standardized features. The submission of the value engineering change proposal shall conform with the current Guidelines on Value Engineering Change Proposals adopted by the Director. Acceptance of a VECP is at the sole discretion of the Director.

PN 107 - 01/16/2009 - CRITICAL PATH METHOD PROGRESS SCHEDULE

A. General. The progress schedule required for this project is the critical path method schedule (CPM schedule). The Contractor shall designate a Schedule Representative who shall be responsible for coordinating with the Engineer during the preparation and maintenance of the schedule. The requirements of this note replace the progress schedule requirements in 108.02.B of the Construction & Material Specifications. The contractor shall submit an interim schedule followed by a baseline schedule, or only a baseline schedule, depending on when the contractor starts work as described below.

B. Interim Schedule. If the Contractor starts work within 60 days of execution of the contract, they shall submit an interim schedule. The interim schedule can be in bar chart format or CPM schedule format. The interim schedule shall include detailed activities for the work to be accomplished during the first 90 days of the Contract, and summary activities for the balance of the work.

C. Baseline Schedule. The Contractor shall submit a baseline schedule within 60 days of the execution of the Contract. The baseline schedule will be in CPM schedule format and as described below. The Engineer will review the baseline schedule and will either “approve”, “approve as noted” or “reject" the schedule within 21 days of receipt. If the Engineer does not provide written notification regarding the disposition of the baseline schedule within 21 days, the submission will be considered approved.

For baseline schedules that are “approved as noted”, the Contractor shall make the necessary revisions and resubmit the revised schedule within 14 days. The Engineer will only reject baseline schedules that are not in compliance with contract requirements.

For baseline schedules that are “rejected”, the Engineer shall indicate in writing all portions of the schedule that are not in compliance with the contract requirements. The Project Engineer shall conduct a mandatory meeting with the Contractor and the Contractor’s Schedule Representative within 14 days of the Engineer’s written notice. The purpose of this meeting is to resolve all issues with the baseline schedule. At this meeting the Contractor shall provide clarification and all additional information necessary for the Engineer to “approve” the baseline schedule.

In the event the baseline schedule is not “approved” within 120 days of execution of the contract, all work shall cease on the project until the baseline schedule is “approved”.

Approval of the baseline schedule does not revise the Contract Documents. The baseline schedule must be “approved” or “approved as noted” by the Engineer prior to the Engineer evaluating any contractor claims associated with time impacts.

1. Schedule Requirements. Generate the baseline schedule using either SureTrak Project Manager or P3 Project Planner by Primavera Systems Inc., Bala Cynwyd, PA.

Provide a working day schedule that shows the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the Project by the Original Contract Completion Date. Show the order and interdependence of activities and the sequence for accomplishing the work. Describe all activities in sufficient detail so that the Engineer can readily identify the work and measure the progress of each activity. The baseline schedule must reflect the scope of work, required phasing, maintenance of traffic requirements, interim completion dates, the Completion Date, and other project milestones established in the Contract Documents. Include activities for submittals, working drawings, shop drawing preparation, submittal review time for the Department shop drawings, material procurement and fabrication, and the delivery of materials, plant, and equipment, and other similar activities.

The Contractor shall be responsible for assuring all work, including all subcontractor work, is included in the schedule. The Contractor shall be responsible for assuring that all work sequences are logical and that the schedule indicates a coordinated plan.

Failure by the Contractor to include any element of work required for performance of the Contract shall not excuse the Contractor from completing all work within the required time. The Engineer’s review of the baseline schedule will be for compliance with the specifications and contract requirements. Approval by the Engineer will not relieve the Contractor of any of their responsibilities for the accuracy or feasibility of the schedule. Omissions and errors will be corrected as described in Section F or I in this note and will not affect contract time.

a) Administrative Identifier Information:
i. Project Number
ii. County
iii. Route Number
iv. FHWA Number
v. PID Number
vi. Contract Signed Date
vii. Completion Date
viii. Contractor’s Name

ix. Contractor’s Dated Signature
x. ODOT’s Dated Approval Signature

b) Project Activities:

i. Activity Identification (ID). Assign each activity a unique identification number. Activity ID length shall not exceed 10 characters. Once accepted, the Activity ID shall be used for the duration of the project.

ii. Activity Description. Each activity shall have a narrative description consisting of a verb or work function (e.g.; form, pour, excavate) and an object (e.g.; slab, footing, underdrain).

iii. Activity Original Duration. Assign a planned duration in working days for each activity. Do not exceed a duration of 20 working days for any construction activity unless approved by the Engineer. Do not represent the maintenance of traffic, erosion control, and other similar items as single activities extending to the Completion Date. Break these Contract Items into component activities in order to meet the duration requirements of this paragraph.

iv. Activity Relationships:

o All activities, except the first activity, shall have a predecessor(s). All activities, except the final activity, shall have a successor(s).
o Use only finish-to-start relationships with no leads or lags to link activities, or use start-to-start relationships with lags no greater than the predecessor duration to link activities.
o Use of finish-to-finish relationship is permitted when both activities are already linked with a start-to-start relationship.

c) Project Milestones:

i. Start Project: The Contractor shall include as the first milestone in the schedule, a milestone named “Start Project”. The date used for this milestone is the date the contract is executed and signed by the Department.

ii. End Project Milestone: The Contractor shall include as the last activity in the project schedule, a milestone named “End Project”. The date used for this milestone is considered the project completion date.

iii. Start Phase Milestone: The Contractor shall include as the first activity for a project phase, an activity named "Start Phase X", where "X" identifies the phase of work. The Contractor may include additional milestones but, as a minimum, must include all contractual milestones.

iv. End Phase Milestone: The Contractor shall include as the last activity in a project phase, an activity named "End Phase X" where "X" identifies the phase of work. The Contractor may include additional milestones, but at a minimum contractual milestones.

d) Hammock:
Use hammocks to show the duration of specified contract work periods, phases and road closures. The hammock activity type is allowed to have a start-to-start relationship with the first activity in a series of activities and a finish-to-finish relationship with the last activity in a series of activities.

e) Constraints:
Use constraints sparingly in the schedule. If constraints are used, use only Early Constraints or Late Constraints.

f) Seasonal Weather Conditions:
The winter shutdown periods shall be shown using non-work calendars. The activity can be assigned to a calendar indicating time periods of non-work. These custom calendars can be created to show days, weeks, or months of non-work. Seasonal weather conditions shall be considered and included in the planning and scheduling of all work.

g) Linking Projects:
Independent projects shall not be linked using Primavera's Interproject Relationship Manager Application.

h) Activity Codes:
The Contractor shall, at a minimum, include codes for Area, Phase, and Responsibility for each activity.

i) Schedule Options:
The schedule may only be calculated using retained logic. Show open ends as non-critical. Schedule durations are to be contiguous. Total float shall be calculated as finish float.

2. Submission Requirements. Submit all schedules within the time frames specified. Submit the schedule and information in electronic file format via email, on diskette or compact disc (CD) compatible with the Engineer's computer. Submit the following information along with the electronic baseline schedule:

a) A baseline schedule in a bar chart format including the Administrative Identifier Information discussed in Section C.1.a on the first page of the schedule. For each activity on the chart, indicate the Activity ID, Activity Description, Original Duration, Remaining Duration, Total Float, Early Start Date, Early Finish Date, and Calendar ID. Use arrows to show the relationships among activities.

b) A baseline schedule in a bar chart format, on paper. Identify the critical path of the project on the bar chart in red. The critical path is defined as; the longest path of activities in the project that determines the project completion date. The activities that make-up the critical path of activities are the "Critical Activities."

c) A Six Week Look Ahead Schedule in bar chart format. This schedule will have all the requirements of the baseline schedule in bar chart format except that it shall be limited to those activities that have an early start or early finish within a six week period of the data date.

d) A Scheduling Statistics Report. Submit a report of baseline schedule statistics, including number of activities, number of activities on the longest path, number of started activities, number of completed activities, number of relationships, percent complete, and number and type of constraints.

e) A Logic Diagram (If requested by the Engineer). Submit a diagram in PERT chart format showing the logic of the baseline schedule.

f) An Activity ID Sort. Submit a listing of all activities included in the baseline schedule sorted by ascending Activity Identification Number.

g) A Total Float Sort. Submit a listing of all activities included in the baseline schedule sorted by increasing total float and by early start date.

h) A Detailed Predecessor/Successor Sort. Submit a listing of all activities included in the baseline schedule indicating the activities that immediately precede and immediately succeed that activity in the schedule logic.

D. Float. Use of float suppression techniques, such as; preferential sequencing (arranging critical path through activities more susceptible to Department caused delay), lag logic restraints, zero total or free float constraints, extending activity times, or imposing constraint dates other than as required by the contract, shall be cause for rejection of the project schedule or its updates.

1. Definitions of Float: Total Float is the length of time along a given network path that the actual start and finish of activity(s) can be delayed without delaying the project completion date. Project Float is the length of time between the End Project Milestone and the Contract Completion Date.

2. Ownership of Float: Float available in the schedule, at any time shall not be considered for the exclusive use of either the Department or the Contractor. During the course of contract execution, any float generated due to the efficiencies of either party is not for the sole use of the party generating the float; rather it is a shared commodity to be reasonably used by either party. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated weather is less than expected, will also contribute to the Project Float. A schedule showing work completing in less time than the contract time, and accepted by the Department, will be considered to have Project Float. Project Float will be a resource available to both the Department and the Contractor. No time extensions will be granted nor delay damages paid unless a delay occurs which impacts the project's critical path, consumes all available float and extends the work beyond the Contract Completion Date.

3. Negative Float: Negative float will not be a basis for requesting time extensions. Any extension of time will be addressed in accordance with the Section F. Scheduled completion date(s) that extend beyond the contract (or phase) completion date(s) may be used in computations for assessment of liquidated damages. The use of this computation is not to be construed as an order by the Department to accelerate the project.

E. Monthly Update Schedule. A monthly update schedule is a schedule in which only progress is updated from the prior data date to the current data date. Work added and/or excusable delays encountered since the prior data date must be represented as a schedule revision as described in Section F.

1. Update Requirements. On the tenth day of the current month, during the life of the Project, submit an updated schedule and all required information with a data date of the last day of the preceding month. The date for submission and data date may be adjusted to accommodate regularly scheduled progress meetings. Submit the monthly updated bar chart on paper and a copy of the updated schedule in electronic format in Section C.2. The Engineer shall “approve” or “reject” the schedule update within 5 days of receipt of the updated CPM schedule. The Engineer may withhold estimates if the updated schedule is not submitted as required by this section. For each updated schedule, identify the actual start and finish dates for all completed activities and the actual start date and remaining duration for all activities in progress. Provide a written narrative that identifies any changes or shifts in the critical path and submit reasons for the changes or shifts in the critical path. Correct out-of-sequence progress listings

generated by the Scheduling Statistics Report on the critical path. The project schedule shall be reviewed at each monthly progress meeting. Any corrections shall be made prior to the next monthly progress meeting.

Submit the following with each updated schedule:

i. CPM Schedule in Bar Chart Format

ii. Six Week Look Ahead CPM Schedule in Bar Chart Format

iii. Logic Diagram (If requested by the Engineer)

iv. Activity ID Sort (If requested by the Engineer)

v. Total Float Sort (If requested by the Engineer)

vi. Detailed Predecessor/Successor Sort (If requested by the Engineer)

vii. Schedule Statistics Report

viii. Electronic files (formatted as described above)

The Contractor may submit a statement that there were no changes in the schedule logic, activity durations, or calendars since the previous update in lieu of submission of items iii, iv, v and vi. .

2. Early Completion Monthly Update Schedule. An Early Completion Monthly Update Schedule is defined as a monthly update schedule submitted by the Contractor in which the Finish Date precedes the Contract Completion Date. If after incorporating necessary revisions in accordance with Section F, the Finish Date precedes the Contract Completion Date by at least the number of days shown Table A the Engineer will initiate a change order amending the Contract Completion Date to the Early Completion Date shown on the accepted Early Completion Monthly Update. The amended Completion Date will be effective upon execution of that change order and all contract provisions concerning the Completion Date such as incentives, disincentives, excusable delays, compensable delays, and liquidated damages will be measured against the amended Completion Date. The Contractor may elect not to execute the change order amending the Completion Date; however, in so doing, the Contractor waives its rights to delay damages in meeting the projected early Completion Date and the time between the Early Completion Date and the Contract Completion Date is used as Project Float.

Table A

Original Project Duration	# days prior to Contract Completion Date
one year or less	30
one year to two years	60
two years or more	90

3. Late Completion Monthly Update Schedule. A Late Completion Monthly Update Schedule is defined as a monthly update schedule submitted by the Contractor in which the Finish Date exceeds the Contract Completion Date. In the event the Finish Date is

more than 14 days beyond the current contract completion date and a schedule revision is not warranted, the contractor must proceed in accordance with Section H.

F. Revisions. The Work may require and/or the Contractor may make revisions to the CPM schedule. Addition of new activities or new calendars or changes to existing activities, calendars or logic constitute a revision. All revisions must be reported in narrative form on a cover sheet accompanying the monthly update schedule. Any revision which modifies the critical path or impacts an interim date or project completion date must be represented on a companion schedule submitted with the monthly update schedule or as a fragnet within the monthly update schedule. A fragnet is defined as the sequence of new activities that are proposed to be added to the existing schedule. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities. If submitted as a fragnet, the Contractor shall compute two Finish Dates. The first Finish Date shall be computed without consideration of any impact by the fragnet. The second Finish Date shall be computed with consideration of any impact by the fragnet. The Contractor shall also submit a written narrative stating the reason for the proposed revisions. The Engineer shall "approve" or "reject" proposed revisions within ten days of receipt of appropriate schedules and narrative. All approved revisions will be incorporated into the Monthly Update Schedule which will become the Revised Monthly Update Schedule.

G. Time Extensions for Delays in Accordance with C&MS 108.06.B and 108.06.D. The Work may require and/or the Contractor may request an extension of the Completion Date. Perform the following analysis to compute the duration of the time extension. Submit two paper copies and two electronic copies of each analysis performed.

1. Determine project progress prior to circumstance(s) necessitating the time extension. , The previous accepted monthly update, updated to the date of the circumstance alleging to have caused delay, shall be used to display the prior progress of the project. This schedule is referred to as the Un-impacted Schedule

2. Prepare a fragmentary network (fragnet) depicting the circumstance that is believed to have delayed the project.

3. Insert the fragnet into the Un-impacted Schedule, run the schedule calculations and determine the finish date. This schedule is referred to as the Impacted Schedule.

4. Compare the Impacted Schedule finish date with the Un-impacted Schedule finish date in order to determine the duration of any warranted time extension.

Submit the impacted schedule with the request for time extension. Include a narrative report describing the effects of new activities and relationships to interim and contract completion dates. All approved time extensions will be incorporated into the monthly update with the fragnet used to determine impacts incorporated into the schedule.

H. Weather Days in Accordance with C&MS 108.06.C. The Contractor may request and/or the Engineer will determine an extension of the completion date due to weather days. Perform the following analysis to compute the duration of the time extension. Submit two paper copies and two electronic copies of each analysis performed.

1. The previously accepted monthly update shall be used to display progress of the project and planned activities for the next 30 day period that incurred weather days. Make a copy of the schedule file to use for the analysis. This schedule is referred to as the Non-weather Schedule.

2. Prepare a list of weather days believed to have delayed the project.

3. Insert the weather day(s) into the calendar(s) for the planned work as a non-work day. Run the schedule calculations and determine the finish date. This schedule is referred to as the Weather Schedule.

4. Compare the Weather Schedule finish date with the Non-weather Schedule finish date in order to determine the duration of any warranted time extension.

Submit the weather schedule with the request for time extension on a monthly basis. Include a narrative report describing the effects of weather days to interim and contract completion dates.

I. Recovery Schedule. If the Monthly Update Schedule or Revised Monthly Update Schedule projects a finish date for the Project more than 14 calendar days later than the current Completion Date, submit a recovery schedule showing a plan to finish by the current Completion Date if requested by the Engineer. The Department will withhold Estimates until the Engineer approves the recovery schedule. The Engineer will use the schedule to evaluate time extensions and associated costs requested by the Contractor. In the event the current Completion Date is in dispute, the recovery schedule will need to be submitted once the dispute has been resolved.

J. Basis of Payment. The Department will make partial payments according to C&MS 109.09 and as modified by the following schedule:

1. The Department will release 60 percent of the lump sum amount bid for CPM Progress Schedule to the Contractor with the first regular estimate payable after the Engineer has approved the CPM Baseline schedule submission.

2. The Department will release an additional 30 percent of the lump sum amount bid for CPM Progress Schedule to the Contractor with the first regular estimate payable after 50 percent of the original contract amount is complete.

3. The Department will release the remaining 10 percent of the lump sum amount bid for CPM Progress Schedule to the Contractor with the first regular estimate payable after 90 percent of the original contract amount is complete.

The Department will pay for the accepted quantities at the contract price as follows:

Item	Unit	Description
108E10000	Lump Sum	CPM Progress Schedule

PN 109 - 01/16/2009 - DISPUTE RESOLUTION AND ADMINISTRATIVE CLAIM PROCESS

The Department's Dispute Resolution and Administrative Claim Process is based on the partnering approach to construction administration and must be followed by the Contractor in order to resolve disputes on the project and in order to seek additional compensation or contract time from the Department in the form of an Administrative Claim.

Disputes and Claims

Disputes include disagreements, matters in question, and differences of opinion between the Department's personnel and the Contractor that may include a request for additional money and/or time. Claims are disputes that are not settled through Steps 1 and 2 of the Dispute Resolution and Administrative Claim Process and for which the Contractor has documented costs or time incurred as a result of such disputes.

Disputes and claims by subcontractors and suppliers may be pursued by the Contractor on behalf of subcontractors or suppliers. Disputes and claims of subcontractors and suppliers against the Contractor will not be reviewed by the Department. Disputes and claims by subcontractors and suppliers against the Department but not supported by the Contractor will not be reviewed by the Department.

Process

The Contractor must exhaust the Department's Dispute Resolution and Administrative Claim Process prior to seeking additional compensation or contract time by filing an action in the Ohio Court of Claims. The following procedures do not compromise the Contractor's right to seek relief in the Ohio Court of Claims.

All parties to the dispute must adhere to the Dispute Resolution and Administrative Claim process. Department personnel involved in second or third tier reviews will not consider a dispute until the previous tier has properly reviewed the dispute and issued a decision. The Contractor's personnel shall not contact Department personnel involved in a second or third tier review until a decision has been issued by the previous tier.

Failure to meet any of the timeframes outlined below or to request an extension may terminate further review of the dispute and may serve as a waiver of the Contractor's right to file a claim.

Continuation of Work.

The Contractor shall continue with all Work, including that which is in dispute. The Department will continue to pay for Work.

Step 1 (On-Site Determination).

The Engineer and Area Engineer shall meet with the Contractor's superintendent within two (2) working days of receipt of the Contractor Written Early Notice set forth in 104.02.G. They shall review all pertinent information and contract provisions and negotiate in an effort to reach a resolution according to the Contract Documents. The Engineer or Area Engineer will issue a written decision of Step 1 within fourteen (14) calendar days of the meeting. If the dispute is not resolved, the Contractor must either abandon or escalate the dispute to Step 2.

Step 2 (District Dispute Resolution Committee).

Within seven (7) calendar days of receipt of the Step 1 decision, the Contractor must submit a written request for a Step 2 meeting to the District Construction Engineer (DCE). The DCE will assign the dispute a dispute number. The dispute number will consist of the District number, followed by a hyphen, the project number, followed by a hyphen and then the number of disputes on this project that this dispute represents. Within fourteen (14) calendar days of receipt of the request for a Step 2 meeting, the Contractor shall submit the Dispute Documentation as follows:

1. The Contractor shall submit three (3) complete copies of the documentation of the dispute to the DCE.

2. The Dispute Documentation shall be identified on a cover page by county, project number, Contractor name, subcontractor or supplier if involved in the dispute, and dispute number.

3. The Dispute Documentation shall be an original document that clearly and in detail gives the required information for each item of additional compensation and time extension requested.

4. A narrative of the disputed work or project circumstance at issue. This section must include the dates of the disputed work and the date of early notice.

5. References to the applicable provisions of the plans, specifications, proposal, or other contract documents. Copies of the cited provisions shall be included in the Dispute Documentation.

6. The dollar amount of additional compensation and length of contract time extension being requested.

7. The cost and supporting documents that served as the basis for the requested compensation stated in number six (6) above.

8. A detailed schedule analysis must be included in the Dispute Documentation for any dispute concerning additional contract time, actual or constructive acceleration, or delay damages. At a minimum, the schedule analysis must include the Schedule Update immediately preceding the occurrence of the circumstance alleged to have caused delay and must comply with accepted industry practices. Failure to submit the required schedule analysis will result in the denial of that portion of the Contractor's request.

9. Copies of relevant correspondence and other pertinent documents.

Each District shall establish a District Dispute Resolution Committee (DDRC) which shall be responsible for hearing and deciding disputes at the Step 2 level. The DDRC shall consist of the District Deputy Director, District Highway Management Administrator and District Construction Engineer or designees (other than the project personnel involved).

To prepare for the DDRC meeting, the DCE will create a file on the dispute and assign a person to review and manage the dispute. This manager will advise the Division of Construction Management on the status of the dispute.

The DDRC shall meet with personnel from the Contractor's headquarters and consider the dispute within fourteen (14) calendar days of receipt of the Contractor's Dispute Documentation. The DDRC will issue a written decision of Step 2 within fourteen (14) calendar days of the meeting. If the dispute is not resolved, the Contractor must either abandon or escalate the dispute to Step 3.

Step 3 (Director's Claims Board).

Within fourteen (14) calendar days of receipt of the Step 2 decision, the Contractor must submit a written *Notice of Intent to File a Claim* to the Claims Coordinator in the Division of Construction Management. This notice shall state the Contractor's request for either a Director's Claim Board hearing on the claim or an acceptable Alternative Dispute Resolution (ADR) practice.

The dispute becomes a claim when the Claims Coordinator receives the *Notice of Intent to File a Claim*.

The Director's Claim Board (the Board) will consist of the Deputy Director of the Division of Construction Management, Deputy Director of Highway Operations, and the Deputy Director of Production Management, or designees. The Office of Chief Legal Counsel will provide legal advice to the Board. The Director will be responsible for deciding claims.

Director's Claims Board Hearing.
The Contractor shall submit six (6) complete copies of its Claim Documentation to the Claims Coordinator within thirty (30) calendar days of receipt of the *Notice of Intent to File a Claim.* This timeframe may be extended upon mutual agreement of the parties and with approval of the

Board. In addition to the documentation submitted at Step 2, the narrative shall be enhanced to include sufficient description and information to enable understanding by a third party who has no knowledge of the dispute or familiarity with the project. This documentation must also include a discussion of the efforts taken to partner the dispute. The Claims Coordinator will forward one (1) complete copy of this documentation to the District.

When submitting the Claim Documentation, the Contractor must certify the claim in writing and under oath. Such certification shall attest to the following:

1. The claim is made in good faith.

2. To the best of the Contractor's knowledge, all data offered to support the claim is accurate and complete.

3. The claim amount accurately reflects the Contractor's actual incurred costs and additional time impacts.

This claim certification shall also be notarized pursuant to the laws of the State of Ohio.

The following is an example of the correct form for a claim certification:

(The Contractor) certifies that this claim is made in good faith, that all supporting data is accurate and complete to the best of (the Contractor's) knowledge and belief, and that the claim amount accurately reflects the contract amendment for which (the Contractor) believes the Department is liable.

By: _____________________
(The Contractor, Name and Title)

Date of Execution: ________

Within thirty (30) calendar days of receipt of the Contractor's Claim Documentation, the District shall submit six (6) complete copies of its Claim Documentation to the Claims Coordinator. In the event that the Contractor is granted a time extension for the submission of its Claim Documentation, the District will be granted an equal time extension for submission of its Claim Documentation. At a minimum, the District's Claim Documentation must include:

1. A narrative of the disputed work or project circumstance at issue with sufficient description and information to enable understanding by a third party who has no knowledge of the dispute or familiarity with the project. This section must include the dates of the disputed work and the date of early notice. The narrative must also discuss the efforts taken to partner the dispute.

2. References to the applicable provisions of the plans, specifications, proposal, or other contract documents. Copies of the cited provisions shall be included in the claim document.

3. Response to each argument set forth by the Contractor.

4. Any counterclaims, accompanied by supporting documentation, the District wishes to assert.

5. Copies of relevant correspondence and other pertinent documents.

Within fourteen (14) calendar days of receipt of the District's Claim Documentation, the Claims Coordinator will forward one (1) complete copy to the Contractor and will schedule a hearing on the dispute. Once a hearing date has been established, both the Contractor and District shall provide the Claims Coordinator with the list of names and telephone numbers of each person who may present information at the hearing. Reasonable time, generally not to exceed 60 days, will be provided for submission and review of additional documentation by either party prior to the hearing date. However, unless otherwise permitted by the Board, the exchange of documentation and all disclosures specified in this step of the process shall be completed at least fourteen (14) calendar days prior to the hearing.

Upon request or at the Board's discretion, the Board may delay the hearing one (1) time to allow more time for review and requests for more documentation.

In the event of multiple claims, the Board may order that they be considered in a single hearing. The Board may hold this hearing after the completion of the project or until such time that it is assured that all disputes on the project have been processed through Steps 1 and 2 of the Dispute Resolution and Administrative Claim Process and these issues are before the Board.

The Board will hear the entire claim on behalf of the Director. The Board may have technical advisors at the hearing for assistance in reviewing the claim. The Contractor and District will each be allowed adequate time to present their respective positions before the Board. The Contractor and District will also each be allowed adequate time for one (1) rebuttal limited to the scope of the opposing party's presentation. The Contractor's position will be presented by a Contractor's representative who is thoroughly knowledgeable of the claim. Similarly, the District's position will be presented by a District representative who is thoroughly knowledgeable of the claim. Each party may have others assist in the presentation.

The Board may, on its own initiative, request information of the Contractor in addition to that submitted for the hearing. If the Contractor fails to reasonably comply with such request, the Board may render its decision without such information.

Upon completion of the hearing and consideration of any additional information submitted upon request, the Board will submit a written recommendation on the disposition of the claim to the Director. The Director will ratify, modify, or reject the recommendation of the Board and render its decision within sixty (60) calendar days of the hearing. Within thirty (30) calendar days of receipt of the Board's decision, the Contractor must either accept or reject the decision in writing. In the event the Contractor fails to do so, the Board may revoke any offers of settlement contained in the decision.

The decision of the Board is the final step of the Department's Dispute Resolution Process and may not be appealed within the Department. The Board is not bound by any offers of settlement or findings of entitlement made during Steps 1 and 2 of the Dispute Resolution Process.

Interest on Claims.
The Department shall pay interest on any amount found due on a claim, which is not paid within 30 days of the Department's receipt of the certified claim in accordance with ORC Section 5703.47.

Alternative Dispute Resolution (ADR).
In lieu of the Board hearing, the Contractor may request that the claim proceed through the Alternative Dispute Resolution Process. The Department may agree to binding arbitration as defined by ORC 5525.23 or mediation in the manner in which those methods are practiced by the Department and allowed by law.

The Claims Coordinator will coordinate the agreement of the parties to the ADR method, and the selection of a neutral third party or technical expert. The fees of the neutral third party or technical expert will be shared equally between the Department and the Contractor. The Claims Coordinator will obtain a written agreement, signed by both parties, that establishes the ADR process. The neutral third party or technical expert will have complete control of the claim upon execution of the ADR agreement.

PN 525 - 07/17/2009 – STEEL PRICE ADJUSTMENT

A. General: This proposal note acknowledges fluctuations in the cost of manufactured steel used in the materials defined below and placed as part of the applicable construction work in the form of a pay adjustment. This proposal note will be used in bidding documents only for as long as the price of the steel products set out below are subject to volatile spikes as determined solely by the Department. It is not the intention of the Department to make this proposal note permanent.

These price adjustment provisions apply to items in the contract including any modified standard or non-standard item where the work to be performed involves the placement or installation of one or more of the steel products specified herein.

The Department will post monthly adjustment indices for steel using data obtained in Table B-1.

For Category 1, Table B-1:
The Department will post monthly adjustment indices (BI and MI) for steel using data obtained from the steel producers listed. The adjustment indices shall determine the BI and MI values for wide flange beams plus a scrap surcharge as listed.

http://www.stld-cci.com/pdf/Price_list.pdf

http://www.gerdauameristeel.com/products/mp/pl.cfm

http://www.nucoryamato.com/

For Categories 2 through 4, Table B-1:
The Department will post monthly adjustment indices (BI and MI) for steel using data obtained on the last Wednesday of the month from the American Metal Market (**AMM**). The cost basis shall determine the raw steel material price for Steel Plate, Cut-to-length as reported for National Mills; Steel – Rod, high carbon (1050) industrial quality as reported for the United States; and Steel – Bar, Merchant Products, Reinforcing Bar, as reported for the United States by the American Metal Market.

B. Price Adjustment Criteria and Conditions: The BI monthly values apply to projects sold during the same month in which the data is posted. The MI monthly values apply to projects for which qualifying items are shipped from the mill during the same month in which the data is posted. Adjustments will be made to the contract for fluctuations in the cost of steel used in the manufacture of the primary components of only the steel products listed in Table B-1:

Product Relationship Table B-1	
Steel Product (Title)	**BI, MI**
Category 1: Structural Steel Members, Levels UF, 1, 2, and 3 Steel H-Piling	Average of lowest and highest 27” to 36” tall, 10”-12” wide flange beams, up to 256 lbs./ft., prices plus scrap surcharge from Nucor-Yamato, SDI, and Gerdau Ameristeel
Category 2: Structural Steel Members, Levels 4, 5, and 6 Guardrail Steel Traffic Strain Poles, Supports, and Mast Arms Steel Light Towers, Poles, and Mast Arms Sign Ground Mounted Beam Supports, Rigid Overhead Supports, and Span Wire Supports Corrugated Steel Pipe Steel Railing Structural Steel Expansion/ Contraction Joints Steel Bearing Devices Stay in-place steel casing (Piling & Caissons)	AMM Product Designation: Steel Plate, Cut-to-length (National Mills)
Category 3: Prestress and Post tensioning strand	AMM Product Designation: Steel — Rod, high carbon (1050) industrial quality (United States)
Category 4: Reinforcing Steel	AMM Product Designation: Steel — Bar, Merchant Products, Reinforcing_Bar (United_States)

Nuts, bolts, rebar chairs, connecting bands and other miscellaneous hardware items shall not be included in the price adjustment. No other steel products shall be considered for a price adjustment.

Adjustments will only be made for fluctuations in the cost of the steel used in the above products as shipped from the producing mill. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

Adjustments may be positive, negative, or non-existent depending on the circumstances. Adjustments for the steel price will be calculated by the Engineer and processed by change order on the Contractor’s progress estimate.

No steel price adjustments will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

Furnish the following documentation for all Table B-1 steel products to be incorporated into the work. Submit all documentation to the Engineer prior to incorporation of the steel into the work. The Department will withhold progress payments if the documentation is not provided and at the discretion of the Engineer the work is allowed to proceed. Progress payments will be made upon receipt of the delinquent documentation. Submit separate documentation packages for each steel product in Table B-1 and for each quantity represented by items 2) c and d below. Label each documentation package with a unique number.

1) An affidavit signed by the Contractor stating that the documentation provided is true and accurate.
2) Identification of the steel product subject to adjustment.
    a. Documentation package number: PN525 – (Insert the steel product "title" from Table B-1) – (Insert sequential package number beginning with "1"). Example: PN525 – Guardrail – 1, PN 525 – Reinforcing Steel – 2, etc…
    b. The steel product quantity in pounds (kg).
    c. Steel Certification and Mill Test Reports for the steel product.
    d. The date the steel product, subject to adjustment, was shipped from the producing mill.

Upon the incorporation of the steel product into the work provide the Engineer the following:

1) An affidavit signed by the Contractor stating that the documentation provided is true and accurate.
2) Identification of the steel product subject to adjustment.
    a. Documentation package number that was initially established for the steel product for which the price adjustment will be calculated.
    b. The actual steel product quantity in pounds (kg) that was incorporated into the work.

Price Adjustment Calculations

The below formulas allow for a variation in steel prices without recognizing cost increases/decreases within the range of - 90 % to 110% of the Bidding Index (BI). The total steel price adjustment (SPA) will not be computed unless the percent **% Change** is - 10% or more, increase or decrease:

% Change = [(MI/BI) – 1] x 100

For a Price Increase:

SPA = [(MI/BI) – 1.10] x Q

Example: If the Project was bid on 4/8/2008, the BI for a category 1 pay item in March 2008 is $46.475. If wide flange beams have a documented weight of 34500 pounds and the mill date of 9/8/2009, the MI for September 2008 is $60.225.

Check threshold:

% Change = [($60.225/CWT / $46.475/CWT) - 1] x 100 = 29.586,

Is ABS (29.586) > 10? Yes

Calculate SPA = [($60.225/CWT / $46.475/CWT)-1.10] x $46.475/CWT x 34,500 lbs/100

= $3,140.36 (positive adjustment)

For a Price Decrease:

SPA = [(MI/BI) – 0.90] x Q

Example: If the Project was bid on 1/8/2009, the BI for a category 1 pay item in January 2009 is $47.825. If wide flange beams have a documented weight of 34500 pounds and the mill date of 4/8/2009, the MI for April 2009 is $37.375.

Check threshold:

% Change = [($37.375/CWT/$47.825/CWT) - 1] x 100 = -21.85,

Is ABS (-21.85) > 10? Yes

Calculate SPA = [($37.375/CWT/$47.825/CWT)-0.90] x $47.825/CWT x 34,500 lbs/100

= -$1,955.29 (negative adjustment)

Where:

SPA = Steel Price Adjustment

MI = Mill Shipping Index. - Use the adjustment indices from the month the steel was shipped from the producing mill and properly documented. The adjustment indices will be posted on ODOT's website.

BI = Bidding Index. - Use the adjustment indices from the month proceeding the month in which the project is bid. The adjustment indices will be posted on ODOT's website.

Q = Quantity of the steel product, pounds (- actually incorporated into the work as documented by the Contractor and verified by the Engineer. -

C. Price Adjustment Limitations: The price adjustments are limited to a % Change of 50%, increase or decrease.

Example 1: When the Project was bid, the BI for a category 1 pay item with a quantity of 50,000 pounds, was $39.00, and the MI for the month in which the steel was shipped was $60.225.

Check threshold:

% Change = [($60.225/CWT/$39.00/CWT)-1] x 100 = 54.423%

The limit is 50%, thus the SPA is calculated as follows:

SPA = [1.50 – 1.10] x BI x Q

SPA = [1.50-1.10] x $39.00/CWT x 50,000 lbs/100
= $7,800.00

Example 2: When the Project was bid, the BI for a category 1 pay item with a quantity of 50,000 pounds, was $60.225, and the MI for the month in which the steel was shipped was $29.00

Check threshold:

% Change = [($29.00/CWT/$60.225/CWT)-1] x 100 = -51.847%

The limit is -50 %, thus the SPA is calculated as follows:

SPA = [0.50-0.90] x BI x Q

SPA = [0.50-0.90] x $60.225/CWT x 50,000 lbs/100

= -$12,045.00

D. Payment/Deductions: The price adjustment will be paid, or deducted from the Contractor's progress estimate, upon approval of a change order.

If the price adjustment is based on estimated material quantities for that time, and a revision to the total material quantity is made in a subsequent or final estimate, an appropriate adjustment will be made to the price adjustment previously calculated. The adjustment will be based on the same indices used to calculate the price adjustment which is being revised. If the shipping date(s) of the revised material quantity cannot be determined, the adjustment for the quantity in question, will be based on the indices utilized to calculate the steel price adjustment for the last initial documentation package submission, for the steel product subject to adjustment, that was incorporated into the particular item of work, for which quantities are being finalized.

Example: Reinforcing steel for a particular bridge deck was provided for in three different shipments with each having a different mill shipping date. The quantity of reinforcing steel actually incorporated into the deck was calculated and a steel price adjustment was made in a progress payment. At the conclusion of the work an error was found in the calculation of the final quantity of reinforcing steel incorporated into the deck. The quantity to be adjusted can not be directly related to any one of the three mill shipping dates. The steel price adjustment for the quantity in question would be calculated using the indices that were utilized to calculate the steel price adjustment for the quantity of reinforcing steel represented by the last initial reinforcing steel documentation package submission. The package used would be the one with the greatest sequential number.

E. Expiration of Contract Time: When steel products are shipped from the mill after expiration of contract time and liquidated damages are chargeable, steel price adjustments will be based on the MI for the month in which contract time expired.

F. Documentation Review: The Department reserves the right to inspect the records of the Contractor, its subcontractors, material fabricators and suppliers to verify the accuracy of the documentation submitted to the Department.

G. Extra Work/Force Account: When steel product, as specified herein, are added to the contract as Extra Work, in accordance with the provisions of C&MS Section 109, no steel price adjustments will be made for any products manufactured from steel having a mill shipping date 5 business days after the Department's request. Price adjustments will be made as provided herein however the BI shall be based on the month - of the Department's request.The MI will be based on the month the steel was shipped from the producing mill and after the Extra Work request. For extra work performed on force account basis, reimbursement of actual material costs, along with the specified overhead and profit markup, will be considered to include full compensation for the current cost of steel and no steel price adjustments will be made.

CUYAHOGA COUNTY
CUY-I.R.90-15.24 Steel Repair #2; PID 82069
CSX TRANSPORTATION INC.

CSX Willow Industrial Track
Milepost BJB-74.02

SPECIAL CLAUSES IN THE PROPOSAL

The bidder, if awarded the contract for this improvement agrees:

1. To cooperate at all times with the local officials of the railroad company.

2. To use all reasonable care and diligence in the work in order to avoid accidents, damage or unnecessary delay to, or interference with the trains and other property of the railroad company.

3. To conduct his work in a manner satisfactory to the Chief Engineer of the railroad company or his authorized representative, to perform his work in such manner and at such time as not to unnecessarily interfere with the movements of trains or railroad traffic, and to hold his work at all times open to inspection of railroad company inspectors.

4. To cooperate with a public utility, railroad or other organizations having occasion to do work on or in connection with the improvement.

5. To avoid unnecessary use of railroad property without written permission of the railroad company and to leave railroad roadbed and property in a condition acceptable to the Chief Engineer of the railroad company.

6. To execute a bond conditioned according to Section 5525.16 of the Revised Code of Ohio, in favor of the State of Ohio and further to carry insurance of the following kinds and amounts:

   a) **Railroad Protective Liability Insurance**.

   In addition to the above, he shall furnish evidence to the highway department that, with respect to the operations he or any of his sub-contractors perform, he has provided for and in behalf of CSX Transportation Inc. in the amount of $5,000,000 per occurrence and subject to that limit per occurrence, an aggregate limit in the amount of $10,000,000 for each annual period.

   The above railroad protective policy of insurance shall conform to the Railroad Liability requirements prescribed by the Federal Highway Administration in Federal-Aid Policy Guide 23 CFR 646A as amended. The insurer must be rated B+ or better by A.M. Best Company, Inc.

   The corporate name and address of the “Named Insured” as listed on the policy shall be as follows:

   CSX Transportation, Inc.
   500 Water Street, C-907
   Jacksonville, FL 32202

   The description of operations must appear on the Declarations, must match the project description in this agreement and must include the appropriate MP and/or OP number as identified at the top of pg. 1

The job location must appear on the Declarations page and must include the city, state and appropriate highway name/number.

The name and address of the prime contractor must appear on the Declarations.

The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

Endorsements that **must** be included:
- Pollution Exclusion Amendment – CG 28 31 (not required with CG 00 35 01 96 and newer versions)
- Delete Common Policy Conditions – Section E. Premiums

Other endorsements/forms that will be accepted are:
- Broad Form Nuclear Exclusion – Form IL 00 21
- 30-day Advance Notice of Non-renewal or cancellation
- Required State Cancellation Endorsement
- Quick Reference or Index Form CL/IL 240

Endorsements/forms that are NOT acceptable are:
- Any Pollution Exclusion Endorsement except CG 28 31
- Any Punitive or Exemplary Damages Exclusion
- Any other endorsement/form not specifically authorized above.
- Any type of deductible policy

The number of trains operating through the improvement is estimated to be:

__0__Passenger trains per day @ _____ miles per hour.

__2__Freight trains per day @ _10__ miles per hour.

Additional Terms

1. Contractor must submit its original insurance policies and two (2) copies and all notices and correspondence regarding the insurance policies to:

   Donna Melton
   CSX Corporation
   500 Water Street – C907
   Jacksonville, FL. 32202
   Phone: 904-359-1247
   FAX: 904-245-2833
   Email: donna_melton@csx.com

2 Neither Agency nor Contractor may begin work on the Project until it has received CSXT's written approval of the required insurance policies.

   Certificate must be provided which evidences the following coverages and lists the Certificate Holder as:

   CSX Transportation, Inc.
   500 Water Street, C-907
   Jacksonville, FL 32202

Commercial General Liability: as required by the Department's Construction and Material Specification, Section 107.12, and lists CSX Transportation, Inc. as additional insured.

Automobile Liability: Limits of minimum of $1,000,000 per occurrence, and lists CSX Transportation, Inc. as additional insured.

(b) General Insurance Requirements

The insurance hereinbefore specified shall be with an acceptable insurance company authorized to do business in the State of Ohio, and shall be taken out before execution of the Contract by the Director and kept in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State. Such policies shall include thirty (30) days canceling notice. The cost of insurance hereinbefore specified in subsection (a) will be a specific bid item.

Notwithstanding the Department's Construction and Material Specification No. 107.12 "Evidence" as above set forth shall consist of furnishing the Director of Transportation three (3) certified copies of the railroad policy.

7. To indemnify, defend, and hold CSXT and its affiliates harmless from and against all claims, demands, payments, suits, actions, judgments, settlements, and damages of every nature, degree, and kind (including direct, indirect, consequential, incidental, and punitive damages), for any injury to or death to any person(s) (including, but not limited to the employees of CSXT, its affiliates, the State or the Contractor), for the loss of or damage to any property whatsoever (including but not limited to property owned by or in the care, custody, or control of CSXT, its affiliates, the State or the Contractor, and environmental damages and any related remediation brought or recovered against CSXT and its affiliates), arising directly or indirectly from the negligence, recklessness or intentional wrongful misconduct of the Contractor, the State, and their respective agents, employees, invitees, contractors, or its contractor's agents, employees or invitees in the performance of work in connection with the project or activities incidental thereto, or from their presence on or about CSXT's property. The foregoing indemnification obligation shall not be limited to the insurance coverage required in paragraph 6 above

8. The Railroad company will assign, at the sole cost and expense of the Department, railroad flaggers or other protective services and devices as necessary to insure the safety and continuity of the work to be performed as a part of this contract. Said services and devices will be provided when necessary, as determined by the railroad company, because of any of the Contractor's operations over, under or adjacent to tracks over which trains are operating. The provision of such protective personnel and devices does not relieve the Contractor from the liability of payment for damage caused by his operations.
Such protection will be required when men or equipment are working within clearances limits of 25 feet of a rail or when work being performed adjacent to operating tracks may present hazards to tracks, train operation, or when equipment does or may infringe upon such limits.

The Contractor will not be permitted to operate any of his own equipment on railroad tracks except under an acceptable arrangement with the railroad company. Such equipment and the operation of such equipment, or equipment rented from the railroad company, shall be arranged for by the Contractor with the railroad and the cost for its use, including protection or railroad traffic, shall be borne by the Contractor.

The Contractor shall notify the following named individual for each railroad company at least 30 days, or as directed by the authorized representative of the Railroad, in advance of starting any work which might require protection:

Mr. Dave Fette, Regional Director R/W Construction
CSX Transportation, Inc.
1717 Dixie Highway, Suite 400
Fort Wright, KY 41011 - 2785
Telephone: (859) 344- 8137

The Contractor shall notify the railroad at least 5 working days in advance of suspending or ceasing operations that require a flagger.

Railroad protective personnel assigned to the project will be responsible for notifying the Engineer upon arrival at the job site on the first working day that protective services begin and on the last day that he performs such services. This will be required for each separate period that such services are provided. The Engineer will document such notification in the project diary.

The Contractor will be responsible for protective services provided at his request and not utilized due, in the opinion of the Engineer, to a change in the Contractor's construction schedule or if it is determined by the Engineer that the requested services were not necessary. The actual costs for such protective services so assessed to the Contractor will be deducted from the Contract.

The decision of the Director of Transportation shall be final in the event of controversy as to the necessity for any protection services provided and not utilized by the Contractor as described in the preceding paragraph.

9. To pay the railroad or owning company for any changes, requested for his convenience, to railroad property, facilities, wire, fiber optic and/or pipe lines other than shown on the plans for the project.

10. If at any time the contractor desires a temporary crossing of the railroad's tracks, he shall make a request for a temporary crossing from the railroad. If approved, he shall arrange with the railroad company, execute its regular form of private grade crossing agreement covering the crossing desired, paying all construction, maintenance, removal, protection and other costs.

11. Methods and procedures for performing work on property of **CSX Transportation, Inc.** must be approved by:

    David J. Fette, Regional Director Right of Way Construction
    CSX Transportation, Inc.
    1717 Dixie Highway, Suite 400
    Fort Wright, KY 41011-2785
    Phone: (859) 344-8137

End of Special Clauses

CUYAHOGA COUNTY
CUY-I.R. 90-15.24 Steel Repairs #2, PID 82069
NS Lake Erie District – Dearborn Division
MP B-184.25

SPECIAL CLAUSES IN THE PROPOSAL

The bidder, if awarded the contract for this improvement agrees:

1. To cooperate at all times with the local officials of the railroad company.

2. To use all reasonable care and diligence in the work in order to avoid accidents, damage or unnecessary delay to, or interference with the trains and other property of the railroad company.

3. To conduct his work in a manner satisfactory to the Chief Engineer of the railroad company or his authorized representative, to perform his work in such manner and at such time as not to unnecessarily interfere with the movements of trains or railroad traffic, and to hold his work at all times open to inspection of railroad company inspectors.

4. To cooperate with a public utility, railroad or other organizations having occasion to do work on or in connection with the improvement.

5. To avoid unnecessary use of railroad property without written permission of the railroad company and to leave railroad roadbed and property in a condition acceptable to the Chief Engineer of the railroad company.

6. To execute a bond conditioned according to Section 5525.16 of the Revised Code of Ohio, in favor of the State of Ohio, and further to carry insurance of the following kinds and amounts:

   a) **<u>Railroad Protective Liability Insurance</u>.**

   Railroad Protective Liability Insurance having a combined single limit of not less than $5,000,000 each occurrence and $10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

   The above railroad protective policy of insurance shall conform to the Railroad Liability requirements prescribed by the Federal Highway Administration in Federal-Aid Policy Guide 23 CFR 646A as amended.
   The standards for the Railroad Protective Liability Insurance are as follows:
   The insurer must be rated A- or better by A.M. Best Company, Inc.
   The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:
   CG 00 35 01 96 and CG 28 31 10 93; or CG 00 35 07 98 and CG 28 31 07 98.

   The named insured shall read:

   Norfolk Southern Railway Company
   Three Commercial Place
   Norfolk, Virginia 23510-2191
   Attn: D. W. Fries, Director Risk Management

The description of operations must appear on the Declarations, must match the project description in this agreement and must include the appropriate Department project and contract identification numbers.

The job location must appear on the Declarations and must include the city, state and appropriate highway name/number.

The name and address of the prime contractor must appear on the Declarations.

The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

Other endorsements/forms that will be accepted are:
Broad Form Nuclear Exclusion – Form IL 00 21
30-day Advance Notice of Non-renewal or cancellation
Required State Cancellation Endorsement
Quick Reference or Index Form CL/IL 240

Endorsements/forms that are NOT acceptable are:
Any Pollution Exclusion Endorsement except CG 28 31
Any Punitive or Exemplary Damages Exclusion
Known injury or Damage Exclusion form CG 00 59
Any Common Policy Conditions form
Any other endorsement/form not specifically authorized above.

The number of trains operating over this crossing is estimated to be:

__0__ Passenger trains per day @ a maximum authorized operating speed of ___ miles per hour.

__14__ Freight trains per day @ a maximum authorized operating speed of __30__ miles per hour.

(b) **Commercial General Liability Insurance**

Commercial General Liability Insurance having a combined single limit of not less than $2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include "explosion, collapse, and underground hazard" ("XCU") coverage, shall be endorsed to name Railroad specified in subsection (a) above as an additional insured, and shall include a severability of interests provision.

(c) General Insurance Requirements

The insurance hereinbefore specified shall be with an acceptable insurance company authorized to do business in the State of Ohio, and shall be taken out before execution of the Contract by the Director and kept in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State. Such policies shall include thirty (30) days canceling notice. The cost of insurance hereinbefore specified in subsection (a) will be a specific bid item.

Notwithstanding the Department's Construction and Material Specification No.107.12 "Evidence" as above set forth shall consist of furnishing the Director of Transportation three (3) certified copies of the railroad policy.

7. The Railroad company will assign, at the sole cost and expense of the Department, railroad flaggers or other protective services and devices as necessary to insure the safety and continuity of the work to be performed as a part of this contract. Said services and devices will be provided when necessary, as determined by the railroad company, because of any of the Contractor's operations over, under or adjacent to tracks over which trains are operating. The provision of such protective personnel and devices does not relieve the Contractor from the liability of payment for damage caused by his operations.

   The Contractor shall notify the following named individual for each railroad company at least 30 days, or as directed by the authorized representative of the Railroad, in advance of starting any work which might require protection:

   J.N. Carter, Jr., Chief Engineer
   Bridges and Structures
   Norfolk Southern Corporation
   1200 Peachtree Street, N.E.
   Atlanta, GA 30309
   Attn: Rhonda Moore
   Telephone: (404) 529-1436

   The Contractor shall notify the railroad at least 5 working days in advance of suspending or ceasing operations that require a flagger.

   The Contractor will be responsible for protective services provided at his request and not utilized due, in the opinion of the Engineer, to a change in the Contractor's construction schedule or if it is determined by the Engineer that the requested services were not necessary. The actual costs for such protective services so assessed to the Contractor will be deducted from the Contract.

   The decision of the Director of Transportation shall be final in the event of controversy as to the necessity for any protection services provided and not utilized by the Contractor as described in the preceding paragraph.

8. To pay the railroad or owning company for any changes, requested for his convenience, to railroad property, facilities, wire, fiber optic and/or pipe lines other than shown on the plans for the project.

9. If at any time the contractor desires a temporary crossing of the railroad's tracks, he shall make a request for a temporary crossing from the railroad. If approved, he shall arrange with the railroad company, execute its regular form of private grade crossing agreement covering the crossing desired, paying all construction, maintenance, removal, protection and other costs.

10. Methods and procedures for performing work on property of Norfolk Southern Railway Company must be approved by: J.N. Carter, Jr. / Rhonda Moore

AUTHORITY OF RAILROAD ENGINEER AND STATE ENGINEER

The authorized representative of the Railroad company, hereinafter referred to as the Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of railroad traffic of his company including the adequacy of the foundations and structures supporting the railroad tracks.

NOTICE OF STARTING WORK

A. The Contractor shall not commence any work on Railroad right of way until he has complied with the following conditions:

1. Give the Railroad Engineer at least ten working day advance written notice, with copy to the Engineer, of the date he proposes to begin work on railroad right of way. Said notice shall be sent to Mr. J.N. Carter, Jr., Chief Engineer, Bridges and Structures, Norfolk Southern Corporation, 1200 Peachtree Street, N.E., Atlanta, Georgia 30309.

2. Obtained written authorization from the Railroad Engineer to begin work on Railroad right of way.

3. Obtained written approval from the Railroad of the Railroad Protective Liability Policy of Insurance.

B. The Railroad Engineer's written authorization to proceed shall include the names, addresses, and telephone numbers of the railroad's local representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility shall be specified.

FLAGGING SERVICE

A. WHEN REQUIRED

Under the terms of the Agreement between the Department and the Railroad, the Railroad has the sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such flagging services will be whenever the Contractor's men or equipment are, or are likely to be, working on the Railroad's right of way and is across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad track structure, railroad roadbed or the track surface and alignment of any track to such an extent that the movement of trains must be controlled. Normally the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary. However, if the contractor works within distances that violate instructions given by the Railroad's local representative, or performs work that has not been scheduled with the Railroad's local representative, flaggers may be required full time until the project has been completed.

B: SCHEDULING AND NOTIFICATION

The Contractor shall furnish to the Railroad's local representative and the Engineer a schedule for all work required to complete the portion of the project within the Railroad right of way and arrange for a job site meeting between the Contractor, Engineer and the Railroad's local representative. Flagging services may not be provided until such meeting has been conducted and the contractor's work scheduled.

The Contractor shall give the Railroad's local representative, copy to the Engineer, at least 10 working days of advance written notice of work to be performed within railroad right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad's local representative to determine if flagging will be required. If flagging is required no work shall be undertaken until the flaggers are present at the job site. Railroad labor agreements usually require flaggers to be assigned to a project on a continual basis and therefore cannot be called for on a spot basis. If flagging service becomes unnecessary and is suspended it may take up to thirty days to again obtain service from the Railroad. The Contractor shall give five working days notice to cease flagging service.

C: EMERGENCIES

If emergencies arise which require the flagger's presence elsewhere, the Contractor shall delay his work until such time as the flaggers are again available.

D: SUSPENSION OF WORK

If work is suspended the Contractor shall give the Railroad's local representative at least three working days notice before resumption of said work.

End of Special Clauses

Project Number: **090466**

To the Director of the Ohio Department of Transportation: The undersigned, having full knowledge of the site, plans and specifications for the following improvement and the conditions of this proposal, hereby agrees to furnish all services, labor, materials, and equipment necessary to complete the entire project, according to the plans, specifications and completion dates, and to accept the unit prices specified below for each item as full compensation for the work in this proposal.

Date Set for Completion: **4/19/2010**

Unit Price Contract

FOR IMPROVING SECTION CUY-90-15.24, INTERSTATE ROUTE 90 IN THE CITY OF CLEVELAND, CUYAHOGA COUNTY, OHIO, IN ACCORDANCE WITH PLANS AND SPECIFICATIONS BY REPAIRING STEEL TRUSS CHORD GUSSET PLATE CONNECTIONS, STRINGER ENDS AND OTHER RELATED REPAIRS TO BRIDGE NO. CUY-90-1524.

Project Length: 0.00 Miles   Work Length: 0.00 Miles   Pavement Width: 0 Feet

***** YOU MUST SUBMIT AN ELECTRONIC BIDDING SYSTEM (EBS) BID FOR THIS PROJECT - DO NOT WRITE ON THESE PAGES**

Project Number: 090466

Section 0001 LIGHTING

Line	Alt	Item Code	Item Description	WT	Unit	Quantity
0001		202E62000	JUNCTION BOX REMOVED (WT: NR)	NR	EACH	7.000
0002		202E75801	DISCONNECT EXISTING CIRCUIT, AS PER PLAN (WT: NR)	NR	EACH	2.000
0003		625E00500	CONNECTOR KIT, TYPE II (WT: 43)	43	EACH	14.000
0004		625E01500	CABLE SPLICING KIT (WT: 43)	43	EACH	9.000
0005		625E10490	LIGHT POLE, CONVENTIONAL, A4 B36.5 (WT: 43)	43	EACH	6.000
0006		625E10620	LIGHT POLE ANCHOR BOLTS, MISC.:SET FOR PILASTER MOUNTED LIGHT POLE (WT: 43)	43	EACH	6.000
0007		625E23200	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE (WT: 43)	43	FT	2,451.000
0008		625E23400	NO. 10 AWG POLE AND BRACKET CABLE (WT: 43)	43	FT	648.000
0009		625E25300	CONDUIT, 1-1/2", 725.04 (WT: 43)	43	FT	85.000
0010		625E25400	CONDUIT, 2", 725.04 (WT: 43)	43	FT	661.000
0011		625E25920	CONDUIT, MISC.:1-1/2", WATERTIGHT, FLEXIBLE CONDUIT (WT: 43)	43	FT	10.000
0012		625E25920	CONDUIT, MISC.:CONDUIT REMOVED (WT: 43)	43	FT	687.000
0013		625E26251	LUMINAIRE, CONVENTIONAL, AS PER PLAN (WT: 43)	43	EACH	6.000
0014		625E29901	JUNCTION BOX, AS PER PLAN (WT: 43)	43	EACH	6.000
0015		625E29911	TRANSITION JUNCTION BOX, AS PER PLAN (WT: 43)	43	EACH	2.000
0016		625E33001	STRUCTURE GROUNDING SYSTEM, AS PER PLAN (WT: 43)	43	EACH	1.000
0017		625E40000	SPECIAL - MAINTAIN EXISTING LIGHTING (WT: 43)	43	LS	1.000
0018		625E75402	LIGHT POLE REMOVED FOR STORAGE (WT: NR)	NR	EACH	6.000
0019		625E75504	LUMINAIRE REMOVED FOR STORAGE (WT: NR)	NR	EACH	6.000

Section 0002 TRAFFIC CONTROL

Line	Alt	Item Code	Item Description	WT	Unit	Quantity
0020		202E98000	REMOVAL MISC.:REMOVAL OF BARRICADES, DRUMS AND PCB (WT: NR)	NR	LS	1.000
0021		621E10010	RPM, LOW PROFILE, WHITE (WT: 41)	41	EACH	141.000
0022		621E10020	RPM, LOW PROFILE WHITE/RED (WT: 41)	41	EACH	19.000
0023		621E10030	RPM, LOW PROFILE YELLOW/RED (WT: 41)	41	EACH	9.000
0024		621E54000	RAISED PAVEMENT MARKER REMOVED (WT: NR)	NR	EACH	114.000
0025		626E00100	BARRIER REFLECTOR (WT: NR)	NR	EACH	11.000
0026		630E02100	GROUND MOUNTED SUPPORT, NO. 2 POST (WT: 42)	42	FT	22.000
0027		630E03100	GROUND MOUNTED SUPPORT, NO. 3 POST (WT: 42)	42	FT	60.000
0028		630E79611	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN (WT: 42)	42	EACH	2.000

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0029		630E80100	SIGN, FLAT SHEET (WT: 42)	42	SF	72.000
0030		630E80101	SIGN, FLAT SHEET, AS PER PLAN (WT: 42)	42	SF	16.000
0031		630E80224	SIGN, OVERHEAD EXTRUSHEET (WT: 42)	42	SF	198.000
0032		630E85000	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE (WT: NR)	NR	EACH	23.000
0033		630E85500	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE (WT: NR)	NR	EACH	6.000
0034		630E86002	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (WT: NR)	NR	EACH	42.000
0035		630E87001	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE, AS PER PLAN (WT: NR)	NR	EACH	28.000
0036		630E87101	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN (WT: NR)	NR	EACH	1.000
0037		630E87510	REMOVAL OF POLE MOUNTED SIGN AND STORAGE (WT: NR)	NR	EACH	17.000
0038		630E89896	REMOVAL OF TEMPORARY OVERLAY SIGN AND REERECTION (WT: NR)	NR	EACH	1.000
0039		630E89898	REMOVAL OF TEMPORARY OVERLAY SIGN AND STORAGE (WT: NR)	NR	EACH	3.000
0040		630E97700	SIGNING, MISC.:REMOVAL AND REERECTION OF OBJECT MARKERS (WT: NR)	NR	EACH	13.000
0041		642E30000	REMOVAL OF PAVEMENT MARKING (WT: 45)	45	FT	1,500.000
0042		642E30030	REMOVAL OF PAVEMENT MARKING (WT: 45)	45	MILE	3.680
0043		646E10000	EDGE LINE (WT: 45)	45	MILE	2.300
0044		646E10100	LANE LINE (WT: 45)	45	MILE	1.760
0045		646E10300	CHANNELIZING LINE (WT: 45)	45	FT	1,464.000
0046		646E10600	TRANSVERSE/DIAGONAL LINE (WT: 45)	45	FT	1,918.000
0047		646E20300	LANE ARROW (WT: 45)	45	EACH	3.000
0048		646E20410	WORD ON PAVEMENT, 96" (WT: 45)	45	EACH	1.000

Section 0003 MAINTENANCE OF TRAFFIC

Line	Alt	Item Code	Item Description	WT	Unit	Quantity
0049		614E11100	LAW ENFORCEMENT OFFICER WITH PATROL CAR (WT: 39)	39	HOUR	2,107.000
0050		614E11500	WORKSITE TRAFFIC SUPERVISOR (WT: 39)	39	MNTH	12.000
0051		614E12420	DETOUR SIGNING (WT: 39)	39	LS	1.000
0052		614E13170	SPECIAL - LINEAR DELINEATION (WT: 39)	39	FT	390.000
0053		614E13300	BARRIER REFLECTOR, TYPE B (WT: NR)	NR	EACH	23.000
0054		614E13350	OBJECT MARKER, ONE WAY (WT: NR)	NR	EACH	23.000
0055		614E18601	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (WT: 39)	39	SNMT	21.000
0056		614E20200	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I (WT: 39)	39	MILE	0.800
0057		614E22200	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (WT: 39)	39	MILE	0.800

0058		622E40040	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (WT: 39)	39	FT	1,045.000

Section 0004 STRUCTURE REPAIR BRIDGE NO. CUY-90-1524

Line	Alt	Item Code	Item Description	WT	Unit	Quantity
0059		202E11203	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (WT: 31)	31	LS	1.000
0060		202E98100	REMOVAL MISC.:BOLT (WT: 31)	31	EACH	386.000
0061		202E98100	REMOVAL MISC.:RIVET (WT: 31)	31	EACH	4,787.000
0062		509E10000	EPOXY COATED REINFORCING STEEL (WT: 23)	23	LB	42,748.000
0063		509E20001	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN (WT: 23)	23	LB	300.000
0064		510E10000	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT (WT: 29)	29	EACH	1,692.000
0065		511E50001	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN (WT: 29)	29	CY	70.000
0066		511E50101	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN (WT: 29)	29	CY	155.000
0067		512E10100	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (WT: NR)	NR	SY	1,079.000
0068		512E10300	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN (WT: NR)	NR	SY	140.000
0069		513E90000	STRUCTURAL STEEL, MISC.:FLOORBEAM BRACING (WT: 31)	31	LB	7,600.000
0070		513E90000	STRUCTURAL STEEL, MISC.:FLOORBEAM GUSSET REPAIR (WT: 31)	31	LB	2,330.000
0071		513E90000	STRUCTURAL STEEL, MISC.:L717 - L718 NORTH TRUSS CHORD STRENGTHENIING (WT: 31)	31	LB	1,520.000
0072		513E95000	STRUCTURAL STEEL, MISC.:INSPECTION CABLE (WT: 31)	31	FT	5,695.000
0073		513E95030	STRUCTURAL STEEL, MISC.:1" DIAMETER TRUSS BEARING CONNECTION BOLTS (WT: 31)	31	EACH	282.000
0074		513E95030	STRUCTURAL STEEL, MISC.:7/8" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS (WT: 31)	31	EACH	2,966.000
0075		513E95030	STRUCTURAL STEEL, MISC.:7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS (WT: 31)	31	EACH	820.000
0076		513E95030	STRUCTURAL STEEL, MISC.:CATWALK END CLOSURE (WT: 31)	31	EACH	9.000
0077		513E95030	STRUCTURAL STEEL, MISC.:DRILLING STRUCTURAL STEEL, GRINDING AND NDT (WT: 31)	31	EACH	19.000
0078		513E95030	STRUCTURAL STEEL, MISC.:FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BARS (WT: 31)	31	EACH	4.000
0079		513E95030	STRUCTURAL STEEL, MISC.:FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR (WT: 31)	31	EACH	1.000

0080		513E95030	STRUCTURAL STEEL, MISC.:PENCIL ABRASIVE BLASTING, GRINDING AND NDT (WT: 31)	31	EACH	19.000
0081		513E95030	STRUCTURAL STEEL, MISC.:SAFETY WALK ACCESS HATCH REPAIR (WT: 31)	31	EACH	5.000
0082		513E95030	STRUCTURAL STEEL, MISC.:SAFETY WALKD END CLOSURE (WT: 31)	31	EACH	1.000
0083		513E95030	STRUCTURAL STEEL, MISC.:STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL (WT: 31)	31	EACH	10.000
0084		513E95030	STRUCTURAL STEEL, MISC.:STRINGER BOTTOM FLANGE RETROFIT TYPE A (WT: 31)	31	EACH	19.000
0085		513E95030	STRUCTURAL STEEL, MISC.:STRINGER BOTTOM FLANGE RETROFIT TYPE B (WT: 31)	31	EACH	8.000
0086		513E95030	STRUCTURAL STEEL, MISC.:TRUSS GUSSET REPAIR TYPE 1 (WT: 31)	31	EACH	24.000
0087		513E95030	STRUCTURAL STEEL, MISC.:TRUSS GUSSET REPAIR TYPE 2 (WT: 31)	31	EACH	48.000
0088		513E95030	STRUCTURAL STEEL, MISC.:TRUSS GUSSET REPAIR TYPE 3 (WT: 31)	31	EACH	1.000
0089		513E95030	STRUCTURAL STEEL, MISC.:TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1 (WT: 31)	31	EACH	12.000
0090		513E95050	STRUCTURAL STEEL, MISC.:1" GALVANIZED STEEL BAR CATWALK GRATING (WT: 31)	31	SF	20.000
0091		516E10501	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN (WT: 27)	27	FT	18.000
0092		516E15000	STRUCTURAL JOINT OR JOINT SEALER, MISC.:42" PARPET JOINT ARMOR (WT: 29)	29	EACH	2.000
0093		518E12500	SCUPPER, MISC.:NEW SCUPPER THROUGH EXISTING DECK (WT: 29)	29	EACH	1.000
0094		518E62200	STRUCTURE DRAINAGE, MISC.:NYLON REINFORCED NEOPRENE GUTTER (WT: 29)	29	EACH	2.000
0095		530E00400	SPECIAL - STRUCTURE, MISC.:TRUSS PANEL POINT ACCESS SPAN 2 (WT: 31)	31	EACH	7.000
0096		530E00400	SPECIAL - STRUCTURE, MISC.:TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9 (WT: 31)	31	EACH	46.000
0097		607E39911	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN (WT: NR)	NR	FT	21.000
0098		690E71000	SPECIAL - ASBESTOS ABATEMENT (WT: NR)	NR	LS	1.000

Section 0005 INCIDENTALS

Line	Alt	Item Code	Item Description	WT	Unit	Quantity
0099		100E00300	SPECIAL - PREMIUM ON RAILROADS' PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE (WT: NR)	NR	LS	1.000

Project Number: **090466**

0100		103E05000	PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND (WT: NR)	NR	LS	1.000
0101		108E10000	SPECIAL - CPM PROGRESS SCHEDULE (WT: NR)	NR	LS	1.000
0102		614E11000	MAINTAINING TRAFFIC (WT: 39)	39	LS	1.000
0103		619E16020	FIELD OFFICE, TYPE C (WT: NR)	NR	MNTH	12.000
0104		624E10000	MOBILIZATION (WT: NR)	NR	LS	1.000

OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE • 1980 WEST BROAD STREET • COLUMBUS, OH 43223
TED STRICKLAND, GOVERNOR • JOLENE M. MOLITORIS, DIRECTOR

THE DEPARTMENT UTILIZES BID EXPRESS (http://www.bidx.com) AS THE OFFICIAL MEDIUM FOR ELECTRONIC BID SUBMITTAL. ALL BIDDERS MUST PREPARE BIDS AND SUBMIT THEM ONLINE VIA BID EXPRESS.

9/4/2009

Project 090466 **Addendum No. 1**
PID No. 82069
CUY – IR 90 – 15.24
Bridge Repair
Letting: September 16, 2009

Notice to all Bidders and Suppliers to please be advised of the attached proposal addendum.

The quantity sheets that show revised items will no longer be attached to the addenda. All Reference Item revisions are reflected in the EBS files (Expedite) for this project.

For internet access to information referenced in this addendum, please see the ODOT web site at -> ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/CUY-82069/

ADDENDA AMENDMENTS MUST BE ACKNOWLEDGED IN THE MISCELLANEOUS SECTION OF THE EXPEDITE (EBS) FILE AND ALL AMENDMENTS LOADED IN ORDER FOR YOUR BID TO BE CONSIDERED FOR AWARD OF THIS PROJECT. BID EXPRESS WILL NOT ACCEPT BIDS THAT DO NOT HAVE AMENDMENTS INCORPORATED. FAILURE TO INCORPORATE CHANGED QUANTITIES OR ITEMS IN YOUR EXPEDITE (EBS) SUBMISSIONS WILL RESULT IN THE REJECTION OF YOUR BID.

Respectfully,

Jolene M Molitoris

Jolene M. Molitoris, Director
Ohio Department of Transportation

TP: jwt

Proposal Addendum
for
CUY-90-15.24; PID 82069
Project 090466

Revised Bid Items:

	Ref. No.	Item No.	Quantity	Unit	Description
	0050	614E11500	6	MONTH	WORKSITE TRAFFIC SUPERVISOR
*	0061	202E98100	6103	EACH	REMOVAL, MISC.: RIVET
**	0071	513E90000	1365	POUNDS	STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL
**	0075	513E95030	2136	EACH	STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS
*	0095	530E00400	9	EACH	SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2
*	0096	530E00400	54	EACH	SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9

* INDICATES PORTIONS OF ITEMS TO BE COMPLETED BY THE INTERIM COMPLETION DATE AS DESCRIBED IN THE GENERAL NOTES ON SHEET 3 OF 175.

** INDICATES ITEMS TO BE COMPLETED BY THE INTERIM COMPLETION DATE AS DESCRIBED IN THE GENERAL NOTES ON SHEET 3 OF 175.

Please be advised of the following:

Revised Plan Sheets:

Sheet 3 of 175: MAINTENANCE OF TRAFFIC GENERAL NOTES: ITEM 614 – MAINTAINING TRAFFIC, C. RESTRICTIONS AND EXCEPTIONS, 7. INTERIM COMPLETION DATE, THE WORK REQUIRED TO MEET THE INTERIM COMPLETION DATE GENERALLY INCLUDES: REVISE ITEM d. TO READ "COMPLETE THE TRUSS CONNECTION REPAIR AT U109 NORTH, U110 NORTH, U111 NORTH, U315 NORTH, U503 NORTH & SOUTH, U504 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH & SOUTH, L111 NORTH, AND L41 NORTH"

Sheet 39 of 175: TRUSS SPANS ELEVATION, ADD NEW GUSSET PLATE REPAIR LOCATIONS U109 NORTH, U111 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH & SOUTH, L111 NORTH, AND L41 NORTH

Sheet 40 of 175: TRUSS GUSSET PLATE REPAIR TABLE – LOWER CHORD: ADD L111 NORTH AND L41 NORTH.

Sheet 42 of 175: GENERAL NOTES – 1: METHODS AND SEQUENCE OF CONSTRUCTION: 2nd PARAGRAPH, 2nd SENTENCE, REVISE TO READ: "AFTER THE WIDENING DECK IS REMOVED, THE NEW PARAPET IS CONSTRUCTED, THE UPPER *& LOWER* CHORD TRUSS CONNECTIONS HAVE BEEN STRENGTHENED, AND THE L717-L718 NORTH TRUSS LOWER CHORD MEMBER HAS BEEN STRENGTHED, THE TRUSS SPANS CAN BE REOPENED TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS."

Sheet 43 of 175: GENERAL NOTES – 2: METHODS AND SEQUENCE OF CONSTRUCTION: ITEM 22: ADD NEW GUSSET PLATE REPAIR LOCATIONS U109 NORTH, U111 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH & SOUTH, L111 NORTH, AND L41 NORTH

Sheet 44 of 175: GENERAL NOTES – 3: CONNECTION BOLTS: 2nd PARAGRAPH, REVISE TO READ: "IN GENERAL, ASTM A490, TYPE 3 BOLTS ARE USED AT TRUSS GUSSET EDGE STIFFENING REPAIRS, 7/8" *DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS*, AND L717-L718 NORTH TRUSS CHORD STRENGTHENING. GALVANIZED ASTM A325 BOLTS ARE USED AT OTHER STEEL REPAIRS."

Sheet 44 of 175: GENERAL NOTES – 3: PAY ITEMS USING STRORED MATERIALS INCLUDE: ADD ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL

Sheet 44 of 175: GENERAL NOTES – 3: STORED MATERIALS: REVISED LIST OF STORED NUTS AND BOLTS.

Sheet 45 of 175: GENERAL NOTES – 4: REVISE PAY ITEM DESCRIPTION: STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL

Sheet 45 of 175: GENERAL NOTES – 4: STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERI AL: MATERIAL: ADD ITEM: "5. THE 80 ASTM A490 BOLTS, 7/8" DIAMETER X 5 1/2" LONG WITH 5" THREADS, AND NUTS, LISTED WITH STORED MATERIALS SHALL BE USED. THE CONTRACTOR SHALL FURNISH ADDITIONAL BOLTS, NUTS AND WASHERS NECESSARY TO COMPLETE THE WORK."

Sheet 45 of 175: GENERAL NOTES – 4: STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERI AL: PAYMENT: CHANGE PAY ITEM TITLE TO: ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL – PER POUND

Sheet 47 of 175: GENERAL NOTES – 6: ITEM 513 – STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS: ADD TO THE REPAIR LOCATIONS: U109 NORTH, U111 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH & SOUTH, L111 NORTH, AND L41 NORTH

Sheet 47 of 175: GENERAL NOTES – 6: ITEM 513 – STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS: REVISE 3rd PARAGRAPH: CONNECTION BOLTS SHALL BE ~~ASTM A325, TYPE 1~~ *ASTM A490, TYPE 3*

Sheet 67A of 175: SPAN 2 – PANEL PT U1 (U110) NORTH TRUSS: REVISE BOLT TABLE IN UPPER RIGHT CORNER: CHANGE A325 TO A490.

Sheet 68 of 175: SPAN 4 – PANEL PT U1 (U315) NORTH TRUSS: REVISE BOLT TABLE IN UPPER RIGHT CORNER: CHANGE A325 TO A490.

Sheet 69 of 175: SPAN 4 – PANEL PT U15 (U503) NORTH TRUSS: REVISE BOLT TABLE IN UPPER RIGHT CORNER: CHANGE A325 TO A490.

Sheet 70 of 175: SPAN 4 – PANEL PT U15 (U503) SOUTH TRUSS: REVISE BOLT TABLE IN UPPER RIGHT CORNER: CHANGE A325 TO A490.

Sheet 71 of 175: SPAN 5 – PANEL PT U0 (U504) NORTH TRUSS: REVISE BOLT TABLE IN UPPER RIGHT CORNER: CHANGE A325 TO A490.

Sheet 128 of 175: SPAN 8 L3-L4 (L717-L718) NORTH TRUSS CHORD REPAIR - 2: REVISE BOLT TABLE TO 80 BOLTS 5 ½" LONG. DELETE THE 6" LONG BOLTS.

Added Plan Sheets:

The following sheets have been added for truss connection repairs:

SHEET 67B OF 175: SPAN 2 – PANEL PT U0 (U109) NORTH TRUSS

SHEET 67C OF 175: SPAN 2 – PANEL PT U2 (U111) NORTH TRUSS

SHEET 71A OF 175: SPAN 8 – PANEL PT U2 (U716) NORTH TRUSS

SHEET 71B OF 175: SPAN 8 – PANEL PT U12 (U902) NORTH TRUSS

SHEET 71C OF 175: SPAN 8 – PANEL PT U13 (U903) NORTH TRUSS

SHEET 71D OF 175: SPAN 9 – PANEL PT U0 (U904) NORTH TRUSS

SHEET 71E OF 175: SPAN 9 – PANEL PT U1 (U905) N & S TRUSS

SHEET 73A OF 175: SPAN 2 – PANEL PT L2 (L111) NORTH TRUSS

SHEET 83A OF 175: SPAN 4 – PANEL PT L5 (L41) NORTH TRUSS

ITEM 614 - MAINTAINING TRAFFIC

A. GENERAL

THE CUY-90-1524 BRIDGE IS CURRENTLY RESTRICTED TO THREE LANES OF LIGHT VEHICLE TRAFFIC IN THE EASTBOUND AND WESTBOUND DIRECTIONS. THE OUTERMOST LANES ARE CLOSED AND TRUCK TRAFFIC IS DETOURED FROM THE STRUCTURE. THE ENTRANCE RAMP TO IR 90 WESTBOUND FROM ONTARIO STREET AND THE ENTRANCE RAMP TO IR 90 EASTBOUND FROM WEST 14th STREET ARE CLOSED.

THE PROJECT WILL CONSTRUCT THE WORK NECESSARY TO REOPEN THE TRUSS SPANS STRUCTURE TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS, AND OPEN ALL ENTRANCE RAMPS.

THE CONTRACTOR MAY CLOSE ONE LANE ON CITY STREETS BENEATH THE BRIDGE FOR EQUIPMENT ACCESS USING FLAGGERS.

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO PERFORM THE PROPOSED CONSTRUCTION WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

B. NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION PUBLIC INFORMATION OFFICER INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AND COMPLETE CLOSURES AT LEAST SEVEN (7) DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY THE LOCAL LAW ENFORCEMENT AGENCIES OF LANE CLOSURES AND COMPLETE CLOSURES AT LEAST THREE (3) DAYS PRIOR TO IMPLEMENTATION.

DISTRICT 12 PUBLIC INFORMATION OFFICER
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125-5396
PHONE: (216) 584-2006

C. RESTRICTIONS AND EXCEPTIONS

1. LANE CLOSURES ARE PERMITTED FOR CONSTRUCTION OPERATIONS, DELIVERY OF MATERIALS, AND EQUIPMENT. LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE "DISTRICT 12 PERMITTED LANE CLOSURE TIMES" LIST, WHICH IS LOCATED ON THE ODOT WEB SITE: WWW.DOT.STATE.OH.US/DIST12/WORKZONE/LANECLO.HTM. THE LATEST REVISION, AT 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT, WITH THE FOLLOWING EXCEPTIONS:

ANY ROADWAY NOT LISTED IN THE "DISTRICT 12 PERMITTED LANE CLOSURE TIMES" SHALL NOT HAVE ANY CLOSURES WEEKDAYS FROM 7AM TO 9AM AND 3PM TO 6PM.

NO LANES SHALL BE CLOSED ON IR 90 DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS	EASTER
MEMORIAL DAY	FOURTH OF JULY	
LABOR DAY	THANKSGIVING	

THE PERIOD OF TIME THAT ALL LANES ARE TO BE OPEN DEPENDS UPON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES ARE TO BE OPEN TO TRAFFIC
SUNDAY	12:00 N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00 N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00 N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00 N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00 N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00 N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00 N FRIDAY THROUGH 6:00 AM MONDAY

DO NOT IMPLEMENT LANE CLOSURES ON IR 90 OR RAMPS IN THE EASTBOUND DIRECTION 2 HOURS BEFORE THE START OF, AND IN THE WESTBOUND DIRECTION 2 HOURS AFTER, ANY ENTERTAINMENT EVENT DOWNTOWN WITH A SEATING CAPACITY OF 20,000 OR GREATER.

2. COMPLETE WEEKEND (2 DAY) CLOSURE OF ALL LANES ON THE BRIDGE AND ENTRANCE RAMPS LEADING TO THE BRIDGE ARE REQUIRED FOR REMOVAL OF THE CONCRETE DECK IN SPAN 2 BETWEEN PANEL 4 (20) AND 12 (28). WEEKEND CLOSURES MAY BE USED FOR OTHER REMOVAL OPERATIONS SUBJECT TO RESTRICTIONS AND AS DIRECTED BY THE ENGINEER.

ALL IR 90 EASTBOUND AND WESTBOUND TRAFFIC LANES SHALL BE CLOSED TO TRAFFIC AND TRAFFIC DETOURED. THE COMPLETE CLOSURE AND DETOUR SHALL BE LIMITED TO 4 WEEKENDS. THE CLOSURE SHALL BE LIMITED TO A MAXIMUM DURATION OF 12 AM SATURDAY (MIDNIGHT FRIDAY) TO 5 AM MONDAY. WORK MUST BE CONTINUOUSLY PERFORMED WHILE THE BRIDGE IS CLOSED. IF THERE IS NO WORK BEING PERFORMED THE BRIDGE MUST BE OPENED TO TRAFFIC.

THE WEEKEND CLOSURE SHALL NOT BE SCHEDULED WHEN THERE IS A HOLIDAY OR SPECIAL EVENT RESTRICTION LISTED WITH ITEM 1. ONCE THE DECK REMOVAL OPERATION IS BEGUN, TRAFFIC CANNOT BE RESTORED UNTIL THE TEMPORARY PORTABLE CONCRETE BARRIER IS IN PLACE.

3. COMPLETE NIGHTTIME CLOSURE OF ALL LANES ON THE BRIDGE AND ENTRANCE RAMPS LEADING TO THE BRIDGE ARE REQUIRED FOR REMOVAL OF THE STEEL RAILING, SAFETY WALK, CURB BARRIER AND FASCIA STRINGER IN SPAN 2 BETWEEN PANEL 4 (20) AND PIER 2; AND FOR THE REMOVAL OF THE CONCRETE DECK IN SPAN 1 AND SPAN 2.

ALL IR 90 EASTBOUND AND WESTBOUND TRAFFIC LANES SHALL BE CLOSED TO TRAFFIC AND TRAFFIC DETOURED. THE COMPLETE CLOSURE AND DETOUR SHALL BE LIMITED TO EIGHT NIGHTTIME PERIODS. THE CLOSURES SHALL BE LIMITED TO 10 PM TO 5 AM WEEKDAYS (SUNDAY PM TO FRIDAY AM), 10 PM TO 8 AM SATURDAYS, OR 10 PM TO 11 AM SUNDAYS.

HOLIDAY AND SPECIAL EVENT RESTRICTIONS LISTED WITH ITEM 1 SHALL APPLY TO THE NIGHTTIME CLOSURES.

4. CLOSURE OF THE TWO RIGHT EASTBOUND LANES IS REQUIRED FOR CRANE TYPE EQUIPMENT WORKING IN THE RIGHT TRAVELED LANE. ONE EASTBOUND LANE OF TRAFFIC SHALL REMAIN OPEN. ALL WESTBOUND LANES OF TRAFFIC SHALL REMAIN OPEN.

THE TWO RIGHT EASTBOUND LANE CLOSURE SHALL BE LIMITED TO NIGHTTIME PERIODS ONLY. THE CLOSURES SHALL BE LIMITED TO 10 PM TO 5 AM WEEKDAYS (SUNDAY PM TO FRIDAY AM), 10 PM TO 8 AM SATURDAYS, OR 10 PM TO 11 AM SUNDAYS.

HOLIDAY AND SPECIAL EVENT RESTRICTIONS LISTED WITH ITEM 1 SHALL APPLY TO THE TWO RIGHT EASTBOUND LANE NIGHTTIME CLOSURES.

5. DURING NON-WORKING HOURS, ALL AVAILABLE LANES SHALL BE IN FULL OPERATION, WITH ALL TRAFFIC CONTROL SIGNS, EXCEPT W20-1 ROAD WORK AHEAD SIGNS, REMOVED OR COVERED AND ALL CHANNELIZING DEVICES REMOVED FROM THE PAVEMENT SURFACES. CHANNELIZING DEVICES MAY NOT BE STORED ON THE SHOULDER. CONSTRUCTION EQUIPMENT, PRIVATE VEHICLES AND MATERIALS SHALL NOT BE PARKED OR STORED ON THE ROADWAY OR WITHIN 30 FEET OF ANY TRAVELED LANES.

6. LIQUIDATED DAMAGES FOR LANE CLOSURES:
IF LANE CLOSURES ARE IN PLACE OUTSIDE THE SPECIFIED TIME, LIQUIDATED DAMAGES IN THE AMOUNT OF $100.00 PER MINUTE, SHALL BE ASSESSED THE CONTRACTOR FOR EACH MINUTE THE LANES REMAIN CLOSED.

7. INTERIM COMPLETION DATE:
THE OPENING OF THE TRUSS SPANS STRUCTURE TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS, AND OPENING ALL ENTRANCE RAMPS IS AN INTERIM COMPLETION DATE. THE WORK SHALL BE COMPLETED BY NOVEMBER 25, 2009.

THE WORK REQUIRED TO MEET THE INTERIM COMPLETION DATE GENERALLY INCLUDES:

a. REMOVE WIDENING DECK, RAILING, AND FLOOR SYSTEM IN TRUSS SPANS 1 & 2
b. CONSTRUCT NEW DECK EDGE AND PARAPET SOUTH SIDE SPANS 1 & 2
c. STRENGTHEN TRUSS MEMBER L17-L18 NORTH.
d. COMPLETE THE TRUSS CONNECTION REPAIR AT U109 NORTH, U110 NORTH, U111 NORTH, U315 NORTH, U503 NORTH & SOUTH, U504 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH & SOUTH, L111 NORTH AND L41 NORTH.
e. COMPLETE THE NEW PARAPET AND VANDAL PROTECTION FENCE CLOSURE CONSTRUCTION ON THE WEST APPROACH STRUCTURE
f. COMPLETE THE NEW PAVEMENT MARKING AND TRAFFIC CONTROL
g. REMOVE THE WESTBOUND TRUCK DETOUR SIGNING. THE CONTRACTOR SHALL NOT REMOVE THE TRUCK DETOUR SIGNING UNTIL THE BRIDGE IS RATED LEGAL FOR ALL TRUCKS BY OHIO LAW AND AS DIRECTED BY THE ENGINEER.
h. OPEN THE TRUSS SPANS STRUCTURE TO EIGHT LANES OF TRAFFIC (THREE THROUGH LANES AND AN ADD LANE EASTBOUND, AND FOUR THROUGH LANES WESTBOUND) AND OPEN ALL ENTRANCE RAMPS

SPECIFIC WORK ITEMS AND DETAILS REQUIRED TO MEET THE INTERIM COMPLETION DATE ARE INCLUDED IN THE PLANS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK PRIOR TO THE INTERIM COMPLETION DATE. THE FAILURE OF THE CONTRACTOR TO MEET THE INTERIM COMPLETION DATE WILL CAUSE SEPARATE LIQUIDATED DAMAGES ASSESSED AS PER CMS 108.07 PER CALENDAR DAY OF OVERRUN OF THE INTERIM COMPLETION DATE. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS SECTION 108.07.

D. REFERENCES

CONSTRUCTION SEQUENCE AND OPERATIONS:
SEE "METHODS AND SEQUENCE OF CONSTRUCTION" NOTE SHEET 42 .

TEMPORARY LANE CLOSURES: SEE STANDARD DRAWING MT-95.30.

COMPLETE BRIDGE CLOSURE: SEE IR 90 DETOUR SIGNING PLAN SHEETS 6 AND 7 .

WORK ZONE MAINTENANCE OF TRAFFIC: SEE DETAILS SHEETS 10 AND 12 .

TEMPORARY 2-LANE CLOSURE OF 3-LANE HIGHWAY: SEE DETAIL SHEET 8 .

E. MAINTENANCE OF TRAFFIC SYSTEMS

1. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS THERINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY, ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITION EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

2. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE MANUAL, AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS OR AS SHOWN ON STANDARD DRAWING MT-97.10 AND MT-95.30.

3. ADVANCE WARNING SIGNS

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

4. FLASHING ARROW REQUIREMENT

FLASHING ARROWS SHALL BE FURNISHED AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS OR ON STANDARD DRAWING MT-95.30.

5. PROTECTION OF PUBLIC

WHENEVER ANY WORK IS BEING DONE OVER A TRAVELED LANE OR SHOULDER, THE CONTRACTOR SHALL SUPPLY SUFFICIENT SAFETY EQUIPMENT AS APPROVED BY THE DIRECTOR TO PROTECT THE TRAVELING PUBLIC FROM ANY CONSTRUCTION DEBRIS. IF TRAVELED LANES UNDER STRUCTURES ARE TO BE CLOSED FOR REASONS OF SAFETY, METHOD AND TIME OF CLOSURE, THEY MUST BE APPROVED PRIOR TO IMPLEMENTATION. PERSONAL CARS SHALL NOT BE PARKED WITHIN THE L/A.

6. FLAGGERS

FLAGGERS SHALL BE IN ACCORDANCE WITH MT-97.10. THE MAINTENANCE OF TRAFFIC REQUIRES THE USE OF TWO (2) FLAGGERS. ADDITIONAL FLAGGERS SHALL BE USED AS DIRECTED BY THE ENGINEER.

7. LAW ENFORCEMENT OFFICER WITH PATROL CAR

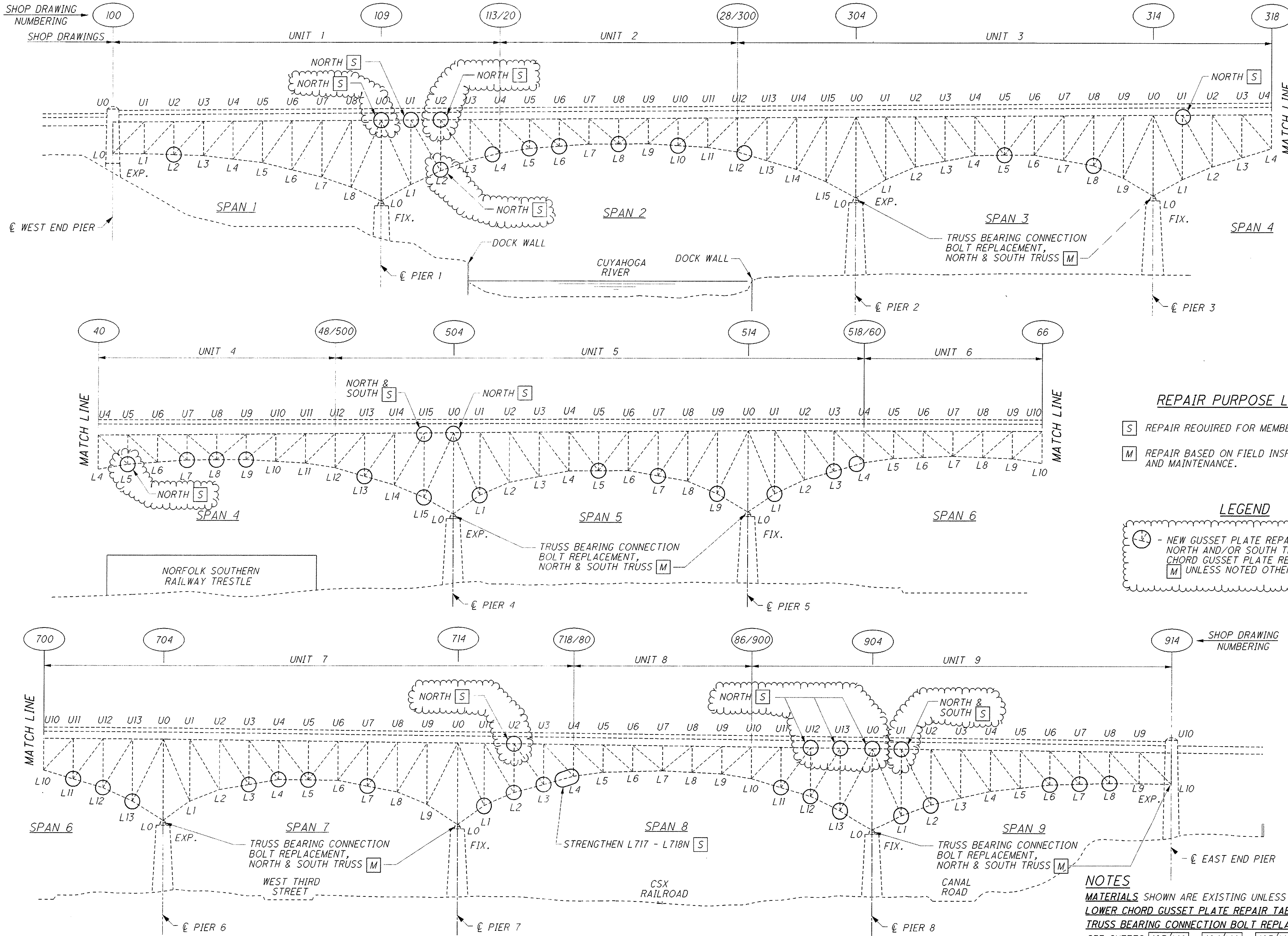
SEE NOTE, SHEET 5 .

8. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, WITH THE PROVISIONS OF THE "MANUAL" OR FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORK AREA IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

MAINTENANCE OF TRAFFIC GENERAL NOTES CONTINUED: SEE SHEET 4 .

REVISED 9/4/09



ELEVATION

REPAIR PURPOSE LEGEND

S REPAIR REQUIRED FOR MEMBER STRENGTHENING.

M REPAIR BASED ON FIELD INSPECTION CONDITION AND MAINTENANCE.

LEGEND

- NEW GUSSET PLATE REPAIR LOCATION NORTH AND/OR SOUTH TRUSS. SEE LOWER CHORD GUSSET PLATE REPAIR TABLE. M UNLESS NOTED OTHERWISE.

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

LOWER CHORD GUSSET PLATE REPAIR TABLE: SEE SHEET 5/140.

TRUSS BEARING CONNECTION BOLT REPLACEMENT: SEE SHEETS 103/140, 104/140, 105/140 & 106/140.

UPPER CHORD GUSSET PLATE REPAIRS: SEE SHEETS 324/140, 33/140, 34/140, 35/140 & 36/140.

LOWER CHORD STRENGTHENING: SEE SHEETS 92/140 & 93/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDB	9/4/09	1809393	

TRUSS SPANS ELEVATION
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

4/140

39/175

090_1524CGP003.DGN 9/02/09 SCB.TWH.JLS

GUSSET PLATE REPAIR TABLE

LOWER CHORD

SPAN	PANEL POINT	SHOP DRAWING MARK	NORTH TRUSS REPAIR TYPES 1	①	2	3	NORTH TRUSS SEE SHEET	SOUTH TRUSS REPAIR TYPES 1	①	2	3	SOUTH TRUSS SEE SHEET
1	L0	L100	NO REPAIR					NO REPAIR				
1	L1	L101	NO REPAIR					NO REPAIR				
1	L2	L102			1		37			4		38
1	L3	L103	NO REPAIR					NO REPAIR				
1	L4	L104	NO REPAIR					NO REPAIR				
1	L5	L105	NO REPAIR					NO REPAIR				
1	L6	L106	NO REPAIR					NO REPAIR				
1	L7	L107	NO REPAIR					NO REPAIR				
1	L8	L108	NO REPAIR					NO REPAIR				
2	L0	L109	NO REPAIR					NO REPAIR				
2	L1	L110	NO REPAIR					NO REPAIR				
2	L2	L111	*				38A	NO REPAIR				
2	L3	L112	NO REPAIR					NO REPAIR				
2	L4	L113		①			39	NO REPAIR				
2	L4	L20	NO REPAIR					NO REPAIR				
2	L5	L21			1		40	NO REPAIR				
2	L6	L22		①	1		41	NO REPAIR				
2	L7	L23	NO REPAIR					NO REPAIR				
2	L8	L24			1		42	NO REPAIR				
2	L9	L25	NO REPAIR					NO REPAIR				
2	L10	L26		①	2		43, 44	NO REPAIR				
2	L11	L27	NO REPAIR					NO REPAIR				
2	L12	L28	NO REPAIR					NO REPAIR				
2	L12	L300			1		45	NO REPAIR				
2	L13	L301	NO REPAIR					NO REPAIR				
2	L14	L302	NO REPAIR					NO REPAIR				
2	L15	L303	NO REPAIR					NO REPAIR				
3	L0	L304	NO REPAIR					NO REPAIR				
3	L1	L305	NO REPAIR					NO REPAIR				
3	L2	L306	NO REPAIR					NO REPAIR				
3	L3	L307	NO REPAIR					NO REPAIR				
3	L4	L308	NO REPAIR					NO REPAIR				
3	L5	L309			1		46			1		47
3	L6	L310	NO REPAIR					NO REPAIR				
3	L7	L311	NO REPAIR					NO REPAIR				
3	L8	L312	NO REPAIR						①			48
3	L9	L313	NO REPAIR					NO REPAIR				
4	L0	L314	NO REPAIR					NO REPAIR				
4	L1	L315	NO REPAIR					NO REPAIR				
4	L2	L316	NO REPAIR					NO REPAIR				
4	L3	L317	NO REPAIR					NO REPAIR				
4	L4	L318	NO REPAIR					NO REPAIR				
4	L4	L40	NO REPAIR					NO REPAIR				
4	L5	L41	*				48A	NO REPAIR				
4	L6	L42	NO REPAIR					NO REPAIR				
4	L7	L43	NO REPAIR							1		49

GUSSET PLATE REPAIR TABLE

LOWER CHORD

SPAN	PANEL POINT	SHOP DRAWING MARK	NORTH TRUSS REPAIR TYPES 1	①	2	3	NORTH TRUSS SEE SHEET	SOUTH TRUSS REPAIR TYPES 1	①	2	3	SOUTH TRUSS SEE SHEET
4	L8	L44			2		50			3		51, 52
4	L9	L45	NO REPAIR							1		53
4	L10	L46	NO REPAIR					NO REPAIR				
4	L11	L47	NO REPAIR					NO REPAIR				
4	L12	L48	NO REPAIR					NO REPAIR				
4	L12	L500	NO REPAIR					NO REPAIR				
4	L13	L501			1		54	NO REPAIR				
4	L14	L502	NO REPAIR					NO REPAIR				
4	L15	L503	1	①			55	NO REPAIR				
5	L0	L504	NO REPAIR					NO REPAIR				
5	L1	L505		①			56	NO REPAIR				
5	L2	L506	NO REPAIR					NO REPAIR				
5	L3	L507	NO REPAIR					NO REPAIR				
5	L4	L508	NO REPAIR					NO REPAIR				
5	L5	L509		①			57	NO REPAIR				
5	L6	L510	NO REPAIR					NO REPAIR				
5	L7	L511		②			58, 59	NO REPAIR				
5	L8	L512	NO REPAIR					NO REPAIR				
5	L9	L513		①			60	NO REPAIR				
6	L0	L514	NO REPAIR					NO REPAIR				
6	L1	L515		①			61	1				62
6	L2	L516	NO REPAIR					NO REPAIR				
6	L3	L517		①	1		63	NO REPAIR				
6	L4	L518		①			64	NO REPAIR				
6	L4	L60	NO REPAIR					NO REPAIR				
6	L5	L61	NO REPAIR					NO REPAIR				
6	L6	L62	NO REPAIR					NO REPAIR				
6	L7	L63	NO REPAIR					NO REPAIR				
6	L8	L64	NO REPAIR					NO REPAIR				
6	L9	L65	NO REPAIR					NO REPAIR				
6	L10	L66	NO REPAIR					NO REPAIR				
6	L10	L700	NO REPAIR					NO REPAIR				
6	L11	L701	2				65	2		1		66, 67
6	L12	L702	NO REPAIR					1				68
6	L13	L703	NO REPAIR					2				69, 70
7	L0	L704	NO REPAIR					NO REPAIR				
7	L1	L705	NO REPAIR					NO REPAIR				
7	L2	L706	NO REPAIR					NO REPAIR				
7	L3	L707	NO REPAIR							2		71
7	L4	L708	1				72	NO REPAIR				
7	L5	L709	NO REPAIR							1		73
7	L6	L710	NO REPAIR					NO REPAIR				
7	L7	L711	NO REPAIR							2		74, 75
7	L8	L712	NO REPAIR					NO REPAIR				
7	L9	L713	NO REPAIR					NO REPAIR				
8	L0	L714	NO REPAIR					NO REPAIR				

GUSSET PLATE REPAIR TABLE

LOWER CHORD

SPAN	PANEL POINT	SHOP DRAWING MARK	NORTH TRUSS REPAIR TYPES 1	①	2	3	NORTH TRUSS SEE SHEET	SOUTH TRUSS REPAIR TYPES 1	①	2	3	SOUTH TRUSS SEE SHEET
8	L1	L715	1				76	NO REPAIR				
8	L2	L716			1		77	NO REPAIR				
8	L3	L717	NO REPAIR					1				78
8	L4	L718	NO REPAIR					NO REPAIR				
8	L4	L80	NO REPAIR					NO REPAIR				
8	L5	L81	NO REPAIR					NO REPAIR				
8	L6	L82	NO REPAIR					NO REPAIR				
8	L7	L83	NO REPAIR					NO REPAIR				
8	L8	L84	NO REPAIR					NO REPAIR				
8	L9	L85	NO REPAIR					NO REPAIR				
8	L10	L86	NO REPAIR					NO REPAIR				
8	L10	L900	NO REPAIR					NO REPAIR				
8	L11	L901	1				79	2		1		80, 81
8	L12	L902	NO REPAIR							1		82
8	L13	L903	NO REPAIR					1				83
9	L0	L904	NO REPAIR					NO REPAIR				
9	L1	L905	1				84	NO REPAIR				
9	L2	L906	2				85	NO REPAIR				
9	L3	L907	NO REPAIR					NO REPAIR				
9	L4	L908	NO REPAIR					NO REPAIR				
9	L5	L909	NO REPAIR					NO REPAIR				
9	L6	L910			2		86, 87			2		88
9	L7	L911			1		89	NO REPAIR				
9	L8	L912			2		90			1	1	91
9	L9	L913	NO REPAIR					NO REPAIR				
9	L10	L914	NO REPAIR					NO REPAIR				
	TOTAL		9	⑪	18			10	①	21	1	

GENERAL LOCATIONS OF WORK: SEE SHEET 4/140.

GENERAL REQUIREMENTS: SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTE ON SHEET 11/140.

GUSSET PLATE ANGLE REPAIR TYPES: SEE SHEET 6/140.

PAYMENT PER EACH ANGLE REPAIR:

REPAIR TYPE	
1	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1
①	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1
2	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 2
3	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 3

* SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS NOTE ON SHEET 12/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED JDB | DRAWN BB | REVISED 9/4/09 | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

GUSSET PLATE REPAIR TABLE - LOWER CHORD
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CMD003.DGN 9/01/09 TWH,JLS

REFERENCE: SHALL BE MADE TO STANDARD DRAWING:
EXJ-2-81 (REVISED 7-19-02)
PCB-91 (REVISED 7-19-02)
SBR-1-99 (REVISED 7-19-02)
VPF-1-90 (REVISED 7-19-02)
AND TO SUPPLEMENTAL SPECIFICATIONS:
832 (DATED 5/5/09)

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING ALL INTERIM SPECIFICATIONS AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING (NEW TRUSS SPANS DECK AND PARAPET)
-HS 20-44 AND THE ALTERNATE MILITARY LOADING
-FUTURE WEARING SURFACE - NONE

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI
STRUCTURAL STEEL- ASTM A709 GRADE 50W - UNIT STRESS 50 K.S.I.
HIGH STRENGTH THREAD BAR - ASTM A722, TYPE II, ULTIMATE STRENGTH 150 K.S.I.
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 - MINIMUM YIELD STRENGTH 60,000 PSI

EXISTING STRUCTURE PLANS: INCLUDING DESIGN PLANS, SHOP DRAWINGS, AND RECONSTRUCTION PLANS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C.M.S. SECTIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ALIGNMENT AND PROFILE: THE WORK CONSTRUCTED WITH THE PROJECT WILL NOT CHANGE THE EXISTING ALIGNMENT OR PROFILE OF THE STRUCTURE.

CUYAHOGA RIVER TRAFFIC: THE CUYAHOGA RIVER UNDER TRUSS SPAN 2 IS NAVIGABLE AND IS USED BY LARGE SHIPS, WORK BOATS, AND PLEASURE BOATS. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF SECTION 107.08 OF THE C.M.S. REGARDING WORK ON NAVIGABLE WATERS.

THE CONTRACTOR MUST MAINTAIN A VERTICAL CLEARANCE OF 96 FEET ABOVE THE CUYAHOGA RIVER LEVEL AT ALL TIMES FOR THE ENTIRE WIDTH BETWEEN DOCK WALLS. THE CONTRACTOR SHALL NOT DROP MATERIALS OR DEBRIS IN THE RIVER.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ANY AND ALL NAVIGATION DEVICES REQUIRED BY THE UNITED STATES COAST GUARD.

SEE ROADWAY GENERAL NOTES ON SHEET 2 OF 175 FOR CUYAHOGA RIVER COORDINATION.

I-90 MAINTENANCE OF TRAFFIC: INTERSTATE 90 VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS PROVIDED IN THE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 3 THROUGH 5 OF 175 .

LEAD PAINT: IS KNOWN TO EXIST ON THE BRIDGE.

METHODS AND SEQUENCE OF CONSTRUCTION

THE CONTRACTOR SHALL SCHEDULE THE VARIOUS ITEMS OF WORK IN SUCH A MANNER TO COMPLETE THE WORK WITHIN THE SCHEDULED ROADWAY LANE CLOSURE AND BRIDGE CLOSURE TIME FRAMES; AND INTERIM COMPLETION DATE IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC NOTES.

REMOVAL OF THE WIDENING DECK IS NECESSARY IN ORDER TO REDUCE THE DEAD LOAD ON LOWER CHORD SOUTH TRUSS MEMBER L300-L301. AFTER THE WIDENING DECK IS REMOVED, THE NEW PARAPET IS CONSTRUCTED, THE UPPER AND LOWER CHORD TRUSS CONNECTIONS HAVE BEEN STRENGTHENED, AND THE L717-L718 NORTH TRUSS LOWER CHORD MEMBER HAS BEEN STRENGTHENED, THE TRUSS SPANS CAN BE REOPENED TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS.

THE CONTRACTOR SHALL SUBMIT DETAILED METHODS, SEQUENCE OF CONSTRUCTION, AND PROCEDURES IN ACCORDANCE WITH CMS 501.05 B. THE DETAILED SUBMISSION SHALL INCLUDE THE METHODS AND SEQUENCE OF CONSTRUCTION LISTED IN THIS NOTE; CRANE SIZES AND LOCATIONS ON THE GROUND AND IN THE RIVER; BRACING REQUIREMENTS FOR GIRDER SEGMENTS; ATTACHMENT AND LIFTING DIAGRAMS FOR GIRDER SEGMENTS; CONTRACTOR DESIGNED MATERIALS; AND SPECIFIC CONTRACTOR METHODS. THE SUBMISSION SHALL BE PREPARED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. A SECOND OHIO REGISTERED PROFESSIONAL ENGINEER SEAL IS NOT REQUIRED ON THIS SUBMITTAL. SEE ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS FOR THE SUBMISSION.

THE FOLLOWING EQUIPMENT AND METHODS ARE PROHIBITED FROM USE ON THIS PROJECT: EXPLOSIVES, HEADACHE BALLS, HOE RAMS, AND PAVEMENT GRINDING. HYDRODEMOLITION METHODS FOR WEARING SURFACE AND CONCRETE REMOVAL ARE RECOMMENDED. THE WEARING SURFACE IS NOT REQUIRED TO BE REMOVED PRIOR TO REMOVING THE DECK.

NO CRANE, PADS, OR OUTRIGGERS; OR STORED MATERIALS EXCEEDING 60,000 POUNDS GROSS WEIGHT SHALL BE PERMITTED ON GROUND WITHIN 150 FEET OF THE RIVER WEST SIDE DOCK WALL OR WITHIN 25 FEET OF THE RIVER EAST SIDE DOCK WALL AT ANY TIME. WIDENING GIRDER SEGMENTS REMOVED FROM THE BRIDGE MAY BE TEMPORARILY SUPPORTED ON GROUND WITHIN 150 FEET OF THE RIVER WEST SIDE DOCK WALL WHILE CUTTING INTO SMALLER PIECES FOR REMOVAL FROM THE SITE. EACH SEGMENT SHALL BE COMPLETELY REMOVED FROM THE GROUND WITHIN 150 FEET OF THE RIVER WEST SIDE DOCK WALL WITHIN ONE WEEK.

THE TEMPORARY CRANE PAD ON THE WEST END SLOPE SHALL BE IN PLACE A MAXIMUM OF ONE MONTH.

A CRANE ON A BARGE IN THE RIVER SHALL BE USED TO REMOVE PORTIONS OF THE WIDENING GIRDER. THE RIVER NAVIGATION SHALL BE RESTRICTED A MAXIMUM OF 8 HOURS IN ANY SINGLE DAY. THE BARGE SHALL BE CLEAR OF THE NAVIGATION CHANNEL WHEN NOT IN USE.

NO MATERIALS OR EQUIPMENT SHALL BE STORED ON THE BRIDGE ROADWAY. ALL MATERIALS REMOVED FROM THE BRIDGE STRUCTURE ARE THE PROPERTY OF THE CONTRACTOR AND SHALL BE IMMEDIATELY TAKEN AWAY FROM THE BRIDGE.

THE CONTRACTOR MAY USE CLOSED OUTSIDE LANES FOR ACCESS AND MATERIAL DELIVERY TO THE WORK AREAS PRIOR TO THE TRUSS SPANS BEING OPEN TO EIGHT LANES OF TRAFFIC. ONE OHIO LEGAL WEIGHT TRUCK, SNOOPER OR MANLIFT WEIGHING NO MORE THAN 80,000 POUNDS, IS PERMITTED ACCESS TO THE CLOSED LANES AT ANY ONE TIME. ONLY ONE TRUCK, SNOOPER OR MANLIFT AT A TIME SHALL OCCUPY A TRUSS SPAN.

LAW ENFORCEMENT OFFICERS (LEO'S) SHALL BE USED IN BOTH THE EASTBOUND AND WESTBOUND DIRECTIONS TO ENFORCE TRUCK RESTRICTIONS WHILE THE CONTRACTOR HAS EQUIPMENT ON THE BRIDGE ROADWAY WITH THE BRIDGE OPEN TO TRAFFIC.

ONLY ONE EXCAVATOR AND ONE TRUCK OR ONE CRANE AND ONE TRUCK SHALL OCCUPY A TRUSS SPAN WITH RESTRICTIONS NOTED BELOW FOR LANE AND BRIDGE CLOSURES.

A SINGLE 75,000 POUND GROSS VEHICLE WEIGHT (GVW) WHEEL MOUNTED HYDRAULIC CRANE MAY OPERATE ON THE BRIDGE DECK ON RUBBER TIRES WITHOUT OUTRIGGERS ACCORDING TO THE CRANE'S ALLOWABLE CAPACITY, WITH RESTRICTIONS NOTED BELOW.

THE WORK ITEMS FOR REMOVALS AND NEW CONSTRUCTION ARE TO BE COMPLETED IN THE FOLLOWING SEQUENCE WITH THE NOTED RESTRICTIONS:

1. CONSTRUCT THE FLOORBEAM EXTENSION STRENGTHENING AT THE PIER 1 SOUTH TRUSS.
2. INSTALL FALSEWORK SYSTEM BELOW THE PORTIONS OF THE DECK TO BE REMOVED OVER THE CUYAHOGA RIVER AS DETAILED IN THE PLANS. THE MAXIMUM FALSEWORK WEIGHT SHALL BE 10 POUNDS PER SQUARE FOOT.
3. PLACE TEMPORARY PAVEMENT MARKINGS FOR MAINTAINING TRAFFIC.
4. INSTALL PORTABLE CONCRETE BARRIER (6,000 POUNDS PER PIECE) ON THE BRIDGE ROADWAY FROM THE BEGINNING OF THE TEMPORARY PCB EASTWARD TO THE WEST END PIER. NO CRANE IS PERMITTED ON THE TRUSS SPANS. AT LEAST ONE LANE OF EASTBOUND TRAFFIC IS TO BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES.
5. INSTALL TEMPORARY LIGHTING CABLE AND CONNECTIONS TO MAINTAIN THE EXISTING SOUTH SIDE BRIDGE LIGHTING OUTSIDE OF THE WIDENING REMOVAL AREA IN SERVICE. DISCONNECT THE EXISTING LIGHTING CIRCUITS IN THE WIDENING AREA TO BE REMOVED. REMOVE THE EXISTING LUMINAIRES AND LIGHT POLES FOR STORAGE. THE WORK SHALL BE PERFORMED FROM THE CLOSED OUTSIDE EASTBOUND LANE WITH AN ADDITIONAL TEMPORARY EASTBOUND RIGHT TRAVELED LANE CLOSURE.
6. **CLOSE THE BRIDGE TO TRAFFIC (ONE WEEKEND CLOSURE).**
7. REMOVE THE CONCRETE DECK IN SPAN 2 BETWEEN PANEL 4 (20) AND 12 (28). THE CONCRETE DECK SHALL BE REMOVED AS FOLLOWS:
   A. BEGIN AT PANEL 12 (28) AND WORK TO THE WEST.
   B. SAW CUT THE DECK INTO MAXIMUM 12,000 POUND PIECES. NOTE PORTIONS OF EXISTING REINFORCING STEEL AND FINGER EXPANSION JOINT CASTINGS AND SUPPORTS ARE TO REMAIN IN PLACE.
   C. PRY AND LIFT EACH DECK PIECE WITH A TRACK MOUNTED HYDRAULIC EXCAVATOR. THE MAXIMUM GROSS VEHICLE WEIGHT OF THE EXCAVATOR SHALL BE 70,000 POUNDS.
   D. LIFT THE DECK PIECE ONTO A LEGAL WEIGHT TRUCK LOCATED WEST OF THE EXCAVATOR. DO NOT STOCKPILE DECK PIECES ON THE BRIDGE. THE TRUCK SHALL LEAVE SPAN 2 BEFORE A SECOND TRUCK ARRIVES ON SPAN 2.
   E. PROCEED WESTWARD REMOVING DECK PIECES UNTIL THE DECK REMOVAL WORK IS COMPLETED TO PANEL 4 (20).
8. INSTALL PORTABLE CONCRETE BARRIER (6,000 POUNDS PER PIECE) ON THE TRUSS SPANS BRIDGE ROADWAY FROM THE WEST END PIER EASTWARD TO THE END OF THE NEW PCB TO PROTECT THE WORK AREA. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED ON THE TRUSS SPANS.
9. **OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.**
10. **CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).**
11. REMOVE THE STEEL RAILING, SAFETY WALK, CURB BARRIER, AND FASCIA STRINGER FROM THE SOUTH SIDE OF TRUSS SPAN 2 FROM BETWEEN PANEL 2 (111) AND PIER 2 IN MAXIMUM 6,000 POUND SEGMENTS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED WITHIN THE WORK AREA ON EITHER SIDE OF THE PORTABLE CONCRETE BARRIER. INSTALL TEMPORARY SAFETY RAILING.
12. **OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.**
13. **CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).**
14. REMOVE THE CONCRETE DECK IN SPAN 2 BETWEEN PANEL 12 (28) AND PIER 2. THE CONCRETE DECK SHALL BE REMOVED AS FOLLOWS:
   A. BEGIN AT SPAN 2 PANEL 12 (28) AND WORK TOWARD THE EAST.
   B. SAW CUT THE DECK INTO MAXIMUM 12,000 POUND PIECES. NOTE PORTIONS OF EXISTING REINFORCING STEEL AND FINGER EXPANSION JOINT CASTINGS AND SUPPORTS ARE TO REMAIN IN PLACE.
   C. PRY AND LIFT EACH DECK PIECE WITH A TRACK MOUNTED HYDRAULIC EXCAVATOR. THE MAXIMUM GROSS VEHICLE WEIGHT OF THE EXCAVATOR SHALL BE 70,000 POUNDS.
   D. LIFT THE DECK PIECE ONTO A LEGAL WEIGHT TRUCK LOCATED EAST OF THE EXCAVATOR. DO NOT STOCKPILE DECK PIECES ON THE BRIDGE.
   E. PROCEED EASTWARD REMOVING DECK PIECES UNTIL THE DECK REMOVAL WORK IS COMPLETED TO PIER 2.
15. **OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.**
16. REMOVE THE REMAINDER OF THE STEEL RAILING, SAFETY WALK, CURB BARRIER, AND FASCIA STRINGER FROM THE SOUTH SIDE OF TRUSS SPANS 1 AND 2 IN MAXIMUM 6,000 POUND SEGMENTS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED WITHIN THE WORK AREA ON THE OUTSIDE OF THE PORTABLE CONCRETE BARRIER. ALL EASTBOUND TRAFFIC SHALL BE MAINTAINED. INSTALL TEMPORARY SAFETY RAILING.

METHODS AND SEQUENCE OF CONSTRUCTION NOTES CONTINUED: SEE SHEET 8 /140 .

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP	9/4/09	1809393	

GENERAL NOTES - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

METHODS AND SEQUENCE OF CONSTRUCTION (CONTINUED)

17. CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).

18. REMOVE THE REMAINDER OF THE CONCRETE DECK IN SPANS 1 AND 2 BETWEEN SPAN 2 PANEL 4 (20) AND THE WEST END PIER. THE EQUIPMENT IS TO REMAIN BEHIND THE PORTABLE CONCRETE BARRIER WITH TRAFFIC ON THE BRIDGE. THE CONCRETE DECK SHALL BE REMOVED AS FOLLOWS:
A. BEGIN AT SPAN 2 PANEL 4(20) AND WORK TOWARD THE WEST.
B. SAW CUT THE DECK INTO MAXIMUM 12,000 POUND PIECES. NOTE PORTIONS OF EXISTING REINFORCING STEEL AND FINGER EXPANSION JOINT CASTINGS AND SUPPORTS ARE TO REMAIN IN PLACE.
C. PRY AND LIFT EACH DECK PIECE WITH A TRACK MOUNTED HYDRAULIC EXCAVATOR. THE MAXIMUM GROSS VEHICLE WEIGHT OF THE EXCAVATOR SHALL BE 70,000 POUNDS.
D. LIFT THE DECK PIECE ONTO A LEGAL WEIGHT TRUCK LOCATED WEST OF THE EXCAVATOR. DO NOT STOCKPILE DECK PIECES ON THE BRIDGE.
E. PROCEED WESTWARD REMOVING DECK PIECES UNTIL THE DECK REMOVAL WORK IS COMPLETED AT THE WEST END PIER.
F. STRINGERS MAY BE CUT AND REMOVED IN 25 FEET LONG SEGMENTS AS THE DECK REMOVAL PROCEEDS AS LONG AS SUPPORT FOR THE EXCAVATOR REMAINS IN PLACE.

19. OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.

20. REMOVE STRINGERS IN 25 FEET LONG SEGMENTS IF THEY WERE NOT REMOVED AS THE DECK REMOVAL PROCEEDED. REMOVE PORTIONS OF DECK JOINTS, DRAINAGE, AND CATWALK STEEL AS DETAILED IN THE PLANS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED IN TEMPORARILY CLOSED EASTBOUND LANES FOR THE REMOVAL. ONLY ONE LANE OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES. A MAXIMUM 6,000 POUND SEGMENT IS PERMITTED WHEN REMOVED WITH EQUIPMENT ON THE BRIDGE ROADWAY.

21. PREPARE THE EXISTING DECK EDGE AND INSTALL DOWEL BARS IN THE EDGE OF DECK FOR THE NEW CONCRETE DECK CANTILEVER. DOWEL BAR INSTALLATION CAN PROCEED AS THE DECK IS REMOVED. FORM AND PLACE NEW CONCRETE DECK AND PARAPET. THE NEW SOUTH RAILING ON THE TRUSS SPANS SHALL BE CONSTRUCTED WITH THE FOLLOWING EQUIPMENT AND MATERIAL DELIVERY LIMITATIONS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED IN TEMPORARILY CLOSED EASTBOUND LANES FOR THE DELIVERY AND PLACING OF NEW CONCRETE FOR THE RAILING. ONLY ONE LANE OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES. EQUIPMENT FOR NEW CONSTRUCTION AND EQUIPMENT FOR REMOVAL OPERATIONS SHALL NOT BE ON THE SAME SPAN AT THE SAME TIME.

22. COMPLETE THE TRUSS CONNECTION REPAIRS AT U109 NORTH, U110 NORTH, U111 NORTH, U315 NORTH, U503 NORTH & SOUTH, U504 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH AND SOUTH, L111 NORTH AND L41 NORTH. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 21 IN ORDER TO BE COMPLETE BY THIS TIME.

23. CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).

24. COMPLETE THE STRENGTHENING OF TRUSS MEMBER L717-L718 NORTH. SEE THE STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING NOTE ON SHEET 10/140 FOR SPECIFIC DETAILS FOR BRIDGE CLOSURE REQUIREMENTS. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 22 IN ORDER TO BE COMPLETE BY THIS TIME.

25. OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.

26. COMPLETE THE NEW PARAPET AND VANDAL PROTECTION FENCE CLOSURE CONSTRUCTION ON THE WEST APPROACH STRUCTURE. LEAVE ACCESS TO TRUSS SPANS 1 AND 2 UNTIL DECK REMOVAL IS COMPLETE. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 24 IN ORDER TO BE COMPLETE BY THIS TIME.

27. REMOVE THE PORTABLE CONCRETE BARRIER FROM THE BRIDGE ROADWAY. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED ON THE TRUSS SPANS. ONLY ONE LANE OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES.

28. COMPLETE THE NEW PAVEMENT MARKING AND TRAFFIC CONTROL. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 27 IN ORDER TO BE COMPLETE BY THIS TIME.

29. REMOVE THE WESTBOUND TRUCK DETOUR SIGNING WHEN DIRECTED BY THE ENGINEER.

30. OPEN ALL EIGHT LANES AND RAMPS TO TRAFFIC WHEN DIRECTED BY THE ENGINEER. THE FINAL CONFIGURATION ON THE TRUSS SPANS WILL INCLUDE THREE THROUGH LANES AND AN ADD LANE EASTBOUND, AND FOUR THROUGH LANES WESTBOUND. NOTE THIS IS A REQUIREMENT OF THE INTERIM COMPLETION DATE.

NOTE: THE WIDENING GIRDER STEEL FRAMING REMOVAL WORK MAY CONTINUE WHILE CONSTRUCTING THE NEW CONCRETE PARAPET AS LONG AS IT DOES NOT INTERFERE WITH THE PROGRESS OF THE WORK NECESSARY TO MEET THE INTERIM COMPLETION DATE.

31. REMOVE FLOORBEAM EXTENSIONS, WIDENING GIRDER, AND SUPPORT STRUTS. REMOVE THE FALSEWORK BELOW THE DECK OVER THE CUYAHOGA RIVER. COORDINATE THE WIDENING GIRDER SEGMENT REMOVAL TO MAINTAIN STABILITY OF THE WIDENING GIRDER. DO NOT REMOVE TOO MANY FLOORBEAM EXTENSIONS BEFORE CONNECTING THE WIDENING GIRDER SEGMENT TO THE CRANE FOR REMOVAL. ADD TEMPORARY BRACING TO THE WIDENING GIRDER AS DETERMINED BY THE CONTRACTOR'S METHODS. WIDENING GIRDER SEGMENTS SHALL BE REMOVED BY DISCONNECTING OR CUTTING THE WIDENING GIRDER WEB CONNECTION TO THE SUPPORT STRUT/FLOORBEAM EXTENSION FRAME. THE SUPPORT STRUT/FLOORBEAM EXTENSION FRAME SHALL BE LEFT TO SUPPORT ITSELF. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED IN TEMPORARILY CLOSED EASTBOUND LANES FOR THE REMOVAL OF FLOORBEAM EXTENSIONS AND SUPPORT STRUT SEGMENTS. ONLY TWO LANES OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES. A MAXIMUM 6,000 POUND SEGMENT IS PERMITTED WHEN REMOVED WITH EQUIPMENT ON THE BRIDGE ROADWAY. ONE CRANE SHALL BE LOCATED ON THE GROUND ON THE DESIGNATED CRANE PAD AND ONE CRANE SHALL BE LOCATED ON A BARGE IN THE RIVER NEXT TO THE BRIDGE TO REMOVE THE WIDENING GIRDER SEGMENTS AND OTHER STEEL MEMBERS WITH NO MAXIMUM SIZE LIMITATION ON SEGMENTS. NOTE THAT THERE ARE PLAN RESTRICTIONS FOR LOCATIONS OF CRANES ON THE GROUND. THE WIDENING GIRDER SHALL BE REMOVED AS FOLLOWS:
A. REMOVE FLOORBEAM EXTENSION SPAN 2 PANEL 11 (27) BETWEEN FIELD SPLICE 3 AND SPAN 2 PANEL 12 (28).
B. REMOVE THE WIDENING GIRDER SEGMENT #1 (ABOUT 47'-2" LONG) BETWEEN FIELD SPLICE 3 (EAST OF SPAN 2 PANEL 10 (26)) AND SPAN 2 PANEL 12 (28).
C. REMOVE FLOORBEAM EXTENSIONS SPAN 2 PANELS 5, 6, 7, 9, AND 10 (21, 22, 23, 25, AND 26) BETWEEN THE HANGER IN SPAN 2 AND FIELD SPLICE 3.
D. REMOVE THE WIDENING GIRDER SEGMENT #2 (ABOUT 157'-8" LONG) BETWEEN THE HANGER IN SPAN 2 (WEST OF SPAN 2 PANEL 4 (113/20) SUPPORT STRUT) AND FIELD SPLICE 3 (EAST OF SPAN 2 PANEL 10 (26) SUPPORT STRUT).
E. REMOVE FLOORBEAM EXTENSIONS SPAN 2 PANEL 2 AND 3 (111 AND 112) BETWEEN FIELD SPLICE 2 AND THE HANGER IN SPAN 2.
F. REMOVE THE WIDENING GIRDER SEGMENT #3 (ABOUT 51'-5" LONG) BETWEEN FIELD SPLICE 2 (WEST OF SPAN 2 PANEL 2 (111)) AND THE HANGER IN SPAN 2 (WEST OF SPAN 2 PANEL 4 (113/20) SUPPORT STRUT).
G. REMOVE FLOORBEAM EXTENSIONS SPAN 1 PANEL 5, 6, 7, AND 8 AND SPAN 2 PANEL 1 (105, 106, 107, 108, AND 110) BETWEEN FIELD SPLICE 1 AND FIELD SPLICE 2.
H. REMOVE THE WIDENING GIRDER SEGMENT #4 (ABOUT 158'-6" LONG) BETWEEN FIELD SPLICE 1 (12'-6" EAST OF SPAN 1 PANEL 4 (104) SUPPORT STRUT) AND FIELD SPLICE 2 (WEST OF SPAN 2 PANEL 2 (111)).
I. REMOVE FLOORBEAM EXTENSIONS SPAN 1 PANEL 0, 1, 2, AND 3 (100, 101, 102, AND 103) BETWEEN THE WEST END PIER AND SPAN 1 PANEL 4 (104) SUPPORT STRUT.
J. REMOVE THE WIDENING GIRDER SEGMENT #5 (ABOUT 113'-0" LONG) BETWEEN THE WEST END PIER AND FIELD SPLICE 1 (12'-6" EAST OF SPAN 1 PANEL 4 (104) SUPPORT STRUT).
K. REMOVE FLOORBEAM EXTENSIONS AND WIDENING GIRDER SUPPORT STRUTS AT SPAN 1 PANEL 4 (104), SPAN 2 PANEL 4 (113/20), AND SPAN 2 PANEL 12 (28).
L. REMOVE LATERAL BRACING, FLOORBEAM EXTENSIONS, AND WIDENING GIRDER SUPPORT STRUTS AT PIER 1 (109) AND SPAN 2 PANEL 8 (24).
M. REMOVE ROCKER BEARING AT WEST END PIER.

32. REMOVE ALL MISCELLANEOUS ITEMS INDICATED NOT TO REMAIN ON THE BRIDGE.

33. COMPLETE THE NEW LIGHTING ON TRUSS SPANS 1 AND 2.

34. COMPLETE ALL OTHER WORK.

TEMPORARY CRANE PAD

A TEMPORARY CRANE PAD SHALL BE CONSTRUCTED ON THE WEST END SLOPE AT THE LOCATION SHOWN ON SHEET 23/140. THE CONTRACTOR SHALL DESIGN THE CRANE PAD AND CRANE OUTRIGGER STRUCTURAL SUPPORTS TO SPREAD THE LOAD OF THE CRANE TO THE EXISTING GROUND. THE MAXIMUM PRESSURE AT ANY POINT ON THE EXISTING GROUND DUE TO EQUIPMENT AND THE CRANE PAD SHALL NOT EXCEED 2,000 POUNDS PER SQUARE FOOT. THE SIZE OF THE CRANE PAD AND STRUCTURAL SUPPORTS SHALL BE DETERMINED BY THE CONTRACTOR.

THE CRANE PAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH CMS 203 EMBANKMENT USING 203.02B BORROW. THE BORROW MAY INCLUDE GRANULAR MATERIAL. NO EXCAVATION OF EXISTING MATERIALS WITHIN THE WEST END SLOPE RIGHT OF WAY SHALL BE PERMITTED.

PROVISIONS FOR COLLECTING AND CONDUCTING EXISTING DRAINAGE AND EROSION CONTROL PER SS832 SHALL BE INCLUDED. CONDUITS SHALL BE IN ACCORDANCE WITH CMS 603 WITH STRENGTH DETERMINED BY THE CONTRACTOR.

DAMAGED PAVEMENT, SLOPE PROTECTION, PAVED GUTTER, SLOPES, MONITORING INSTRUMENTATION, AND VEGETATION SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION. SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH CMS 659.

THE COST FOR MATERIALS, BORROW, DRAINAGE PROVISIONS, CONDUIT, EROSION CONTROL, STRUCTURAL SUPPORTS, INSTALLATION, AND COMPLETE REMOVAL OF THE EMBANKMENT AND CONDUIT; AND RESTORATION OF THE AREA FOR THE CRANE PAD ON THE WEST END SLOPE, SHALL BE INCLUDED AS INCIDENTAL TO ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

PORTIONS OF STRUCTURE REMOVED SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT EXCEPT FOR SPECIFIC RIVET REMOVALS AND BOLT REMOVALS. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION, AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN INCORPORATED IN THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT DETAILED METHODS, SEQUENCE OF CONSTRUCTION, AND PROCEDURES IN ACCORDANCE WITH CMS 501.05 B EXCEPT FOR THE PREPARATION AND ACCEPTANCE REQUIREMENTS. THE CONTRACTOR DESIGNED INFORMATION SHALL BE PREPARED BY AN OHIO REGISTERED ENGINEER. A SECOND OHIO REGISTERED PROFESSIONAL ENGINEER SEAL IS NOT REQUIRED ON THIS SUBMITTAL. THE CONTRACTOR SHALL SUBMIT THE INFORMATION TO THE ENGINEER AT LEAST 14 DAYS BEFORE CONSTRUCTION BEGINS. THE SUBMISSIONS WILL BE REVIEWED IN ACCORDANCE WITH THE PROVISIONS OF CMS 105.02 FOR PLANS AND WORKING DRAWINGS.

GRIND FLAME CUT EDGES OF STEEL TO REMAIN IN PLACE ON THE BRIDGE.

INCLUDE RIVET AND BOLT REMOVALS FOR REMOVING THE SPAN 1 AND 2 WIDENING GIRDER AND STEEL FRAMING.

THE COST FOR REMOVALS AND THE TEMPORARY CRANE PAD ON THE WEST END SLOPE SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ASBESTOS ABATEMENT

AN ASBESTOS SURVEY OF THE CUY-90-1524 BRIDGE (SFN 1809393) SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST (CAHES). THE SURVEY CONFIRMED THAT ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

KNOWN LOCATIONS OF ASBESTOS MATERIAL INCLUDES THE ABANDONED ELECTRICAL CONDUIT UNDER THE SAFETY WALK IN THE MAIN TRUSS SPANS.

A PORTION OF THE EXISTING SAFETY WALK, INCLUDING AN ESTIMATED 1240 LINEAR FEET AND 80 SQUARE FEET OF THE ABANDONED ASBESTOS ELECTRICAL CONDUIT, WILL BE REMOVED WITH THE WIDENING REMOVAL.

A COPY OF THE OHIO EVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

DEPARTMENT OF PUBLIC HEALTH
DIVISION OF AIR QUALITY
75 ERIEVIEW PLAZA, 2ND FLOOR
CLEVELAND, OHIO 44114
GEORGE BAKER
(216)664-2297
(216)420-8047 (FAX)

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE WIDENING REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO, 44125.

THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS ARE POSSIBLE TO ENSURE THAT THE ASBESTOS CONTAINING MATERIAL (ACM) DOES NOT BECOME FRIABLE. TO ASSURE THAT THE NONFRIABLE ASBESTOS MATERIAL DOES NOT BECOME FRIABLE OR IN THE EVENT THAT THE NONFRIABLE MATERIAL BECOMES FRIABLE, THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN PROVISIONS OF NESHAP THAT WILL BE ON-SITE DURING THE DEMOLITION AND/OR REMOVAL OF THE ACM CONDUIT. ALL ACM'S SHALL BE PROPERLY CONTAINERIZED, TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH THE STATE AND FEDERAL REGULATIONS.

BASIS OF PAYMENT - THE CONTRACTOR SHALL FURNISH ALL THE LABOR (INCLUDING A CAHES), EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FOR AND TO REMOVE, TRANSPORT AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OEPA) SOLID WASTE FACILITY. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICES BID LUMP SUM. THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THE WORK NOTED ABOVE:

690E71000 ITEM SPECIAL - ASBESTOS ABATEMENT, LUMP SUM

GENERAL NOTES CONTINUED: SEE SHEET 9/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	SCB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP	9/4/09	1809393	

GENERAL NOTES - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

ITEM 202 - REMOVAL, MISC.: RIVET

EXISTING RIVETS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING RIVETS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, EXISTING RIVETS TO BE REPLACED WITH NEW HIGH STRENGTH BOLTS AND RIVETS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH C.M.S. SECTION 202.03.

NO MORE RIVETS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. RIVETS SHALL BE REMOVED FROM ONLY ONE SIDE OF A MEMBER AT A TIME. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

ALL EXISTING RIVETS TO BE REMOVED SHALL FIRST HAVE THE HEADS CUT OFF AND THEN THE REMAINDER OF THE RIVET REMOVED BY DRILLING OR BURNING. SOME RIVETS TO BE REMOVED MAY HAVE COUNTERSUNK HEADS ON ONE OR BOTH ENDS. RIVETS THAT ARE COUNTERSUNK ON BOTH ENDS SHALL BE REMOVED BY DRILLING OR BURNING. PUNCHING MAY BE USED TO REMOVE LOOSE FITTING SHANKS. RIVET REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED RIVET REMOVAL METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE, DUE TO THE CONTRACTOR'S REMOVAL OPERATION, SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

PAYMENT FOR STRUCTURAL STEEL REMOVAL SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

PAYMENT FOR RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET, PER EACH RIVET.

ITEM 202 - REMOVAL, MISC.: BOLT

EXISTING BOLTS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING BOLTS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, EXISTING BOLTS TO BE REPLACED WITH NEW HIGH STRENGTH BOLTS AND BOLTS DIRECTED TO BE REMOVED BY THE THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH C.M.S. SECTION 202.03.

NO MORE BOLTS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. BOLTS SHALL BE REMOVED FROM ONLY ONE SIDE OF A MEMBER AT A TIME. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

BOLT REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE, DUE TO THE CONTRACTOR'S REMOVAL OPERATION, SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

PAYMENT FOR STRUCTURAL STEEL REMOVAL SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

PAYMENT FOR BOLT REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: BOLT, PER EACH BOLT.

CONNECTION BOLTS: 5/8 INCH DIAMETER AND LARGER SHALL BE GALVANIZED ASTM A325 HIGH STRENGTH STEEL BOLTS, UNLESS OTHERWISE NOTED. ASTM A490 HIGH STRENGTH STEEL BOLTS SHALL NOT BE GALVANIZED. NEW CONNECTION BOLTS SHALL BE INCLUDED FOR PAYMENT WITH THE PERTINENT NEW MATERIAL PAY ITEM.

IN GENERAL, ASTM A490, TYPE 3 BOLTS ARE USED AT TRUSS GUSSET EDGE STIFFENING REPAIRS, 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS, AND L717-L718 NORTH TRUSS CHORD STRENGTHENING. GALVANIZED ASTM A325 BOLTS ARE USED AT OTHER STEEL REPAIRS.

WELDING: THE ORIGINAL DESIGN PLANS AND SHOP DRAWINGS FOR CUY-90-1524 INDICATE THAT COPPER-BEARING CARBON STRUCTURAL STEEL WAS USED FOR MOST OF THE STRUCTURE AND THAT MANGANESE STRUCTURAL STEEL WAS USED IN SOME AREAS. FINGER EXPANSION JOINTS AND TRUSS BEARINGS ARE STEEL CASTINGS. WELDING TO THE EXISTING STEEL SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER, EXCEPT WHERE DETAILED IN THE PLANS. TACK WELDING NEW OR EXISTING STEEL SHALL NOT BE PERMITTED.

NEW GALVANIZED STEEL SHALL BE GALVANIZED AFTER FABRICATION PER C.M.S. 711.02. THE CONTRACTOR SHALL BE VERY CAREFUL IN HANDLING THE GALVANIZED STEEL TO MINIMIZE SCRATCHES AND ABRASION OF THE FINISH. WIRE ROPE SLINGS AND METAL HOOKS SHALL BE PADDED WITH WOOD, OR REINFORCED FABRIC WEBBING SHALL BE USED FOR MATERIAL HANDLING. SCRATCHES AND ABRASIONS OF THE GALVANIZED FINISH SHALL BE TOUCHED UP IN THE FIELD BY "COLD APPLIED GALVANIZING" AS DIRECTED BY THE ENGINEER. CONNECTION BOLTS FOR GALVANIZED STEEL MEMBERS SHALL BE MECHANICALLY GALVANIZED.

BOLTED CONNECTION TO EXISTING STEEL: AT LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER, NEW STRUCTURAL STEEL SHALL BE CONNECTED TO EXISTING STRUCTURAL STEEL USING EXISTING RIVET OR BOLT HOLES AND NEW BOLTS. RIVET AND BOLT REMOVAL PROCEDURES ARE DESCRIBED IN THE GENERAL NOTES. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

HOLES IN NEW MATERIAL SHALL BE MADE BY ANY OF THE FOLLOWING METHODS (TO BE SELECTED BY THE CONTRACTOR):

1. CAREFUL FIELD MEASUREMENT BY THE CONTRACTOR SHALL BE USED FOR LOCATING HOLES IN NEW MATERIAL TO BE SUBPUNCHED OR DRILLED UNDERSIZE IN THE SHOP. THE HOLE SHALL BE 3/16 INCH LESS IN DIAMETER THAN THE NOMINAL DIAMETER OF THE NEW BOLT. THE HOLES SHALL BE REAMED TO PROPER SIZE IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.

2. MAKE TEMPLATES IN THE FIELD OF HOLE PATTERNS AND LOCATIONS AFTER REMOVAL OF RIVETS OR BOLTS. USE THE FIELD TEMPLATES IN THE SHOP TO SUBPUNCH OR DRILL UNDERSIZE HOLES. THE HOLES SHALL BE REAMED IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.

3. FURNISH NEW STRUCTURAL STEEL WITHOUT SHOP HOLES FOR RECONNECTION TO EXISTING RIVET OR BOLT HOLES. HOLES IN NEW MATERIAL TO BE FIELD DRILLED AND REAMED TO MATCH EXISTING RIVET OR BOLT LOCATION.

RIVET HOLES NOT USED FOR BOLTED CONNECTIONS OF NEW STRUCTURAL STEEL SHALL BE FILLED WITH A BOLT UNLESS OTHERWISE NOTED.

EXISTING MATERIAL WITHOUT HOLES FOR CONNECTION TO NEW MATERIAL SHALL BE FIELD DRILLED.

ALL HOLES THROUGH NEW AND EXISTING MATERIAL SHALL BE REAMED AFTER ASSEMBLY. THE FINAL HOLES SHALL BE STANDARD SIZE, 1/16 INCH LARGER IN DIAMETER THAN THE NOMINAL BOLT DIAMETER, UNLESS OTHERWISE NOTED.

ADDITIONAL REQUIREMENTS FOR HOLES SHALL BE PER C.M.S. 513.19. SHOP HOLES THAT DO NOT MATCH EXISTING RIVET HOLES SHALL BE FIELD DRILLED.

THE COST OF ALL MATERIAL, EQUIPMENT AND LABOR FOR CONNECTING NEW MATERIAL TO EXISTING MATERIAL, INCLUDING REAMING NEW OR EXISTING HOLES, AND DRILLING NEW HOLES, SHALL BE INCLUDED AS INCIDENTAL TO THE PERTINENT NEW MATERIAL PAY ITEM.

SHOP DRAWINGS

STRUCTURAL STEEL WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE THE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE OFFICE OF STRUCTURAL ENGINEERING. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING THE STEEL ITEMS INTO THE WORK, AS REQUIRED BY C.M.S. 501.06. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. THE FABRICATOR SHALL FURNISH THE DIRECTOR A DIGITAL MEDIA COPY OF EACH APPROVED SHOP DRAWING. THE DIGITAL MEDIA SHALL BE AS SPECIFIED IN C.M.S. 501.04.

NEW STRUCTURAL STEEL MATERIALS SHALL NOT BE PRIME COATED IN THE SHOP OR FIELD.

STORED MATERIALS: SHALL BE USED FOR REPAIRS AS DESCRIBED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. PAY ITEMS USING STORED MATERIALS INCLUDE:

ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL
ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1
ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL
ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIAL AND THREAD BAR
ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIAL AND THREAD BAR

CONTACT MIKE MALLOY (216) 584-2230 TO COORDINATE ACCESS TO THE MATERIALS.

THE FOLLOWING MATERIALS ARE STORED AT THE O.D.O.T. DISTRICT 12 ROADWAY SERVICES GARAGE, 5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO.

A325 GALVANIZED		
TOTAL	SIZE/ITEM	THREAD
324	7/8" x 2 3/4" BOLTS	STD.
109	7/8" x 3" BOLTS	STD.
203	7/8" x 3 1/4" BOLTS	STD.
96	7/8" x 3 1/2" BOLTS	STD.
3 GAL.	7/8" WASHERS	
6 GAL.	7/8" NUTS	

A490 PLAIN		
TOTAL	SIZE/ITEM	THREAD
204	7/8" x 1 3/4" BOLTS	STD.
106	7/8" x 2" BOLTS	STD.
229	7/8" x 2 1/2" BOLTS	STD.
63	7/8" x 2 3/4" BOLTS	STD.
35	7/8" x 3" BOLTS	STD.
141	7/8" x 3 1/4" BOLTS	STD.
10	7/8" x 3 1/2" BOLTS	STD.
50	7/8" x 3 3/4" BOLTS	STD.
0	7/8" x 4" BOLTS	STD.
153	7/8" x 4 1/2" BOLTS	STD.
108	7/8" x 4 3/4" BOLTS	STD.
16	7/8" x 5" BOLTS	4"
38	7/8" x 5 1/2" BOLTS	4"
37	7/8" x 5 1/2" BOLTS	STD.
80	7/8" x 5 1/2" BOLTS	5"
22	7/8" x 6" BOLTS	4"
135	7/8" x 7" BOLTS	4"
467	7/8" x 8" BOLTS	4"
92	7/8" x 9" BOLTS	4"
1 GAL.	7/8" WASHERS (KEG)	
6.5	7/8" NUTS (KEGS)	

NOTE: THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPPING AND RE-OILING NUTS AND BOLTS AS NECESSARY PRIOR TO INSTALLATION.

THE FOLLOWING MATERIALS ARE STORED AT THE O.D.O.T. STORAGE GARAGE OF THE LORAIN/CARNEGIE BRIDGE:

THE ANGLES AND PLATES ARE PLAIN, UNCUT MATERIALS.

3/4" STEEL PLATES ASTM A709 GRADE 50W
2 PLATES APPROXIMATELY 7.5 FT x 8.0 FT
5 PLATES OF MISC. SIZES THAT RANGE FROM 4 FT x 12 FT TO 8 FT x 4 FT

1 1/4" STEEL PLATES ASTM A709 GRADE 50W
1 PLATES APPROXIMATELY 7.5 FT x 8.0 FT
1 PLATE APPROXIMATELY 4.0 FT x 7.0 FT

4" x 4" x 3/4" ANGLE ASTM A709 GRADE 50W
4 AT 20.0 FT
1 AT 6.5 FT

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. A QUANTITY OF 300 POUNDS HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

GENERAL NOTES CONTINUED: SEE SHEET 10/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | CHECKED ALP | DRAWN TWH | REVISED 9/4/09 | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

GENERAL NOTES - 3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

GENERAL REQUIREMENTS:

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:

ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	*#8 COARSE AGGRE. (LB)	*#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO +/-.02	AIR CONTENT +/-2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

PARAPET CONSTRUCTION (SLIP FORMED):

SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THE PARAPET IS OVER 50 FEET ABOVE THE EXISTING GROUND SURFACE, OR WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF C.M.S. 511.11, THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH, WITH A MAXIMUM SLUMP OF 1½ INCHES.

THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT. AND A MAXIMUM OF 10 FT. ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK OR CONCRETE SAFETY WALK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E.

ALL REINFORCING STEEL SHALL BE EPOXY COATED. THE CONTRACTOR MAY FIELD BEND REINFORCING STEEL TO MAINTAIN MINIMUM CLEARANCES AND COVER.

BEFORE ANY DRILLING, THE CONTRACTOR SHALL USE A REBAR LOCATOR TO IDENTIFY LOCATIONS OF EXISTING REINFORCING STEEL. THE CONTRACTOR SHALL DRILL ONLY WHERE EXISTING REINFORCING STEEL IS NOT LOCATED.

CAULK EDGES OF ALL JOINTS BETWEEN NEW CONCRETE PARAPET AND EXISTING CONCRETE WITH CAULK WHICH MEETS FEDERAL SPECIFICATION TT-S-00227E. ALL CAULKING COSTS SHALL BE INCLUDED UNDER ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.

BASIS OF PAYMENT PAYMENT FOR THE ABOVE COMPLETE AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CUBIC YARD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E50101	CUBIC YARD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

EPOXY-URETHANE SHALL BE THE LIGHT NEUTRAL COLOR MEETING FEDERAL COLOR STANDARD NO. 17778. SUPERSTRUCTURE SHALL BE SEALED WITH EPOXY-URETHANE AS PER PLAN DETAILS.

ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL

MATERIAL

1. NEW MATERIAL SHALL BE ASTM A709 GRADE 50W.
2. NEW BOLTS SHALL BE ASTM A490, TYPE 3. THE BOLTS SHALL UTILIZE HARDENED WASHERS PER ASTM F436, PLACED UNDER BOTH THE BOLT HEAD AND ALL NUTS. THE NUT USED FOR THE ASTM A490 BOLTS SHALL BE IN ACCORDANCE WITH ASTM A563. ALL HEAVY HEX HEAD NUTS SHALL BE TYPE DH3. NEW ⅞" DIAMETER ASTM A490 BOLTS SHALL BE TENSIONED TO A MINIMUM OF 49 KIPS. THE TURN-OF-NUT REQUIREMENTS SPECIFIED IN TABLE 513.20-3 MAY BE USED TO ACHIEVE THE BOLT PRE-TENSION.
3. NEW BOLTS SHALL MATCH EXISTING RIVET SIZES.
4. NEW MATERIALS SHALL BE CERTIFIED PER CMS 501.06.
5. THE 80 ASTM A490 BOLTS, ⅞" DIAMETER x 5½" LONG WITH 5" THREADS, AND NUTS, LISTED WITH STORED MATERIALS SHALL BE USED. THE CONTRACTOR SHALL FURNISH ADDITIONAL BOLTS, NUTS AND WASHERS NECESSARY TO COMPLETE THE WORK.

STEEL SURFACE PREPARATION

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE "PENCIL ABRASIVE BLASTING" GENERAL NOTE AND ANY OIL USED IN DRILLING STRUCTURAL STEEL SHALL BE REMOVED BY SOLVENT CLEANING PER CMS 514.13.A PRIOR TO INSTALLATION OF NEW MATERIAL. EXISTING AND NEW MATERIAL SHALL NOT BE PRIME PAINTED.

FABRICATION

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS:

1. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. NO SHOP CERTIFICATION IS REQUIRED. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE.
2. EDGE DISTANCE FROM THE CENTER OF A FASTENER TO THE FIELD CUT EDGE OF THE NEW MATERIAL SHALL BE 2 INCHES UNLESS NOTED OTHERWISE. THE MINIMUM EDGE DISTANCE IS 1½ INCHES.

CONSTRUCTION SEQUENCE

WORK ON ONLY ONE SIDE OF ONE CONNECTION AT A TIME.

1. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
2. INSTALL NEW A490 BOLTS FOLLOWING BOLT INSTALLATION SEQUENCE DETAILED ON SHEET 93/140 USING DOUBLE NUT METHOD FOR ALL BOLTS IN NEW OR EXISTING HOLES.
3. CLEAN FAYING SURFACES PER CMS 514.13.A SOLVENT CLEANING.
4. FIT FILL PLATES AND NEW ¾" STRENGTHENING PLATES OVER NEW BOLTS AND EXISTING RIVETS TO REMAIN.
5. CLOSE BRIDGE TO ALL TRAFFIC FOLLOWING MAINTENANCE OF TRAFFIC NOTES.
6. PERMANENTLY CONNECT NEW MATERIAL WITH PROPERLY TENSIONED SECOND NUT OF THE DOUBLE NUT METHOD.
7. REOPEN BRIDGE TO TRAFFIC.

DOUBLE NUT INSTALLATION SEQUENCE (PATENT PENDING)

GENERAL: LIMIT REMOVALS AND CONSTRUCTION TO ONE LOCATION AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE EXISTING MEMBER IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED AT ONE LOCATION PRIOR TO BEGINNING CONSTRUCTION ON THE NEXT LOCATION.

INSTALL NEW PLATES ON EXISTING LOWER CHORD PER THE FOLLOWING INSTRUCTIONS: (SEE DOUBLE NUT CONNECTION DETAIL)

DOUBLE NUT METHOD CONSTRUCTION SEQUENCE

A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
B. FIELD DRILL NEW HOLE IN EXISTING MEMBER AND INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING MEMBERS, NEW FILL PLATES AND STRENGTHENING PLATES FOLLOWING BOLT INSTALLATION SEQUENCE.
C. REMOVE A SINGLE RIVET FOLLOWING BOLT INSTALLATION SEQUENCE.
D. IN THE RIVET HOLE, INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING MEMBERS, NEW FILL PLATES AND STRENGTHENING PLATES.
E. REPEAT STEPS "C" AND "D" FOR ALL EXISTING RIVETS TO BE REMOVED TO CONNECT THE NEW MATERIAL.
F. FABRICATE NEW FILL PLATES WITH HOLES AS DETAILED TO FIT AROUND THE NEW NUTS AND WASHERS AND EXISTING RIVETS TO REMAIN. ERECT NEW FILL PLATES.
G. ERECT NEW STRENGTHENING PLATES WITH OVERSIZE BOLT HOLES TO FIT THE NEWLY INSTALLED BOLTS.
H. SECURE NEW FILL PLATES AND STRENGTHENING PLATES WITH PROPERLY TENSIONED NUTS.

PAYMENT

PAYMENT FOR CAREFUL RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET - PER EACH.

PAYMENT FOR ACCESS TO THE REPAIR LOCATIONS SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW L717-L718 NORTH STRENGTHENING INCLUDING NEW PLATES, FILL PLATES AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL - PER POUND.

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM BRACING

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE BRACING FOR THE BOTTOM CHORD AT THE CENTER OF THE FLOORBEAMS AS DETAILED IN THE PLANS.

STRUCTURAL STEEL MATERIALS SHALL BE ASTM A709 GRADE 50W. HOLLOW STRUCTURAL SECTIONS SHALL BE ASTM A847 GRADE 50. CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS: NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE.

REMOVAL OF EXISTING RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: RIVET.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL NEW FLOORBEAM BRACING INCLUDING SURFACE PREPARATION OF EXISTING STEEL SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER POUND FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM BRACING

GENERAL NOTES CONTINUED: SEE SHEET 11/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN TWH | REVIEWED DAP | DATE 7/31/09
CHECKED ALP | REVISED 9/4/09 | STRUCTURE FILE NUMBER 1809393

GENERAL NOTES - 4
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1, 2 AND 3 (CONTINUED)

SINGLE NUT ANGLE INSTALLATION SEQUENCE

GENERAL: WHILE WORKING AT A PANEL POINT, LIMIT REMOVALS AND CONSTRUCTION TO ONE GUSSET PLATE ON ONE TRUSS AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE INTERIOR AND EXTERIOR GUSSET IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED AT ONE ANGLE LOCATION PRIOR TO BEGINNING CONSTRUCTION ON THE NEXT NEW ANGLE.

PERFORM THE INSTALLATION ON ONE TRUSS AS FOLLOWS:

INSTALL NEW EDGE ANGLE ON THE INSIDE AND OUTSIDE GUSSET PLATES PER THE FOLLOWING INSTRUCTIONS:

A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
B. REMOVE NO MORE RIVETS FROM A CONNECTION THAN ARE NECESSARY FOR CONNECTING EACH NEW MEMBER PIECE.
C. FABRICATE NEW ANGLES.
D. ERECT NEW STIFFENING ANGLE.
E. SECURE NEW ANGLE WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
F. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH THE NEW ANGLE AND EXISTING GUSSETS, ANGLES AND CHORD MEMBERS.
G. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
H. REPEAT "F" AND "G" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

ONCE THE NEW ANGLE IS ATTACHED (WITH NO MORE RIVETS BEING REMOVED THAN ARE NECESSARY) THEN SEQUENTIALLY DRILL ONE HOLE AT A TIME AND INSTALL A SINGLE BOLT BEFORE DRILLING THE NEXT HOLE.

DOUBLE NUT ANGLE INSTALLATION SEQUENCE (PATENT PENDING)

GENERAL: WHILE WORKING AT A PANEL POINT, LIMIT REMOVALS AND CONSTRUCTION TO ONE GUSSET PLATE ON ONE TRUSS AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE INTERIOR AND EXTERIOR GUSSET IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED AT ONE ANGLE LOCATION PRIOR TO BEGINNING CONSTRUCTION ON THE NEXT NEW ANGLE.

PERFORM THE INSTALLATION ON ONE TRUSS AS FOLLOWS:

INSTALL NEW EDGE ANGLE ON THE INSIDE AND OUTSIDE GUSSET PLATES PER THE FOLLOWING INSTRUCTIONS:
(SEE DOUBLE NUT CONNECTION DETAIL)

A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
B. REMOVE A SINGLE RIVET.
C. IN THE OPEN RIVET HOLE, INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING GUSSETS, ANGLES, CHORD MEMBERS AND NEW FILL PLATE AND ANGLE. THE THREAD LENGTH MUST BE SUFFICIENT TO ALLOW FOR THE DOUBLE NUT CONNECTION METHOD.
D. REPEAT "B" AND "C" FOR ALL EXISTING RIVETS TO BE REMOVED TO CONNECT THE NEW ANGLE AND FILL PLATES.
E. FABRICATE NEW FILL PLATES WITH HOLES AS DETAILED TO FIT AROUND THE NEW NUTS AND WASHERS. ERECT NEW FILL PLATES.
F. ERECT NEW STIFFENING ANGLE WITH OVERSIZE BOLT HOLES TO FIT THE NEWLY INSTALLED BOLTS.
G. SECURE NEW ANGLE AND FILLS WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
H. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH THE NEW ANGLE, NEW FILL PLATES AND EXISTING GUSSETS, ANGLES AND CHORD MEMBERS.
I. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
J. REPEAT "H" AND "I" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

DO NOT COMPLETELY REMOVE AN EXISTING GUSSET PLATE ANGLE DURING THE REPAIR PROCESS.

PAYMENT

PAYMENT FOR CAREFUL RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET - PER EACH.

PAYMENT FOR ACCESS TO THE REPAIR LOCATIONS SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9 OR ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW TRUSS GUSSET PLATE REPAIRS INCLUDING NEW ANGLES, FILL PLATES, AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL; CAULKING; AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1 - PER EACH.
ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 2 - PER EACH.
ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 3 - PER EACH.

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1

THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR GENERAL NOTE EXCEPT THAT THE ANGLES, STEEL BOLTS, NUTS, AND 1 1/4" STEEL PLATES LISTED WITH STORED MATERIALS SHALL BE BE USED. THE CONTRACTOR SHALL FURNISH ADDITIONAL BOLTS, NUTS AND WASHERS NECESSARY TO COMPLETE THE WORK.

THE CONTRACTOR IS RESPONSIBLE FOR PICKING UP THE MATERIALS FROM THE STORAGE LOCATIONS, AND ALL HANDLING AND TRANSPORTATION COSTS.

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE NEW 7/8" DIAMETER CONNECTION BOLTS IN THE TRUSS GUSSET PLATE CONNECTIONS AT EXISTING RIVET LOCATIONS AS DETAILED IN THE PLANS.

THE REPAIR LOCATIONS INCLUDE:

SPAN 2, NORTH TRUSS - U0 (U109N)
SPAN 2, NORTH TRUSS - U1 (U110N)
SPAN 2, NORTH TRUSS - U2 (U111N)
SPAN 4, NORTH TRUSS - U1, U15 (U315N, U503N)
SPAN 4, SOUTH TRUSS - U15 (U503S)
SPAN 5, NORTH TRUSS - U0 (U504N)
SPAN 8, NORTH TRUSS - U2, U12, U13 (U716N, U902N, U903N)
SPAN 9, NORTH TRUSS - U0 (U904N)
SPAN 9, NORTH TRUSS - U1 (U905N)
SPAN 9, SOUTH TRUSS - U1 (U905S)
SPAN 2, NORTH TRUSS - L2 (L111N)
SPAN 4, NORTH TRUSS - L5 (L41N)

CONNECTION BOLTS SHALL BE ASTM A490, TYPE 3.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

REMOVAL OF EXISTING RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: RIVET. ONLY ONE RIVET SHALL BE REMOVED AT A TIME FOR EACH GUSSET PLATE CONNECTION.

PAYMENT FOR ACCESS TO THE REPAIR LOCATIONS SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9 OR ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO INSTALL NEW CONNECTION BOLTS IN THE TRUSS GUSSET PLATE CONNECTIONS AT EXISTING RIVET LOCATIONS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS - PER EACH

ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK ACCESS HATCH REPAIR:

WORK UNDER THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR REPAIRING THE SAFETY WALK ACCESS HATCHES AS DETAILED IN THE PLANS. EACH ACCESS HATCH HAS A DIFFERENT REPAIR CONSISTING OF A COMBINATION OF NEW SUPPORT PLATES, REATTACHING EXISTING ANGLE SUPPORTS, AND/OR REPLACING HINGES. THIS ITEM SHALL INCLUDE REMOVAL OF ANY EXISTING HINGES AND SUPPORT PLATES REQUIRED FOR INSTALLATION OF NEW MATERIAL; SURFACE PREPARATION; STEEL PLATES; STAINLESS STEEL HINGES; AND ALL OTHER INCIDENTALS NECESSARY FOR REPAIRING THE ACCESS HATCHES.

STRUCTURAL STEEL SHALL BE A709 GRADE 50W CONFORMING TO CMS 513 AND SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

PAYMENT FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO REPAIR EACH ACCESS HATCH LOCATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK ACCESS HATCH REPAIRS - PER EACH LOCATION

REVISED 9/4/09

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" DIAMETER TRUSS BEARING CONNECTION BOLTS:

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE NEW 1" CONNECTION BOLTS IN THE TRUSS CHORD TO BEARING CONNECTIONS AT THE PIERS AS DETAILED IN THE PLANS.

CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

REMOVAL OF EXISTING MATERIAL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: BOLT. NO MORE THAN 4 BOLTS SHALL BE REMOVED AT ANY TIME FOR EACH BEARING CONNECTION BEFORE INSTALLING NEW BOLTS.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL NEW CONNECTION BOLTS IN THE TRUSS CHORD TO BEARING CONNECTIONS AT EXISTING BOLT LOCATIONS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" DIAMETER TRUSS BEARING CONNECTION BOLTS - PER EACH

PENCIL ABRASIVE BLASTING

THE PENCIL ABRASIVE BLASTING REFERRED TO IN THE VARIOUS NOTES AND REPAIR ITEMS IN THESE PLANS SHALL CONFORM TO THE FOLLOWING:

CLEAN THE DESIGNATED AREAS OF ALL PAINT, RUST, AND FOREIGN MATERIAL BY ABRASIVE BLASTING TO A SURFACE QUALITY EQUAL TO SSPC-SP10 PREPARATION GRADE SA 2 ACCORDING TO AND AS SHOWN IN SSPC-VIS 1-89. PERFORM THE ABRASIVE BLASTING USING A MAXIMUM COMPRESSED AIR PRESSURE OF 100 PSI, A HOSE NOZZLE DIAMETER OF 1/4 INCH (± 1/16 INCH), AND A GRADE 30/60 COAL SLAG ABRASIVE OR EQUIVALENT. DO NOT USE BLASTING ABRASIVES CONTAINING MORE THAN ONE-PERCENT FREE SILICA. BLASTERS USED FOR SURFACE PREPARATION FOR STRUCTURAL STEEL COATING CANNOT BE USED FOR PENCIL BLASTING. AFTER THE ABRASIVE BLASTING IS COMPLETE, AIR BLOW THE AREA CLEAN.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT PENCIL ABRASIVE BLASTING CAN SATISFACTORILY BE PERFORMED ACCORDING TO THESE SPECIFICATIONS PRIOR TO THE START OF THE WORK. THE COST OF THE PENCIL ABRASIVE BLASTING HAS BEEN INCLUDED FOR PAYMENT IN THE APPROPRIATE REPAIR ITEMS.

ITEM 513 - STRUCTURAL STEEL MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT

THIS WORK CONSISTS OF THE FOLLOWING SEQUENCE OF OPERATIONS PERFORMED AT THE AREAS AS DESIGNATED IN THE PLANS ON SHEET 107/140 AND AS DIRECTED BY THE ENGINEER.

1. CLEAN THE DESIGNATED AREA BY PENCIL ABRASIVE BLASTING THE PAINT AND/OR RUST FROM THE STEEL SURFACE. CLEANED AREAS SHALL BE AT LEAST 3-INCHES WIDE ALONG EACH SIDE OF A SUSPECTED CRACK LOCATION UNLESS OTHERWISE SHOWN IN THE PLANS. SINCE THE INTENT OF THE PENCIL ABRASIVE BLASTING IS TO ENHANCE THE VISUAL AND NDT CRACK DETECTION TECHNIQUES, A GENTLE ABRASIVE BLAST SHALL BE USED SUCH THAT THE SURFACE IS NOT PEENED OR OTHERWISE COLD WORKED.
2. THE ENGINEER, ACCOMPANIED BY THE CONTRACTOR, SHALL CAREFULLY VISUALLY INSPECT THE CLEANED AREA. GRINDING MAY BE DIRECTED BY THE ENGINEER TO ENHANCE THE INVESTIGATION FOR CRACK PRESENCE. ALL GRINDING MUST BE DONE CAUTIOUSLY, ESPECIALLY IN TENSION ZONES. THE GRINDING MOTION SHALL BE PARALLEL WITH THE FLANGE EDGE.
3. NON-DESTRUCTIVELY TEST (NDT) THE AREA USING MAGNETIC PARTICLE EXAMINATION AND/OR DYE PENETRATION SO THAT THE ENGINEER MAY FURTHER INSPECT FOR CRACKS.
4. ALL CRACKS AND/OR CRACK TIPS THAT ARE ACCESSIBLE ARE TO BE REMOVED AS SHOWN IN THE PLANS AND PAID FOR AS ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT. ANY CRACKS INACCESSIBLE TO DRILLING ARE TO BE REMOVED AS SHOWN IN THE PLANS BY CAREFUL GRINDING, OR BY CAREFULLY ENLARGING THE DRILLED HOLES BY GRINDING, AND PAID FOR UNDER: ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT.
5. PERFORM STEPS 1 THROUGH 4 ON THE OTHER SIDE OF THIS LOCATION.

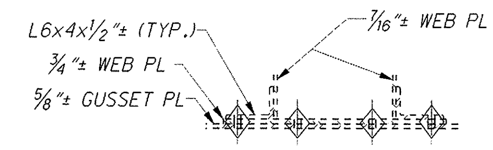
THE ACCEPTED NUMBER OF LOCATIONS OF WORK AS DESCRIBED IN THIS NOTE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LOCATION. THIS PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO CLEAN, GRIND, AND PERFORM NDT ON ALL SURFACES AT EACH LOCATION.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID UNDER:

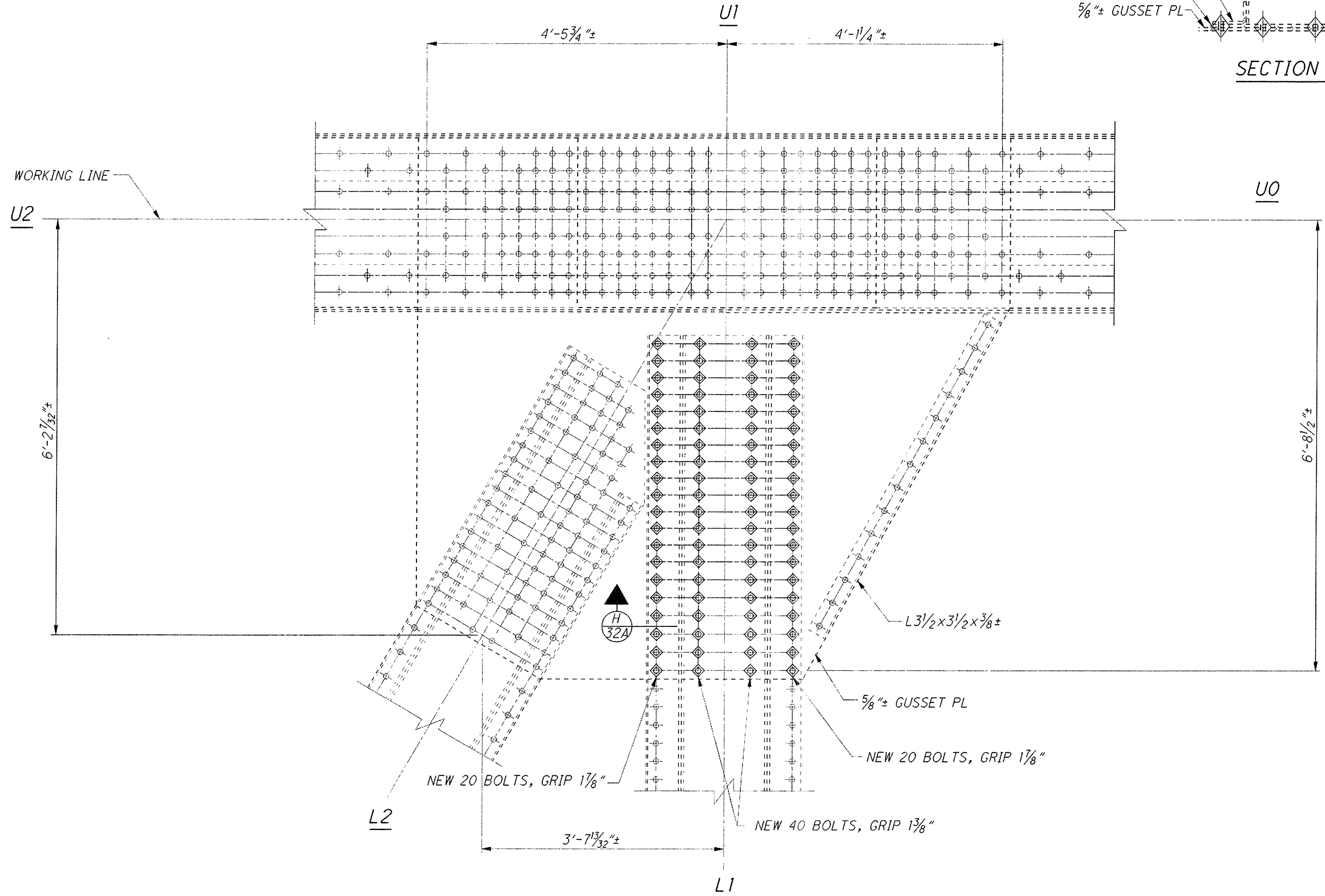
ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT

GENERAL NOTES CONTINUED: SEE SHEET 13/140.

BOLT TABLE — $\frac{7}{8}$" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜"	2¾"	40	80
1⅞"	3¼"	40	80



SECTION H



U1I0

SPAN 2 - PANEL POINT U1 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	KH	DAP	7/31/09
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JDB	9/4/09	1809393	

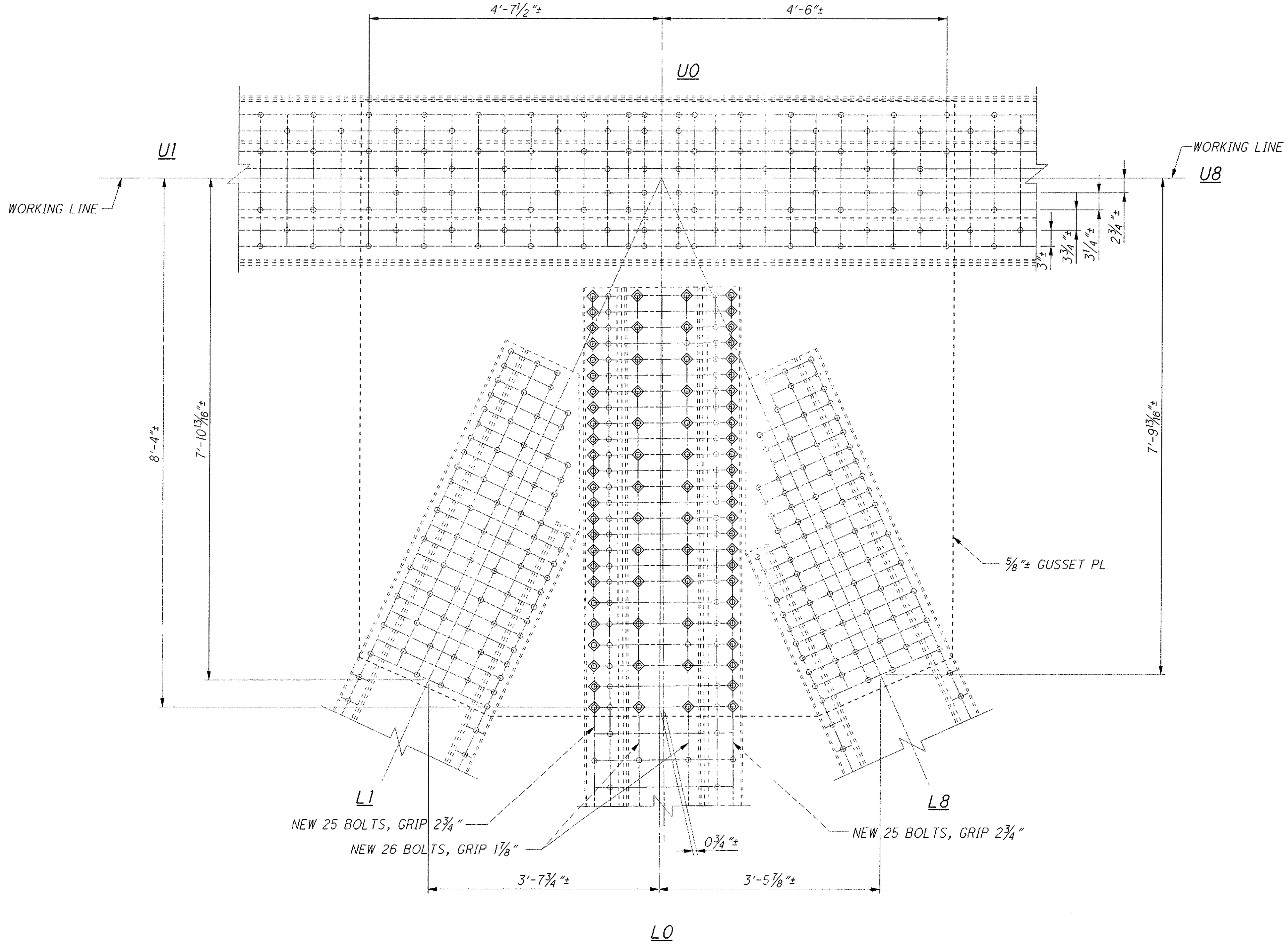
SPAN 2 - PANEL PT U1 (U1I0) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

32A/140

U1I0N.DGN 9/02/09 RB,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅞"	3¼"	26	52
2¾"	4¼"	50	100



U109

SPAN 2 - PANEL POINT U0 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED ALP CHECKED dht

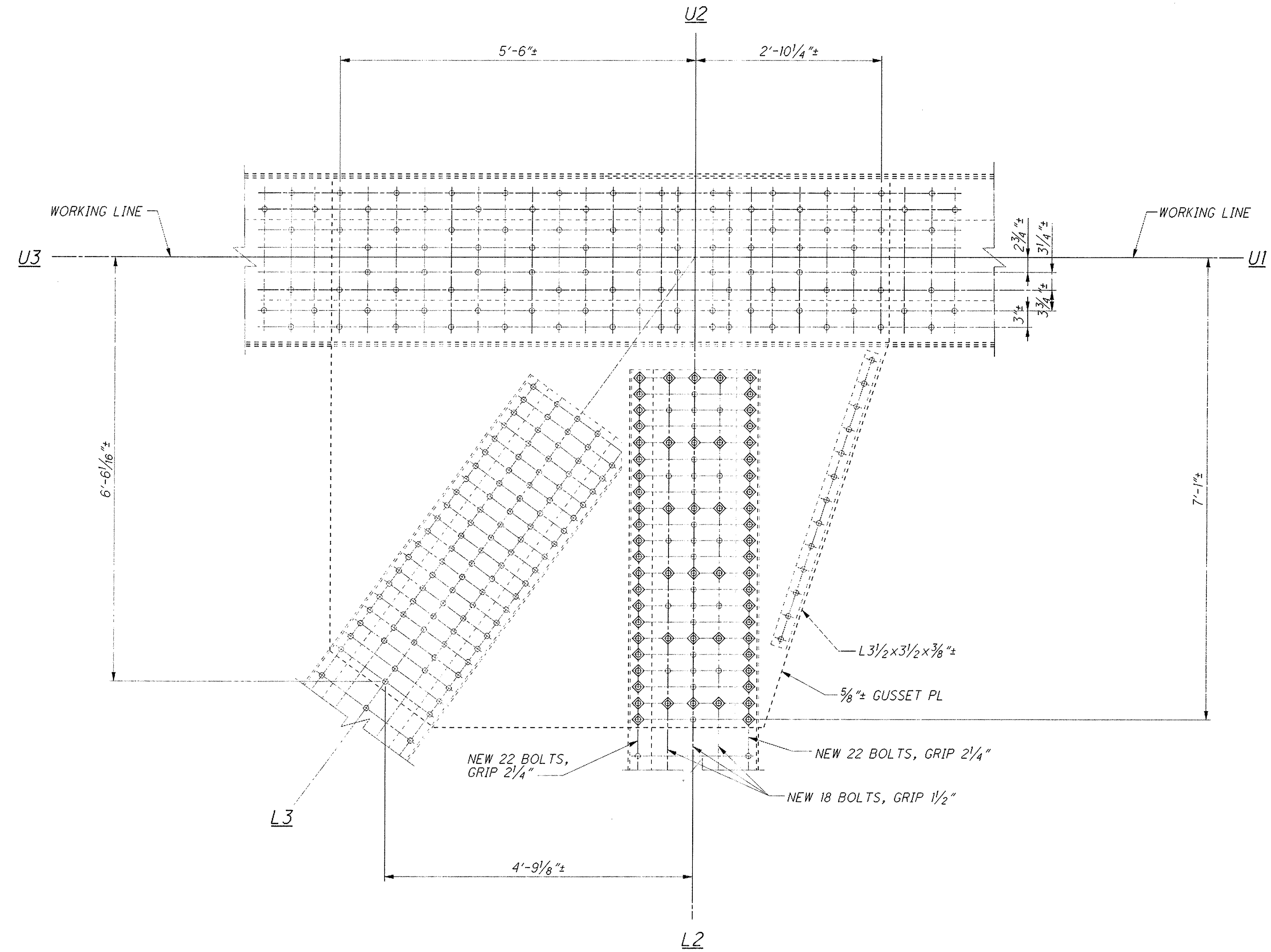
SPAN 2 - PANEL PT U0 (U109) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

32B/140

67B/175

U109N.DGN 9/02/09 JLS



U1I1

SPAN 2- PANEL POINT U2 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	3"	18	36
2¼"	3½"	44	88

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.

- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP | DATE 9/4/09 | STRUCTURE FILE NUMBER 1809393

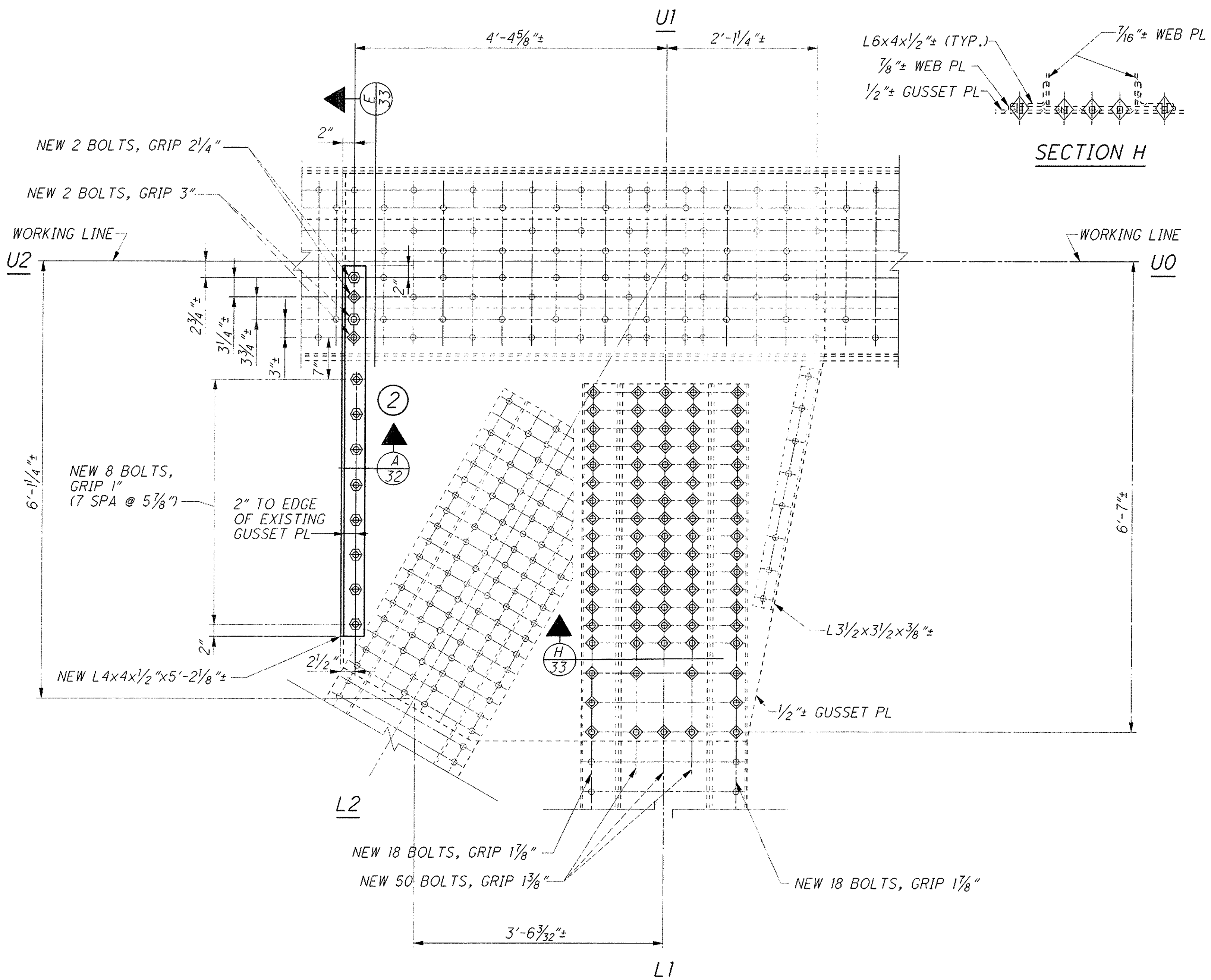
DESIGNED ALP | DRAWN JLS | REVISED | CHECKED dht

SPAN 2 - PANEL PT U2 (U1I1) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

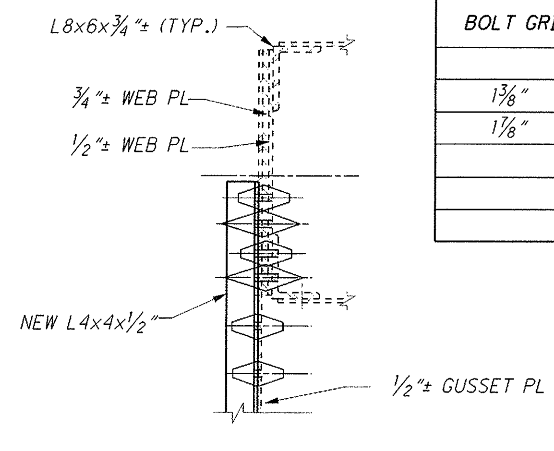
U1I1N.DGN 9/01/09 JLS

TYPE (2), BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2½"	8	16
2¼"	3¾"	2	4
3"	4½"	2	4



SECTION H

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜"	2¾"	50	100
1⅞"	3¼"	36	72



SECTION E

U315

SPAN 4 - PANEL POINT U1 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140 AND ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS NOTES ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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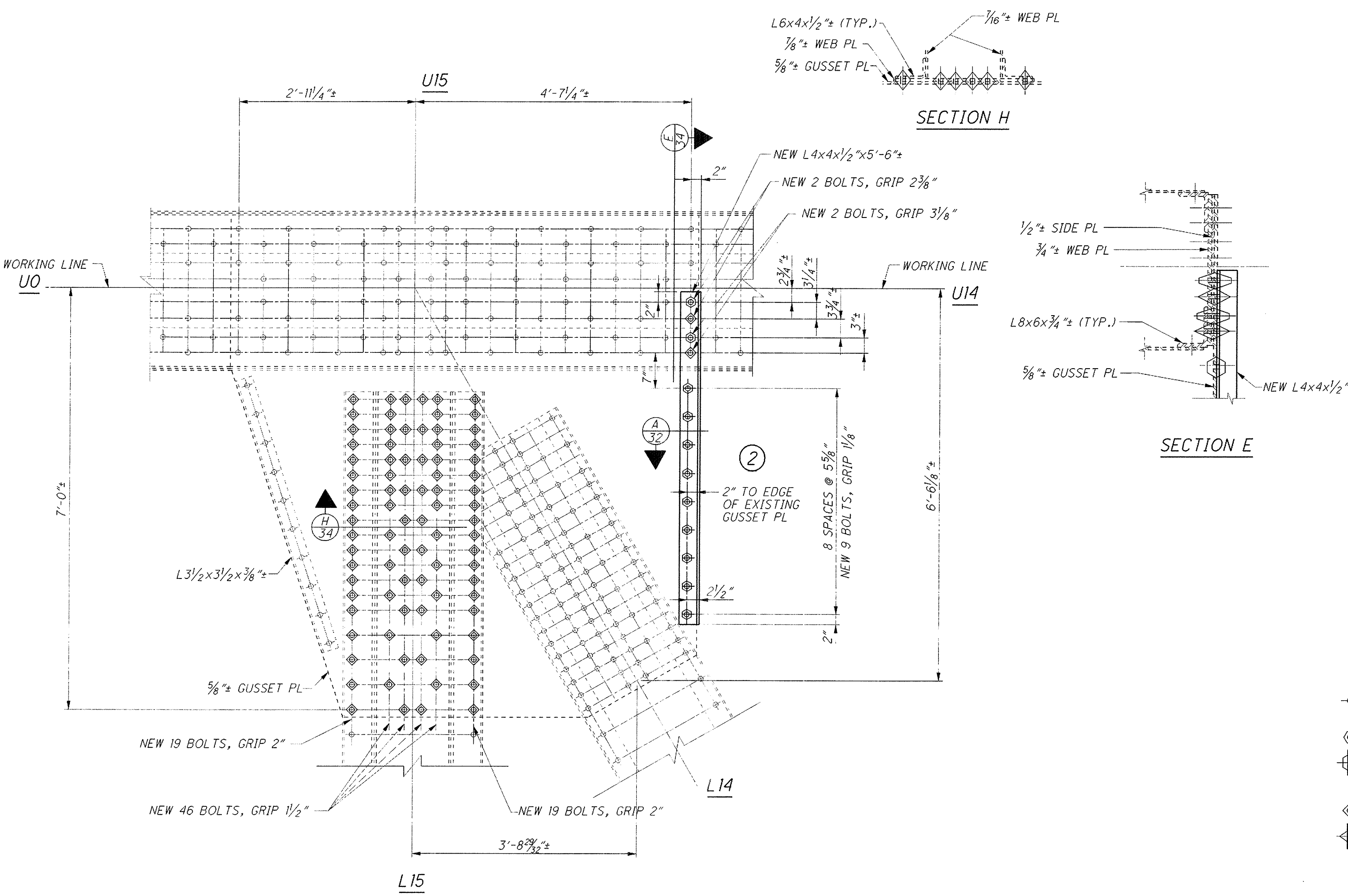
SPAN 4 - PANEL PT U1 (U315) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



U503

SPAN 4- PANEL POINT U15 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE ⅞" DIA. A490

BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	2¾"	46	92
2"	3¼"	38	76

TYPE (2), BOLT TABLE - ⅞" DIA. A490

BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅛"	2¾"	9	18
2⅜"	4"	2	4
3⅛"	4¾"	2	4

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140 AND ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS NOTES ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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MANSFIELD, OHIO 44902

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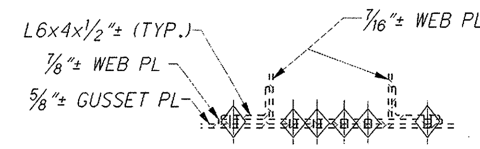
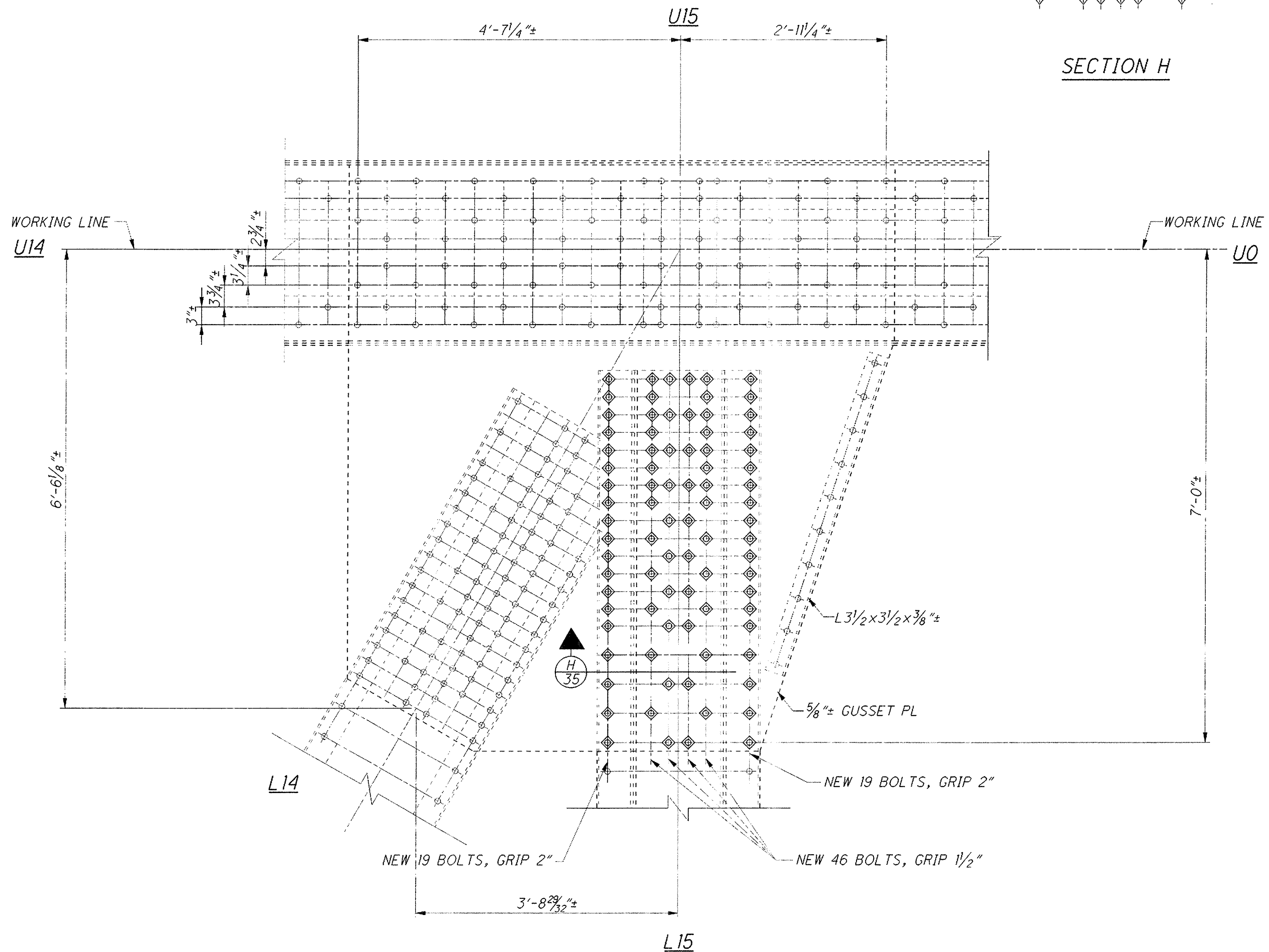
SPAN 4 - PANEL PT U15 (U503) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U503N.DGN 9/01/09 TWH,JLS



SECTION H



U503

SPAN 4- PANEL POINT U15 - 2 GUSSET PLATES

SOUTH TRUSS OUTSIDE - SHOWN

SOUTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	2¾"	46	92
2"	3¼"	38	76

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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MANSFIELD, OHIO 44902

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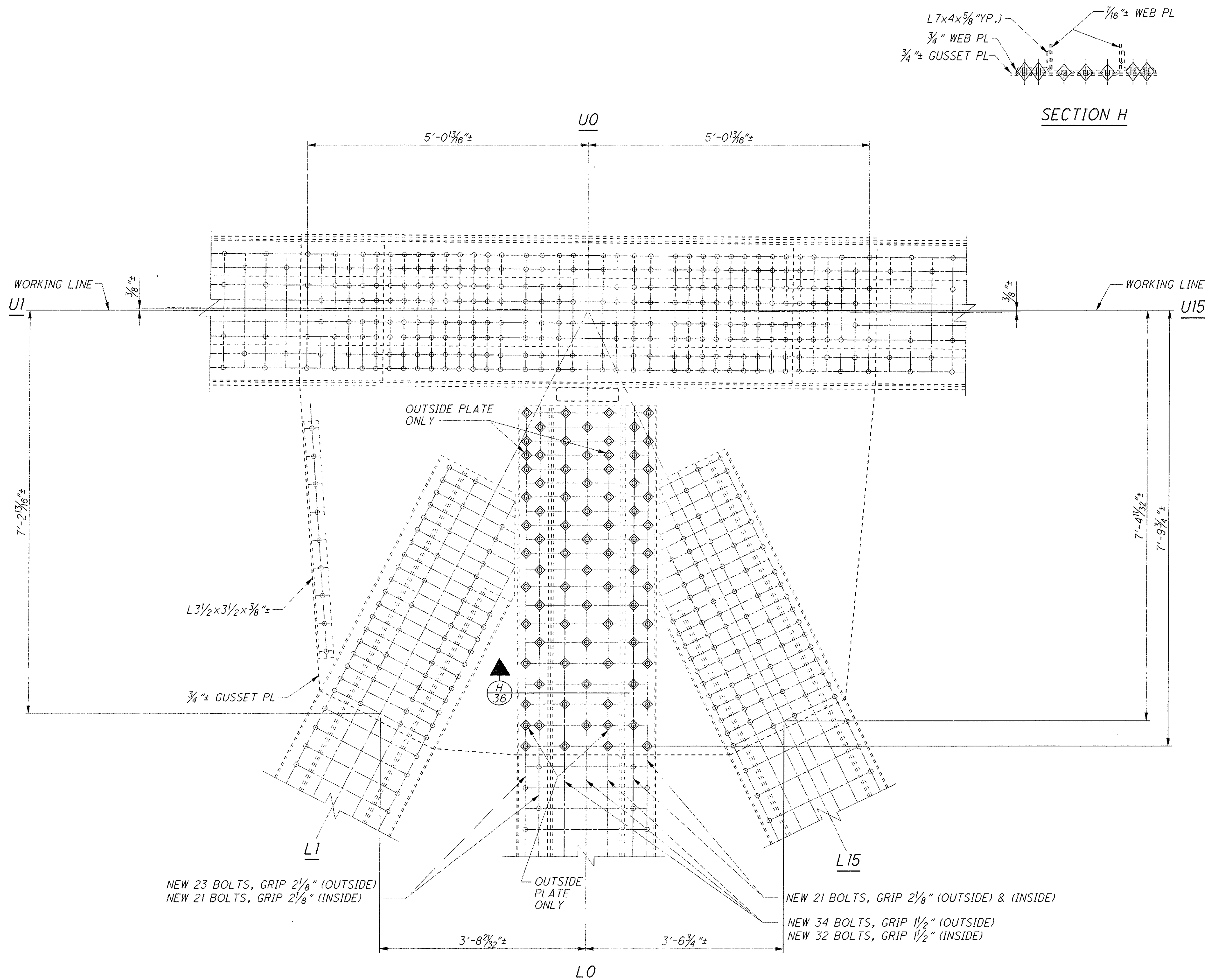
SPAN 4 - PANEL PT U15 (U503) SOUTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U503S.DGN 9/01/09 TWH,RB,JLS



U504
SPAN 5 - PANEL POINT U0 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE
NORTH TRUSS INSIDE (SIMILAR)

REVISED 9/4/09

BOLT TABLE 7/8" DIA. A490				
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER (OUTSIDE) PLATE	QTY. PER (INSIDE) PLATE	SHEET TOTAL
1 1/2"	2 3/4"	34	32	66
2 1/8"	3 1/2"	44	42	86

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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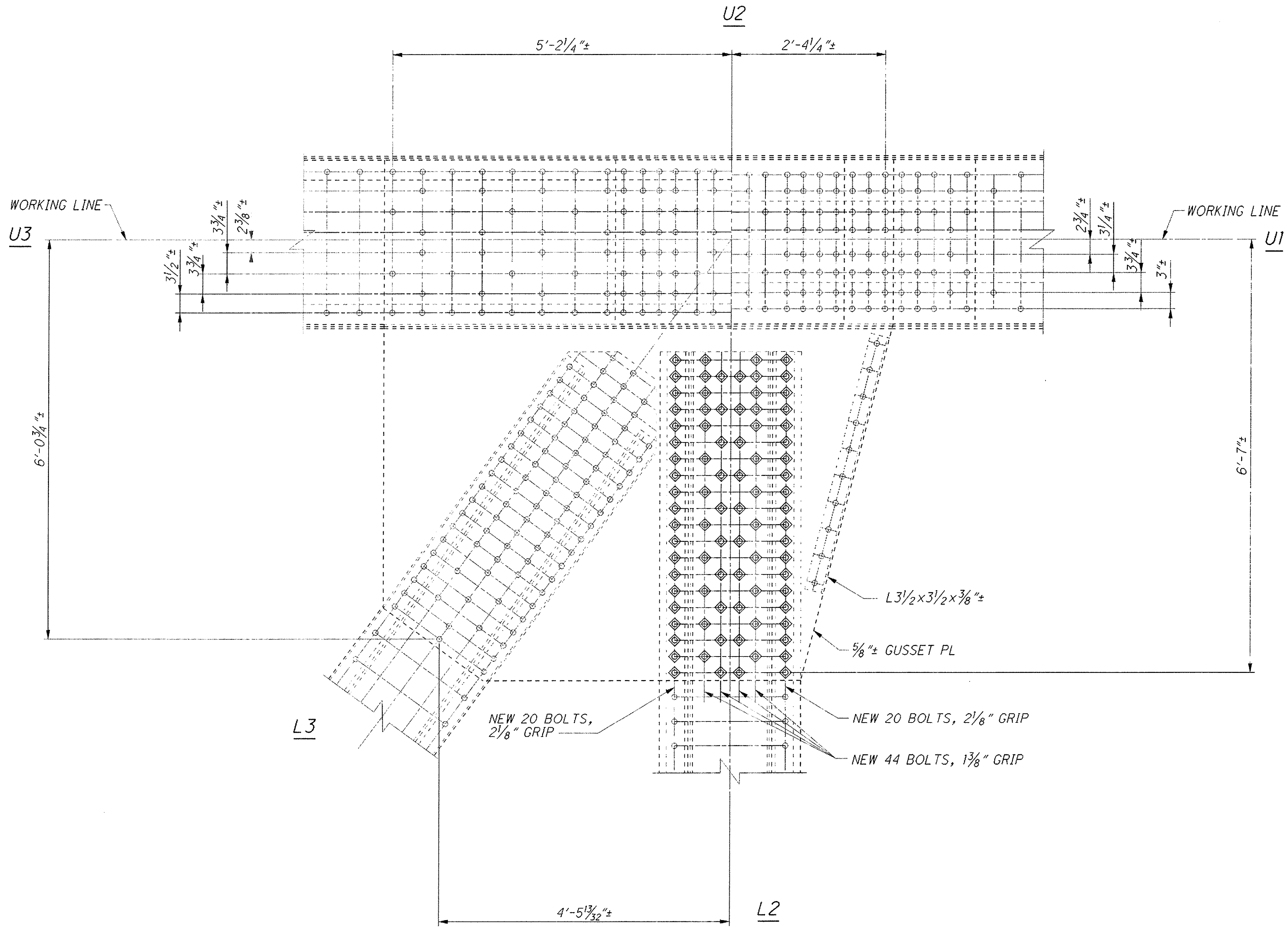
DESIGNED ALP CHECKED JDB

SPAN 5 - PANEL PT U0 (U504) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U504N(OUTSIDE).DGN 9/01/09 BB,SCB,TWH,KH,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜"	2¾"	44	88
2⅛"	3½"	40	80



U716
SPAN 8 - PANEL POINT U2 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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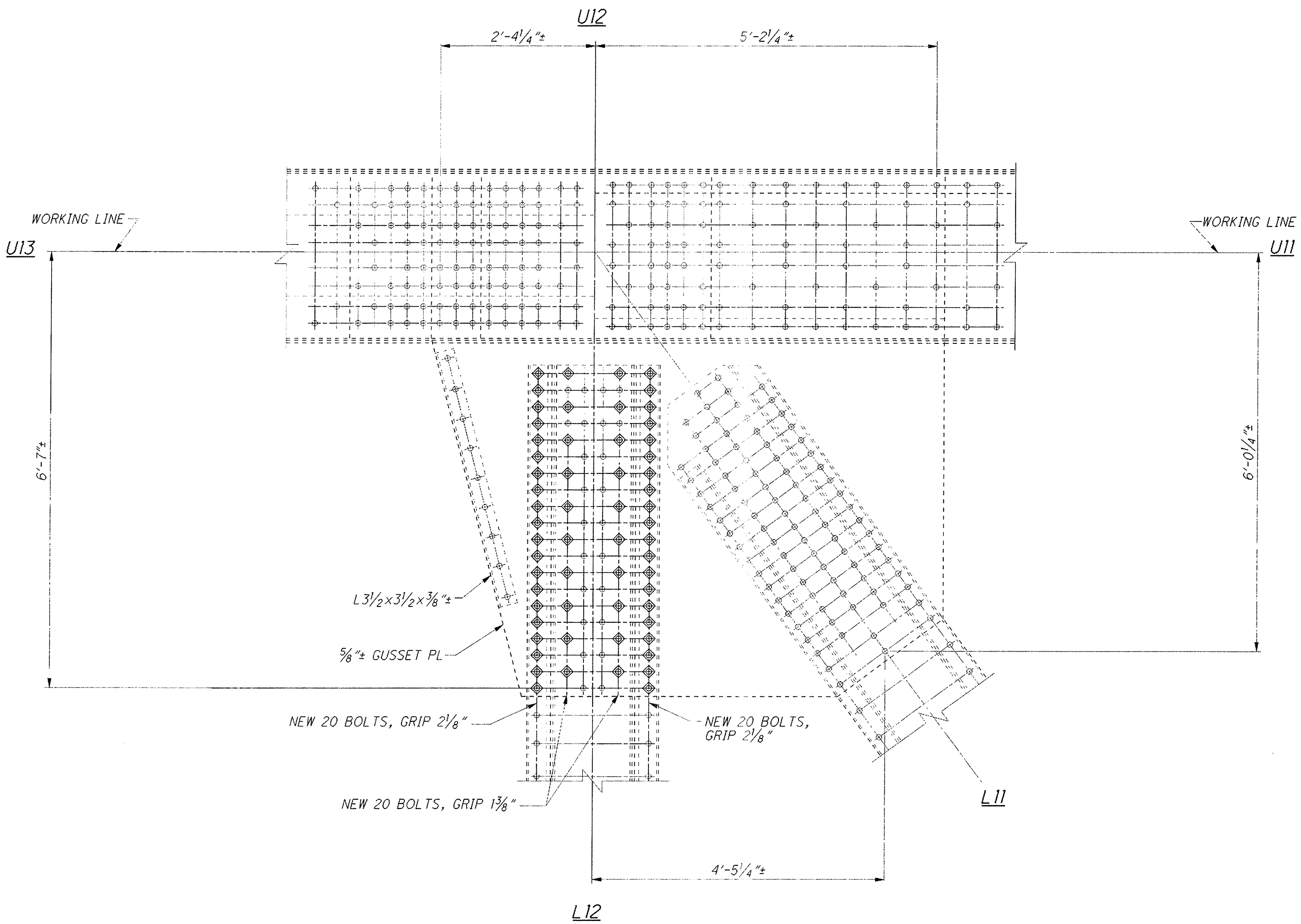
SPAN 8 - PANEL PT U2 (U716) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

36A/140

71A
175

U716N.DGN 9/01/09 JLS



U902

SPAN 8 - PANEL POINT U12 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜"	2¾"	20	40
2⅛"	3½"	40	80

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

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29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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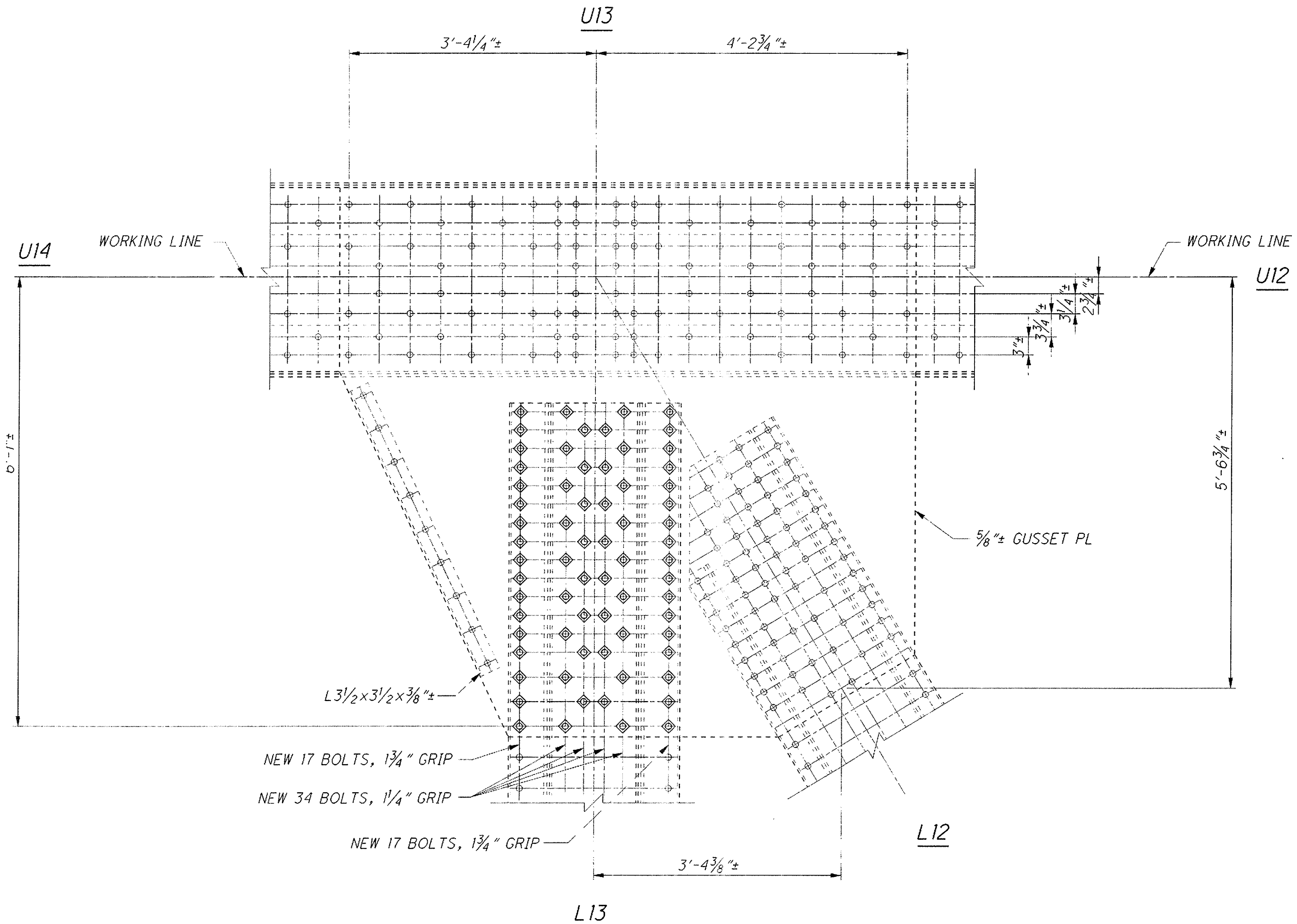
SPAN 8 - PANEL PT U12 (U902) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U902N.DGN 9/01/09 JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1¼"	2¾"	34	68
1¾"	3¼"	34	68



U903
SPAN 8 - PANEL POINT U13 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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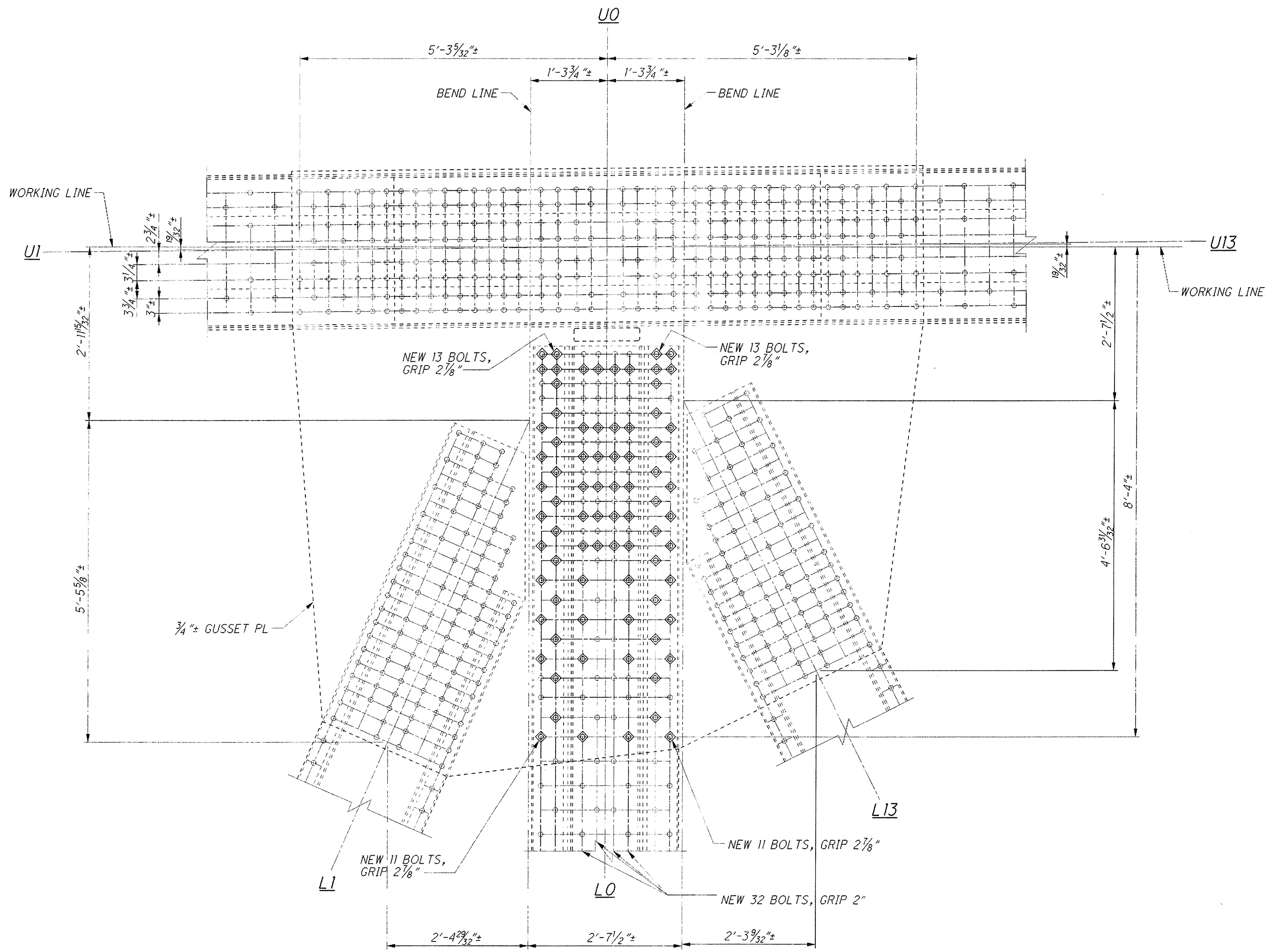
SPAN 8 - PANEL PT U13 (U903) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U903N.DGN 9/01/09 JLS



U904
SPAN 9 - PANEL POINT U0 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2"	3 1/2"	32	64
2 7/8"	4 1/4"	48	96

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.

- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

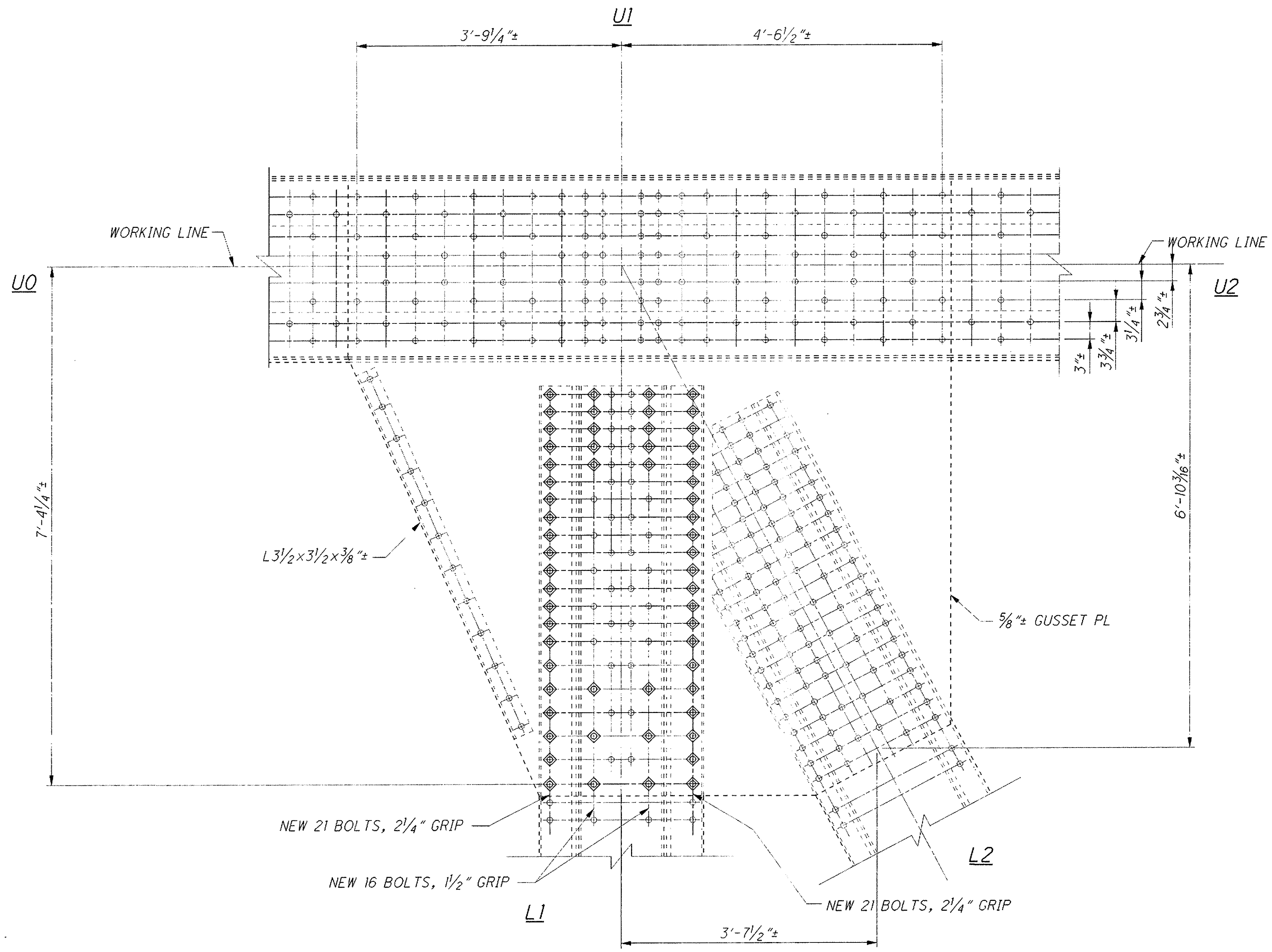
REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DESIGNED ALP DRAWN JLS
CHECKED dht REVISED

SPAN 9 - PANEL PT U0 (U904) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U904N.DGN 9/02/09 JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	3"	16	64
2¼"	3¾"	42	168



U905

SPAN 9 - PANEL POINT U1- 4 GUSSET PLATES

SOUTH TRUSS OUTSIDE - SHOWN

SOUTH TRUSS INSIDE - OPPOSITE HAND

NORTH TRUSS INSIDE - SIMILAR

NORTH TRUSS OUTSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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dht		1809393	

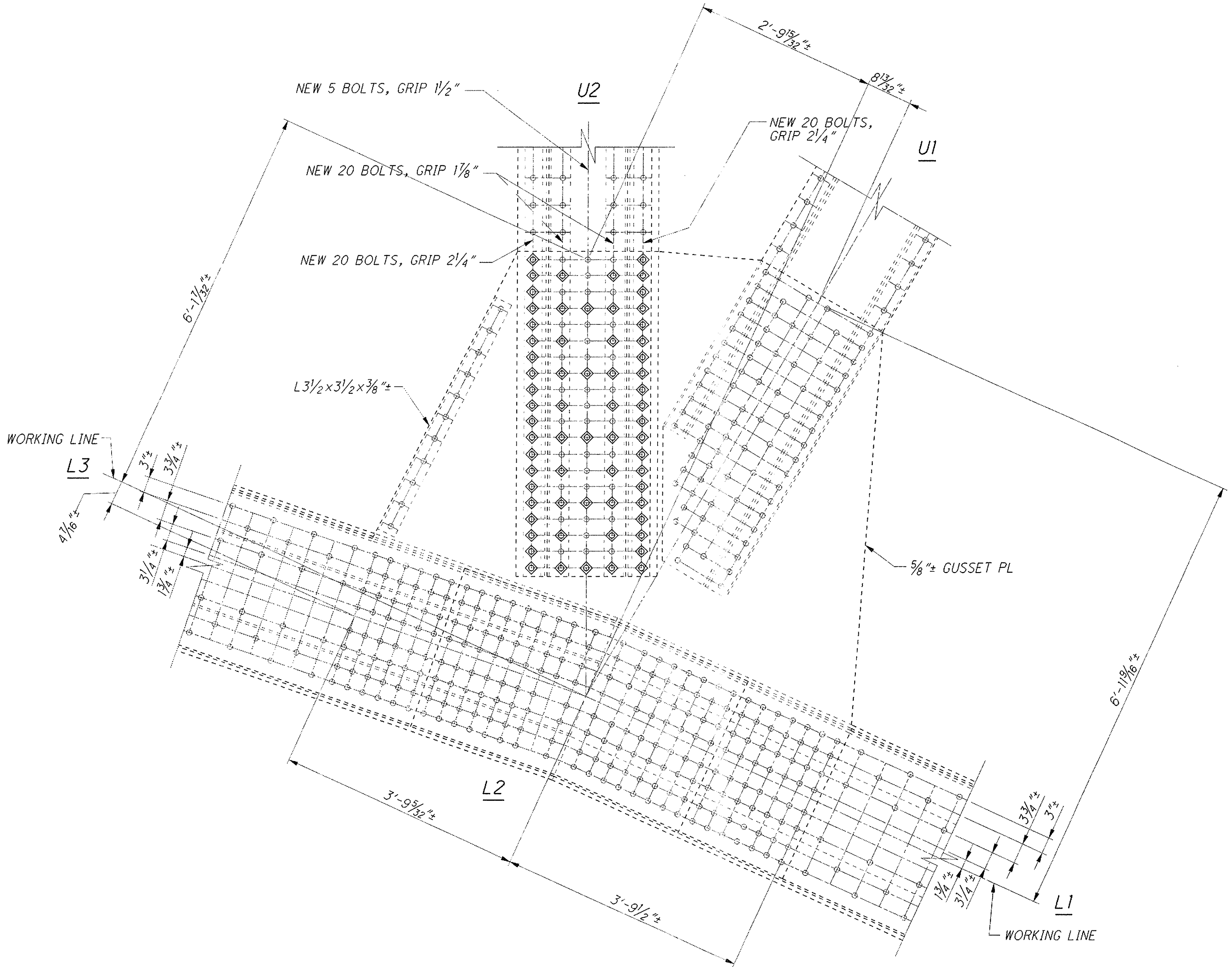
SPAN 9 - PANEL PT U1 (U905) N & S TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

36E/140

71E/175

U905N&S.DGN 9/01/09 JLS



L111

SPAN 2 - PANEL POINT L2 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - ⅞" DIA. A490

BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	3"	5	10
1⅞"	3¼"	20	40
2¼"	3¾"	40	80

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DESIGNED ALP DRAWN JLS
CHECKED dht REVISED

SPAN 2 - PANEL PT L2 (L111) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

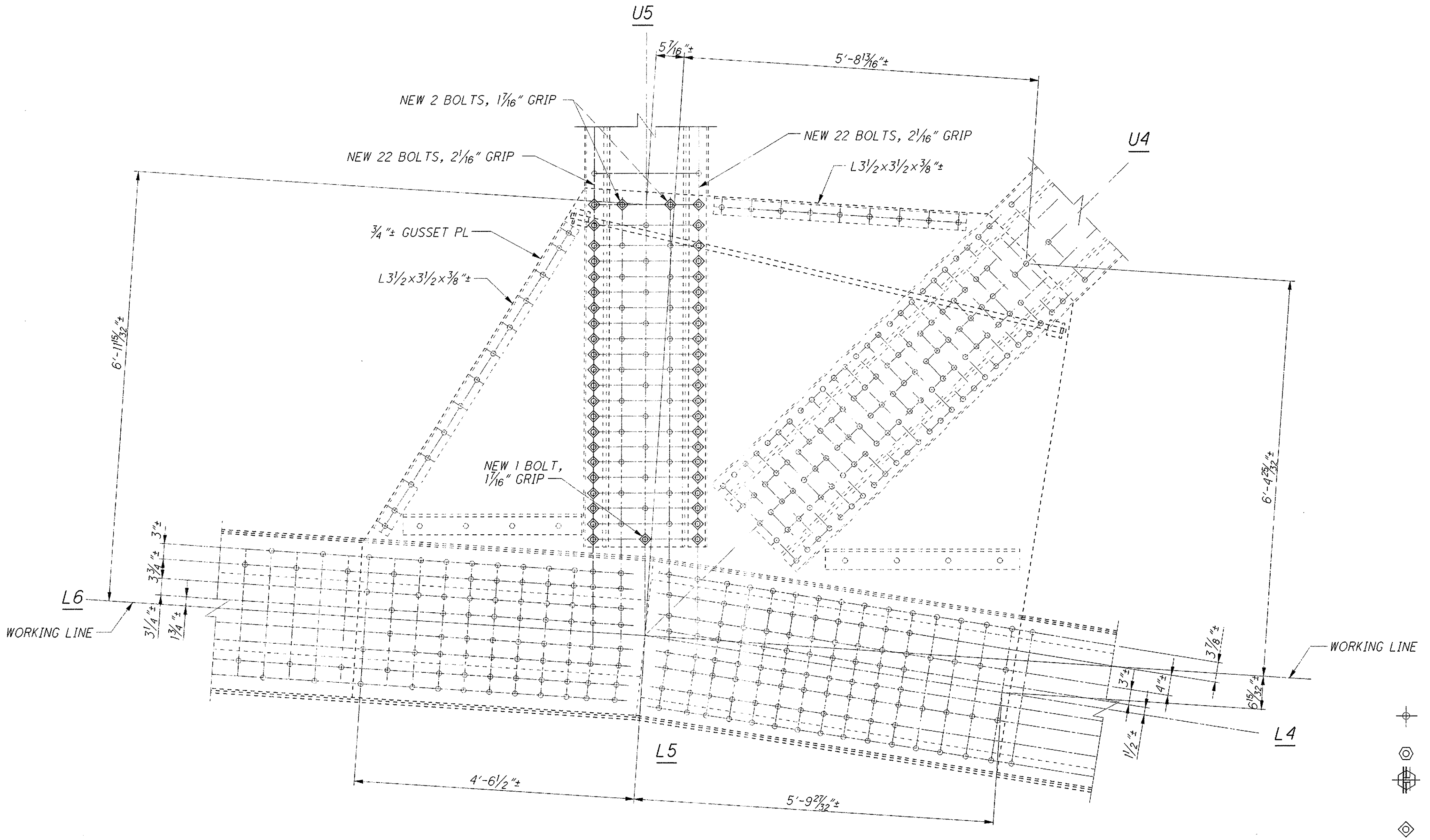
CUY-90-15.24
PID No. 82069

38A/140

73A/175

L111N.DGN 9/02/09 JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 7/16"	2 3/4"	3	6
2 1/16"	3 1/2"	44	88



L41

SPAN 4 - PANEL POINT L5 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

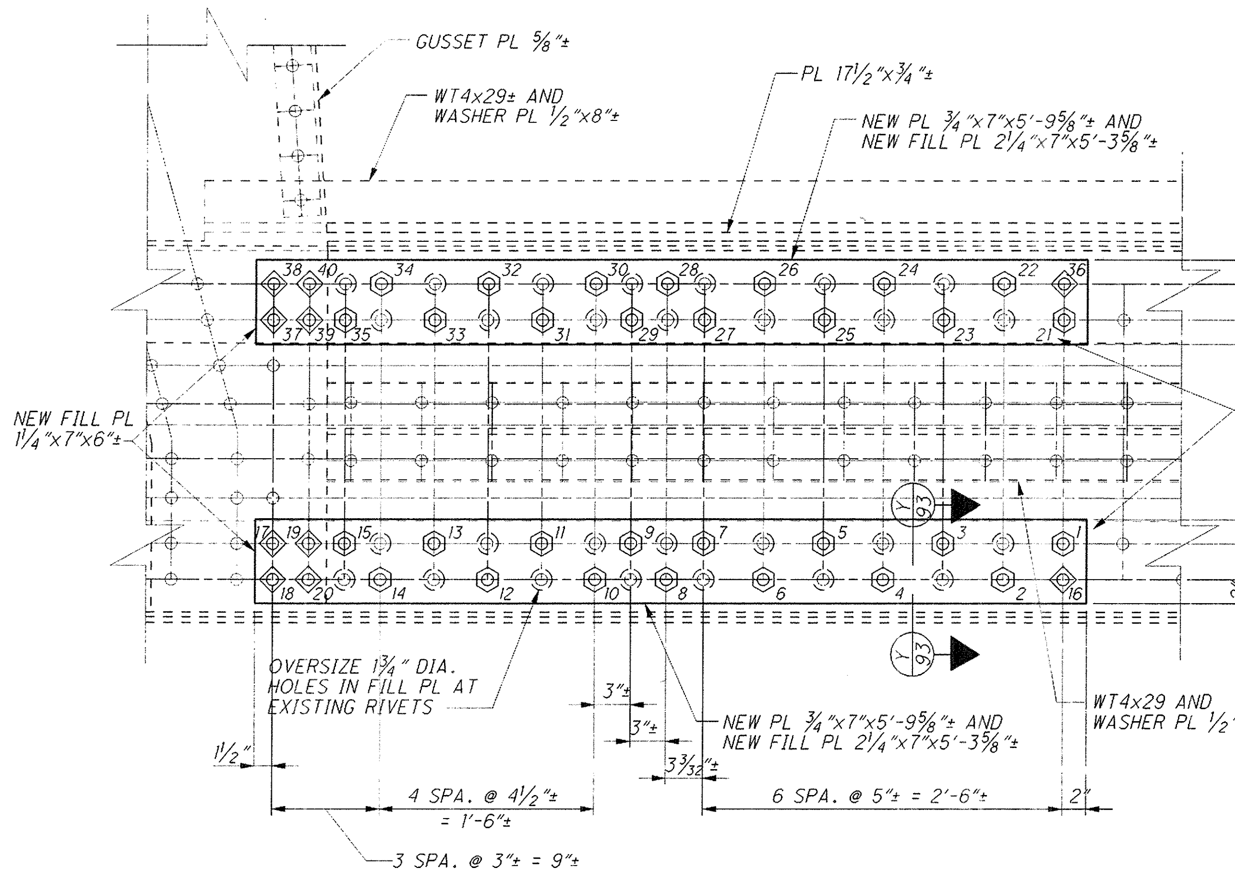
REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED ALP CHECKED dht

SPAN 4 - PANEL PT L5 (L41) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

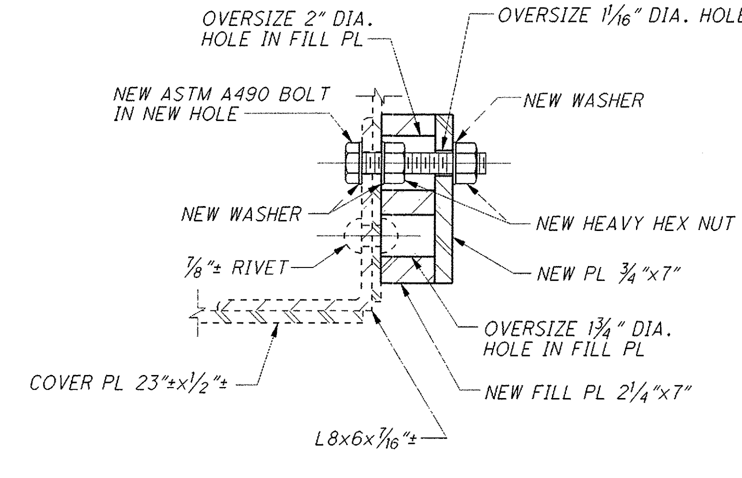
L41N.DGN 9/01/09 JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER SIDE	SHEET TOTAL
3 13/16"	5½" (5" THREAD)	40	80



DETAIL "X" - NEW BOLT INSTALLATION SEQUENCE

(NORTH FACE SHOWN; SOUTH FACE OPPOSITE HAND. WORK ON ONLY ONE FACE AT A TIME.)

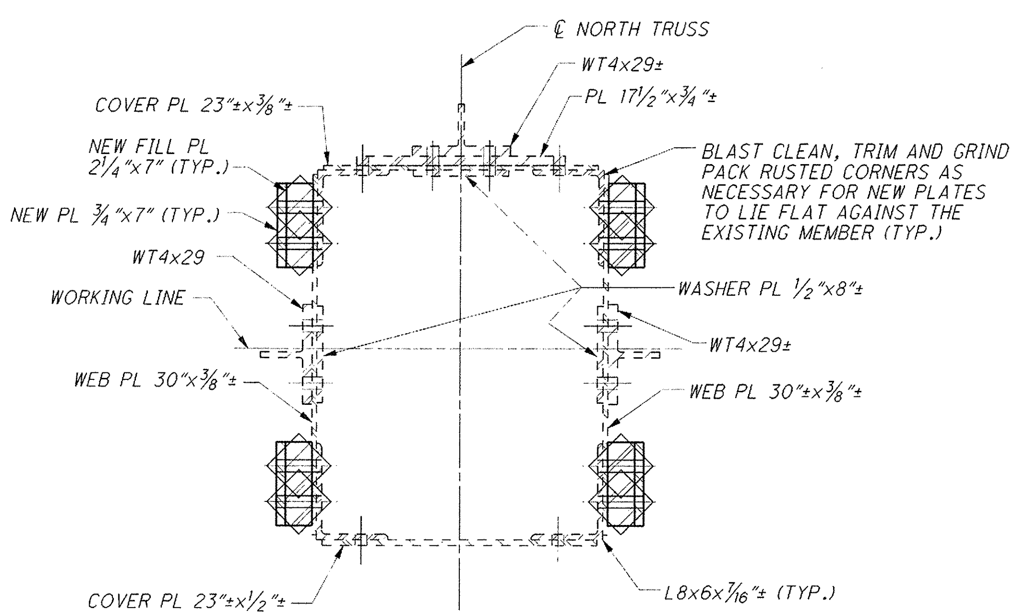


SECTION Y-Y

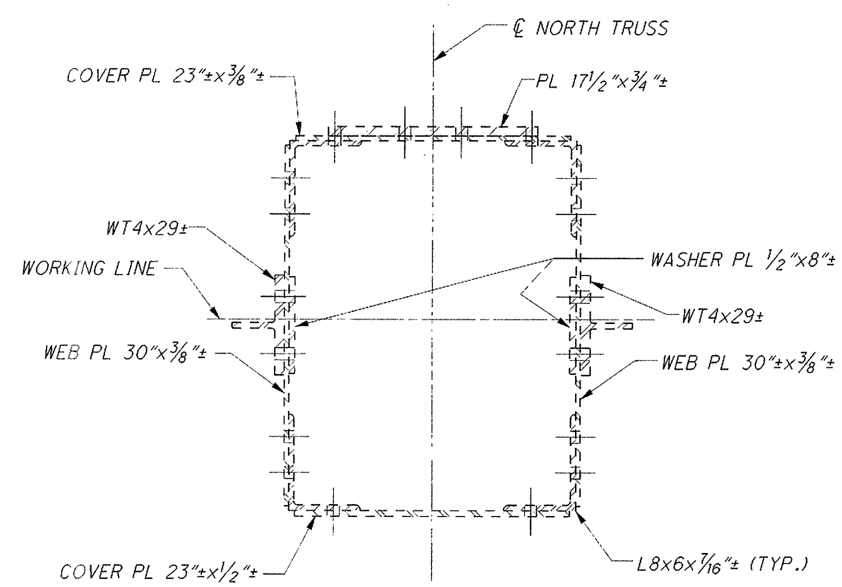
NOTE: INITIAL INSTALLATION OF BOLTS #1 TO #16 AND #21 TO #36 IN NEW HOLES THROUGH EXISTING MATERIAL OR EXISTING RIVET LOCATIONS SHALL BE PERFORMED ONE AT A TIME WITH TRAFFIC ON THE BRIDGE. INITIAL INSTALLATION OF BOLTS #17 TO #20 AND #37 TO #40 SHALL BE PERFORMED ONE AT A TIME WITH THE BRIDGE CLOSED TO TRAFFIC. FINAL TIGHTENING OF THE SECOND NUTS OVER THE NEW PLATES SHALL BE COMPLETED WITH THE BRIDGE CLOSED TO TRAFFIC.

BOLT LEGEND

- FIELD BOLT, NUT AND FULL HEAD. NEW MATERIAL TO NEW MATERIAL.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- EXISTING RIVET TO REMAIN IN PLACE WITH HOLE IN FILL PLATE TO CLEAR RIVET HEAD.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.



SECTION B-B



SECTION C-C

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAIL "X": FOR LOCATIONS SEE SHEET 92/140.

SECTIONS B-B & C-C: FOR LOCATIONS SEE SHEET 92/140.

ITEM 513-STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING: SEE GENERAL NOTE SHEET 10/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP	9/4/09	1809393	

SPAN 8 L3-L4 (L717-L718) NORTH TRUSS CHORD REPAIR - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

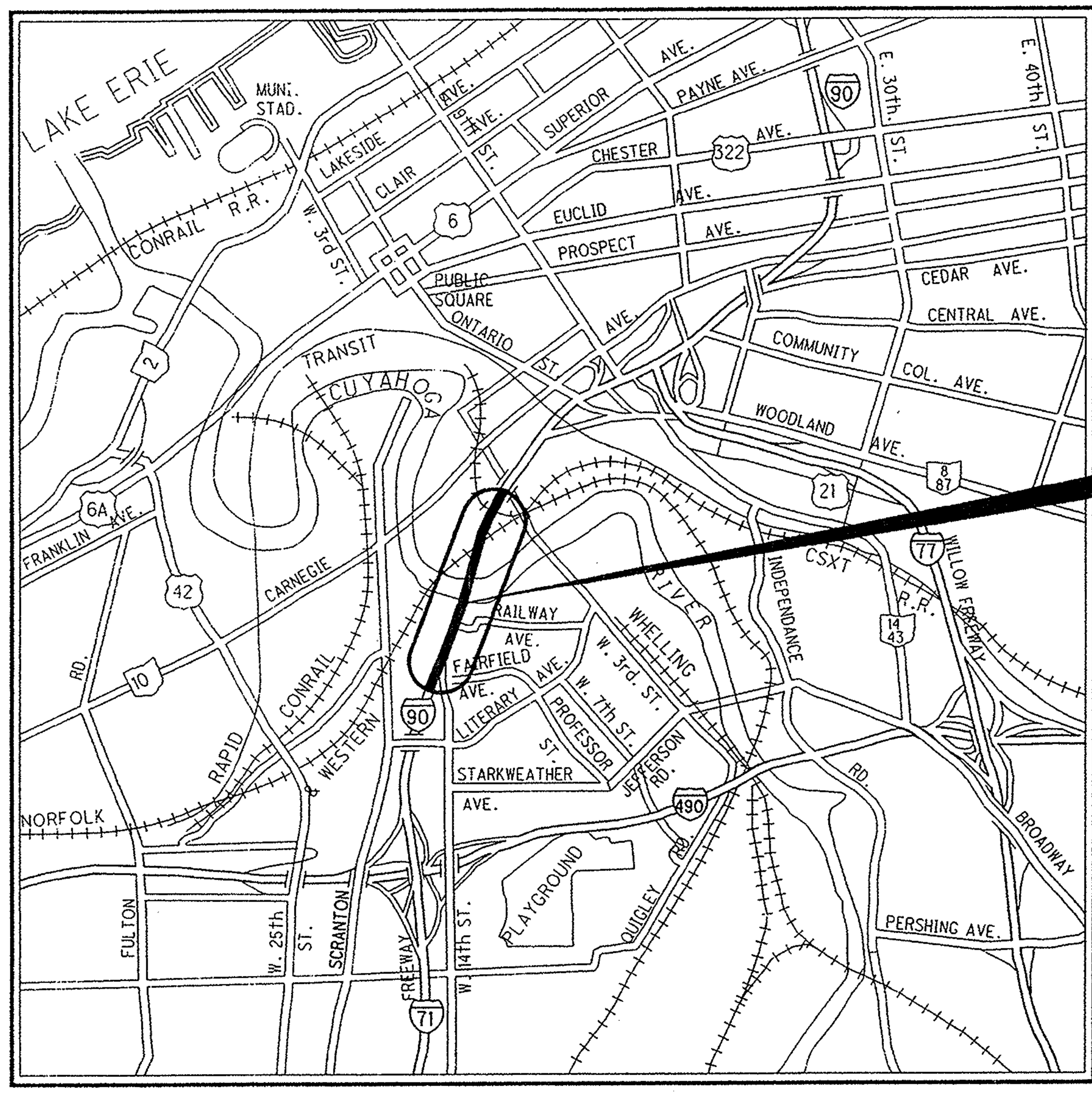
CUY-90-15.24
PID No. 82069

090_1524CSD021.DGN 9/01/09 TWH,KH,JLS

CUY-90-15.24
090466 PID - 82069
DIST 12 9/16/2009

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-90-1524
BRIDGE REPAIR
CITY OF CLEVELAND
CUYAHOGA COUNTY



LOCATION MAP

LATITUDE: N 41°29'05" LONGITUDE: W 81°41'28"

SCALE IN MILES
0 ½ 1 2

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
U.S. HIGHWAYS
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

INDEX OF SHEETS:

PROJECT DESCRIPTION

THE PROPOSED PROJECT IS THE REMOVAL OF THE EXISTING SPAN 1 & 2 WIDENING GIRDER; AND THE REPAIR OF STEEL TRUSS CHORD GUSSET PLATE CONNECTIONS, FLOORBEAM CONNECTIONS, STRINGER ENDS, AND OTHER STEEL REPAIRS. THE PURPOSE OF THE PROJECT IS TO REOPEN THE BRIDGE TO 8 LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS AND EXTEND THE TRUSS STRUCTURE SERVICE LIFE.

PROJECT LENGTH = 0.0 MILE.

2008 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF I.R. 90 AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 3.

APPROVED ____ PE
DATE 8/11/09 DISTRICT DEPUTY DIRECTOR

APPROVED ____
DATE 8-19-09 DIRECTOR, DEPARTMENT OF TRANSPORTATION

DESIGN EXCEPTIONS:

DESIGN FEATURE:	APPROVAL DATES:
LANE WIDTH	8/14/09
SHOULDER WIDTH	8/14/09
BRIDGE WIDTH	8/14/09

PROJECT EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT DISTURBED AREA	= N/A (MAINTENANCE PROJECT)

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

PREPARED AND RECOMMENDED BY:

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD OHIO 44902
PHONE: (419) 524-0074 FAX: (419) 524-1812

ENGINEERS SEAL:

STATE OF OHIO
DEAN A. PALMER
E-37475
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Dean A. Palmer
DATE: 8-10-09

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
HL-10.11	4-17-09	TC-41.20	1-19-01	MT-35.10	4-20-01			EXJ-2-81	7-19-02	800	7-17-09
HL-10.12	1-19-07	TC-41.40	7-16-04	MT-95.30	9-5-06			PCB-91	7-19-02	832	5-5-09
HL-10.13	4-17-09	TC-42.10	1-19-07	MT-97.10	4-17-09			SBR-1-99	7-19-02		
HL-20.14	4-17-09	TC-42.20	7-16-04	MT-98.29	10-19-07			VPF-1-90	7-19-02		
HL-50.21	1-19-07	TC-51.11	4-20-01	MT-99.20	1-16-09						
HL-60.11	1-19-07	TC-52.10	1-19-07	MT-99.50	1-16-09			SPECIAL PROVISIONS			
		TC-52.20	1-19-07	MT-101.70	1-16-09						
		TC-65.10	1-21-05	MT-102.10	4-17-09						
		TC-65.11	1-21-05	MT-105.10	1-16-09			OEPA - NOTIFICATION OF DEMOLITION AND			
		TC-71.10	1-16-09					RENOVATION 8-10-09			
								ASBESTOS SURVEY 6-15-09			

108031/108031-13/82069/82069GT001.DGN 7/29/09 SAN,TWH,SCB

FEDERAL PROJECT NO.
E080 (255)

PID NO.
82069

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NORFOLK SOUTHERN RAILWAY, CSX

CUY-90-15.24

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR OWNERS:

ELECTRIC:
CLEVELAND PUBLIC POWER
1300 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN: DALE TURKOVICH
PHONE: 216-664-4245 EXT. 115

ELECTRIC:
ILLUMINATING COMPANY
6896 MILLER ROAD (SUITE 110)
BRECKSVILLE, OHIO 44141
ATTN: JERRY ROGERS
PHONE: 440-717-6808

GAS:
DOMINION EAST OHIO
320 SPRINGSIDE DRIVE
FAIRLAWN, OHIO 44333
ATTN: MIKE ANTONIUS
PHONE: 216-736-6675

WATER:
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN: GUY SINGER
PHONE: 216-664-2444 EXT. 5555

CATV:
TIME WARNER
14300 SOUTH INDUSTRIAL PARKWAY
MAPLE HEIGHTS, OHIO 44137
ATTN: KIP EIGER
PHONE: 216-663-4003

SEWER:
NEORSD
3900 EUCLID AVENUE
CLEVELAND, OHIO 44115-2504
ATTN: RICHARD SWITALSKI
PHONE: 216-881-6600

SIGNALS:
CAVALIER NETWORKS
6777 ENGLE ROAD, SUITE E
MIDDLEBURG HEIGHTS, OHIO 44130
ATTN: RICH KOSOISKY
PHONE: 440-260-0102

LIGHTING:
ODOT-12
5500 TRANSPORTATION BOULEVARD
GARFIELD HEIGHTS, OHIO 44125
ATTN: LOU MINCEK
PHONE: 216-584-2221

STEAM:
DOMINION-CLEVELAND
THERMAL ENERGY CORP.
1921 HAMILTON AVENUE
CLEVELAND, OHIO 44114
ATTN: SCOTT TEMPLETON
PHONE: 216-241-4192

TELEPHONE:
XO COMMUNICATIONS
3 SUMMIT DRIVE, SUITE 750
INDEPENDENCE, OHIO 44131
ATTN: ENGINEERING & CONSTRUCTION MANAGER
PHONE: 216-619-3200

TELEPHONE:
LEVEL (3) COMMUNICATIONS, LLC
1025 EL DORADO BOULEVARD
BROOMFIELD, COLORADO 80021
ATTN: BILL O'DWYER NETWORK
PHONE: 720-888-3406

TELEPHONE:
ATT
13630 LORAIN AVENUE, 4TH FLOOR
CLEVELAND, OHIO 44111
ATTN: ERIC WESTERBURG
PHONE: 216-476-6142

TELEPHONE:
BROADWING COMMUNICATIONS
INCORPORATED
1122 SOUTH CAPITAL OF TEXAS
HIGHWAY
AUSTIN, TEXAS 78746
ATTN: R&U PROJECT
MANAGER/INVESTIGATIONS
PHONE: 512-742-1439

TELEPHONE:
ELANTIC TELECOM
6341 THOMPSON ROAD
SYRACUSE, NEW YORK 13206
ATTN: WILLIAM McBRIDE
PHONE: 315-414-0127

TELEPHONE:
MCI - WORLDCOM
120 RAVINE STREET
AKRON, OHIO 44303
ATTN: AL GUEST
PHONE: 330-253-8267

TELEPHONE:
ADESTA COMMUNICATIONS
254 WASHINGTON AVENUE EXT.
3 CORPORATE PLAZA, SUITE 302
ALBANY, NEW YORK 12203
ATTN: JOHN AIELLO
PHONE: 518-869-5053

RAILROADS:
NORFOLK SOUTHERN RAILWAY CORPORATION
ATTN: SCOTT DICKERSON
PHONE: 757-629-2364

CLEVELAND REGIONAL TRANSIT AUTHORITY:
PHONE: 216-566-5100

CSX TRANSPORTATION, INC.
LARRY SHAW
URS CORPORATION
ONE INDIANA SQUARE, SUITE 2100
INDIANAPOLIS, IN 46204
PHONE: 317-532-5481 OR 317-532-5400
FAX: 317-532-5499
E-MAIL: LARRY_SHAW@URSCORP.COM

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING AERIAL EASEMENTS

THE DEPARTMENT IS UTILIZING THE EXISTING CENTRAL VIADUCT AERIAL EASEMENTS "RIGHT TO MAINTAIN" LANGUAGE TO ACCESS THE PROJECT SITE. COORDINATE WORK ACTIVITIES WITH EACH PROPERTY OWNER IN ORDER TO MINIMIZE IMPACTS TO PROPERTY AND EXISTING BUSINESS OPERATIONS.

DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH CMS 107.10

CUYAHOGA RIVER COORDINATION

THE CONTRACTOR SHALL CONTACT THE U.S. COAST GUARD WITH A WRITTEN REQUEST AT LEAST 30 DAYS IN ADVANCE OF WORK THAT MAY INHIBIT MARINE TRAFFIC ON THE RIVER, SUSPEND BELOW THE "LOW STEEL" OF THE EXISTING BRIDGE, OR ENCROACH ON THE ESTABLISHED NAVIGATIONAL VERTICAL OR HORIZONTAL CLEARANCES. THE CONTRACTOR MUST PROVIDE WRITTEN REQUEST TO THE USCG REQUESTING AUTHORIZATION TO CLOSE THE CUYAHOGA RIVER TO TRAFFIC ON SPECIFIC DAYS. ANY SUCH WORK MUST BE APPROVED BY AND COORDINATED WITH THE U.S. COAST GUARD PRIOR TO PERFORMANCE.

CONTACT INFORMATION FOR THE COAST GUARD IS AS FOLLOWS:

MR. SCOTT STRIFFLER
BRIDGE PROGRAM MANAGER
NINTH COAST GUARD DISTRICT
1240 EAST NINTH STREET
CLEVELAND, OHIO 44199-2060
PHONE: 216-902-6086

THE CITY OF CLEVELAND DEPARTMENT OF PORTS AND HARBORS SHALL ALSO BE NOTIFIED OF ANY MAJOR WORK BEING PERFORMED OVER OR ALONG THE RIVER. CONTACT INFORMATION FOR THE CITY OF CLEVELAND DIVISION OF PORT CONTROL IS AS FOLLOWS:

SANDRA AMBRIS
HARBOR MASTER
CLEVELAND DIVISION OF PORT CONTROL
BURKE LAKEFRONT AIRPORT
1501 NORTH MARGINAL ROAD
CLEVELAND, OHIO 44114
(216) 664-5020
sambris@clevelandairport.com

THE US ARMY CORPS OF ENGINEERS SHALL ALSO BE NOTIFIED OF ANY WORK THAT MAY INHIBIT MARINE TRAFFIC ON THE RIVER. CONTACT INFORMATION FOR THE CORPS OF ENGINEERS IS AS FOLLOWS:

RYAN LENIHAN
ACTING CHIEF, OHIO AREA OFFICE
USACE - BUFFALO DISTRICT
1035 EAST 9TH STREET
CLEVELAND, OHIO 44114
(716) 207-7893
ryan.c.lenihan@usace.army.mil

PEREGRINE FALCON NESTS

THE PROJECT IS WITHIN THE RANGE OF THE STATE ENDANGERED PEREGRINE FALCON (FALCO PEREGRINUS). ANY PROJECT RELATED IMPACT TO THE PEREGRINE FALCON OR ITS KNOWN NESTING SITES ARE RESTRICTED BY FEDERAL AND STATE LAW. NEST SITES IN THE PROJECT AREA ARE MONITORED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES AND THE U.S. FISH AND WILDLIFE SERVICE. THE FALCON HAS BEEN KNOWN TO NEST ON THE EXISTING CENTRAL VIADUCT BRIDGE, PARTICULARLY WITHIN SPANS 1, 2 & 3 OF THE BRIDGE. AS OF SPRING OF 2008, A KNOWN ACTIVE NEST WAS LOCATED IN THE VICINITY OF SPAN 2 OF THE PROPOSED PROJECT. EXTREME CAUTION IS REQUIRED DURING THE FALCON'S NESTING PERIOD, WHICH IS BETWEEN MARCH 15 AND JULY 15. NO WORK SHALL OCCUR IN OR ON THESE SPANS WHILE FALCON EGGS OR FALCON CHICKS ARE PRESENT. WORK MAY RESUME WHEN PERMITTED BY ODOT IN CONCURRENCE WITH ODNR.

IF THE CONTRACTOR DISCOVERS A PEREGRINE FALCON NEST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND STOP WORK WITHIN 300 FEET OF THE FALCON NEST. ACCESS IN AND AROUND THE 300 FOOT ZONE WILL BE PERMITTED PROVIDED THAT THE CONTRACTOR SUBMITS AN ACCESS PLAN THAT IS APPROVED BY ODOT WITH ODNR CONCURRENCE. THE PROJECT ENGINEER WILL NOTIFY MR. DAMON GREER AT THE OHIO DEPARTMENT OF NATURAL RESOURCES - DIVISION OF WILDLIFE, AKRON DISTRICT 3 HQ AT (330) 245-3024 OR ON HIS CELL PHONE AT (330) 802-1677. THIS ISSUE HAS BEEN DISCUSSED WITH ODNR THAT IF THE FALCON NEST IMPACTS THE PROJECT SCHEDULE, ODNR WILL ATTEMPT TO RELOCATE THE FALCON NEST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ODNR, THE EQUIPMENT TO ACCESS THE NEST SITE(S). THE COST FOR PROVIDING THIS ODNR ACCESS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. FOR MORE INFORMATION ABOUT THE PEREGRINE FALCON GO TO: WWW.DNR.STATE.OH.US/WILDLIFE.

PEREGRINE FALCONS CAN EXHIBIT AGGRESSIVE BEHAVIOR. THE CONTRACTOR IS REQUIRED TO EXERCISE CAUTION WHEN WORKING IN THE AREAS NOTED ABOVE.

ANY DELAY COSTS RESULTING FROM SUSPENSION OF PROJECT WORK ON THE CRITICAL PATH, WHEN THE CONTRACTOR IS ORDERED TO SUSPEND WORK DUE TO THE PRESENCE OF AN ACTIVE PEREGRINE FALCON NEST, IS LIMITED TO THE FOLLOWING:

DELAY LESS THAN OR EQUAL TO 60 DAYS IS CONSIDERED TO BE AN EXCUSABLE, NON-COMPENSABLE DELAY PER 108.06B.8.

DELAY GREATER THAN 60 DAYS, IS CONSIDERED TO BE AN EXCUSABLE, COMPENSABLE DELAY PER 108.06D.4, AND ADDITIONAL COSTS ARE LIMITED TO 109.05.D.2.B & D.

CALCULATED JDL
CHECKED EEL

GENERAL NOTES

CUY-90-15.24

ITEM 614 - MAINTAINING TRAFFIC

A. GENERAL

THE CUY-90-1524 BRIDGE IS CURRENTLY RESTRICTED TO THREE LANES OF LIGHT VEHICLE TRAFFIC IN THE EASTBOUND AND WESTBOUND DIRECTIONS. THE OUTERMOST LANES ARE CLOSED AND TRUCK TRAFFIC IS DETOURED FROM THE STRUCTURE. THE ENTRANCE RAMP TO IR 90 WESTBOUND FROM ONTARIO STREET AND THE ENTRANCE RAMP TO IR 90 EASTBOUND FROM WEST 14th STREET ARE CLOSED.

THE PROJECT WILL CONSTRUCT THE WORK NECESSARY TO REOPEN THE TRUSS SPANS STRUCTURE TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS, AND OPEN ALL ENTRANCE RAMPS.

THE CONTRACTOR MAY CLOSE ONE LANE ON CITY STREETS BENEATH THE BRIDGE FOR EQUIPMENT ACCESS USING FLAGGERS.

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO PERFORM THE PROPOSED CONSTRUCTION WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

B. NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION PUBLIC INFORMATION OFFICER INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AND COMPLETE CLOSURES AT LEAST SEVEN (7) DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY THE LOCAL LAW ENFORCEMENT AGENCIES OF LANE CLOSURES AND COMPLETE CLOSURES AT LEAST THREE (3) DAYS PRIOR TO IMPLEMENTATION.

DISTRICT 12 PUBLIC INFORMATION OFFICER
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125-5396
PHONE: (216) 584-2006

C. RESTRICTIONS AND EXCEPTIONS

1. LANE CLOSURES ARE PERMITTED FOR CONSTRUCTION OPERATIONS, DELIVERY OF MATERIALS, AND EQUIPMENT. LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE "DISTRICT 12 PERMITTED LANE CLOSURE TIMES" LIST, WHICH IS LOCATED ON THE ODOT WEB SITE: WWW.DOT.STATE.OH.US/DIST12/WORKZONE/LANECLO.HTM. THE LATEST REVISION, AT 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT, WITH THE FOLLOWING EXCEPTIONS:

ANY ROADWAY NOT LISTED IN THE "DISTRICT 12 PERMITTED LANE CLOSURE TIMES" SHALL NOT HAVE ANY CLOSURES WEEKDAYS FROM 7AM TO 9AM AND 3PM TO 6PM.

NO LANES SHALL BE CLOSED ON IR 90 DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS	EASTER
MEMORIAL DAY	FOURTH OF JULY	
LABOR DAY	THANKSGIVING	

THE PERIOD OF TIME THAT ALL LANES ARE TO BE OPEN DEPENDS UPON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES ARE TO BE OPEN TO TRAFFIC
SUNDAY	12:00 N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00 N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00 N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00 N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00 N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00 N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00 N FRIDAY THROUGH 6:00 AM MONDAY

DO NOT IMPLEMENT LANE CLOSURES ON IR 90 OR RAMPS IN THE EASTBOUND DIRECTION 2 HOURS BEFORE THE START OF, AND IN THE WESTBOUND DIRECTION 2 HOURS AFTER, ANY ENTERTAINMENT EVENT DOWNTOWN WITH A SEATING CAPACITY OF 20,000 OR GREATER.

2. COMPLETE WEEKEND (2 DAY) CLOSURE OF ALL LANES ON THE BRIDGE AND ENTRANCE RAMPS LEADING TO THE BRIDGE ARE REQUIRED FOR REMOVAL OF THE CONCRETE DECK IN SPAN 2 BETWEEN PANEL 4 (20) AND 12 (28). WEEKEND CLOSURES MAY BE USED FOR OTHER REMOVAL OPERATIONS SUBJECT TO RESTRICTIONS AND AS DIRECTED BY THE ENGINEER.

ALL IR 90 EASTBOUND AND WESTBOUND TRAFFIC LANES SHALL BE CLOSED TO TRAFFIC AND TRAFFIC DETOURED. THE COMPLETE CLOSURE AND DETOUR SHALL BE LIMITED TO 4 WEEKENDS. THE CLOSURE SHALL BE LIMITED TO A MAXIMUM DURATION OF 12 AM SATURDAY (MIDNIGHT FRIDAY) TO 5 AM MONDAY. WORK MUST BE CONTINUOUSLY PERFORMED WHILE THE BRIDGE IS CLOSED. IF THERE IS NO WORK BEING PERFORMED THE BRIDGE MUST BE OPENED TO TRAFFIC.

THE WEEKEND CLOSURE SHALL NOT BE SCHEDULED WHEN THERE IS A HOLIDAY OR SPECIAL EVENT RESTRICTION LISTED WITH ITEM 1. ONCE THE DECK REMOVAL OPERATION IS BEGUN, TRAFFIC CANNOT BE RESTORED UNTIL THE TEMPORARY PORTABLE CONCRETE BARRIER IS IN PLACE.

3. COMPLETE NIGHTTIME CLOSURE OF ALL LANES ON THE BRIDGE AND ENTRANCE RAMPS LEADING TO THE BRIDGE ARE REQUIRED FOR REMOVAL OF THE STEEL RAILING, SAFETY WALK, CURB BARRIER AND FASCIA STRINGER IN SPAN 2 BETWEEN PANEL 4 (20) AND PIER 2; AND FOR THE REMOVAL OF THE CONCRETE DECK IN SPAN 1 AND SPAN 2.

ALL IR 90 EASTBOUND AND WESTBOUND TRAFFIC LANES SHALL BE CLOSED TO TRAFFIC AND TRAFFIC DETOURED. THE COMPLETE CLOSURE AND DETOUR SHALL BE LIMITED TO EIGHT NIGHTTIME PERIODS. THE CLOSURES SHALL BE LIMITED TO 10 PM TO 5 AM WEEKDAYS (SUNDAY PM TO FRIDAY AM), 10 PM TO 8 AM SATURDAYS, OR 10 PM TO 11 AM SUNDAYS.

HOLIDAY AND SPECIAL EVENT RESTRICTIONS LISTED WITH ITEM 1 SHALL APPLY TO THE NIGHTTIME CLOSURES.

4. CLOSURE OF THE TWO RIGHT EASTBOUND LANES IS REQUIRED FOR CRANE TYPE EQUIPMENT WORKING IN THE RIGHT TRAVELED LANE. ONE EASTBOUND LANE OF TRAFFIC SHALL REMAIN OPEN. ALL WESTBOUND LANES OF TRAFFIC SHALL REMAIN OPEN.

THE TWO RIGHT EASTBOUND LANE CLOSURE SHALL BE LIMITED TO NIGHTTIME PERIODS ONLY. THE CLOSURES SHALL BE LIMITED TO 10 PM TO 5 AM WEEKDAYS (SUNDAY PM TO FRIDAY AM), 10 PM TO 8 AM SATURDAYS, OR 10 PM TO 11 AM SUNDAYS.

HOLIDAY AND SPECIAL EVENT RESTRICTIONS LISTED WITH ITEM 1 SHALL APPLY TO THE TWO RIGHT EASTBOUND LANE NIGHTTIME CLOSURES.

5. DURING NON-WORKING HOURS, ALL AVAILABLE LANES SHALL BE IN FULL OPERATION, WITH ALL TRAFFIC CONTROL SIGNS, EXCEPT W20-1 ROAD WORK AHEAD SIGNS, REMOVED OR COVERED AND ALL CHANNELIZING DEVICES REMOVED FROM THE PAVEMENT SURFACES. CHANNELIZING DEVICES MAY NOT BE STORED ON THE SHOULDER. CONSTRUCTION EQUIPMENT, PRIVATE VEHICLES AND MATERIALS SHALL NOT BE PARKED OR STORED ON THE ROADWAY OR WITHIN 30 FEET OF ANY TRAVELED LANES.

6. LIQUIDATED DAMAGES FOR LANE CLOSURES:
IF LANE CLOSURES ARE IN PLACE OUTSIDE THE SPECIFIED TIME, LIQUIDATED DAMAGES IN THE AMOUNT OF $100.00 PER MINUTE, SHALL BE ASSESSED THE CONTRACTOR FOR EACH MINUTE THE LANES REMAIN CLOSED.

7. INTERIM COMPLETION DATE:
THE OPENING OF THE TRUSS SPANS STRUCTURE TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS, AND OPENING ALL ENTRANCE RAMPS IS AN INTERIM COMPLETION DATE. THE WORK SHALL BE COMPLETED BY NOVEMBER 25, 2009.

THE WORK REQUIRED TO MEET THE INTERIM COMPLETION DATE GENERALLY INCLUDES:

a. REMOVE WIDENING DECK, RAILING, AND FLOOR SYSTEM IN TRUSS SPANS 1 & 2
b. CONSTRUCT NEW DECK EDGE AND PARAPET SOUTH SIDE SPANS 1 & 2
c. STRENGTHEN TRUSS MEMBER L717-L718 NORTH.
d. COMPLETE THE TRUSS CONNECTION REPAIR AT U109 NORTH, U110 NORTH, U111 NORTH, U315 NORTH, U503 NORTH & SOUTH, U504 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH & SOUTH, L111 NORTH AND L41 NORTH.
e. COMPLETE THE NEW PARAPET AND VANDAL PROTECTION FENCE CLOSURE CONSTRUCTION ON THE WEST APPROACH STRUCTURE
f. COMPLETE THE NEW PAVEMENT MARKING AND TRAFFIC CONTROL
g. REMOVE THE WESTBOUND TRUCK DETOUR SIGNING. THE CONTRACTOR SHALL NOT REMOVE THE TRUCK DETOUR SIGNING UNTIL THE BRIDGE IS RATED LEGAL FOR ALL TRUCKS BY OHIO LAW AND AS DIRECTED BY THE ENGINEER.
h. OPEN THE TRUSS SPANS STRUCTURE TO EIGHT LANES OF TRAFFIC (THREE THROUGH LANES AND AN ADD LANE EASTBOUND, AND FOUR THROUGH LANES WESTBOUND) AND OPEN ALL ENTRANCE RAMPS

SPECIFIC WORK ITEMS AND DETAILS REQUIRED TO MEET THE INTERIM COMPLETION DATE ARE INCLUDED IN THE PLANS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK PRIOR TO THE INTERIM COMPLETION DATE. THE FAILURE OF THE CONTRACTOR TO MEET THE INTERIM COMPLETION DATE WILL CAUSE SEPARATE LIQUIDATED DAMAGES ASSESSED AS PER CMS 108.07 PER CALENDAR DAY OF OVERRUN OF THE INTERIM COMPLETION DATE. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS SECTION 108.07.

D. REFERENCES

CONSTRUCTION SEQUENCE AND OPERATIONS:
SEE "METHODS AND SEQUENCE OF CONSTRUCTION" NOTE SHEET 42 .

TEMPORARY LANE CLOSURES: SEE STANDARD DRAWING MT-95.30.

COMPLETE BRIDGE CLOSURE: SEE IR 90 DETOUR SIGNING PLAN SHEETS 6 AND 7 .

WORK ZONE MAINTENANCE OF TRAFFIC: SEE DETAILS SHEETS 10 AND 12 .

TEMPORARY 2-LANE CLOSURE OF 3-LANE HIGHWAY: SEE DETAIL SHEET 8 .

E. MAINTENANCE OF TRAFFIC SYSTEMS

1. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS THERINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY, ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITION EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

2. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE MANUAL, AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS OR AS SHOWN ON STANDARD DRAWING MT-97.10 AND MT-95.30.

3. ADVANCE WARNING SIGNS

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

4. FLASHING ARROW REQUIREMENT

FLASHING ARROWS SHALL BE FURNISHED AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS OR ON STANDARD DRAWING MT-95.30.

5. PROTECTION OF PUBLIC

WHENEVER ANY WORK IS BEING DONE OVER A TRAVELED LANE OR SHOULDER, THE CONTRACTOR SHALL SUPPLY SUFFICIENT SAFETY EQUIPMENT AS APPROVED BY THE DIRECTOR TO PROTECT THE TRAVELING PUBLIC FROM ANY CONSTRUCTION DEBRIS. IF TRAVELED LANES UNDER STRUCTURES ARE TO BE CLOSED FOR REASONS OF SAFETY, METHOD AND TIME OF CLOSURE, THEY MUST BE APPROVED PRIOR TO IMPLEMENTATION. PERSONAL CARS SHALL NOT BE PARKED WITHIN THE L/A.

6. FLAGGERS

FLAGGERS SHALL BE IN ACCORDANCE WITH MT-97.10. THE MAINTENANCE OF TRAFFIC REQUIRES THE USE OF TWO (2) FLAGGERS. ADDITIONAL FLAGGERS SHALL BE USED AS DIRECTED BY THE ENGINEER.

7. LAW ENFORCEMENT OFFICER WITH PATROL CAR

SEE NOTE, SHEET 5 .

8. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, WITH THE PROVISIONS OF THE "MANUAL" OR FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORK AREA IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

MAINTENANCE OF TRAFFIC GENERAL NOTES CONTINUED: SEE SHEET 4 .

REVISED 9/4/09

CALCULATED JDL CHECKED EEL

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-90-15.24

108031/108031-13/82069/82069MN001.DGN 9/03/09 KH,SAM,TWH,SCB,JLS

F. TRAFFIC CONTROL MATERIALS

1. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES SHALL BE AS PROVIDED IN THE "MANUAL", OR IN STANDARD CONSTRUCTION DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THIS PROJECT.

2. SIGN SUPPORTS

SIGN SUPPORTS SHALL BE AS SHOWN ON THE STANDARD DRAWINGS MT- 105.10.

3. FLASHING ARROW PANEL

THE ELECTRIC FLASHING ARROW PANELS SHALL BE AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-35.10.

4. CONES

CONES SHALL BE LOCATED AS SHOWN IN THE "MANUAL" AND THE TRAFFIC CONTROL PLANS.

5. DRUMS

DRUMS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC CONTROL PLANS AND ARE REQUIRED FOR NIGHTTIME CLOSURES.

6. FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR MAINTAINING TRAFFIC.

7. ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEETS 6-7 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

THERE SHALL BE 7 CLASS A OR B PCMS AT 3 MONTH EACH

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 21 SIGN-MONTH

8. WORK VEHICLES

ALL WORK VEHICLES LICENSED TO OPERATE ON THE HIGHWAY, INCLUDING TRUCKS, SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC FOR A MINIMUM OF 1600 FEET IN BRIGHT SUNLIGHT AND SHALL BE OPERATED WITH LIGHTED HEAD AND TAIL LAMPS. THE AMBER LIGHT SHALL BE IN OPERATION AT ALL TIMES WITHIN THE WORK ZONE AND WHILE TRAVELING TO AND FROM THE WORK ZONE WHENEVER THE VEHICLE SPEED IS BELOW 55 MPH. VEHICLE HAZARD LAMPS DO NOT SATISFY THIS REQUIREMENT. ALL OTHER EQUIPMENT SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE IN ALL DIRECTIONS OF TRAFFIC FOR A MINIMUM OF 1600 FEET IN BRIGHT SUNLIGHT. THE AMBER LIGHT SHALL BE IN OPERATION WHILE THE EQUIPMENT IS WITHIN THE WORK ZONE.

G. PAYMENT

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING TEMPORARY MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE MADE UNDER THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.
3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-614-599-7915.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTS'S CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7) THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A CURRENT WTS CERTIFICATION (WITH AN EXPIRATION DATE NO MORE THAN 5 YEARS FROM THE DATE OF ISSUE) FROM ANY OF THE APPROVED ORGANIZATIONS.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING AND CORRECTING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.
5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.
6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.
7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.
8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.
9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

   A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).

   B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.

   C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.

   D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.

   E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.

   F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.
11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH CMS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 12 MONTHS

CALCULATED JDL CHECKED EEL

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-90-15.24

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT OR DETOUR SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT OR DETOUR SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

TRUCK MOUNTED ATTENUATOR

WHEN THE CONTRACTOR IS SETTING SHORT-TERM WORK ZONES AND THE SHOULDERS (RIGHT OR LEFT SHOULDER) ARE LESS THAN 10 FEET IN WIDTH AND ARE ON A ROAD WITH SPEEDS 45 MPH OR HIGHER, A TRUCK MOUNTED ATTENUATOR (TMA) MUST TRAIL THE OPERATION OF SETTING THE ADVANCE WARNING SIGNS UP OR TAKING THEM DOWN. THIS SAME TRUCK MUST HAVE A TYPE B FLASHING ARROW PANEL MOUNTED ON IT FACING THE REAR TRUCK.

THE TMA MUST BRING A VEHICLE WEIGHING 1800 TO 4500 POUNDS TO A SAFE, CONTROLLED STOP PER NCHRP 350 TL-3 CRITERIA. THE MANUFACTURER'S SPECIFICATION MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE TMA.

ALL COSTS ASSOCIATED WITH THIS ITEM ARE TO BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP-MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

FOR BRIDGE CLOSURES: AT RAMPS AND MAINLINE CLOSURE POINTS IDENTIFIED ON SHEETS 6 & 7.

FOR TRUCK RESTRICTION ENFORCEMENT: BOTH EASTBOUND AND WESTBOUND WHEN THE CONTRACTOR HAS EQUIPMENT ON THE BRIDGE BEFORE THE WIDENING IS REMOVED.

LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEOS ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

CITY OF CLEVELAND
POLICE DEPARTMENT, THIRD DISTRICT
10700 CHESTER AVENUE
CLEVELAND, OHIO 44134
PHONE: (216) 623-5300

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 2107 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF CONTRACTORS WISH TO UTILIZE LEOS FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614, MAINTAINING TRAFFIC.

ITEM SPECIAL - LINEAR DELINEATION

3M™ SCOTCHLITE™ LINEAR DELINEATION SYSTEM (LDS) SHALL BE INSTALLED ON ALL CONCRETE BARRIER, PERMANENT OR TEMPORARY, LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVEL LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

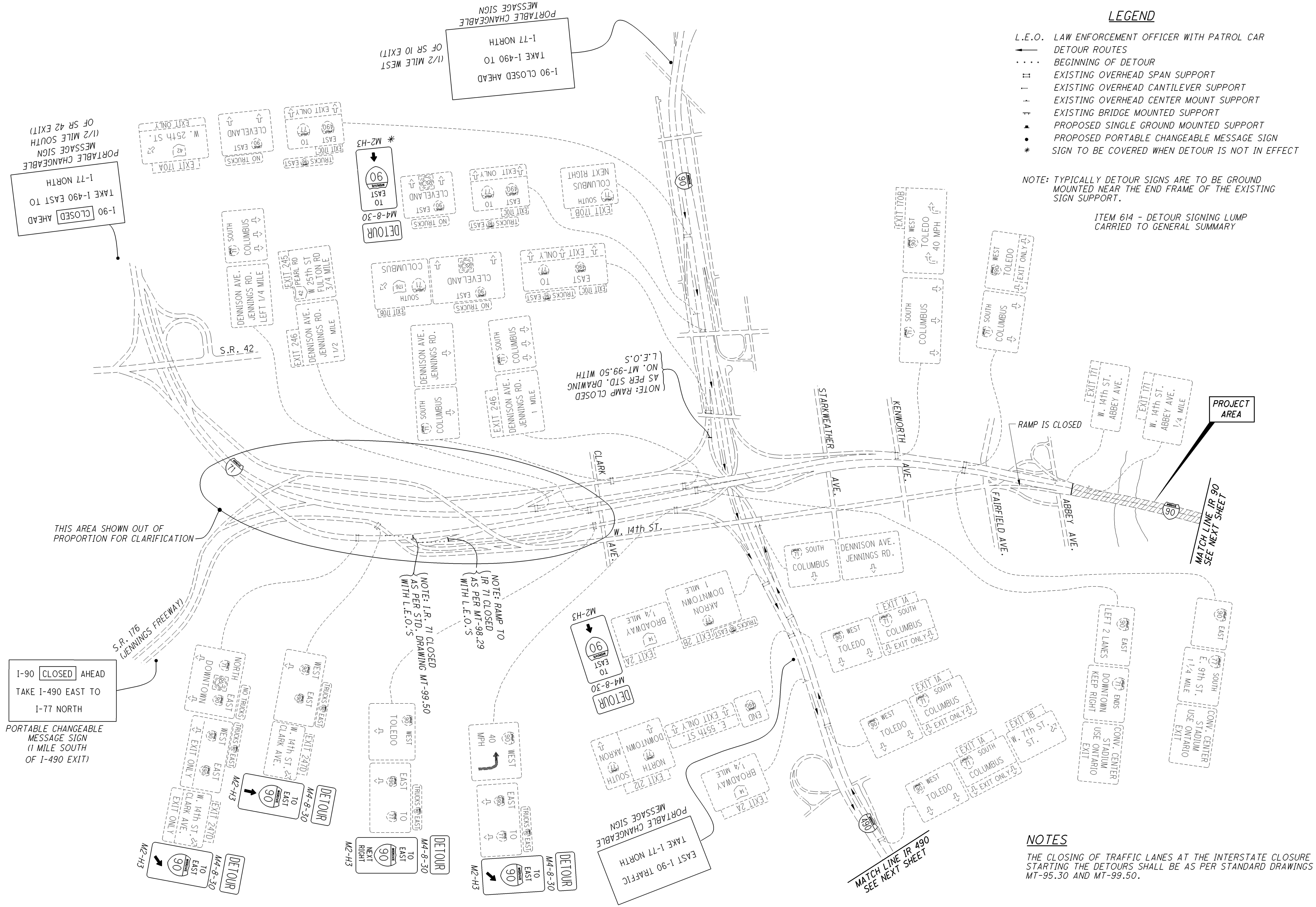
ALONG TAPERS AND TRANSITION AREAS

ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES

THE LDS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE. PANELS SHALL BE PROVIDED AT THE RATE OF ONE PER SECTION OF PORTABLE CONCRETE BARRIER OR ONE PANEL EVERY 10 FEET, SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26-INCHES FROM THE BASE OF THE CONCRETE BARRIER.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING 3MTM SCOTCHLITETM LINEAR DELINEATION SYSTEM (LDS).

AN ESTIMATED QUANTITY OF 390 LINEAR FEET OF ITEM SPECIAL LINEAR DELINEATION, HAS BEEN PROVIDED AND CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY. ALONG RUNS OF CONCRETE BARRIER WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN BEING DELINEATED, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL PANELS.



LEGEND

L.E.O. LAW ENFORCEMENT OFFICER WITH PATROL CAR
DETOUR ROUTES
BEGINNING OF DETOUR
EXISTING OVERHEAD SPAN SUPPORT
EXISTING OVERHEAD CANTILEVER SUPPORT
EXISTING OVERHEAD CENTER MOUNT SUPPORT
EXISTING BRIDGE MOUNTED SUPPORT
PROPOSED SINGLE GROUND MOUNTED SUPPORT
PROPOSED PORTABLE CHANGEABLE MESSAGE SIGN
* SIGN TO BE COVERED WHEN DETOUR IS NOT IN EFFECT

NOTE: TYPICALLY DETOUR SIGNS ARE TO BE GROUND MOUNTED NEAR THE END FRAME OF THE EXISTING SIGN SUPPORT.

ITEM 614 - DETOUR SIGNING LUMP CARRIED TO GENERAL SUMMARY

NOTES

THE CLOSING OF TRAFFIC LANES AT THE INTERSTATE CLOSURE STARTING THE DETOURS SHALL BE AS PER STANDARD DRAWINGS MT-95.30 AND MT-99.50.

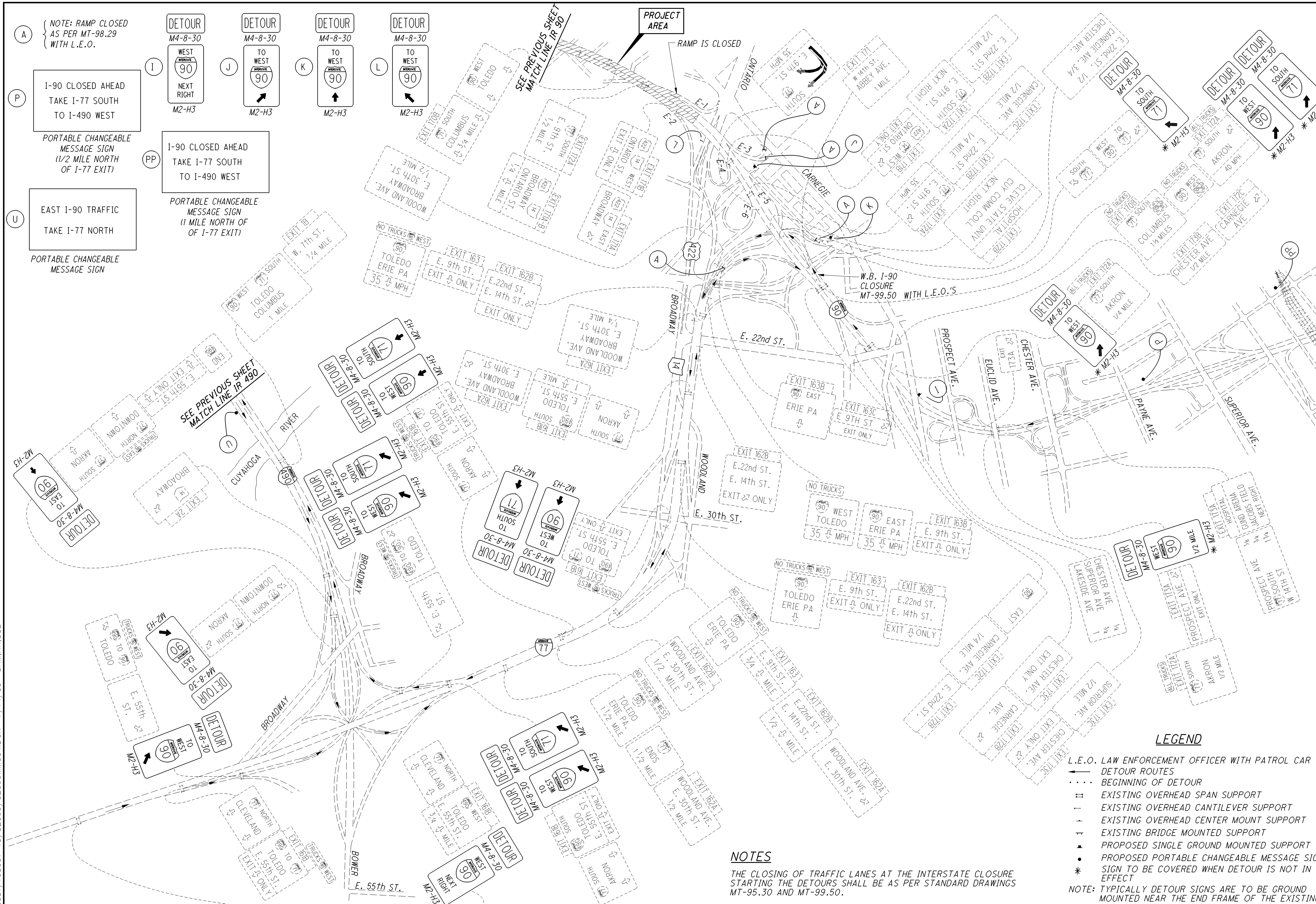
0 250 500 1000
HORIZONTAL SCALE IN FEET

CALCULATED JDL
CHECKED EEL

MAINTENANCE OF TRAFFIC
IR 90 DETOUR SIGNING PLAN

CUY-90-15.24

1/2



NOTES

THE CLOSING OF TRAFFIC LANES AT THE INTERSTATE CLOSURE STARTING THE DETOURS SHALL BE AS PER STANDARD DRAWINGS MT-95.30 AND MT-99.50.

LEGEND

L.E.O. LAW ENFORCEMENT OFFICER WITH PATROL CAR
DETOUR ROUTES
BEGINNING OF DETOUR
EXISTING OVERHEAD SPAN SUPPORT
EXISTING OVERHEAD CANTILEVER SUPPORT
EXISTING OVERHEAD CENTER MOUNT SUPPORT
EXISTING BRIDGE MOUNTED SUPPORT
PROPOSED SINGLE GROUND MOUNTED SUPPORT
PROPOSED PORTABLE CHANGEABLE MESSAGE SIGN
* SIGN TO BE COVERED WHEN DETOUR IS NOT IN EFFECT

NOTE: TYPICALLY DETOUR SIGNS ARE TO BE GROUND MOUNTED NEAR THE END FRAME OF THE EXISTING SIGN SUPPORT.

HORIZONTAL SCALE IN FEET 0 250 500 1000

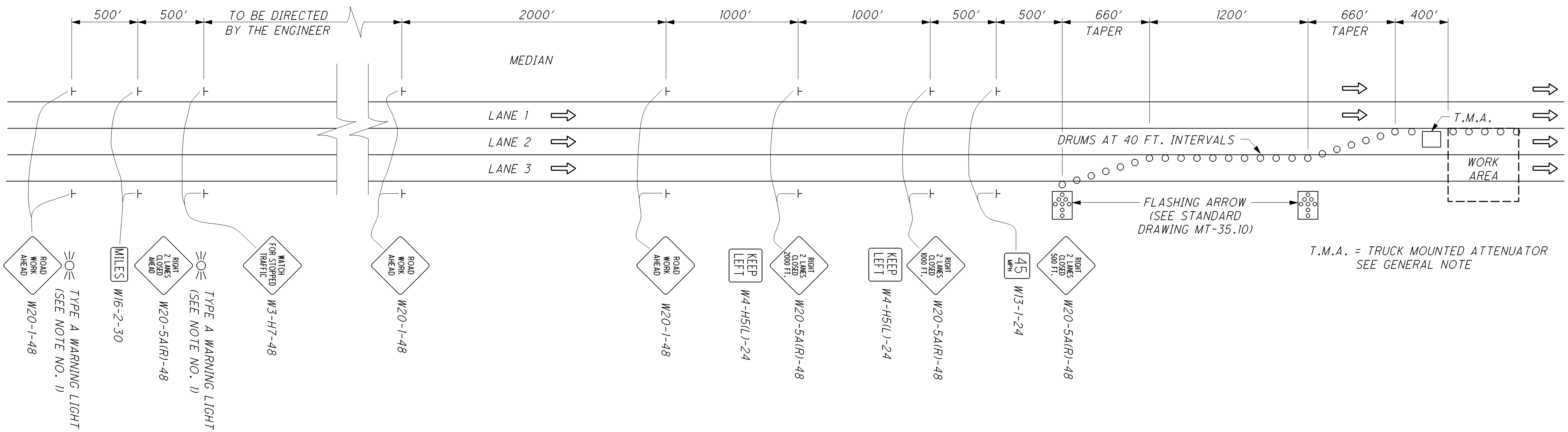
CALCULATED JDL
CHECKED EEL

MAINTENANCE OF TRAFFIC
IR 90 DETOUR SIGNING PLAN

CUY-90-15.24

2/2

108031/108031-13/82069/82069MM004.DGN 7/14/09 SAM,KH,SCB



RIGHT 2 LANES CLOSED FOR 3 LANES SAME DIRECTION

NOTES:

1. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD WORK AHEAD" AND "RIGHT 2 LANES CLOSED AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

2. EXTRA ADVANCE WARNING SIGN GROUPS CONSISTING OF W20-5A(R)-48, OR W20-5, AND W3-H7-48 SIGNS PLUS DISTANCE PLATES MAY BE SPECIFIED IN THE PLANS OR REQUIRED TO BE ERECTED AT THE DIRECTION OF THE ENGINEER.

3. SEE STANDARD DRAWING MT-95.30 FOR ADDITIONAL NOTES AND DETAILS FOR LANE CLOSURES WITH DRUMS.

MAINTENANCE OF TRAFFIC - 2 LANE CLOSURE

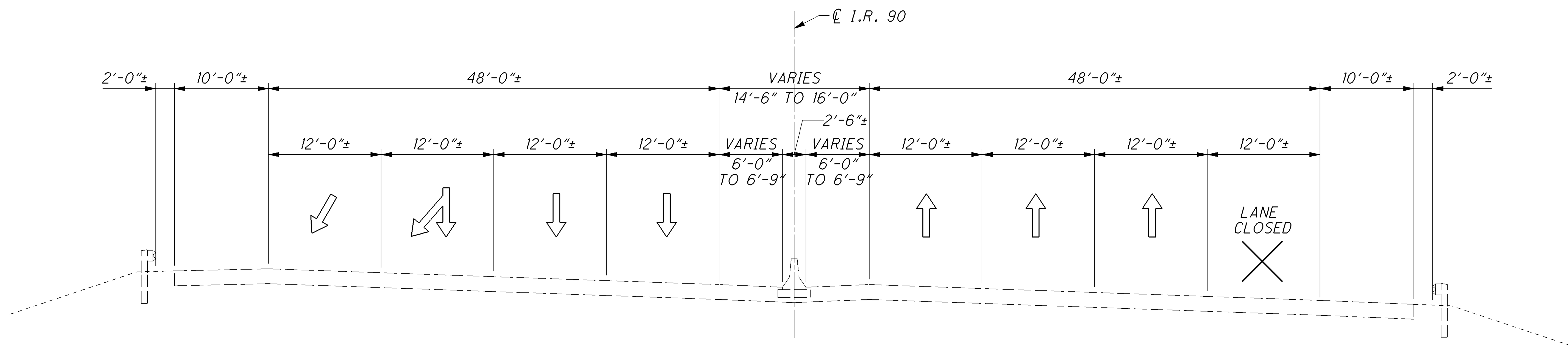
CUY-90-15.24

SHEET NO.	REFERENCE NO.	STATION	STATION	SIDE	SPECIAL	614				622
					LINEAR DELINEATION	BARRIER REFLECTOR, TYPE B	OBJECT MARKER, ONE WAY	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED
					FT	EACH	EACH	MILE	MILE	FT
5		MOT GENERAL NOTES			390					
		PHASE 1								
		E. MOT								
12		4+88.00	6+92.00	EB				408	408	
12		6+92.00	8+42.00	EB				300	300	
12		8+42.00	12+70.00	EB				856	856	
12		12+70.00	16+10.00	EB		8	8	680	680	340
12		16+10.00	23+15.00	EB		15	15	1410	1410	705
12-13		23+15.00	25+15.00	EB				400	400	
SUBTOTALS					390	23	23	4054	4054	1045
CONVERT APPLICABLE ITEMS TO MILES								0.8	0.8	
TOTALS CARRIED TO GENERAL SUMMARY					390	23	23	0.8	0.8	1045

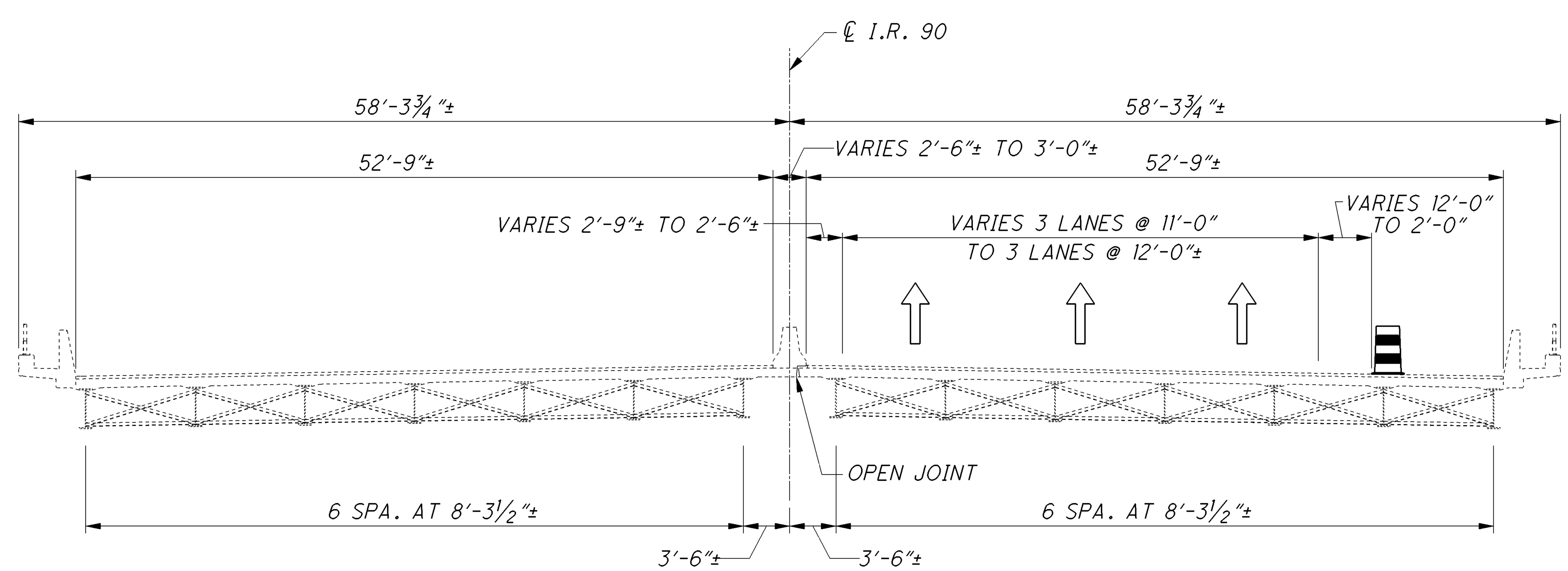
CALCULATED JDL CHECKED EEL

MAINTENANCE OF TRAFFIC SUBSUMMARY

CUY-90-15.24



SECTION A-A
WEST APPROACH
STA. 991+00± TO STA. 999+01.08±



SECTION B-B
WEST APPROACH STRUCTURE SPAN 1 - SPAN 11
STA. 3+87.63± TO STA. 12+52.5±

NOTE: SEE MOT PLAN SHEET NO. 12 FOR SECTION LOCATIONS.

LEGEND

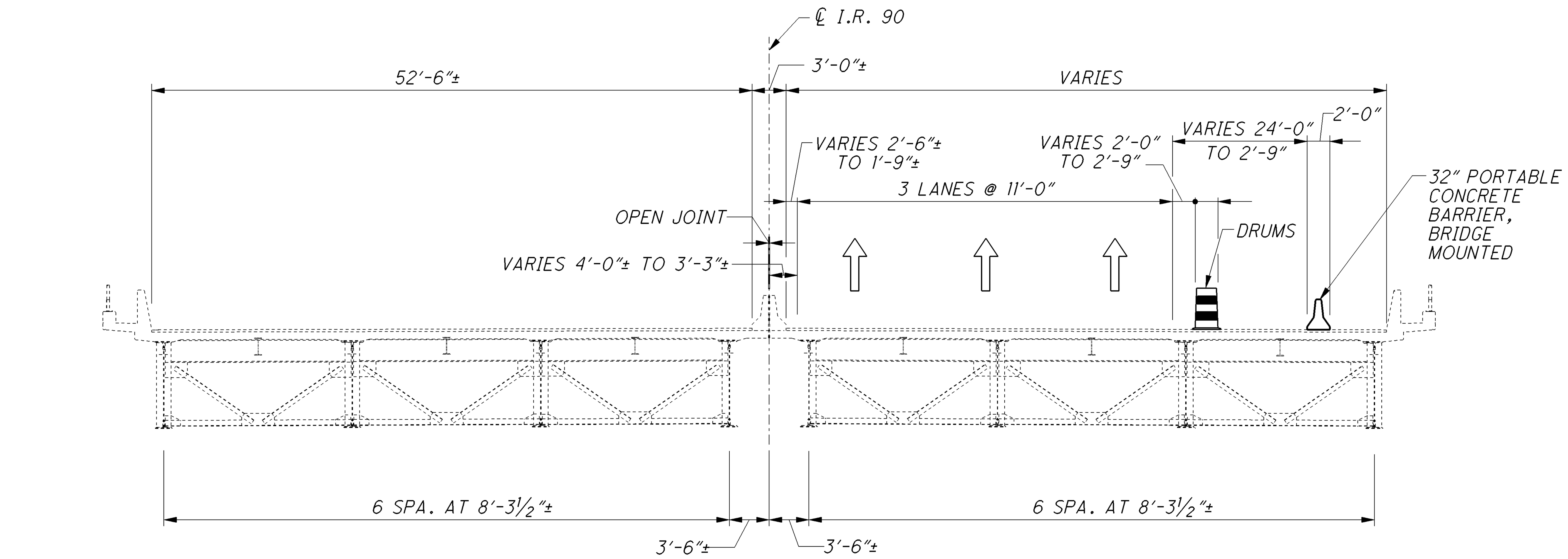
MATERIAL TO BE REMOVED

TRAFFIC DIRECTION

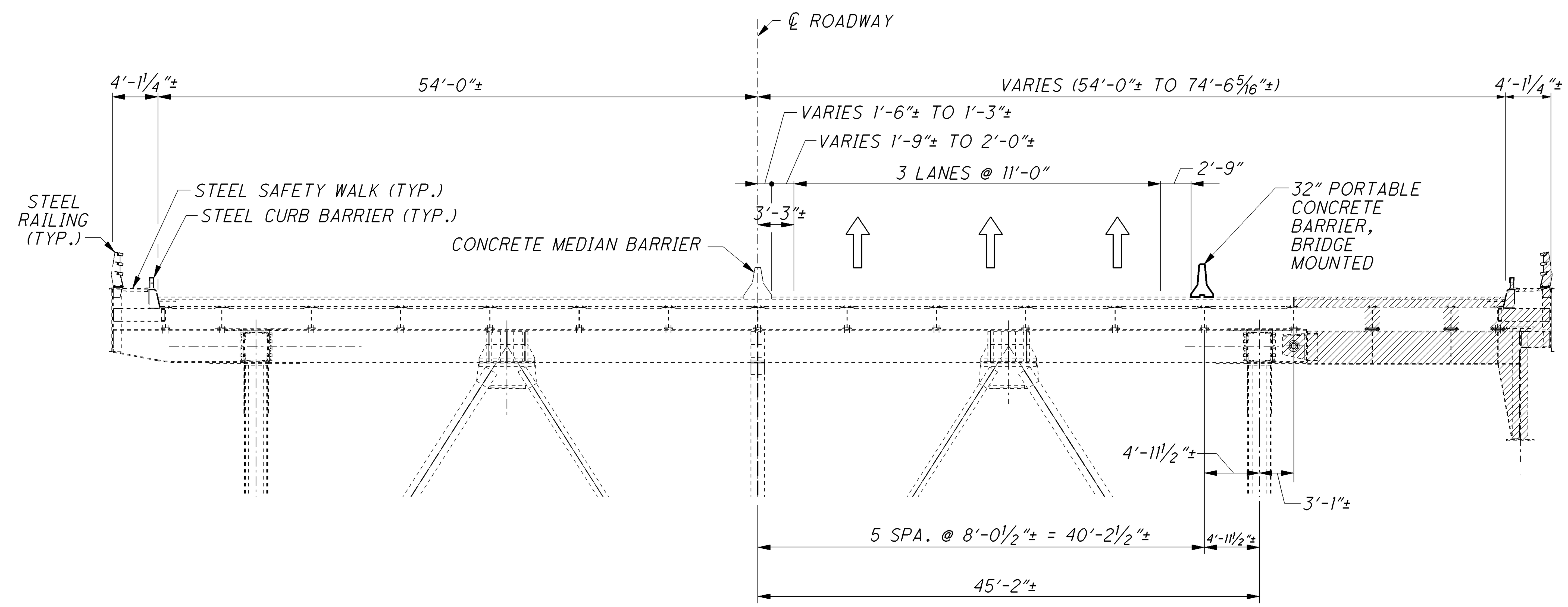
MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

CUY-90-15.24

108031/18031-13/82069/82069MY001.DGN 7/14/09 SAM,SCB



SECTION C-C
WEST APPROACH STRUCTURE SPAN 12 - SPAN 14
STA. 12+52.5± TO STA. 16+13±



SECTION D-D
TRUSS STRUCTURE SPAN 1 - SPAN 3
STA. 16+13± TO STA. 24+90±

NOTE: PORTABLE CONCRETE BARRIER SHALL NOT BE PLACED ON SPAN 2 UNTIL THE DECK REMOVAL BETWEEN PANEL 4 (20) AND 12 (28) IS COMPLETED BUT PRIOR TO REOPENING TO TRAFFIC.

SEE MOT PLAN SHEET NO. 12 FOR SECTION LOCATIONS.

LEGEND

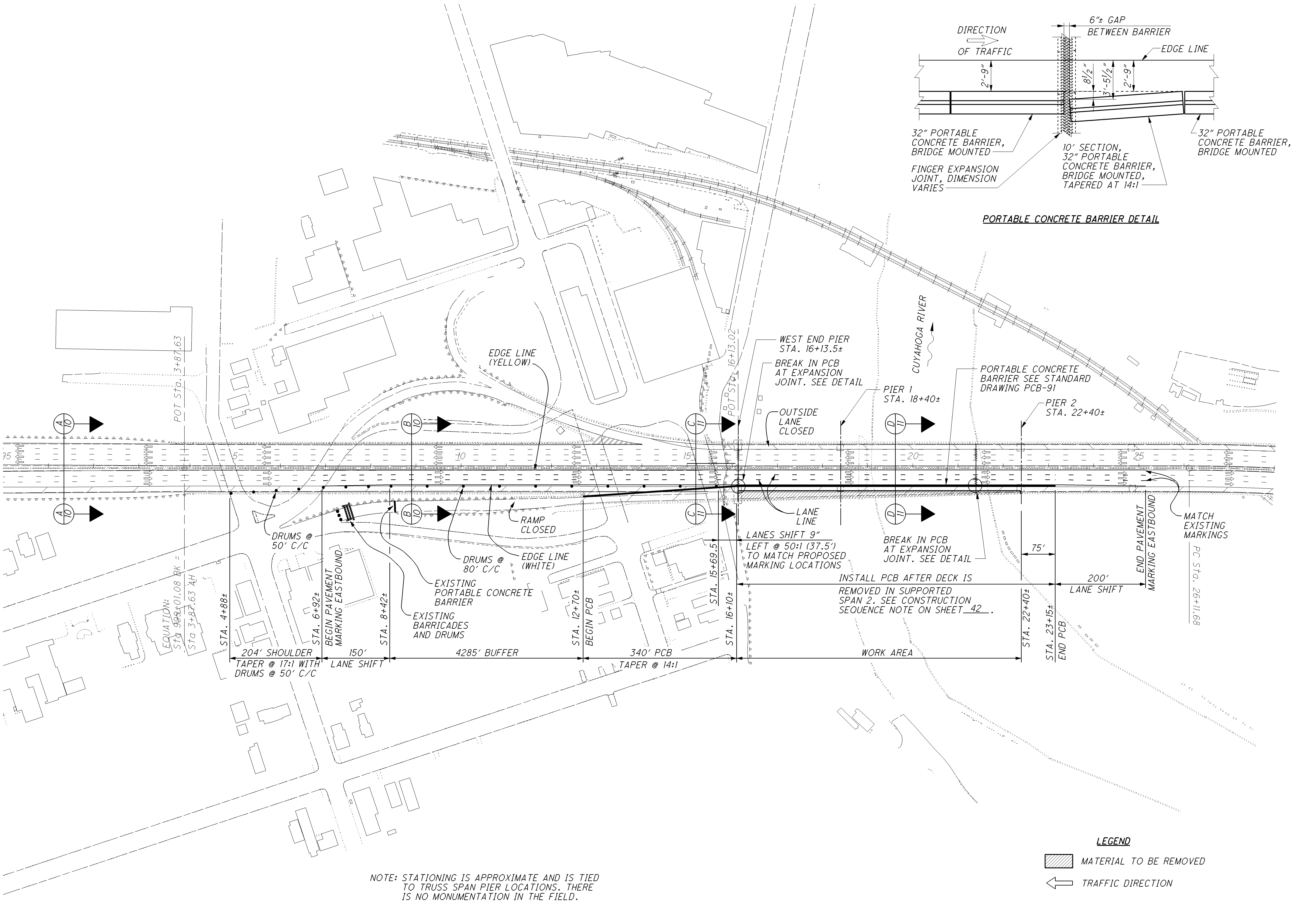
MATERIAL TO BE REMOVED

TRAFFIC DIRECTION

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

CUY-90-15.24

108031/108031-13/82069/82069MY002.DGN 7/14/09 SAM,SCB



0 50 100 200 HORIZONTAL SCALE IN FEET

CALCULATED JDL CHECKED EEL

MAINTENANCE OF TRAFFIC PLAN
STA. 995+00 TO STA. 25+00

CUY-90-15.24

108031/108031-13/82069/82069MP010.DGN 7/14/09 SAM.SCB

3	4	5	6	9	14	15	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											TRAFFIC CONTROL	
					LUMP		202	98000	LUMP		REMOVAL MISC.: REMOVAL OF BARRICADES, DRUMS AND PCB	14
					141		621	10010	141	EACH	RPM, LOW PROFILE, WHITE	
					19		621	10020	19	EACH	RPM, LOW PROFILE, WHITE/RED	
					9		621	10030	9	EACH	RPM, LOW PROFILE, YELLOW/RED	
					114		621	54000	114	EACH	RAISED PAVEMENT MARKER REMOVED	
					11		626	00100	11	EACH	BARRIER REFLECTOR	
					22		630	02100	22	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
					60		630	03100	60	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					2		630	79611	2	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN	20
					72		630	80100	72	SQ FT	SIGN, FLAT SHEET	
						16	630	80101	16	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	25
						198	630	80224	198	SQ FT	SIGN, OVERHEAD EXTRUSHEET	
					3	20	630	85000	23	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	
					1	5	630	85500	6	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	
					8	34	630	86002	42	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					1	27	630	87001	28	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE, AS PER PLAN	14
						1	630	87101	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	23
					2	15	630	87510	17	EACH	REMOVAL OF POLE MOUNTED SIGN AND STORAGE	
						1	630	89896	1	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND REERECTION	23
					1	2	630	89898	3	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND STORAGE	
					13		630	97700	13	EACH	SIGNING, MISC.: REMOVAL AND REERECTION OF OBJECT MARKERS	14
					1500		642	30000	1500	FT	REMOVAL OF PAVEMENT MARKING	
					3.68		642	30030	3.68	MILE	REMOVAL OF PAVEMENT MARKING	
					2.3		646	10000	2.3	MILE	EDGE LINE	
					1.76		646	10100	1.76	MILE	LANE LINE	
					1464		646	10300	1464	FT	CHANNELIZING LINE	
					1918		646	10600	1918	FT	TRANSVERSE/DIAGONAL LINE	
					3		646	20300	3	EACH	LANE ARROW	
					1		646	20410	1	EACH	WORD ON PAVEMENT, 96"	
											LIGHTING QUANTITIES SEE SHEET 28	
											STRUCTURE QUANTITIES	
											CUY-90-1524 SEE SHEET 50	
											MAINTENANCE OF TRAFFIC	
		2107					614	11100	2107	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	5
	12						614	11500	12	MONTH	WORKSITE TRAFFIC SUPERVISOR	4
			LUMP				614	12420	LUMP		DETOUR SIGNING	4
				390			SPECIAL	61413170	390	FT	LINEAR DELINEATION	5
				23			614	13300	23	EACH	BARRIER REFLECTOR, TYPE B	
				23			614	13350	23	EACH	OBJECT MARKER, ONE WAY	
	21						614	18601	21	SIGN-MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	4
				0.8			614	20200	0.8	MILE	WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1	
				0.8			614	22200	0.8	MILE	WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1	
				1045			622	40040	1045	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
LUMP							614	11000	LUMP		MAINTAINING TRAFFIC	3 & 4
							619	16020	12	MONTH	FIELD OFFICE, TYPE C	
							624	10000	LUMP		MOBILIZATION	

CALCULATED JDL CHECKED EEL

GENERAL SUMMARY

CUY-90-15.24

10831-13/82069/ROADWAY/SHEETS/82069GG001.DGN 8/10/09 SCB,SAM

REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE AS PER PLAN

IN ADDITION TO THE REMOVAL OF THE OVERHEAD SIGN, THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF THE POST SUPPORTS, CLIPS OR OTHER HARDWARE USED TO ATTACH THE AFFECTED SIGNS.

SIGNS TO BE REMOVED FOR STORAGE

ALL SIGNS SPECIFIED TO BE REMOVED FOR STORAGE SHALL BE STORED AT A LOCATION SPECIFIED BY THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT). ALL SIGNS NOT PICKED UP BY ODOT WITHIN 30 DAYS OF REMOVAL SHALL BE DISPOSED OF BY THE CONTRACTOR.

CONTINGENCY QUANTITIES

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE BE THE ENGINEER.

ITEM 630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE 3 EACH

ITEM 630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE 1 EACH

ITEM 630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND STORAGE 8 EACH

ITEM 630 REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE, AS PER PLAN 1 EACH

ITEM 630 REMOVAL OF POLE MOUNTED SIGN AND STORAGE 2 EACH

ITEM 630 REMOVAL OF TEMPORARY OVERLAY SIGN AND STORAGE 1 EACH

ITEM 202 - REMOVAL MISC.: REMOVAL OF BARRICADES, DRUMS AND PCB

THIS ITEM SHALL INCLUDE THE REMOVAL, STORAGE AND DELIVERY OF THE EXISTING BARRICADES, DRUMS AND PCB FROM THE WEST 14TH STREET AND ONTARIO STREET I.R. 90 ENTRANCE RAMPS BY THE CONTRACTOR WHEN RAMPS ARE REOPENED. THE EXISTING BARRICADES IN THE MARKED OUT LANE ON THE BRIDGE SHALL ALSO BE REMOVED AND STORED ALONG WITH ANY MISCELLANEOUS DRUMS. THE CONTRACTOR WILL COORDINATE WITH ODOT FOR DELIVERY OF THESE ITEMS.

THIS ITEM SHALL ALSO COVER THE COST FOR MOVING THE EXISTING CHANNELIZING DRUMS USED TO SUPPLEMENT THE EASTBOUND OUTSIDE LANE CLOSURE OFF THE PAVEMENT TO PLACE THE PROPOSED PAVEMENT MARKINGS AND THEN BACK ONTO PAVEMENT IN THERE ORIGINAL LOCATION AFTER THE MARKING IS COMPLETE.

SEE SHEET 16 FOR APPROXIMATE LOCATIONS.

COSTS FOR REMOVAL, STORAGE AND DELIVERY OF BARRICADES, DRUMS, PCB, AND ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THIS WORK WILL BE INCLUDED IN THE LUMP SUM COST FOR **ITEM 202 - REMOVAL MISC.: REMOVAL OF BARRICADES, DRUMS AND PCB.**
THIS QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 630 SIGNING, MISC.: REMOVAL AND REERECTION OF OBJECT MARKER

THIS ITEM OF WORK SHALL CONSIST OF THE CAREFUL REMOVAL OF OBJECT MARKERS FROM THE EXSITING BRIDGE RAILING, STORAGE AND REERECTION ON THE NEW PARAPET.

THE CONTRACTOR SHALL DOCUMENT THE LOCATIONS OF THE OBJECT MARKERS APPROXIMATELY BETWEEN THE THIRD AND SIXTH LIGHT POLES EAST OF THE WEST END PIER ON THE EASTBOUND LANES (SEE SHEET 18 FOR LOCATION) AND REERECT THEM AT THE SAME SPACING BETWEEN THE SAME POLE NUMBERS ON THE NEW PARAPET.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID PER EACH ITEM 630 SIGNING, MISC.: REMOVAL AND REERECTION OF OBJECT MARKER WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR THE REMOVAL, STORAGE, REERECTION, AND ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO ACCOMPLISH THIS ITEM IN A WORKMANLIKE MANNER.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE BY THE ENGINEER FOR THE ABOVE ITEM.

ITEM 630 - SIGNING, MISC.: REMOVAL AND REERECTION OF OBJECT MARKER 13 EACH

FROM STATION	TO STATION	DIRECTION	NO. LINES	621				626	630				642		646						
				RPM, LOW PROFILE, WHITE	RPM, LOW PROFILE, WHITE/RED	RPM, LOW PROFILE, YELLOW/RED	RAISED PAVEMENT MARKER, REMOVED	BARRIER REFLECTOR	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN	SIGN, FLAT SHEET	REMOVAL OF PAVEMENT MARKING	REMOVAL OF PAVEMENT MARKING	EDGE LINE WHITE	EDGE LINE YELLOW	LANE LINE	CHANNELIZING LINE	TRANSVERSE/ DIAGONAL LINE	LANE ARROW	WORD ON PAVEMENT, 96"
				EACH	EACH	EACH	EACH	EACH	FT	FT	EACH	SQ FT	FT	MILE	MILE	MILE	MILE	FT	FT	EACH	EACH
973+50.0	978+00.0	EB	1										93	0.09							
977+00.0	999+01.1	EB	3										272	0.84							
3+87.6	12+75.0	EB	3											0.34							
12+75.0	16+13.0	EB					7						200								
12+75.0	16+07.0	EB	4										442	0.19							
16+07.0	43+50.0	EB	3											1.05							
12+00.0	12+75.0	14th ST. RAMP	1											0.02							
12+00.0	13+20.0	14th ST. RAMP	1											0.03							
964+00.0		EB								30		19.75									
971+00.0		EB								30		16.00									
972+00.0	986+00.0	EB		18																3	1
986+00.0	999+01.1	EB		28																	
3+87.6	12+75.0	EB		20																	
977+00.0	978+04.0	EB	2				1								0.02						
978+04.0	978+52.0	EB	2				1								0.01				71		
978+52.0	979+00.0	EB	2				1								0.01				39		
979+00.0	984+00.0	EB	2				4								0.09				281		
984+00.0	999+01.1	EB	2				12								0.28				1063		
3+87.6	4+88.0	EB	2				1								0.02				46		
4+88.0	6+92.0	EB	4				2								0.04		0.08		102		
6+92.0	12+75.0	EB	5	8			12								0.11	0.11	0.22		316		
12+75.0	16+07.3	EB	4	6			9									0.06	0.13	332			
16+07.3	20+07.3	EB	6	6			9	5							0.08	0.08	0.15	800			
20+07.3	22+40.0	EB	5	6			6	2							0.04	0.04	0.13				
22+40.0	23+15.0	EB	5	3			3								0.01	0.01	0.03				
23+15.0	25+15.0	EB	5	6			6								0.04	0.04	0.11				
25+15.0	43+50.0	EB	2	15			15								0.35		0.35				
12+50		14th ST. RAMP									1	16.00									
14+50		14th ST. RAMP									1	16.00									
6+04.0	7+15.0	14th ST. RAMP	1			2										0.02					
7+15.0	12+75.0	14th ST. RAMP	2			7									0.11	0.11					
12+75.0	16+07.3	14th ST. RAMP	2		9			4							0.06			332			
16+07.0	20+13.5	14th ST. RAMP			10																
8+60.0		14th ST. RAMP							11			2.00									
52+75.0		BROADWAY RAMP							11			2.00									
14+00.0	43+50.0	WB	2										493	1.12							
15+00.0	43+50.0	WB	1																		
14+00.0	43+50.0	WB	1												0.56						
14+00.0	43+50.0	WB	1	25			25										0.56				
SUBTOTALS				141	19	9	114	11	22	60	2	71.75	1500	3.68	1.83	0.47	1.76	1464	1918	3	1
TOTALS				141	19	9	114	11	22	60	2	72	1500	3.68	2.3		1.76	1464	1918	3	1

CALCULATED JDL
CHECKED EEL

SIGNING AND PAVEMENT MARKING
GENERAL NOTES AND GENERAL SUMMARY

CUY-90-15.24

ROUTE	SHEET NO.	REFERENCE NO.	SIGN CODE	SIGN SIZE (IN.)	630									
					SIGN, FLAT SHEET, AS PER PLAN	SIGN, OVERHEAD EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE, AS PER PLAN	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	REMOVAL OF POLE MOUNTED SIGN AND STORAGE	REMOVAL OF TEMPORARY OVERLAY SIGN AND REERECTION	REMOVAL OF TEMPORARY OVERLAY SIGN AND STORAGE
				IN x IN	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
IR 71	23	71 GM-1	(NO WORK NEEDED)											
		71 OH-1	(NO WORK NEEDED)											
		71 OH-2	(NO WORK NEEDED)											
		71 OH-3	(NO WORK NEEDED)											
		71 OH-4	(NO WORK NEEDED)											
		71 GM-2	(NO WORK NEEDED)											
		71 OH-5	(NO WORK NEEDED)											
		71 OH-6	(NO WORK NEEDED)											
		71 OH-7	(NO WORK NEEDED)											
		71 P-1	(NO WORK NEEDED)											
		71 OH-8	(NO WORK NEEDED)											
		71 OH-9	(NO WORK NEEDED)											
SR 176		176 OH-1	(NO WORK NEEDED)											
		176 GM-1	(NO WORK NEEDED)											
		176 OH-2	(NO WORK NEEDED)											
		176 OH-3	(NO WORK NEEDED)											
		176 OH-4	(NO WORK NEEDED)											
		176 OH-5	(NO WORK NEEDED)											
IR 90	24	90E OH-1	(NO WORK NEEDED)											
EAST		90E GM-1	(NO WORK NEEDED)											
		90E OH-2	(NO WORK NEEDED)											
		90E OH-3	(NO WORK NEEDED)											
		90E GM-2	(NO WORK NEEDED)											
		90E OH-4	(NO WORK NEEDED)											
		90E GM-3	(NO WORK NEEDED)											
		90E P-1	(NO WORK NEEDED)											
		90E OH-5	(NO WORK NEEDED)											
		90E OH-6	(NO WORK NEEDED)											
		90E P-2	(NO WORK NEEDED)											
		90E P-3	(NO WORK NEEDED)											
		90E P-4	(NO WORK NEEDED)											
		90E P-5										1		
WEST		90W P-11										1		
		90W P-10										1		
		90W P-9										1		
		90W P-8										1		
		90W OH-8								1				
		90W P-7					1		2					
		90W P-6										2		
		90W OH-7								1				
		90W P-5										3		
		90W OH-6								1				
		90W P-4					2		2					
		90W P-3										3		
		90W P-2										2		
		90W OH-5								1				
		90W OH-4								1				
		90W OH-3	E1 - H5	24 X 108		18.0				2	1		1	1
			E1 - H5	24 X 108		18.0								
		90W GM-2						1	2					
		90W OH-2	E1 - H5	24 X 108		18.0				1				
		90W P-1					2		2					
		90W OH-1	E1 - H5	24 X 108		18.0				1				
		90W GM-1						1	2					
SUBTOTALS COLUMN 1					0	72	5	2	10	9	1	15	1	1

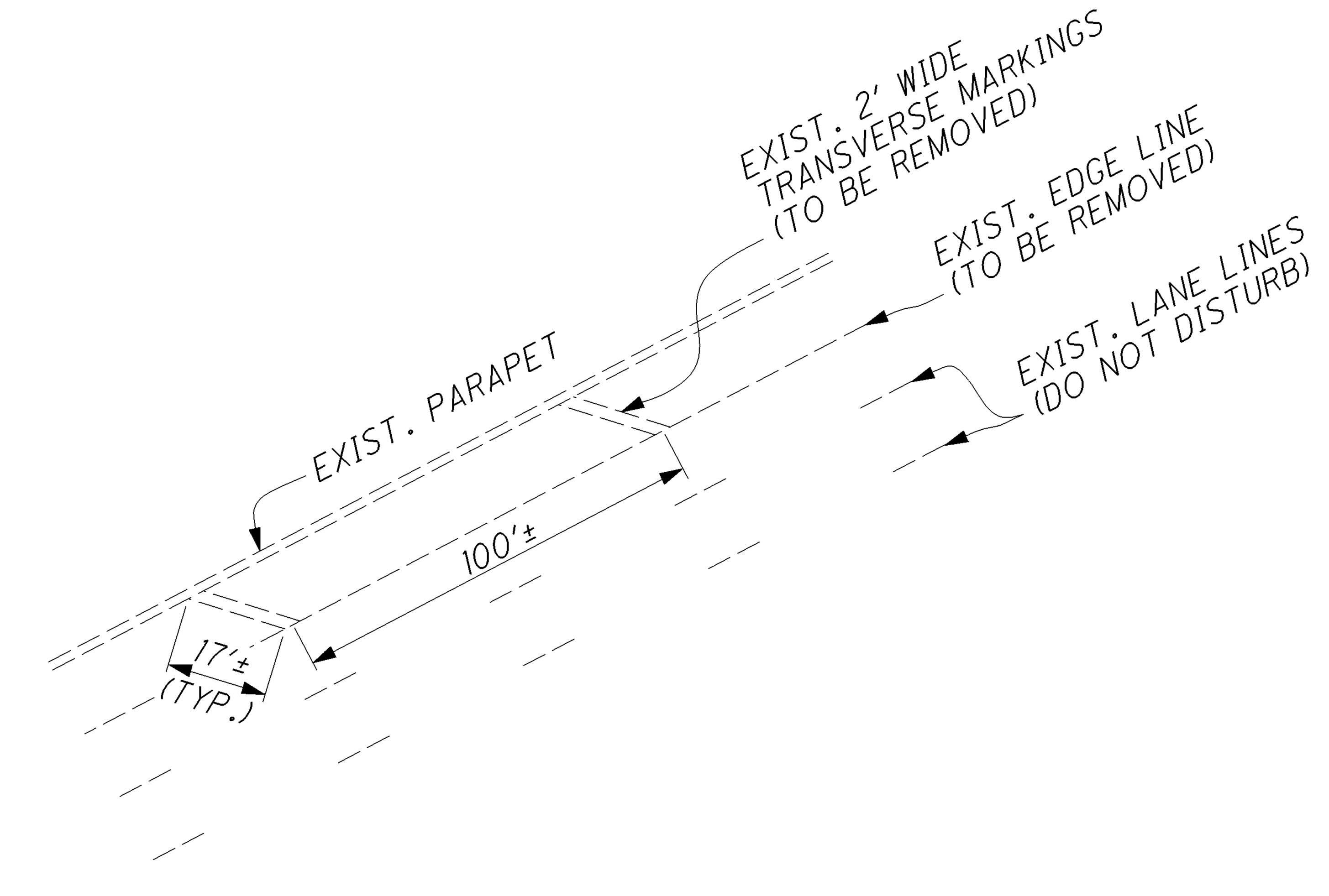
ROUTE	SHEET NO.	REFERENCE NO.	SIGN CODE	SIGN SIZE (IN.)	630									
					SIGN, FLAT SHEET, AS PER PLAN	SIGN, OVERHEAD EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE, AS PER PLAN	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	REMOVAL OF POLE MOUNTED SIGN AND STORAGE	REMOVAL OF TEMPORARY OVERLAY SIGN AND REERECTION	REMOVAL OF TEMPORARY OVERLAY SIGN AND STORAGE
				IN x IN	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
IR 490														
EAST	25	490E OH-1	(NO WORK NEEDED)											
		490E OH-2	(NO WORK NEEDED)											
		490E OH-3	(NO WORK NEEDED)											
IR 490														
WEST		490W OH-3	(NO WORK NEEDED)											
		490W OH-2								1				
		490W OH-1								1				
RAMP DETOURS														
14TH ST.	25	DET P-1			2									
		DET P-2			2									
		DET P-3			2									
		DET P-4			2									
		DET P-5			2									
		DET P-6			2									
		DET P-7			2									
		DET P-8			2									
ONTARIO		DET P-9					2		2					
		DET P-10					2		2					
		DET P-11					2		2					
		DET P-12					2		2					
		DET P-13					2		2					
IR 77														
NORTH	26	77N GM-1						1	2					
		77N GM-2						1	2					
		77N OH-1	E1 - H5	24 X 108		18.0				1				
		77N OH-2	E1 - H5	24 X 108		18.0				1				
		77N GM-3						1	2					
		77N OH-3	E1 - H5	24 X 108		18.0				1				
		77N OH-4								1				
		77N P-1					1		2					
		77N OH-5								1				
		77N P-2					1		2					
		77N OH-6								1				
		77N P-3					2		2					
		77N OH-7								1				
		77N OH-8								1				
		77N OH-9								1				
		77N P-4					1		2					
		77N OH-10								1				
		77N OH-11								1				1
IR 77														
SOUTH		77S OH-5								1				
		77S OH-4	E1 - H5	24 X 108		18.0				1				
		77S OH-3	E1 - H5	24 X 108		18.0				1				
		77S OH-2	E1 - H5	24 X 108		18.0				1				
		77S OH-1	E1 - H5	24 X 108		18.0				1				
SUBTOTAL COLUMN 2 =					16	126	15	3	24	18	0	0	0	1
SUBTOTAL COLUMN 1 =					0	72	5	2	10	9	1	15	1	1
TOTALS CARRIED TO GENERAL SUMMARY					16	198	20	5	34	27	1	15	1	2

CALCULATED JDL
CHECKED EEL

SIGNING SUBSUMMARY

CUY-90-15.24

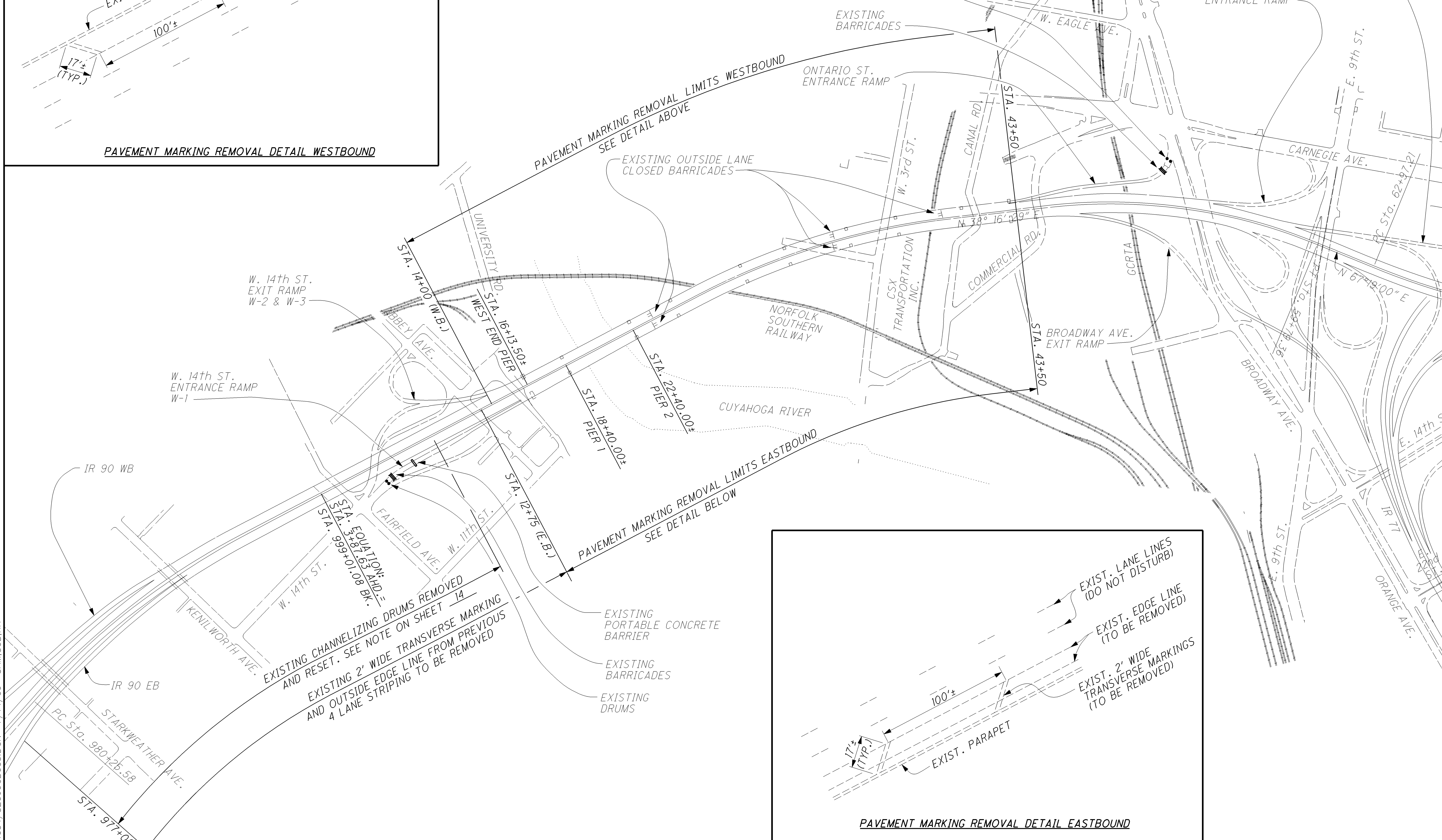
108031/108031-13/82069/82069TG001.DGN 7/31/09 SAM.SCB



PAVEMENT MARKING REMOVAL DETAIL WESTBOUND

NOTES:

1. PAYMENT FOR THE REMOVAL OF THE EDGE LINE SHALL BE MADE UNDER THE UNIT PRICE BID PER MILE OF ITEM 642 REMOVAL OF PAVEMENT MARKING.
2. PAYMENT FOR THE REMOVAL OF THE TRANSVERSE LINES SHALL BE MADE UNDER THE UNIT PRICE BID PER LINEAL FOOT OF ITEM 642 REMOVAL OF PAVEMENT MARKING.
3. STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.



PAVEMENT MARKING REMOVAL DETAIL EASTBOUND

0 125 250 500
HORIZONTAL SCALE IN FEET

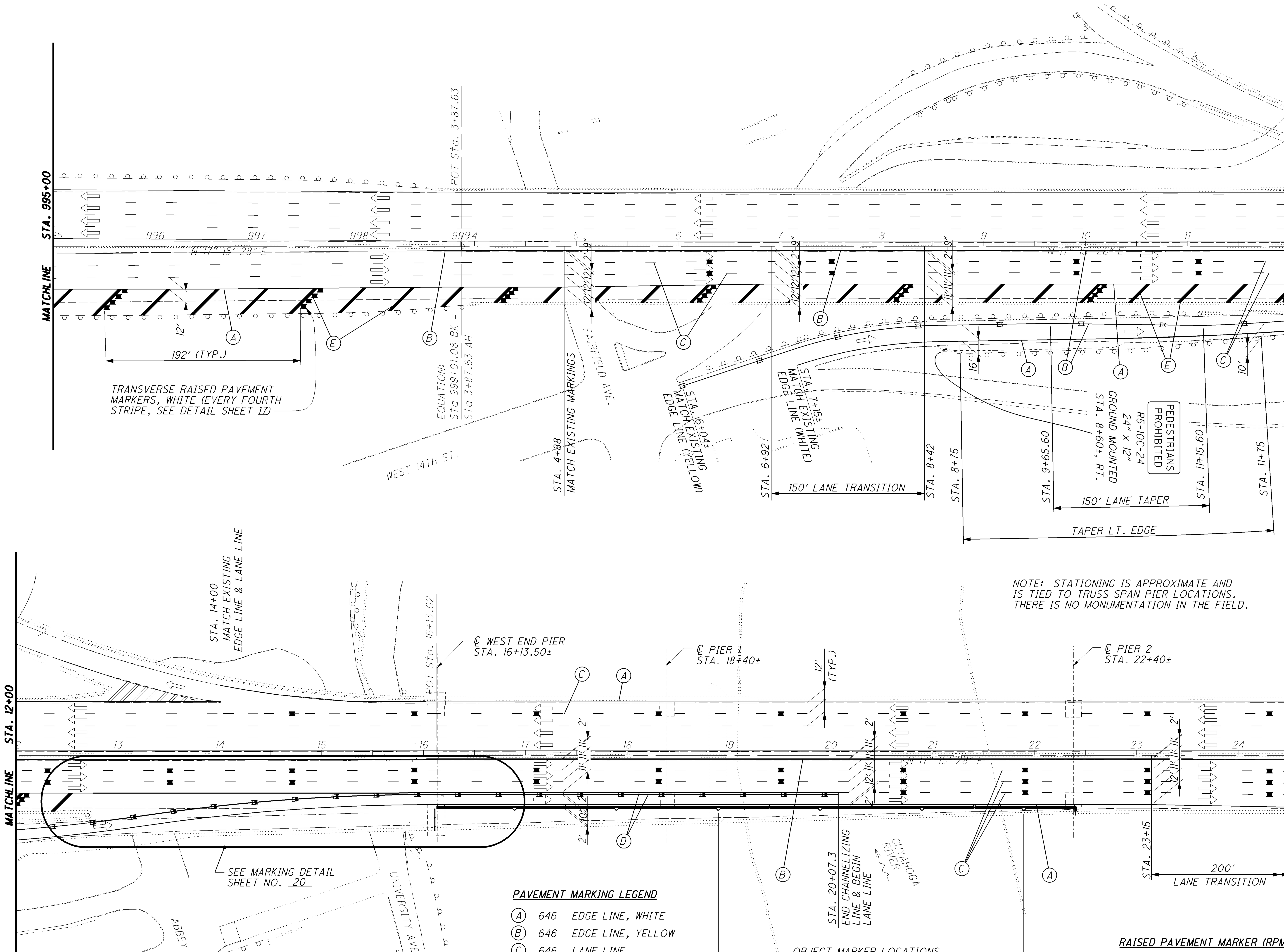
CALCULATED JDL
CHECKED EEL

TRAFFIC CONTROL REMOVAL PLAN

CUY-90-15.24

104034/82069GB003.DGN 7/14/09 SAM,SCB,KH


W16-9P-30
AHEAD
30" x 18"
GROUND MOUNTED
W9-1R-48
RIGHT LANE ENDS
48" x 48"
700'
I.R. 90 WB
I.R. 490 EB
I.R. 490 WB
970
971
972
973
974
975
976
977
978
979
980
981
982
8' WORD "MERGE" ON PAVEMENT
MERGE ARROW ON PAVEMENT (TYP.)
REMOVE LANE LINE
I.R. 90 EB
12' (TYP.)
W4-2R-48
48" x 48"
GROUND MOUNTED
150'
150'
150'
150'
150'
600'
600' TAPER @ 50:1
RAISED PAVEMENT MARKERS, WHITE, @ 80' C/C SPACING
STA. 977+00 MATCH EXISTING MARKINGS
STA. 978+00±
PC 980+25.58
STARKWEATHER AVE.
STA. 982+50
MATCHLINE
* 48' OF 2' TRANSVERSE MARKINGS @ 12' C/C
** 48' OF 2' TRANSVERSE MARKINGS @ 24' C/C
NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.
STA.982+50
MATCHLINE
983
984
985
986
987
988
989
990
991
992
993
994
12'
12'
192' (TYP.)
TRANSVERSE RAISED PAVEMENT MARKERS, WHITE, (EVERY FOURTH STRIPE, SEE DETAIL RIGHT)
600' TAPER @ 50:1
STA. 984+00±
200' FROM END OF EDGE LINE TAPER
RAISED PAVEMENT MARKERS, WHITE, @ 80' C/C SPACING
KENILWORTH AVE.
Sta. 994+44.52
STA. 995+00
MATCHLINE
PAVEMENT MARKING LEGEND
(A) 646 EDGE LINE, WHITE
(B) 646 EDGE LINE, YELLOW
(C) 646 LANE LINE
(D) 646 CHANNELIZING LINE
(E) 646 TRANSVERSE/DIAGONAL LINE (2' LINES @ 48' C/C UNLESS OTHERWISE NOTED)
RAISED PAVEMENT MARKER (RPM) LEGEND
RAISED PAVEMENT MARKER, YELLOW/RED (80' C/C SPACING)
RAISED PAVEMENT MARKER, WHITE/RED (40' C/C SPACING)
RAISED PAVEMENT MARKER, WHITE (120' C/C SPACING, UNLESS OTHERWISE STATED)
PROPOSED EDGE LINE
PROPOSED TRANSVERSE DIAGONAL LINE
RAISED PAVEMENT MARKER, WHITE (TYP.)
45°
5'
5'
5'
5'
15'
TRANSVERSE RAISED PAVEMENT MARKER (RPM) DETAIL
0 25 50 100
HORIZONTAL SCALE IN FEET
CALCULATED JDL
CHECKED EEL
TRAFFIC CONTROL PLAN
STA. 970+00 TO STA. 995+00
CUY-90-15.24
17
175
108/031/108031-13/82069/82069TP007.DGN 7/30/09 SAM.SCB



PAVEMENT MARKING LEGEND

- (A) 646 EDGE LINE, WHITE
- (B) 646 EDGE LINE, YELLOW
- (C) 646 LANE LINE
- (D) 646 CHANNELIZING LINE
- (E) 646 TRANSVERSE/DIAGONAL LINE (2' LINES @ 48' C/C UNLESS OTHERWISE NOTED)

RAISED PAVEMENT MARKER (RPM) LEGEND

- RAISED PAVEMENT MARKER, YELLOW/RED (80' C/C SPACING)
- RAISED PAVEMENT MARKER, WHITE/RED (40' C/C SPACING)
- RAISED PAVEMENT MARKER, WHITE (120' C/C SPACING)

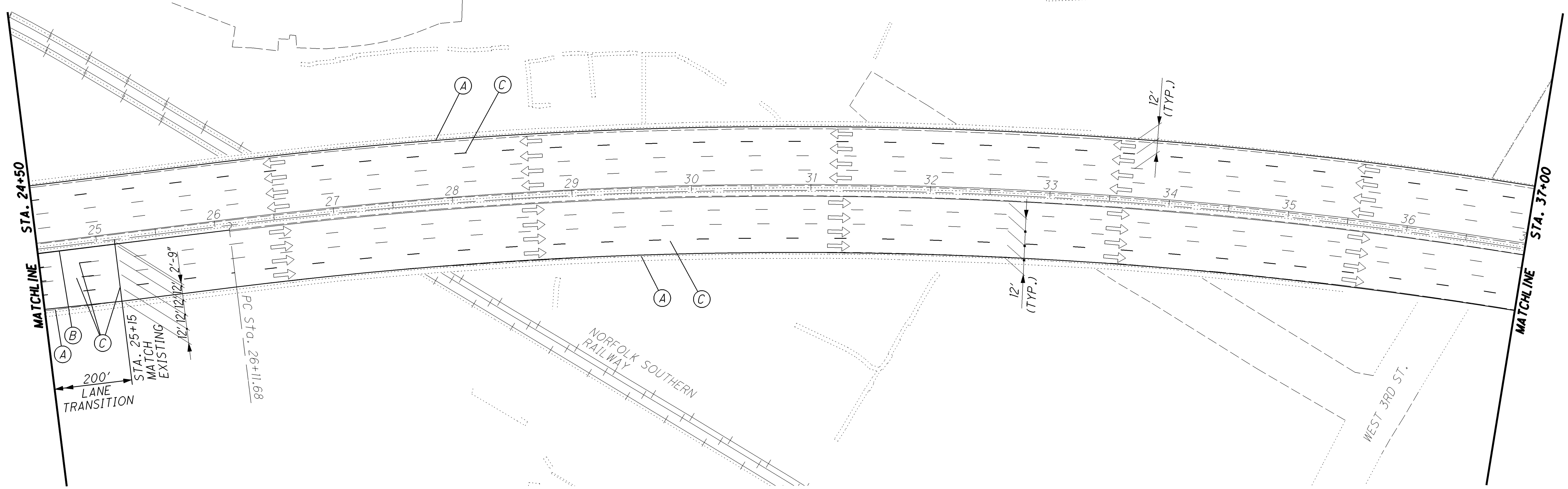
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED JDL CHECKED EEL

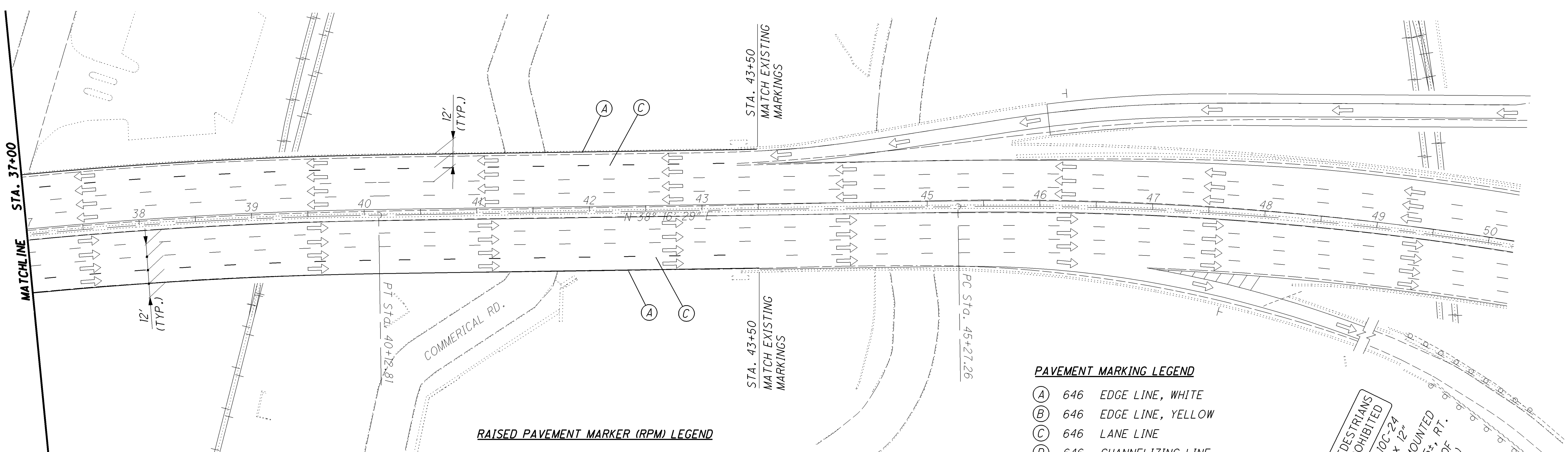
TRAFFIC CONTROL PLAN STA. 995+00 TO STA. 24+50

CUY-90-15.24

108031/108031-13/82069/82069TP008.DGN 7/30/09 SAM.SCB



NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.



PAVEMENT MARKING LEGEND

- Ⓐ 646 EDGE LINE, WHITE
- Ⓑ 646 EDGE LINE, YELLOW
- Ⓒ 646 LANE LINE
- Ⓓ 646 CHANNELIZING LINE
- Ⓔ 646 TRANSVERSE/DIAGONAL LINE (2' LINES @ 48' C/C UNLESS OTHERWISE NOTED)

RAISED PAVEMENT MARKER (RPM) LEGEND

- RAISED PAVEMENT MARKER, YELLOW/RED (80' C/C SPACING)
- RAISED PAVEMENT MARKER, WHITE/RED (40' C/C SPACING)
- RAISED PAVEMENT MARKER, WHITE (120' C/C SPACING)

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED JDL
CHECKED EEL

TRAFFIC CONTROL PLAN STA. 24+50 TO STA. 49+50

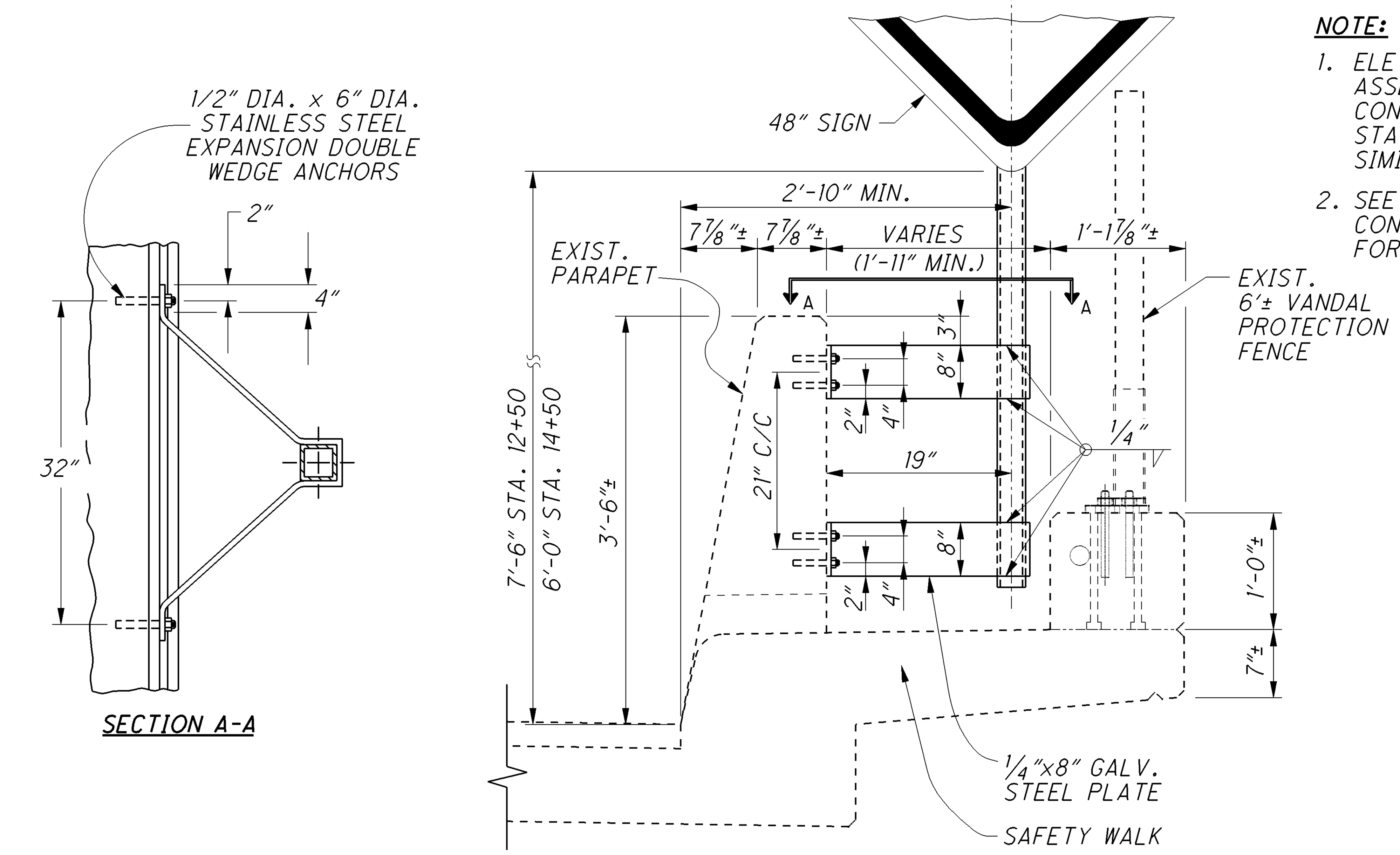
CUY-90-15.24

19/175

108031/108031-13/82069/82069TP009.DGN 7/30/09 SAM.SCB

NOTE:

1. ELEVATION VIEW REFLECTS SIGN SUPPORT ASSEMBLY AT STA. 12+50 INTO EXISTING CONCRETE PARAPET. ELEVATION VIEW AT STA. 14+50 INTO NEW CONCRETE PARAPET SIMILAR.
2. SEE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWING TC-41.40 FOR ADDITIONAL INFORMATION.



ITEM 630 - SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN

THIS ITEM SHALL CONFORM TO CMS 630 AND SHALL INCLUDE ALL MATERIALS, HARDWARE, LABOR AND EQUIPMENT NECESSARY TO FURNISH & INSTALL THE BARRIER MOUNTED SIGN SUPPORT AS DETAILED ABOVE AT THE UNIT PRICE BID PER EACH.

PAVEMENT MARKING LEGEND

- (A) 646 EDGE LINE, WHITE
- (B) 646 EDGE LINE, YELLOW
- (C) 646 LANE LINE
- (D) 646 CHANNELIZING LINE
- (E) 646 TRANSVERSE DIAGONAL LINE (2' LINES @ 48' C/C UNLESS OTHERWISE NOTED)

RAISED PAVEMENT MARKER (RPM) LEGEND

- RAISED PAVEMENT MARKER, YELLOW/RED (80' C/C SPACING)
- RAISED PAVEMENT MARKER, WHITE/RED (40' C/C SPACING)
- RAISED PAVEMENT MARKER, WHITE (120' C/C SPACING)

#CURVE DATA DEFINES W 14TH ST. RT. EDGE LINE

NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

*EXTEND CHANNELIZING LINES 400' AHEAD

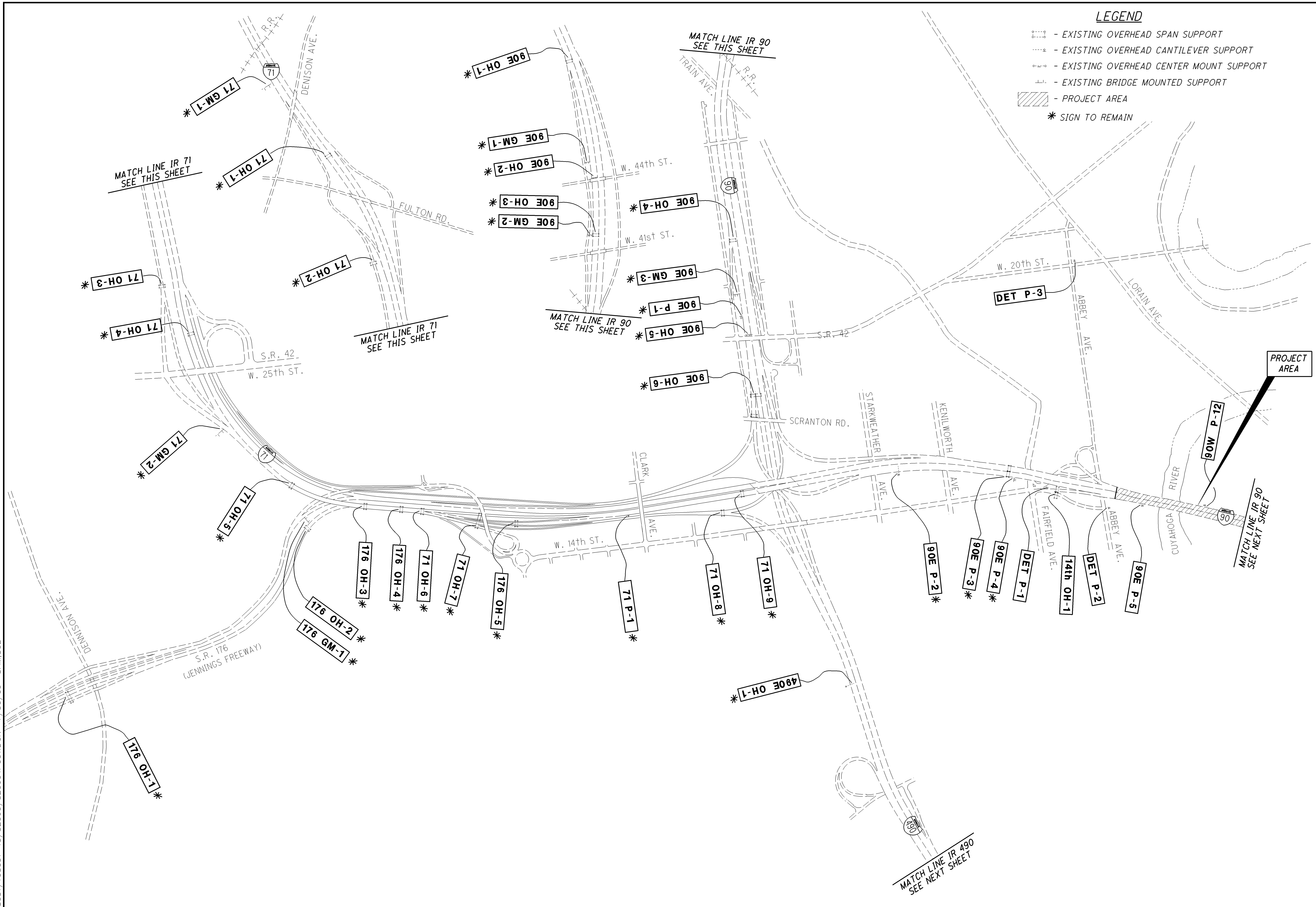
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JDL CHECKED EEL

PAVEMENT MARKING PLAN

CUY-90-15.24

108031-13/82069GP001.DGN 8/10/09 SAM.SCB



N

0 250 500 1000

HORIZONTAL SCALE IN FEET

CALCULATED JDL

CHECKED EEL

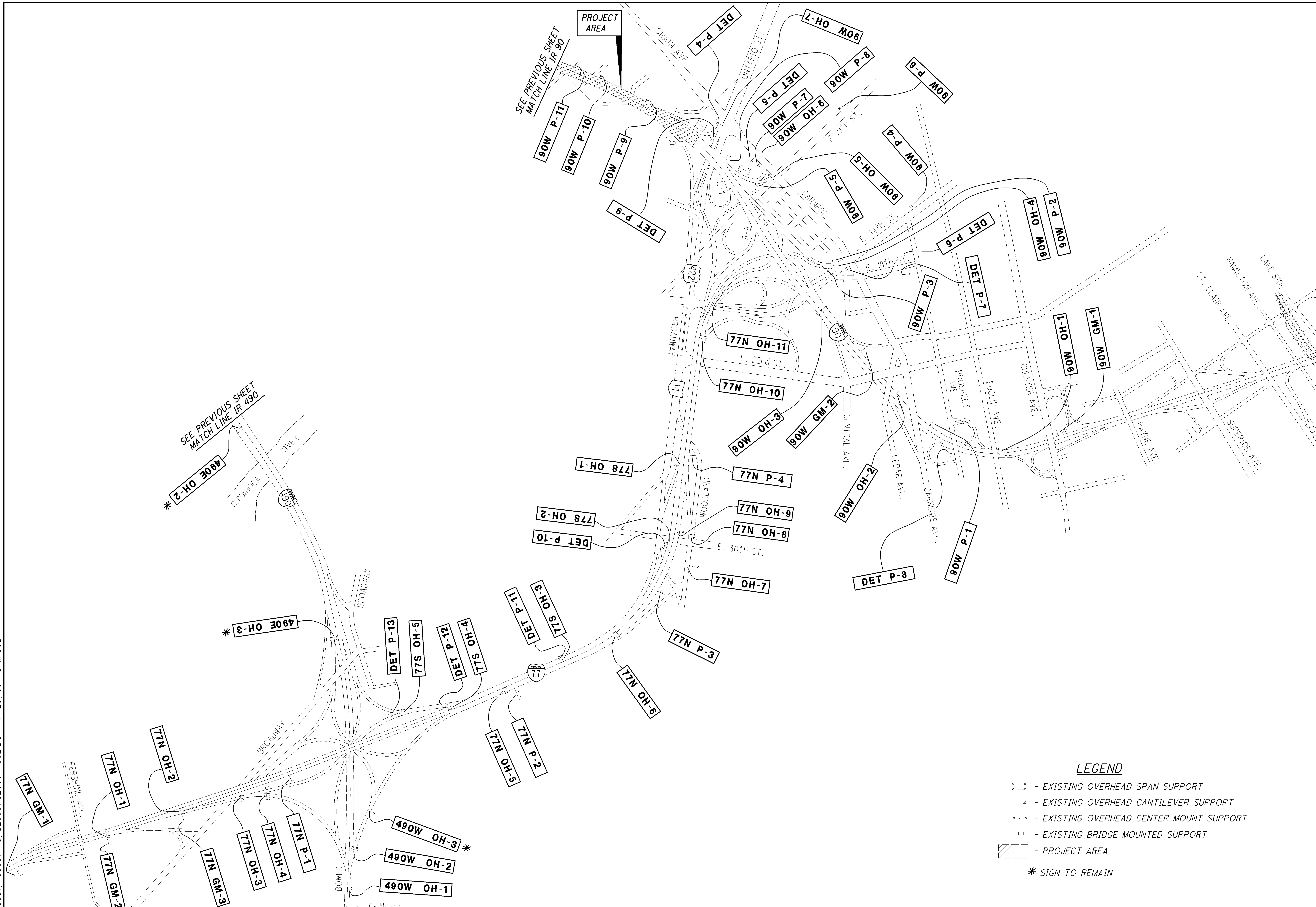
SIGN REMOVAL PLAN

CUY-90-15.24

1/2

21/175

108031/108031-13/82069/82069TP001.DGN 7/30/09 SAM.SCB



N

0 250 500 1000
HORIZONTAL SCALE IN FEET

CALCULATED JDL
CHECKED EEL

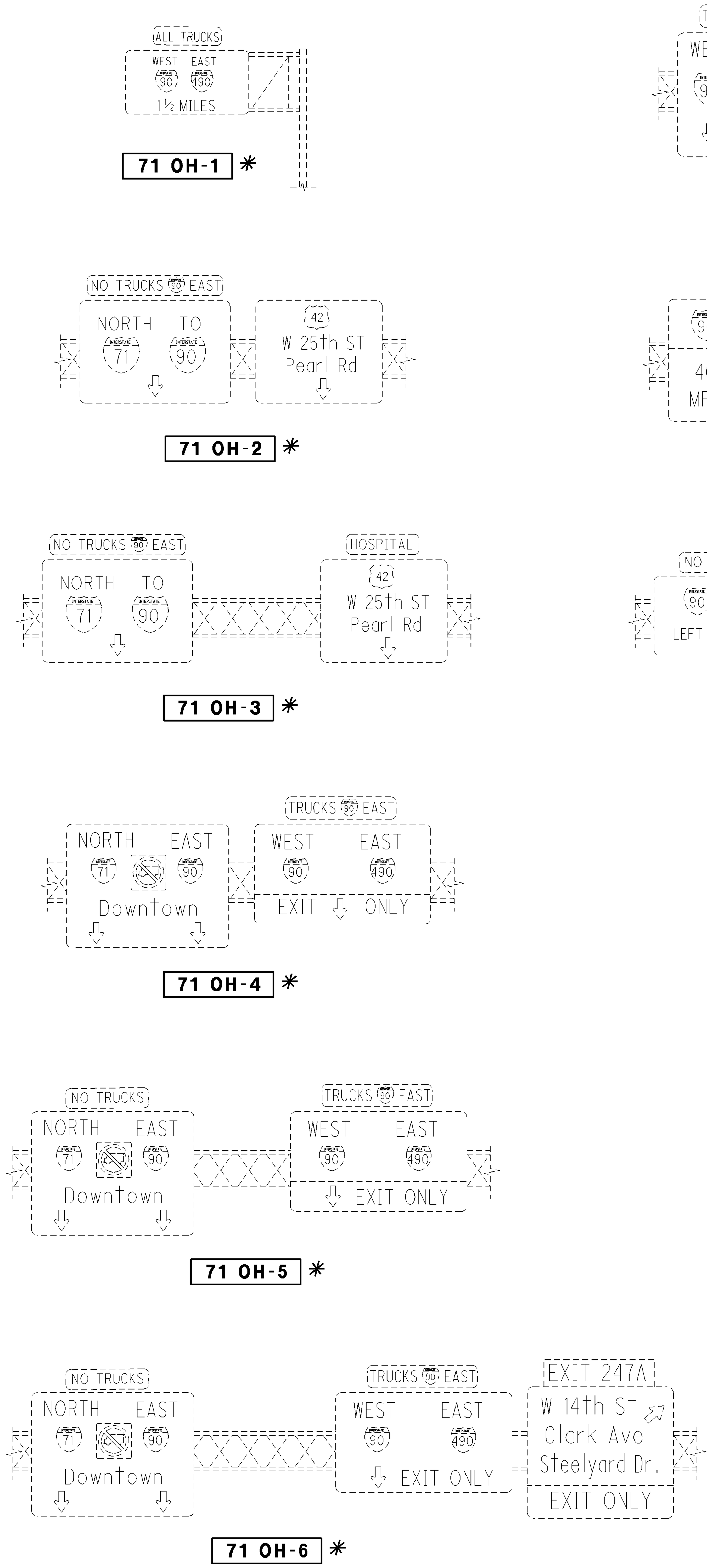
SIGN REMOVAL PLAN

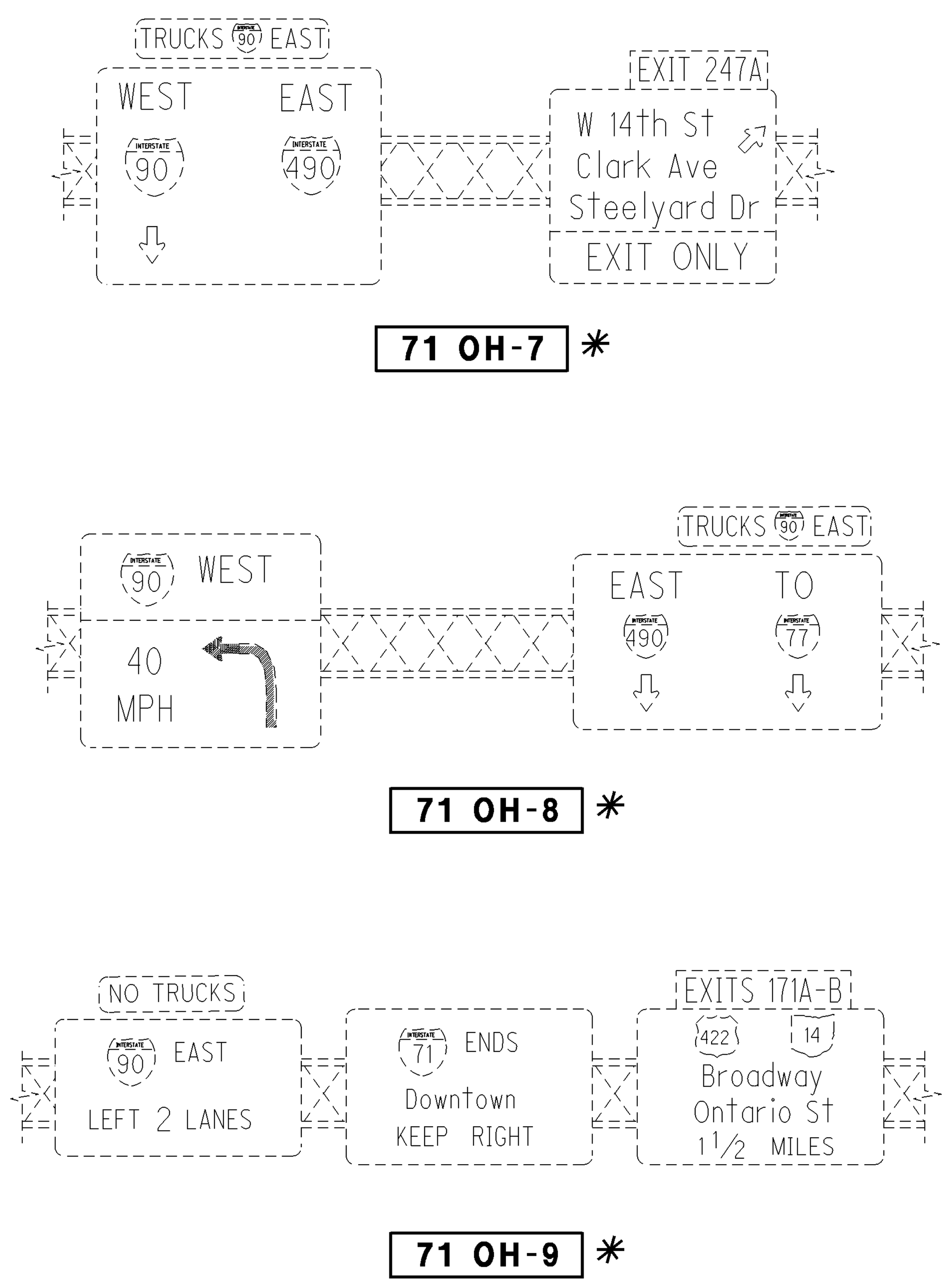
CUY-90-15.24

2/2

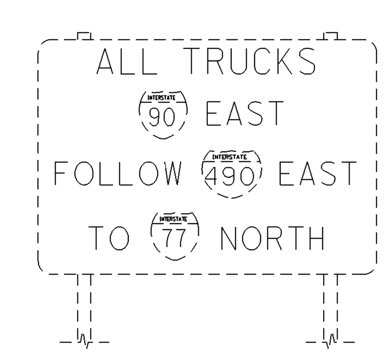
108031/108031-13/82069/82069TP002.DGN 7/29/09 SAM.SCB

IR 71 NORTHBOUND OVERHEAD SIGNS



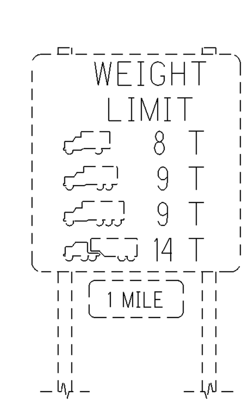


IR 71 NORTHBOUND GROUND MOUNTED MAJOR SIGNS



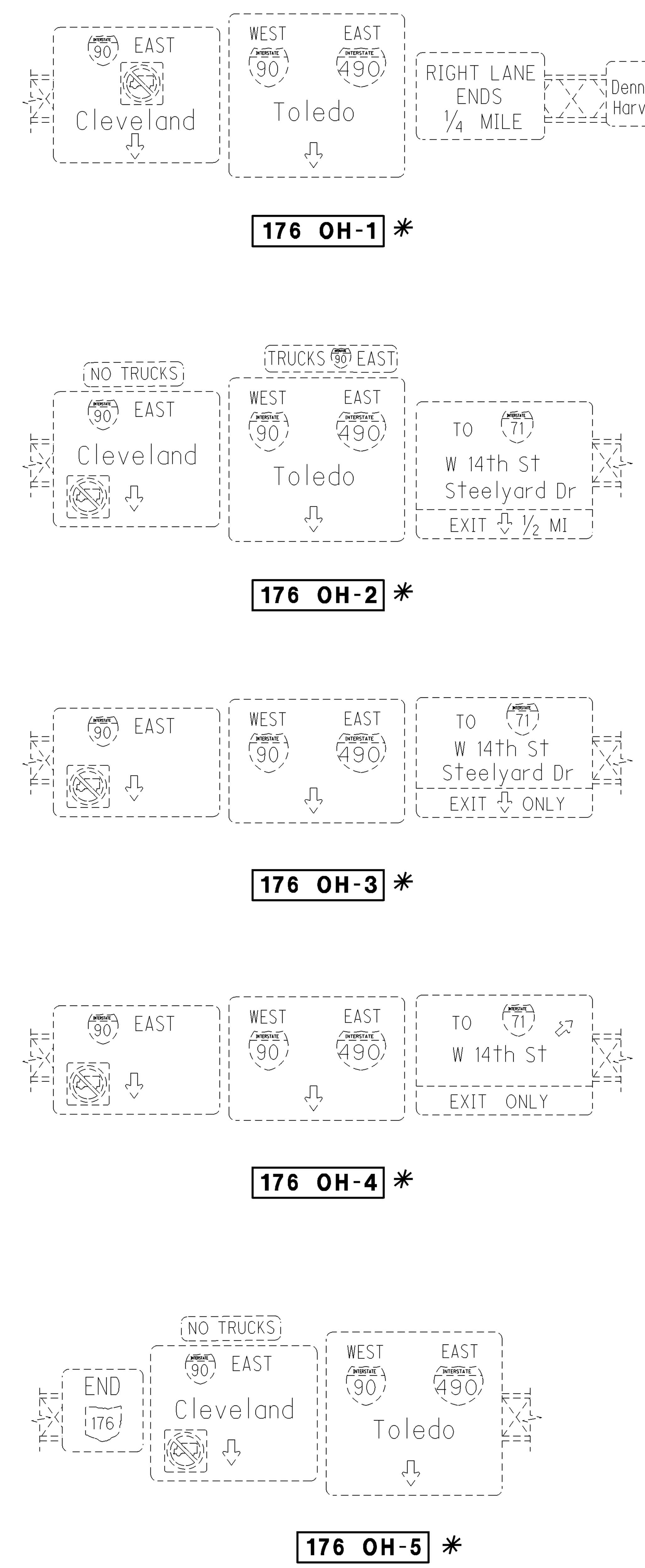
71 GM-1 *
71 GM-2 *

IR 71 NORTHBOUND POST MOUNTED SIGNS

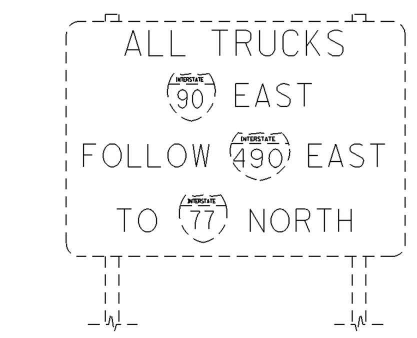


71 P-1 *

SR 176 (JENNINGS FREEWAY) OVERHEAD SIGNS

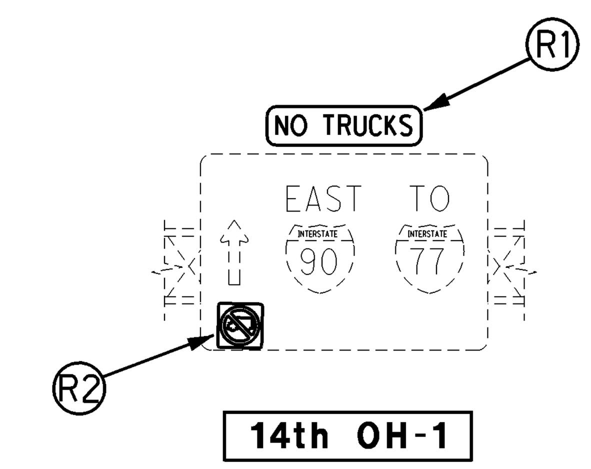


SR 176 (JENNINGS FREEWAY) GROUND MOUNTED MAJOR SIGNS



176 GM-1 *

14th STREET ENTRANCE RAMP



14th OH-1

ITEM 630 - REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN

R1 - REERECT "NO TRUCKS" SIGN REMOVED FROM OVERHEAD SIGN 90W OH-3 (SEE SHEET 24) ON 14th STREET RAMP OVERHEAD SIGN. THIS ITEM SHALL CONFORM TO CMS 630.12 AND SHALL INCLUDE ANY ADDITIONAL HARDWARE NECESSARY TO REERECT THE SIGN IN THE LOCATION DESIGNATED. COST INCLUDED UNDER SIGN REFERENCE 90W OH-3 .

ITEM 630 - REMOVAL OF TEMPORARY OVERLAY SIGN AND REERECTION

R2 - REERECT "NO TRUCKS" OVERLAY SIGN REMOVED FROM OVERHEAD SIGN 90W OH-3 (SEE SHEET 24) ON 14th STREET RAMP OVERHEAD SIGN. ALL ATTACHMENT HARDWARE, LABOR AND MATERIALS NECESSARY TO REMOVE AND REERECT THE OVERLAY SIGN SHALL BE INCLUDED IN THIS ITEM. COST INCLUDED UNDER SIGN REFERENCE 90W OH-3 .

LEGEND

* SIGN TO REMAIN

R1 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN

R2 REMOVAL OF OVERLAY SIGN AND REERECTION

NOTES:

A) ALL GROUND MOUNTED AND GROUND MOUNTED MAJOR SIGNS TO BE REMOVED HAVE BEEN PLACED ON POST SUPPORTS OR ARE POLE MOUNTED FOR ALL AFFECTED LOCAL, STATE AND INTERSTATE ROADWAYS IN THESE PLANS.

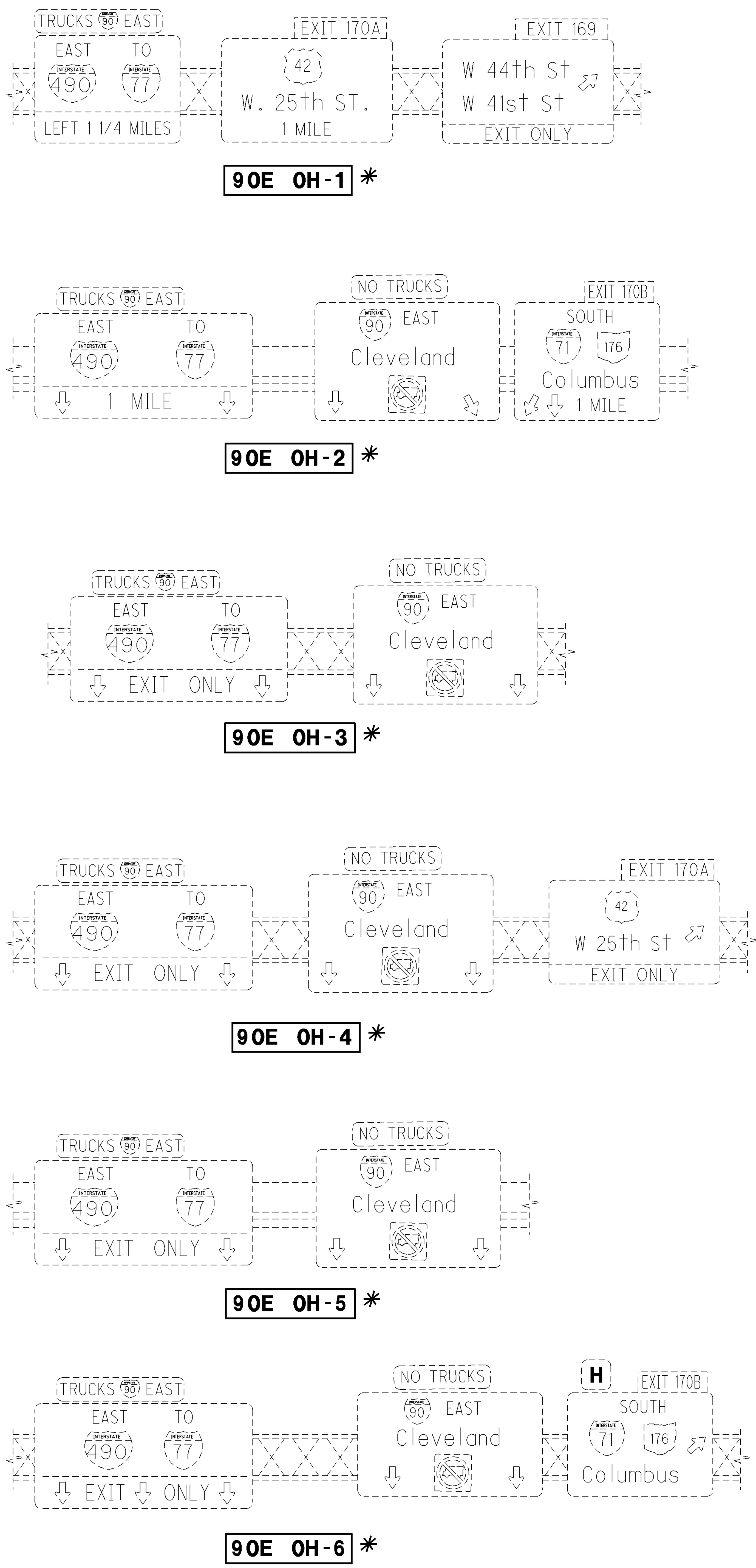
B) THE CONTRACTOR SHALL NOT REMOVE THE TRUCK RESTRICTION SIGNS FOR I.R. 90 INNERBELT BRIDGE UNTIL THE BRIDGE IS RATED LEGAL FOR ALL TRUCKS BY OHIO LAW AND AS DIRECTED BY THE ENGINEER.

CALCULATED JDL
CHECKED EEL

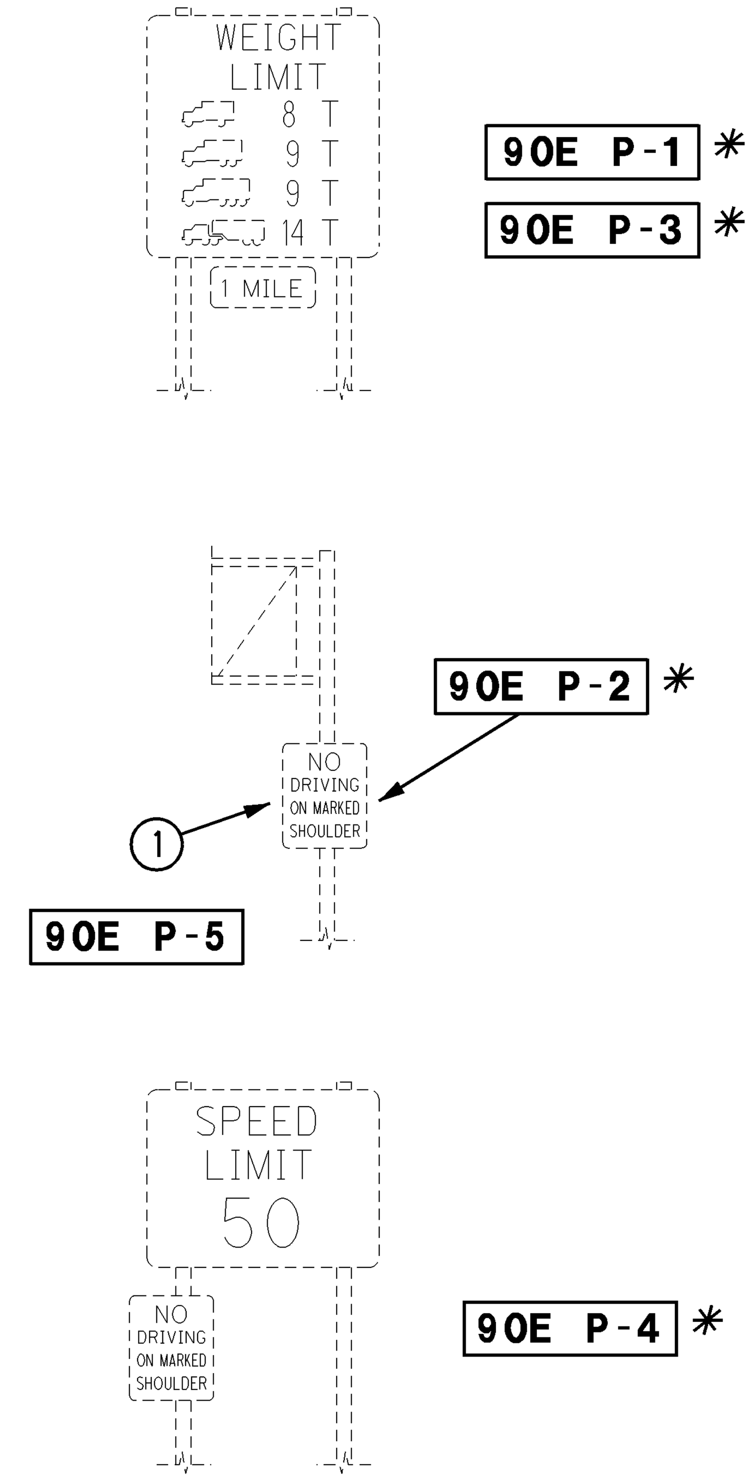
SIGN REMOVAL PLAN DETAILS
I.R. 71 AND S.R. 176 (JENNINGS FREEWAY)

CUY-90-15.24

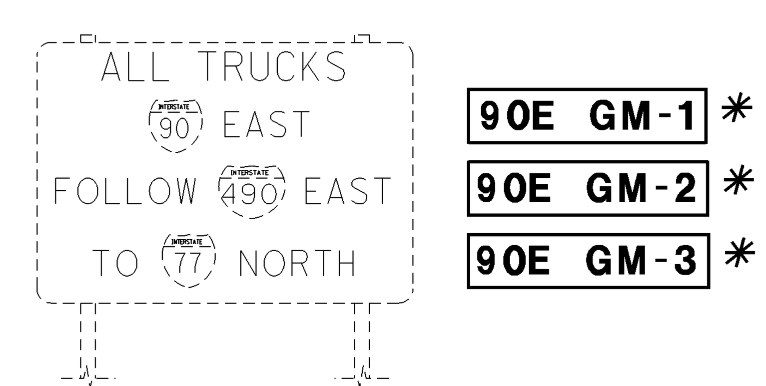
IR 90 EASTBOUND OVERHEAD SIGNS



IR 90 EASTBOUND POST MOUNTED SIGNS



IR 90 EASTBOUND GROUND MOUNTED SIGNS



LEGEND

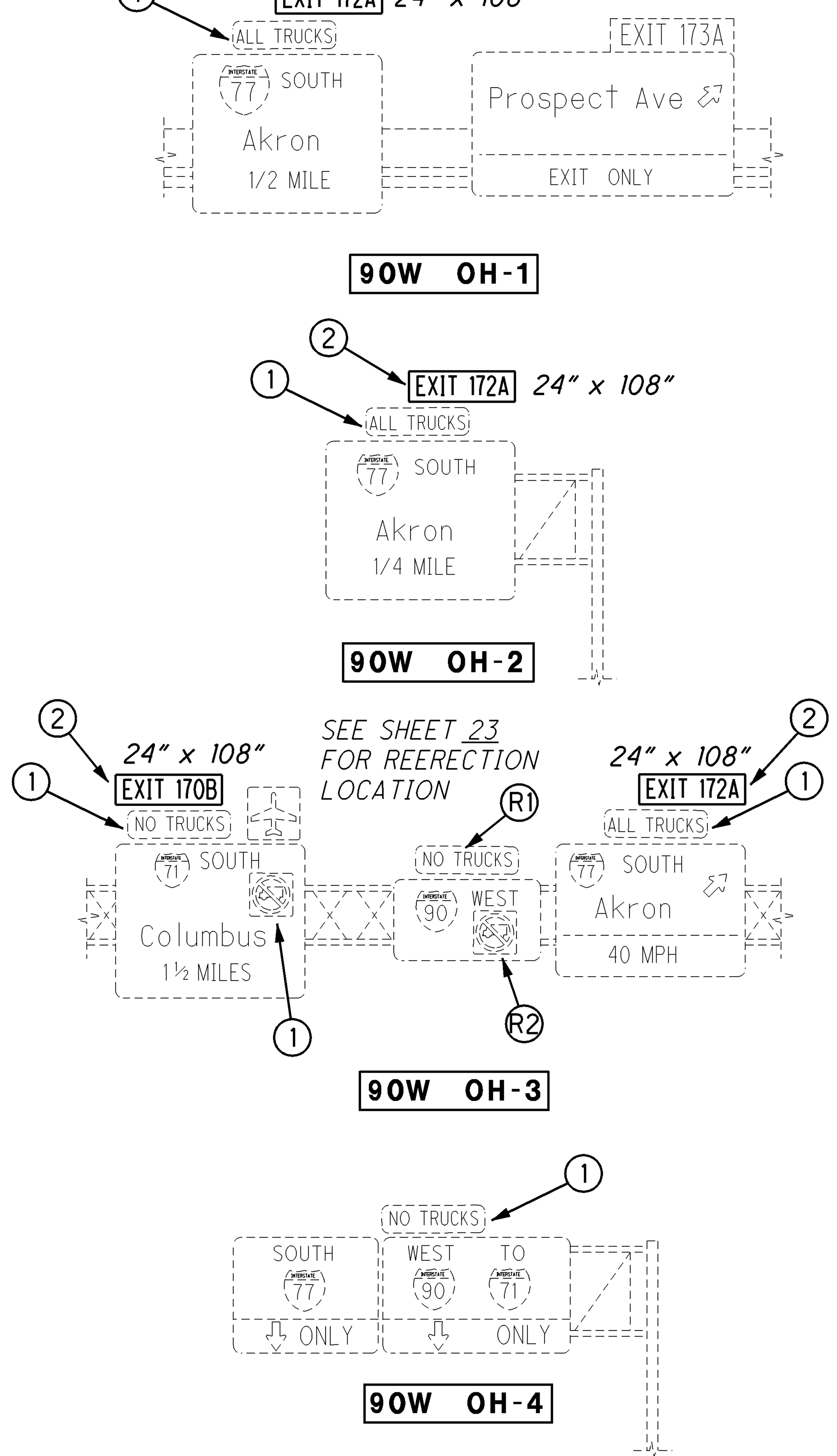
- * SIGN TO REMAIN
- (1) SIGN/OVERLAY/POST TO BE REMOVED
- (2) SIGN TO BE INSTALLED - SIGN CODE E1-H5 (SIZE AS NOTED)
- (R1) REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN
- (R2) REMOVAL OF OVERLAY SIGN AND REERECTION

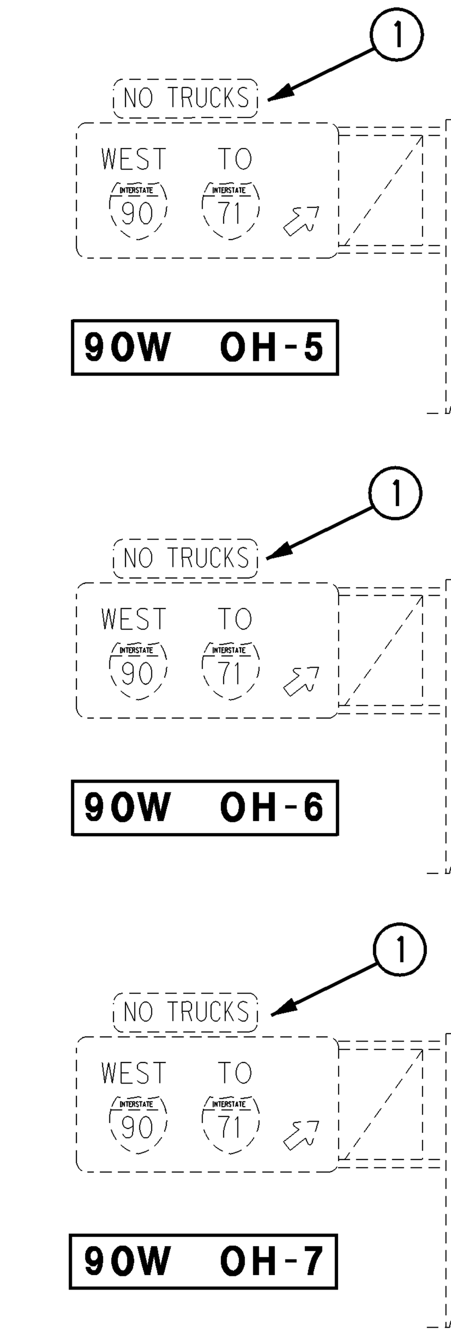
NOTES:

A) ALL GROUND MOUNTED AND GROUND MOUNTED MAJOR SIGNS TO BE REMOVED HAVE BEEN PLACED ON POST SUPPORTS OR ARE POLE MOUNTED FOR ALL AFFECTED LOCAL, STATE AND INTERSTATE ROADWAYS IN THESE PLANS.

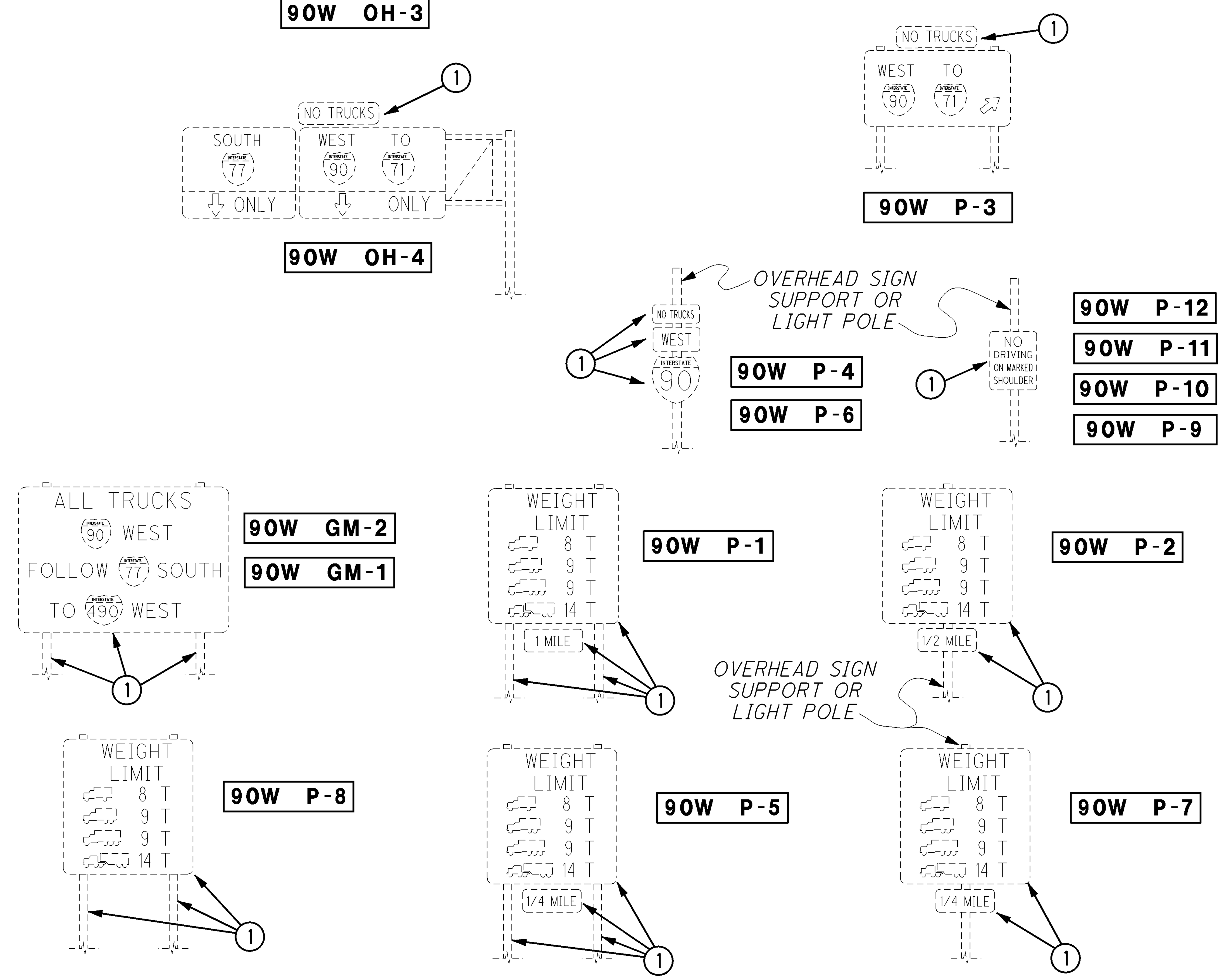
B) THE CONTRACTOR SHALL NOT REMOVE THE TRUCK RESTRICTION SIGNS FOR I.R. 90 INNERBELT BRIDGE UNTIL THE BRIDGE IS RATED LEGAL FOR ALL TRUCKS BY OHIO LAW AND AS DIRECTED BY THE ENGINEER.

IR 90 WESTBOUND OVERHEAD SIGNS





IR 90 WESTBOUND GROUND MOUNTED POST OR POLE MOUNTED SIGNS



CALCULATED JDL
CHECKED EEL

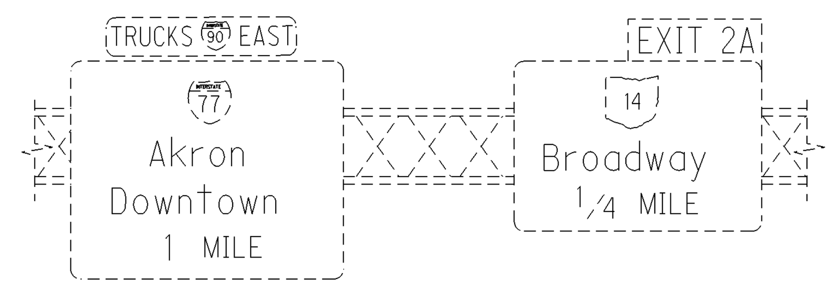
SIGN REMOVAL PLAN DETAILS I.R. 90

CUY-90-15.24

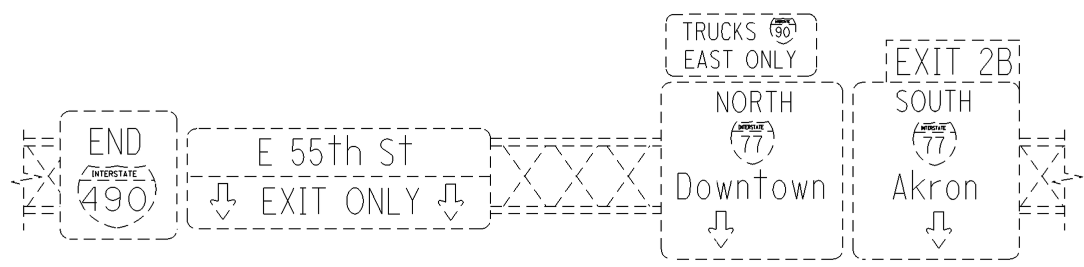
24/175

108031/108031-13/82069/82069TP003.DGN 7/31/09 SAM.SCB

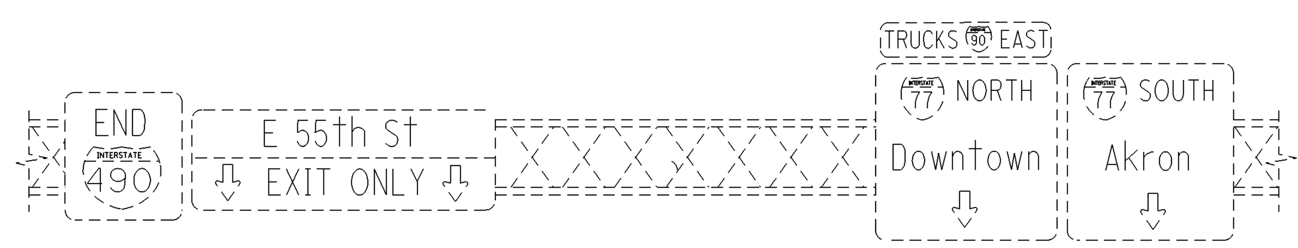
IR 490 EASTBOUND OVERHEAD SIGNS



490E OH-1 *

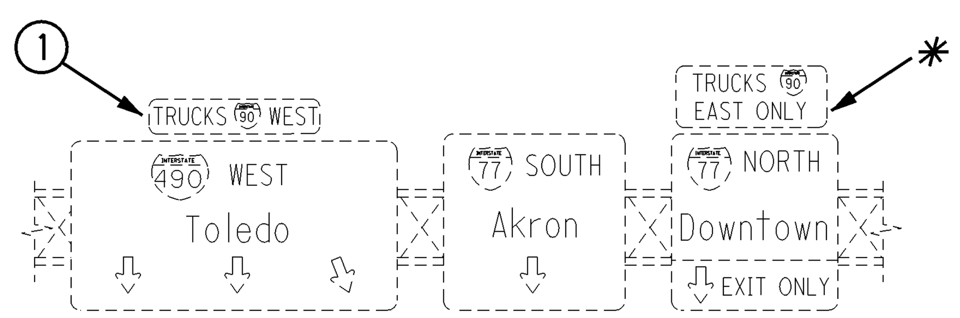


490E OH-2 *

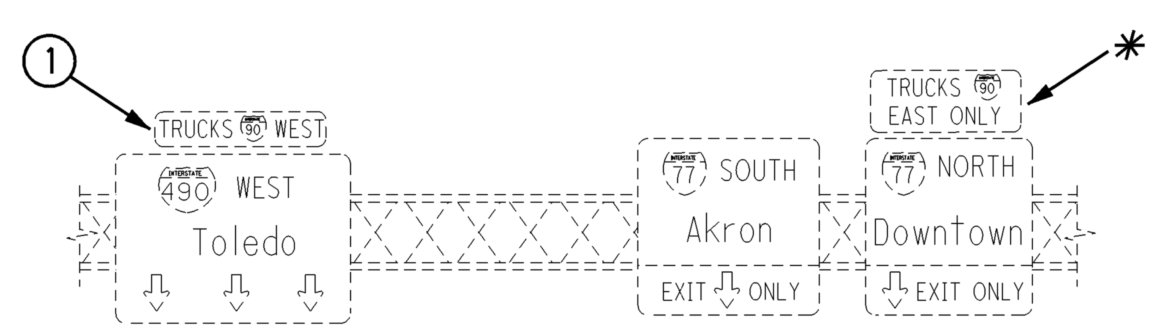


490E OH-3 *

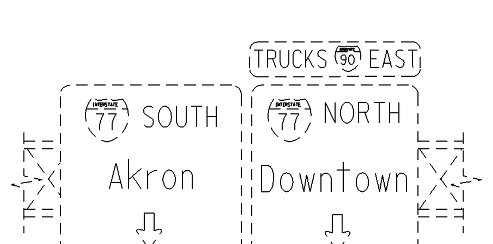
IR 490 WESTBOUND OVERHEAD SIGNS



490W OH-1

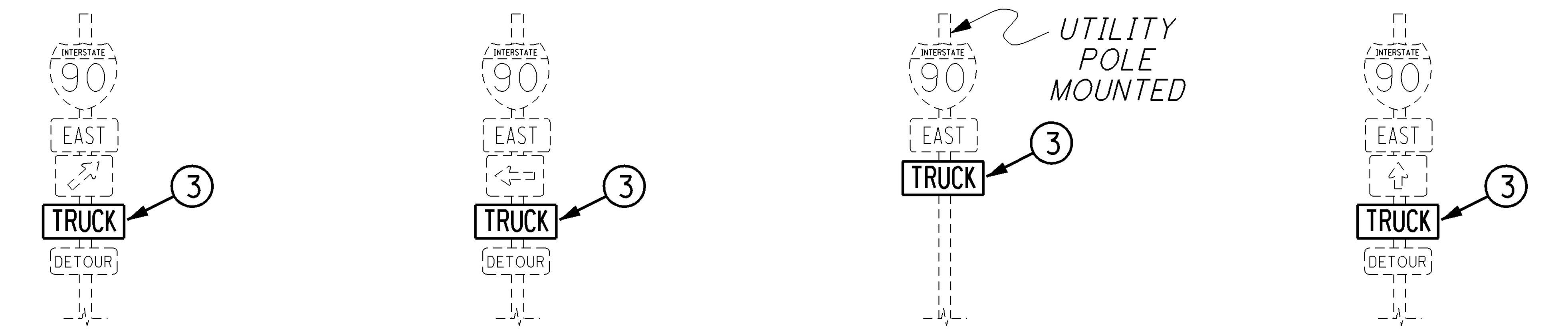


490W OH-2

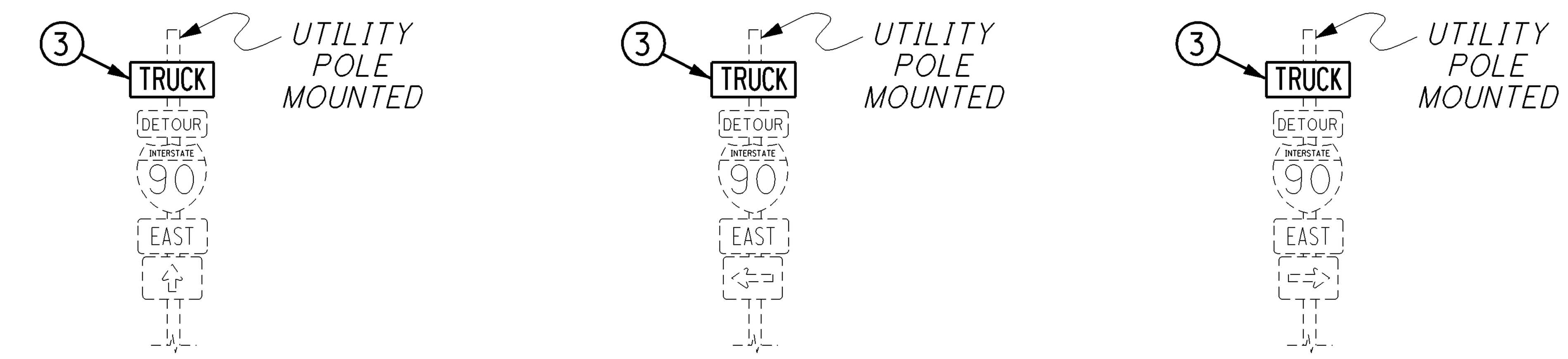


490W OH-3 *

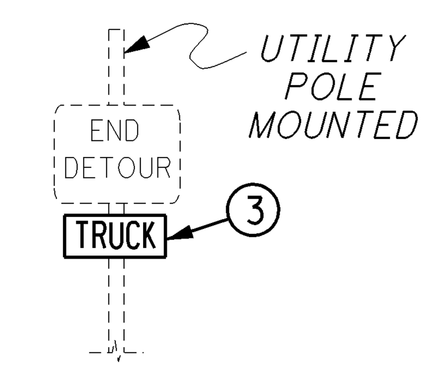
TRUCK DETOUR



DET P-1 DET P-2 DET P-3 DET P-4



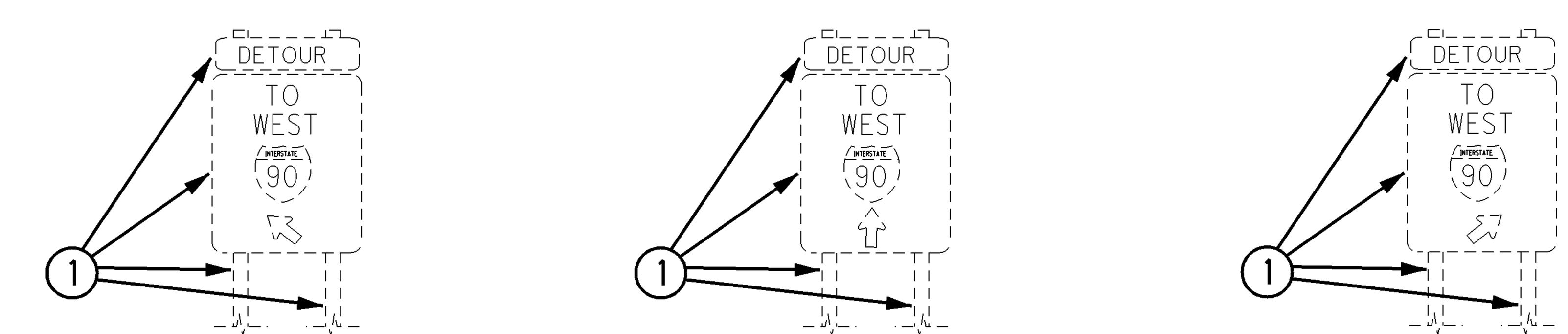
DET P-5 DET P-6 DET P-7



DET P-8

ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN

THIS ITEM SHALL CONFORM TO CMS 630 AND SHALL ALSO INCLUDE THE ADJUSTMENT OF THE EXISTING SIGN GROUP TO INCORPORATE THE M4-4 "TRUCK" SIG. THE M4-4 "TRUCK" SIGN SHALL BE 24" x 12" AND SHALL BE BLACK LETTERING ON AN ORANGE BACKGROUND TO DRAW ADDITIONAL ATTENTION TO THE TRUCK DETOUR. PAYMENT FOR ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN SHALL BE AT THE UNIT PRICE BID PER SQ. FT. AND SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO ERECT THE M4-4 "TRUCK" SIGN AS SHOWN AND ANY ADDITIONAL HARDWARE TO ADJUST EXISTING SIGNS INCLUDING SIGN BACKING ASSEMBLIES IF NECESSARY.



DET P-9 DET P-10 DET P-11 DET P-12 DET P-13

LEGEND

* SIGN TO REMAIN

(1) SIGN/OVERLAY/POST TO BE REMOVED

(2) SIGN TO BE INSTALLED - SIGN CODE E1-H5 (SIZE AS NOTED)

(3) SIGN TO BE INSTALLED - SIGN CODE M4-4 (24"x12") (BLACK ON ORANGE)

NOTES:

A) ALL GROUND MOUNTED AND GROUND MOUNTED MAJOR SIGNS TO BE REMOVED HAVE BEEN PLACED ON POST SUPPORTS OR ARE POLE MOUNTED FOR ALL AFFECTED LOCAL, STATE AND INTERSTATE ROADWAYS IN THESE PLANS.

B) THE CONTRACTOR SHALL NOT REMOVE THE TRUCK RESTRICTION SIGNS FOR I.R. 90 INNERBELT BRIDGE UNTIL THE BRIDGE IS RATED LEGAL FOR ALL TRUCKS BY OHIO LAW AND AS DIRECTED BY THE ENGINEER.

CALCULATED JDL CHECKED EEL

SIGN REMOVAL PLAN DETAILS I.R. 490

CUY-90-15.24

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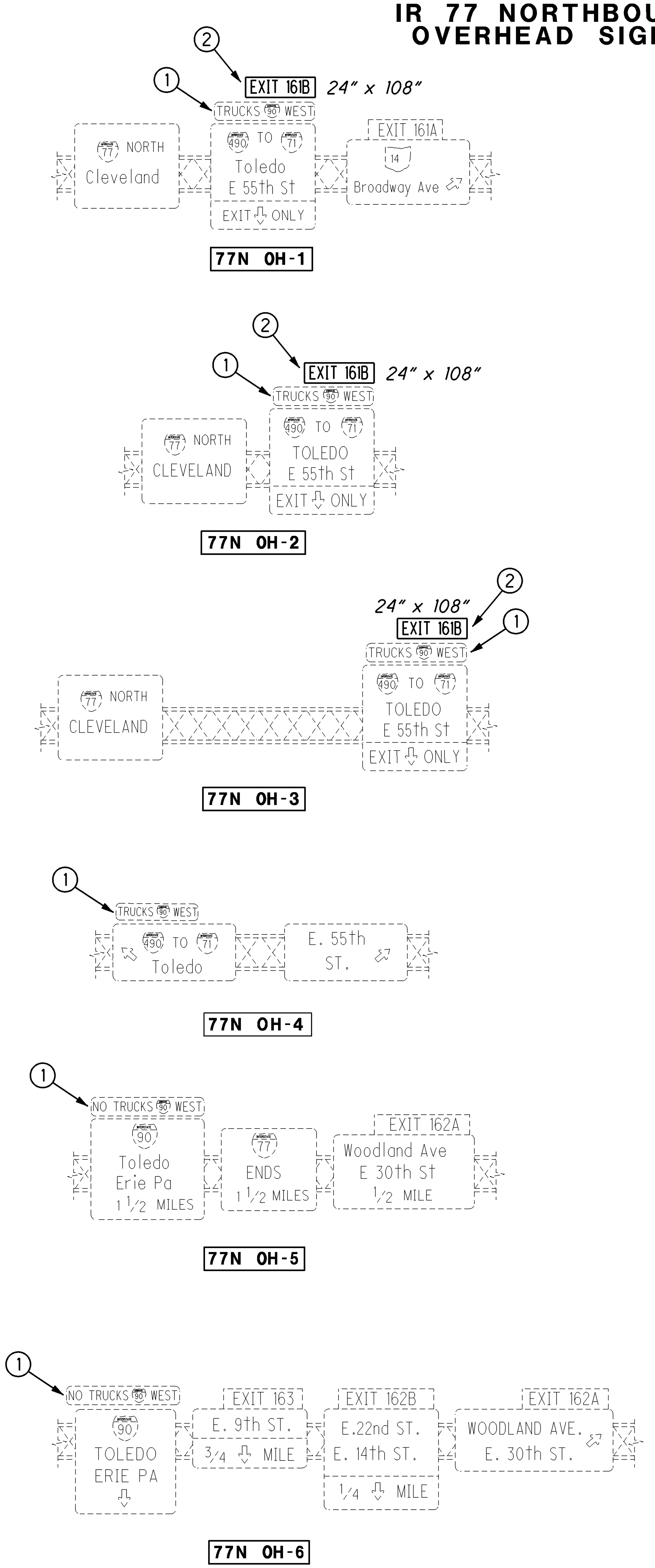
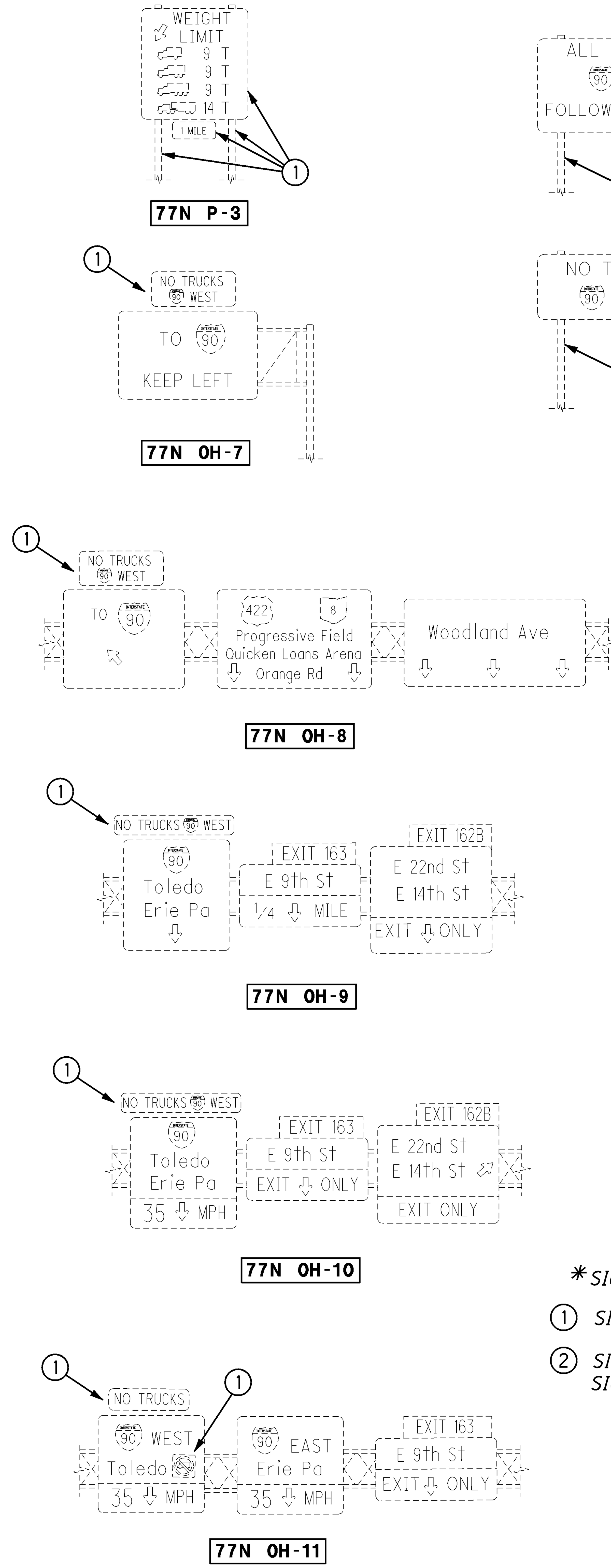
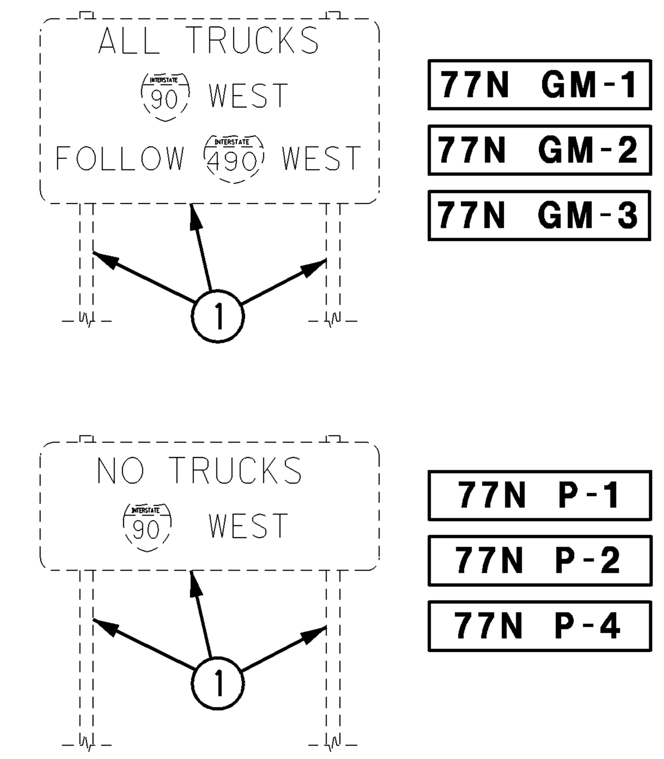
IR 77 NORTHBOUND OVERHEAD SIGNS

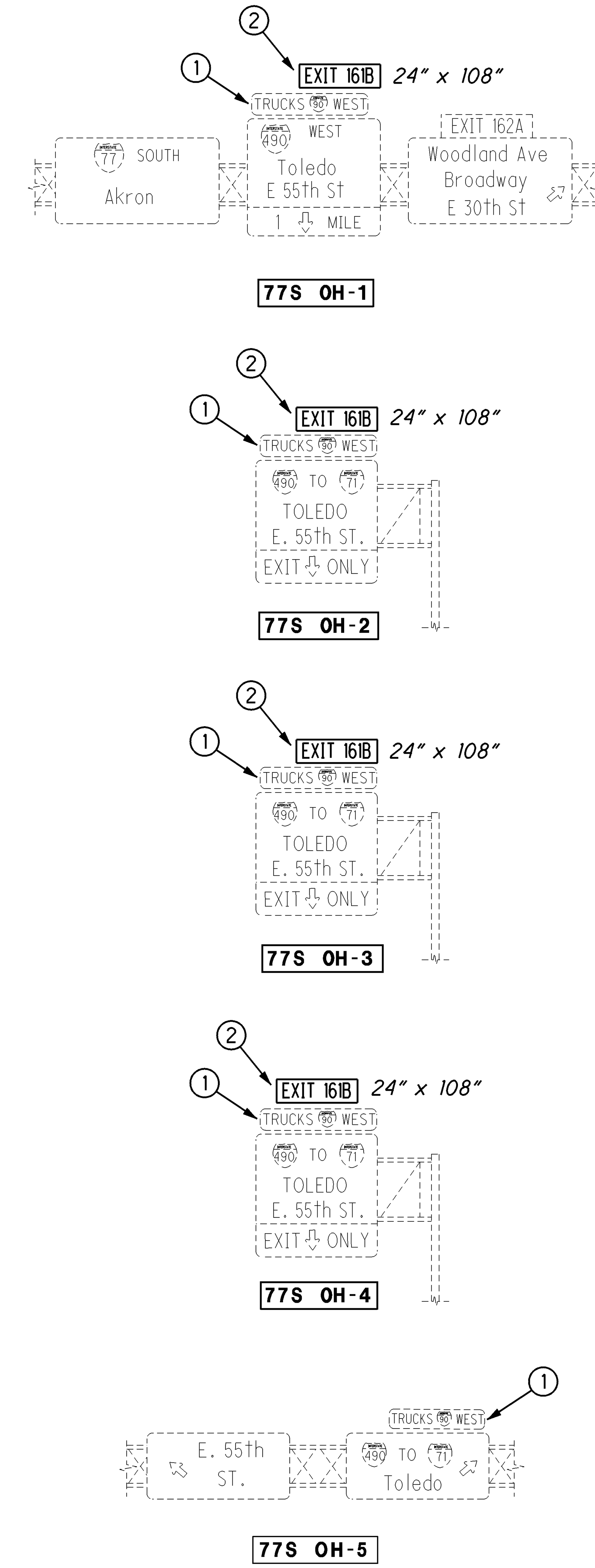




IR 77 NORTHBOUND GROUND MOUNTED SIGNS



IR 77 SOUTHBOUND OVERHEAD SIGNS



LEGEND

* SIGN TO REMAIN

(1) SIGN/OVERLAY/POST TO BE REMOVED

(2) SIGN TO BE INSTALLED - SIGN CODE E1-H5 (SIZE AS NOTED)

NOTES:

A) ALL GROUND MOUNTED AND GROUND MOUNTED MAJOR SIGNS TO BE REMOVED HAVE BEEN PLACED ON POST SUPPORTS OR ARE POLE MOUNTED FOR ALL AFFECTED LOCAL, STATE AND INTERSTATE ROADWAYS IN THESE PLANS.

B) THE CONTRACTOR SHALL NOT REMOVE THE TRUCK RESTRICTION SIGNS FOR I.R. 90 INNERBELT BRIDGE UNTIL THE BRIDGE IS RATED LEGAL FOR ALL TRUCKS BY OHIO LAW AND AS DIRECTED BY THE ENGINEER.

CALCULATED JDL
CHECKED EEL

SIGN REMOVAL PLAN DETAILS I.R. 77

CUY-90-15.24

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CONSTRUCTION SEQUENCE

SEE "METHODS AND SEQUENCE OF CONSTRUCTION" NOTE SHEET 42 FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT LIGHTING INSTALLATION AND REMOVALS.

625, LUMINAIRE REMOVED FOR STORAGE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE AND PROPERLY STORING IT ON THE PROJECT SITE FOR PICK UP BY ODOT FORCES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE REMOVED FOR STORAGE" FOR EACH LUMINAIRE REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, LIGHT POLE REMOVED FOR STORAGE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE INCLUDING THE BRACKET ARM, TRANSFORMER BASE (IF ANY) AND PROPERLY STORING THIS ASSEMBLY ON THE PROJECT SITE FOR PICK UP BY ODOT FORCES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LIGHT POLE REMOVED FOR STORAGE," FOR EACH POLE REMOVED AND STORED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

202, DISCONNECT EXISTING CIRCUIT, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A JUNCTION BOX.

DISCONNECTION AT A JUNCTION BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE REMOVED SHALL BE TERMINATED FROM THE PULL BOX SO THAT NO CABLE IS LEFT IN THE BOX.

THOSE WIRES THAT ARE TO REMAIN ON ACTIVE CIRCUITS SHALL HAVE A WATER-RESISTANT SEAL AT THE CUT END. THE WATER-RESISTANT SEAL SHALL BE ACCOMPLISHED BY PLUGGING THE DEACTIVATED PORT OF AN EXISTING CONNECTOR KIT OR BY INSTALLING A CABLE SPLICE KIT ON THE CUT END OF THE CABLE.

PAYMENT SHALL BE MADE AT THE UNIT BID PRICE UNDER CMS ITEM 202, "DISCONNECT EXISTING CIRCUIT, AS PER PLAN" AT EACH LOCATION WHERE DISCONNECTION IS REQUIRED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, LUMINAIRE, CONVENTIONAL, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS WITH AN IES III-M-SC DISTRIBUTION AND 200 WATT HIGH PRESSURE SODIUM LAMPS SHALL BE AMERICAN ELECTRIC "SERIES 126" WITH PHOTOMETRIC DISTRIBUTION AE38421, COOPER "OVD" WITH PHOTOMETRIC DISTRIBUTION OUD2S3F, GENERAL ELECTRIC "M-400" WITH PHOTOMETRIC DISTRIBUTION 1015, OR EQUAL AS APPROVED BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "LUMINAIRE, CONVENTIONAL, AS PER PLAN 200 WATT HPS, TYPE III-M-SC DISTRIBUTION, 480 VOLT" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, STRUCTURE GROUND SYSTEM, AS PER PLAN

THIS ITEM OR WORK SHALL CONSIST OF ENSURING THAT THE BRIDGE HAS A FUNCTIONAL STRUCTURE GROUNDING SYSTEM PER THE CMS AND STANDARD CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL ENSURE THAT EXISTING BONDING ACROSS BEAMS LINES AND AT LOCATIONS CALLED FOR IN THE STANDARD CONSTRUCTION DRAWINGS ARE INSTALLED AND FUNCTIONING AS REQUIRED. ALL PROPOSED JUNCTION BOXES, CONDUITS AND LIGHT POLES SHALL BE TIED INTO THE EXISTING STRUCTURE GROUNDING SYSTEM AS PER STANDARD CONSTRUCTION DRAWINGS.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," OSRAM SYLVANIA "LUMALUX," PHILIPS "CERAMALUX," OR EQUAL APPROVED BY THE ENGINEER.

LIGHT POLE ANCHOR BOLTS, MISC.: SET FOR PILASTER MOUNTED LIGHT POLE

WHEN A LIGHT POLE IS MOUNTED ON A PILASTER ON A BRIDGE PARAPET OR ON A RETAINING WALL, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PILASTER IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH CMS ITEM 625, "LIGHT POLE ANCHOR BOLTS, MISC.: SET FOR PILASTER MOUNTED LIGHT POLE" AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

625, TRANSITION JUNCTION BOXES, AS PER PLAN
625, JUNCTION BOXES, AS PER PLAN

THE JUNCTION BOX SHALL HAVE AN EMBOSSMENT IN THE BACK OF THE BOX THAT SHALL BE DRILLED AND TAPPED FOR A 1/4"-20 CAP SCREW FOR CONNECTION OF GROUNDS.

WHEN ENCASED IN CONCRETE, THE JUNCTION BOX SHALL HAVE INWARD FLANGED COVERS AND MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, SLIP HOLES FIELD DRILLED TO ACCOMMODATE THE CONDUITS ENTERING THE BOX SO LONG AS EACH METALLIC CONDUIT IS EQUIPPED WITH A GROUNDING BUSHING JUMPED TO THE BOX ITSELF.

WHEN SURFACE MOUNTED, THE JUNCTION MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, FIELD INSTALLED HUBS TO ACCOMMODATE THE CONDUITS ENTERING THE BOX.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

ITEM 625 CONDUIT, MISC.: 1 1/2" WATERTIGHT, FLEXIBLE CONDUIT

THIS ITEM SHALL CONFORM TO CMS 625.12 WITH THE EXCEPTION THAT IT SHALL BE A WATERTIGHT FLEXIBLE CONDUIT. PAYMENT FOR ITEM 625 CONDUIT, MISC.: 1 1/2" WATERTIGHT, FLEXIBLE CONDUIT SHALL BE PER FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL THE CONDUIT.

SPECIAL MAINTAIN EXISTING LIGHTING

UNDER THIS ITEM THE CONTRACTOR IS REQUIRED TO MAINTAIN THE EXISTING LIGHTING ON THE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL CONNECT EXISTING ROADWAY LUMINARIES XB2-7 THROUGH XB2-19 ON CIRCUIT B2 TO CIRCUIT C2 THROUGH THE EMPTY CONDUIT BETWEEN STRUCTURE JUNCTION BOX 13 AND 14 AS DETAILED ON PLAN SHEET 31. THIS TEMPORARY CONNECTION SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE CONTRACTOR CAN RECONNECT CIRCUIT B2 THROUGH THE PROPOSED CONDUIT IN THE NEW PARAPET. THE TEMPORARY CONDUCTORS BETWEEN STRUCTURE JUNCTION BOX 13 AND 14 WILL BE DISCONNECTED, REMOVED AND DISPOSED OF BY THE CONTRACTOR. THIS ITEM SHALL INCLUDE THE COST FOR FURNISHING AND INSTALLING ALL CONDUIT, CONDUCTORS, ATTACHMENT HARDWARE, SPLICE KITS, CONNECTOR KITS AND ANY OTHER INCIDENTAL ITEMS THAT MAY BE NECESSARY FOR MAKING THE TEMPORARY CONNECTION AND SUBSEQUENT DISCONNECTION AND DISPOSAL OF TEMPORARY EQUIPMENT BETWEEN CIRCUITS B2 AND C2 AS DESCRIBED ABOVE AND DETAILED IN THESE PLANS.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY THE EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

625, CONDUIT, MISC.: CONDUIT REMOVED

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF 1 1/2" ELECTRICAL CONDUIT AS CALLED FOR ON THE PLANS. ALSO INCLUDED IN THIS ITEM SHALL BE THE REMOVAL OF THE DISTRIBUTION CABLE WITHIN THE CONDUIT BEING REMOVED. DISPOSAL SHALL BE OFF THE PROJECT SITE IN AN ACCEPTABLE DISPOSAL OR RECYCLING CENTER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER LINEAL FOOT OF ITEM 625, CONDUIT, MISC.: CONDUIT REMOVED, WHICH PRICE AND PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

SUBSUMMARY SHEET NUMBERS/PLAN SHEET NUMBERS							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					29							
					7		202	62000	7	EACH	JUNCTION BOX REMOVED	
					2		202	75801	2	EACH	DISCONNECT EXISTING CIRCUIT, AS PER PLAN	27
					14		625	00500	14	EACH	CONNECTOR KIT, TYPE II	
							625	01500	9	EACH	CABLE SPLICING KIT	
					9		625	10490	6	EACH	LIGHT POLE, CONVENTIONAL, A4 B36.5	
					6							
					6		625	10620	6	EACH	LIGHT POLE ANCHOR BOLTS, MISC.: SET FOR PILASTER MOUNTED LIGHT POLE	27
					2,451		625	23200	2,451	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
					648		625	23400	648	FT	NO. 10 AWG POLE AND BRACKET CABLE	
							625	25300	85	FT	CONDUIT, 1½", 725.04	
					85		625	25400	661	FT	CONDUIT, 2", 725.04	
					661							
					10		625	25920	10	FT	CONDUIT, MISC.: 1½", WATERTIGHT, FLEXIBLE CONDUIT	27
					687		625	25920	687	FT	CONDUIT, MISC.: CONDUIT REMOVED	27
					6		625	26251	6	EACH	LUMINAIRE, CONVENTIONAL, AS PER PLAN	27
							625	29901	6	EACH	JUNCTION BOX, AS PER PLAN	27
					6		625	29911	2	EACH	TRANSITION JUNCTION BOX, AS PER PLAN	27
					2							
					1		625	33001	1	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN	27
					LUMP		SPECIAL	62540000	LUMP		MAINTAIN EXISTING LIGHTING	27
					6		625	75402	6	EACH	LIGHT POLE REMOVED FOR STORAGE	27
					6		625	75504	6	EACH	LUMINAIRE REMOVED FOR STORAGE	27

CALCULATED JDL
CHECKED EEL

LIGHTING GENERAL SUMMARY

CUY-90-15.24

108031/108031-13/82069/82069LG001.DGN 07/29/09 SCB

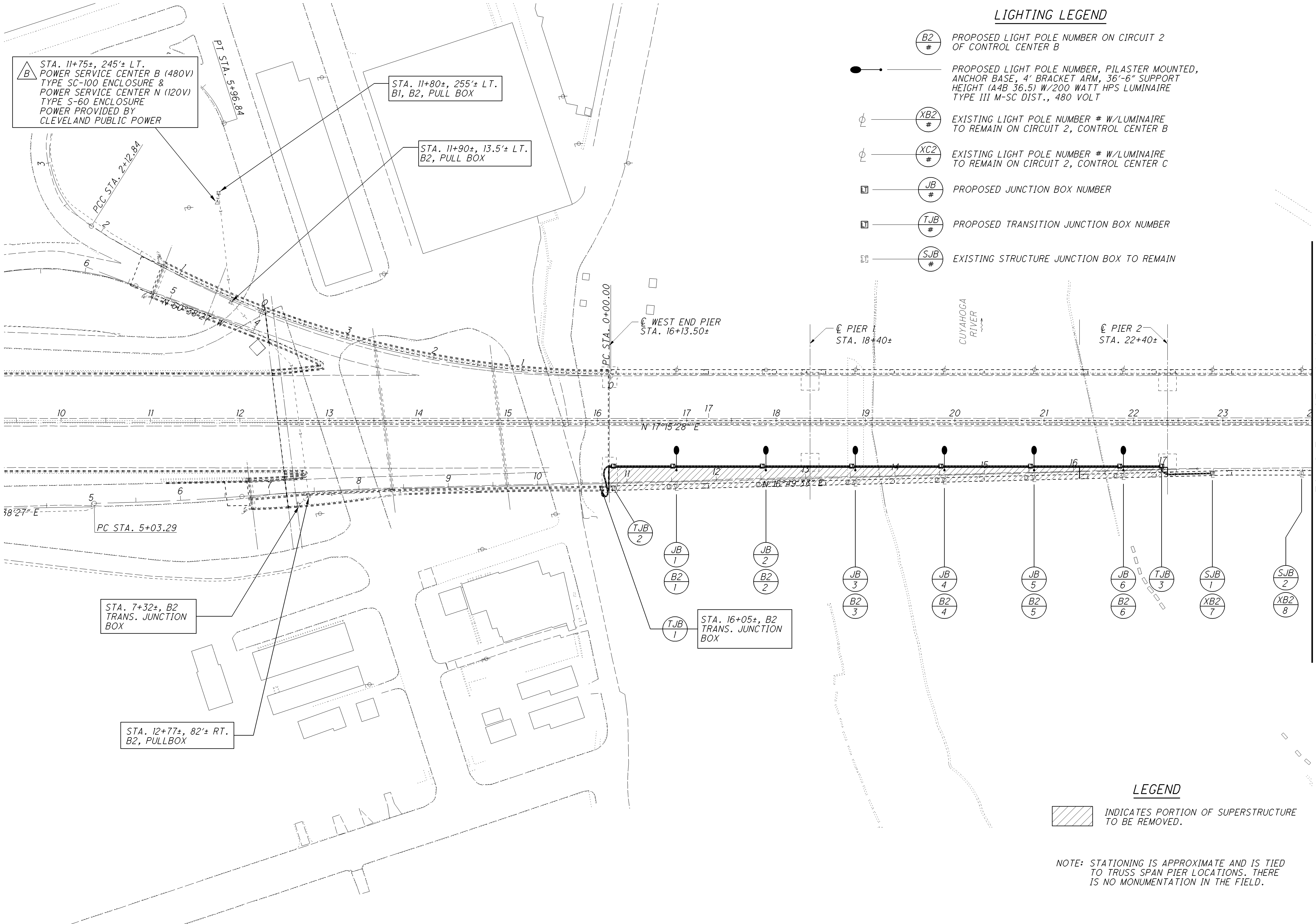
REFERENCE NO.	SHEET NO.	FROM			TO			LENGTH	202		625														SPECIAL	625	
									JUNCTION BOX REMOVED	DISCONNECT EXISTING CIRCUIT, AS PER PLAN	CONNECTOR KIT, TYPE II	CABLE SPLICING KIT	LIGHT POLE, CONVENTIONAL, A4 B36.5	LIGHT POLE ANCHOR BOLTS, MISC.: SET FOR PILASTER MOUNTED LIGHT POLE	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	CONDUIT, 1-1/2", 725.04	CONDUIT, 2", 725.04	CONDUIT, MISC.: 1-1/2" WATERTIGHT, FLEXIBLE CONDUIT	CONDUIT, MISC.: CONDUIT REMOVED	LUMINAIRE, CONVENTIONAL, AS PER PLAN	JUNCTION BOX, AS PER PLAN	TRANSITION JUNCTION BOX, AS PER PLAN	STRUCTURE GROUNDING SYSTEM, AS PER PLAN	MAINTAIN EXISTING LIGHTING	LIGHT POLE REMOVED FOR STORAGE	LUMINAIRE REMOVED FOR STORAGE
		STATION	OFFSET	BL	STATION	OFFSET	BL	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	LUMP	EACH	EACH
LIGHTING NOTES																								1	LUMP		
2 - 1	33	16+05.00	74.00 Rt	IR-90	16+18.00	52.50 Rt	IR-90	44		1		6			162		11	28	5				1				
2 - 2	33	16+18.00	52.50 Rt	IR-90	16+88.57	52.25 Rt	IR-90	70							225			70									
B2-1	33	16+89.00	52.25 Rt	IR-90							2		1	1		108	4				1	1					
2 - 3	33	16+88.57	52.25 Rt	IR-90	17+88.64	52.25 Rt	IR-90	100							330			100									
B2-2	33	17+89.00	52.25 Rt	IR-90							2		1	1		108	4				1	1					
2 - 4	33	17+88.64	52.25 Rt	IR-90	18+88.73	52.25 Rt	IR-90	100							330			100									
B2-3	33	18+89.00	52.25 Rt	IR-90							2		1	1		108	4				1	1					
2 - 5	33	18+88.73	52.25 Rt	IR-90	19+88.47	52.25 Rt	IR-90	100							330			100									
B2-4	33	19+89.00	52.25 Rt	IR-90							2		1	1		108	4				1	1					
2 - 6	33	19+88.47	52.25 Rt	IR-90	20+88.75	52.25 Rt	IR-90	100							330			100									
B2-5	33	20+89.00	52.25 Rt	IR-90							2		1	1		108	4				1	1					
2 - 7	33	20+88.75	52.25 Rt	IR-90	21+88.66	52.25 Rt	IR-90	100							330			100									
B2-6	33	21+89.00	52.25 Rt	IR-90							2		1	1		108	4				1	1					
2 - 8	33	21+88.66	52.25 Rt	IR-90	22+38.66	52.25 Rt	IR-90	50				3			180			50					1				
2 - 9	33	22+38.66	52.25 Rt	IR-90	22+88.44	58.00 Rt	IR-90	68							234		50	13	5								
XB2-7	33	22+88.44	58.00 Rt	IR-90						1	2																
R-1	33	16+05.00	74.00 Rt	IR-90	16+18.00	74.00 Rt	IR-90	13	1											13							
R-2	33	16+18.00	75.00 Rt	IR-90	16+88.57	75.00 Rt	IR-90	71	1											71						1	1
R-3	33	16+88.57	75.00 Rt	IR-90	17+88.67	75.00 Rt	IR-90	101	1											101						1	1
R-4	33	17+88.67	75.00 Rt	IR-90	18+88.73	75.00 Rt	IR-90	101	1											101						1	1
R-5	33	18+88.73	75.00 Rt	IR-90	19+88.47	75.00 Rt	IR-90	100	1											100						1	1
R-6	33	19+88.47	75.00 Rt	IR-90	20+88.75	75.00 Rt	IR-90	101	1											101						1	1
R-7	33	20+88.75	75.00 Rt	IR-90	21+88.66	75.00 Rt	IR-90	100	1											100						1	1
R-8	33	21+88.66	75.00 Rt	IR-90	22+88.44	75.00 Rt	IR-90	100												100							
TOTALS CARRIED TO GENERAL SUMMARY									7	2	14	9	6	6	2451	648	85	661	10	687	6	6	2	1	LUMP	6	6

CALCULATED JDL
CHECKED EEL

LIGHTING SUBSUMMARY

CUY-90-15.24

108031/108031-13/82069/82069LS001.DGN 07/29/09 SAM,SCB



LIGHTING LEGEND

B2 #	PROPOSED LIGHT POLE NUMBER ON CIRCUIT 2 OF CONTROL CENTER B
	PROPOSED LIGHT POLE NUMBER, PILASTER MOUNTED, ANCHOR BASE, 4' BRACKET ARM, 36'-6" SUPPORT HEIGHT (A4B 36.5) W/200 WATT HPS LUMINAIRE TYPE III M-SC DIST., 480 VOLT
XB2 #	EXISTING LIGHT POLE NUMBER # W/LUMINAIRE TO REMAIN ON CIRCUIT 2, CONTROL CENTER B
XC2 #	EXISTING LIGHT POLE NUMBER # W/LUMINAIRE TO REMAIN ON CIRCUIT 2, CONTROL CENTER C
JB #	PROPOSED JUNCTION BOX NUMBER
TJB #	PROPOSED TRANSITION JUNCTION BOX NUMBER
SJB #	EXISTING STRUCTURE JUNCTION BOX TO REMAIN

LEGEND

INDICATES PORTION OF SUPERSTRUCTURE TO BE REMOVED.

NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

0 25 50 100
HORIZONTAL SCALE IN FEET

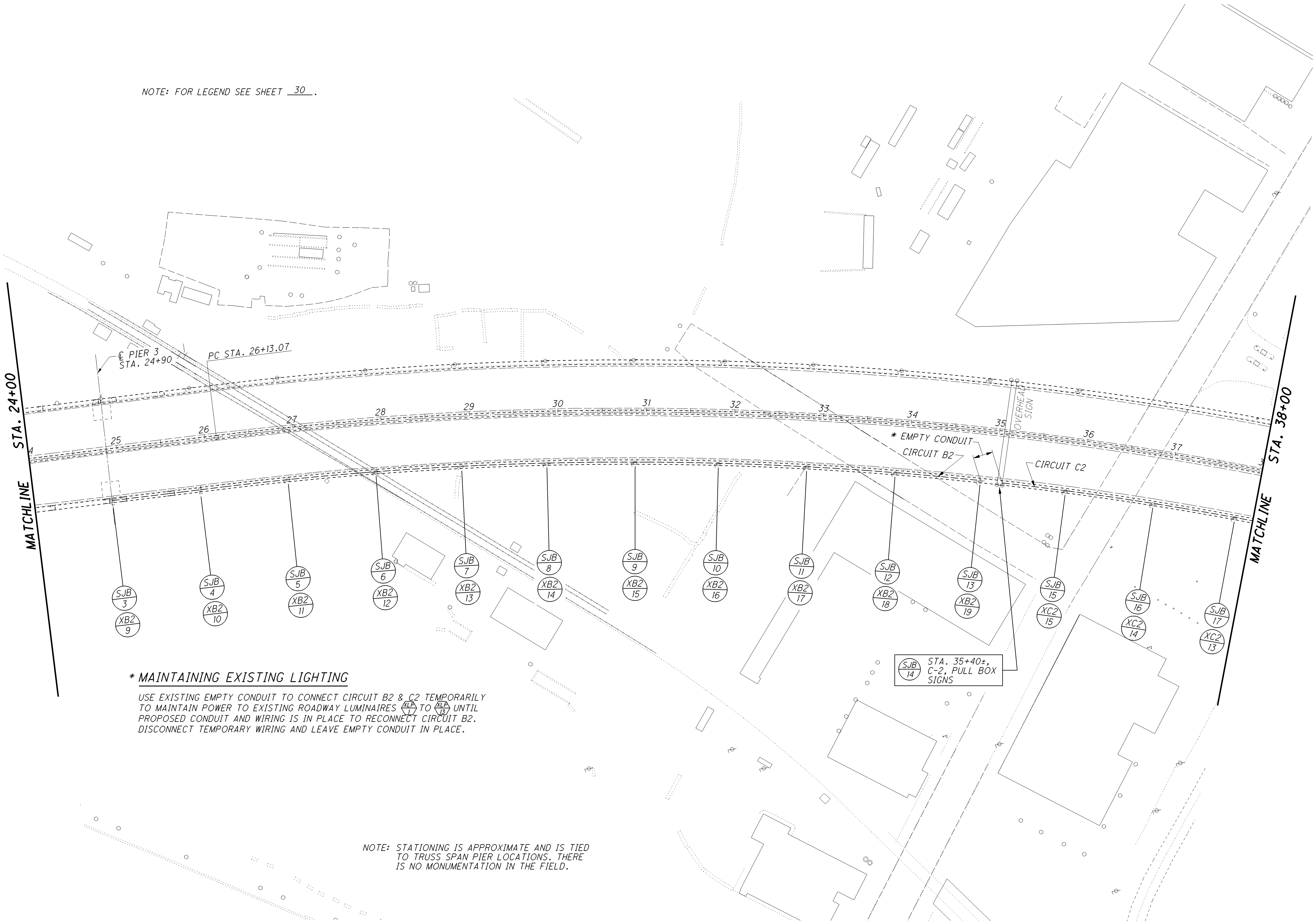
CALCULATED JDL
CHECKED EEL

LIGHTING SCHEMATIC - 1

CUY-90-15.24

LIGHTING SCHEMATIC - 2

NOTE: FOR LEGEND SEE SHEET 30.



* MAINTAINING EXISTING LIGHTING

USE EXISTING EMPTY CONDUIT TO CONNECT CIRCUIT B2 & C2 TEMPORARILY TO MAINTAIN POWER TO EXISTING ROADWAY LUMINAIRES XLP 1 TO XLP 13 UNTIL PROPOSED CONDUIT AND WIRING IS IN PLACE TO RECONNECT CIRCUIT B2. DISCONNECT TEMPORARY WIRING AND LEAVE EMPTY CONDUIT IN PLACE.

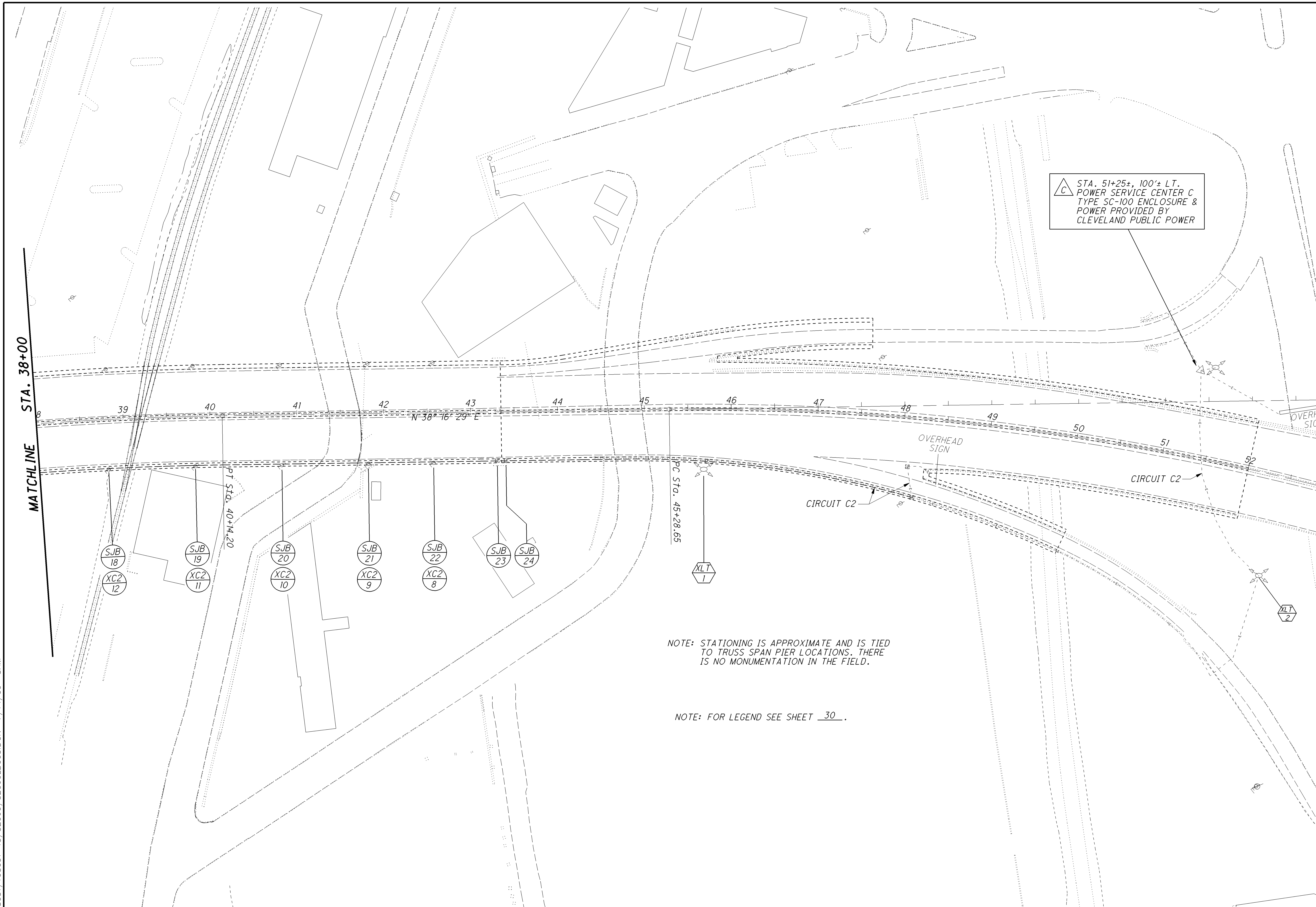
NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED JDL
CHECKED EEL

CUY-90-15.24

108031/108031-13/82069/82069LB002.DGN 7/14/09 SAM.SCB



NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

NOTE: FOR LEGEND SEE SHEET 30.

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED JDL
CHECKED EEL

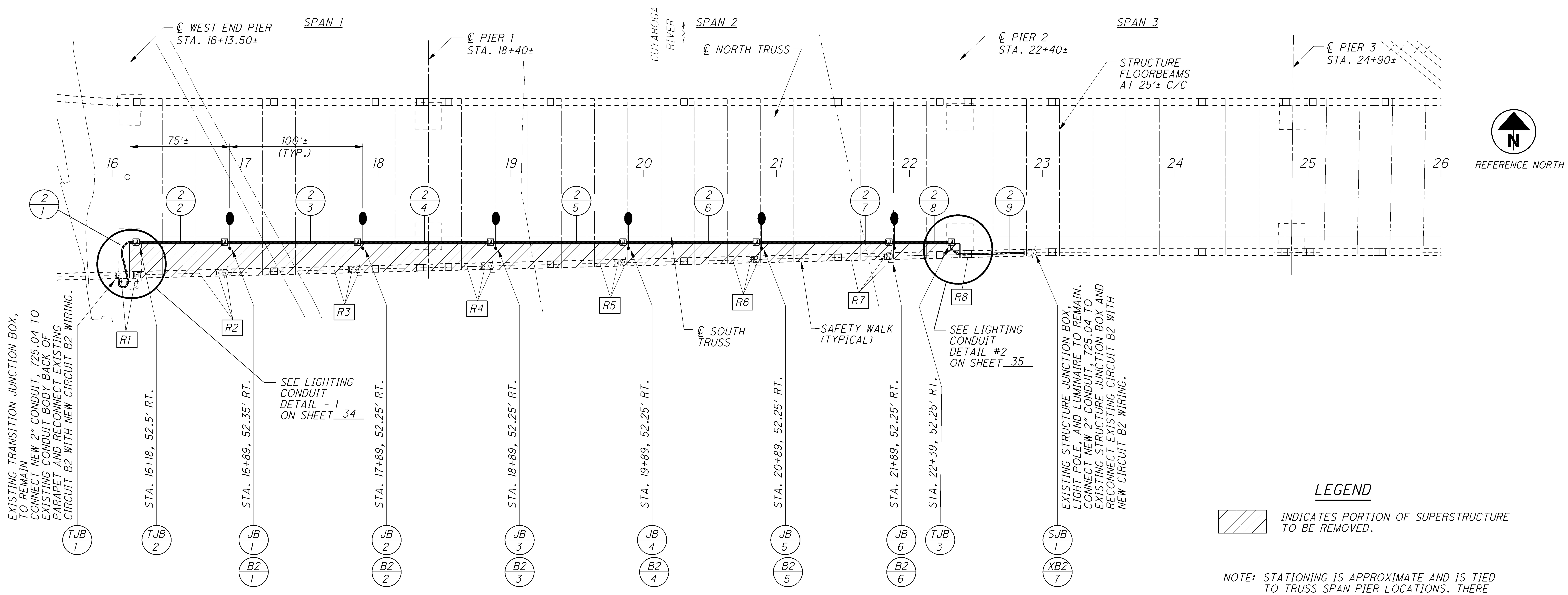
LIGHTING SCHEMATIC - 3

CUY-90-15.24

108031/108031-13/82069/82069LB003.DGN 7/14/09 SAM

LIGHTING LEGEND

B2 / #	PROPOSED LIGHT POLE NUMBER ON CIRCUIT 2 OF CONTROL CENTER B
	PROPOSED LIGHT POLE NUMBER, PILASTER MOUNTED, ANCHOR BASE, 4' BRACKET ARM, 36'-6" SUPPORT HEIGHT (A4B 36.5) W/200 WATT HPS LUMINAIRE TYPE III M-SC DIST., 480 VOLT
XB2 / #	EXISTING LIGHT POLE NUMBER # W/LUMINAIRE TO REMAIN ON CIRCUIT 2, CONTROL CENTER B
XC2 / #	EXISTING LIGHT POLE NUMBER # W/LUMINAIRE TO REMAIN ON CIRCUIT 2, CONTROL CENTER C
JB / #	PROPOSED JUNCTION BOX NUMBER
TJB / #	PROPOSED TRANSITION JUNCTION BOX NUMBER
SJB / #	EXISTING STRUCTURE JUNCTION BOX TO REMAIN
R#	EXISTING STRUCTURE OR TRANSITION JUNCTION BOX TO BE REMOVED
2 / 3	PROPOSED CONDUIT RUN, (BY SIZE) & (BY TYPE)
	CONTROL CENTER CIRCUIT 2 — CONDUIT RUN 3
R#	EXISTING STRUCTURE MOUNTED CONDUIT TO BE REMOVED
TJB / #	EXISTING TRANSITION JUNCTION BOX TO REMAIN



LEGEND

INDICATES PORTION OF SUPERSTRUCTURE TO BE REMOVED.

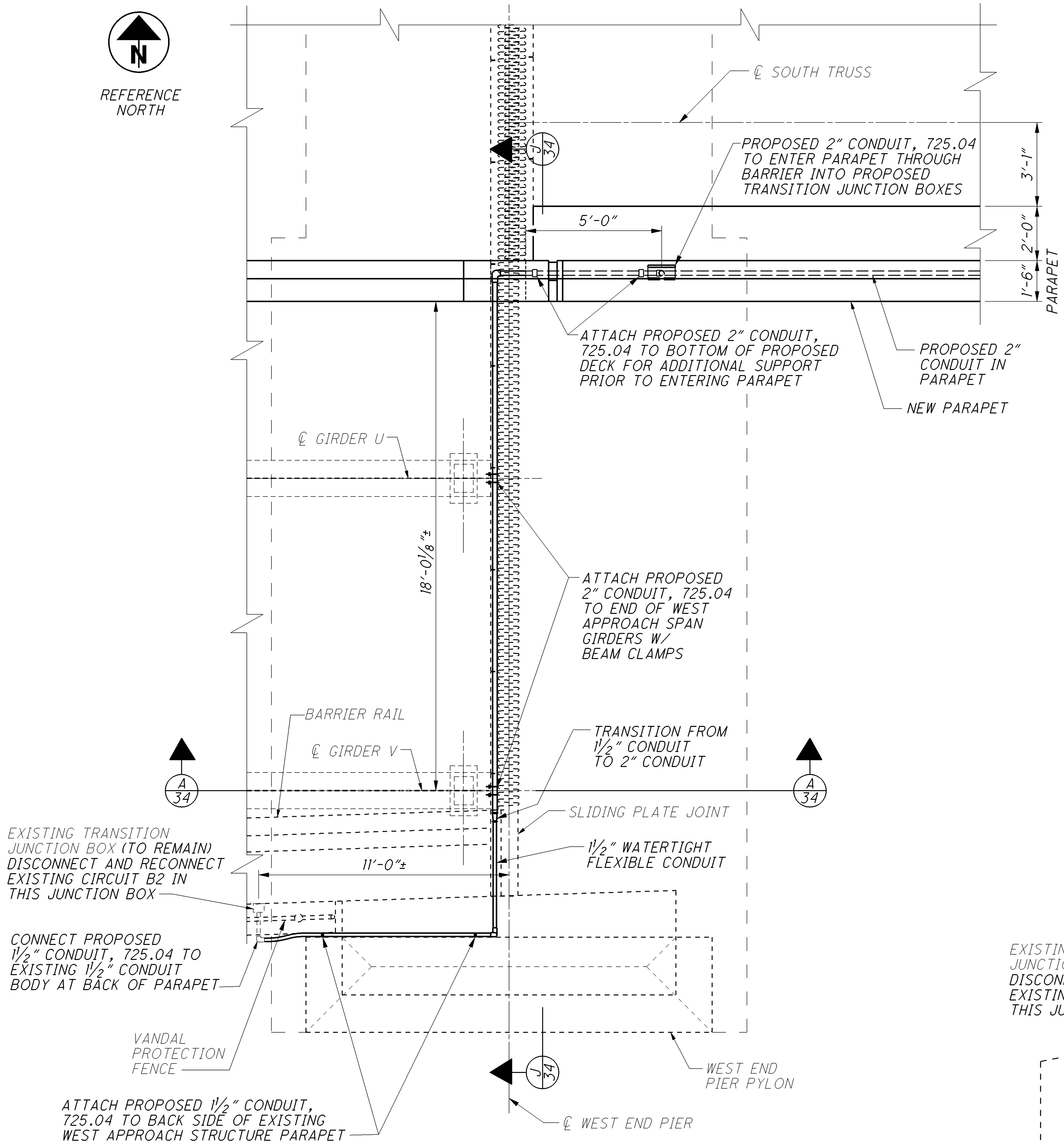
NOTE: STATIONING IS APPROXIMATE AND IS TIED TO TRUSS SPAN PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

0 20 40 80 HORIZONTAL SCALE IN FEET

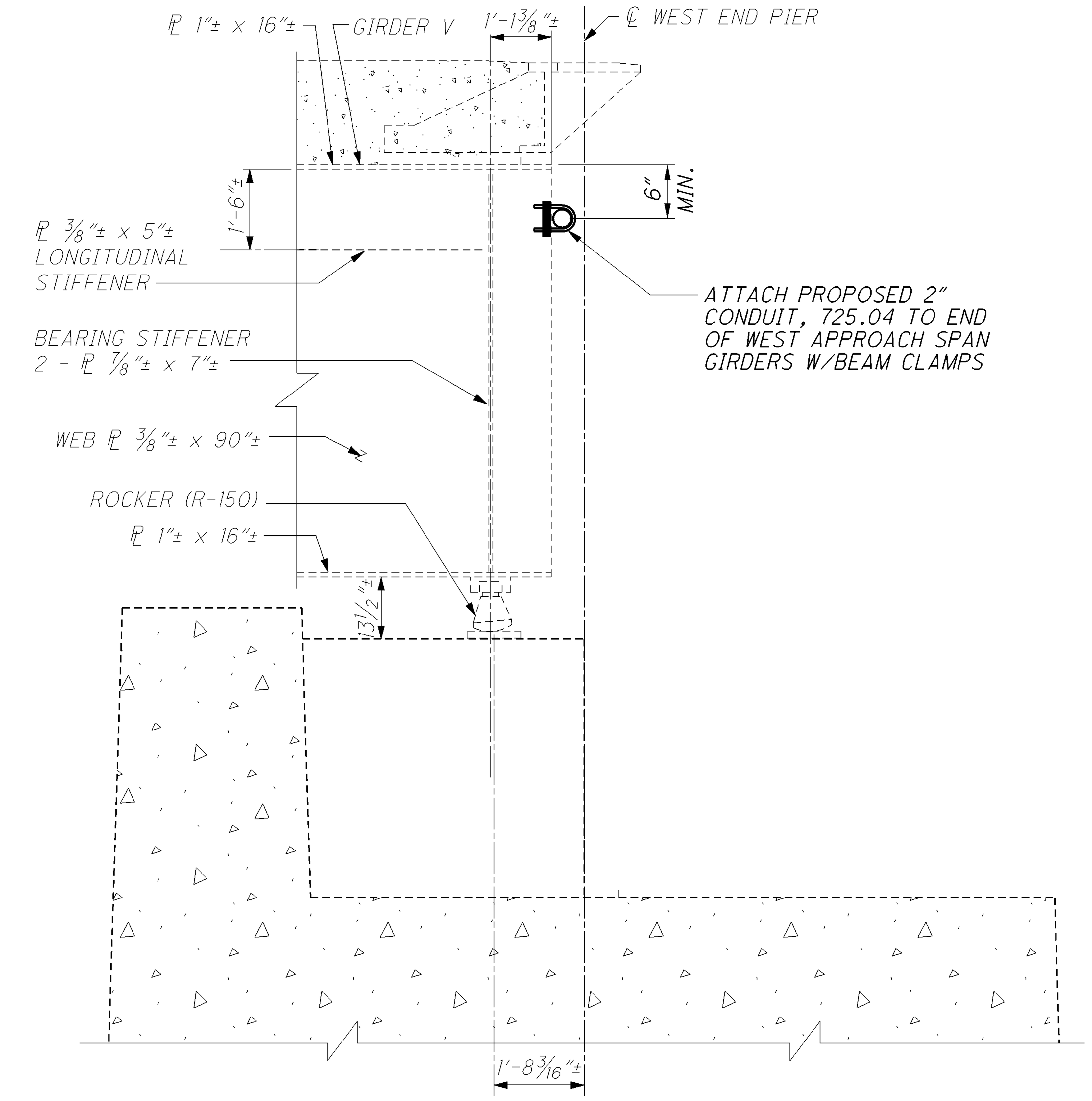
CALCULATED JDL CHECKED EEL

LIGHTING PLAN

CUY-90-15.24



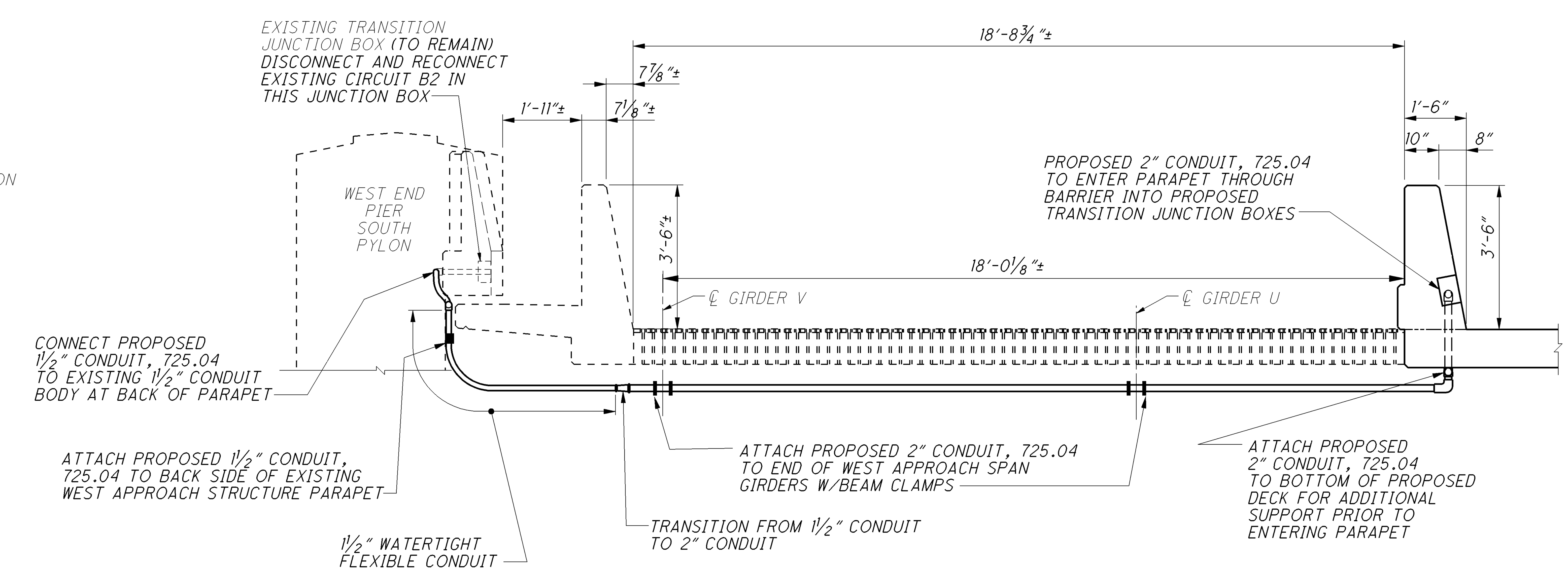
LIGHTING CONDUIT DETAIL - 1



GIRDER BEARING WEST END PIER (LOOKING NORTH)

SECTION A-A

(GIRDER V SHOWN, GIRDER U SIMILAR)



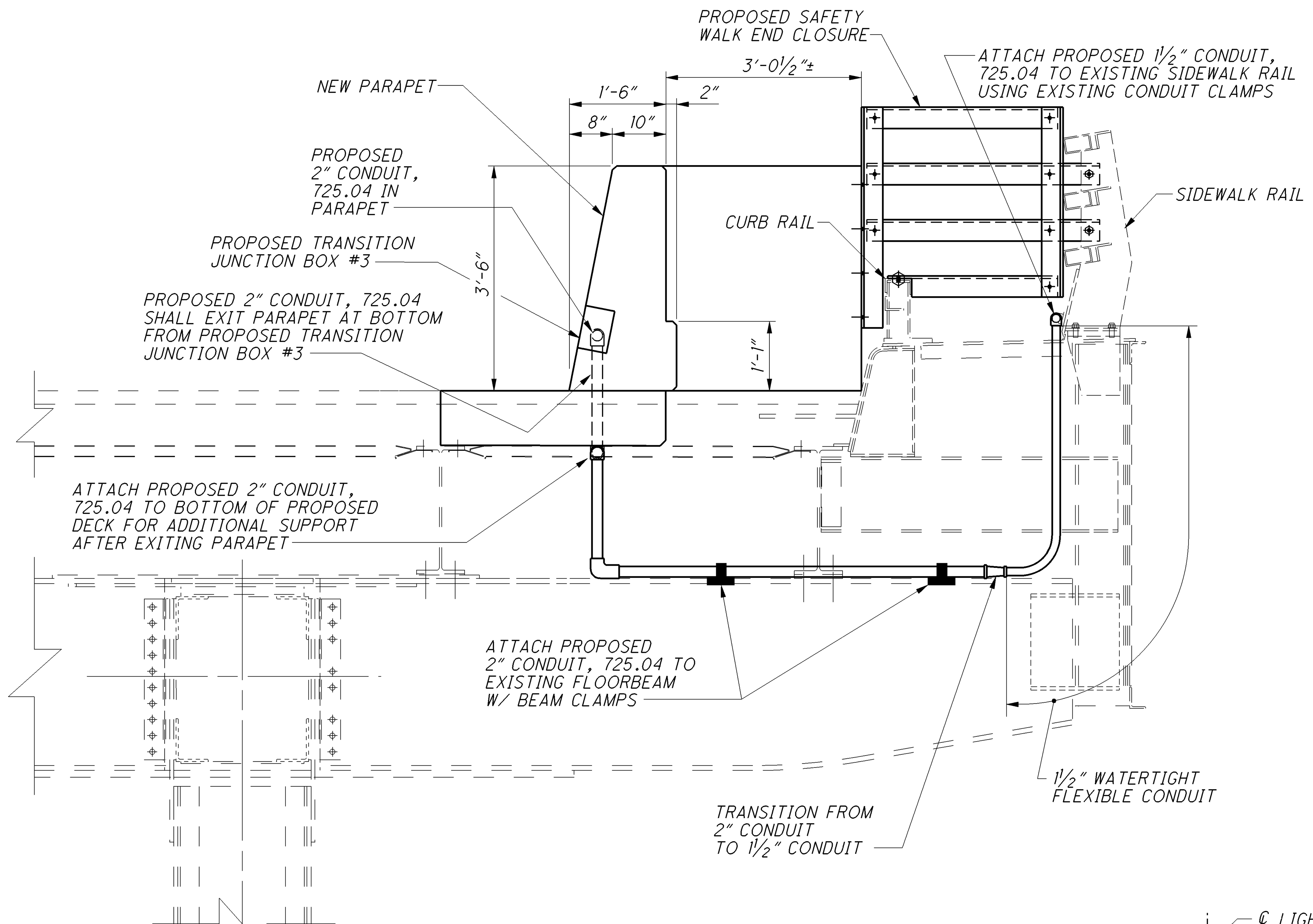
SECTION J-J

108031/108031-13/82069/82069LD002.DGN 7/29/09 SAM.SCB

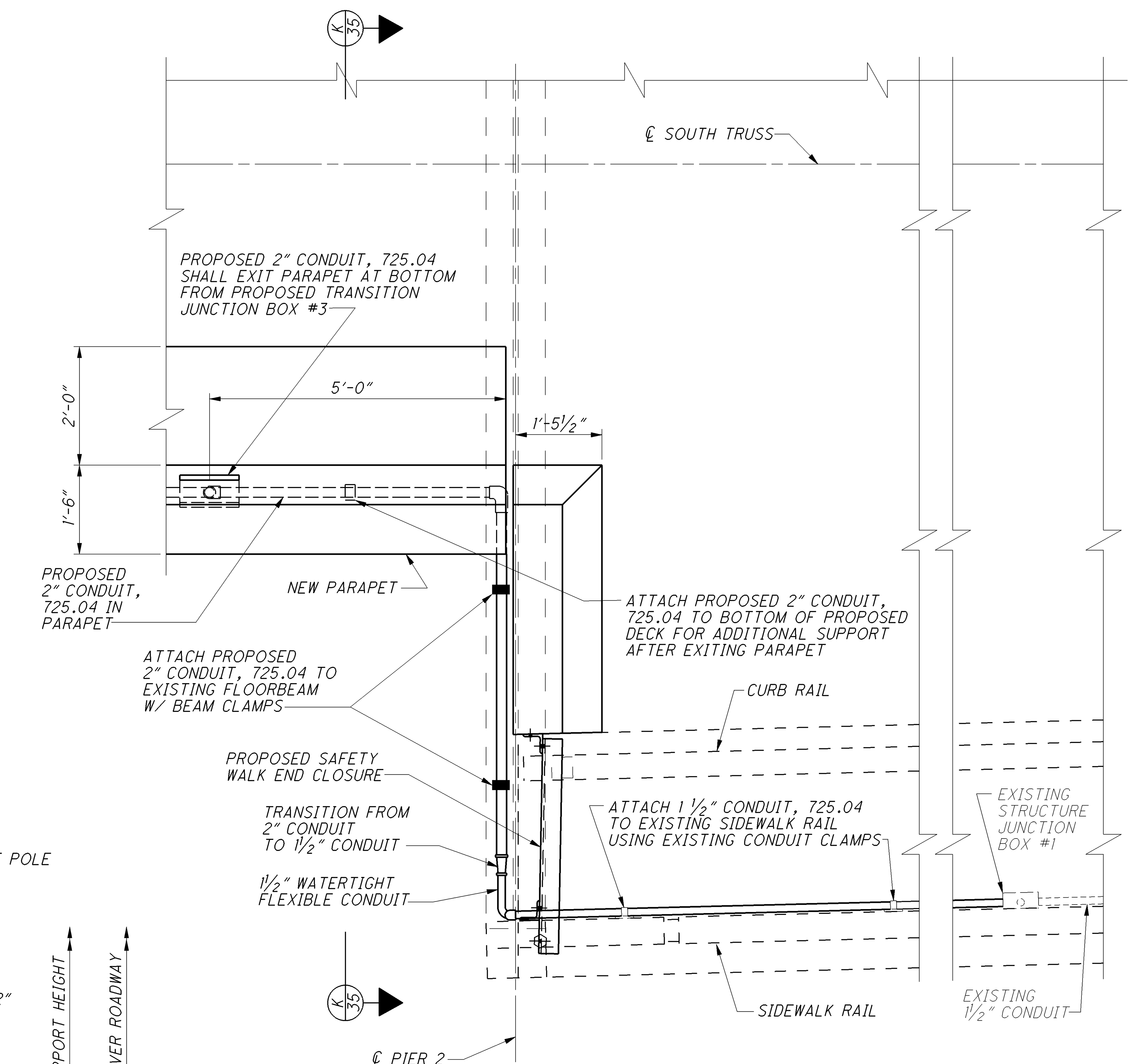
CALCULATED JDL
CHECKED EEL

LIGHTING DETAILS - 1

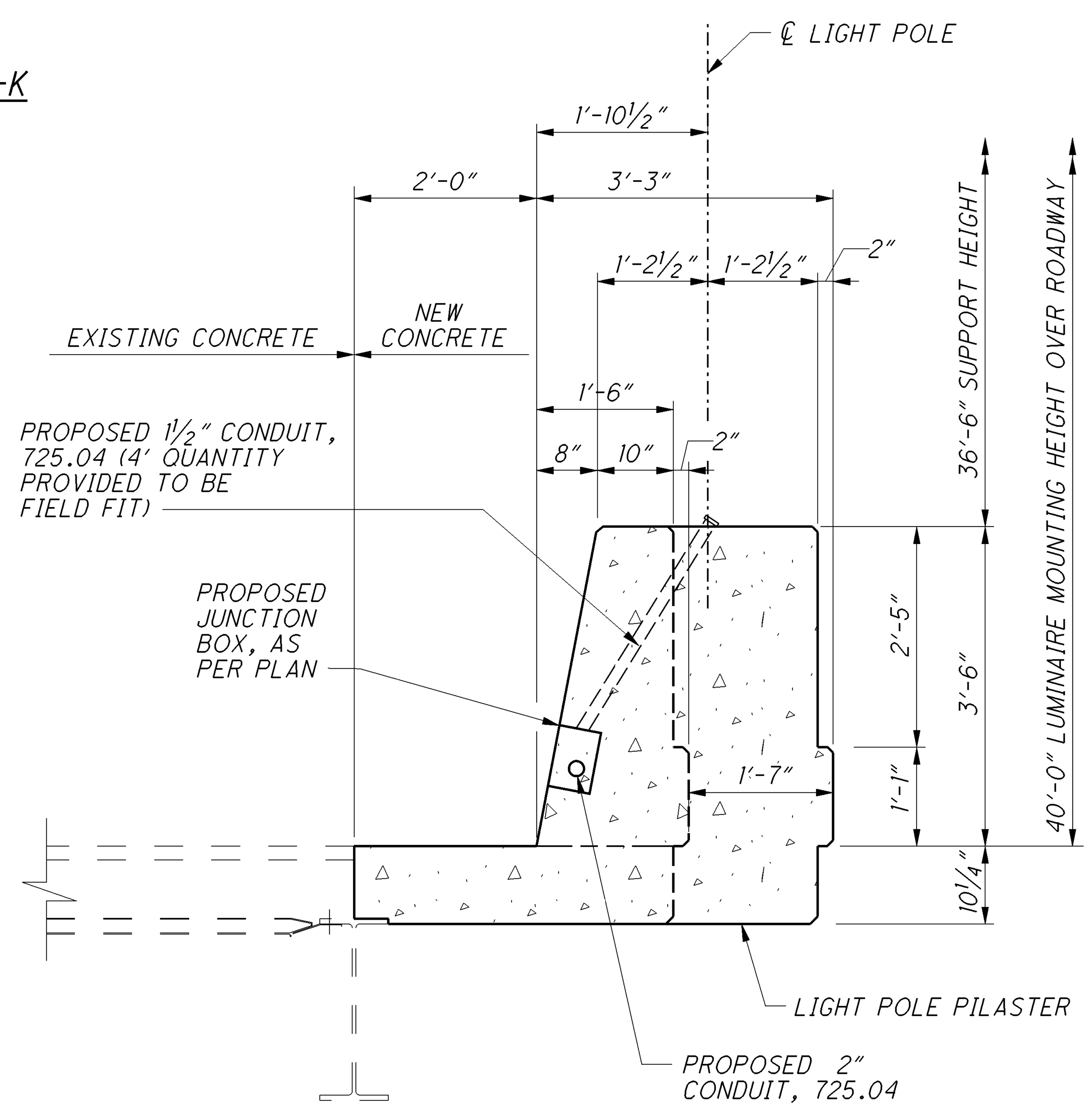
CUY-90-15.24



SECTION K-K



LIGHTING CONDUIT DETAIL - 2



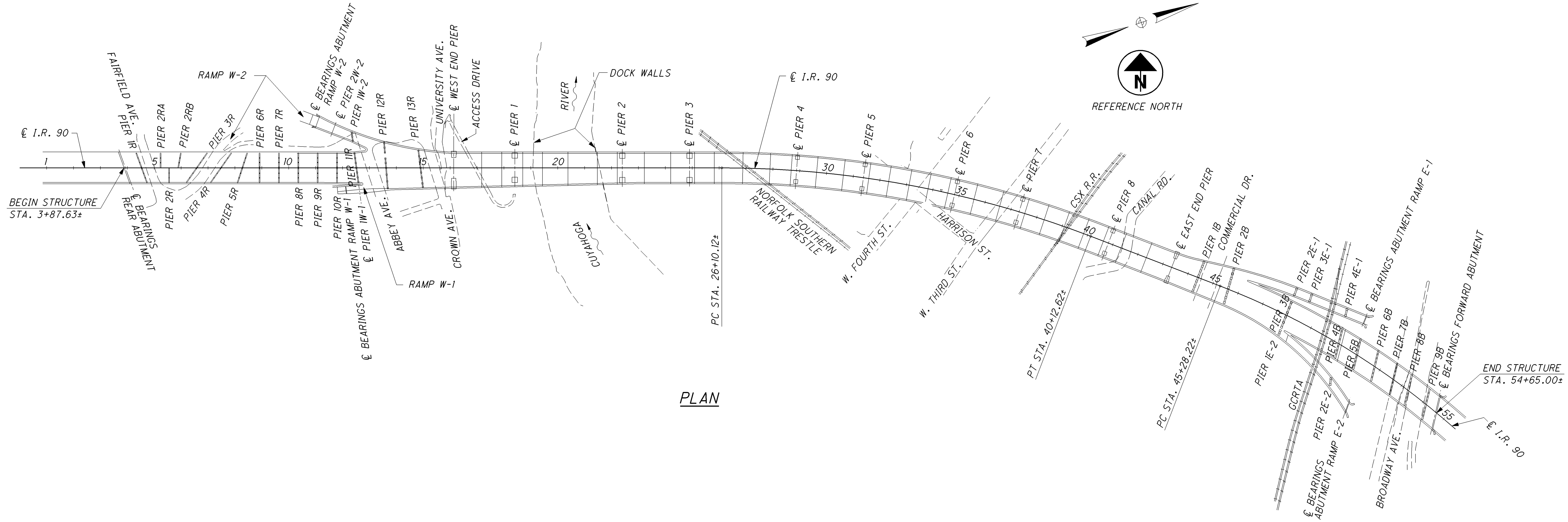
NEW LIGHT POLE PILASTER DETAIL

108031/108031-13/82069/82069LD001.DGN 7/30/09 SAM.SCB

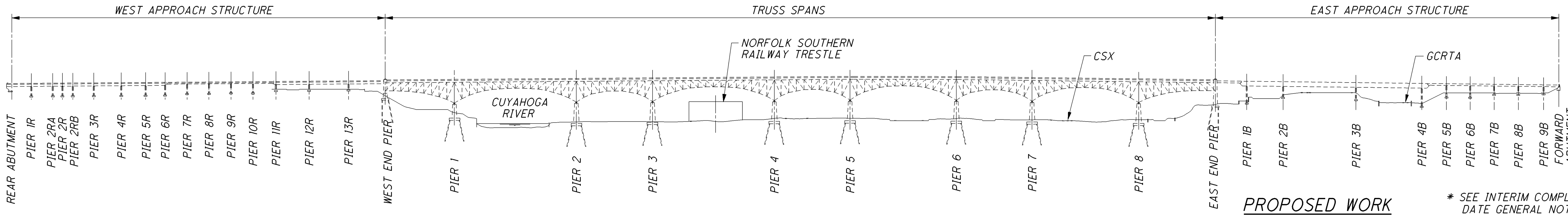
CALCULATED JDL
CHECKED EEL

LIGHTING DETAILS - 2

CUY-90-15.24



PLAN



ELEVATION

EXISTING STRUCTURE	
STRUCTURE FILE NUMBER:	1809393
AVERAGE DAILY TRAFFIC:	128,680 (2003)
AVERAGE DAILY TRUCK TRAFFIC:	11,580 (2003)

EXISTING STRUCTURE - WEST APPROACH SPANS

TYPE: CONTINUOUS STEEL BEAMS AND GIRDERS WITH CONCRETE DECK AND SUBSTRUCTURE.

SPANS: WESTBOUND: 64'±, 70.5'±, 65.5'±, 69'±, 90'±, 79.5'±, 64'±, 5 @ 72'±, 109'±, 129'±AND 120'±.
EASTBOUND: 64'±, 102'±, 103'±, 90'±, 79.5'±, 64'±, 5 @ 72'±, 109'±, 129'± AND 120'±.

ROADWAY: 2 @ 53'-9"± CURB TO CURB WITH TWO (2) 3'-6"± SAFETY CURBS AND 2'-6"± MEDIAN BARRIER.

LOADING: CF2000

SKEW: VARIES

WEARING SURFACE: 2½"± MICRO SILICA MODIFIED CONCRETE OVERLAY

APPROACH SLAB: AS-1-54 (25'-0"± LONG)

ALIGNMENT: TANGENT

YEAR BUILT: 1959 WITH MINOR REHABILITATIONS IN 1973, 1979, 1984, 1988, 2005, AND 2007.

EXISTING STRUCTURE - TRUSS SPANS

TYPE: STEEL DECK TRUSSES WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 227'±, 400'±, 250'±, 400'±, 248'±, 348'±, 248'±, 349'± AND 251'±.

ROADWAY: 2 @ 52'-9"± CURB TO CURB WITH TWO (2) 3'-2"± SAFETY CURBS AND 2'-6"± MEDIAN BARRIER. 3 LANES IN EACH DIRECTION.

LOADING: ORIGINAL DESIGN LOADING CF1200. EXISTING LOADING MODIFIED HS 10 WITH A SINGLE 5C1 TRUCK.

SKEW: VARIES

WEARING SURFACE: 2½"± LATEX MODIFIED CONCRETE OVERLAY

ALIGNMENT: TANGENT, 1°30'± CURVE RIGHT, TANGENT

YEAR BUILT: 1959 WITH MINOR REHABILITATIONS IN 1973, 1984, 1988, 1999, 2002, 2007, 2008 AND 2009.

EXISTING STRUCTURE - EAST APPROACH SPANS

TYPE: CONTINUOUS STEEL BEAMS AND GIRDERS WITH CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 103'±, 119'±, 239'±, 216'±, 81'±, 78'±, 78'±, 79'±, 83'± AND 50'±.

ROADWAY: 2 @ 52'-9"± CURB TO CURB WITH TWO (2) 3'-6"± SAFETY CURBS AND 2'-6"± MEDIAN BARRIER.

LOADING: CF2000

SKEW: VARIES

WEARING SURFACE: MONOLITHIC CONCRETE OR 3½"± MICRO SILICA MODIFIED CONCRETE OVERLAY

APPROACH SLAB: AS-1-54 (25'-0"± LONG)

ALIGNMENT: 2°± CURVE RIGHT

YEAR BUILT: 1959 WITH MINOR REHABILITATIONS IN 1973, 1979, 1988, 1999, 2002, AND 2007.

PROPOSED STRUCTURE - TRUSS SPANS

PROPOSED WORK:
MINOR REHABILITATION INCLUDING SPAN 1 AND 2 WIDENING REMOVAL, NEW CONCRETE DECK EDGE AND PARAPET, AND STEEL REPAIRS.

SPANS: SAME AS EXISTING

ROADWAY: (SPANS 1 AND 2) 52'-9"± CURB TO CURB WITH 3'-2"± SAFETY CURB (WESTBOUND), 2'-6"± MEDIAN BARRIER AND 49'-0" CURB TO CURB (EASTBOUND). (SPANS 3-9) 2 @ 52'-9"± CURB TO CURB WITH TWO (2) 3'-2"± SAFETY CURBS AND 2'-6"± MEDIAN BARRIER. 4 LANES IN EACH DIRECTION.

LOADING: 100% 5C1 TRUCK TRAIN LOADING

SKEW: SAME AS EXISTING

WEARING SURFACE: SAME AS EXISTING

ALIGNMENT: SAME AS EXISTING

REPAIR PURPOSE LEGEND

S REPAIR REQUIRED FOR MEMBER STRENGTHENING.

M REPAIR BASED ON FIELD INSPECTION CONDITION AND MAINTENANCE.

PROPOSED WORK

* SEE INTERIM COMPLETION DATE GENERAL NOTES ON SHEET 3/175.

* 1. STRENGTHEN FLOORBEAM EXTENSION AT PIER 1 SOUTH. S
* 2. REMOVE WIDENING DECK, RAILING AND FLOOR SYSTEM IN TRUSS SPANS 1 & 2. S
* 3. CONSTRUCT NEW DECK EDGE AND PARAPET SOUTH SIDE TRUSS SPANS 1 & 2. S
* 4. CONSTRUCT NEW PARAPET IN WEST APPROACH. S
* 5. REPLACE RIVETS WITH BOLTS IN TRUSS CONNECTIONS U110N, U315N, U503N&S, AND U504N. S
* 6. STRENGTHEN L717 - L718 NORTH. S
* 7. INSTALL NEW VANDAL PROTECTION FENCE. S

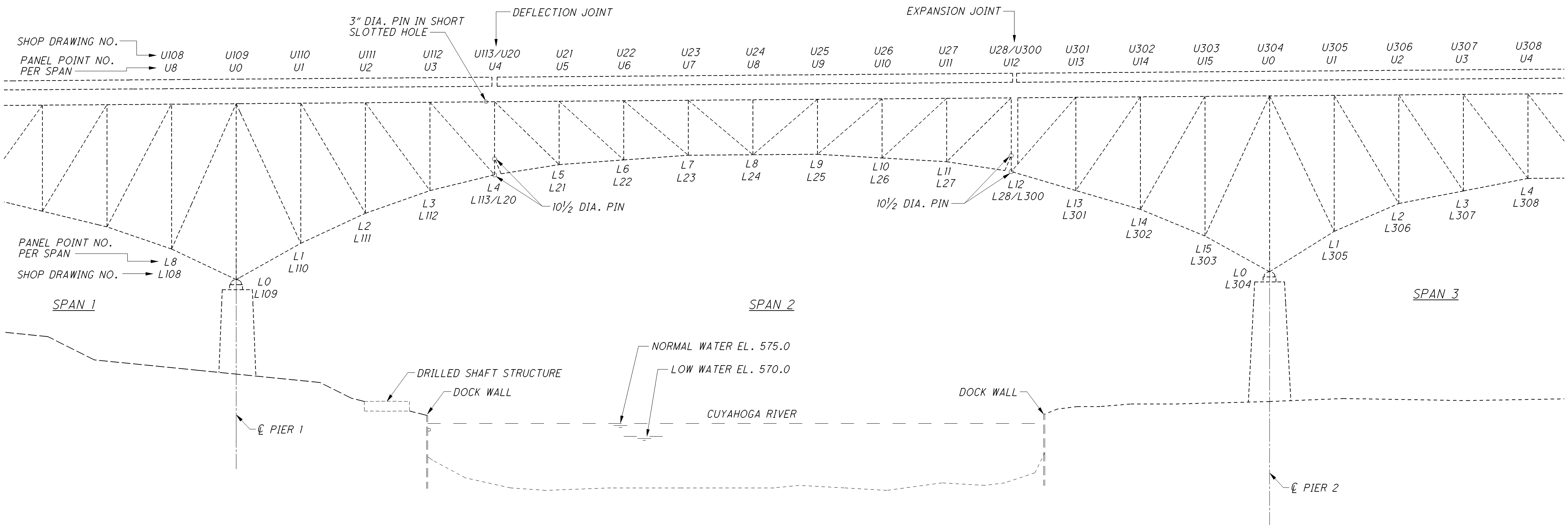
8. REMOVE WIDENING GIRDER AND SUPPORTS. S
9. REPAIR TRUSS GUSSET PLATES WITH STIFFENING ANGLES. M
10. INSTALL FLOORBEAM TRUSS LOWER CHORD BRACING. M
11. INSTALL INSPECTION SAFETY CABLES ALONG TRUSS SPAN LOWER CHORDS. M
12. REPAIR SAFETY WALK ACCESS HATCHES. M
13. REPLACE TRUSS BEARING CONNECTION BOLTS. M
14. RETROFIT STRINGER BOTTOM FLANGES. M
15. REPAIR STRINGER BEARING STIFFENERS. M
16. REPAIR STRINGER TO FLOORBEAM CONNECTIONS. M
17. REPAIR FLOORBEAM CANTILEVER CONNECTIONS. M
18. REPAIR FLOORBEAM TRUSS LOWER CHORD GUSSET PLATE AT SPAN 1, FLOORBEAM 5 (105). M
19. REPLACE CATWALK GRATING AT PIER 5 SOUTH. M
20. SEAL NEW CONCRETE PARAPETS WITH EPOXY-URETHANE. M

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP		1809393	

GENERAL PLAN
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



ELEVATION

BOTTOM ELEVATION OF LOWER TRUSS CHORD STRUCTURE OVER CUYAHOGA RIVER

SHOP DRAWING NUMBER	TRUSS PANEL POINT NUMBER	NORTH TRUSS BOTTOM OF STEEL ELEV.	SOUTH TRUSS BOTTOM OF STEEL ELEV.
L111	L2	656.3	656.5
L112	L3	655.3	655.1
L113/L20	L4	671.3	671.1
L21	L5	675.2	675.0
L22	L6	677.1	676.9
L23	L7	678.7	678.6
L24	L8	679.0	679.0
L25	L9	679.2	679.1
L26	L10	677.8	677.7
L27	L11	676.3	676.3
L28/L300	L12	672.2	672.2
L301	L13	665.3	665.1
L302	L14	657.8	657.9

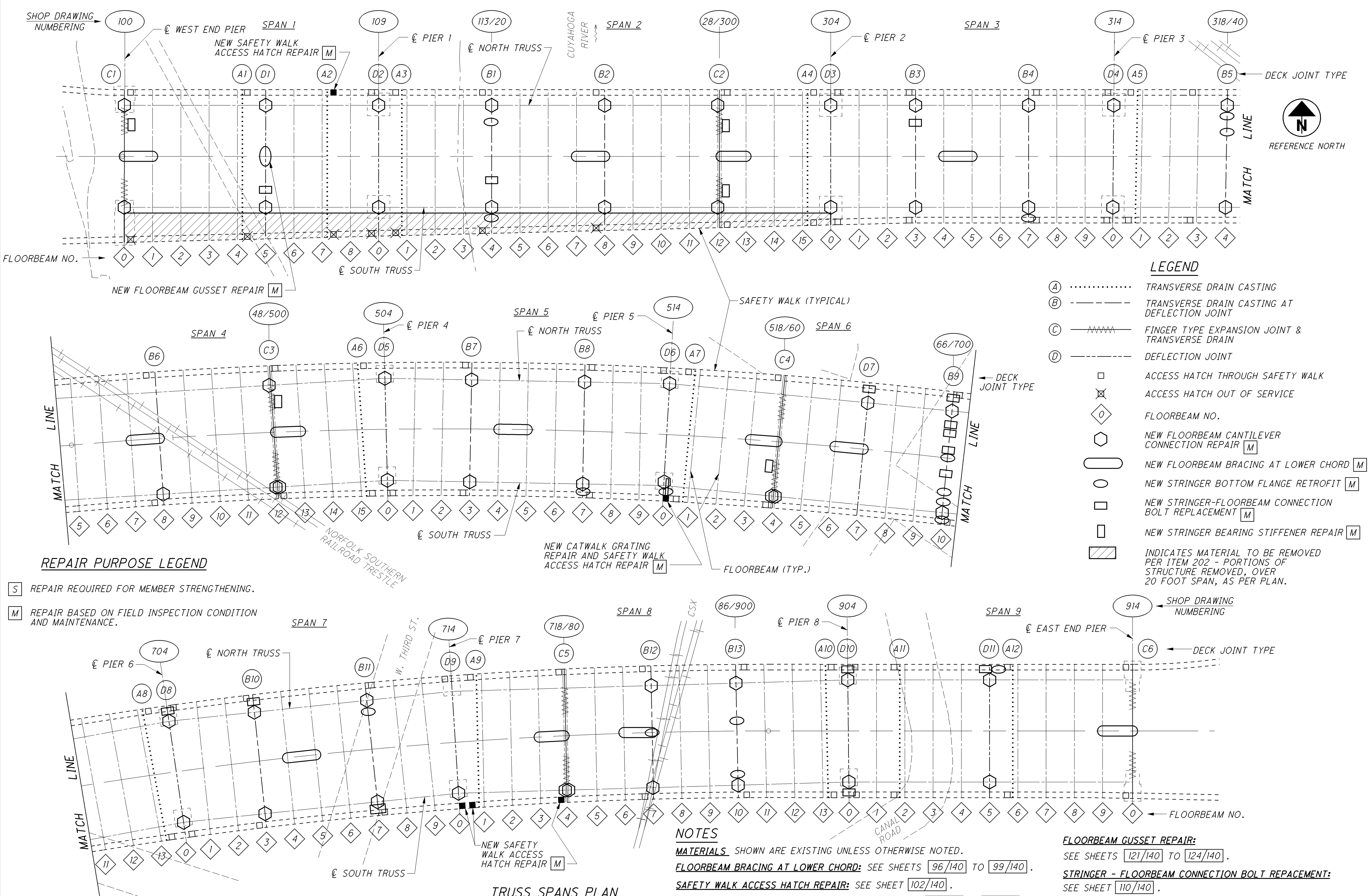
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN KH REVISED
DESIGNED ALP CHECKED BLN

TRUSS SPANS - RIVER CLEARANCE
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CGP005.DGN 7/28/09 TWH.JLS



LEGEND

- (A) TRANSVERSE DRAIN CASTING
- (B) TRANSVERSE DRAIN CASTING AT DEFLECTION JOINT
- (C) FINGER TYPE EXPANSION JOINT & TRANSVERSE DRAIN
- (D) DEFLECTION JOINT
- ACCESS HATCH THROUGH SAFETY WALK
- ACCESS HATCH OUT OF SERVICE
- FLOORBEAM NO.
- NEW FLOORBEAM CANTILEVER CONNECTION REPAIR M
- NEW FLOORBEAM BRACING AT LOWER CHORD M
- NEW STRINGER BOTTOM FLANGE RETROFIT M
- NEW STRINGER-FLOORBEAM CONNECTION BOLT REPLACEMENT M
- NEW STRINGER BEARING STIFFENER REPAIR M
- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

REPAIR PURPOSE LEGEND

S REPAIR REQUIRED FOR MEMBER STRENGTHENING.

M REPAIR BASED ON FIELD INSPECTION CONDITION AND MAINTENANCE.

TRUSS SPANS PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FLOORBEAM BRACING AT LOWER CHORD: SEE SHEETS 96/140 TO 99/140 .

SAFETY WALK ACCESS HATCH REPAIR: SEE SHEET 102/140 .

STRINGER BOTTOM FLANGE RETROFITS: SEE SHEETS 107/140 & 108/140.

STRINGER BEARING STIFFENER REPAIR: SEE SHEET 109/140 .

FLOORBEAM GUSSET REPAIR: SEE SHEETS 121/140 TO 124/140 .

STRINGER - FLOORBEAM CONNECTION BOLT REPACEMENT: SEE SHEET 110/140 .

FLOORBEAM CANTILEVER CONNECTION REPAIR: SEE SHEETS 111/140 TO 120/140 .

CATWALK GRATING REPAIR: SEE SHEETS 125/140 & 126/140.

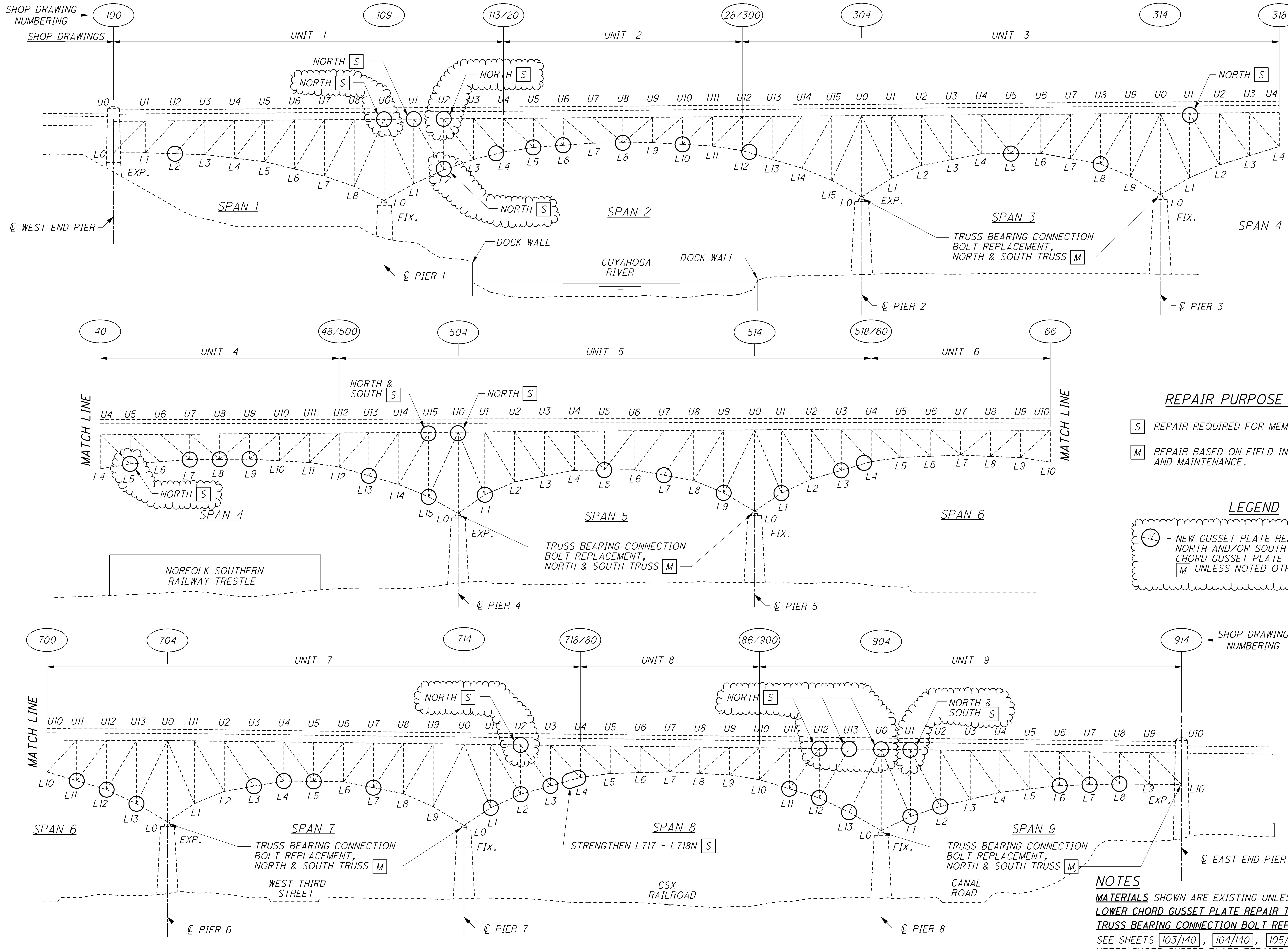
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE
DAP	7/31/09
STRUCTURE FILE NUMBER 1809393	
DRAWN TWH	REVISED
DESIGNED JDB	CHECKED ALP

TRUSS SPANS PLAN
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CGP002.DGN 7/28/09 TWH,JLS



REPAIR PURPOSE LEGEND

S REPAIR REQUIRED FOR MEMBER STRENGTHENING.

M REPAIR BASED ON FIELD INSPECTION CONDITION AND MAINTENANCE.

LEGEND

- NEW GUSSET PLATE REPAIR LOCATION NORTH AND/OR SOUTH TRUSS. SEE LOWER CHORD GUSSET PLATE REPAIR TABLE. M UNLESS NOTED OTHERWISE.

ELEVATION

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

LOWER CHORD GUSSET PLATE REPAIR TABLE: SEE SHEET 5/140.

TRUSS BEARING CONNECTION BOLT REPLACEMENT:
SEE SHEETS 103/140, 104/140, 105/140 & 106/140.

UPPER CHORD GUSSET PLATE REPAIRS:
SEE SHEETS 32A/140, 33/140, 34/140, 35/140 & 36/140.

LOWER CHORD STRENGTHENING: SEE SHEETS 92/140 & 93/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP	DRAWN JLS	REVIEWED DAP	DATE 7/31/09
CHECKED JDB	REVISED 9/4/09	STRUCTURE FILE NUMBER 1809393	

TRUSS SPANS ELEVATION
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

4/140

39/175

090_1524CGP003.DGN 9/02/09 SCB,TWH,JLS

GUSSET PLATE REPAIR TABLE

LOWER CHORD

SPAN	PANEL POINT	SHOP DRAWING MARK	NORTH TRUSS REPAIR TYPES 1	(1)	2	3	NORTH TRUSS SEE SHEET	SOUTH TRUSS REPAIR TYPES 1	(1)	2	3	SOUTH TRUSS SEE SHEET
1	L0	L100	NO REPAIR					NO REPAIR				
1	L1	L101	NO REPAIR					NO REPAIR				
1	L2	L102			1		37			4		38
1	L3	L103	NO REPAIR					NO REPAIR				
1	L4	L104	NO REPAIR					NO REPAIR				
1	L5	L105	NO REPAIR					NO REPAIR				
1	L6	L106	NO REPAIR					NO REPAIR				
1	L7	L107	NO REPAIR					NO REPAIR				
1	L8	L108	NO REPAIR					NO REPAIR				
2	L0	L109	NO REPAIR					NO REPAIR				
2	L1	L110	NO REPAIR					NO REPAIR				
2	L2	L111	*				38A	NO REPAIR				
2	L3	L112	NO REPAIR					NO REPAIR				
2	L4	L113		1			39	NO REPAIR				
2	L4	L20	NO REPAIR					NO REPAIR				
2	L5	L21			1		40	NO REPAIR				
2	L6	L22		1	1		41	NO REPAIR				
2	L7	L23	NO REPAIR					NO REPAIR				
2	L8	L24			1		42	NO REPAIR				
2	L9	L25	NO REPAIR					NO REPAIR				
2	L10	L26		1	2		43, 44	NO REPAIR				
2	L11	L27	NO REPAIR					NO REPAIR				
2	L12	L28	NO REPAIR					NO REPAIR				
2	L12	L300			1		45	NO REPAIR				
2	L13	L301	NO REPAIR					NO REPAIR				
2	L14	L302	NO REPAIR					NO REPAIR				
2	L15	L303	NO REPAIR					NO REPAIR				
3	L0	L304	NO REPAIR					NO REPAIR				
3	L1	L305	NO REPAIR					NO REPAIR				
3	L2	L306	NO REPAIR					NO REPAIR				
3	L3	L307	NO REPAIR					NO REPAIR				
3	L4	L308	NO REPAIR					NO REPAIR				
3	L5	L309			1		46			1		47
3	L6	L310	NO REPAIR					NO REPAIR				
3	L7	L311	NO REPAIR					NO REPAIR				
3	L8	L312	NO REPAIR						1			48
3	L9	L313	NO REPAIR					NO REPAIR				
4	L0	L314	NO REPAIR					NO REPAIR				
4	L1	L315	NO REPAIR					NO REPAIR				
4	L2	L316	NO REPAIR					NO REPAIR				
4	L3	L317	NO REPAIR					NO REPAIR				
4	L4	L318	NO REPAIR					NO REPAIR				
4	L4	L40	NO REPAIR					NO REPAIR				
4	L5	L41	*				48A	NO REPAIR				
4	L6	L42	NO REPAIR					NO REPAIR				
4	L7	L43	NO REPAIR							1		49

GUSSET PLATE REPAIR TABLE

LOWER CHORD

SPAN	PANEL POINT	SHOP DRAWING MARK	NORTH TRUSS REPAIR TYPES 1	(1)	2	3	NORTH TRUSS SEE SHEET	SOUTH TRUSS REPAIR TYPES 1	(1)	2	3	SOUTH TRUSS SEE SHEET
4	L8	L44			2		50			3		51, 52
4	L9	L45	NO REPAIR							1		53
4	L10	L46	NO REPAIR					NO REPAIR				
4	L11	L47	NO REPAIR					NO REPAIR				
4	L12	L48	NO REPAIR					NO REPAIR				
4	L12	L500	NO REPAIR					NO REPAIR				
4	L13	L501			1		54	NO REPAIR				
4	L14	L502	NO REPAIR					NO REPAIR				
4	L15	L503	1	1			55	NO REPAIR				
5	L0	L504	NO REPAIR					NO REPAIR				
5	L1	L505		1			56	NO REPAIR				
5	L2	L506	NO REPAIR					NO REPAIR				
5	L3	L507	NO REPAIR					NO REPAIR				
5	L4	L508	NO REPAIR					NO REPAIR				
5	L5	L509		1			57	NO REPAIR				
5	L6	L510	NO REPAIR					NO REPAIR				
5	L7	L511		2			58, 59	NO REPAIR				
5	L8	L512	NO REPAIR					NO REPAIR				
5	L9	L513		1			60	NO REPAIR				
6	L0	L514	NO REPAIR					NO REPAIR				
6	L1	L515		1			61	1				62
6	L2	L516	NO REPAIR					NO REPAIR				
6	L3	L517		1	1		63	NO REPAIR				
6	L4	L518		1			64	NO REPAIR				
6	L4	L60	NO REPAIR					NO REPAIR				
6	L5	L61	NO REPAIR					NO REPAIR				
6	L6	L62	NO REPAIR					NO REPAIR				
6	L7	L63	NO REPAIR					NO REPAIR				
6	L8	L64	NO REPAIR					NO REPAIR				
6	L9	L65	NO REPAIR					NO REPAIR				
6	L10	L66	NO REPAIR					NO REPAIR				
6	L10	L700	NO REPAIR					NO REPAIR				
6	L11	L701	2				65	2		1		66, 67
6	L12	L702	NO REPAIR					1				68
6	L13	L703	NO REPAIR					2				69, 70
7	L0	L704	NO REPAIR					NO REPAIR				
7	L1	L705	NO REPAIR					NO REPAIR				
7	L2	L706	NO REPAIR					NO REPAIR				
7	L3	L707	NO REPAIR							2		71
7	L4	L708	1				72	NO REPAIR				
7	L5	L709	NO REPAIR							1		73
7	L6	L710	NO REPAIR					NO REPAIR				
7	L7	L711	NO REPAIR							2		74, 75
7	L8	L712	NO REPAIR					NO REPAIR				
7	L9	L713	NO REPAIR					NO REPAIR				
8	L0	L714	NO REPAIR					NO REPAIR				

GUSSET PLATE REPAIR TABLE

LOWER CHORD

SPAN	PANEL POINT	SHOP DRAWING MARK	NORTH TRUSS REPAIR TYPES 1	(1)	2	3	NORTH TRUSS SEE SHEET	SOUTH TRUSS REPAIR TYPES 1	(1)	2	3	SOUTH TRUSS SEE SHEET
8	L1	L715	1				76	NO REPAIR				
8	L2	L716			1		77	NO REPAIR				
8	L3	L717	NO REPAIR					1				78
8	L4	L718	NO REPAIR					NO REPAIR				
8	L4	L80	NO REPAIR					NO REPAIR				
8	L5	L81	NO REPAIR					NO REPAIR				
8	L6	L82	NO REPAIR					NO REPAIR				
8	L7	L83	NO REPAIR					NO REPAIR				
8	L8	L84	NO REPAIR					NO REPAIR				
8	L9	L85	NO REPAIR					NO REPAIR				
8	L10	L86	NO REPAIR					NO REPAIR				
8	L10	L900	NO REPAIR					NO REPAIR				
8	L11	L901	1				79	2		1		80, 81
8	L12	L902	NO REPAIR							1		82
8	L13	L903	NO REPAIR					1				83
9	L0	L904	NO REPAIR					NO REPAIR				
9	L1	L905	1				84	NO REPAIR				
9	L2	L906	2				85	NO REPAIR				
9	L3	L907	NO REPAIR					NO REPAIR				
9	L4	L908	NO REPAIR					NO REPAIR				
9	L5	L909	NO REPAIR					NO REPAIR				
9	L6	L910			2		86, 87			2		88
9	L7	L911			1		89	NO REPAIR				
9	L8	L912			2		90			1	1	91
9	L9	L913	NO REPAIR					NO REPAIR				
9	L10	L914	NO REPAIR					NO REPAIR				
TOTAL			9	11	18			10	1	21	1	

GENERAL LOCATIONS OF WORK: SEE SHEET 4/140.

GENERAL REQUIREMENTS: SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTE ON SHEET 11/140.

GUSSET PLATE ANGLE REPAIR TYPES: SEE SHEET 6/140.

PAYMENT PER EACH ANGLE REPAIR:

REPAIR TYPE	
1	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1
(1)	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1
2	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 2
3	ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 3

* SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS NOTE ON SHEET 12/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED JDB | DRAWN BB | REVISED 9/4/09 | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

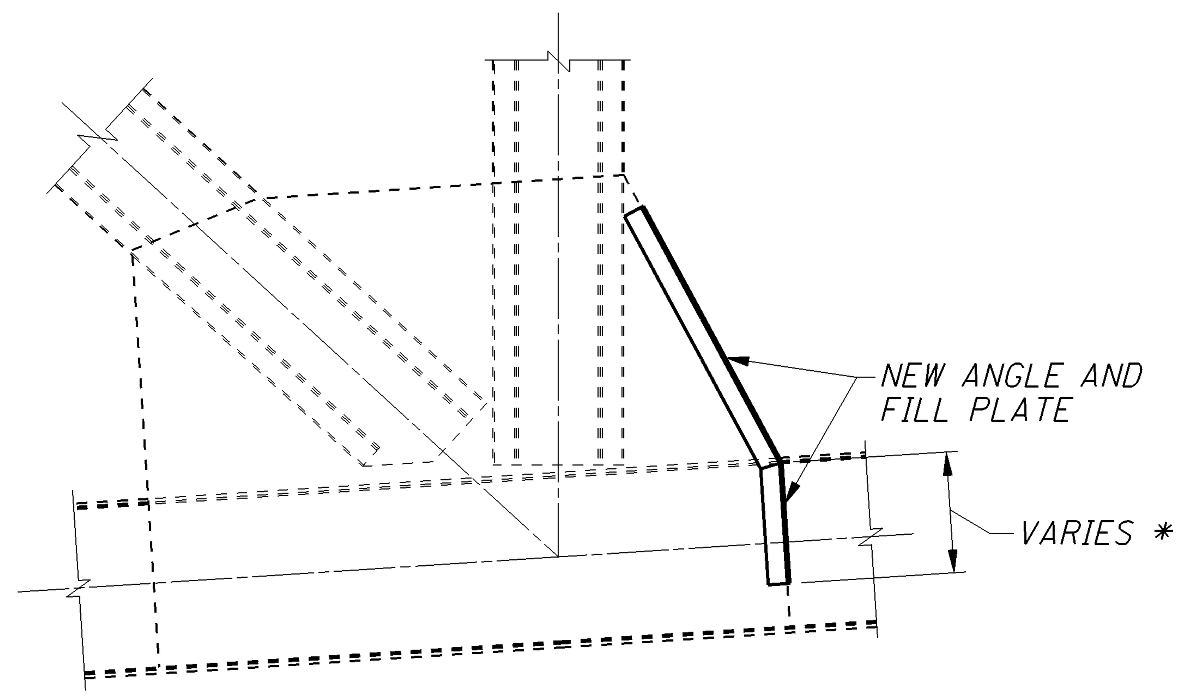
GUSSET PLATE REPAIR TABLE - LOWER CHORD
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

5/140

40/175

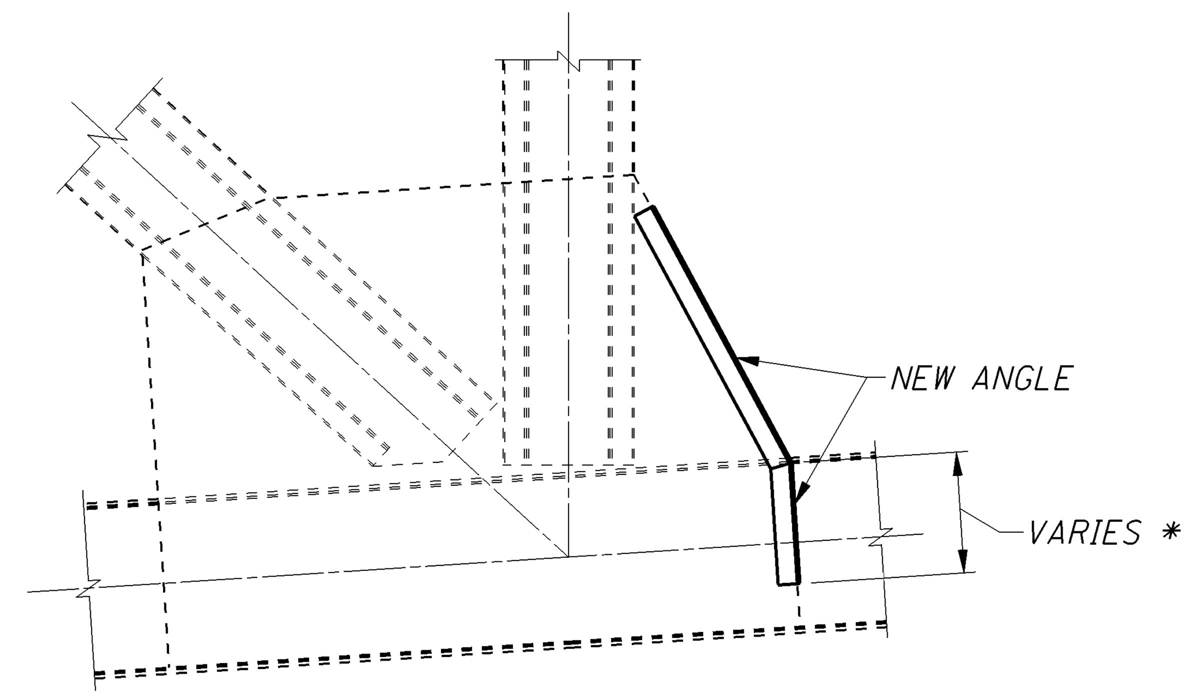
090_1524CMD003.DGN 9/01/09 TWH,JLS



- TRUSS GUSSET EDGE MAY OR MAY NOT HAVE AN EXISTING EDGE STIFFENING ANGLE
- USE DOUBLE NUT METHOD

REPAIR TYPE 1

BOW IN EXISTING GUSSET PLATE ≥ 1/4"; MORE THAN 4 EXISTING CONNECTION RIVETS REMOVED

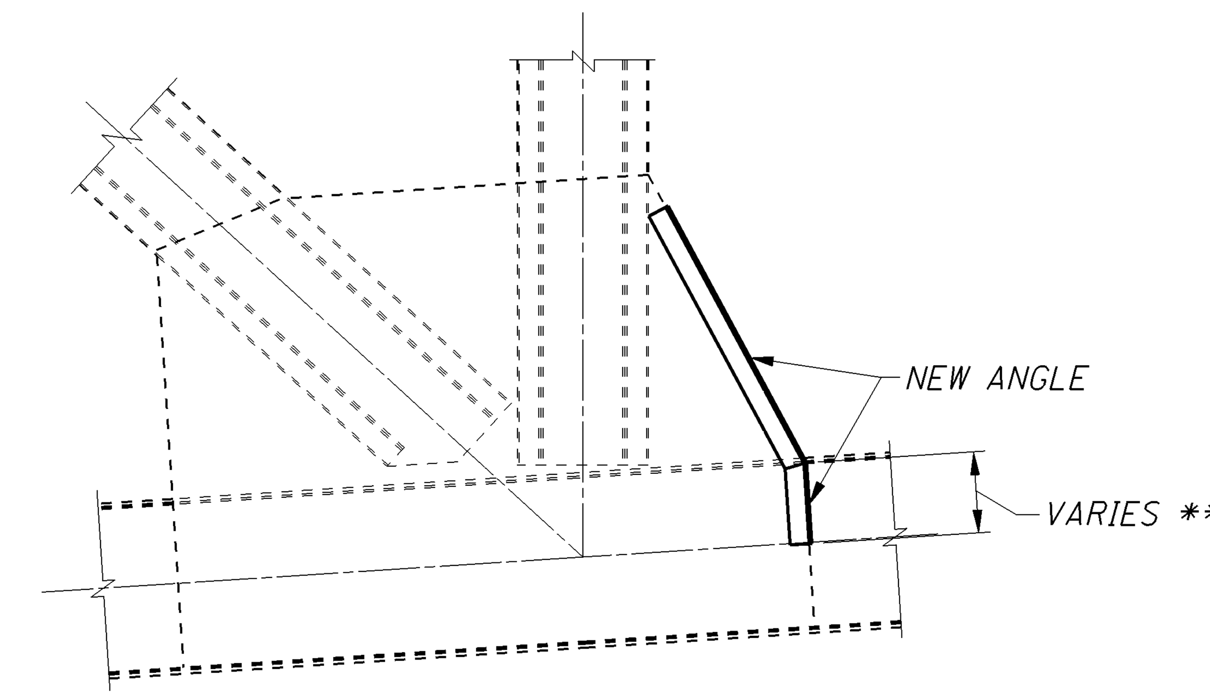


- NO EXISTING EDGE STTIFENING ANGLE
- NO DOUBLE NUT METHOD

REPAIR TYPE 2

LOWER CHORD:
TRUSS GUSSET PLATE HAS BOW IN EXISTING GUSSET PLATE ≥ 1/4";
4 OR FEWER EXISTING CONNECTION RIVETS REMOVED

UPPER CHORD:
TRUSS GUSSET PLATE HAS BOW IN EXISTING GUSSET PLATE ≥ 1/8";
4 OR FEWER EXISTNG CONNECTION RIVETS REMOVED



- NO EXISTING EDGE STIFFENING ANGLE
- NO DOUBLE NUT METHOD

REPAIR TYPE 3

GUSSET PLATE EDGE STIFFENING REQUIRED

* NUMBER OF BOLTS IS EQUAL TO NUMBER OF BOLTS ABOVE CHORD UP TO A MAXIMUM OF 8 BOLTS.

** ANGLE EXTENDED TO THE WORKING LINE OR TO THE EXISTING ANGLE - CONNECTING THE HORIZONTAL LATERAL BRACING GUSSET PLATE TO THE MAIN TRUSS

NOTES

LOWER CHORD GUSSET PLATE SHOWN, UPPER CHORD GUSSET SIMILAR.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
ALP	JDB	TWH		DAP	7/31/09	1809393

GUSSET PLATE ANGLE REPAIR TYPES
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CMD005.DGN 7/27/09 SCB,TWH,JLS

REFERENCE: SHALL BE MADE TO STANDARD DRAWING:
EXJ-2-81 (REVISED 7-19-02)
PCB-91 (REVISED 7-19-02)
SBR-1-99 (REVISED 7-19-02)
VPF-1-90 (REVISED 7-19-02)
AND TO SUPPLEMENTAL SPECIFICATIONS:
832 (DATED 5/5/09)

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING ALL INTERIM SPECIFICATIONS AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING (NEW TRUSS SPANS DECK AND PARAPET)
-HS 20-44 AND THE ALTERNATE MILITARY LOADING
-FUTURE WEARING SURFACE - NONE

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI
STRUCTURAL STEEL- ASTM A709 GRADE 50W - UNIT STRESS 50 K.S.I.
HIGH STRENGTH THREAD BAR - ASTM A722, TYPE II, ULTIMATE STRENGTH 150 K.S.I.
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 - MINIMUM YIELD STRENGTH 60,000 PSI

EXISTING STRUCTURE PLANS: INCLUDING DESIGN PLANS, SHOP DRAWINGS, AND RECONSTRUCTION PLANS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C.M.S. SECTIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ALIGNMENT AND PROFILE: THE WORK CONSTRUCTED WITH THE PROJECT WILL NOT CHANGE THE EXISTING ALIGNMENT OR PROFILE OF THE STRUCTURE.

CUYAHOGA RIVER TRAFFIC: THE CUYAHOGA RIVER UNDER TRUSS SPAN 2 IS NAVIGABLE AND IS USED BY LARGE SHIPS, WORK BOATS, AND PLEASURE BOATS. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF SECTION 107.08 OF THE C.M.S. REGARDING WORK ON NAVIGABLE WATERS.

THE CONTRACTOR MUST MAINTAIN A VERTICAL CLEARANCE OF 96 FEET ABOVE THE CUYAHOGA RIVER LEVEL AT ALL TIMES FOR THE ENTIRE WIDTH BETWEEN DOCK WALLS. THE CONTRACTOR SHALL NOT DROP MATERIALS OR DEBRIS IN THE RIVER.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ANY AND ALL NAVIGATION DEVICES REQUIRED BY THE UNITED STATES COAST GUARD.

SEE ROADWAY GENERAL NOTES ON SHEET 2 OF 175 FOR CUYAHOGA RIVER COORDINATION.

I-90 MAINTENANCE OF TRAFFIC: INTERSTATE 90 VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS PROVIDED IN THE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 3 THROUGH 5 OF 175 .

LEAD PAINT: IS KNOWN TO EXIST ON THE BRIDGE.

METHODS AND SEQUENCE OF CONSTRUCTION

THE CONTRACTOR SHALL SCHEDULE THE VARIOUS ITEMS OF WORK IN SUCH A MANNER TO COMPLETE THE WORK WITHIN THE SCHEDULED ROADWAY LANE CLOSURE AND BRIDGE CLOSURE TIME FRAMES; AND INTERIM COMPLETION DATE IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC NOTES.

REMOVAL OF THE WIDENING DECK IS NECESSARY IN ORDER TO REDUCE THE DEAD LOAD ON LOWER CHORD SOUTH TRUSS MEMBER L300-L301. AFTER THE WIDENING DECK IS REMOVED, THE NEW PARAPET IS CONSTRUCTED, THE UPPER AND LOWER CHORD TRUSS CONNECTIONS HAVE BEEN STRENGTHENED, AND THE L717-L718 NORTH TRUSS LOWER CHORD MEMBER HAS BEEN STRENGTHENED, THE TRUSS SPANS CAN BE REOPENED TO EIGHT LANES OF TRAFFIC WITH NO WESTBOUND TRUCK RESTRICTIONS.

THE CONTRACTOR SHALL SUBMIT DETAILED METHODS, SEQUENCE OF CONSTRUCTION, AND PROCEDURES IN ACCORDANCE WITH CMS 501.05 B. THE DETAILED SUBMISSION SHALL INCLUDE THE METHODS AND SEQUENCE OF CONSTRUCTION LISTED IN THIS NOTE; CRANE SIZES AND LOCATIONS ON THE GROUND AND IN THE RIVER; BRACING REQUIREMENTS FOR GIRDER SEGMENTS; ATTACHMENT AND LIFTING DIAGRAMS FOR GIRDER SEGMENTS; CONTRACTOR DESIGNED MATERIALS; AND SPECIFIC CONTRACTOR METHODS. THE SUBMISSION SHALL BE PREPARED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. A SECOND OHIO REGISTERED PROFESSIONAL ENGINEER SEAL IS NOT REQUIRED ON THIS SUBMITTAL. SEE ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS FOR THE SUBMISSION.

THE FOLLOWING EQUIPMENT AND METHODS ARE PROHIBITED FROM USE ON THIS PROJECT: EXPLOSIVES, HEADACHE BALLS, HOE RAMS, AND PAVEMENT GRINDING. HYDRODEMOLITION METHODS FOR WEARING SURFACE AND CONCRETE REMOVAL ARE RECOMMENDED. THE WEARING SURFACE IS NOT REQUIRED TO BE REMOVED PRIOR TO REMOVING THE DECK.

NO CRANE, PADS, OR OUTRIGGERS; OR STORED MATERIALS EXCEEDING 60,000 POUNDS GROSS WEIGHT SHALL BE PERMITTED ON GROUND WITHIN 150 FEET OF THE RIVER WEST SIDE DOCK WALL OR WITHIN 25 FEET OF THE RIVER EAST SIDE DOCK WALL AT ANY TIME. WIDENING GIRDER SEGMENTS REMOVED FROM THE BRIDGE MAY BE TEMPORARILY SUPPORTED ON GROUND WITHIN 150 FEET OF THE RIVER WEST SIDE DOCK WALL WHILE CUTTING INTO SMALLER PIECES FOR REMOVAL FROM THE SITE. EACH SEGMENT SHALL BE COMPLETELY REMOVED FROM THE GROUND WITHIN 150 FEET OF THE RIVER WEST SIDE DOCK WALL WITHIN ONE WEEK.

THE TEMPORARY CRANE PAD ON THE WEST END SLOPE SHALL BE IN PLACE A MAXIMUM OF ONE MONTH.

A CRANE ON A BARGE IN THE RIVER SHALL BE USED TO REMOVE PORTIONS OF THE WIDENING GIRDER. THE RIVER NAVIGATION SHALL BE RESTRICTED A MAXIMUM OF 8 HOURS IN ANY SINGLE DAY. THE BARGE SHALL BE CLEAR OF THE NAVIGATION CHANNEL WHEN NOT IN USE.

NO MATERIALS OR EQUIPMENT SHALL BE STORED ON THE BRIDGE ROADWAY. ALL MATERIALS REMOVED FROM THE BRIDGE STRUCTURE ARE THE PROPERTY OF THE CONTRACTOR AND SHALL BE IMMEDIATELY TAKEN AWAY FROM THE BRIDGE.

THE CONTRACTOR MAY USE CLOSED OUTSIDE LANES FOR ACCESS AND MATERIAL DELIVERY TO THE WORK AREAS PRIOR TO THE TRUSS SPANS BEING OPEN TO EIGHT LANES OF TRAFFIC. ONE OHIO LEGAL WEIGHT TRUCK, SNOOPER OR MANLIFT WEIGHING NO MORE THAN 80,000 POUNDS, IS PERMITTED ACCESS TO THE CLOSED LANES AT ANY ONE TIME. ONLY ONE TRUCK, SNOOPER OR MANLIFT AT A TIME SHALL OCCUPY A TRUSS SPAN.

LAW ENFORCEMENT OFFICERS (LEO'S) SHALL BE USED IN BOTH THE EASTBOUND AND WESTBOUND DIRECTIONS TO ENFORCE TRUCK RESTRICTIONS WHILE THE CONTRACTOR HAS EQUIPMENT ON THE BRIDGE ROADWAY WITH THE BRIDGE OPEN TO TRAFFIC.

ONLY ONE EXCAVATOR AND ONE TRUCK OR ONE CRANE AND ONE TRUCK SHALL OCCUPY A TRUSS SPAN WITH RESTRICTIONS NOTED BELOW FOR LANE AND BRIDGE CLOSURES.

A SINGLE 75,000 POUND GROSS VEHICLE WEIGHT (GVW) WHEEL MOUNTED HYDRAULIC CRANE MAY OPERATE ON THE BRIDGE DECK ON RUBBER TIRES WITHOUT OUTRIGGERS ACCORDING TO THE CRANE'S ALLOWABLE CAPACITY, WITH RESTRICTIONS NOTED BELOW.

THE WORK ITEMS FOR REMOVALS AND NEW CONSTRUCTION ARE TO BE COMPLETED IN THE FOLLOWING SEQUENCE WITH THE NOTED RESTRICTIONS:

1. CONSTRUCT THE FLOORBEAM EXTENSION STRENGTHENING AT THE PIER 1 SOUTH TRUSS.

2. INSTALL FALSEWORK SYSTEM BELOW THE PORTIONS OF THE DECK TO BE REMOVED OVER THE CUYAHOGA RIVER AS DETAILED IN THE PLANS. THE MAXIMUM FALSEWORK WEIGHT SHALL BE 10 POUNDS PER SQUARE FOOT.

3. PLACE TEMPORARY PAVEMENT MARKINGS FOR MAINTAINING TRAFFIC.

4. INSTALL PORTABLE CONCRETE BARRIER (6,000 POUNDS PER PIECE) ON THE BRIDGE ROADWAY FROM THE BEGINNING OF THE TEMPORARY PCB EASTWARD TO THE WEST END PIER. NO CRANE IS PERMITTED ON THE TRUSS SPANS. AT LEAST ONE LANE OF EASTBOUND TRAFFIC IS TO BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES.

5. INSTALL TEMPORARY LIGHTING CABLE AND CONNECTIONS TO MAINTAIN THE EXISTING SOUTH SIDE BRIDGE LIGHTING OUTSIDE OF THE WIDENING REMOVAL AREA IN SERVICE. DISCONNECT THE EXISTING LIGHTING CIRCUITS IN THE WIDENING AREA TO BE REMOVED. REMOVE THE EXISTING LUMINAIRES AND LIGHT POLES FOR STORAGE. THE WORK SHALL BE PERFORMED FROM THE CLOSED OUTSIDE EASTBOUND LANE WITH AN ADDITIONAL TEMPORARY EASTBOUND RIGHT TRAVELED LANE CLOSURE.

6. **CLOSE THE BRIDGE TO TRAFFIC (ONE WEEKEND CLOSURE).**

7. REMOVE THE CONCRETE DECK IN SPAN 2 BETWEEN PANEL 4 (20) AND 12 (28). THE CONCRETE DECK SHALL BE REMOVED AS FOLLOWS:
   A. BEGIN AT PANEL 12 (28) AND WORK TO THE WEST.
   B. SAW CUT THE DECK INTO MAXIMUM 12,000 POUND PIECES. NOTE PORTIONS OF EXISTING REINFORCING STEEL AND FINGER EXPANSION JOINT CASTINGS AND SUPPORTS ARE TO REMAIN IN PLACE.
   C. PRY AND LIFT EACH DECK PIECE WITH A TRACK MOUNTED HYDRAULIC EXCAVATOR. THE MAXIMUM GROSS VEHICLE WEIGHT OF THE EXCAVATOR SHALL BE 70,000 POUNDS.
   D. LIFT THE DECK PIECE ONTO A LEGAL WEIGHT TRUCK LOCATED WEST OF THE EXCAVATOR. DO NOT STOCKPILE DECK PIECES ON THE BRIDGE. THE TRUCK SHALL LEAVE SPAN 2 BEFORE A SECOND TRUCK ARRIVES ON SPAN 2.
   E. PROCEED WESTWARD REMOVING DECK PIECES UNTIL THE DECK REMOVAL WORK IS COMPLETED TO PANEL 4 (20).

8. INSTALL PORTABLE CONCRETE BARRIER (6,000 POUNDS PER PIECE) ON THE TRUSS SPANS BRIDGE ROADWAY FROM THE WEST END PIER EASTWARD TO THE END OF THE NEW PCB TO PROTECT THE WORK AREA. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED ON THE TRUSS SPANS.

9. **OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.**

10. **CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).**

11. REMOVE THE STEEL RAILING, SAFETY WALK, CURB BARRIER, AND FASCIA STRINGER FROM THE SOUTH SIDE OF TRUSS SPAN 2 FROM BETWEEN PANEL 2 (111) AND PIER 2 IN MAXIMUM 6,000 POUND SEGMENTS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED WITHIN THE WORK AREA ON EITHER SIDE OF THE PORTABLE CONCRETE BARRIER. INSTALL TEMPORARY SAFETY RAILING.

12. **OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.**

13. **CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).**

14. REMOVE THE CONCRETE DECK IN SPAN 2 BETWEEN PANEL 12 (28) AND PIER 2. THE CONCRETE DECK SHALL BE REMOVED AS FOLLOWS:
   A. BEGIN AT SPAN 2 PANEL 12 (28) AND WORK TOWARD THE EAST.
   B. SAW CUT THE DECK INTO MAXIMUM 12,000 POUND PIECES. NOTE PORTIONS OF EXISTING REINFORCING STEEL AND FINGER EXPANSION JOINT CASTINGS AND SUPPORTS ARE TO REMAIN IN PLACE.
   C. PRY AND LIFT EACH DECK PIECE WITH A TRACK MOUNTED HYDRAULIC EXCAVATOR. THE MAXIMUM GROSS VEHICLE WEIGHT OF THE EXCAVATOR SHALL BE 70,000 POUNDS.
   D. LIFT THE DECK PIECE ONTO A LEGAL WEIGHT TRUCK LOCATED EAST OF THE EXCAVATOR. DO NOT STOCKPILE DECK PIECES ON THE BRIDGE.
   E. PROCEED EASTWARD REMOVING DECK PIECES UNTIL THE DECK REMOVAL WORK IS COMPLETED TO PIER 2.

15. **OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.**

16. REMOVE THE REMAINDER OF THE STEEL RAILING, SAFETY WALK, CURB BARRIER, AND FASCIA STRINGER FROM THE SOUTH SIDE OF TRUSS SPANS 1 AND 2 IN MAXIMUM 6,000 POUND SEGMENTS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED WITHIN THE WORK AREA ON THE OUTSIDE OF THE PORTABLE CONCRETE BARRIER. ALL EASTBOUND TRAFFIC SHALL BE MAINTAINED. INSTALL TEMPORARY SAFETY RAILING.

METHODS AND SEQUENCE OF CONSTRUCTION NOTES CONTINUED: SEE SHEET 8 /140 .

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP	9/4/09	1809393	

GENERAL NOTES - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CSN001.DGN 9/02/09 TWH,SCB,JLS

METHODS AND SEQUENCE OF CONSTRUCTION (CONTINUED)

17. CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).

18. REMOVE THE REMAINDER OF THE CONCRETE DECK IN SPANS 1 AND 2 BETWEEN SPAN 2 PANEL 4 (20) AND THE WEST END PIER. THE EQUIPMENT IS TO REMAIN BEHIND THE PORTABLE CONCRETE BARRIER WITH TRAFFIC ON THE BRIDGE. THE CONCRETE DECK SHALL BE REMOVED AS FOLLOWS:
A. BEGIN AT SPAN 2 PANEL 4(20) AND WORK TOWARD THE WEST.
B. SAW CUT THE DECK INTO MAXIMUM 12,000 POUND PIECES. NOTE PORTIONS OF EXISTING REINFORCING STEEL AND FINGER EXPANSION JOINT CASTINGS AND SUPPORTS ARE TO REMAIN IN PLACE.
C. PRY AND LIFT EACH DECK PIECE WITH A TRACK MOUNTED HYDRAULIC EXCAVATOR. THE MAXIMUM GROSS VEHICLE WEIGHT OF THE EXCAVATOR SHALL BE 70,000 POUNDS.
D. LIFT THE DECK PIECE ONTO A LEGAL WEIGHT TRUCK LOCATED WEST OF THE EXCAVATOR. DO NOT STOCKPILE DECK PIECES ON THE BRIDGE.
E. PROCEED WESTWARD REMOVING DECK PIECES UNTIL THE DECK REMOVAL WORK IS COMPLETED AT THE WEST END PIER.
F. STRINGERS MAY BE CUT AND REMOVED IN 25 FEET LONG SEGMENTS AS THE DECK REMOVAL PROCEEDS AS LONG AS SUPPORT FOR THE EXCAVATOR REMAINS IN PLACE.

19. OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.

20. REMOVE STRINGERS IN 25 FEET LONG SEGMENTS IF THEY WERE NOT REMOVED AS THE DECK REMOVAL PROCEEDED. REMOVE PORTIONS OF DECK JOINTS, DRAINAGE, AND CATWALK STEEL AS DETAILED IN THE PLANS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED IN TEMPORARILY CLOSED EASTBOUND LANES FOR THE REMOVAL. ONLY ONE LANE OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES. A MAXIMUM 6,000 POUND SEGMENT IS PERMITTED WHEN REMOVED WITH EQUIPMENT ON THE BRIDGE ROADWAY.

21. PREPARE THE EXISTING DECK EDGE AND INSTALL DOWEL BARS IN THE EDGE OF DECK FOR THE NEW CONCRETE DECK CANTILEVER. DOWEL BAR INSTALLATION CAN PROCEED AS THE DECK IS REMOVED. FORM AND PLACE NEW CONCRETE DECK AND PARAPET. THE NEW SOUTH RAILING ON THE TRUSS SPANS SHALL BE CONSTRUCTED WITH THE FOLLOWING EQUIPMENT AND MATERIAL DELIVERY LIMITATIONS. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED IN TEMPORARILY CLOSED EASTBOUND LANES FOR THE DELIVERY AND PLACING OF NEW CONCRETE FOR THE RAILING. ONLY ONE LANE OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES. EQUIPMENT FOR NEW CONSTRUCTION AND EQUIPMENT FOR REMOVAL OPERATIONS SHALL NOT BE ON THE SAME SPAN AT THE SAME TIME.

22. COMPLETE THE TRUSS CONNECTION REPAIRS AT U109 NORTH, U110 NORTH, U111 NORTH, U315 NORTH, U503 NORTH & SOUTH, U504 NORTH, U716 NORTH, U902 NORTH, U903 NORTH, U904 NORTH, U905 NORTH AND SOUTH, L111 NORTH AND L41 NORTH. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 21 IN ORDER TO BE COMPLETE BY THIS TIME.

23. CLOSE THE BRIDGE TO TRAFFIC (MULTIPLE NIGHTTIME OR WEEKEND CLOSURES).

24. COMPLETE THE STRENGTHENING OF TRUSS MEMBER L717-L718 NORTH. SEE THE STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING NOTE ON SHEET 10/140 FOR SPECIFIC DETAILS FOR BRIDGE CLOSURE REQUIREMENTS. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 22 IN ORDER TO BE COMPLETE BY THIS TIME.

25. OPEN THE BRIDGE TO TRAFFIC - THREE LANES IN EACH DIRECTION.

26. COMPLETE THE NEW PARAPET AND VANDAL PROTECTION FENCE CLOSURE CONSTRUCTION ON THE WEST APPROACH STRUCTURE. LEAVE ACCESS TO TRUSS SPANS 1 AND 2 UNTIL DECK REMOVAL IS COMPLETE. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 24 IN ORDER TO BE COMPLETE BY THIS TIME.

27. REMOVE THE PORTABLE CONCRETE BARRIER FROM THE BRIDGE ROADWAY. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED ON THE TRUSS SPANS. ONLY ONE LANE OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES.

28. COMPLETE THE NEW PAVEMENT MARKING AND TRAFFIC CONTROL. THIS WORK SHALL BE PERFORMED CONCURRENTLY WITH STEPS 1 TO 27 IN ORDER TO BE COMPLETE BY THIS TIME.

29. REMOVE THE WESTBOUND TRUCK DETOUR SIGNING WHEN DIRECTED BY THE ENGINEER.

30. OPEN ALL EIGHT LANES AND RAMPS TO TRAFFIC WHEN DIRECTED BY THE ENGINEER. THE FINAL CONFIGURATION ON THE TRUSS SPANS WILL INCLUDE THREE THROUGH LANES AND AN ADD LANE EASTBOUND, AND FOUR THROUGH LANES WESTBOUND. NOTE THIS IS A REQUIREMENT OF THE INTERIM COMPLETION DATE.

NOTE: THE WIDENING GIRDER STEEL FRAMING REMOVAL WORK MAY CONTINUE WHILE CONSTRUCTING THE NEW CONCRETE PARAPET AS LONG AS IT DOES NOT INTERFERE WITH THE PROGRESS OF THE WORK NECESSARY TO MEET THE INTERIM COMPLETION DATE.

31. REMOVE FLOORBEAM EXTENSIONS, WIDENING GIRDER, AND SUPPORT STRUTS. REMOVE THE FALSEWORK BELOW THE DECK OVER THE CUYAHOGA RIVER. COORDINATE THE WIDENING GIRDER SEGMENT REMOVAL TO MAINTAIN STABILITY OF THE WIDENING GIRDER. DO NOT REMOVE TOO MANY FLOORBEAM EXTENSIONS BEFORE CONNECTING THE WIDENING GIRDER SEGMENT TO THE CRANE FOR REMOVAL. ADD TEMPORARY BRACING TO THE WIDENING GIRDER AS DETERMINED BY THE CONTRACTOR'S METHODS. WIDENING GIRDER SEGMENTS SHALL BE REMOVED BY DISCONNECTING OR CUTTING THE WIDENING GIRDER WEB CONNECTION TO THE SUPPORT STRUT/FLOORBEAM EXTENSION FRAME. THE SUPPORT STRUT/FLOORBEAM EXTENSION FRAME SHALL BE LEFT TO SUPPORT ITSELF. A SINGLE 75,000 POUND GVW WHEEL MOUNTED HYDRAULIC CRANE AND A SINGLE LEGAL WEIGHT TRUCK ARE PERMITTED IN TEMPORARILY CLOSED EASTBOUND LANES FOR THE REMOVAL OF FLOORBEAM EXTENSIONS AND SUPPORT STRUT SEGMENTS. ONLY TWO LANES OF EASTBOUND TRAFFIC SHALL BE MAINTAINED WHILE WORKING IN THE TRAVELED LANES. A MAXIMUM 6,000 POUND SEGMENT IS PERMITTED WHEN REMOVED WITH EQUIPMENT ON THE BRIDGE ROADWAY. ONE CRANE SHALL BE LOCATED ON THE GROUND ON THE DESIGNATED CRANE PAD AND ONE CRANE SHALL BE LOCATED ON A BARGE IN THE RIVER NEXT TO THE BRIDGE TO REMOVE THE WIDENING GIRDER SEGMENTS AND OTHER STEEL MEMBERS WITH NO MAXIMUM SIZE LIMITATION ON SEGMENTS. NOTE THAT THERE ARE PLAN RESTRICTIONS FOR LOCATIONS OF CRANES ON THE GROUND. THE WIDENING GIRDER SHALL BE REMOVED AS FOLLOWS:
A. REMOVE FLOORBEAM EXTENSION SPAN 2 PANEL 11 (27) BETWEEN FIELD SPLICE 3 AND SPAN 2 PANEL 12 (28).
B. REMOVE THE WIDENING GIRDER SEGMENT #1 (ABOUT 47'-2" LONG) BETWEEN FIELD SPLICE 3 (EAST OF SPAN 2 PANEL 10 (26)) AND SPAN 2 PANEL 12 (28).
C. REMOVE FLOORBEAM EXTENSIONS SPAN 2 PANELS 5, 6, 7, 9, AND 10 (21, 22, 23, 25, AND 26) BETWEEN THE HANGER IN SPAN 2 AND FIELD SPLICE 3.
D. REMOVE THE WIDENING GIRDER SEGMENT #2 (ABOUT 157'-8" LONG) BETWEEN THE HANGER IN SPAN 2 (WEST OF SPAN 2 PANEL 4 (113/20) SUPPORT STRUT) AND FIELD SPLICE 3 (EAST OF SPAN 2 PANEL 10 (26) SUPPORT STRUT).
E. REMOVE FLOORBEAM EXTENSIONS SPAN 2 PANEL 2 AND 3 (111 AND 112) BETWEEN FIELD SPLICE 2 AND THE HANGER IN SPAN 2.
F. REMOVE THE WIDENING GIRDER SEGMENT #3 (ABOUT 51'-5" LONG) BETWEEN FIELD SPLICE 2 (WEST OF SPAN 2 PANEL 2 (111)) AND THE HANGER IN SPAN 2 (WEST OF SPAN 2 PANEL 4 (113/20) SUPPORT STRUT).
G. REMOVE FLOORBEAM EXTENSIONS SPAN 1 PANEL 5, 6, 7, AND 8 AND SPAN 2 PANEL 1 (105, 106, 107, 108, AND 110) BETWEEN FIELD SPLICE 1 AND FIELD SPLICE 2.
H. REMOVE THE WIDENING GIRDER SEGMENT #4 (ABOUT 158'-6" LONG) BETWEEN FIELD SPLICE 1 (12'-6" EAST OF SPAN 1 PANEL 4 (104) SUPPORT STRUT) AND FIELD SPLICE 2 (WEST OF SPAN 2 PANEL 2 (111)).
I. REMOVE FLOORBEAM EXTENSIONS SPAN 1 PANEL 0, 1, 2, AND 3 (100, 101, 102, AND 103) BETWEEN THE WEST END PIER AND SPAN 1 PANEL 4 (104) SUPPORT STRUT.
J. REMOVE THE WIDENING GIRDER SEGMENT #5 (ABOUT 113'-0" LONG) BETWEEN THE WEST END PIER AND FIELD SPLICE 1 (12'-6" EAST OF SPAN 1 PANEL 4 (104) SUPPORT STRUT).
K. REMOVE FLOORBEAM EXTENSIONS AND WIDENING GIRDER SUPPORT STRUTS AT SPAN 1 PANEL 4 (104), SPAN 2 PANEL 4 (113/20), AND SPAN 2 PANEL 12 (28).
L. REMOVE LATERAL BRACING, FLOORBEAM EXTENSIONS, AND WIDENING GIRDER SUPPORT STRUTS AT PIER 1 (109) AND SPAN 2 PANEL 8 (24).
M. REMOVE ROCKER BEARING AT WEST END PIER.

32. REMOVE ALL MISCELLANEOUS ITEMS INDICATED NOT TO REMAIN ON THE BRIDGE.

33. COMPLETE THE NEW LIGHTING ON TRUSS SPANS 1 AND 2.

34. COMPLETE ALL OTHER WORK.

TEMPORARY CRANE PAD

A TEMPORARY CRANE PAD SHALL BE CONSTRUCTED ON THE WEST END SLOPE AT THE LOCATION SHOWN ON SHEET 23/140. THE CONTRACTOR SHALL DESIGN THE CRANE PAD AND CRANE OUTRIGGER STRUCTURAL SUPPORTS TO SPREAD THE LOAD OF THE CRANE TO THE EXISTING GROUND. THE MAXIMUM PRESSURE AT ANY POINT ON THE EXISTING GROUND DUE TO EQUIPMENT AND THE CRANE PAD SHALL NOT EXCEED 2,000 POUNDS PER SQUARE FOOT. THE SIZE OF THE CRANE PAD AND STRUCTURAL SUPPORTS SHALL BE DETERMINED BY THE CONTRACTOR.

THE CRANE PAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH CMS 203 EMBANKMENT USING 203.02B BORROW. THE BORROW MAY INCLUDE GRANULAR MATERIAL. NO EXCAVATION OF EXISTING MATERIALS WITHIN THE WEST END SLOPE RIGHT OF WAY SHALL BE PERMITTED.

PROVISIONS FOR COLLECTING AND CONDUCTING EXISTING DRAINAGE AND EROSION CONTROL PER SS832 SHALL BE INCLUDED. CONDUITS SHALL BE IN ACCORDANCE WITH CMS 603 WITH STRENGTH DETERMINED BY THE CONTRACTOR.

DAMAGED PAVEMENT, SLOPE PROTECTION, PAVED GUTTER, SLOPES, MONITORING INSTRUMENTATION, AND VEGETATION SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION. SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH CMS 659.

THE COST FOR MATERIALS, BORROW, DRAINAGE PROVISIONS, CONDUIT, EROSION CONTROL, STRUCTURAL SUPPORTS, INSTALLATION, AND COMPLETE REMOVAL OF THE EMBANKMENT AND CONDUIT; AND RESTORATION OF THE AREA FOR THE CRANE PAD ON THE WEST END SLOPE, SHALL BE INCLUDED AS INCIDENTAL TO ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

PORTIONS OF STRUCTURE REMOVED SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT EXCEPT FOR SPECIFIC RIVET REMOVALS AND BOLT REMOVALS. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION, AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN INCORPORATED IN THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT DETAILED METHODS, SEQUENCE OF CONSTRUCTION, AND PROCEDURES IN ACCORDANCE WITH CMS 501.05 B EXCEPT FOR THE PREPARATION AND ACCEPTANCE REQUIREMENTS. THE CONTRACTOR DESIGNED INFORMATION SHALL BE PREPARED BY AN OHIO REGISTERED ENGINEER. A SECOND OHIO REGISTERED PROFESSIONAL ENGINEER SEAL IS NOT REQUIRED ON THIS SUBMITTAL. THE CONTRACTOR SHALL SUBMIT THE INFORMATION TO THE ENGINEER AT LEAST 14 DAYS BEFORE CONSTRUCTION BEGINS. THE SUBMISSIONS WILL BE REVIEWED IN ACCORDANCE WITH THE PROVISIONS OF CMS 105.02 FOR PLANS AND WORKING DRAWINGS.

GRIND FLAME CUT EDGES OF STEEL TO REMAIN IN PLACE ON THE BRIDGE.

INCLUDE RIVET AND BOLT REMOVALS FOR REMOVING THE SPAN 1 AND 2 WIDENING GIRDER AND STEEL FRAMING.

THE COST FOR REMOVALS AND THE TEMPORARY CRANE PAD ON THE WEST END SLOPE SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ASBESTOS ABATEMENT

AN ASBESTOS SURVEY OF THE CUY-90-1524 BRIDGE (SFN 1809393) SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST (CAHES). THE SURVEY CONFIRMED THAT ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

KNOWN LOCATIONS OF ASBESTOS MATERIAL INCLUDES THE ABANDONED ELECTRICAL CONDUIT UNDER THE SAFETY WALK IN THE MAIN TRUSS SPANS.

A PORTION OF THE EXISTING SAFETY WALK, INCLUDING AN ESTIMATED 1240 LINEAR FEET AND 80 SQUARE FEET OF THE ABANDONED ASBESTOS ELECTRICAL CONDUIT, WILL BE REMOVED WITH THE WIDENING REMOVAL.

A COPY OF THE OHIO EVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

DEPARTMENT OF PUBLIC HEALTH
DIVISION OF AIR QUALITY
75 ERIEVIEW PLAZA, 2ND FLOOR
CLEVELAND, OHIO 44114
GEORGE BAKER
(216)664-2297
(216)420-8047 (FAX)

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE WIDENING REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO, 44125.

THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS ARE POSSIBLE TO ENSURE THAT THE ASBESTOS CONTAINING MATERIAL (ACM) DOES NOT BECOME FRIABLE. TO ASSURE THAT THE NONFRIABLE ASBESTOS MATERIAL DOES NOT BECOME FRIABLE OR IN THE EVENT THAT THE NONFRIABLE MATERIAL BECOMES FRIABLE, THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN PROVISIONS OF NESHAP THAT WILL BE ON-SITE DURING THE DEMOLITION AND/OR REMOVAL OF THE ACM CONDUIT. ALL ACM'S SHALL BE PROPERLY CONTAINERIZED, TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH THE STATE AND FEDERAL REGULATIONS.

BASIS OF PAYMENT - THE CONTRACTOR SHALL FURNISH ALL THE LABOR (INCLUDING A CAHES), EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE, SUBMIT, AND COMPLY WITH THE OEPA NOTIFICATION FOR AND TO REMOVE, TRANSPORT AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OEPA) SOLID WASTE FACILITY. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICES BID LUMP SUM. THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THE WORK NOTED ABOVE:

690E71000 ITEM SPECIAL - ASBESTOS ABATEMENT, LUMP SUM

GENERAL NOTES CONTINUED: SEE SHEET 9/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN SCB | REVIEWED DAP | DATE 7/31/09
CHECKED ALP | REVISED 9/4/09 | STRUCTURE FILE NUMBER 1809393

GENERAL NOTES - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

ITEM 202 - REMOVAL, MISC.: RIVET

EXISTING RIVETS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING RIVETS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, EXISTING RIVETS TO BE REPLACED WITH NEW HIGH STRENGTH BOLTS AND RIVETS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH C.M.S. SECTION 202.03.

NO MORE RIVETS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. RIVETS SHALL BE REMOVED FROM ONLY ONE SIDE OF A MEMBER AT A TIME. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

ALL EXISTING RIVETS TO BE REMOVED SHALL FIRST HAVE THE HEADS CUT OFF AND THEN THE REMAINDER OF THE RIVET REMOVED BY DRILLING OR BURNING. SOME RIVETS TO BE REMOVED MAY HAVE COUNTERSUNK HEADS ON ONE OR BOTH ENDS. RIVETS THAT ARE COUNTERSUNK ON BOTH ENDS SHALL BE REMOVED BY DRILLING OR BURNING. PUNCHING MAY BE USED TO REMOVE LOOSE FITTING SHANKS. RIVET REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED RIVET REMOVAL METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE, DUE TO THE CONTRACTOR'S REMOVAL OPERATION, SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

PAYMENT FOR STRUCTURAL STEEL REMOVAL SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

PAYMENT FOR RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET, PER EACH RIVET.

ITEM 202 - REMOVAL, MISC.: BOLT

EXISTING BOLTS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING BOLTS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, EXISTING BOLTS TO BE REPLACED WITH NEW HIGH STRENGTH BOLTS AND BOLTS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH C.M.S. SECTION 202.03.

NO MORE BOLTS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. BOLTS SHALL BE REMOVED FROM ONLY ONE SIDE OF A MEMBER AT A TIME. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

BOLT REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE, DUE TO THE CONTRACTOR'S REMOVAL OPERATION, SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

PAYMENT FOR STRUCTURAL STEEL REMOVAL SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

PAYMENT FOR BOLT REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: BOLT, PER EACH BOLT.

CONNECTION BOLTS: 5/8 INCH DIAMETER AND LARGER SHALL BE GALVANIZED ASTM A325 HIGH STRENGTH STEEL BOLTS, UNLESS OTHERWISE NOTED. ASTM A490 HIGH STRENGTH STEEL BOLTS SHALL NOT BE GALVANIZED. NEW CONNECTION BOLTS SHALL BE INCLUDED FOR PAYMENT WITH THE PERTINENT NEW MATERIAL PAY ITEM.

IN GENERAL, ASTM A490, TYPE 3 BOLTS ARE USED AT TRUSS GUSSET EDGE STIFFENING REPAIRS, 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS, AND L717-L718 NORTH TRUSS CHORD STRENGTHENING. GALVANIZED ASTM A325 BOLTS ARE USED AT OTHER STEEL REPAIRS.

WELDING: THE ORIGINAL DESIGN PLANS AND SHOP DRAWINGS FOR CUY-90-1524 INDICATE THAT COPPER-BEARING CARBON STRUCTURAL STEEL WAS USED FOR MOST OF THE STRUCTURE AND THAT MANGANESE STRUCTURAL STEEL WAS USED IN SOME AREAS. FINGER EXPANSION JOINTS AND TRUSS BEARINGS ARE STEEL CASTINGS. WELDING TO THE EXISTING STEEL SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER, EXCEPT WHERE DETAILED IN THE PLANS. TACK WELDING NEW OR EXISTING STEEL SHALL NOT BE PERMITTED.

NEW GALVANIZED STEEL SHALL BE GALVANIZED AFTER FABRICATION PER C.M.S. 711.02. THE CONTRACTOR SHALL BE VERY CAREFUL IN HANDLING THE GALVANIZED STEEL TO MINIMIZE SCRATCHES AND ABRASION OF THE FINISH. WIRE ROPE SLINGS AND METAL HOOKS SHALL BE PADDED WITH WOOD, OR REINFORCED FABRIC WEBBING SHALL BE USED FOR MATERIAL HANDLING. SCRATCHES AND ABRASIONS OF THE GALVANIZED FINISH SHALL BE TOUCHED UP IN THE FIELD BY "COLD APPLIED GALVANIZING" AS DIRECTED BY THE ENGINEER. CONNECTION BOLTS FOR GALVANIZED STEEL MEMBERS SHALL BE MECHANICALLY GALVANIZED.

BOLTED CONNECTION TO EXISTING STEEL: AT LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER, NEW STRUCTURAL STEEL SHALL BE CONNECTED TO EXISTING STRUCTURAL STEEL USING EXISTING RIVET OR BOLT HOLES AND NEW BOLTS. RIVET AND BOLT REMOVAL PROCEDURES ARE DESCRIBED IN THE GENERAL NOTES. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

HOLES IN NEW MATERIAL SHALL BE MADE BY ANY OF THE FOLLOWING METHODS (TO BE SELECTED BY THE CONTRACTOR):

1. CAREFUL FIELD MEASUREMENT BY THE CONTRACTOR SHALL BE USED FOR LOCATING HOLES IN NEW MATERIAL TO BE SUBPUNCHED OR DRILLED UNDERSIZE IN THE SHOP. THE HOLE SHALL BE 3/16 INCH LESS IN DIAMETER THAN THE NOMINAL DIAMETER OF THE NEW BOLT. THE HOLES SHALL BE REAMED TO PROPER SIZE IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.
2. MAKE TEMPLATES IN THE FIELD OF HOLE PATTERNS AND LOCATIONS AFTER REMOVAL OF RIVETS OR BOLTS. USE THE FIELD TEMPLATES IN THE SHOP TO SUBPUNCH OR DRILL UNDERSIZE HOLES. THE HOLES SHALL BE REAMED IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.
3. FURNISH NEW STRUCTURAL STEEL WITHOUT SHOP HOLES FOR RECONNECTION TO EXISTING RIVET OR BOLT HOLES. HOLES IN NEW MATERIAL TO BE FIELD DRILLED AND REAMED TO MATCH EXISTING RIVET OR BOLT LOCATION.

RIVET HOLES NOT USED FOR BOLTED CONNECTIONS OF NEW STRUCTURAL STEEL SHALL BE FILLED WITH A BOLT UNLESS OTHERWISE NOTED.

EXISTING MATERIAL WITHOUT HOLES FOR CONNECTION TO NEW MATERIAL SHALL BE FIELD DRILLED.

ALL HOLES THROUGH NEW AND EXISTING MATERIAL SHALL BE REAMED AFTER ASSEMBLY. THE FINAL HOLES SHALL BE STANDARD SIZE, 1/16 INCH LARGER IN DIAMETER THAN THE NOMINAL BOLT DIAMETER, UNLESS OTHERWISE NOTED.

ADDITIONAL REQUIREMENTS FOR HOLES SHALL BE PER C.M.S. 513.19. SHOP HOLES THAT DO NOT MATCH EXISTING RIVET HOLES SHALL BE FIELD DRILLED.

THE COST OF ALL MATERIAL, EQUIPMENT AND LABOR FOR CONNECTING NEW MATERIAL TO EXISTING MATERIAL, INCLUDING REAMING NEW OR EXISTING HOLES, AND DRILLING NEW HOLES, SHALL BE INCLUDED AS INCIDENTAL TO THE PERTINENT NEW MATERIAL PAY ITEM.

SHOP DRAWINGS

STRUCTURAL STEEL WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE THE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE OFFICE OF STRUCTURAL ENGINEERING. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING THE STEEL ITEMS INTO THE WORK, AS REQUIRED BY C.M.S. 501.06. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. THE FABRICATOR SHALL FURNISH THE DIRECTOR A DIGITAL MEDIA COPY OF EACH APPROVED SHOP DRAWING. THE DIGITAL MEDIA SHALL BE AS SPECIFIED IN C.M.S. 501.04.

NEW STRUCTURAL STEEL MATERIALS SHALL NOT BE PRIME COATED IN THE SHOP OR FIELD.

STORED MATERIALS: SHALL BE USED FOR REPAIRS AS DESCRIBED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. PAY ITEMS USING STORED MATERIALS INCLUDE:

- ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL
- ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1
- ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL
- ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIAL AND THREAD BAR
- ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIAL AND THREAD BAR

CONTACT MIKE MALLOY (216) 584-2230 TO COORDINATE ACCESS TO THE MATERIALS.

THE FOLLOWING MATERIALS ARE STORED AT THE O.D.O.T. DISTRICT 12 ROADWAY SERVICES GARAGE, 5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO.

A325 GALVANIZED		
TOTAL	SIZE/ITEM	THREAD
324	7/8" x 2 3/4" BOLTS	STD.
109	7/8" x 3" BOLTS	STD.
203	7/8" x 3 1/4" BOLTS	STD.
96	7/8" x 3 1/2" BOLTS	STD.
3 GAL.	7/8" WASHERS	
6 GAL.	7/8" NUTS	

A490 PLAIN		
TOTAL	SIZE/ITEM	THREAD
204	7/8" x 1 3/4" BOLTS	STD.
106	7/8" x 2" BOLTS	STD.
229	7/8" x 2 1/2" BOLTS	STD.
63	7/8" x 2 3/4" BOLTS	STD.
35	7/8" x 3" BOLTS	STD.
141	7/8" x 3 1/4" BOLTS	STD.
10	7/8" x 3 1/2" BOLTS	STD.
50	7/8" x 3 3/4" BOLTS	STD.
0	7/8" x 4" BOLTS	STD.
153	7/8" x 4 1/2" BOLTS	STD.
108	7/8" x 4 3/4" BOLTS	STD.
16	7/8" x 5" BOLTS	4"
38	7/8" x 5 1/2" BOLTS	4"
37	7/8" x 5 1/2" BOLTS	STD.
80	7/8" x 5 1/2" BOLTS	5"
22	7/8" x 6" BOLTS	4"
135	7/8" x 7" BOLTS	4"
467	7/8" x 8" BOLTS	4"
92	7/8" x 9" BOLTS	4"
1 GAL.	7/8" WASHERS (KEG)	
6.5	7/8" NUTS (KEGS)	

NOTE: THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPPING AND RE-OILING NUTS AND BOLTS AS NECESSARY PRIOR TO INSTALLATION.

THE FOLLOWING MATERIALS ARE STORED AT THE O.D.O.T. STORAGE GARAGE OF THE LORAIN/CARNEGIE BRIDGE:

THE ANGLES AND PLATES ARE PLAIN, UNCUT MATERIALS.

3/4" STEEL PLATES ASTM A709 GRADE 50W
2 PLATES APPROXIMATELY 7.5 FT x 8.0 FT
5 PLATES OF MISC. SIZES THAT RANGE FROM 4 FT x 12 FT TO 8 FT x 4 FT

1 1/4" STEEL PLATES ASTM A709 GRADE 50W
1 PLATES APPROXIMATELY 7.5 FT X 8.0 FT
1 PLATE APPROXIMATELY 4.0 FT x 7.0 FT

4" x 4" x 3/4" ANGLE ASTM A709 GRADE 50W
4 AT 20.0 FT
1 AT 6.5 FT

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. A QUANTITY OF 300 POUNDS HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

GENERAL NOTES CONTINUED: SEE SHEET 10/140.

REVISED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP	9/4/09	1809393	

GENERAL NOTES - 3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CSN003.DGN 9/02/09 TWH,SCB,JLS

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

GENERAL REQUIREMENTS:

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:

ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN).

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	*#8 COARSE AGGRE. (LB)	*#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO +/-.02	AIR CONTENT +/-2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

PARAPET CONSTRUCTION (SLIP FORMED):

SLIP FORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THE PARAPET IS OVER 50 FEET ABOVE THE EXISTING GROUND SURFACE, OR WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC (WHICH INCLUDES WATER CRAFTS). AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND POURED.

THE CONTRACTOR IS ONLY ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS OVER NON TRAVELED WAYS, AND ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF C.M.S. 511.11, THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH, WITH A MAXIMUM SLUMP OF $1\frac{1}{2}$ INCHES.

THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT $1\frac{1}{2}$" DEEP AND $\frac{1}{4}$" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT. AND A MAXIMUM OF 10 FT. ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK OR CONCRETE SAFETY WALK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF $1\frac{1}{2}$" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E.

ALL REINFORCING STEEL SHALL BE EPOXY COATED. THE CONTRACTOR MAY FIELD BEND REINFORCING STEEL TO MAINTAIN MINIMUM CLEARANCES AND COVER.

BEFORE ANY DRILLING, THE CONTRACTOR SHALL USE A REBAR LOCATOR TO IDENTIFY LOCATIONS OF EXISTING REINFORCING STEEL. THE CONTRACTOR SHALL DRILL ONLY WHERE EXISTING REINFORCING STEEL IS NOT LOCATED.

CAULK EDGES OF ALL JOINTS BETWEEN NEW CONCRETE PARAPET AND EXISTING CONCRETE WITH CAULK WHICH MEETS FEDERAL SPECIFICATION TT-S-00227E. ALL CAULKING COSTS SHALL BE INCLUDED UNDER ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.

BASIS OF PAYMENT PAYMENT FOR THE ABOVE COMPLETE AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CUBIC YARD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E50101	CUBIC YARD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

EPOXY-URETHANE SHALL BE THE LIGHT NEUTRAL COLOR MEETING FEDERAL COLOR STANDARD NO. 17778. SUPERSTRUCTURE SHALL BE SEALED WITH EPOXY-URETHANE AS PER PLAN DETAILS.

ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL

MATERIAL

1. NEW MATERIAL SHALL BE ASTM A709 GRADE 50W.
2. NEW BOLTS SHALL BE ASTM A490, TYPE 3. THE BOLTS SHALL UTILIZE HARDENED WASHERS PER ASTM F436, PLACED UNDER BOTH THE BOLT HEAD AND ALL NUTS. THE NUT USED FOR THE ASTM A490 BOLTS SHALL BE IN ACCORDANCE WITH ASTM A563. ALL HEAVY HEX HEAD NUTS SHALL BE TYPE DH3. NEW $\frac{7}{8}$" DIAMETER ASTM A490 BOLTS SHALL BE TENSIONED TO A MINIMUM OF 49 KIPS. THE TURN-OF-NUT REQUIREMENTS SPECIFIED IN TABLE 513.20-3 MAY BE USED TO ACHIEVE THE BOLT PRE-TENSION.
3. NEW BOLTS SHALL MATCH EXISTING RIVET SIZES.
4. NEW MATERIALS SHALL BE CERTIFIED PER CMS 501.06.
5. THE 80 ASTM A490 BOLTS, $\frac{7}{8}$" DIAMETER x $5\frac{1}{2}$" LONG WITH 5" THREADS, AND NUTS, LISTED WITH STORED MATERIALS SHALL BE USED. THE CONTRACTOR SHALL FURNISH ADDITIONAL BOLTS, NUTS AND WASHERS NECESSARY TO COMPLETE THE WORK.

STEEL SURFACE PREPARATION

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE "PENCIL ABRASIVE BLASTING" GENERAL NOTE AND ANY OIL USED IN DRILLING STRUCTURAL STEEL SHALL BE REMOVED BY SOLVENT CLEANING PER CMS 514.13.A PRIOR TO INSTALLATION OF NEW MATERIAL. EXISTING AND NEW MATERIAL SHALL NOT BE PRIME PAINTED.

FABRICATION

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS:

1. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. NO SHOP CERTIFICATION IS REQUIRED. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE.
2. EDGE DISTANCE FROM THE CENTER OF A FASTENER TO THE FIELD CUT EDGE OF THE NEW MATERIAL SHALL BE 2 INCHES UNLESS NOTED OTHERWISE. THE MINIMUM EDGE DISTANCE IS $1\frac{1}{2}$ INCHES.

CONSTRUCTION SEQUENCE

WORK ON ONLY ONE SIDE OF ONE CONNECTION AT A TIME.

1. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
2. INSTALL NEW A490 BOLTS FOLLOWING BOLT INSTALLATION SEQUENCE DETAILED ON SHEET 93/140 USING DOUBLE NUT METHOD FOR ALL BOLTS IN NEW OR EXISTING HOLES.
3. CLEAN FAYING SURFACES PER CMS 514.13.A SOLVENT CLEANING.
4. FIT FILL PLATES AND NEW $\frac{3}{4}$" STRENGTHENING PLATES OVER NEW BOLTS AND EXISTING RIVETS TO REMAIN.
5. CLOSE BRIDGE TO ALL TRAFFIC FOLLOWING MAINTENANCE OF TRAFFIC NOTES.
6. PERMANENTLY CONNECT NEW MATERIAL WITH PROPERLY TENSIONED SECOND NUT OF THE DOUBLE NUT METHOD.
7. REOPEN BRIDGE TO TRAFFIC.

DOUBLE NUT INSTALLATION SEQUENCE (PATENT PENDING)

GENERAL: LIMIT REMOVALS AND CONSTRUCTION TO ONE LOCATION AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE EXISTING MEMBER IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED AT ONE LOCATION PRIOR TO BEGINNING CONSTRUCTION ON THE NEXT LOCATION.

INSTALL NEW PLATES ON EXISTING LOWER CHORD PER THE FOLLOWING INSTRUCTIONS: (SEE DOUBLE NUT CONNECTION DETAIL)

DOUBLE NUT METHOD CONSTRUCTION SEQUENCE

A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.

B. FIELD DRILL NEW HOLE IN EXISTING MEMBER AND INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING MEMBERS, NEW FILL PLATES AND STRENGTHENING PLATES FOLLOWING BOLT INSTALLATION SEQUENCE.

C. REMOVE A SINGLE RIVET FOLLOWING BOLT INSTALLATION SEQUENCE.

D. IN THE RIVET HOLE, INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING MEMBERS, NEW FILL PLATES AND STRENGTHENING PLATES.

E. REPEAT STEPS "C" AND "D" FOR ALL EXISTING RIVETS TO BE REMOVED TO CONNECT THE NEW MATERIAL.

F. FABRICATE NEW FILL PLATES WITH HOLES AS DETAILED TO FIT AROUND THE NEW NUTS AND WASHERS AND EXISTING RIVETS TO REMAIN. ERECT NEW FILL PLATES.

G. ERECT NEW STRENGTHENING PLATES WITH OVERSIZE BOLT HOLES TO FIT THE NEWLY INSTALLED BOLTS.

H. SECURE NEW FILL PLATES AND STRENGTHENING PLATES WITH PROPERLY TENSIONED NUTS.

PAYMENT

PAYMENT FOR CAREFUL RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET - PER EACH.

PAYMENT FOR ACCESS TO THE REPAIR LOCATIONS SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW L717-L718 NORTH STRENGTHENING INCLUDING NEW PLATES, FILL PLATES AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING WITH PARTIAL FURNISHED MATERIAL - PER POUND.

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM BRACING

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE BRACING FOR THE BOTTOM CHORD AT THE CENTER OF THE FLOORBEAMS AS DETAILED IN THE PLANS.

STRUCTURAL STEEL MATERIALS SHALL BE ASTM A709 GRADE 50W. HOLLOW STRUCTURAL SECTIONS SHALL BE ASTM A847 GRADE 50. CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS: NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE.

REMOVAL OF EXISTING RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: RIVET.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL NEW FLOORBEAM BRACING INCLUDING SURFACE PREPARATION OF EXISTING STEEL SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER POUND FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM BRACING

GENERAL NOTES CONTINUED: SEE SHEET 11/140.

REVISED 9/4/09

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM GUSSET REPAIR

WORK UNDER THIS ITEM SHALL INCLUDE TRIMMING THE FLOORBEAM DIAGONAL ENDS AND FURNISHING AND INSTALLING NEW GUSSET PLATES, NEW LOWER CHORD SIDE CHANNEL SPLICE PLATES, NEW BENT ANGLE, AND NEW LOWER LATERAL BRACING CONNECTION BOLTS AS DETAILED IN THE PLANS. ALL REQUIRED FILL PLATES ARE ALSO INCLUDED WITH THIS ITEM FOR PAYMENT.

STRUCTURAL STEEL MATERIALS SHALL BE ASTM A709 GRADE 50W. CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS: NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

CONSTRUCTION SEQUENCE

1. REPLACE RIVETS CONNECTING LOWER LATERAL BRACING TO BENT CONNECTION PLATES WITH HIGH STRENGTH BOLTS:
   A. REMOVE ONE RIVET AT A TIME. INSTALL AND PROPERLY TENSION HIGH STRENGTH BOLT BEFORE REMOVING NEXT RIVET.
2. REPLACE DESIGNATED RIVETS CONNECTING FLOORBEAM LOWER CHORD TO BOTTOM CONNECTION BENT PLATE WITH HIGH STRENGTH BOLTS:
   A. REMOVE ONE RIVET AT A TIME. INSTALL AND PROPERLY TENSION HIGH STRENGTH BOLT BEFORE REMOVING NEXT RIVET.
3. INSTALL NEW BENT L7"x4"x½" SUPPORTS (2 PIECES HALF WIDTH):
   A. WORK ON ONLY ONE ANGLE AT A TIME.
   B. REMOVE RIVETS NECESSARY FOR CONNECTING THE NEW ANGLE.
   C. ERECT THE NEW BENT ANGLE AND INSTALL NEW BOLTS IN THE EXISTING RIVET HOLES.
   D. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW ANGLE AND EXISTING WEST GUSSET PLATE.
   E. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   F. REPEAT STEPS "D" AND "E" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.
   G. REPEAT STEPS "B" THROUGH "F" FOR THE SECOND ANGLE SUPPORT.
4. INSTALL NEW WEST GUSSET PLATE:
   A. ERECT THE NEW BENT WEST GUSSET PLATE AND FILL PLATES.
   B. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW GUSSET AND EXISTING FLOORBEAM MEMBER.
   C. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   D. REPEAT STEPS "B" AND "C" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.
   E. NEW EDGE STIFFENING ANGLES MAY BE ATTACHED TO THE NEW WEST GUSSET PLATE BEFORE OR AFTER THE GUSSET PLATE INSTALLATION.
5. CUT WEB ON BOTTOM OF EXISTING DIAGONALS.
6. INSTALL NEW EAST GUSSET PLATE:
   A. ERECT THE NEW BENT EAST GUSSET PLATE AND FILL PLATES.
   B. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW GUSSET AND EXISTING FLOORBEAM MEMBER.
   C. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   D. REPEAT STEPS "B" AND "C" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL. DO NOT INSTALL BOLTS WHERE THE NEW SPLICE PLATES WILL BE ATTACHED.
   E. NEW EDGE STIFFENING ANGLES MAY BE ATTACHED TO THE NEW EAST GUSSET PLATE BEFORE OR AFTER THE GUSSET PLATE INSTALLATION.
7. INSTALL THE NEW FLOORBEAM LOWER CHORD SPLICE PLATES:
   A. WORK ON ONLY ONE SPLICE PLATE AT A TIME.
   B. REMOVE NO MORE RIVETS THAN ARE NECESSARY FOR CONNECTING THE NEW SPLICE PLATE.
   C. ERECT THE NEW SPLICE PLATE AND FILL PLATE AND INSTALL NEW BOLTS IN THE EXISTING RIVET HOLES.
   D. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW SPLICE PLATE, NEW EAST GUSSET PLATE AND EXISTING FLOORBEAM LOWER CHORD.
   E. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   F. REPEAT STEPS "D" AND "E" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.
   G. REPEAT STEPS "B" THROUGH "F" FOR THE SECOND SPLICE PLATE.

REMOVAL OF EXISTING RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: RIVET.

NEW BOLTS REPLACING EXISTING RIVETS THAT DO NOT CONNECT NEW MATERIAL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL NEW PLATES AND BOLTS, INCLUDING SURFACE PREPARATION OF EXISTING STEEL, SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER POUND FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM GUSSET REPAIR

ITEM 513 - STRUCTURAL STEEL, MISC.: INSPECTION CABLE

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING AN INSPECTION CABLE APPROXIMATELY PARALLEL TO THE LOWER CHORD OF EACH TRUSS.

THE INSPECTION CABLE WILL ATTACH TO A CABLE BRACKET MOUNTED ON THE INSIDE FACE OF EACH VERTICAL, OTHER THAN AT TRUSS JOINTS WHICH ARE DETAILED SEPARATELY.

THE CABLE BRACKET SHALL BE AS DETAILED IN THE PLANS, AND SHALL BE CENTERED ON THE VERTICAL. THE CONNECTION TO THE BRIDGE SHALL BE ACCOMPLISHED BY REMOVING THE TWO OUTERMOST RIVETS AT THE APPROPRIATE MOUNTING HEIGHT AND ATTACHING THE CABLE BRACKETS AND SPACERS USING HIGH-STRENGTH BOLTS.

THE BOLTS CONNECTING THE BRACKETS TO THE BRIDGE SHALL BE GALVANIZED ASTM A325.

PERFORM THE WORK IN ACCORDANCE WITH CMS 513.

THE INSPECTION CABLE SHALL BE GALVANIZED 5/8-INCH DIAMETER SIX-STRAND FIBER CORE WIRE ROPE, EXTRA IMPROVED PLOW STEEL (XIPS).

CONNECT THE WIRE ROPE TO THE CABLE BRACKET USING A CABLE WEDGE SOCKET MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION RR-S-550D, TYPE C. ENSURE THAT THE ROPE TAIL CANNOT WITHDRAW THROUGH THE SOCKET BY SECURING A CLAMP TO THE TAIL OR BY FOLLOWING THE MANUFACTURER'S INSTRUCTIONS. THE TAIL LENGTH SHOULD BE A MINIMUM OF 6 ROPE DIAMETERS (6 INCHES MINIMUM).

THE INSPECTION CABLE SHALL HAVE SUFFICIENT TENSION TO LIMIT THE SAG TO FIVE (5) INCHES ± ONE (1) INCH. THIS WILL REQUIRE A CABLE TENSION OF APPROXIMATELY 100 POUNDS. FURNISH EQUIPMENT AND TOOLS TO INSTALL THE CABLE WITH THE PROPER TENSION.

THE INSPECTION CABLE SPANNING THE TRUSS EXPANSION OR DEFLECTION JOINTS SHALL TERMINATE IN WEDGE SOCKETS. THE SAG IN THE CABLE SPANNING THE TRUSS JOINTS SHALL BE 15 INCHES AT 60 DEGREES FAHRENHEIT.

THE INSPECTION CABLE SHALL BE MEASURED BY THE SLOPE DISTANCE FROM CENTER TO CENTER OF TRUSS VERTICALS AT THE NOMINAL MOUNTING HEIGHT ABOVE THE TOP OF THE BOTTOM CHORD. THE CABLE BRACKETS AND CABLE WEDGE SOCKETS SHALL BE CONSIDERED AS PART OF THE INSPECTION CABLE FOR MEASUREMENT PURPOSE.

REMOVAL OF EXISTING RIVETS SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET FOR PAYMENT.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL THE INSPECTION CABLE, INCLUDING THE CABLE BRACKETS, SPACERS, HIGH-STRENGTH BOLTS, AND CABLE WEDGE SOCKETS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: INSPECTION CABLE - PER FOOT

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1, 2 AND 3

MATERIAL

1. NEW MATERIAL SHALL BE ASTM A709 GRADE 50W.
2. NEW BOLTS SHALL BE ASTM A490, TYPE 3. THE BOLTS SHALL UTILIZE HARDENED WASHERS PER ASTM F436, PLACED UNDER BOTH THE BOLT HEAD AND ALL NUTS. THE NUT USED FOR THE ASTM A490 BOLTS SHALL BE IN ACCORDANCE WITH ASTM A563. ALL HEAVY HEX HEAD NUTS SHALL BE TYPE DH3. NEW ⅞" DIAMETER ASTM A490 BOLTS SHALL BE TENSIONED TO A MINIMUM OF 49 KIPS. THE TURN-OF-NUT REQUIREMENTS SPECIFIED IN TABLE 513.20-3 MAY BE USED TO ACHIEVE THE BOLT PRE-TENSION.
3. NEW BOLTS SHALL MATCH EXISTING RIVET SIZES.
4. NEW MATERIALS SHALL BE CERTIFIED PER CMS 501.06.

STEEL SURFACE PREPARATION

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE "PENCIL ABRASIVE BLASTING" GENERAL NOTE PRIOR TO INSTALLATION OF NEW MATERIAL. EXISTING AND NEW MATERIAL SHALL NOT BE PRIME PAINTED.

SHOP DRAWINGS

NO SHOP DRAWINGS ARE REQUIRED FOR TRUSS GUSSET REPAIR MATERIAL.

FABRICATION

1. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. NO SHOP CERTIFICATION IS REQUIRED. WELDERS SHALL BE PREQUALIFIED.
2. FABRICATE NEW STIFFENING ANGLES AS SHOWN IN THE DESIGN DRAWINGS AND FROM FULL SIZE PATTERNS FURNISHED BY ODOT.
3. NEW ANGLE MATERIAL SHALL BE DEFLECTED TO CONFORM TO SHAPES IN THE FULL SIZE PATTERNS. ANGLE LEGS CUT TO FACILITATE THIS SHALL BE RE-ATTACHED WITH COMPLETE PENETRATION GROOVE WELDS GROUND SMOOTH ON THE OUTSIDE OF THE ANGLE LEG THAT WILL BE ATTACHED TO THE EXISTING GUSSET PLATE.
4. EDGE DISTANCE FROM THE CENTER OF A FASTENER TO THE FIELD CUT EDGE OF THE NEW MATERIAL SHALL BE 2 INCHES UNLESS NOTED OTHERWISE. THE MINIMUM EDGE DISTANCE IS 1½ INCHES.

FULL SIZE PATTERNS

1. TWO SETS OF FULL SIZE PAPER PATTERNS OF THE NEW ANGLES TO BE ADDED TO THE TRUSS GUSSETS WILL BE FURNISHED TO THE CONTRACTOR. THERE WILL BE A PATTERN FOR EACH COMPLETE ANGLE ASSEMBLY. THERE WILL NOT BE A SEPARATE PATTERN FOR FILL PLATES. THE PATTERNS WILL NOT BE TRIMMED. ELECTRONIC IMAGE FILES WILL ALSO BE FURNISHED. THE PATTERNS HAVE BEEN DEVELOPED FROM ORIGINAL CONSTRUCTION SHOP DRAWINGS.

   THE CONTRACTOR SHALL USE THE PAPER PATTERNS TO MAKE A MASONITE, HARDBOARD, OR PLYWOOD TEMPLATE OF THE HOLE LOCATIONS, AND SIZES, AND ANGLE BEND. THE TEMPLATE SHALL BE FIT OVER THE OPEN HOLES IN THE EXISTING STEEL, OR THE PROJECTING BOLTS FROM THE FIRST DOUBLE NUT METHOD BOLT INSTALLATION STEP. THE TEMPLATE SHALL BE MODIFIED IN THE FIELD TO FIT EXISTING CONDITIONS.

   THE CONTRACTOR SHALL FABRICATE NEW STEEL MEMBERS FROM THE FIELD FIT TEMPLATE.

CONSTRUCTION

1. REMOVE EXISTING RIVETS FOR ONLY ONE NEW ANGLE STIFFENER AT ANY TIME, UNLESS NOTED OTHERWISE. INSTALL AND FULLY TIGHTEN ALL NEW BOLTS IN A NEW STIFFENER ANGLE PRIOR TO WORK ON ADDITIONAL NEW REMOVALS AND INSTALLATIONS. INSTALL NEW BOLTS IN EXISTING RIVET HOLES BEFORE DRILLING NEW HOLES IN EXISTING GUSSET PLATES.
2. IF SPECIFIED ON THE INDIVIDUAL DESIGN SHEETS, INSTALL NEW STIFFENER ANGLES IN THE ORDER SHOWN. NEW ANGLES ON DESIGN SHEETS WITHOUT AN ORDER SPECIFIED MAY BE INSTALLED IN ANY ORDER.
3. THE NEW L4x4 ANGLES MAY REQUIRE A REVISED STANDARD GAGE FOR THE CONNECTION BOLTS TO FIT THE ANGLES BETWEEN EXISTING RIVETS. IN AREAS WHERE THERE ARE NO EXISTING RIVETS AND NEW BOLTS ARE BEING ADDED TO NEW FIELD DRILLED HOLES, THE CONTRACTOR MAY USE THE STANDARD 2½" GAGE IN THE ANGLE LEGS TO INSTALL THE NEW BOLTS. AN EXAMPLE AREA WOULD BE ON THE GUSSET PLATE ABOVE THE LOWER CHORD AWAY FROM THE STIFFENED GUSSET EDGE AND AWAY FROM THE TRUSS VERTICAL OR DIAGONAL.

GUSSET PLATE REPAIR LIMITATIONS

THE REPAIRS SHALL HAVE CRITERIA ON THE NUMBER OF PANEL POINTS RECEIVING WORK AT ONE TIME. A PANEL POINT SHALL CONSIST OF AN INTERIOR AND EXTERIOR GUSSET PLATE ON EITHER THE NORTH OR SOUTH TRUSS. PLAN SHEETS WILL GOVERN THE INSTALLATION SEQUENCE. THE TERM TRUSS SHALL BE INTERPRETED AS EITHER THE NORTH TRUSS OR SOUTH TRUSS IN THE SAME SPAN.

ANGLE INSTALLATION REPAIR:

GUSSETS WITH ANGLE INSTALLATION CAN BE APPLIED AT A MAXIMUM OF TWO PANEL POINTS ON THE SAME TRUSS AT ONE TIME. CONSECUTIVE PANEL POINT WORK SHOULD BE AVOIDED. REPAIRS MAY BEGIN OR BE ON-GOING ON THE OTHER TRUSS IN THE SAME SPAN AT THE SAME TIME.

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1, 2 AND 3 CONTINUED: SEE SHEET 12/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN TWH | REVIEWED DAP | DATE 7/31/09
CHECKED ALP | REVISED | STRUCTURE FILE NUMBER 1809393

GENERAL NOTES - 5
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1, 2 AND 3 (CONTINUED)

SINGLE NUT ANGLE INSTALLATION SEQUENCE

GENERAL: WHILE WORKING AT A PANEL POINT, LIMIT REMOVALS AND CONSTRUCTION TO ONE GUSSET PLATE ON ONE TRUSS AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE INTERIOR AND EXTERIOR GUSSET IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED AT ONE ANGLE LOCATION PRIOR TO BEGINNING CONSTRUCTION ON THE NEXT NEW ANGLE.

PERFORM THE INSTALLATION ON ONE TRUSS AS FOLLOWS:

INSTALL NEW EDGE ANGLE ON THE INSIDE AND OUTSIDE GUSSET PLATES PER THE FOLLOWING INSTRUCTIONS:

A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
B. REMOVE NO MORE RIVETS FROM A CONNECTION THAN ARE NECESSARY FOR CONNECTING EACH NEW MEMBER PIECE.
C. FABRICATE NEW ANGLES.
D. ERECT NEW STIFFENING ANGLE.
E. SECURE NEW ANGLE WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
F. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH THE NEW ANGLE AND EXISTING GUSSETS, ANGLES AND CHORD MEMBERS.
G. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
H. REPEAT "F" AND "G" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

ONCE THE NEW ANGLE IS ATTACHED (WITH NO MORE RIVETS BEING REMOVED THAN ARE NECESSARY) THEN SEQUENTIALLY DRILL ONE HOLE AT A TIME AND INSTALL A SINGLE BOLT BEFORE DRILLING THE NEXT HOLE.

DOUBLE NUT ANGLE INSTALLATION SEQUENCE (PATENT PENDING)

GENERAL: WHILE WORKING AT A PANEL POINT, LIMIT REMOVALS AND CONSTRUCTION TO ONE GUSSET PLATE ON ONE TRUSS AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE INTERIOR AND EXTERIOR GUSSET IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED AT ONE ANGLE LOCATION PRIOR TO BEGINNING CONSTRUCTION ON THE NEXT NEW ANGLE.

PERFORM THE INSTALLATION ON ONE TRUSS AS FOLLOWS:

INSTALL NEW EDGE ANGLE ON THE INSIDE AND OUTSIDE GUSSET PLATES PER THE FOLLOWING INSTRUCTIONS:
(SEE DOUBLE NUT CONNECTION DETAIL)

A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
B. REMOVE A SINGLE RIVET.
C. IN THE OPEN RIVET HOLE, INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING GUSSETS, ANGLES, CHORD MEMBERS AND NEW FILL PLATE AND ANGLE. THE THREAD LENGTH MUST BE SUFFICIENT TO ALLOW FOR THE DOUBLE NUT CONNECTION METHOD.
D. REPEAT "B" AND "C" FOR ALL EXISTING RIVETS TO BE REMOVED TO CONNECT THE NEW ANGLE AND FILL PLATES.
E. FABRICATE NEW FILL PLATES WITH HOLES AS DETAILED TO FIT AROUND THE NEW NUTS AND WASHERS. ERECT NEW FILL PLATES.
F. ERECT NEW STIFFENING ANGLE WITH OVERSIZE BOLT HOLES TO FIT THE NEWLY INSTALLED BOLTS.
G. SECURE NEW ANGLE AND FILLS WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
H. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH THE NEW ANGLE, NEW FILL PLATES AND EXISTING GUSSETS, ANGLES AND CHORD MEMBERS.
I. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
J. REPEAT "H" AND "I" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

DO NOT COMPLETELY REMOVE AN EXISTING GUSSET PLATE ANGLE DURING THE REPAIR PROCESS.

PAYMENT

PAYMENT FOR CAREFUL RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET - PER EACH.

PAYMENT FOR ACCESS TO THE REPAIR LOCATIONS SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9 OR ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW TRUSS GUSSET PLATE REPAIRS INCLUDING NEW ANGLES, FILL PLATES, AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL; CAULKING; AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1 - PER EACH.
ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 2 - PER EACH.
ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 3 - PER EACH.

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1

THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR GENERAL NOTE EXCEPT THAT THE ANGLES, STEEL BOLTS, NUTS, AND 1 1/4" STEEL PLATES LISTED WITH STORED MATERIALS SHALL BE BE USED. THE CONTRACTOR SHALL FURNISH ADDITIONAL BOLTS, NUTS AND WASHERS NECESSARY TO COMPLETE THE WORK.

THE CONTRACTOR IS RESPONSIBLE FOR PICKING UP THE MATERIALS FROM THE STORAGE LOCATIONS, AND ALL HANDLING AND TRANSPORTATION COSTS.

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE NEW 7/8" DIAMETER CONNECTION BOLTS IN THE TRUSS GUSSET PLATE CONNECTIONS AT EXISTING RIVET LOCATIONS AS DETAILED IN THE PLANS.

THE REPAIR LOCATIONS INCLUDE:

SPAN 2, NORTH TRUSS - U0 (U109N)
SPAN 2, NORTH TRUSS - U1 (U110N)
SPAN 2, NORTH TRUSS - U2 (U111N)
SPAN 4, NORTH TRUSS - U1, U15 (U315N, U503N)
SPAN 4, SOUTH TRUSS - U15 (U503S)
SPAN 5, NORTH TRUSS - U0 (U504N)
SPAN 8, NORTH TRUSS - U2, U12, U13 (U716N, U902N, U903N)
SPAN 9, NORTH TRUSS - U0 (U904N)
SPAN 9, NORTH TRUSS - U1 (U905N)
SPAN 9, SOUTH TRUSS - U1 (U905S)
SPAN 2, NORTH TRUSS - L2 (L111N)
SPAN 4, NORTH TRUSS - L5 (L41N)

CONNECTION BOLTS SHALL BE ASTM A490, TYPE 3.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

REMOVAL OF EXISTING RIVETS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: RIVET. ONLY ONE RIVET SHALL BE REMOVED AT A TIME FOR EACH GUSSET PLATE CONNECTION.

PAYMENT FOR ACCESS TO THE REPAIR LOCATIONS SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9 OR ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO INSTALL NEW CONNECTION BOLTS IN THE TRUSS GUSSET PLATE CONNECTIONS AT EXISTING RIVET LOCATIONS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS - PER EACH

ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK ACCESS HATCH REPAIR:

WORK UNDER THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR REPAIRING THE SAFETY WALK ACCESS HATCHES AS DETAILED IN THE PLANS. EACH ACCESS HATCH HAS A DIFFERENT REPAIR CONSISTING OF A COMBINATION OF NEW SUPPORT PLATES, REATTACHING EXISTING ANGLE SUPPORTS, AND/OR REPLACING HINGES. THIS ITEM SHALL INCLUDE REMOVAL OF ANY EXISTING HINGES AND SUPPORT PLATES REQUIRED FOR INSTALLATION OF NEW MATERIAL; SURFACE PREPARATION; STEEL PLATES; STAINLESS STEEL HINGES; AND ALL OTHER INCIDENTALS NECESSARY FOR REPAIRING THE ACCESS HATCHES.

STRUCTURAL STEEL SHALL BE A709 GRADE 50W CONFORMING TO CMS 513 AND SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

PAYMENT FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO REPAIR EACH ACCESS HATCH LOCATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK ACCESS HATCH REPAIRS - PER EACH LOCATION

REVISED 9/4/09

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" DIAMETER TRUSS BEARING CONNECTION BOLTS:

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE NEW 1" CONNECTION BOLTS IN THE TRUSS CHORD TO BEARING CONNECTIONS AT THE PIERS AS DETAILED IN THE PLANS.

CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

REMOVAL OF EXISTING MATERIAL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: BOLT. NO MORE THAN 4 BOLTS SHALL BE REMOVED AT ANY TIME FOR EACH BEARING CONNECTION BEFORE INSTALLING NEW BOLTS.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL NEW CONNECTION BOLTS IN THE TRUSS CHORD TO BEARING CONNECTIONS AT EXISTING BOLT LOCATIONS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" DIAMETER TRUSS BEARING CONNECTION BOLTS - PER EACH

PENCIL ABRASIVE BLASTING

THE PENCIL ABRASIVE BLASTING REFERRED TO IN THE VARIOUS NOTES AND REPAIR ITEMS IN THESE PLANS SHALL CONFORM TO THE FOLLOWING:

CLEAN THE DESIGNATED AREAS OF ALL PAINT, RUST, AND FOREIGN MATERIAL BY ABRASIVE BLASTING TO A SURFACE QUALITY EQUAL TO SSPC-SP10 PREPARATION GRADE SA 2 ACCORDING TO AND AS SHOWN IN SSPC-VIS 1-89. PERFORM THE ABRASIVE BLASTING USING A MAXIMUM COMPRESSED AIR PRESSURE OF 100 PSI, A HOSE NOZZLE DIAMETER OF 1/4 INCH (± 1/16 INCH), AND A GRADE 30/60 COAL SLAG ABRASIVE OR EQUIVALENT. DO NOT USE BLASTING ABRASIVES CONTAINING MORE THAN ONE-PERCENT FREE SILICA. BLASTERS USED FOR SURFACE PREPARATION FOR STRUCTURAL STEEL COATING CANNOT BE USED FOR PENCIL BLASTING. AFTER THE ABRASIVE BLASTING IS COMPLETE, AIR BLOW THE AREA CLEAN.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT PENCIL ABRASIVE BLASTING CAN SATISFACTORILY BE PERFORMED ACCORDING TO THESE SPECIFICATIONS PRIOR TO THE START OF THE WORK. THE COST OF THE PENCIL ABRASIVE BLASTING HAS BEEN INCLUDED FOR PAYMENT IN THE APPROPRIATE REPAIR ITEMS.

ITEM 513 - STRUCTURAL STEEL MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT

THIS WORK CONSISTS OF THE FOLLOWING SEQUENCE OF OPERATIONS PERFORMED AT THE AREAS AS DESIGNATED IN THE PLANS ON SHEET 107/140 AND AS DIRECTED BY THE ENGINEER.

1. CLEAN THE DESIGNATED AREA BY PENCIL ABRASIVE BLASTING THE PAINT AND/OR RUST FROM THE STEEL SURFACE. CLEANED AREAS SHALL BE AT LEAST 3-INCHES WIDE ALONG EACH SIDE OF A SUSPECTED CRACK LOCATION UNLESS OTHERWISE SHOWN IN THE PLANS. SINCE THE INTENT OF THE PENCIL ABRASIVE BLASTING IS TO ENHANCE THE VISUAL AND NDT CRACK DETECTION TECHNIQUES, A GENTLE ABRASIVE BLAST SHALL BE USED SUCH THAT THE SURFACE IS NOT PEENED OR OTHERWISE COLD WORKED.
2. THE ENGINEER, ACCOMPANIED BY THE CONTRACTOR, SHALL CAREFULLY VISUALLY INSPECT THE CLEANED AREA. GRINDING MAY BE DIRECTED BY THE ENGINEER TO ENHANCE THE INVESTIGATION FOR CRACK PRESENCE. ALL GRINDING MUST BE DONE CAUTIOUSLY, ESPECIALLY IN TENSION ZONES. THE GRINDING MOTION SHALL BE PARALLEL WITH THE FLANGE EDGE.
3. NON-DESTRUCTIVELY TEST (NDT) THE AREA USING MAGNETIC PARTICLE EXAMINATION AND/OR DYE PENETRATION SO THAT THE ENGINEER MAY FURTHER INSPECT FOR CRACKS.
4. ALL CRACKS AND/OR CRACK TIPS THAT ARE ACCESSIBLE ARE TO BE REMOVED AS SHOWN IN THE PLANS AND PAID FOR AS ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT. ANY CRACKS INACCESSIBLE TO DRILLING ARE TO BE REMOVED AS SHOWN IN THE PLANS BY CAREFUL GRINDING, OR BY CAREFULLY ENLARGING THE DRILLED HOLES BY GRINDING, AND PAID FOR UNDER: ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT.
5. PERFORM STEPS 1 THROUGH 4 ON THE OTHER SIDE OF THIS LOCATION.

THE ACCEPTED NUMBER OF LOCATIONS OF WORK AS DESCRIBED IN THIS NOTE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LOCATION. THIS PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO CLEAN, GRIND, AND PERFORM NDT ON ALL SURFACES AT EACH LOCATION.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT

GENERAL NOTES CONTINUED: SEE SHEET 13/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN TWH REVISED 9/4/09
DESIGNED JDB CHECKED ALP

GENERAL NOTES - 6
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CSN006.DGN 9/02/09 TWH,SCB,JLS

ITEM 513 - STRUCTURAL STEEL MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT

THIS WORK CONSISTS OF DRILLING CRACKS AND ENDS OF CRACKS, GRINDING TO ENLARGE DRILLED HOLES, AND NON DESTRUCTIVE TESTING AS SHOWN IN THE PLANS ON SHEET 107/140 AND AS DIRECTED BY THE ENGINEER. DISTRICT PRODUCTION DEPARTMENT (BRIDGE SECTION) APPROVAL MUST BE OBTAINED BEFORE DRILLING ANY HOLES IN THE FLANGES UNDER THIS PAY ITEM.

DRILL HOLES TO REMOVE ENTIRE CRACKS OR THE APPARENT ENDS OF THE CRACKS REVEALED BY THE INITIAL NDT AND/OR VISUAL INSPECTION. GRIND SMOOTH THE EXPOSED CIRCUMFERENCE OF EACH DRILLED HOLE AND CAREFULLY INSPECT FOR CRACKS USING MAGNETIC PARTICLE EXAMINATION AND/OR DYE PENETRATION. CONTINUE DRILLING, GRINDING, AND TESTING UNTIL ALL CRACK ENDS ARE REMOVED. IF NO CRACKS ARE DETECTED AT A LOCATION, NO HOLES SHALL BE DRILLED UNDER THIS ITEM.

SINCE ANY OF THESE CRACKS COULD PROPAGATE INTO A TENSION ZONE, REMOVING THEIR ENDS IS IMPERATIVE. CRACKS LESS THAN $1\frac{1}{2}$ INCHES LONG, AND CRACKED AREAS OR DEFECTS LESS THAN $1\frac{1}{2}$ INCHES IN DIAMETER SHALL BE REMOVED BY A SINGLE HOLE WHEN PRACTICAL. ENDS OF CRACKS LONGER THAN $1\frac{1}{2}$ INCHES, AND DEFECTS SMALLER THAN $\frac{1}{2}$ INCH SHALL BE DRILLED WITH 1 INCH DIAMETER DRILL BITS. HOLES SHALL BE CAREFULLY EXAMINED FOR CRACKS IN THE PLANE OF THE PLATE. $1\frac{1}{2}$ OR 2 INCH DIAMETER HOLES MAY BE DRILLED WHERE THE PROXIMITY OF THE CRACK END TO ADJACENT STEEL PRECLUDES DRILLING OF 1 INCH DIAMETER HOLES.

THE LOCATION OF ALL HOLES SHALL BE DETERMINED BY AND DRILLED UNDER THE DIRECTION OF THE ENGINEER.

THE ACCEPTED NUMBER OF HOLES DRILLED IN THE STRUCTURAL STEEL AS DETAILED ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER EACH HOLE. PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY FOR DRILLING THE HOLES, GRINDING TO ENLARGE DRILLED HOLES, AND NDT.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID UNDER:

ITEM	UNIT	DESCRIPTION
513	EACH	STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE A
ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL THE DOUBLE ANGLES REQUIRED FOR THE STRINGER BOTTOM FLANGE RETROFIT AS SHOWN IN THE PLANS AND STATED HEREIN. THIS ITEM SHALL INCLUDE ALL PRE-DRILLED STRUCTURAL STEEL; BOLTS, NUTS AND WASHERS; FIELD DRILLING OF BOLT HOLES; AND ALL OTHER INCIDENTALS NECESSARY TO INSTALLATION OF THE DOUBLE ANGLES.

STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50W CONFORMING TO CMS 513 AND SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT.

SEE GENERAL NOTE "SHOP DRAWINGS" FOR REQUIREMENTS.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

ALL BOLTS SHALL BE $\frac{7}{8}$" DIAMETER, GALVANIZED, ASTM A325 UNLESS OTHERWISE NOTED. CONNECTIONS SHALL BE IN ACCORDANCE WITH 513.20 OF THE CMS.

PAYMENT FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO INSTALL THE DOUBLE ANGLES AT ONE STRINGER BOTTOM FLANGE RETROFIT LOCATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE A - PER EACH

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE B - PER EACH

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL

WORK UNDER THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO REPAIR EXISTING BEARING STIFFENERS AS DETAILED IN THE PLANS.

THE $\frac{3}{4}$" STRUCTURAL STEEL PLATE MATERIAL FOR THE BEARING STIFFENER REPAIRS SHALL BE A709 GRADE 50W. THIS MATERIAL SHALL BE USED FROM THE STORED MATERIALS AS DESCRIBED IN THE GENERAL NOTES. THE CONTRACTOR IS RESPONSIBLE FOR PICKING UP THE MATERIALS FROM THE STORAGE LOCATION, AND ALL HANDLING, TRANSPORTATION, AND FABRICATION COSTS.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. THE NEW MATERIAL SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

PAYMENT FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO REPAIR EACH BEARING STIFFENER SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL - PER EACH

ITEM 513 - STRUCTURAL STEEL, MISC.: $\frac{7}{8}$" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING THE NEW $\frac{7}{8}$" DIAMETER CONNECTION BOLTS IN THE STRINGER CONNECTIONS, STRINGER TO FLOORBEAM CONNECTIONS, OR FLOORBEAM CONNECTIONS AT EXISTING RIVET OR BOLT LOCATIONS AS DETAILED IN THE PLANS.

CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513.

REMOVAL OF EXISTING MATERIAL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - REMOVAL, MISC.: RIVET; OR ITEM 202 - REMOVAL, MISC.: BOLT. ONLY ONE RIVET OR BOLT SHALL BE REMOVED AT ANY TIME FOR EACH CONNECTION LOCATION BEFORE INSTALLING A NEW BOLT.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO INSTALL NEW CONNECTION BOLTS IN THE STRINGER AND FLOORBEAM CONNECTIONS AT EXISTING RIVET OR BOLT LOCATIONS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: $\frac{7}{8}$" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS - PER EACH

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR

WORK UNDER THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR THE INSTALLATION OF A $1\frac{3}{8}$" DIAMETER HIGH STRENGTH THREAD BAR AND TWO BRACKETS PER FLOORBEAM CANTILEVER LOCATION AS DETAILED IN THE PLANS. THIS ITEM SHALL INCLUDE BRACKET FABRICATION; JACKING THREAD BAR; BOLTS, NUTS AND WASHERS; FIELD DRILLING BOLT HOLES; TRIMMING EXISTING STRINGER ENDS; AND ALL OTHER INCIDENTALS NECESSARY FOR INSTALLATION OF THE FLOORBEAM CANTILEVER STRENGTHENING BRACKETS AND THREAD BAR.

THE $\frac{3}{4}$" STRUCTURAL STEEL PLATE MATERIAL FOR THE BRACKETS SHALL BE A709 GRADE 50W. THIS MATERIAL SHALL BE USED FROM THE STORED MATERIALS AS DESCRIBED IN THE GENERAL NOTES. THE CONTRACTOR IS RESPONSIBLE FOR PICKING UP THE MATERIALS FROM THE STORAGE LOCATION, AND ALL HANDLING, TRANSPORTATION, AND FABRICATION COSTS.

CONNECTION BOLTS SHALL BE $\frac{7}{8}$" DIAMETER ASTM A325, GALVANIZED, INSTALLED IN ACCORDANCE WITH 513.20 OF THE CMS.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE. THE NEW MATERIAL SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

AN INITIAL TENSION OF 30 TONS (60 KIPS) SHALL BE JACKED INTO EACH THREAD BAR AFTER ASSEMBLY.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE AND IN PLACE SHALL BE MADE AT THE CONTRACT PRICE BID, PER EACH LOCATION, UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR.

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR

WORK UNDER THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR THE INSTALLATION OF $1\frac{3}{8}$" DIAMETER HIGH STRENGTH THREAD BAR AND TWO BRACKETS AS DETAILED IN THE PLANS. THIS ITEM SHALL INCLUDE BRACKET FABRICATION; JACKING THREAD BAR; BOLTS, NUTS AND WASHERS; FIELD DRILLING BOLT HOLES; CUTTING HOLES IN EXISTING GUSSET PLATES; AND ALL OTHER INCIDENTALS NECESSARY FOR INSTALLATION OF THE FLOORBEAM EXTENSION STRENGTHENING BRACKETS AND THREAD BAR.

THE $\frac{3}{4}$" STRUCTURAL STEEL PLATE MATERIAL FOR THE BRACKETS SHALL BE A709 GRADE 50W. THIS MATERIAL SHALL BE USED FROM THE STORED MATERIALS AS DESCRIBED IN THE GENERAL NOTES. THE CONTRACTOR IS RESPONSIBLE FOR PICKING UP THE MATERIALS FROM THE STORAGE LOCATION, AND ALL HANDLING, TRANSPORTATION, AND FABRICATION COSTS.

CONNECTION BOLTS SHALL BE $\frac{7}{8}$" DIAMETER ASTM A325, GALVANIZED, INSTALLED IN ACCORDANCE WITH 513.20 OF THE CMS.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS GENERAL NOTE. THE NEW MATERIAL SHALL NOT REQUIRE A SHOP APPLIED PRIME COAT.

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL NOTE "PENCIL ABRASIVE BLASTING" PRIOR TO INSTALLATION OF NEW MATERIAL.

AN INITIAL TENSION OF 30 TONS (60 KIPS) SHALL BE JACKED INTO THE THREAD BAR AFTER ASSEMBLY.

PAYMENT FOR THE ACCEPTED QUANTITIES, COMPLETE AND IN PLACE SHALL BE MADE AT THE CONTRACT PRICE BID, PER EACH LOCATION, UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR.

ITEM 513 - STRUCTURAL STEEL, MISC.: CATWALK END CLOSURE

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING PLATES FOR CLOSING OFF THE ENDS OF THE CATWALKS TO REMAIN AFTER PORTIONS ARE REMOVED WITH THE DECK WIDENING REMOVAL.

STRUCTURAL STEEL MATERIALS SHALL BE ASTM A709 GRADE 50W. CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS: NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. SHOP DRAWINGS ARE NOT REQUIRED FOR CATWALK END CLOSURES.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATIONS AND INSTALL NEW CATWALK END CLOSURES SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH LOCATION FOR:

ITEM 513 - STRUCTURAL STEEL MISC.: CATWALK END CLOSURE

ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK END CLOSURE

WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING ANGLES FOR CLOSING OFF THE END OF THE SOUTH SAFETY WALK TO REMAIN AFTER PORTIONS ARE REMOVED WITH THE DECK WIDENING REMOVAL.

STRUCTURAL STEEL MATERIALS SHALL BE ASTM A709 GRADE 50W. CONNECTION BOLTS SHALL BE ASTM A325 GALVANIZED. ADHESIVE ANCHORS SHALL BE HVA ADHESIVE ANCHORS AS MANUFACTURED BY HILTI CORPORATION, MOLLY PARABOND CAPSULE ANCHOR AS MANUFACTURED BY EMHART CORPORATION, OR AN APPROVED EQUAL. CARE SHALL BE TAKEN NOT TO DAMAGE REINFORCING STEEL WHILE DRILLING FOR ADHESIVE ANCHORS. BEFORE ANY DRILLING, THE CONTRACTOR SHALL USE A REBAR LOCATOR TO IDENTIFY LOCATIONS OF EXISTING REINFORCING STEEL.

THE WORK SHALL BE IN ACCORDANCE WITH CMS 513 EXCEPT AS FOLLOWS: NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. SHOP DRAWINGS ARE NOT REQUIRED FOR SAFETY WALK END CLOSURE.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO ACCESS THE WORK LOCATION AND INSTALL NEW SAFETY WALK END CLOSURE SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH LOCATION FOR:

ITEM 513 - STRUCTURAL STEEL MISC.: SAFETY WALK END CLOSURE

GENERAL NOTES CONTINUED: SEE SHEET 14/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP		1809393	

GENERAL NOTES - 7
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" GALVANIZED STEEL BAR CATWALK GRATING

WORK UNDER THIS ITEM SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF 1" STEEL BAR GRATING FOR THE CATWALK AT PIER 5 SOUTH.

THE STEEL GRID SHALL CONFORM TO ASTM A1011, ASTM A709 GRADE 36 OR GRADE 50. THE MAIN BARS SHALL BE 1" x 3/16" ON 1 3/16" CENTERS. CROSSBARS SHALL BE ON 4" CENTERS. ALL EDGES SHALL BE BANDED.

THE STEEL GRID SHALL BE GALVANIZED AFTER FABRICATION PER C.M.S. 711.02. THE CONTRACTOR SHALL BE VERY CAREFUL IN HANDLING THE GALVANIZED STEEL TO MINIMIZE SCRATCHES AND ABRASION OF THE FINISH. WIRE ROPE SLINGS AND METAL HOOKS SHALL BE PADDED WITH WOOD, OR REINFORCED FABRIC WEBBING SHALL BE USED FOR MATERIAL HANDLING. SCRATCHES AND ABRASIONS OF THE GALVANIZED FINISH SHALL BE TOUCHED UP IN THE FIELD BY "COLD APPLIED GALVANIZING" AS DIRECTED BY THE ENGINEER. CONNECTION BOLTS FOR GALVANIZED STEEL MEMBERS SHALL BE MECHANICALLY GALVANIZED.

THE CONTRACTOR SHALL REMOVE THE EXISTING 1"± STEEL BAR GRATING FROM THE CATWALK AT PIER 5 SOUTH. THIS WORK SHALL BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN. THE NEW GRATING DIMENSIONS SHALL BE FIELD VERIFIED TO FIT ONTO THE EXISTING CATWALK SUPPORTS, WHICH ARE TO REMAIN IN PLACE.

THE GRATING SHALL BE PRESSURE LOCKED GRATING AS MANUFACTURED BY OHIO GRATINGS, IKG INDUSTRIES, GRATING PACIFIC OR OTHER GRATING CONFORMING TO THE LATEST EDITION OF ANSI/NAAMM MBG 531, METAL BAR GRATING MANUAL.

THE GRATING IS NOT REQUIRED TO BE FASTENED IN PLACE.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE AND IN PLACE SHALL BE MADE AT THE CONTRACT PRICE BID, PER SQUARE FOOT, UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: 1" GALVANIZED STEEL BAR CATWALK GRATING.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

THIS WORK SHALL INCLUDE ALL TOOLS, LABOR AND MATERIALS REQUIRED TO INSTALL NEW DEFLECTION JOINT EXTENSIONS WHERE INDICATED IN THE PLANS.

THE NEW STRUCTURAL STEEL EXPANSION JOINT AND COMPRESSION SEAL SHALL BE PER STANDARD DRAWING EXJ-2-81 WITH THE FOLLOWING ADDITIONAL REQUIREMENTS AND AS DETAILED IN THE PLANS:

THE COMPRESSION SEAL GLAND SHALL BE 1 3/4" FOR ALL DEFLECTION JOINT EXTENSIONS. ACCEPTED MANUFACTURERS ARE: D.S. BROWN (MODEL CV1752), WATSON-BOWMAN-ACME (MODEL WJ175) OR AN APPROVED EQUAL.

THE JOINT BETWEEN THE EXISTING AND NEW DEFLECTION JOINTS SHALL BE SEALED WITH SILICONE SEALANT. SUPPLY A COLD-APPLIED, TWO-COMPONENT, SELF-LEVELING, LOW MODULUS SILICONE SEALANT EXHIBITING THE PHYSICAL PROPERTIES LISTED IN THE TABLE BELOW.

SILICONE SEAL MATERIAL:

AS SUPPLIED PROPERTIES:

	PART A	PART B
COLOR	WHITE	GRAY
EXTRUSION RATE (ASTM C 1183)	200-600 ML/MIN.	200-600 ML/MIN.

MIXED PROPERTIES:

	TEST METHOD	REQUIREMENT
LEVELING	ASTM C 639	SELF LEVELS
TACK FREE TIME	ASTM C 679	60 MINUTES MAX.
JOINT ELONGATION	ASTM D 5329	600% MIN.
JOINT MODULUS, 100% EXTENSION	ASTM D 5329	15 PSI MAX.
CURE EVALUATION	ASTM D 5893	PASS @ 4 HRS. MAX.
ULTIMATE ELONGATION	ASTM D 412 DIE C	1000% MIN.
STRESS AT 150% ELONGATION	ASTM D 412 DIE C	25 PSI MAX.
SHORE HARDNESS, 00	ASTM C 661	40 - 80
SPECIFIC GRAVITY	ASTM D 792	1.20 - 1.40

WORK LIMITATIONS:

THE SILICONE SEAL MANUFACTURER MAY REQUIRE ADDITIONAL WORK LIMITATIONS FOR THIS SPECIFIC PROJECT.

A. TEMPERATURE: PERFORM WORK BETWEEN 50° AND 90° F UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER'S REPRESENTATIVE OR PRINTED INSTRUCTIONS.

B. MOISTURE: DO NOT SEAL:

1. IF THE SURFACE OF THE STEEL JOINT ARMOR TO BE SEALED IS WET, DAMP, FROSTED, OR ICE-COATED.
2. DURING PERIODS OF RAIN, FOG, OR MIST.
3. IF THE STEEL TEMPERATURE IS LESS THAN 5° F ABOVE THE DEW POINT UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER'S REPRESENTATIVE OR PRINTED INSTRUCTIONS.
4. IF THE RELATIVE HUMIDITY IS GREATER THAN 85 PERCENT UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER'S REPRESENTATIVE OR PRINTED INSTRUCTIONS.

PRE-CLEANING:

REMOVE ALL EXISTING SEAL MATERIAL THAT WILL IMPEDE INSTALLATION OF THE NEW JOINT SEAL OR THAT WAS DAMAGED DURING THE REMOVAL OPERATIONS. REMOVE CONTAMINATION USING A 5000 PSI PRESSURE WASHER WITH A 10-INCH STAND OFF DISTANCE AT A RATE NOT TO EXCEED 5 LINEAR FEET PER MINUTE. SUPPLY PRESSURIZED HOT WATER CONTAINING A SOLUTION OF POTABLE WATER WITH A COMMERCIALLY AVAILABLE BIODEGRADABLE SALT REMOVER FOLLOWED BY A POTABLE WATER RINSE. PRE CLEAN ALL STEEL EXPANSION JOINT SURFACES TO BE SEALED.

PAYMENT FOR FURNISHING ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM TO THE SATISFACTION OF THE ENGINEER SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN - PER FOOT.

ITEM 518 - SCUPPER, MISC.: NEW SCUPPER THROUGH EXISTING DECK

MATERIALS FOR SCUPPER, DOWNSPOUT, MOUNTING BRACKET AND HARDWARE SHALL BE GALVANIZED PER 711.02 AFTER FABRICATION. TOUGHNESS TESTING IN ACCORDANCE WITH ASTM E436 IS NOT REQUIRED.

DOWNSPOUT SHALL BE STANDARD WEIGHT (28.55 P.L.F.) SCHEDULE 40, 8" DIAMETER STEEL PIPE WITH A WALL THICKNESS OF 0.322".

REMOVE 4" TO 6" OF EXISTING CONCRETE DECK BEYOND EACH SIDE OF THE NEW SCUPPER TO AVOID VOIDS IN THE NEW CONCRETE. DO NOT CUT MORE EXISTING REINFORCING STEEL THAN IS NECESSARY TO INSTALL THE NEW SCUPPER. DO NOT DAMAGE THE EXISTING REINFORCING STEEL TO REMAIN IN THE PORTION OF THE REMOVED DECK. THE EXISTING REINFORCING STEEL TO REMAIN IS INTENDED TO TIE THE EXISTING DECK TO THE NEW CONCRETE AROUND THE NEW SCUPPER. CUTTING AND/OR BENDING THE EXISTING REINFORCING STEEL TO INSTALL THE NEW SCUPPER SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT.

REMOVAL OF EXISTING DECK AND OVERLAY SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT.

NEW CONCRETE SHALL BE INCLUDED WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN FOR PAYMENT.

PAYMENT FOR FURNISHING ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM TO THE SATISFACTION OF THE ENGINEER, INCLUDING SCUPPER, DOWNSPOUT, MOUNTING BRACKET, HARDWARE, CUTTING AND/OR BENDING EXISTING REINFORCING STEEL SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM 518 - SCUPPER, MISC.: NEW SCUPPER THROUGH EXISTING DECK - PER EACH

ITEM 518 - STRUCTURE DRAINAGE, MISC.: NYLON REINFORCED NEOPRENE GUTTER:

THE NYLON REINFORECED NEOPRENE SHEET (NRNS) MATERIAL SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY ELASTOMERIC SHEET OF NYLON FABRIC ENCASED IN A NEOPRENE POLYMER. THE MATERIAL IN PLACE WAS SPECIFIED AS "FAIRPRENE" NUMBER NN-0003 AS MANUFACTURED BY THE DUPONT COMPANY, FABRICS AND FINISHES DEPARTMENT, SPECIALTY PRODUCTS DIVISION, WILMINGTON, DELEWARE, "WINGPRENE STYLE N" AS MANUFACTURED BY THE GOODYEAR TIRE AND RUBBER COMPANY OR AN APPROVED EQUAL. THE NEW MATERIAL SHALL BE COMPATIBLE WITH THESE.

THE ONE PLY MATERIAL SHALL CONFORM TO ASTM D751 AND THE FOLLOWING:

THICKNESS	0.094 INCH ± 0.01 INCH
MINIMUM BREAKING STRENGTH, GRAB	700 x 700 LB.
MINIMUM ADHESION	1" STRIP, 2" MIN. - 9 LBS
MINIMUM BURSTING STRENGTH	1,400 PSI
HEAT AGING AFTER 70 HOURS, 180° BEND WITHOUT CRACKING	212° F
LOW TEMPERATURE BRITTLENESS	ASTM D2136
PASS FLEX TEST AFTER 5 HOURS AT	MINUS 40° F

THE EXISTING NYLON REINFORCED NEOPRENE SHEET FLASHING HAS BEEN IN PLACE FOR APPROXIMATELY 20 YEARS. THE NEW MATERIAL WILL OVERLAP THE EXISTING SHEETS TO REMAIN BY A MINIMUM OF 6 INCHES. THE EXISTING BOLTS AND CLAMP BARS WILL BE LOOSENED AND THE NEW SHEETS PLACED AS SHOWN. THE EXISTING BOLTS WILL THEN BE RETIGHTENED.

ADHESIVES FOR BONDING NEW MATERIAL TO EXISTING MATERIAL SHALL BE FAIRPRENE NEOPRENE ADHESIVE NZ-5140 AS MANUFACTURED BY THE DUPONT COMPANY, CHEMLOK 220/205 AS MANUFACTURED BY HUGHSON CHEMICALS, LORD CORPORATION, ERIE, PENNSYLVANIA, OR APPROVED EQUAL. THE ADHESIVE SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL SURFACES WHERE ADHESIVE IS TO BE PLACED SHALL BE THOROUGHLY CLEANED OF ALL RUST, DIRT, WATER AND OTHER FOREIGN MATERIALS BEFORE ADHESIVE IS APPLIED. ALL SPLICES SHALL BE LAPPED AS DETAILED ON THE PLANS. PRESSURE SHALL BE APPLIED TO JOINED PIECES UNTIL ADHESIVE SETS. ALL REPAIRS ARE TO BE COMPLETED WITH SINGLE SHEETS OF NRNS. SPLICES WILL NOT BE PERMITTED TO CONNECT NEW MATERIAL TO NEW MATERIAL.

FABRICATION, HANDLING, SPLICING AND INSTALLATION OF THE NRNS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

PAYMENT FOR THE NRNS MATERIAL, ADHESIVE, CLEANING EXISTING MATERIAL, SUPPORTS, FABRICATION AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID AS FOLLOWS:

ITEM 518 - STRUCTURE DRAINAGE, MISC.: NYLON REINFORCED NEOPRENE GUTTER - EACH

ITEM 530 - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS:

THIS ITEM SHALL CONSIST OF FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO PREPARE WORK PLATFORMS AND PROVIDE ACCESS FOR PERSONNEL AND MATERIALS TO THE TRUSS GUSSET REPAIR AREAS AND THE L717-L718 NORTH TRUSS CHORD STRENGTHENING.

SEPARATE PAYMENT FOR TRUSS PANEL POINT ACCESS UNDER THIS ITEM SHALL BE USED FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR (ALL 4 PAY ITEMS)

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS

PROVIDE ACCESS FOR THE ENGINEER IN ACCORDANCE WITH CMS 105.10

PAYMENT FOR EACH ACCESS LOCATION SHALL INCLUDE INITIAL SETUP OF WORK PLATFORMS AND RIGGING, OR MANLIFTS; CONTINUING ACCESS DURING THE WORK FOR CONSTRUCTING ALL REPAIRS AT A PANEL POINT; AND REMOVAL OF ANY INSTALLED WORK PLATFORMS AND RIGGING. EACH LOCATION IS DEFINED FOR PAYMENT AS A TRUSS PANEL POINT ON THE NORTH OR SOUTH TRUSS.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROVIDE ACCESS TO THE TRUSS PANEL POINT LOCATIONS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9 - PER EACH TRUSS PANEL POINT

ITEM SPECIAL - STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2 - PER EACH TRUSS PANEL POINT

ESTIMATED QUANTITIES

CALCULATED JLS DATED 07/09
CHECKED ALP DATED 07/09

	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	CONTINGENCY	REPAIR PURPOSE	SEE SHEET /140
*	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP		S M	8
*	202	98100	4787	EACH	REMOVAL, MISC.: RIVET	4787		S M	9
	202	98100	386	EACH	REMOVAL, MISC.: BOLT	386		M	9
**	509	10000	42,748	POUNDS	EPOXY COATED REINFORCING STEEL	42,748		S	
**	509	20001	300	POUNDS	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN		300	S	9
**	510	10000	1692	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	1692		S	
**	511	50001	70	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN	70		S	10
**	511	50101	155	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	155		S	10
	512	10100	1079	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	1079		M	10
	512	10300	140	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	140		S	
**	513	90000	1520	POUNDS	STRUCTURAL STEEL, MISC.: L717 - L718 NORTH TRUSS CHORD STRENGTHENING	1520		S	10
	513	90000	7600	POUNDS	STRUCTURAL STEEL, MISC.: FLOORBEAM BRACING	7600		M	10
	513	90000	2330	POUNDS	STRUCTURAL STEEL, MISC.: FLOORBEAM GUSSET REPAIR	2330		M	11
	513	95000	5695	FT	STRUCTURAL STEEL, MISC.: INSPECTION CABLE	5695		M	11
ǂ	513	95030	24	EACH	STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1	19	5	M	11
ǂ	513	95030	48	EACH	STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 2	43	5	M	11
	513	95030	1	EACH	STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 3	1		M	11
	513	95030	12	EACH	STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR WITH PARTIAL FURNISHED MATERIAL TYPE 1	12		M	12
**	513	95030	820	EACH	STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS	820		S	12
	513	95030	5	EACH	STRUCTURAL STEEL, MISC.: SAFETY WALK ACCESS HATCH REPAIR	5		M	12
	513	95030	282	EACH	STRUCTURAL STEEL, MISC.: 1" DIAMETER TRUSS BEARING CONNECTION BOLTS	282		M	12
ǂ	513	95030	19	EACH	STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT	14	5	M	12
ǂ	513	95030	19	EACH	STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT	14	5	M	13
ǂ	513	95030	19	EACH	STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE A	14	5	M	13
ǂ	513	95030	8	EACH	STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE B	3	5	M	13
	513	95030	10	EACH	STRUCTURAL STEEL, MISC.: STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL	10		M	13
*	513	95030	2966	EACH	STRUCTURAL STEEL, MISC.: 7/8" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS	2966		S M	13
	513	95030	4	EACH	STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR	4		M	13
**	513	95030	1	EACH	STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR	1		S	13
	513	95030	9	EACH	STRUCTURAL STEEL, MISC.: CATWALK END CLOSURE	9		S	13
**	513	95030	1	EACH	STRUCTURAL STEEL, MISC.: SAFETY WALK END CLOSURE	1		S	13
	513	95050	20	SQ FT	STRUCTURAL STEEL, MISC.: 1" GALVANIZED STEEL BAR CATWALK GRATING	20		M	14
**	516	10501	18	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN	18		S	14
**	516	15000	2	EACH	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 42" PARAPET JOINT ARMOR	2		S	132,135
**	518	12500	1	EACH	SCUPPER, MISC.: NEW SCUPPER THROUGH EXISTING DECK	1		S	14
	518	62200	2	EACH	STRUCTURE DRAINAGE, MISC.: NYLON REINFORCED NEOPRENE GUTTER	2		S	14
*	SPECIAL	53000400	46	EACH	STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPANS 1 AND 3 THROUGH 9	46		S M	14
*	SPECIAL	53000400	7	EACH	STRUCTURE, MISC.: TRUSS PANEL POINT ACCESS SPAN 2	7		S M	14
**	607	39911	21	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN	21		S	133
*	SPECIAL	69071000	LUMP		ASBESTOS ABATEMENT	LUMP		S	8

INDEX OF SHEETS

/140

BOLT LEGEND

- FIELD BOLT, NUT AND FULL HEAD. NEW MATERIAL TO NEW MATERIAL.

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.

- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

REPAIR PURPOSE LEGEND

S REPAIR REQUIRED FOR MEMBER STRENGTHENING.

M REPAIR BASED ON FIELD INSPECTION CONDITION AND MAINTENANCE.

SECTION IDENTIFICATION

C
23

SECTION LETTER

SHEET NUMBER /140 WHERE SECTION VIEW IS LOCATED

* INDICATES PORTIONS OF ITEMS TO BE COMPLETED BY THE INTERIM COMPLETION DATE AS DESCRIBED IN THE GENERAL NOTES ON SHEET 3 OF 175. SEE METHODS AND SEQUENCE OF CONSTRUCTION GENERAL NOTE ON SHEET 7 /140 FOR ADDITIONAL DETAILS.

** INDICATES ITEMS TO BE COMPLETED BY THE INTERIM COMPLETION DATE AS DESCRIBED IN THE GENERAL NOTES ON SHEET 3 OF 175.

ǂ INDICATES PAY ITEMS THAT HAVE 5 ADDITIONAL LOCATIONS ADDED THAT ARE NOT SHOWN IN THE PLANS. THESE 5 LOCATIONS ARE CONTINGENCY QUANTITIES TO BE PERFORMED AT LOCATIONS DIRECTED BY THE ENGINEER. THE CONTINGENCY LOCATIONS WILL NOT BE LOCATED OVER THE CUYAHOGA RIVER OR RAILROAD TRACKS AND ARE SUBJECT TO NON-PERFORMANCE WITH NO PENALTY TO THE STATE.

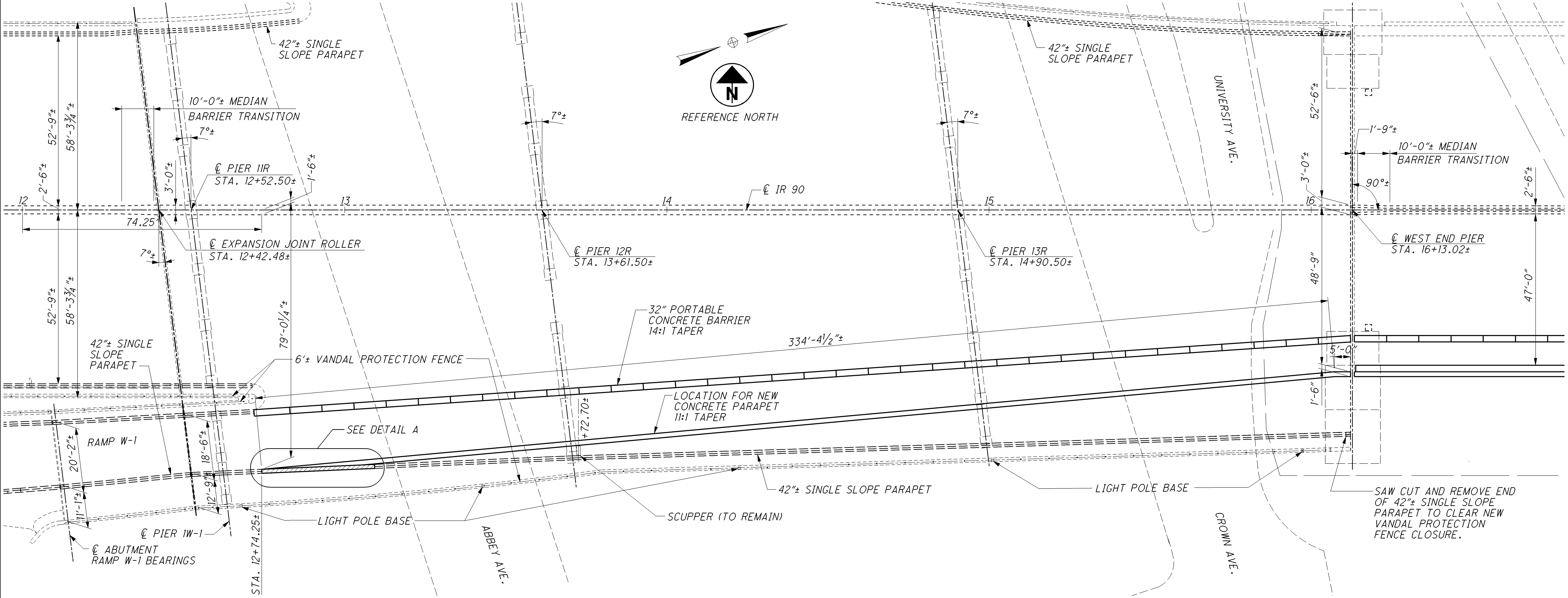
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

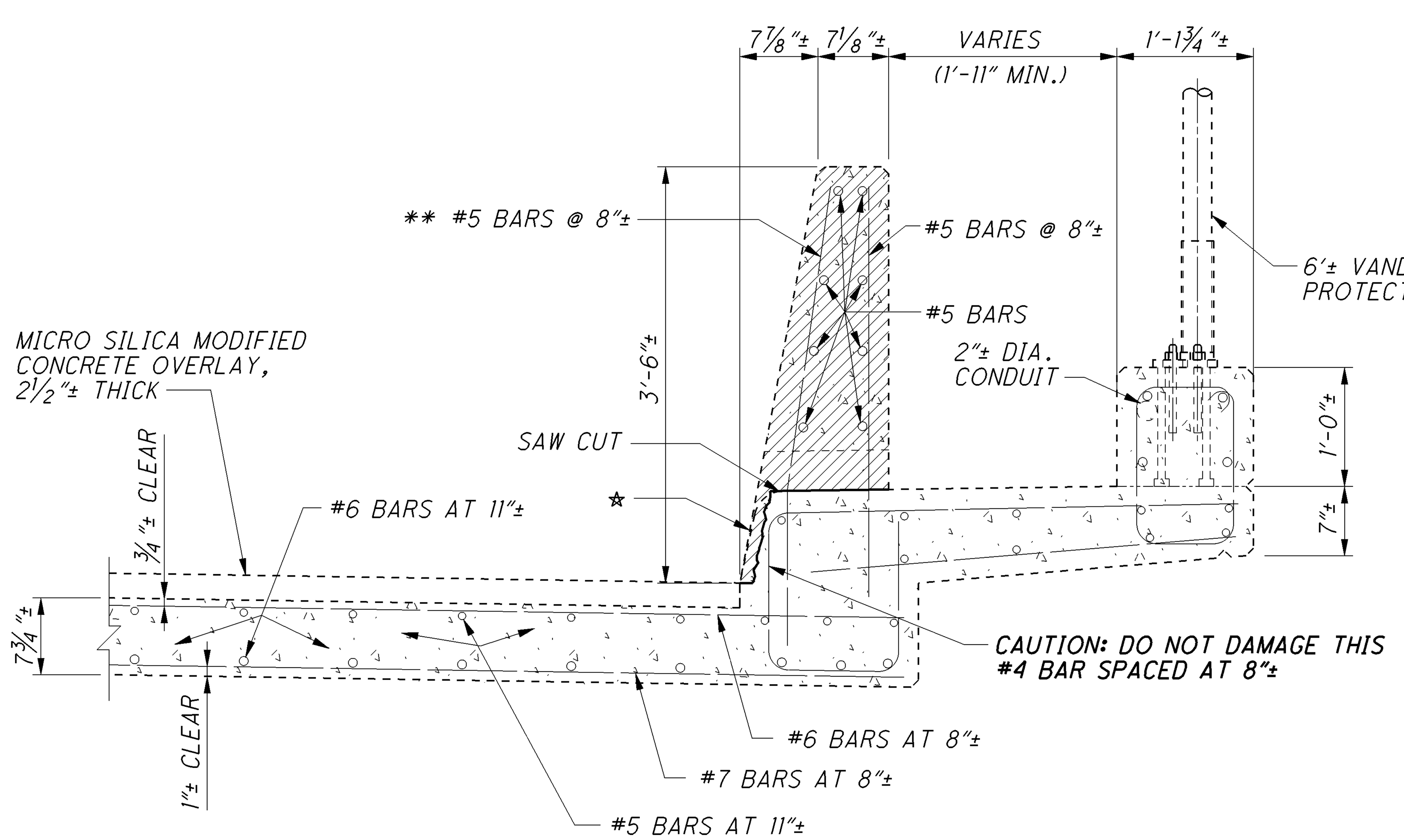
REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393
DRAWN TWH | REVISED
DESIGNED JDB | CHECKED ALP

ESTIMATED QUANTITIES
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

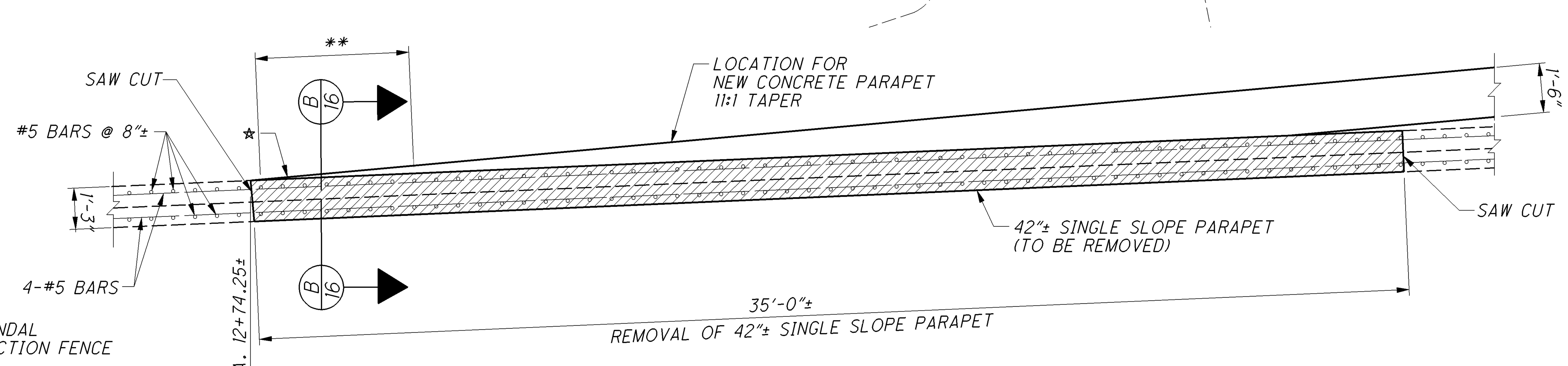
CUY-90-15.24
PID No. 82069

090_1524CEQ001.DGN 8/10/09 RB,SCB,TWH,JLS





SECTION B-B



DETAIL A

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

☆ REMOVE PORTION OF CURB AT END OF NEW CONCRETE PARAPET TAPER TO PROVIDE ADEQUATE AREA TO PLACE NEW CONCRETE. DO NOT REMOVE CONCRETE BEHIND EXISTING REINFORCING STEEL.

** THE CONTRACTOR HAS THE OPTION OF CUTTING AND REPLACING THE FIRST EIGHT EXISTING #5 DOWEL BARS OR SAVING THEM FOR REUSE. INSTALLING NEW DOWEL BARS IN THIS AREA MAY BE DIFFICULT AS THE NEW PARAPET TAPERS INTO THE EXISTING SIDEWALK. REUSED DOWEL BARS SHALL BE FIELD BENT AND CUT TO MATCH THE PROPOSED SECTION. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

PORTABLE CONCRETE BARRIER: SEE STANDARD DRAWING PCB-91.

STATIONING IS APPROXIMATE AND IS TIED TO PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	JLS	DAP	7/31/09
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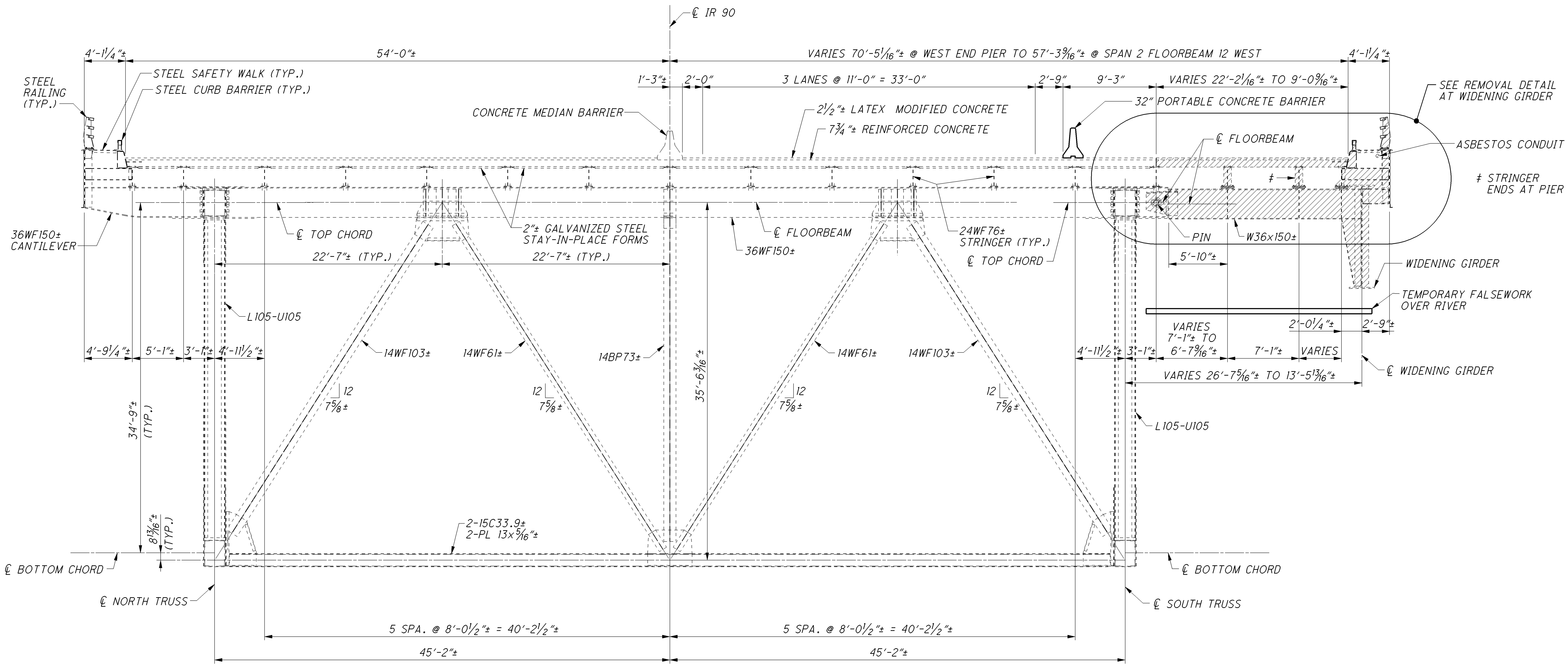
ALP		1809393	

REMOVAL DETAILS - WEST APPROACH EXISTING DECK PLAN

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CRE008.DGN 8/04/09 KH,JLS



EXISTING TRANSVERSE SECTION - SPANS 1 & 2 WITH WIDENING GIRDER

SPAN 1 - FLOORBEAM 5 (PANEL POINT 105) SHOWN

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

REMOVAL DETAIL AT WIDENING GIRDER: SEE SHEET 20/140.

PORTABLE CONCRETE BARRIER: SEE STANDARD DRAWING PCB-91.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393

DRAWN RB REVISED

DESIGNED JDB CHECKED ALP

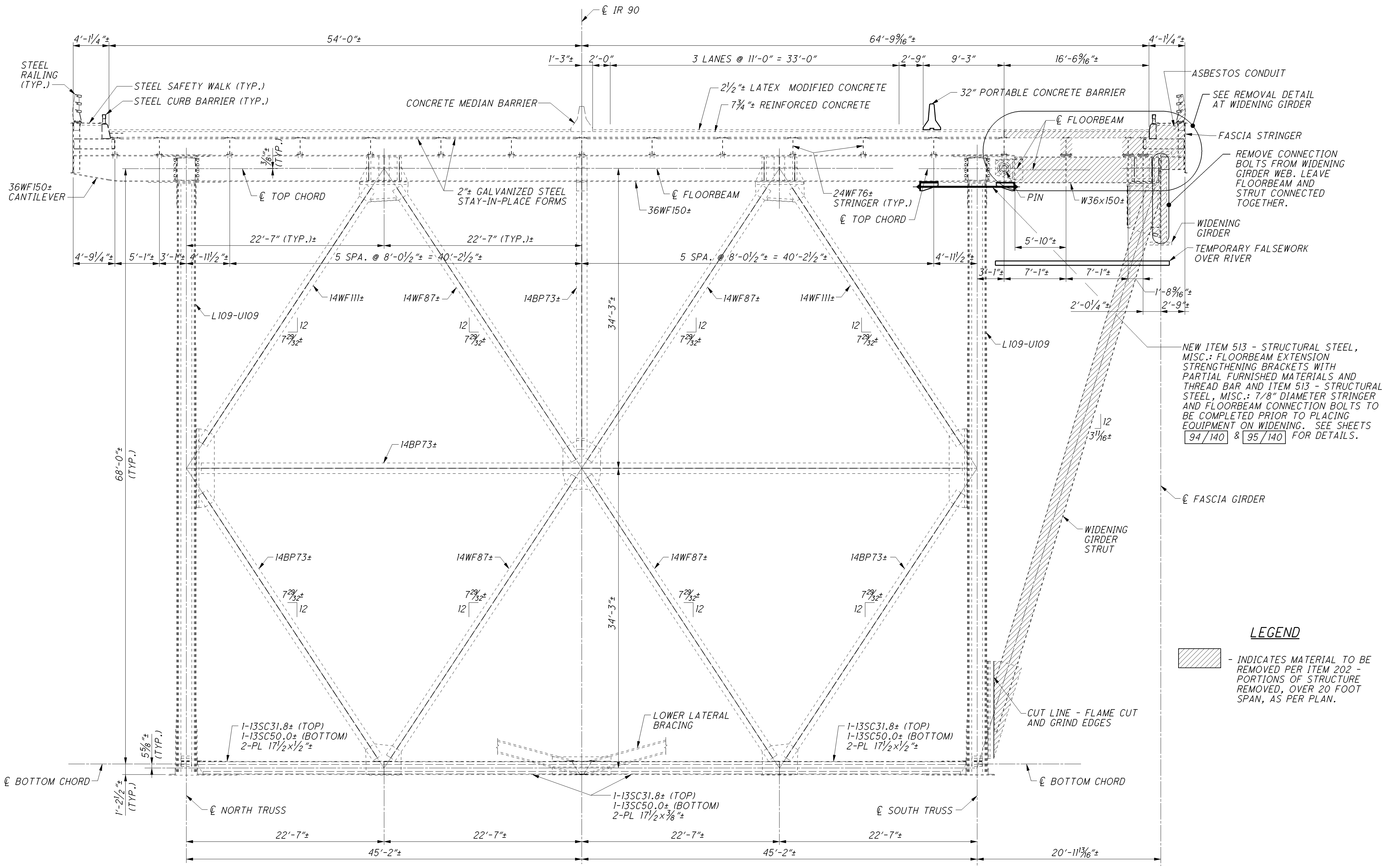
REMOVAL DETAILS - EXISTING TRANSVERSE SECTION - 1

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

090_1542CRE001.DGN 7/28/09 RB,SCB,KH,TWH,JLS



EXISTING TRANSVERSE SECTION - WITH WIDENING GIRDER STRUT AT PIER 1

SPAN 2 - FLOORBEAM 0 (PANEL POINT 109) SHOWN

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

REMOVAL DETAIL AT WIDENING GIRDER: SEE SHEET 20/140.

PORTABLE CONCRETE BARRIER: SEE STANDARD DRAWING PCB-91.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

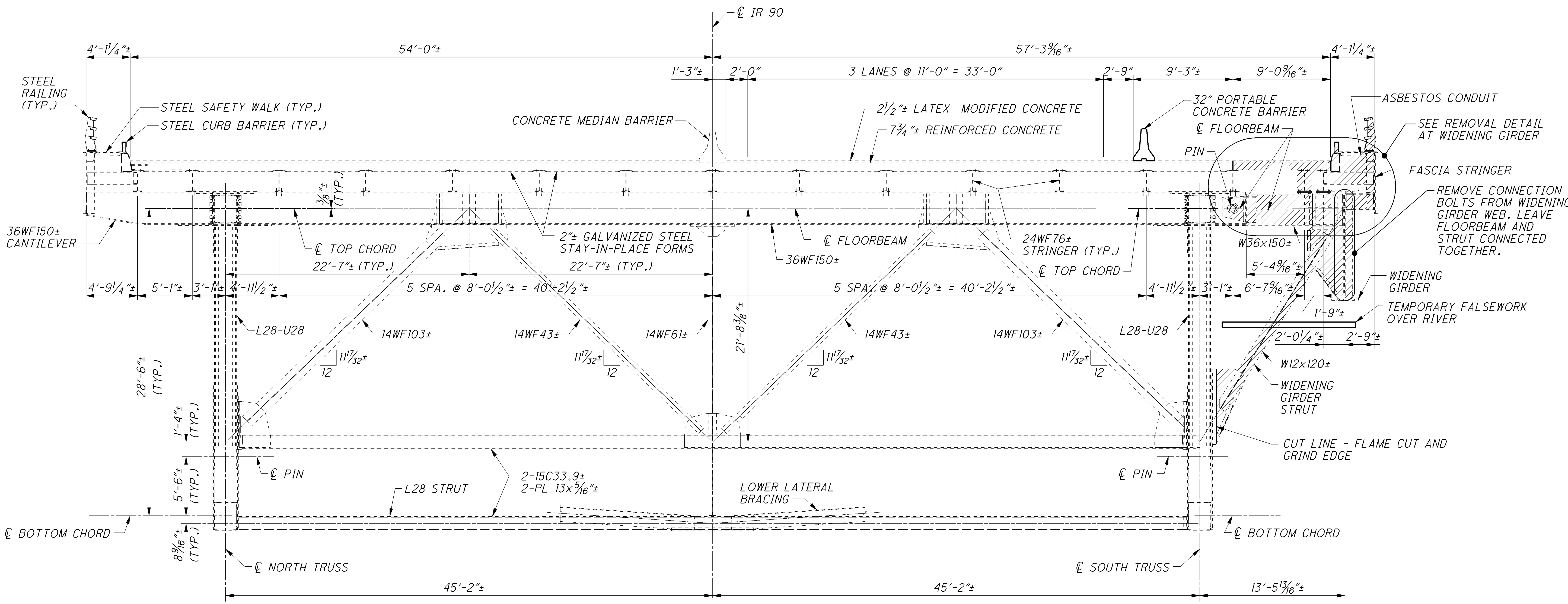
REVIEWED	DATE
DAP	7/31/09
STRUCTURE FILE NUMBER	
1809393	
DRAWN	REVISED
RB	
DESIGNED	CHECKED
JDB	ALP

REMOVAL DETAILS - EXISTING TRANSVERSE SECTION - 2

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069



EXISTING TRANSVERSE SECTION - WITH WIDENING GIRDER STRUT

SPAN 2 - FLOORBEAM 12 WEST (PANEL POINT 28) SHOWN

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

REMOVAL DETAIL AT WIDENING GIRDER: SEE SHEET 20/140.

PORTABLE CONCRETE BARRIER: SEE STANDARD DRAWING PCB-91.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP		1809393	

REMOVAL DETAILS - EXISTING TRANSVERSE SECTION - 3

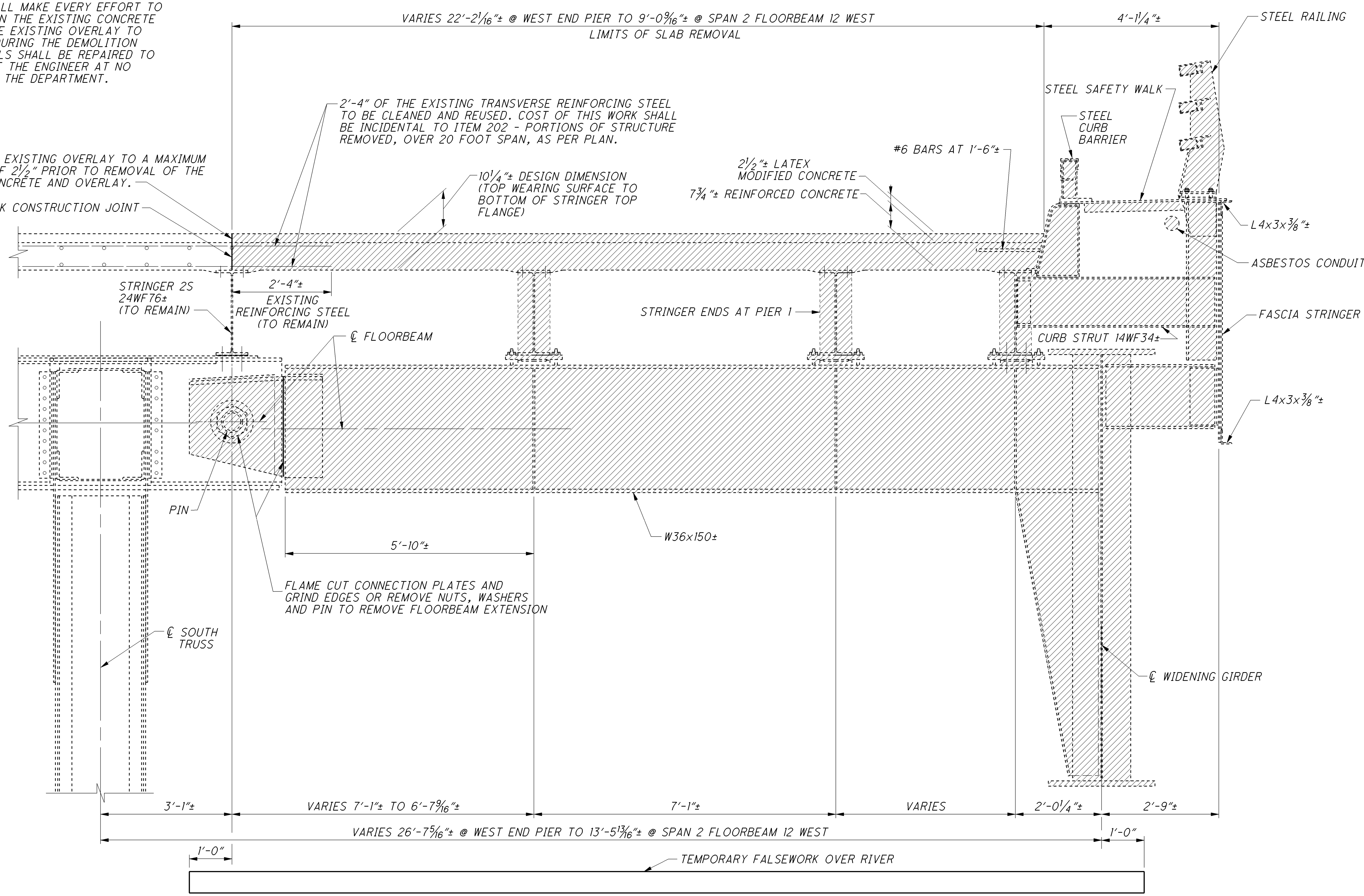
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

090_1542CSD013.DGN 7/29/09 SCB,KH,TWH,JLS

* THE CONTRACTOR SHALL MAKE EVERY EFFORT TO ENSURE A NEAT CUT IN THE EXISTING CONCRETE OVERLAY. SHOULD THE EXISTING OVERLAY TO REMAIN BE SPALLED DURING THE DEMOLITION OPERATION THE SPALLS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.



REMOVAL DETAIL AT WIDENING GIRDER

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

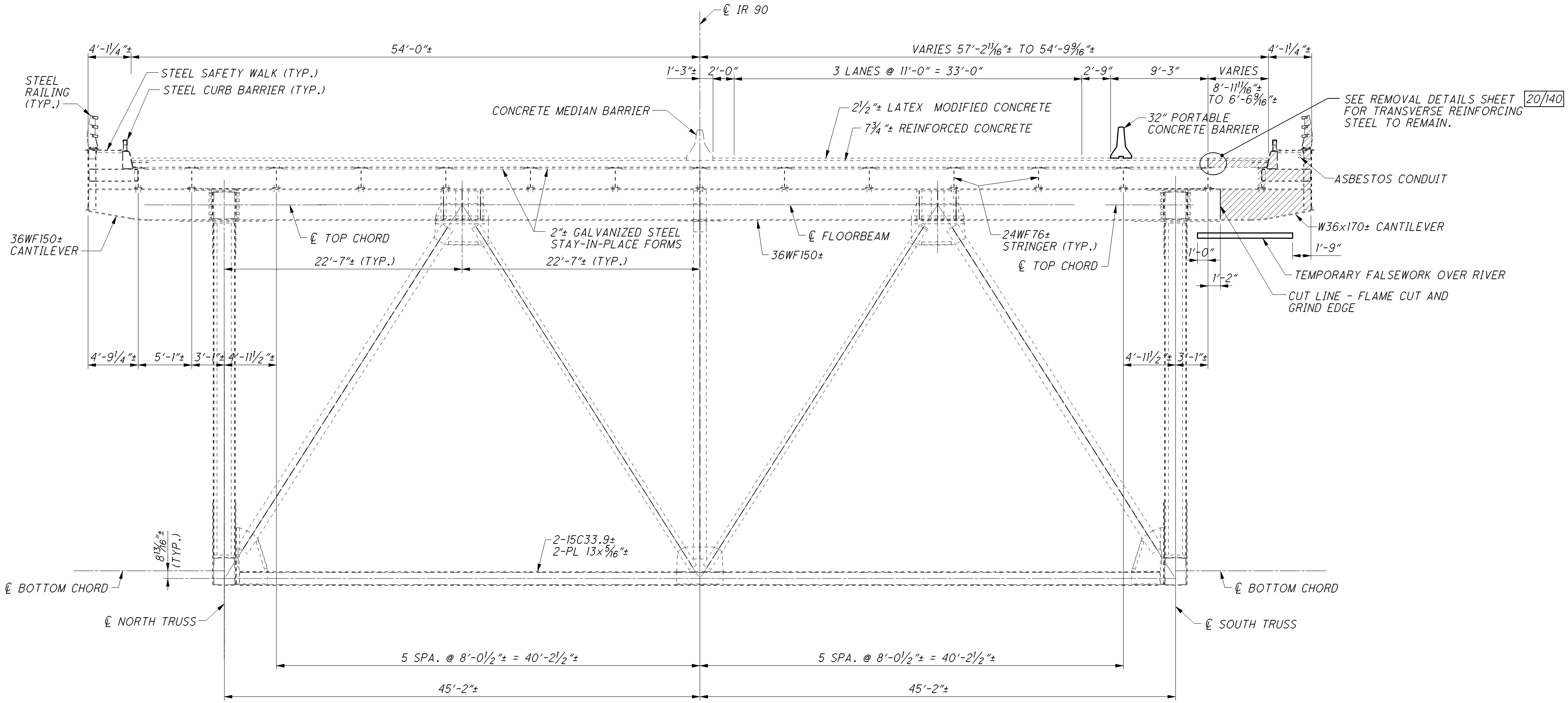
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
JDB	ALP	TWH		DAP	7/31/09	1809393

REMOVAL DETAILS - EXISTING TRANSVERSE SECTION - 4
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-1524
PID No. 82069

CUY090_1524CRE004.DGN 7/29/09 SCB,KH,TWH,JLS



EXISTING TRANSVERSE SECTION - SPAN 2 WITHOUT WIDENING GIRDER

SPAN 2 - FLOORBEAM 12 EAST (PANEL POINT 300) TO
SPAN 3 - FLOORBEAM 0 (PANEL POINT 304)

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

PORTABLE CONCRETE BARRIER: SEE STANDARD DRAWING PCB-91.

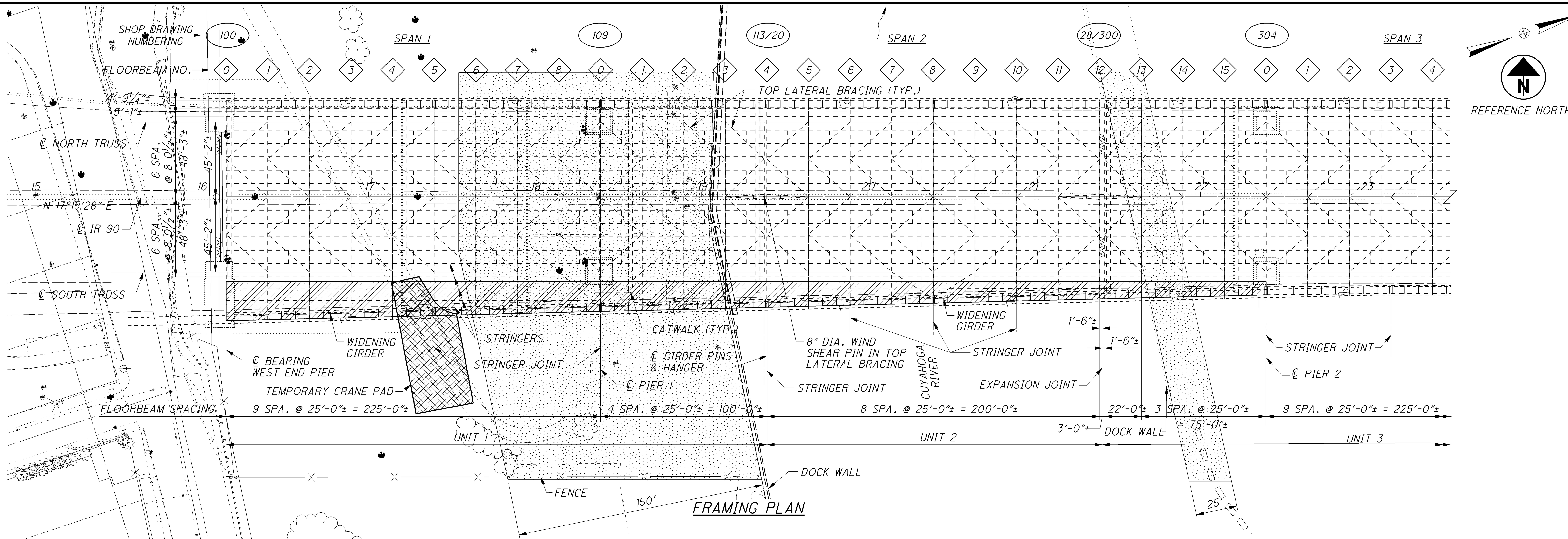
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

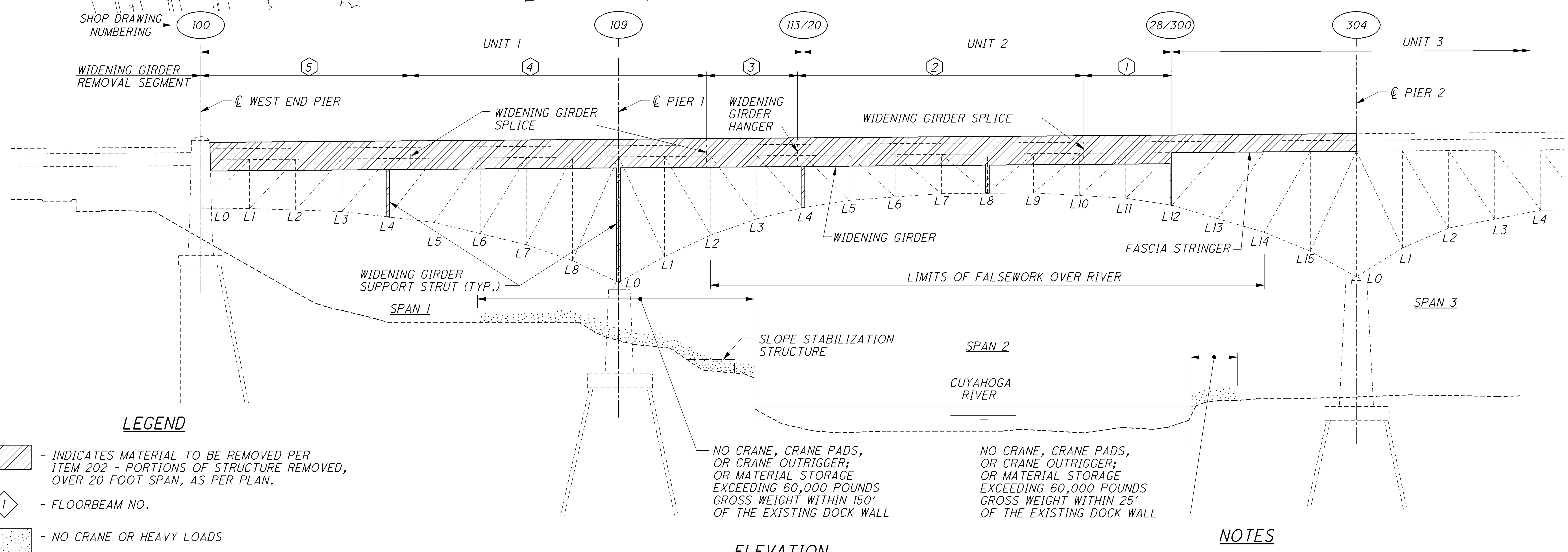
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
JDB	ALP	SCB		DAP	7/31/09	1809393

REMOVAL DETAILS - EXISTING TRANSVERSE SECTION - 5
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1542CRE006.DGN 7/29/09 RB,SCB,KH,TWH,JLS





LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
- 1 - FLOORBEAM NO.
- NO CRANE OR HEAVY LOADS
- TEMPORARY CRANE PAD

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

TEMPORARY CRANE PAD: SEE DETAILS SHEET 23/140.

CONSTRUCTION SEQUENCE: SEE GENERAL NOTES SHEET 7 /140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE	DESIGNED	DRAWN
DAP	7/31/09	JDB	RB
STRUCTURE FILE NUMBER 1809393		CHECKED ALP	REVISED

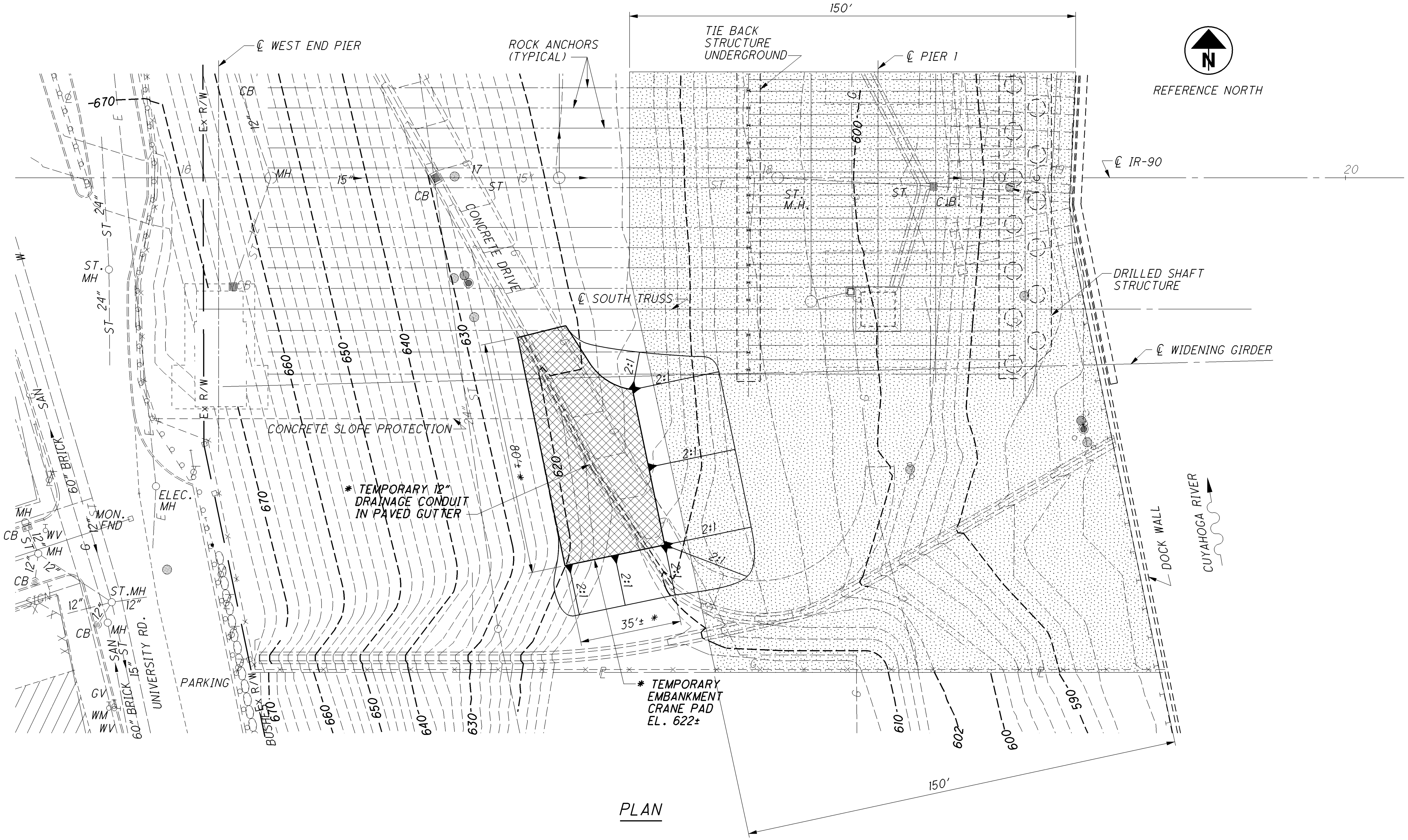
REMOVAL DETAILS - EXISTING FRAMING PLAN AND ELEVATION
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

22/140

57/175

108031-13/090_1524CRE005.DGN 7/30/09 RB,TWH,KH,JLS



PLAN

* TEMPORARY EMBANKMENT, CONDUIT, AND CRANE PAD SIZES ARE SUGGESTED. CONTRACTOR TO DETERMINE SIZES TO BE CONSTRUCTED SUBJECT TO LIMITATIONS IN THE PLAN NOTES.

ǂ MONITORING INSTRUMENTATION TO BE AVOIDED AND PROTECTED BY THE CONTRACTOR. DAMAGED EQUIPMENT SHALL BE RESTORED TO OPERATING CONDITION AT NO COST TO THE STATE.

LEGEND

- NO CRANE OR HEAVY LOADS
- TEMPORARY CRANE PAD
- PIEZOMETER
- PIEZOMETER WITH CAP ǂ
- INCLINOMETER

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

TEMPORARY CRANE PAD: SEE GENERAL NOTES SHEET 8/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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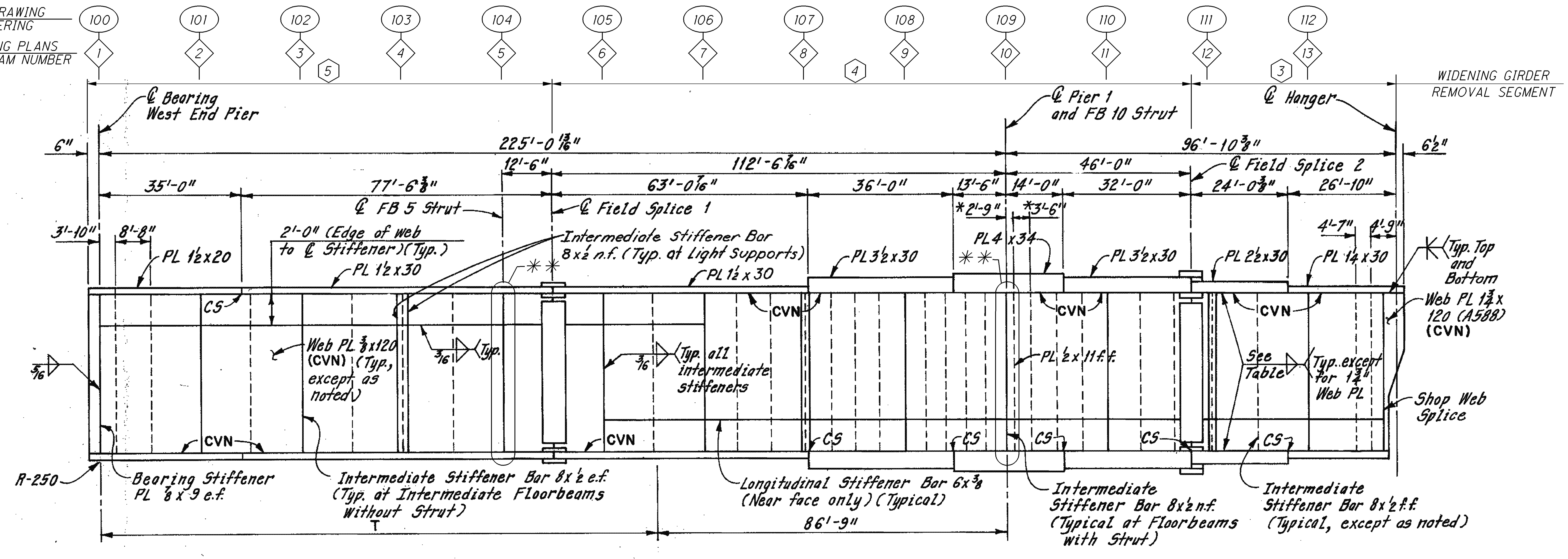
REMOVAL DETAILS - TEMPORARY CRANE PAD

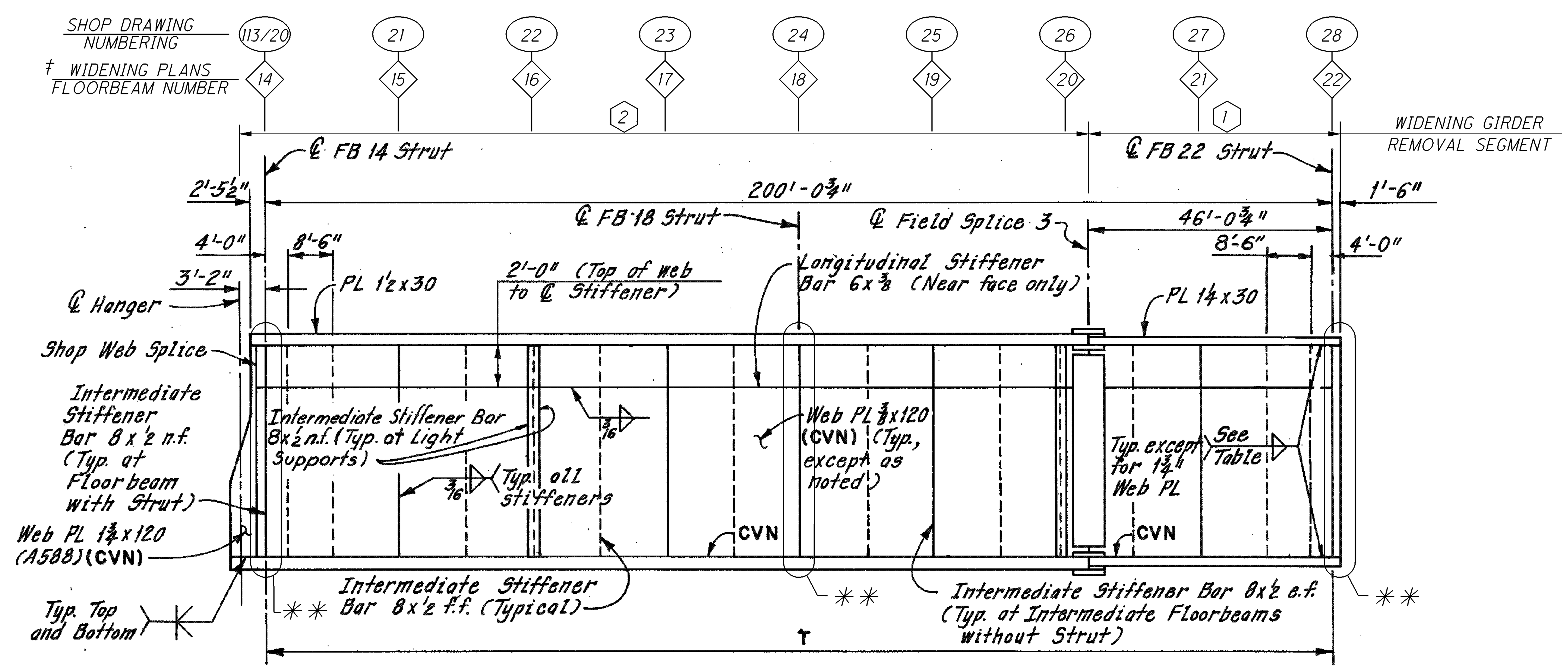
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



GIRDER ELEVATION - UNIT 1

‡ THE 1984 WIDENING PLANS STARTED WITH FLOORBEAM "1" AT THE WEST END PIER; ALL OTHER NOTATION STARTS WITH "0" FOR THIS FLOORBEAM.



GIRDER ELEVATION - UNIT 2

** REMOVE CONNECTION BOLTS FROM WIDENING GIRDER WEB TO REMOVE WIDENING GIRDER. LEAVE FLOORBEAM EXTENSION AND WIDENING GIRDER STRUT CONNECTED TOGETHER.

NOTE: THIS DRAWING COPIED FROM ORIGINAL DESIGN PLANS.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CONSTRUCTION SEQUENCE: SEE GENERAL NOTES SHEET 7/140.

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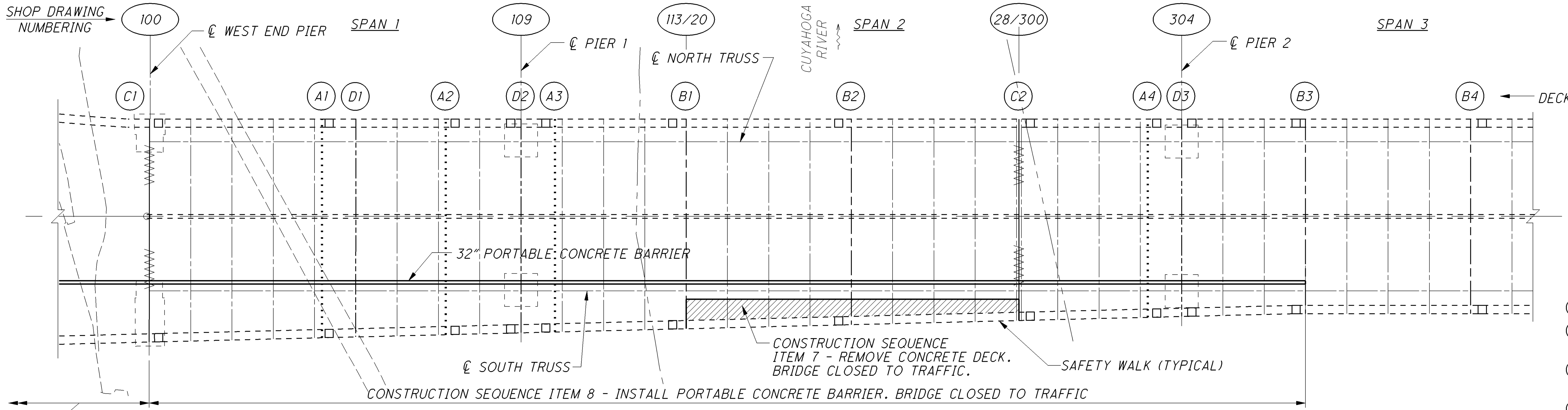
ALP		1809393	

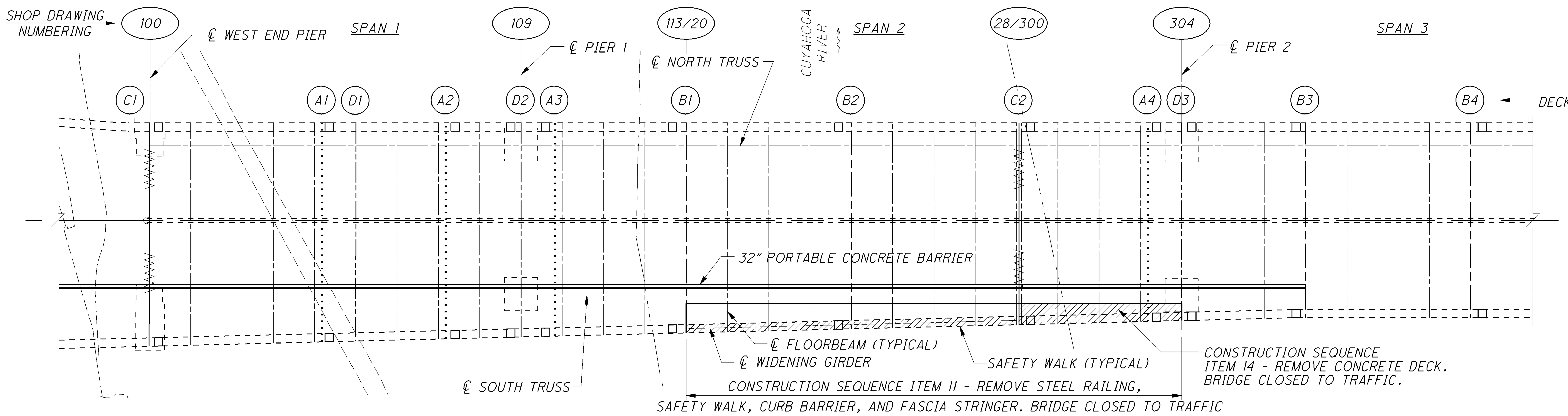
REMOVAL DETAILS - EXISTING WIDENING GIRDER ELEVATION
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

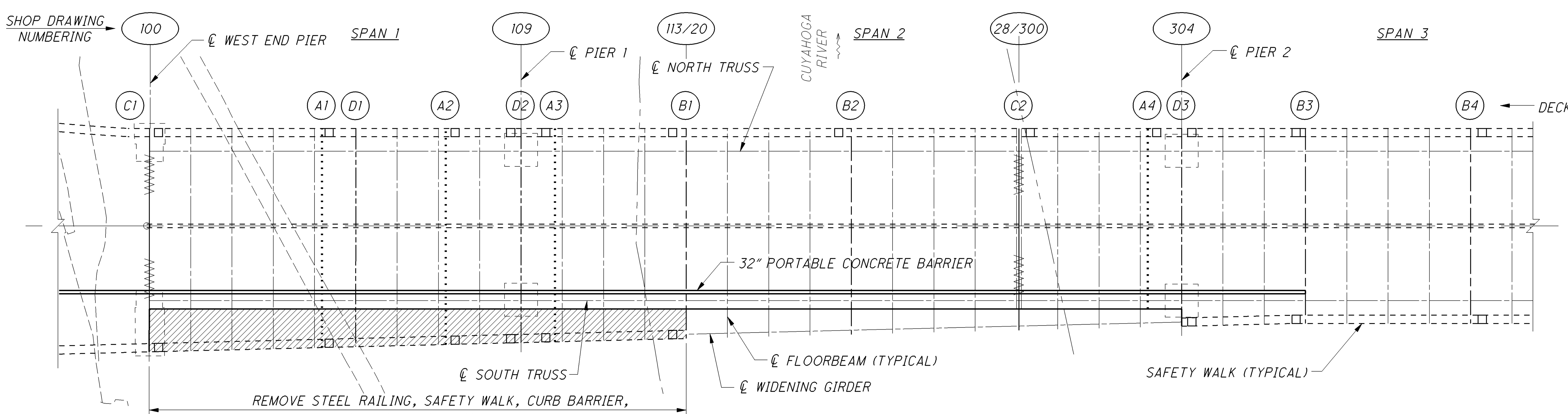
090_1524CSD002.DGN 7/29/09 RB,SCB,TWH,JLS



PLAN - CONSTRUCTION SEQUENCE ITEMS 4, 7 & 8



PLAN - CONSTRUCTION SEQUENCE ITEMS 11 & 14



PLAN - CONSTRUCTION SEQUENCE ITEMS 16 & 18

REMAINING DECK AND RAILING REMOVAL; BRIDGE CLOSED TO TRAFFIC FOR DECK REMOVAL

LEGEND

- (A) TRANSVERSE DRAIN CASTING
- (B) TRANSVERSE DRAIN CASTING AT DEFLECTION JOINT
- (C) FINGER TYPE EXPANSION JOINT & TRANSVERSE DRAIN
- (D) DEFLECTION JOINT
- □ ACCESS HATCH THROUGH SAFETY WALK
- INDICATES MATERIAL TO BE REMOVED PER ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

PORTABLE CONCRETE BARRIER: SEE STANDARD DRAWING PCB - 91.

CONSTRUCTION SEQUENCE: SEE GENERAL NOTES SHEET 7/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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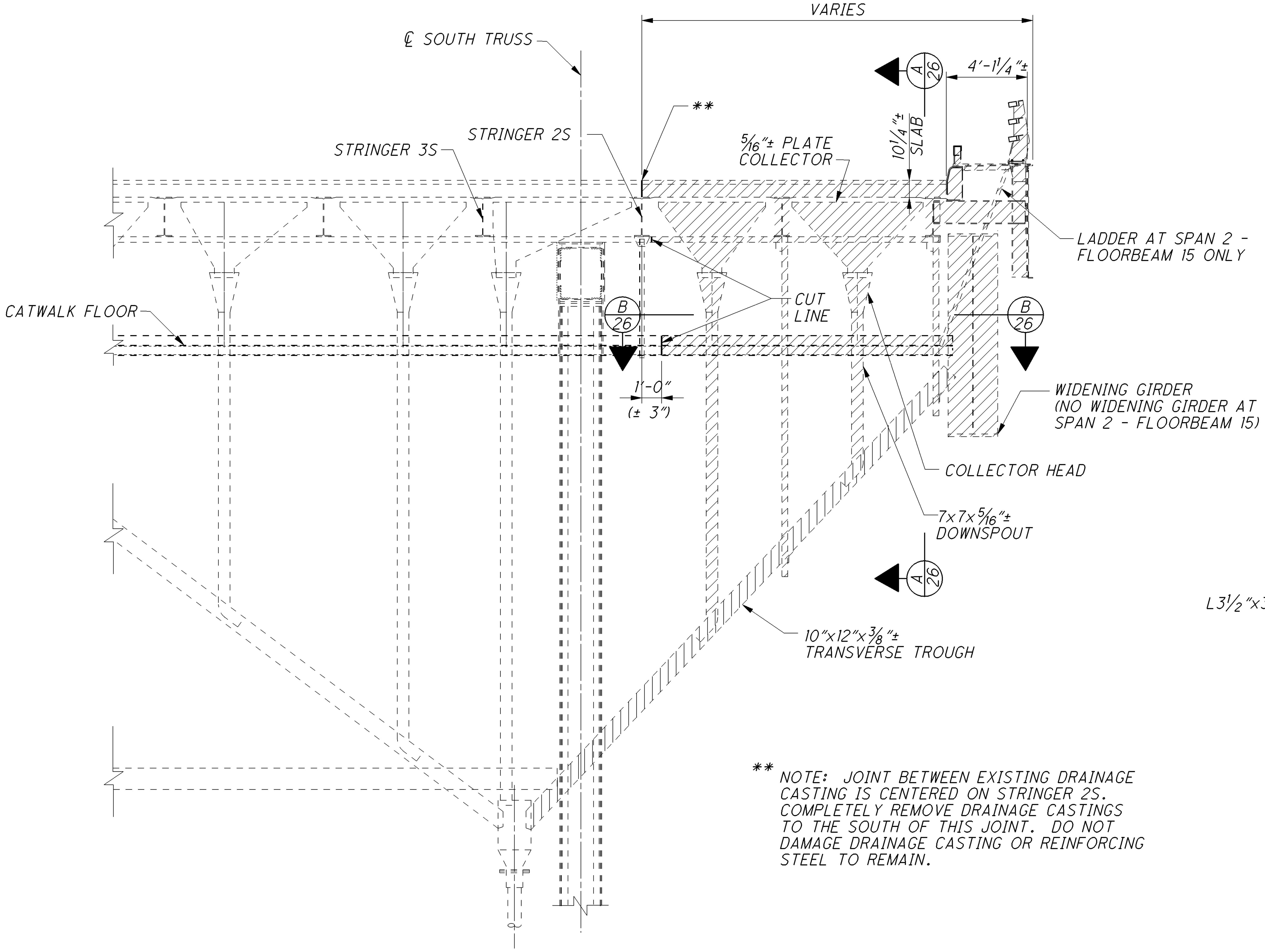
REMOVAL DETAILS - EXISTING TRUSS SPANS DECK PLAN
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

25/140

60/175

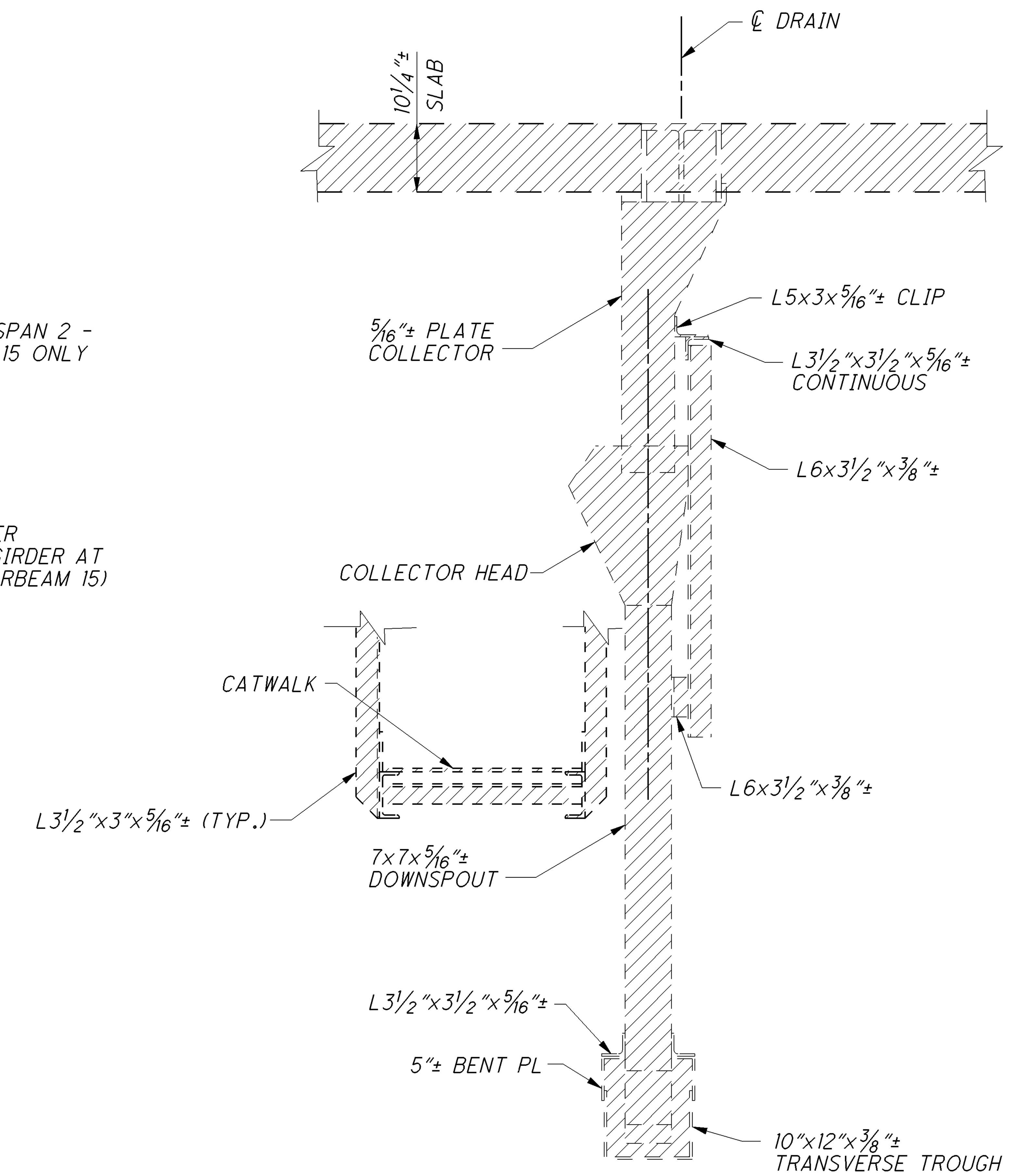
090_1524CGP001.DGN 7/29/09 RB,KH,TWH,JLS



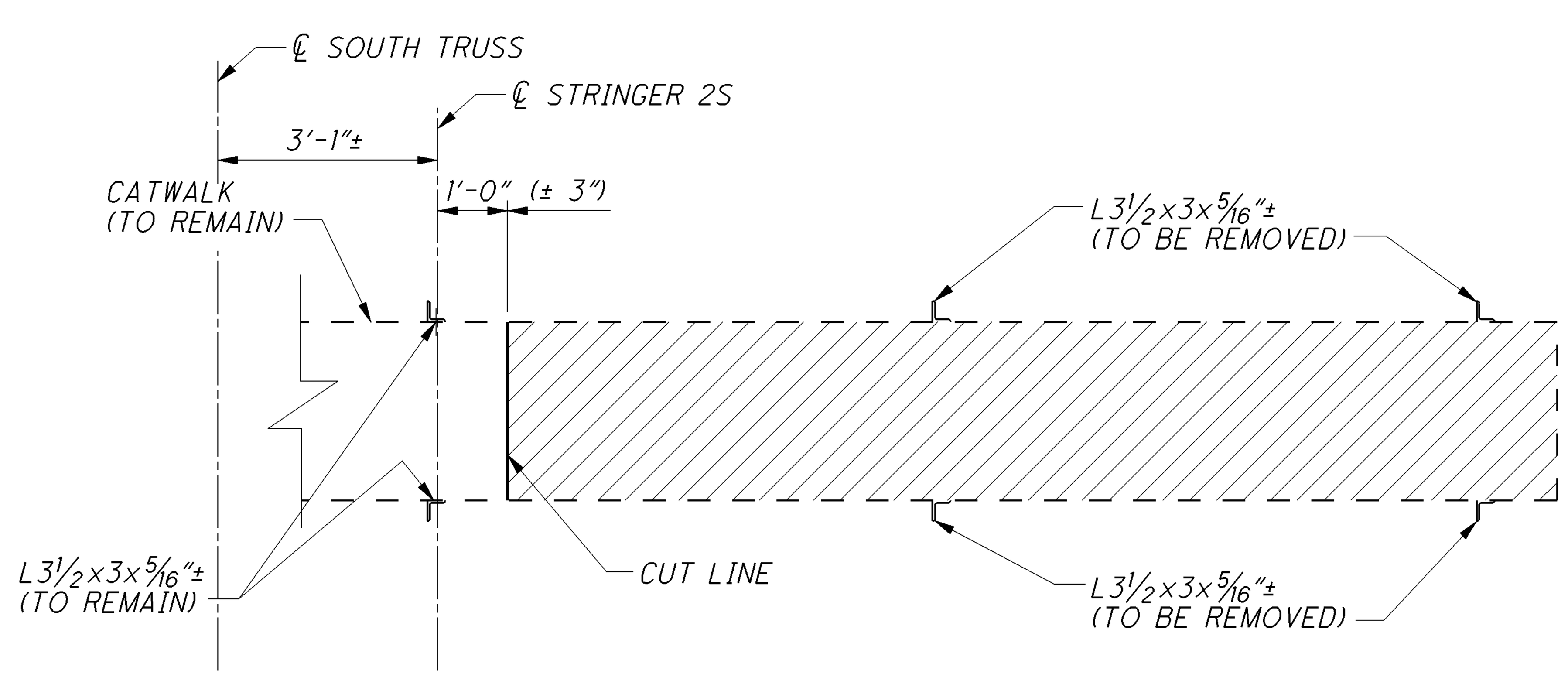
** NOTE: JOINT BETWEEN EXISTING DRAINAGE CASTING IS CENTERED ON STRINGER 2S. COMPLETELY REMOVE DRAINAGE CASTINGS TO THE SOUTH OF THIS JOINT. DO NOT DAMAGE DRAINAGE CASTING OR REINFORCING STEEL TO REMAIN.

TYPE A DRAIN

SPAN 1 - FLOORBEAM 4
SPAN 1 - FLOORBEAM 7
SPAN 2 - FLOORBEAM 1
SPAN 2 - FLOORBEAM 15



SECTION A-A
TYPE A DRAIN



SECTION B-B

LEGEND

INDICATES MATERIAL TO BE REMOVED PER ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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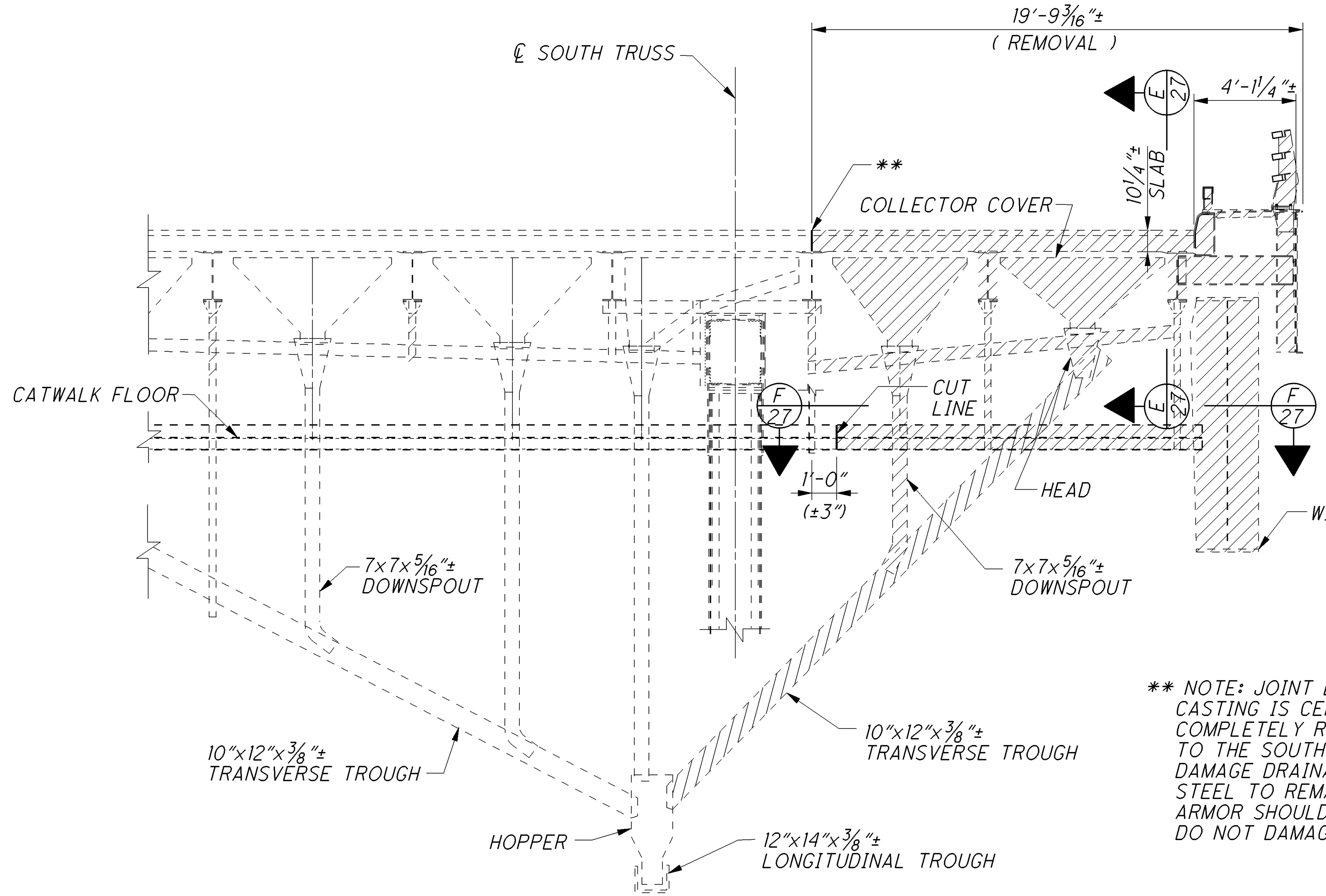
REMOVAL DETAILS - EXISTING TYPE A DRAIN
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

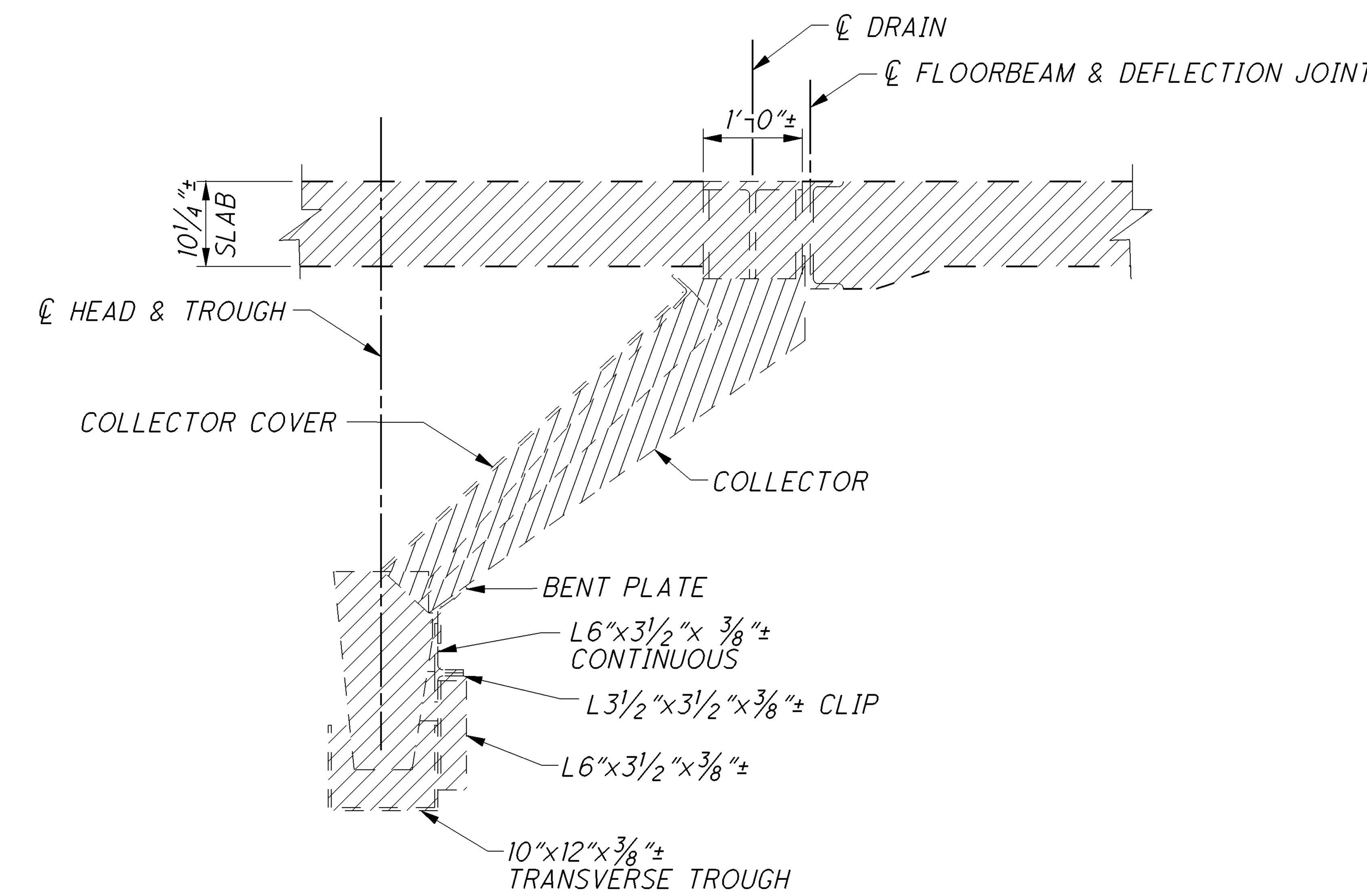
090_1524CSD014.dgn 7/29/09 TWH.JLS



TYPE B DRAIN

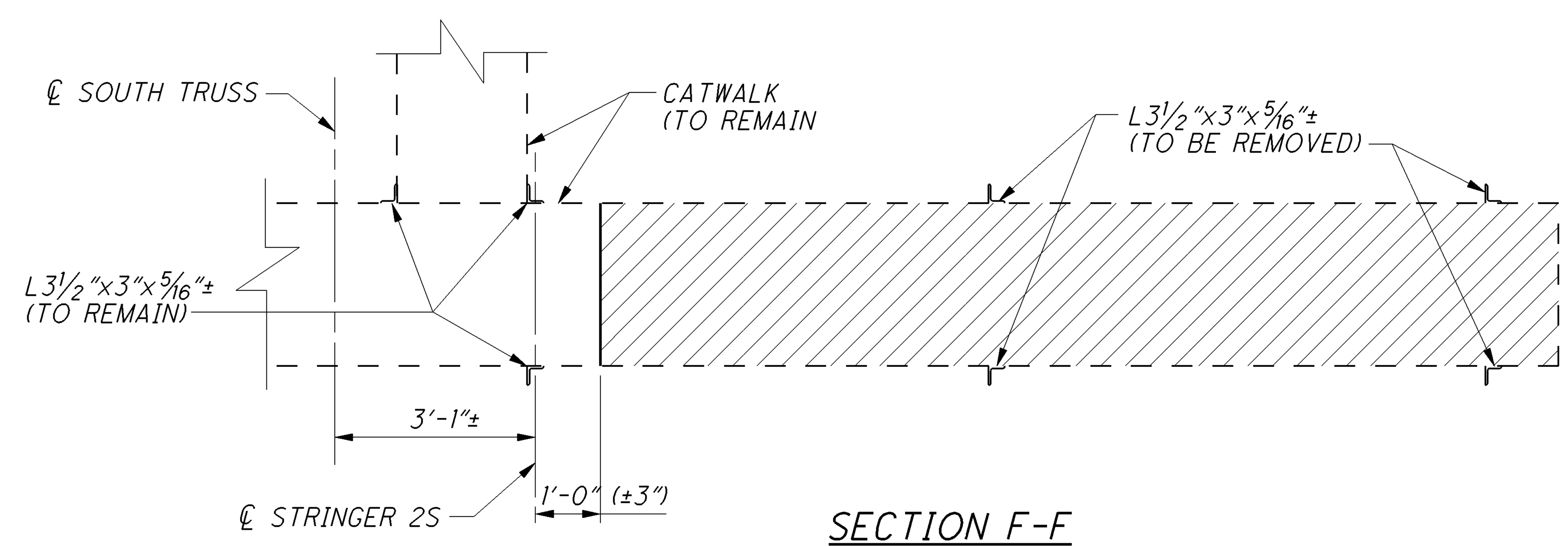
SPAN 2 - FLOORBEAM 4
SPAN 2 - FLOORBEAM 8

** NOTE: JOINT BETWEEN EXISTING DRAINAGE CASTING IS CENTERED ON STRINGER 2S. COMPLETELY REMOVE DRAINAGE CASTINGS TO THE SOUTH OF THIS JOINT. DO NOT DAMAGE DRAINAGE CASTING OR REINFORCING STEEL TO REMAIN. THE DEFLECTION JOINT ARMOR SHOULD BE CUT AT THIS SAME LOCATION. DO NOT DAMAGE THE TOP FLANGE OF STRINGER 2S.



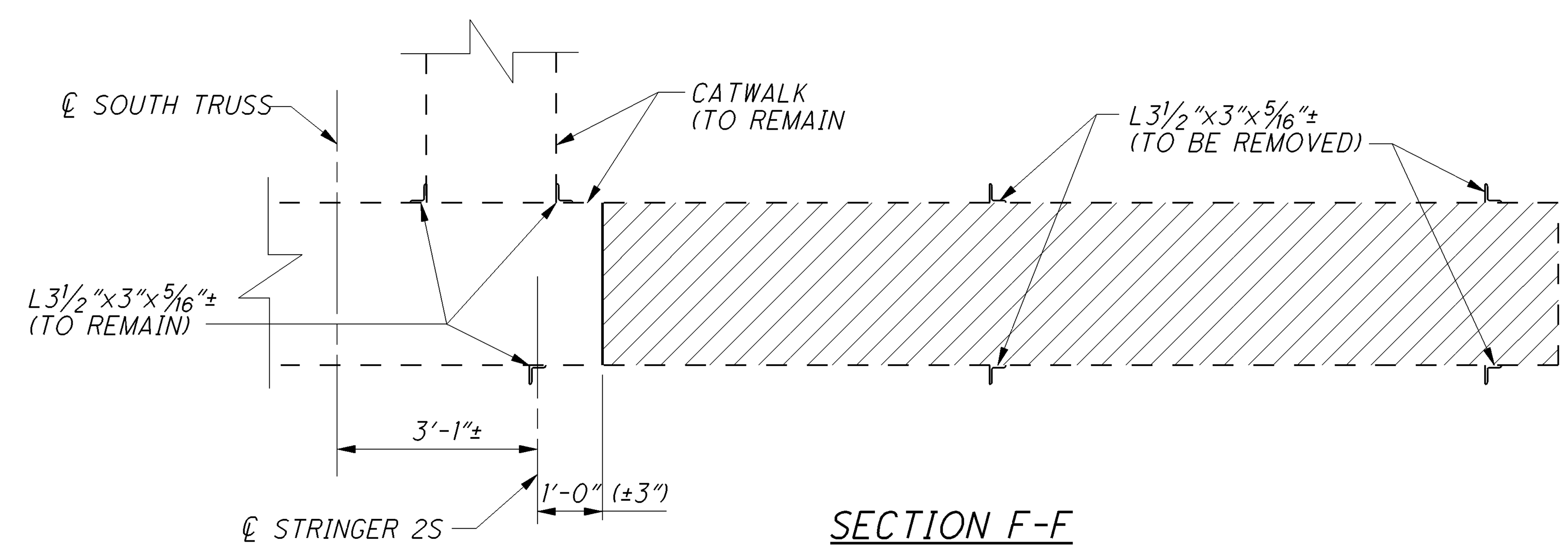
SECTION E-E

TYPE B DRAIN



SECTION F-F

AT SPAN 2 - FLOORBEAM 4



SECTION F-F

AT SPAN 2 - FLOORBEAM 8

LEGEND

INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

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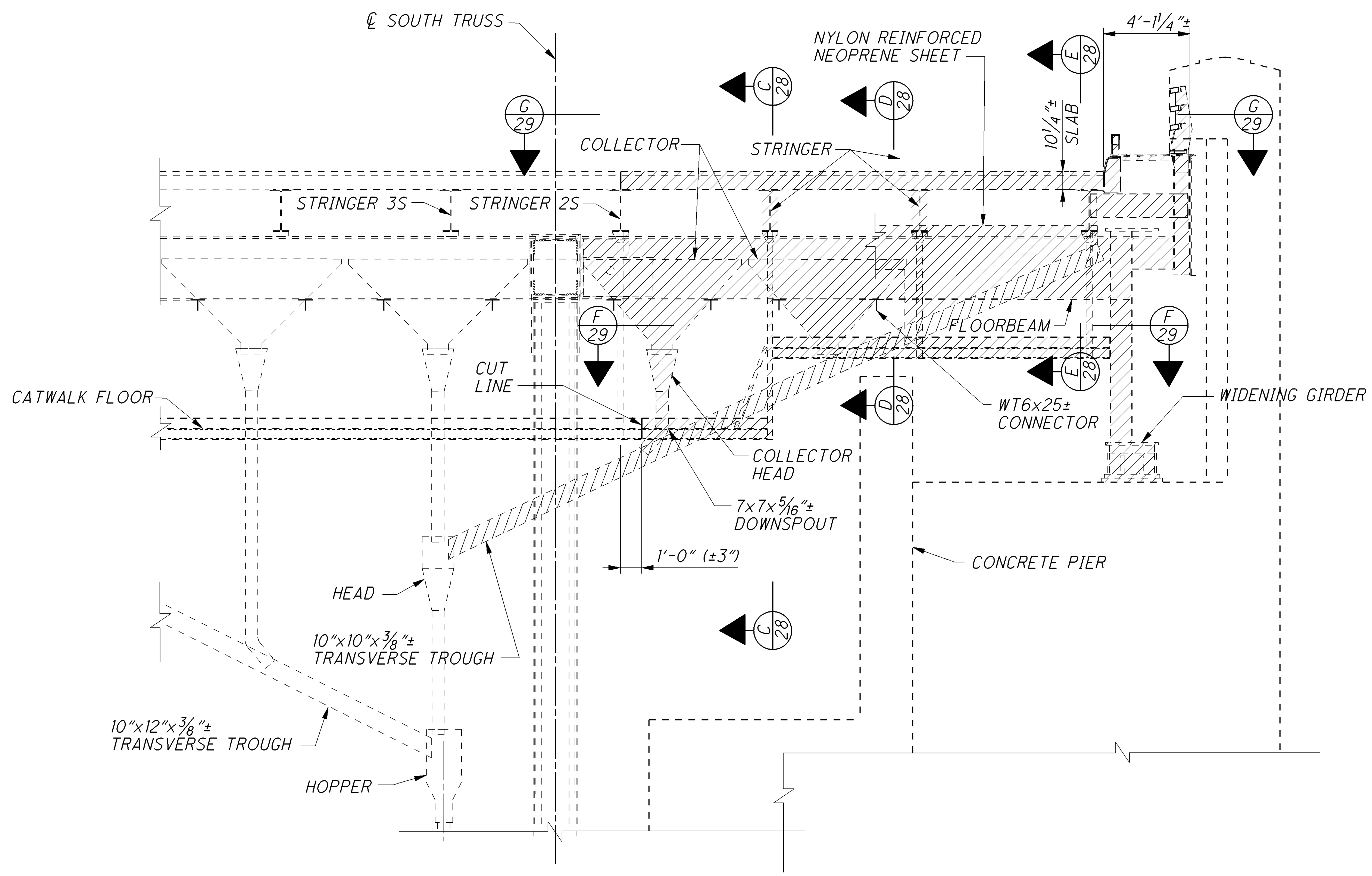
ALP		1809393	

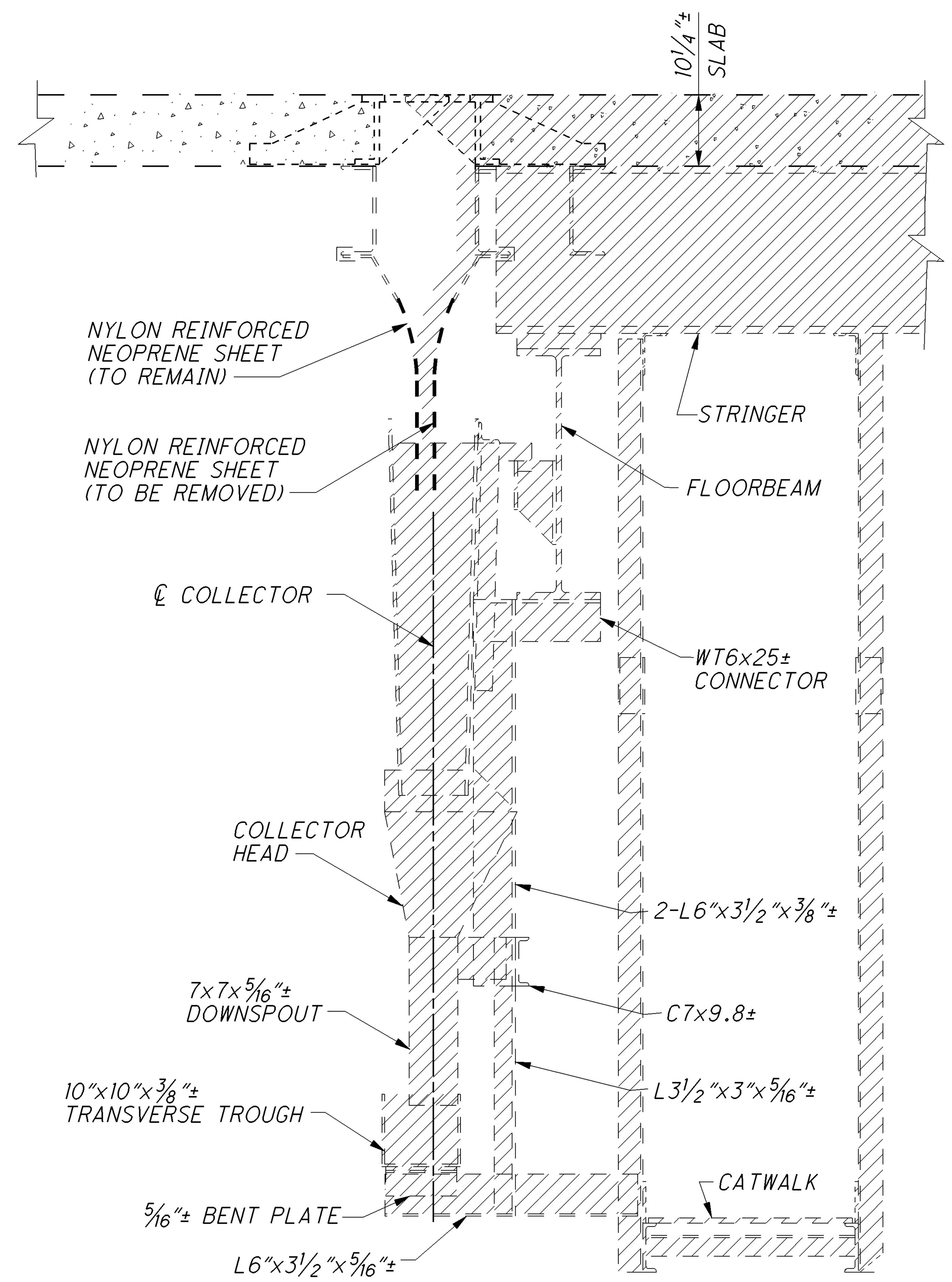
REMOVAL DETAILS - EXISTING TYPE B DRAIN
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

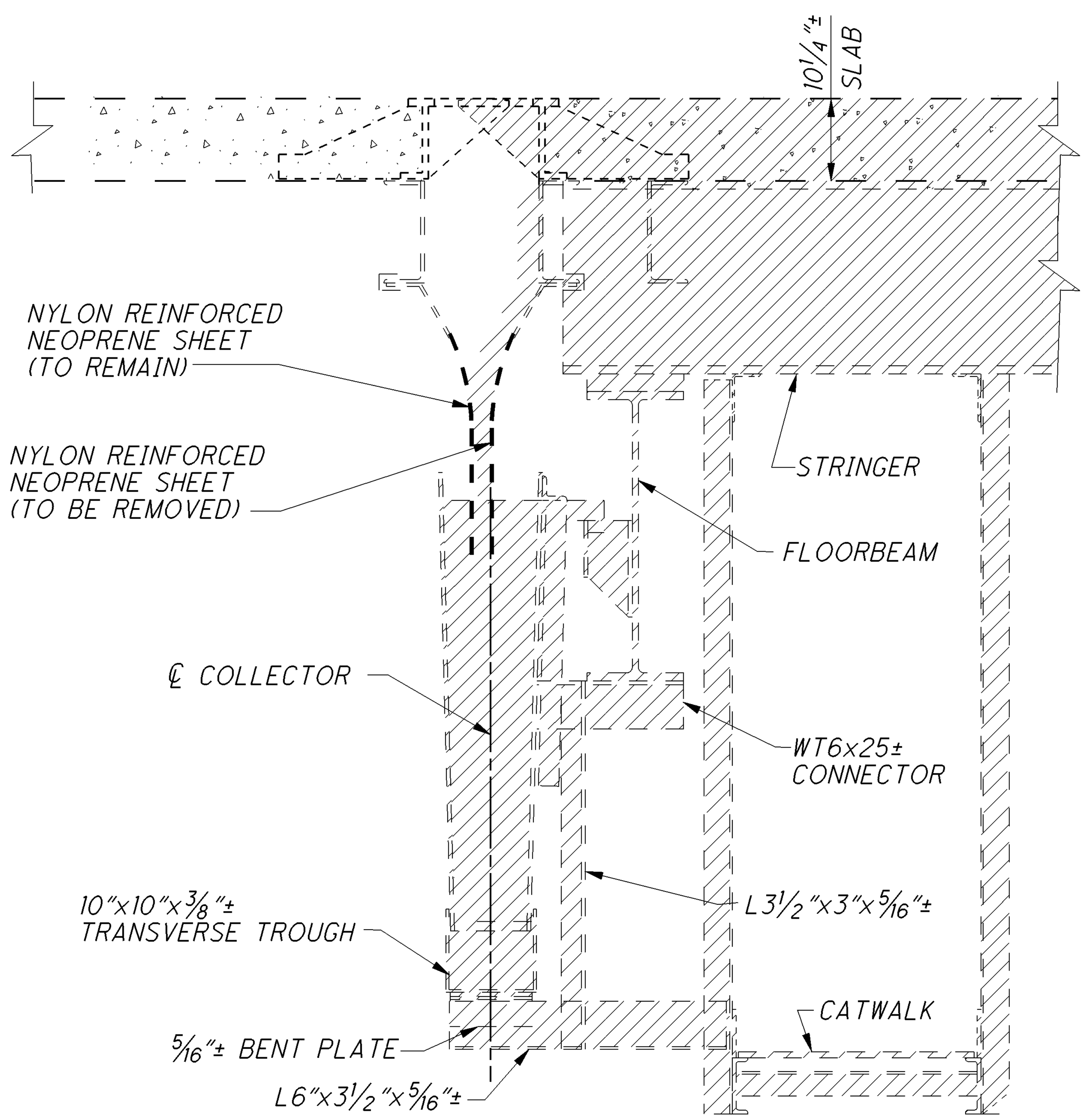
090_1524CSD016.DGN 7/29/09 TWH,KH,JLS



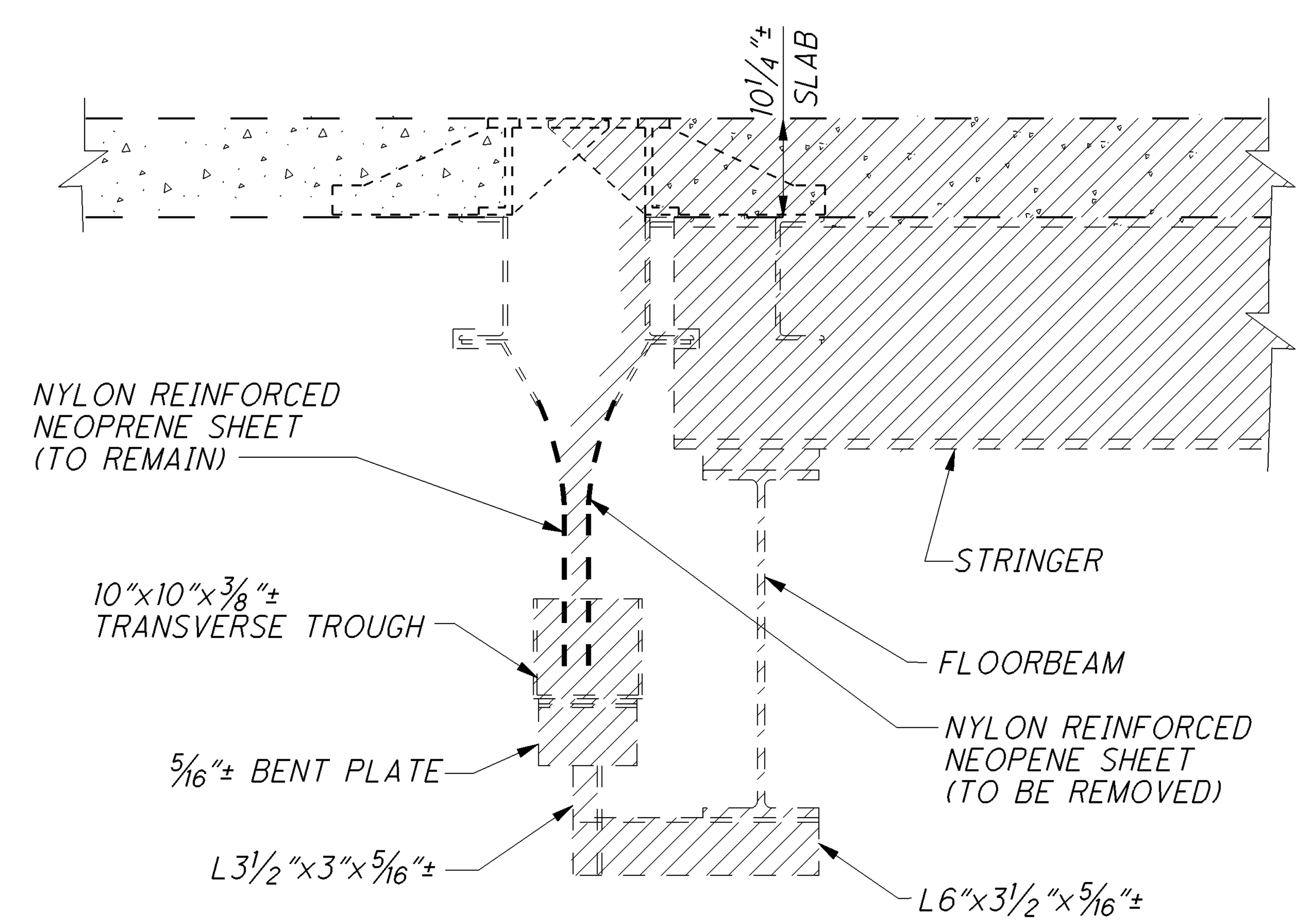
TYPE C1 DRAIN AT WEST END PIER



SECTION C-C



SECTION D-D



SECTION E-E

LEGEND

INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

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RICHLAND ENGINEERING LIMITED
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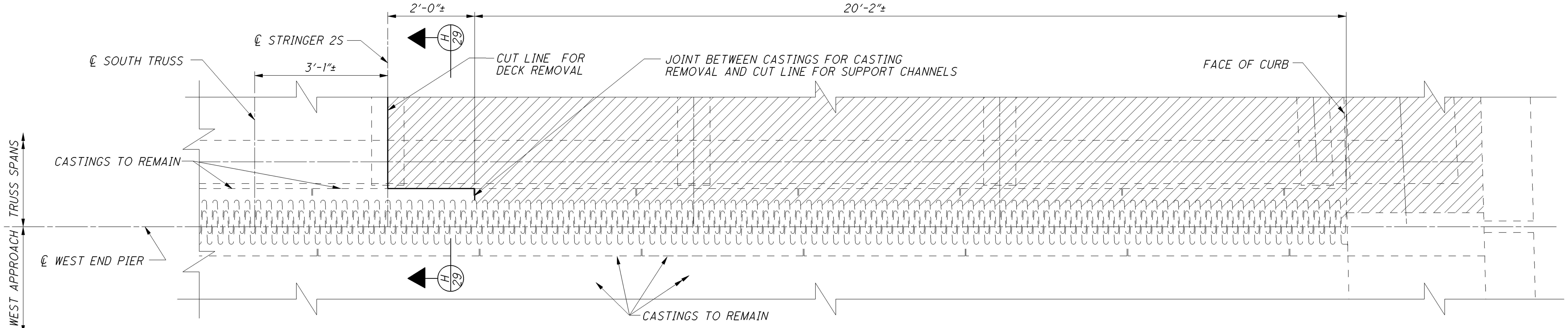
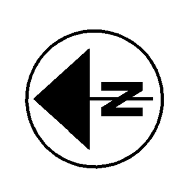
REMOVAL DETAILS - EXISTING TYPE C DRAIN - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

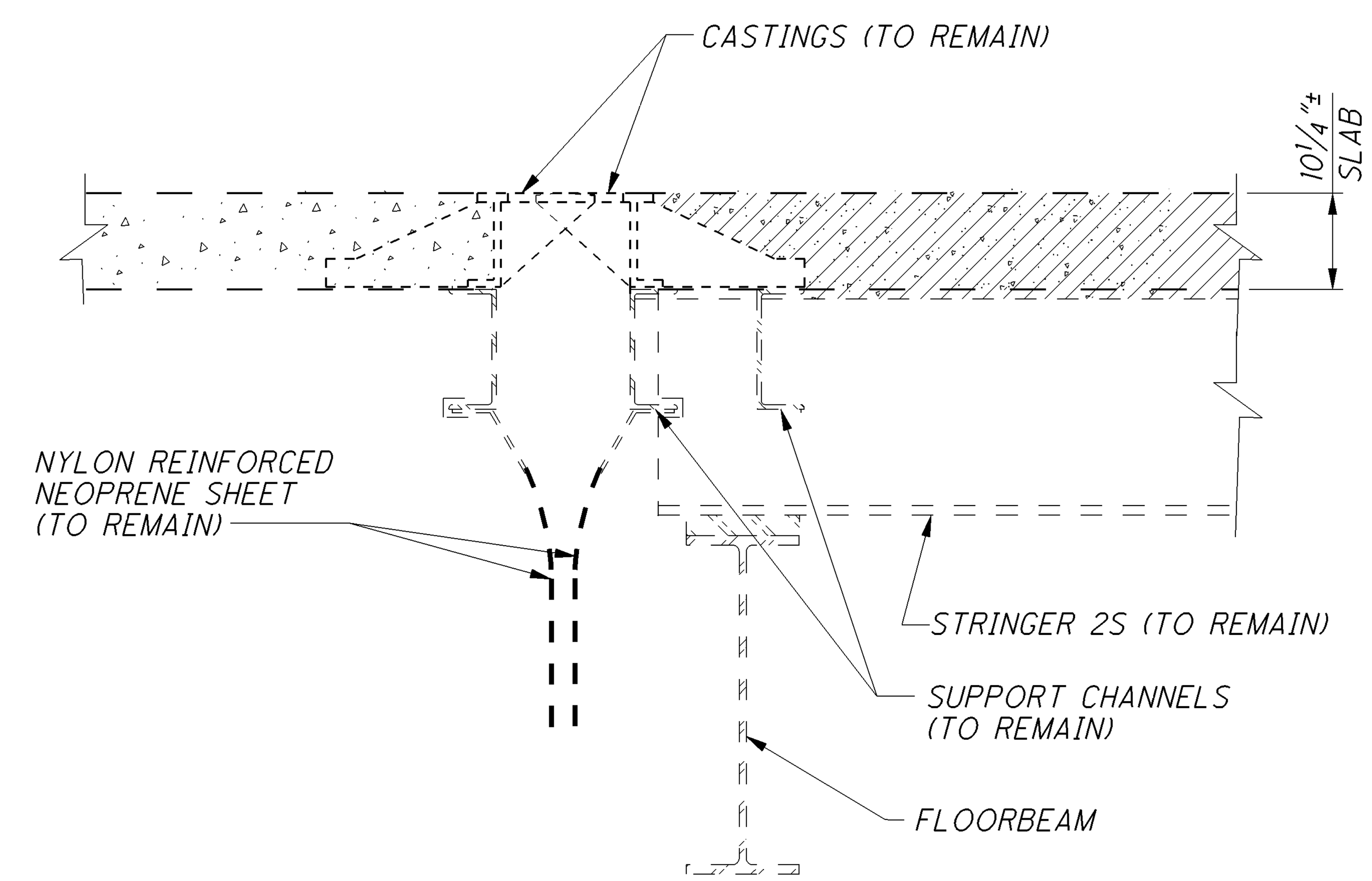
CUY-90-15.24
PID No. 82069

090_1524CSD017.dgn 7/10/09 TWH,JLS

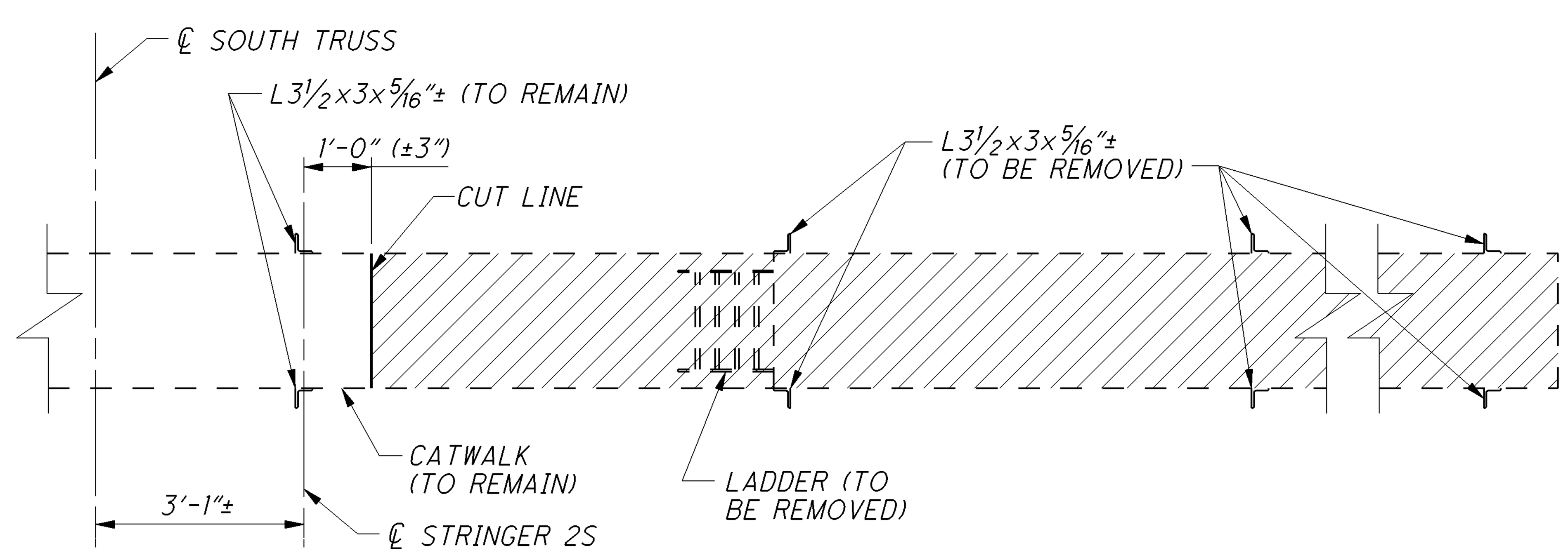


SECTION G-G





SECTION H-H



SECTION F-F

LEGEND

INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTIONS F-F & G-G: FOR LOCATIONS SEE SHEET 28/140.

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29 NORTH PARK STREET
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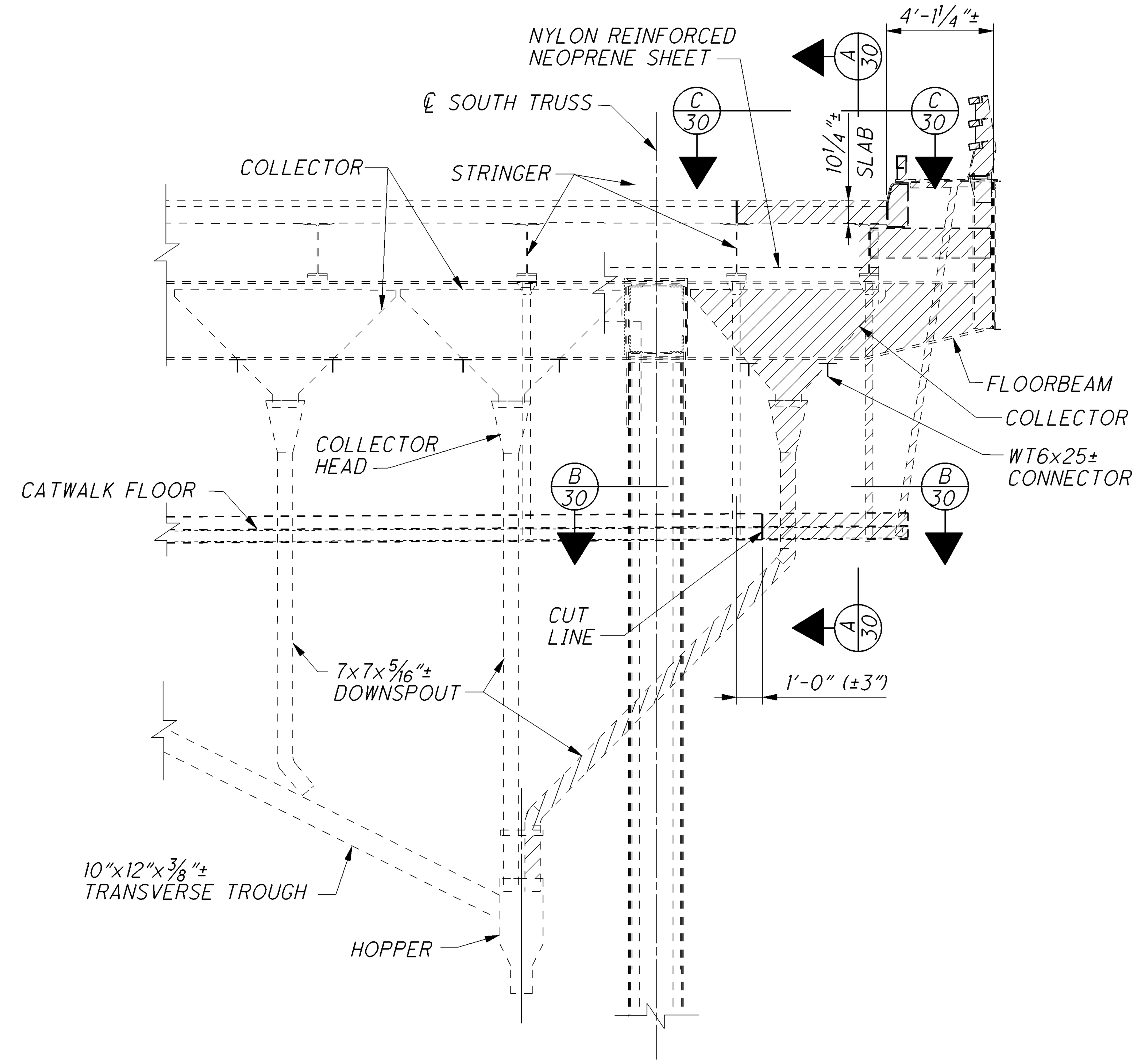
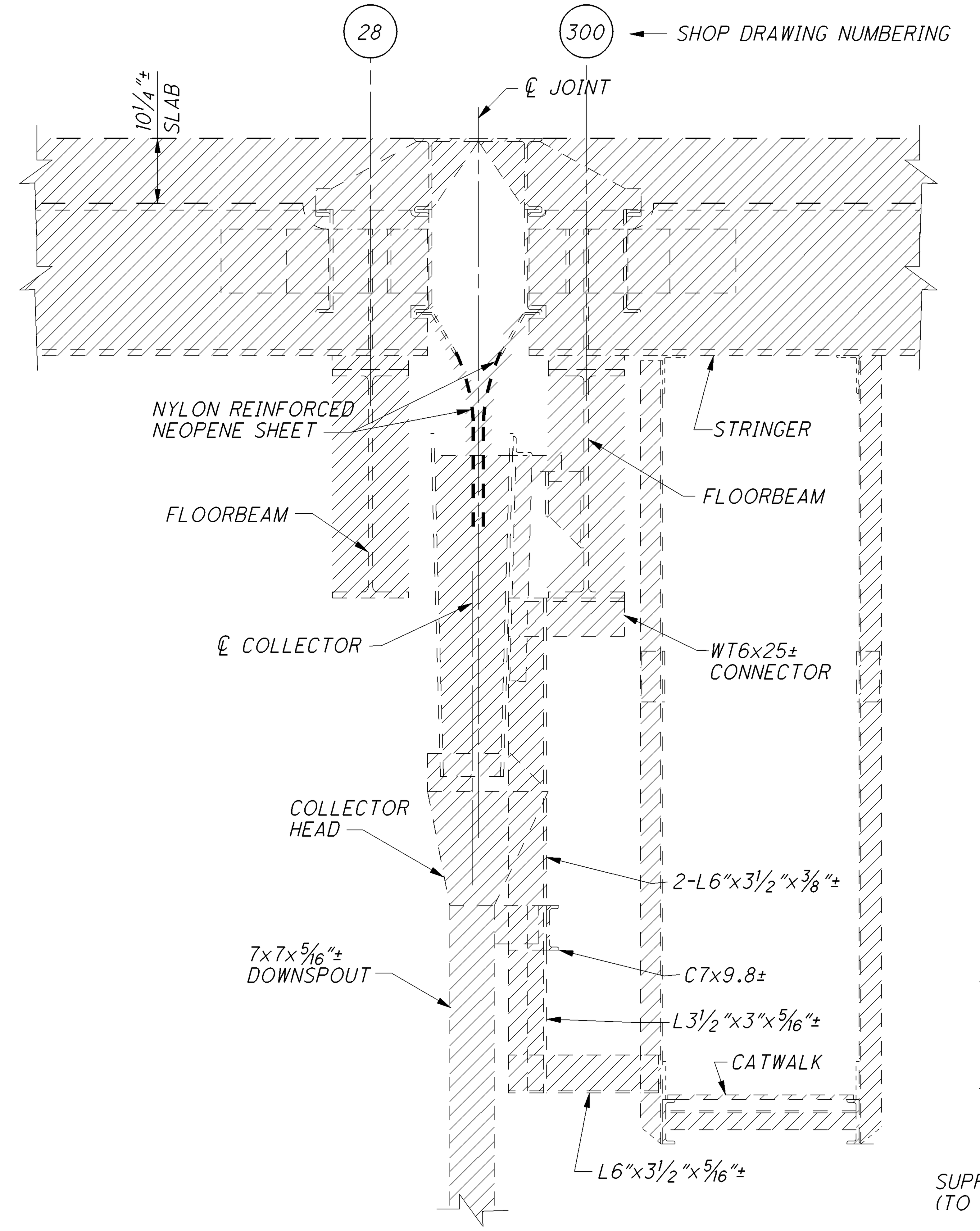
REMOVAL DETAILS - EXISTING TYPE C DRAIN - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

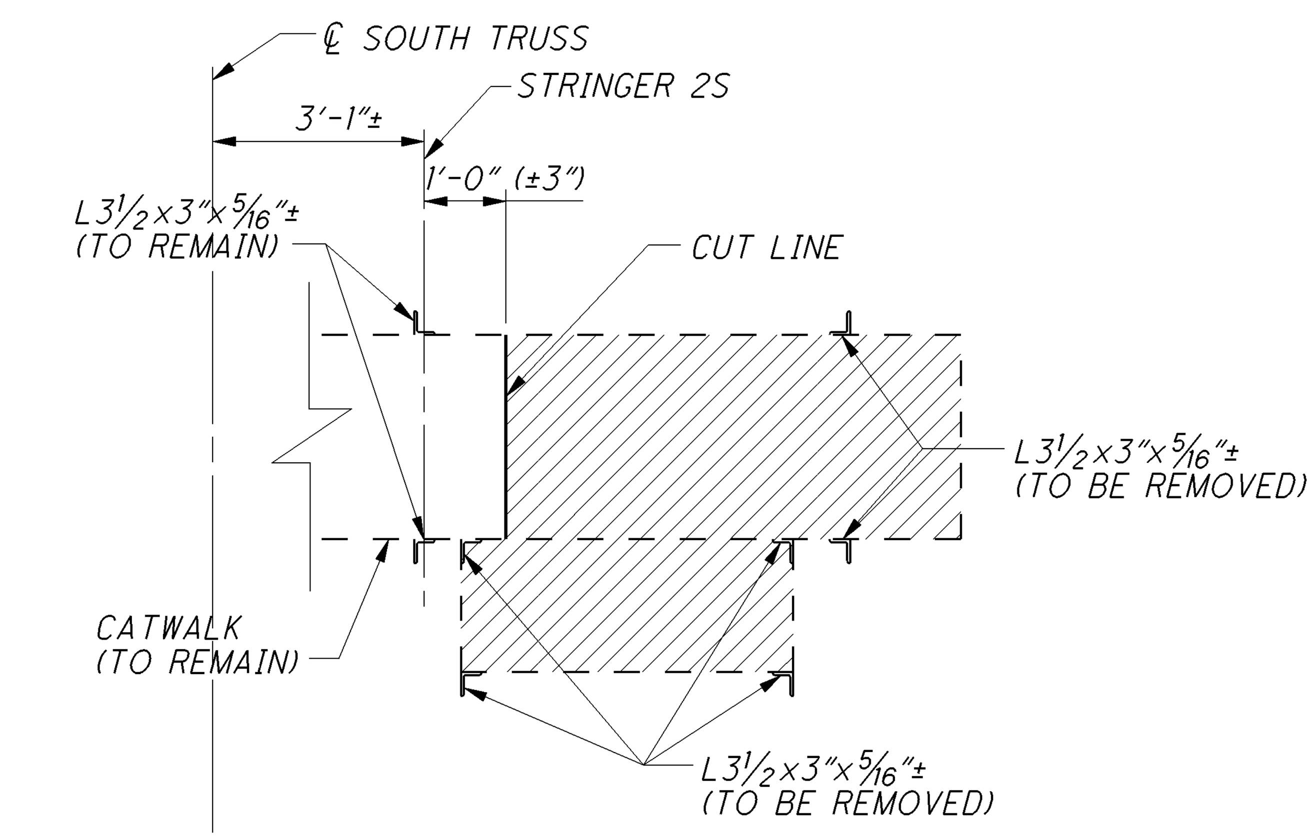
090_1524CSD024.dgn 7/30/09 JLS



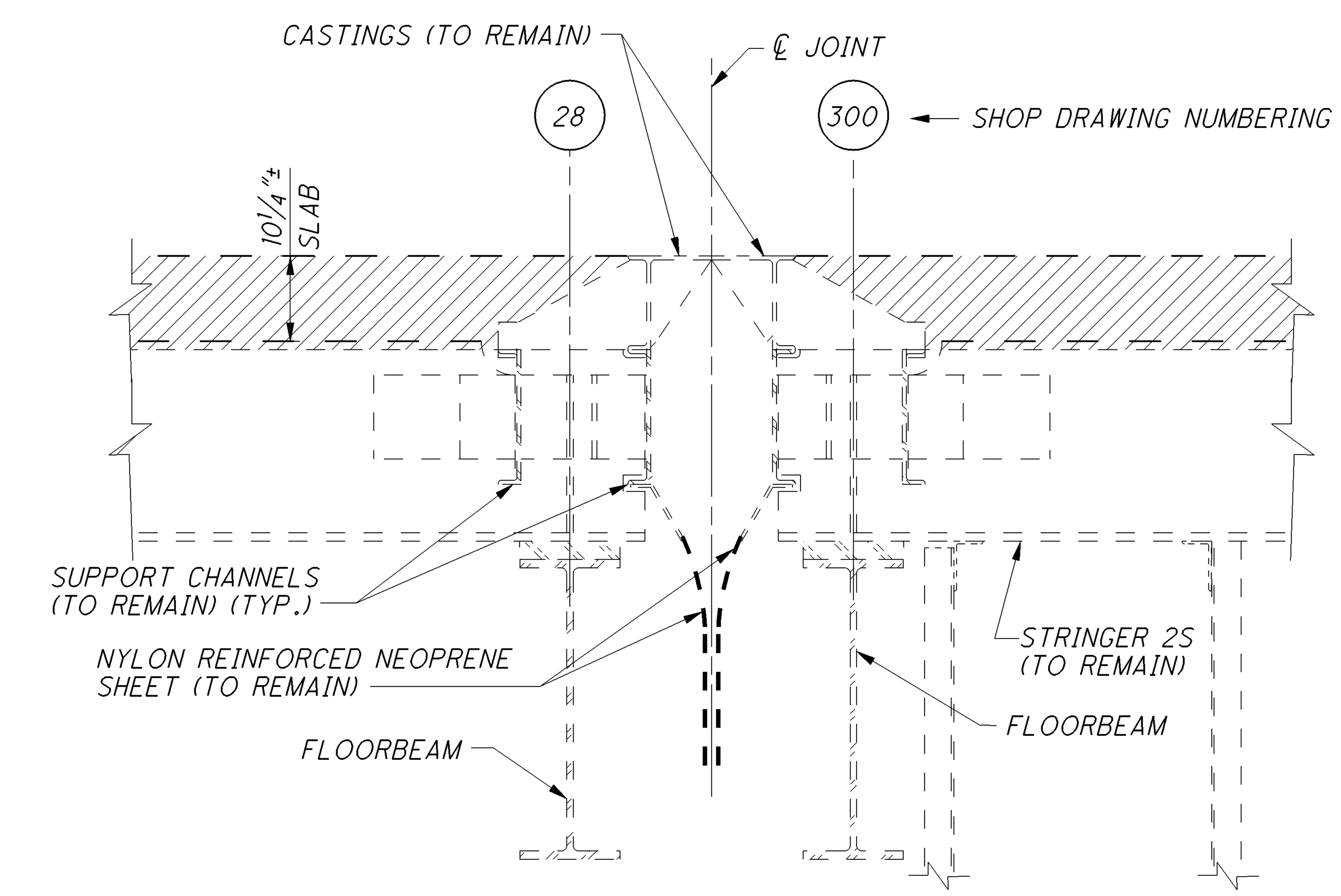
TYPE C2 DRAIN AT SPAN 2 FLOORBEAM 12



SECTION A-A

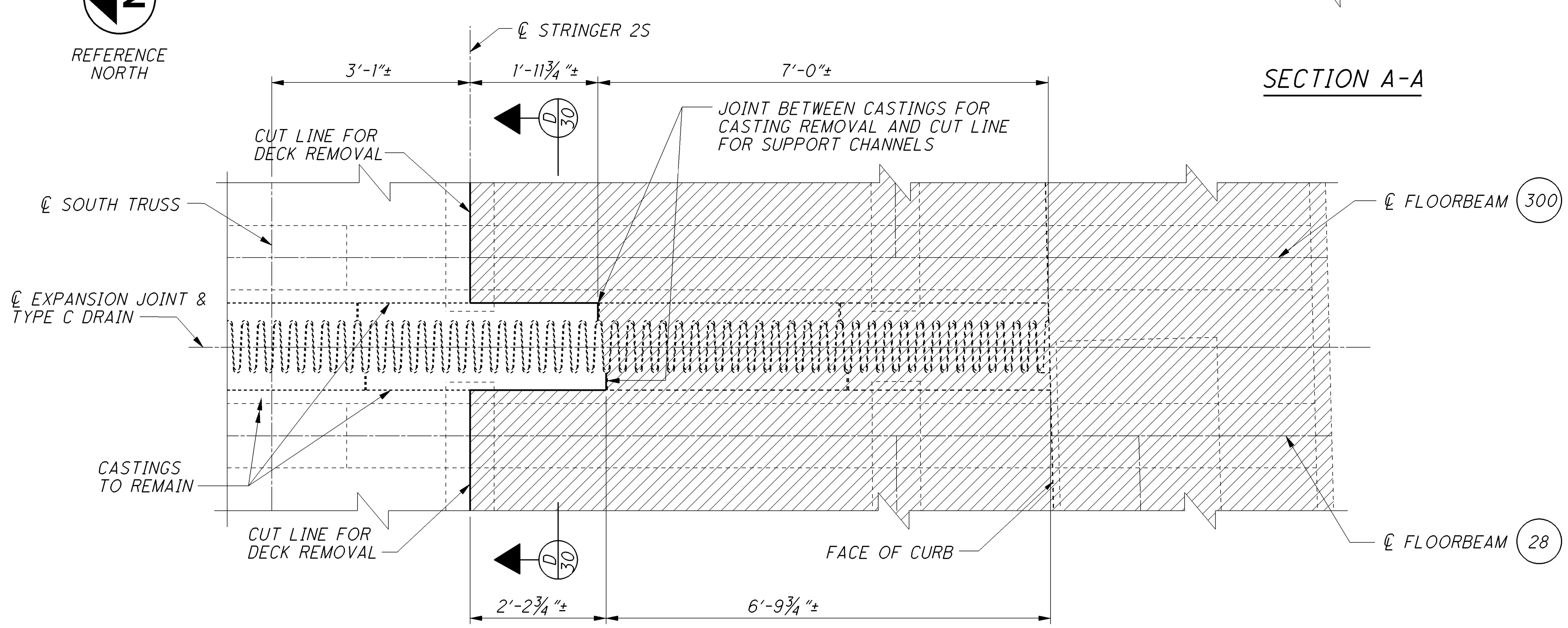


SECTION B-B



SECTION D-D

REFERENCE NORTH



SECTION C-C

LEGEND

INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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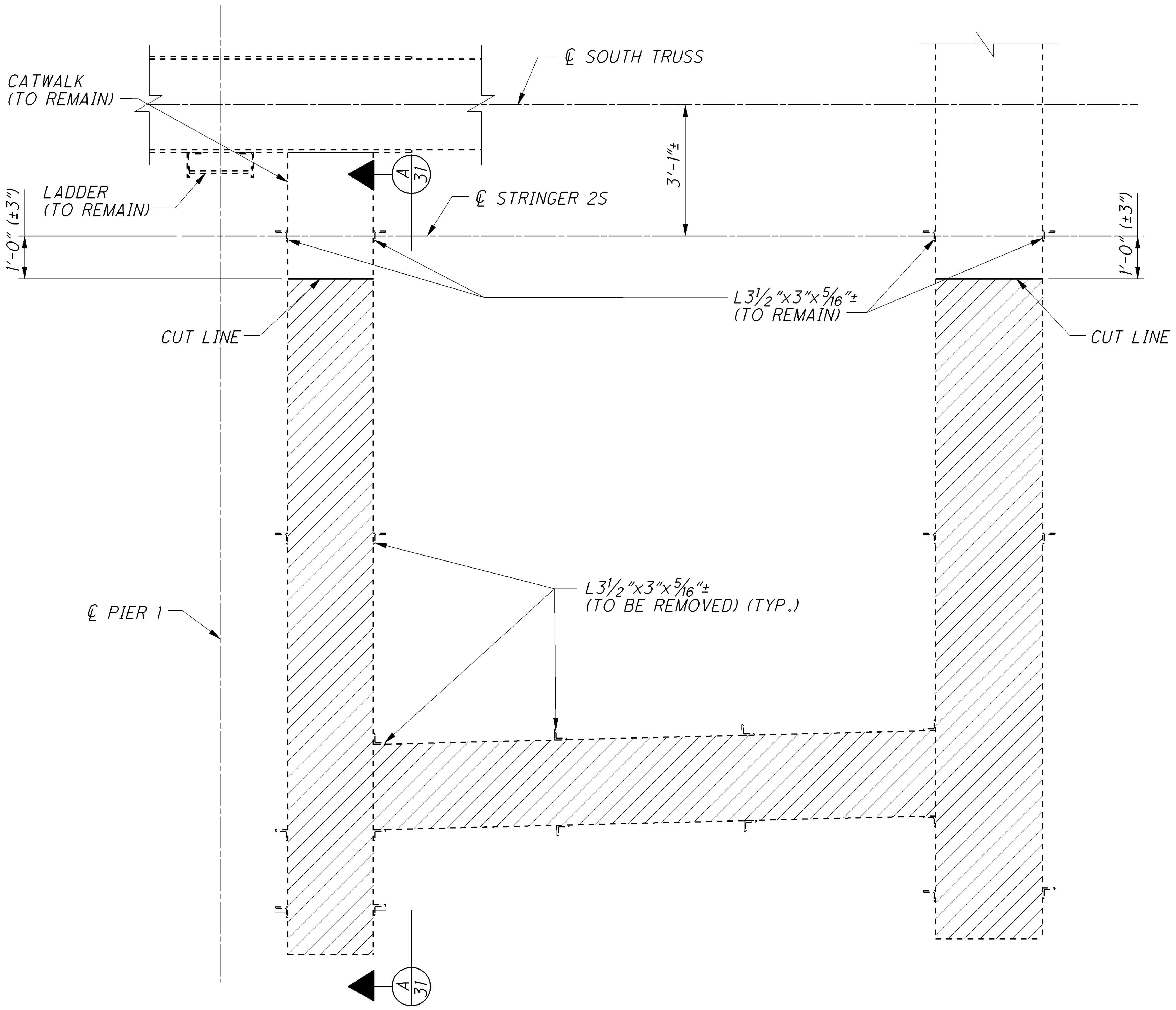
REMOVAL DETAILS - EXISTING TYPE C DRAIN - 3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

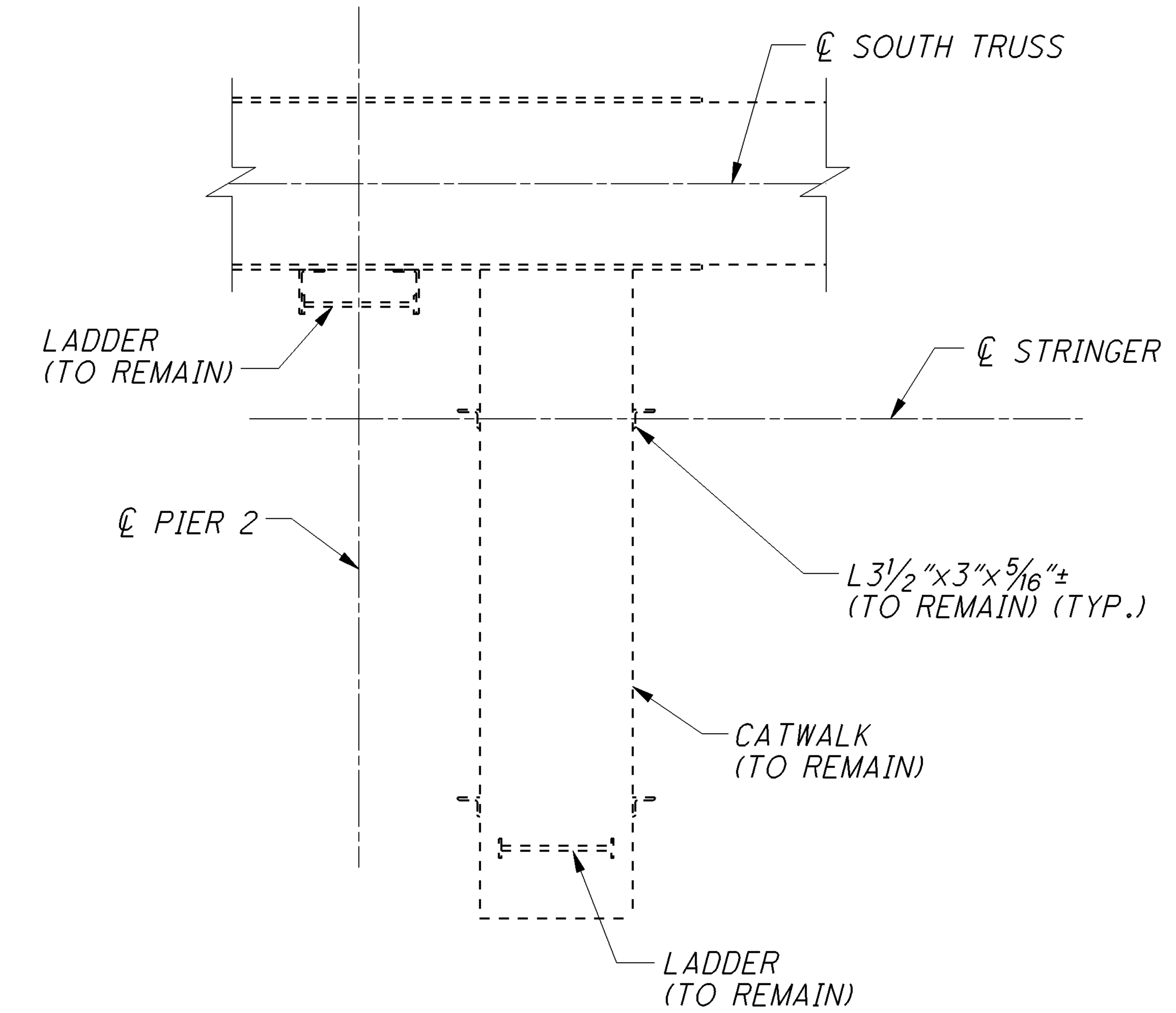
30/140

65/175

090_1524CSD018.DGN 7/29/09 TWH.JLS

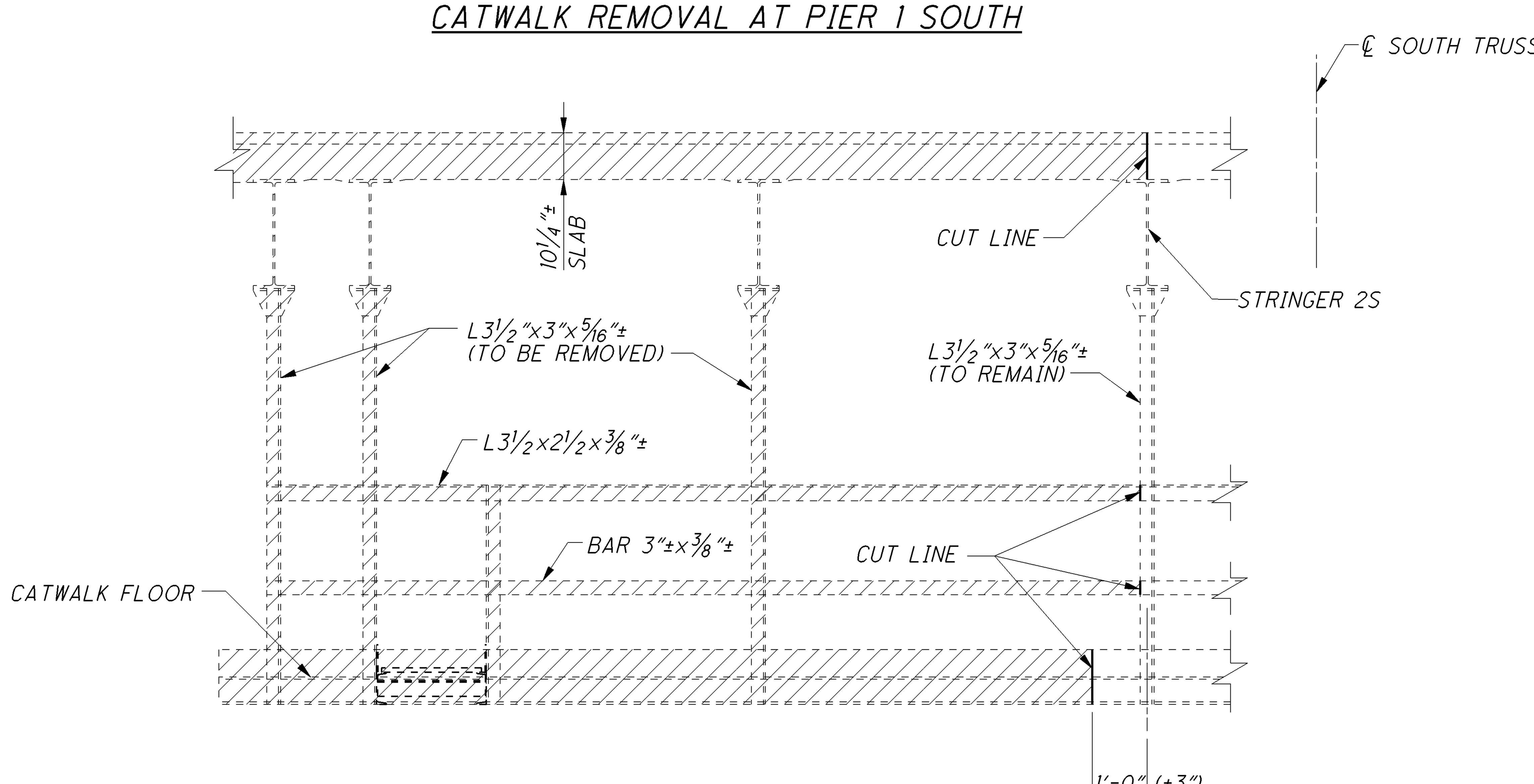


CATWALK REMOVAL AT PIER 1 SOUTH



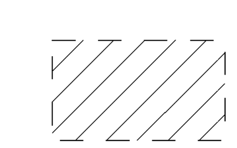
CATWALK AT PIER 2 SOUTH

ENTIRE CATWALK TO REMAIN



SECTION A-A

LEGEND



INDICATES MATERIAL TO BE REMOVED PER ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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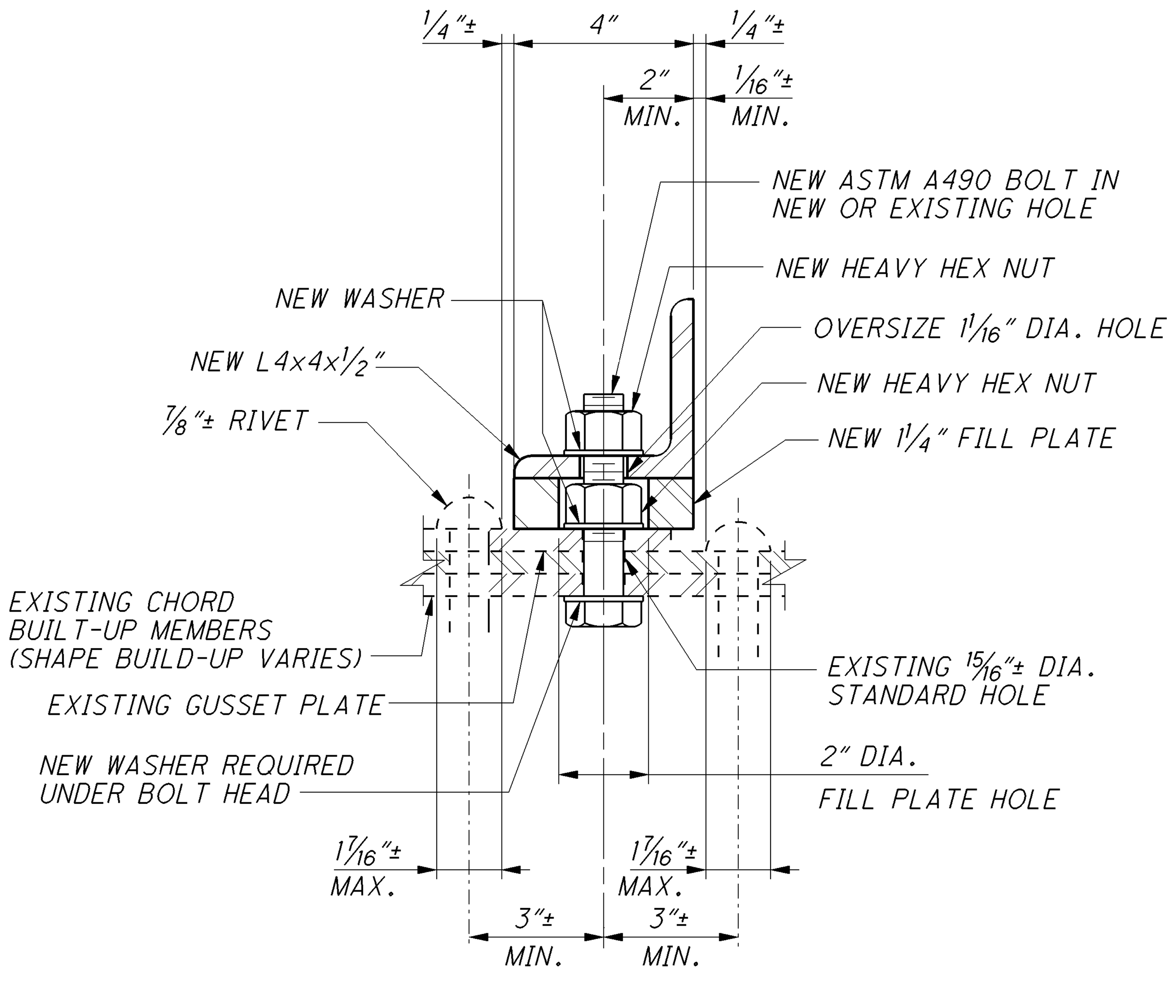
REMOVAL DETAILS - CATWALKS AT PIERS 1 SOUTH & 2 SOUTH

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

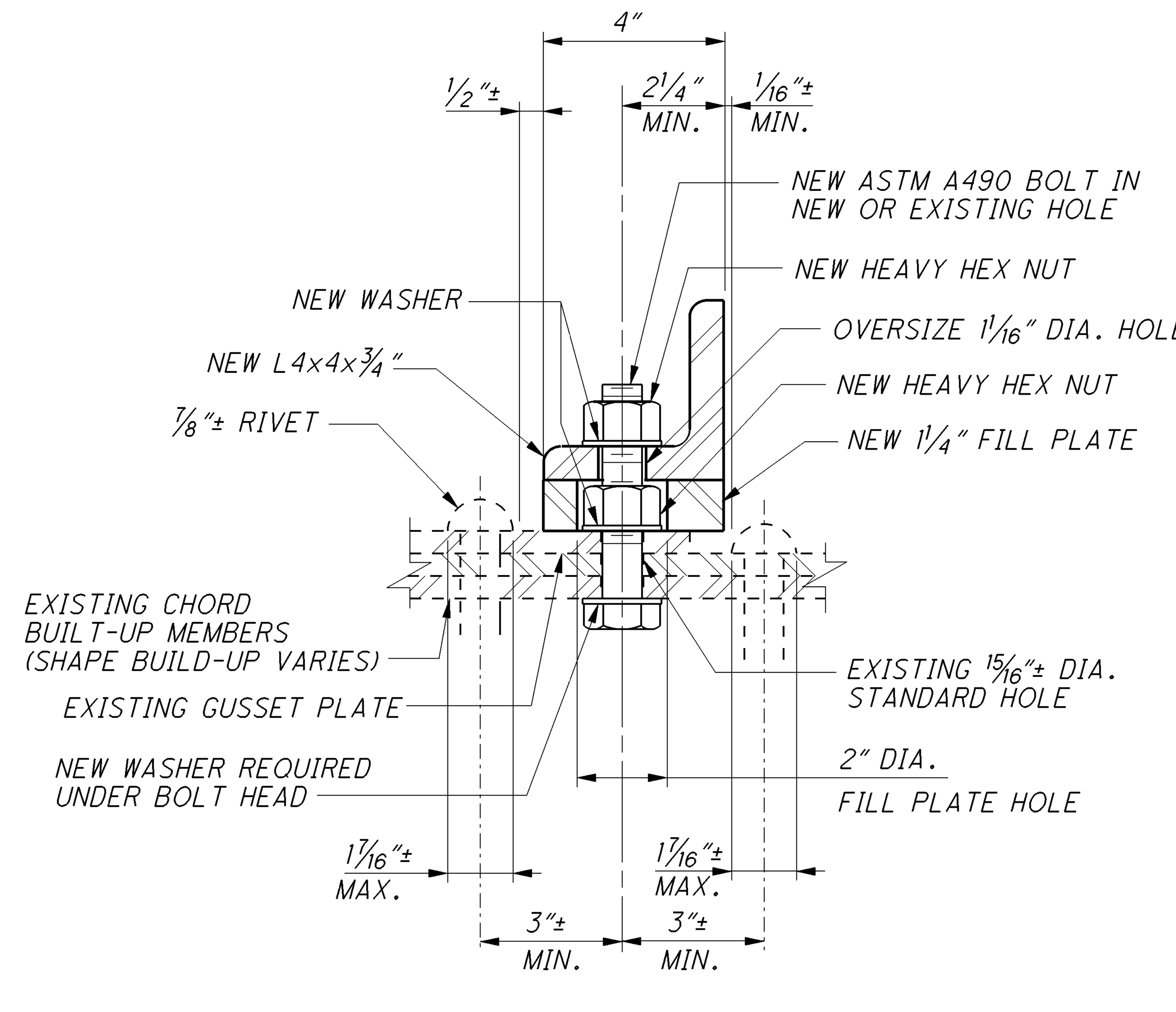
CUY-90-15.24

PID No. 82069

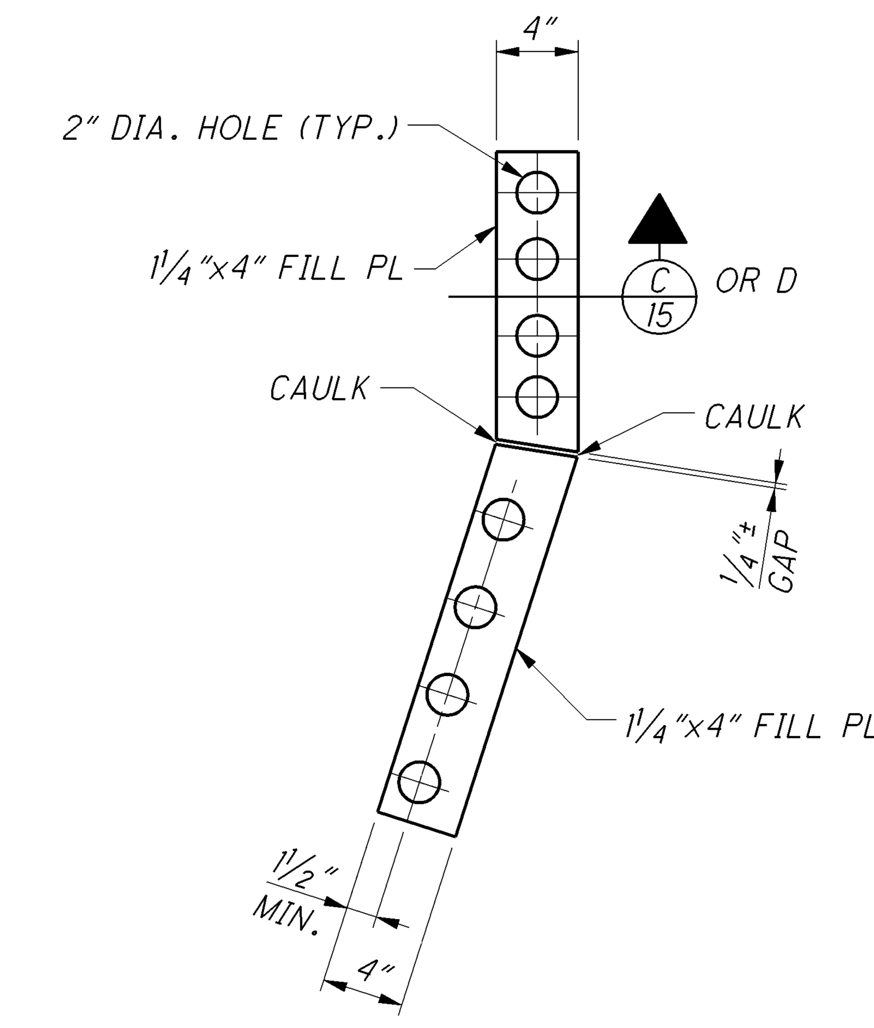
090_1524CSD022.DGN 7/28/09 JLS



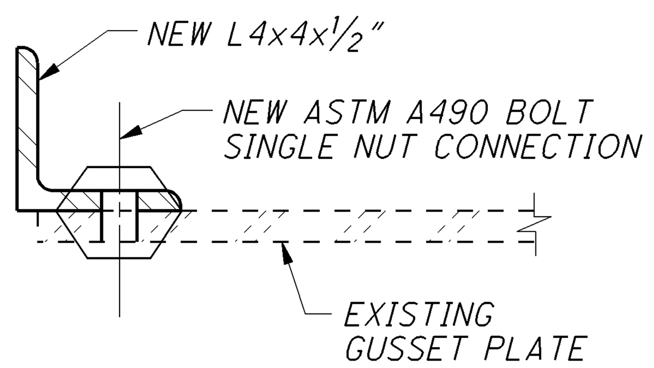
NEW DOUBLE NUT
L4x4x1/2" CONNECTION DETAIL
(PATENT PENDING)



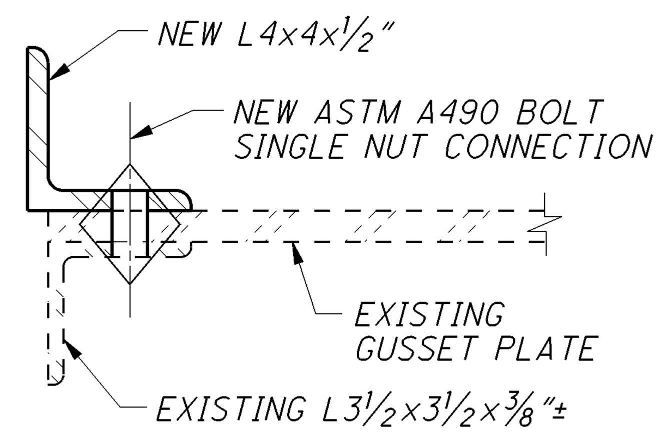
NEW DOUBLE NUT
L4x4x3/4" CONNECTION DETAIL
(PATENT PENDING)



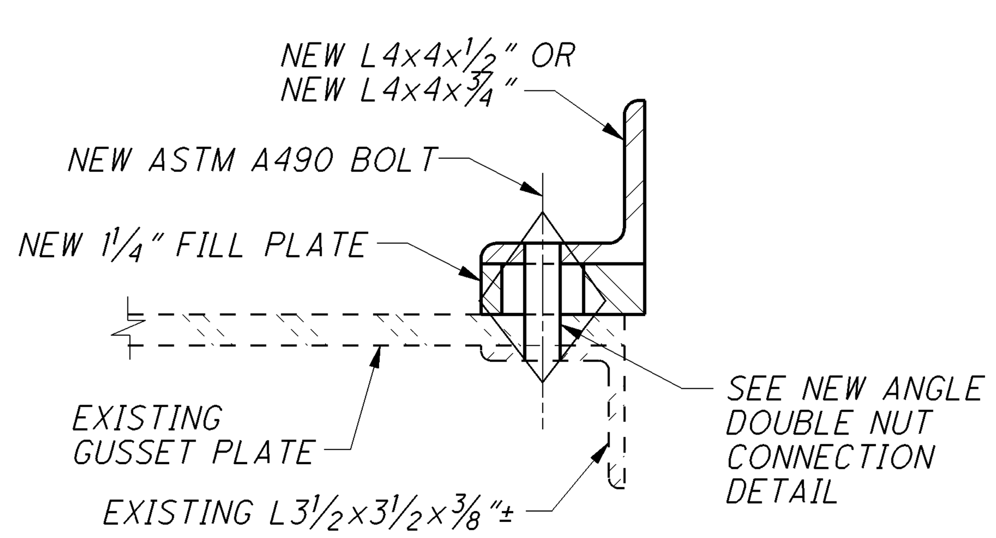
TYPICAL FILL PLATE DETAIL



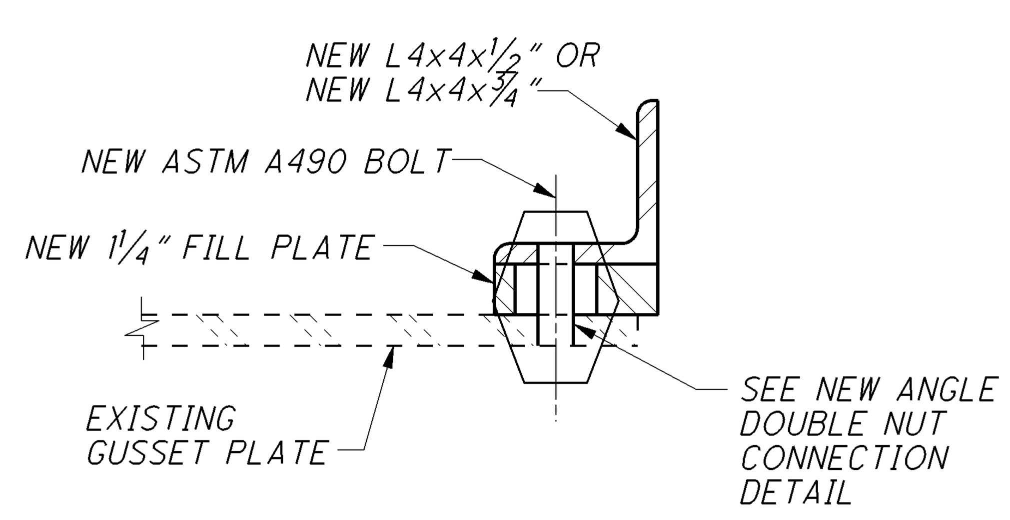
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTE ON SHEET 11/140.

LOCATIONS OF WORK: SEE TRUSS ELEVATION DRAWING SHEET 4/140 AND REPAIR TABLE SHEET 5/140.

GUSSET PLATE REPAIR TYPE DESCRIPTIONS: SEE SHEET 6/140.

BOLT LEGEND: SEE SHEET 15/140.

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING ANGLES, FILL PLATES, GUSSET PLATES, CHORD MEMBERS, AND SPLICE PLATES. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH. THE "GRIP" DOES NOT INCLUDE PACK RUST OR GUSSET PLATE DEFORMATIONS AT SPECIFIC LOCATIONS THAT MAY REQUIRE LONGER BOLTS.

CAULK MATERIALS PER CMS 514.02 AND APPLICATION PER CMS 514.19. INCLUDED FOR PAYMENT AS INCIDENTAL TO THE PERTINENT TRUSS GUSSET REPAIR ITEM.

SECTIONS A-A, B-B, C-C & D-D: FOR LOCATIONS SEE SHEETS 33/140 THROUGH 91/140.

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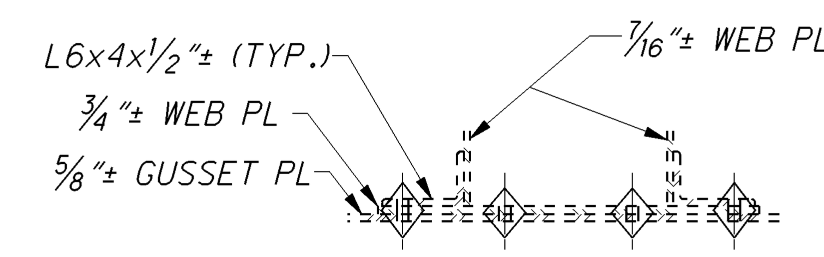
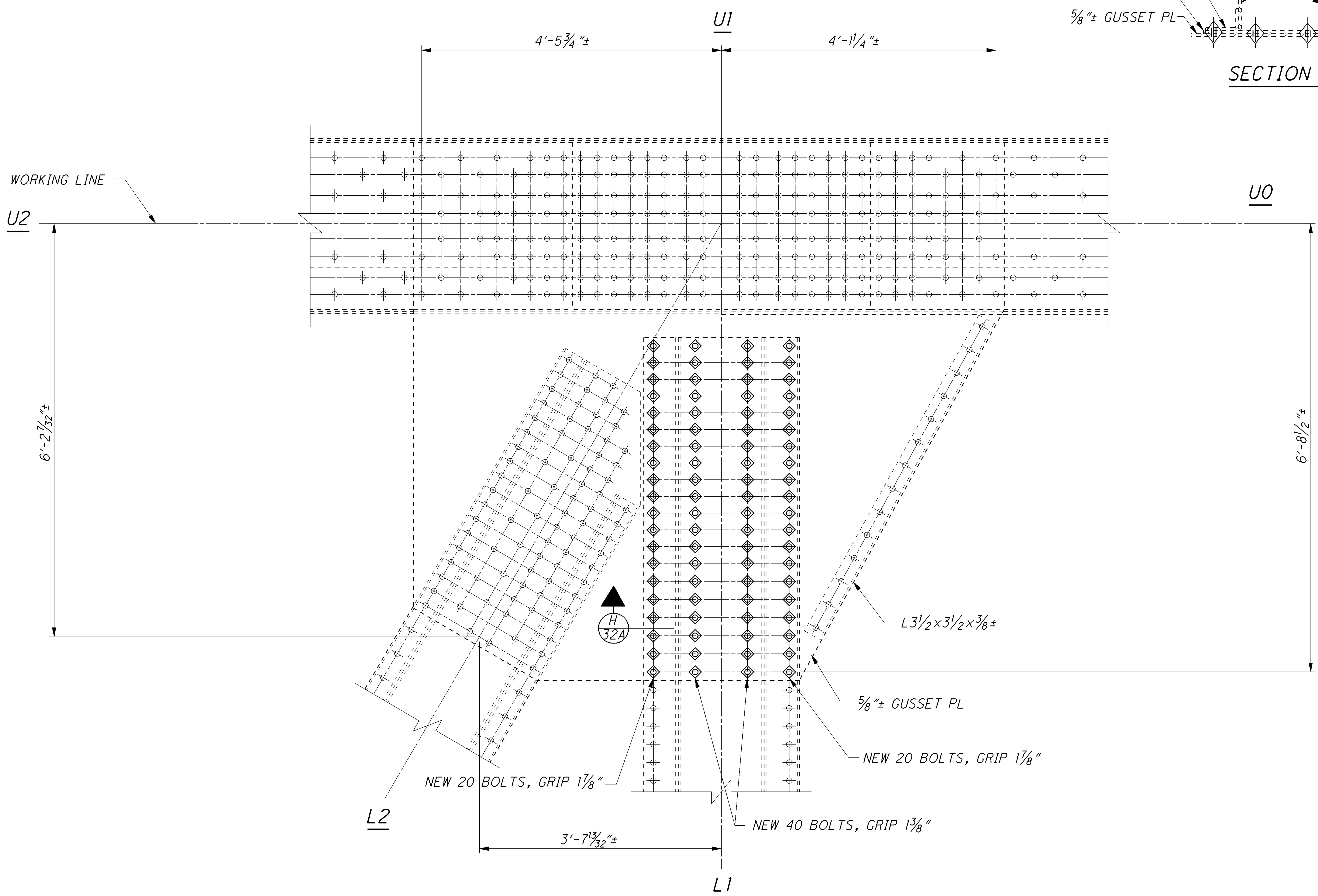
GUSSET PLATE REPAIR DETAILS AND NOTES
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



SECTION H

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜"	2¾"	40	80
1⅞"	3¼"	40	80



U110
SPAN 2 - PANEL POINT U1 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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SPAN 2 - PANEL PT U1 (U110) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

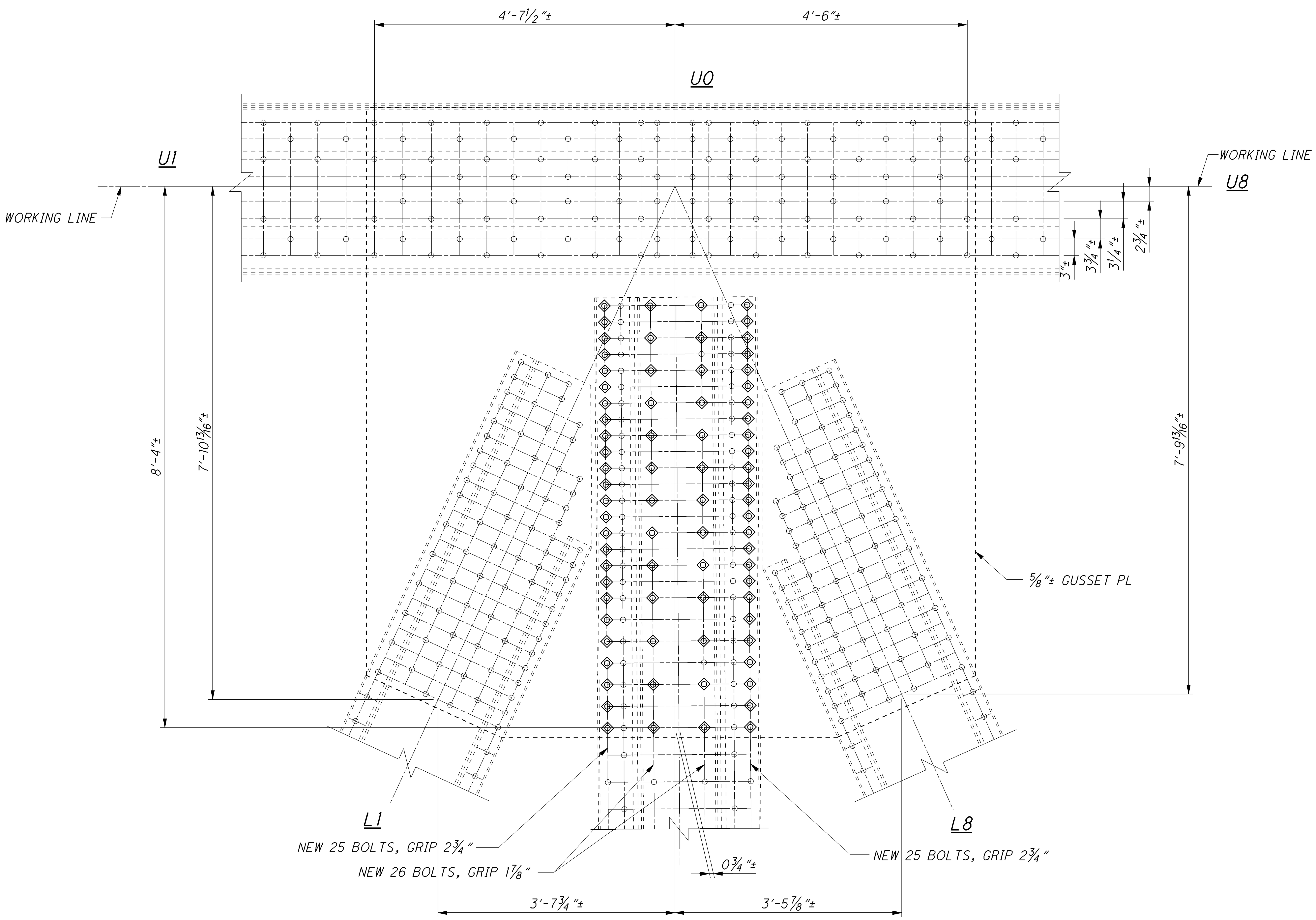
CUY-90-15.24
PID No. 82069

32A/140

67A/175

U110N.DGN 9/02/09 RBJLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅞"	3¼"	26	52
2¾"	4¼"	50	100



U109

SPAN 2 - PANEL POINT U0 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.

- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

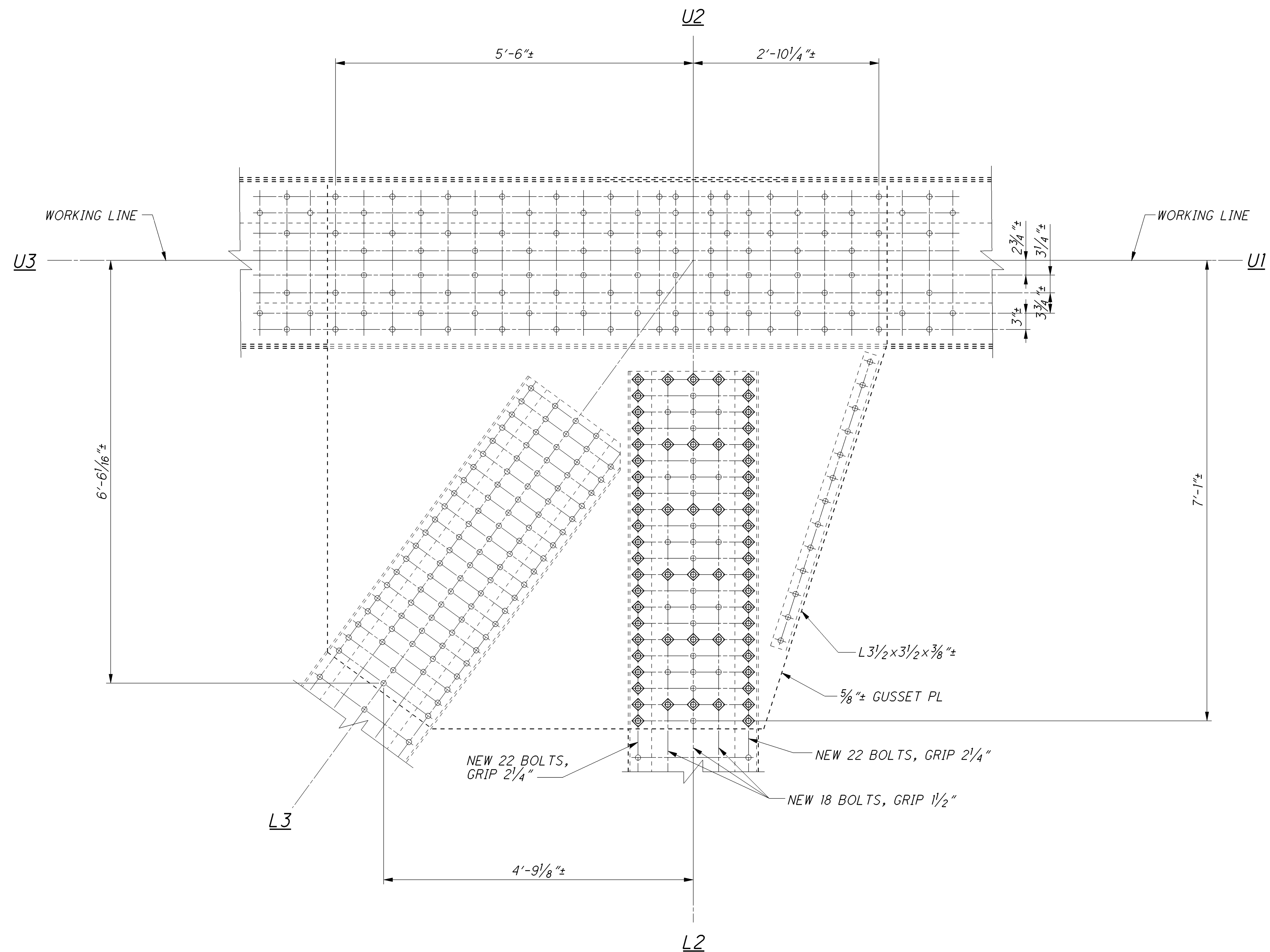
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED ALP CHECKED dht

SPAN 2 - PANEL PT U0 (U109) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U109N.DGN 9/02/09 JLS



U111
SPAN 2- PANEL POINT U2 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/2"	3"	18	36
2 1/4"	3 1/2"	44	88

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP
DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS
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DESIGNED ALP
CHECKED dht

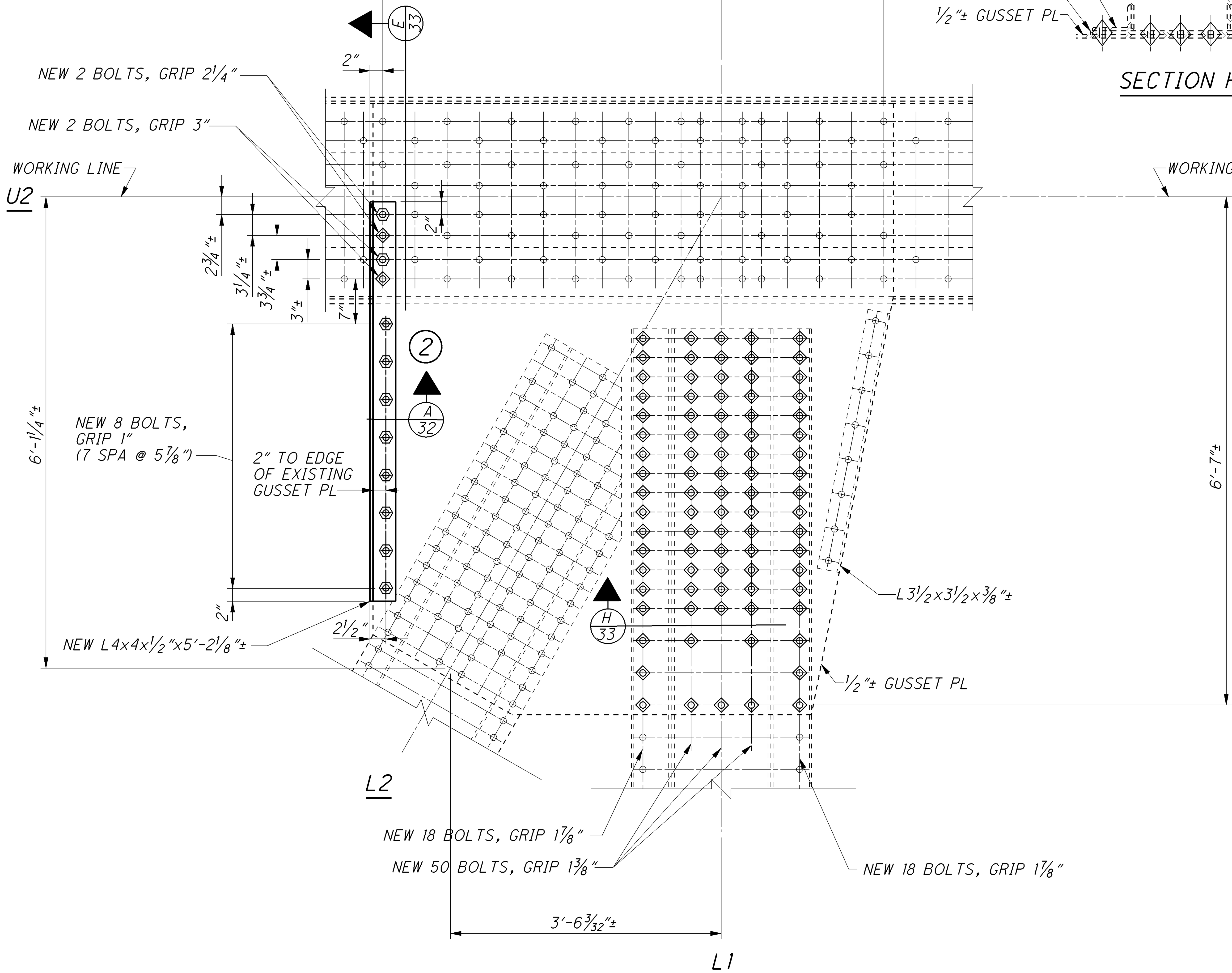
SPAN 2 - PANEL PT U2 (U111) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U111N.DGN 9/01/09 JLS

TYPE (2), BOLT TABLE - ⅞″ DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1″	2½″	8	16
2¼″	3¾″	2	4
3″	4½″	2	4

BOLT TABLE - ⅞″ DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜″	2¾″	50	100
1⅞″	3¼″	36	72

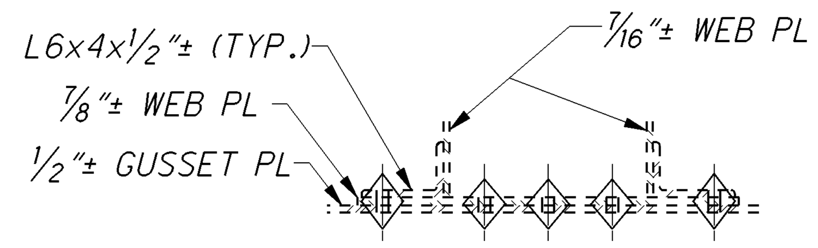


U315

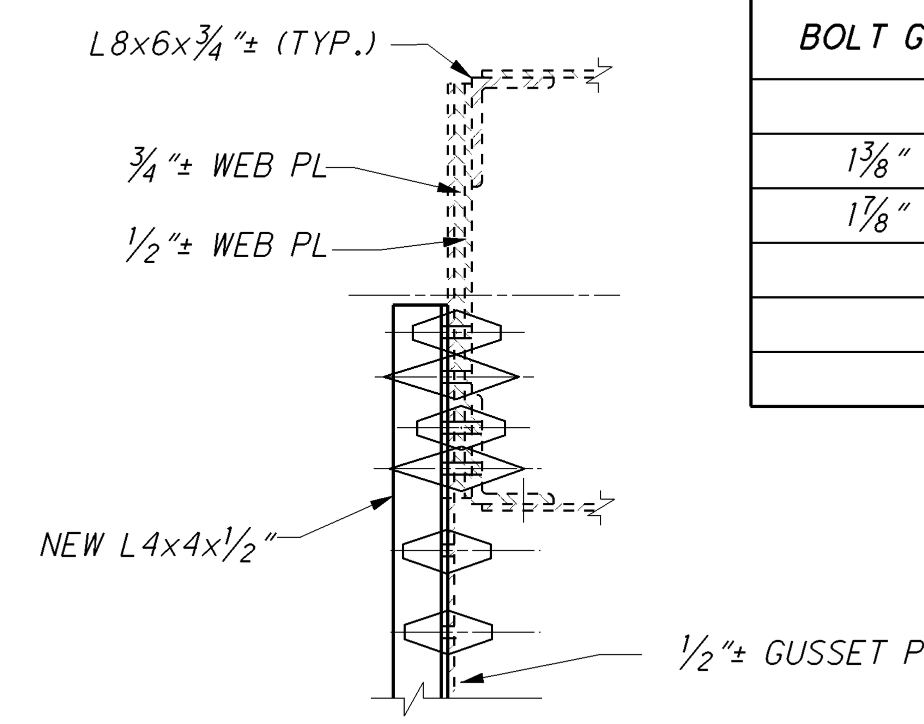
SPAN 4 - PANEL POINT U1 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND



SECTION H



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140 AND ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞″ DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS NOTES ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

REVISED 9/4/09

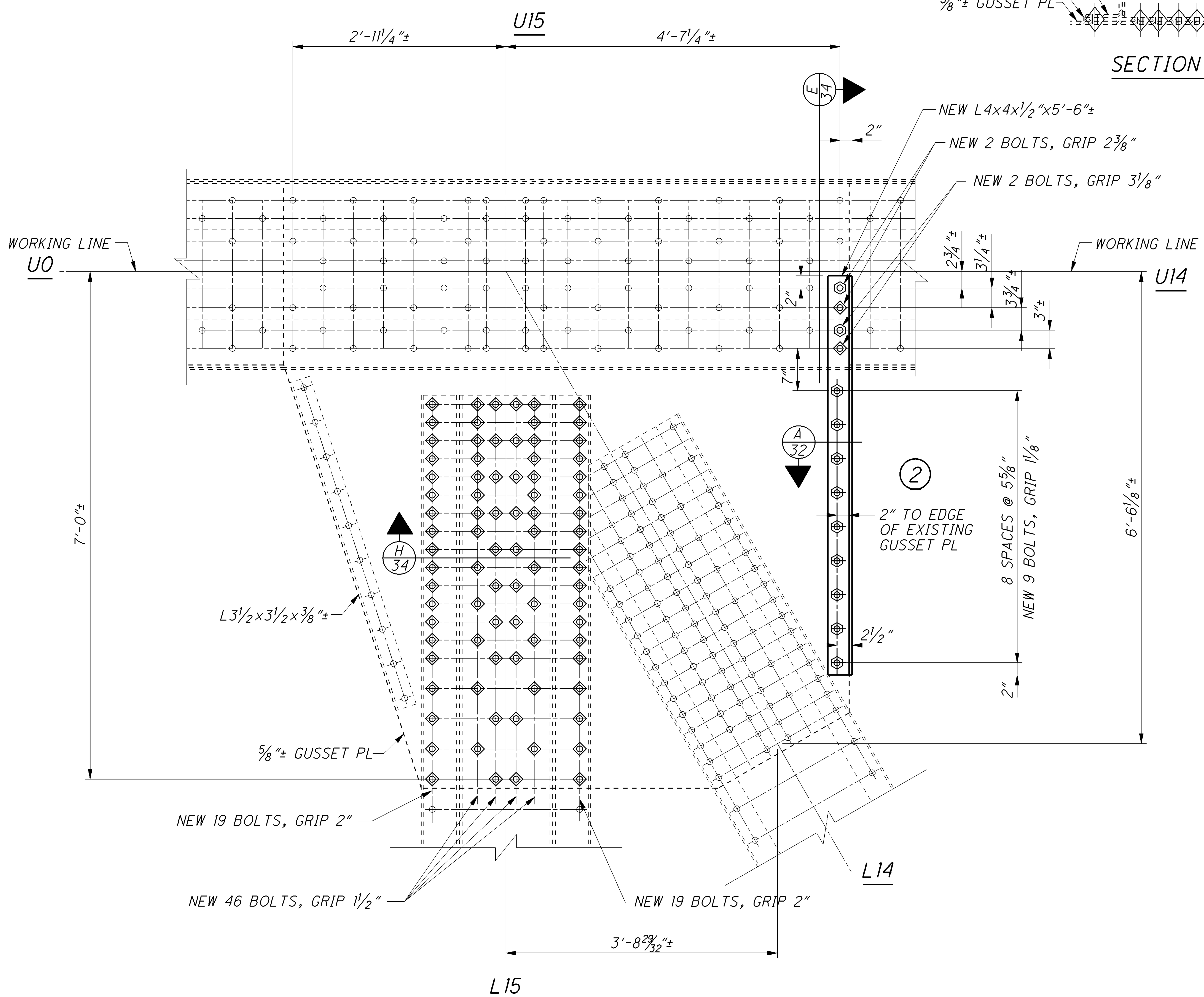
U315N.DGN 9/01/09 RB,TWH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

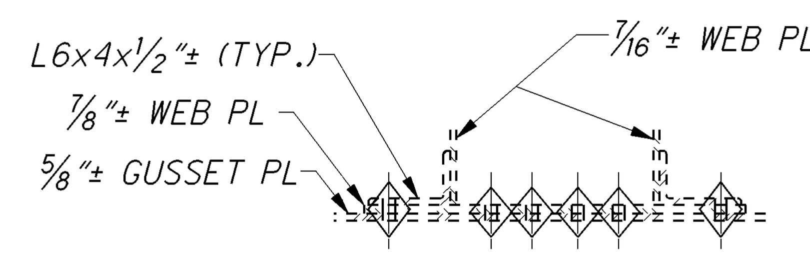
REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN LVB REVISED 9/4/09
DESIGNED ALP CHECKED JDB

SPAN 4 - PANEL PT U1 (U315) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

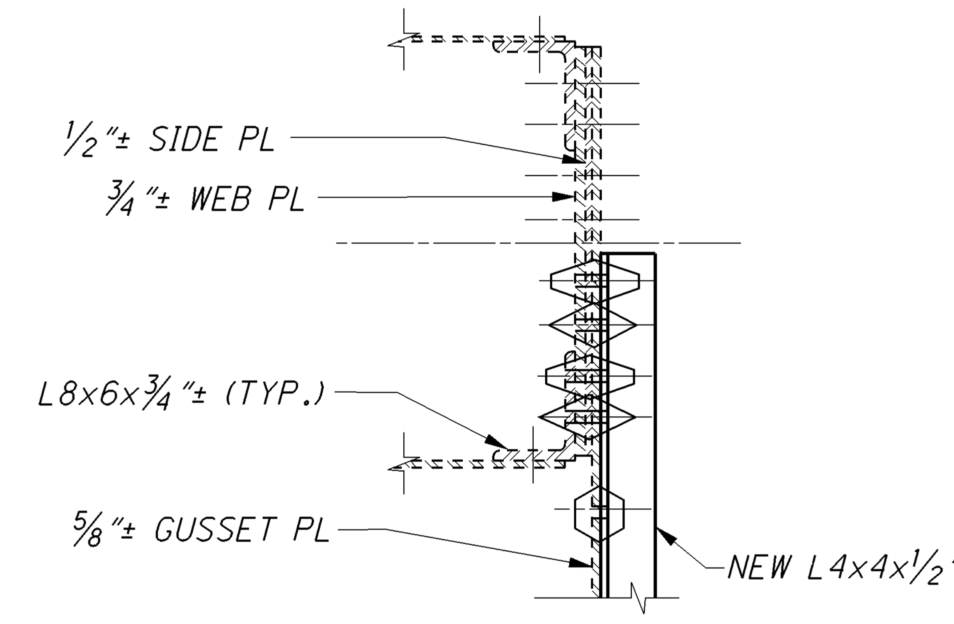
CUY-90-15.24
PID No. 82069



U503
SPAN 4- PANEL POINT U15 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND



SECTION H



SECTION E

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	2¾"	46	92
2"	3¼"	38	76

TYPE 2, BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅛"	2¾"	9	18
2⅜"	4"	2	4
3⅛"	4¾"	2	4

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140 AND ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS NOTES ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

U503N.DGN 9/01/09 TWH,JLS

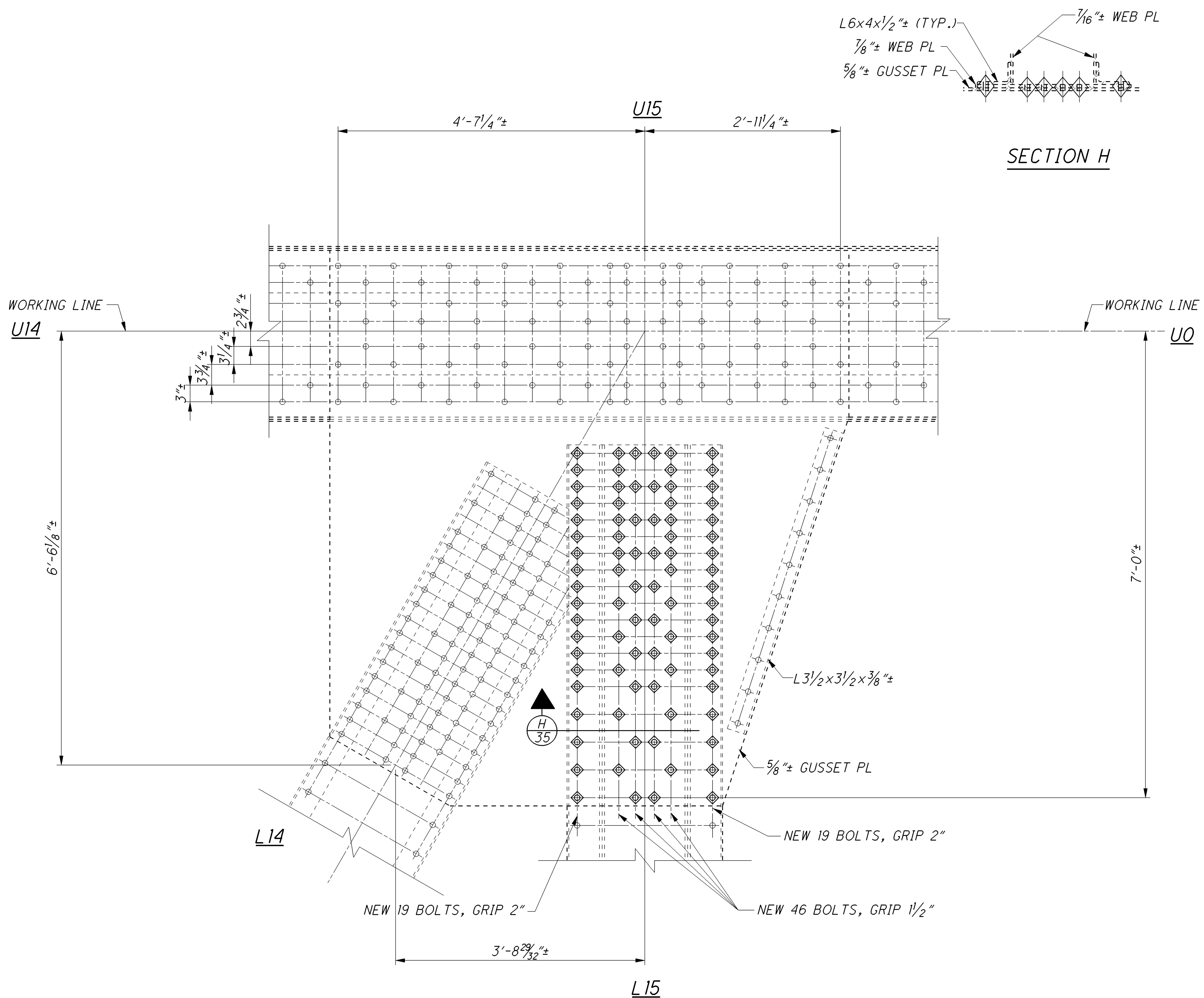
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
ALP	JDB	TWH	9/4/09	DAP	7/31/09

STRUCTURE FILE NUMBER 1809393

SPAN 4 - PANEL PT U15 (U503) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



U503

SPAN 4- PANEL POINT U15 - 2 GUSSET PLATES

SOUTH TRUSS OUTSIDE - SHOWN

SOUTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	2¾"	46	92
2"	3¼"	38	76

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

REVISED 9/4/09

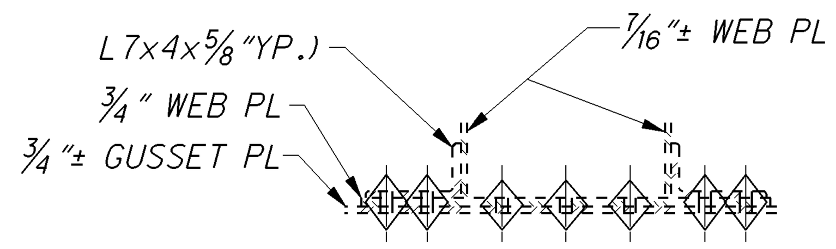
U503S.DGN 9/01/09 TWH,RB,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN TWH REVISED 9/4/09
DESIGNED ALP CHECKED JDB

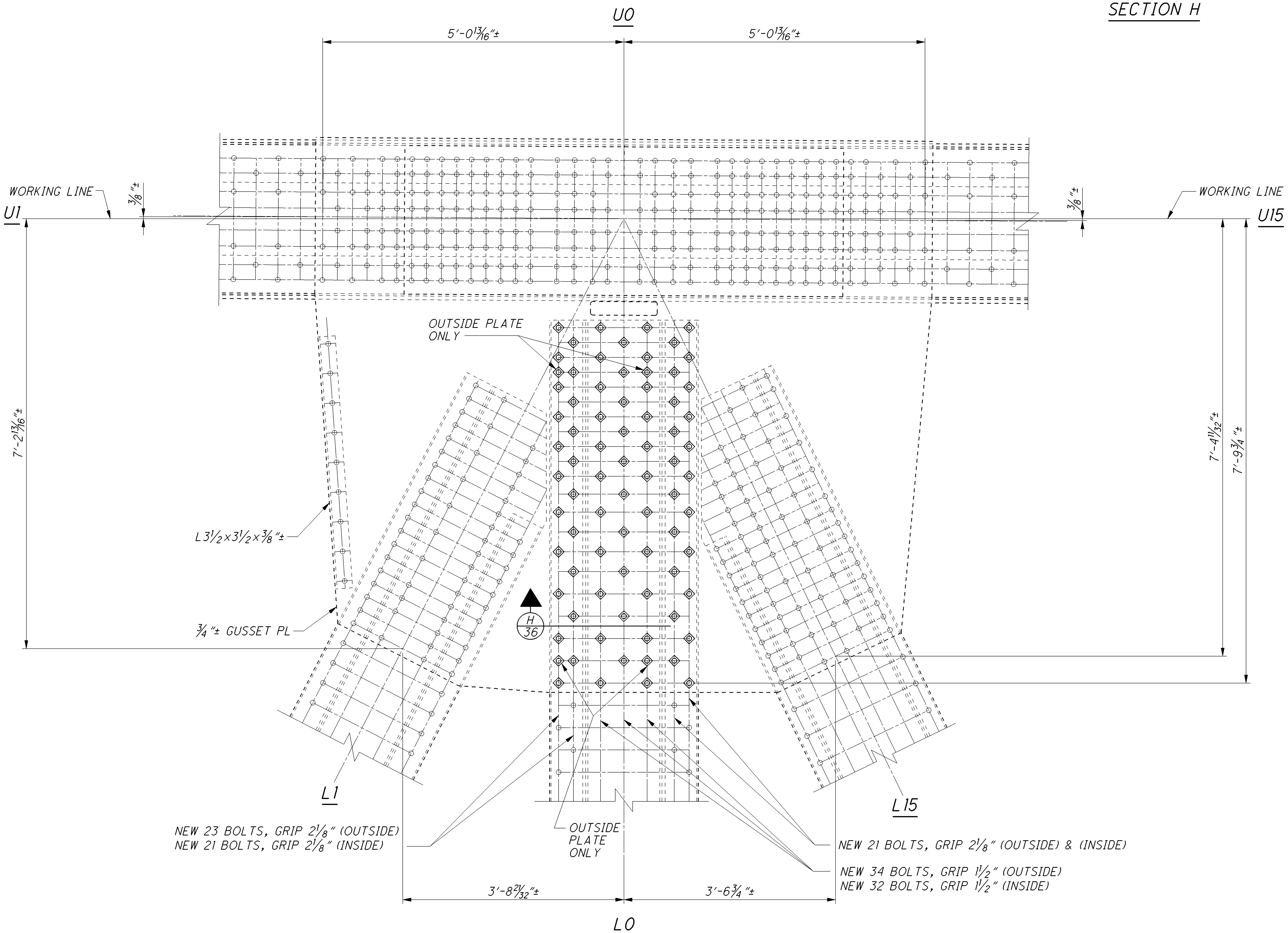
SPAN 4 - PANEL PT U15 (U503) SOUTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



SECTION H

BOLT TABLE 7/8" DIA. A490				
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER (OUTSIDE) PLATE	QTY. PER (INSIDE) PLATE	SHEET TOTAL
1 1/2"	2 3/4"	34	32	66
2 1/8"	3 1/2"	44	42	86



U504

SPAN 5 - PANEL POINT U0 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE

NORTH TRUSS INSIDE (SIMILAR)

REVISED 9/4/09

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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ALP	SCB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDB	9/4/09	1809393	

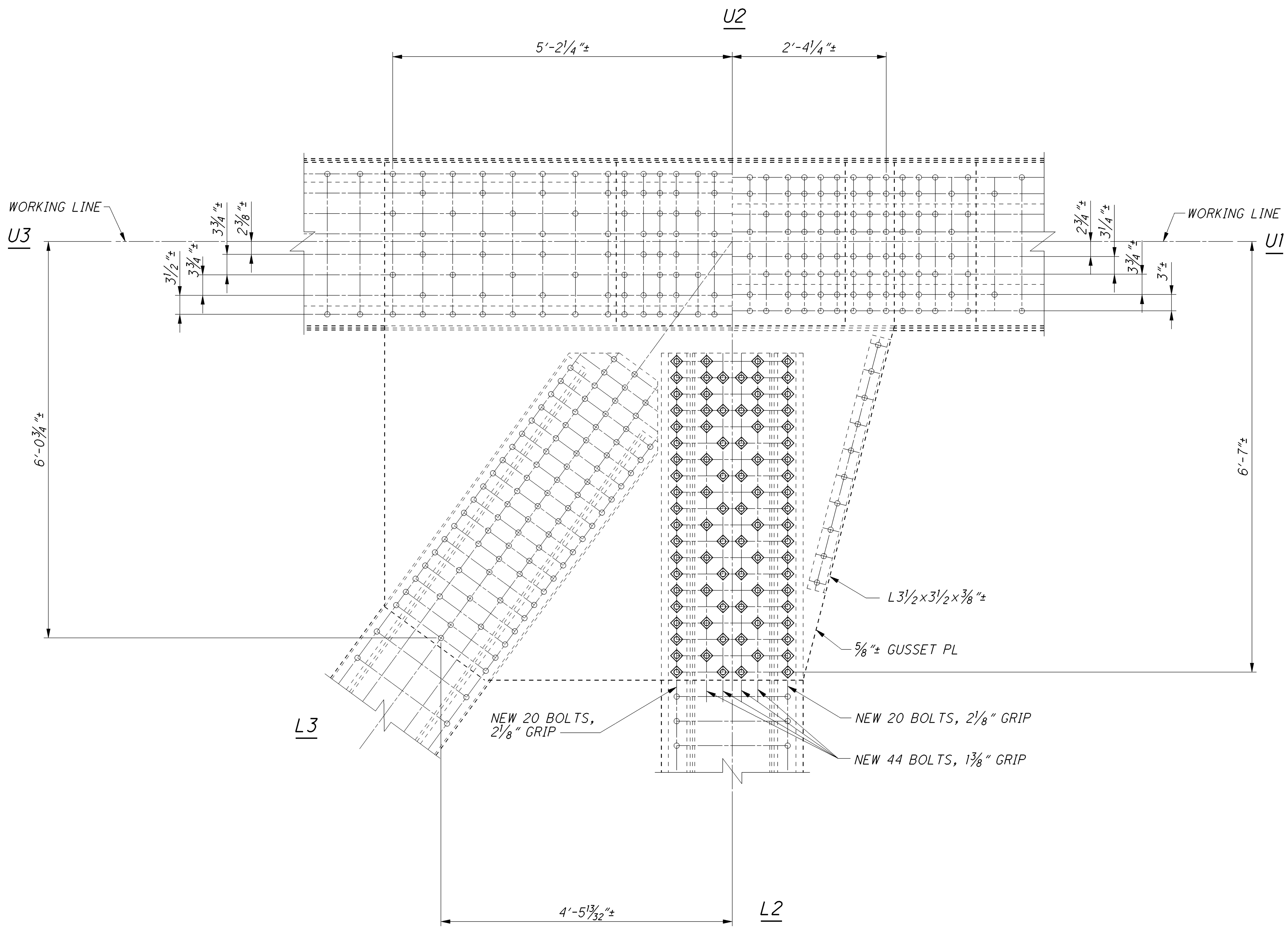
SPAN 5 - PANEL PT U0 (U504) NORTH TRUSS

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

U504N(OUTSIDE).DGN 9/01/09 BB,SCB,TWH,KH,JLS



U716

SPAN 8 - PANEL POINT U2 - 2 GUSSET PLATES

NORTH TRUSS OUTSIDE - SHOWN

NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 3/8"	2 3/4"	44	88
2 1/8"	3 1/2"	40	80

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.

- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

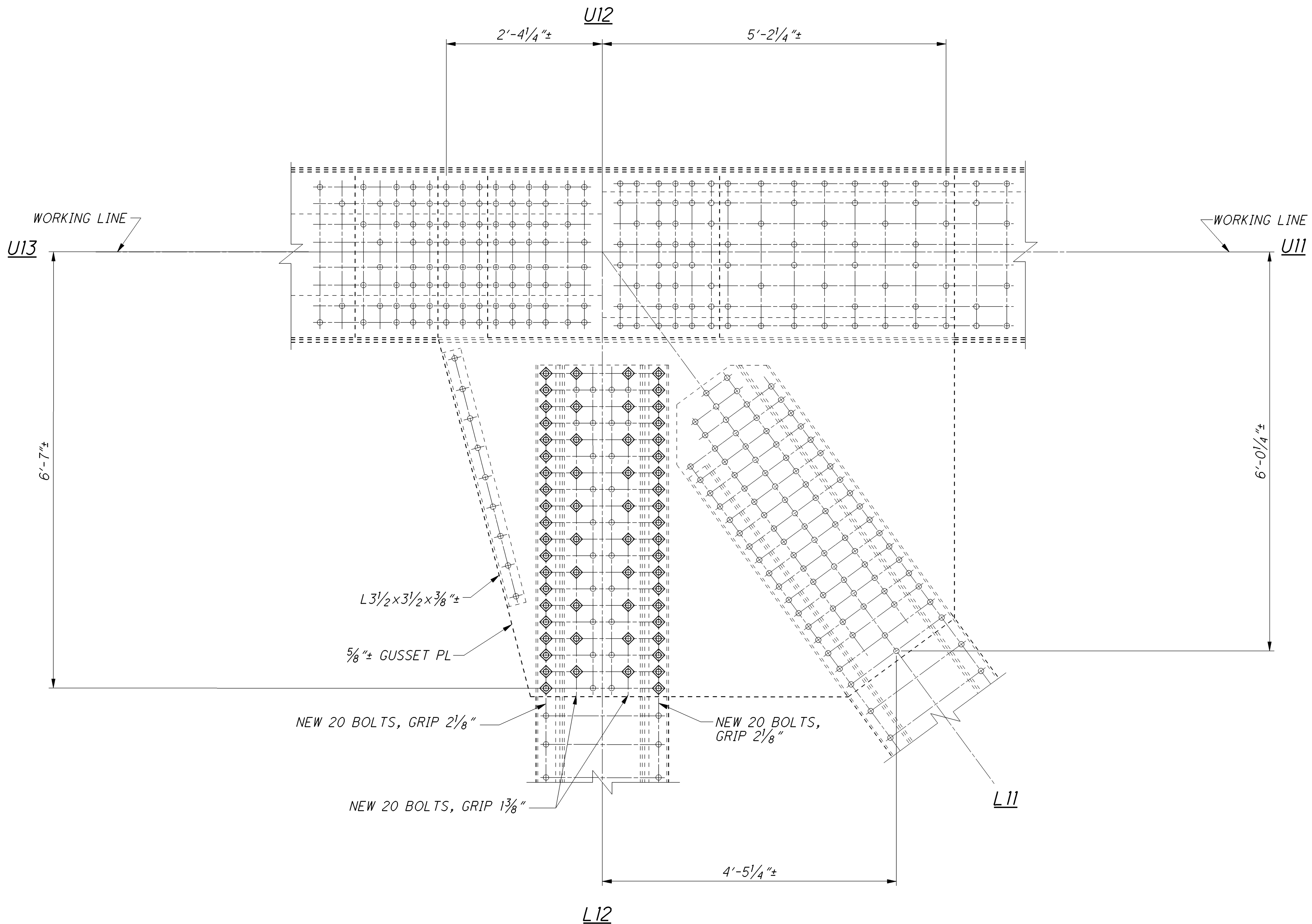
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED ALP CHECKED dht

SPAN 8 - PANEL PT U2 (U716) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

U716N.DGN 9/01/09 JLS



U902
SPAN 8 - PANEL POINT U12 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅜"	2¾"	20	40
2⅛"	3½"	40	80

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN JLS | REVIEWED DAP | DATE 9/4/09
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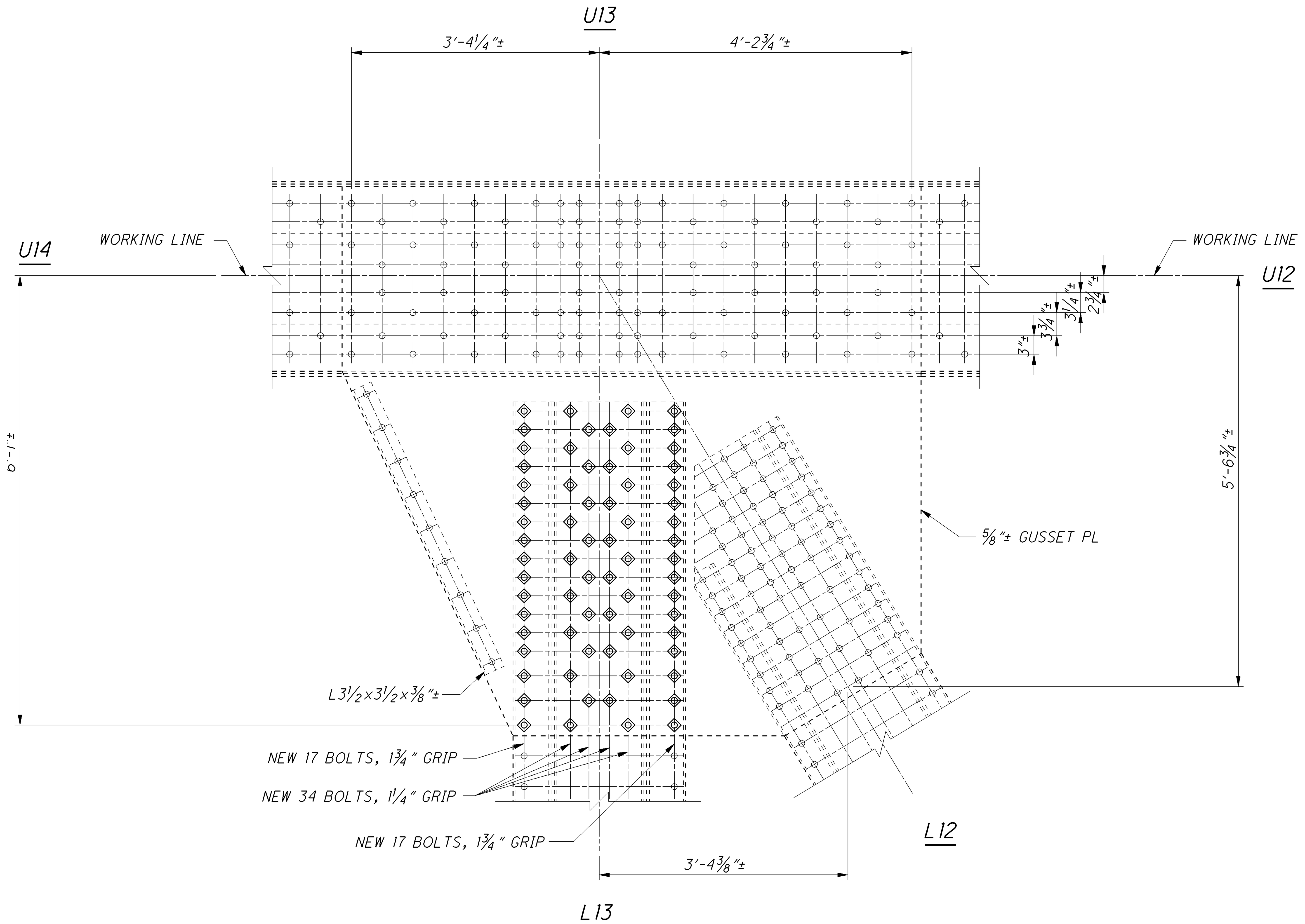
SPAN 8 - PANEL PT U12 (U902) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

36B/140

71B/175

U902N.DGN 9/01/09 JLS



U903
SPAN 8 - PANEL POINT U13 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1¼"	2¾"	34	68
1¾"	3¼"	34	68

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
ALP	dht	JLS		DAP	9/4/09	1809393

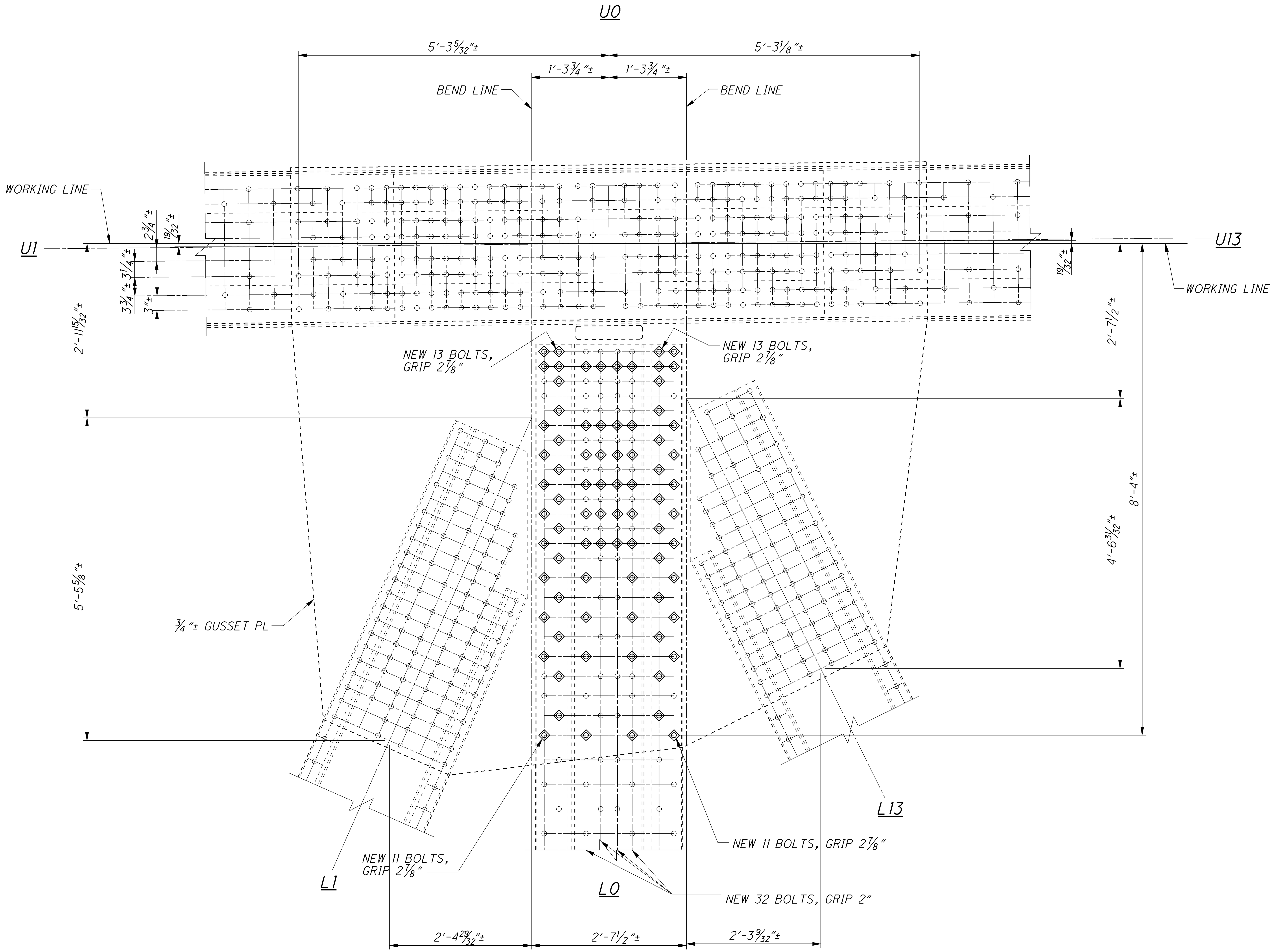
SPAN 8 - PANEL PT U13 (U903) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

36C/140

71C/175

U903N.DGN 9/01/09 JLS



U904
SPAN 9 - PANEL POINT U0 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2"	3 1/2"	32	64
2 7/8"	4 1/4"	48	96

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED dht | DRAWN JLS | REVISED | REVIEWED DAP | DATE 9/4/09 | STRUCTURE FILE NUMBER 1809393

SPAN 9 - PANEL PT U0 (U904) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

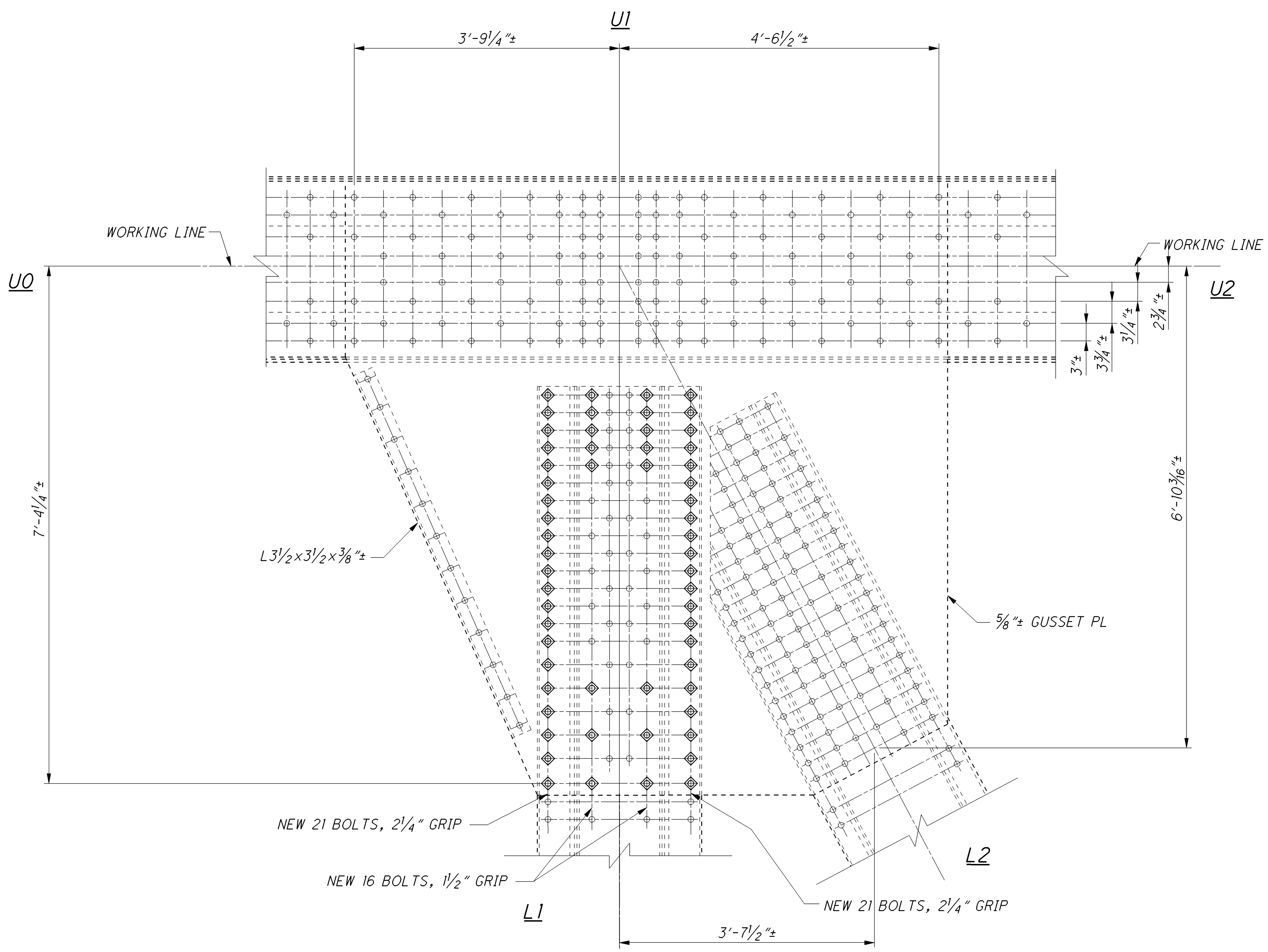
CUY-90-15.24
PID No. 82069

36D/140

71D/175

U904N.DGN 9/02/09 JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	3"	16	64
2¼"	3¾"	42	168



U905

SPAN 9 - PANEL POINT U1- 4 GUSSET PLATES

SOUTH TRUSS OUTSIDE - SHOWN

SOUTH TRUSS INSIDE - OPPOSITE HAND

NORTH TRUSS INSIDE - SIMILAR

NORTH TRUSS OUTSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

U905N&S.DGN 9/01/09 JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 9/4/09 STRUCTURE FILE NUMBER 1809393

DRAWN JLS REVISED

DESIGNED ALP CHECKED dht

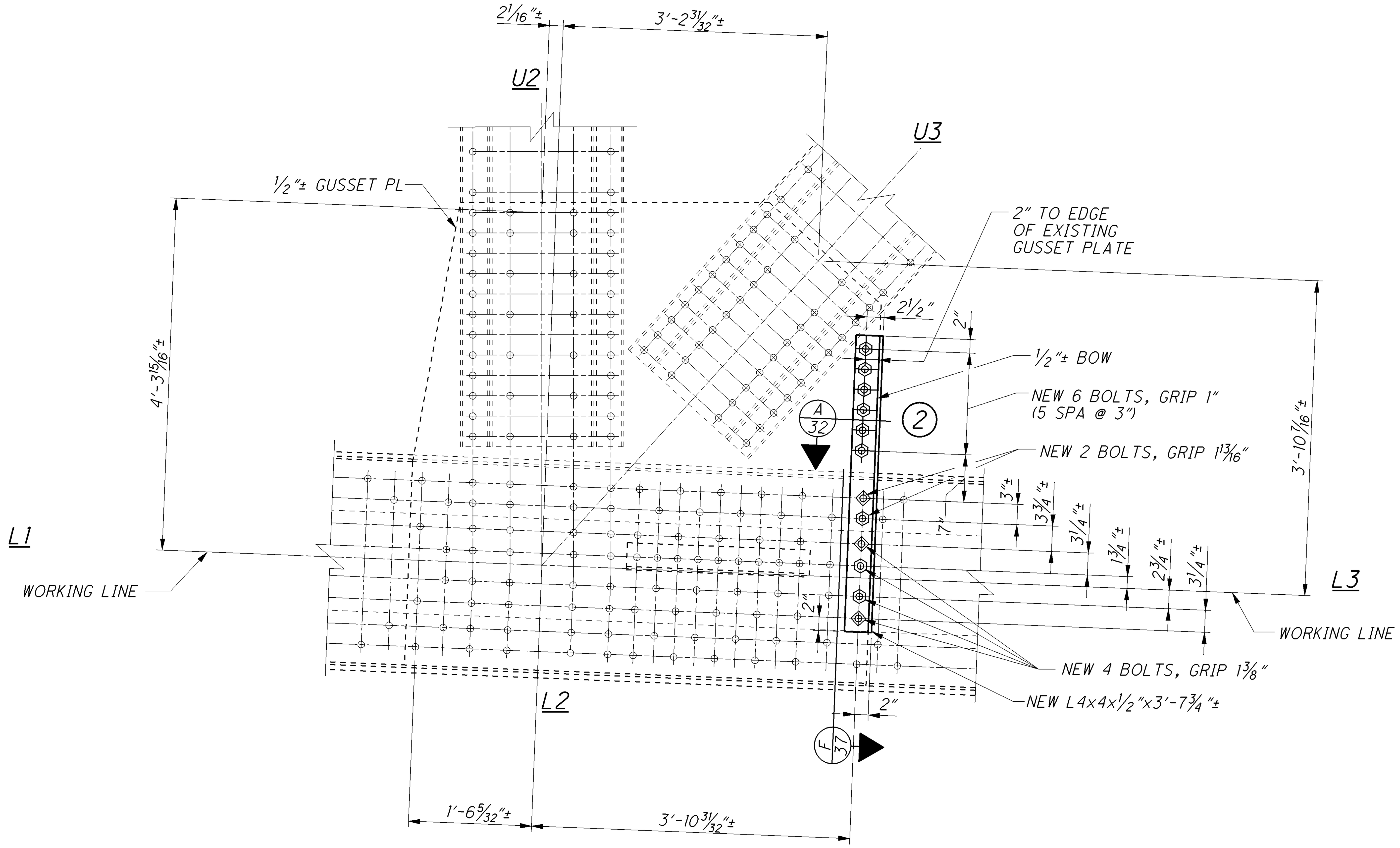
SPAN 9 - PANEL PT U1 (U905) N & S TRUSS

BRIDGE NO. CUY-90-1524 OVER CUYAHOGA RIVER

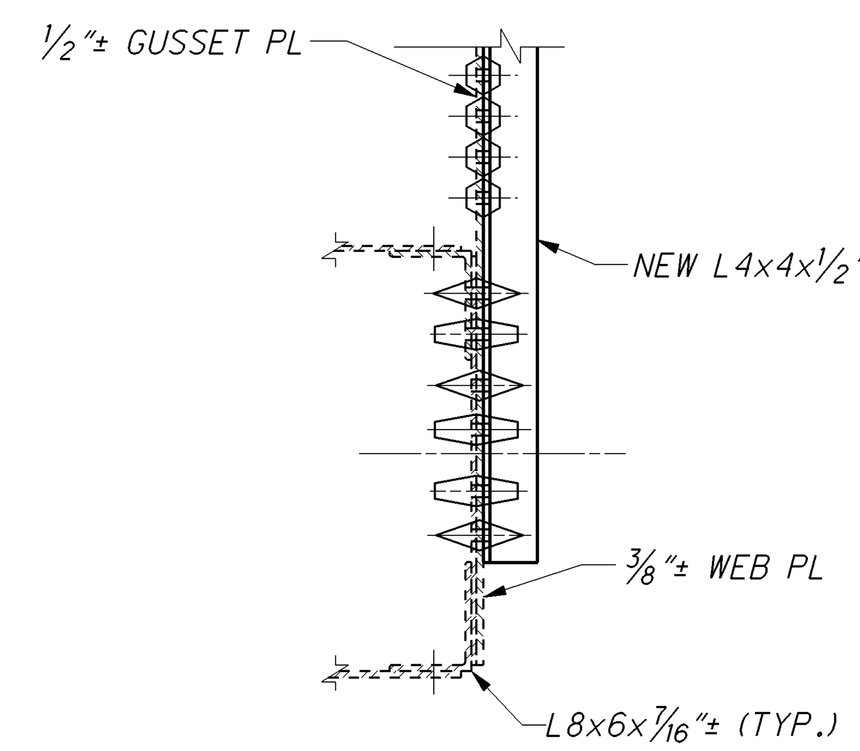
CUY-90-15.24

PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	6	6
1 3/8"	3"	4	4
1 13/16"	3 1/4"	2	2



L102
SPAN 1 - PANEL POINT L2 - 1 GUSSET PLATE
NORTH TRUSS INSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

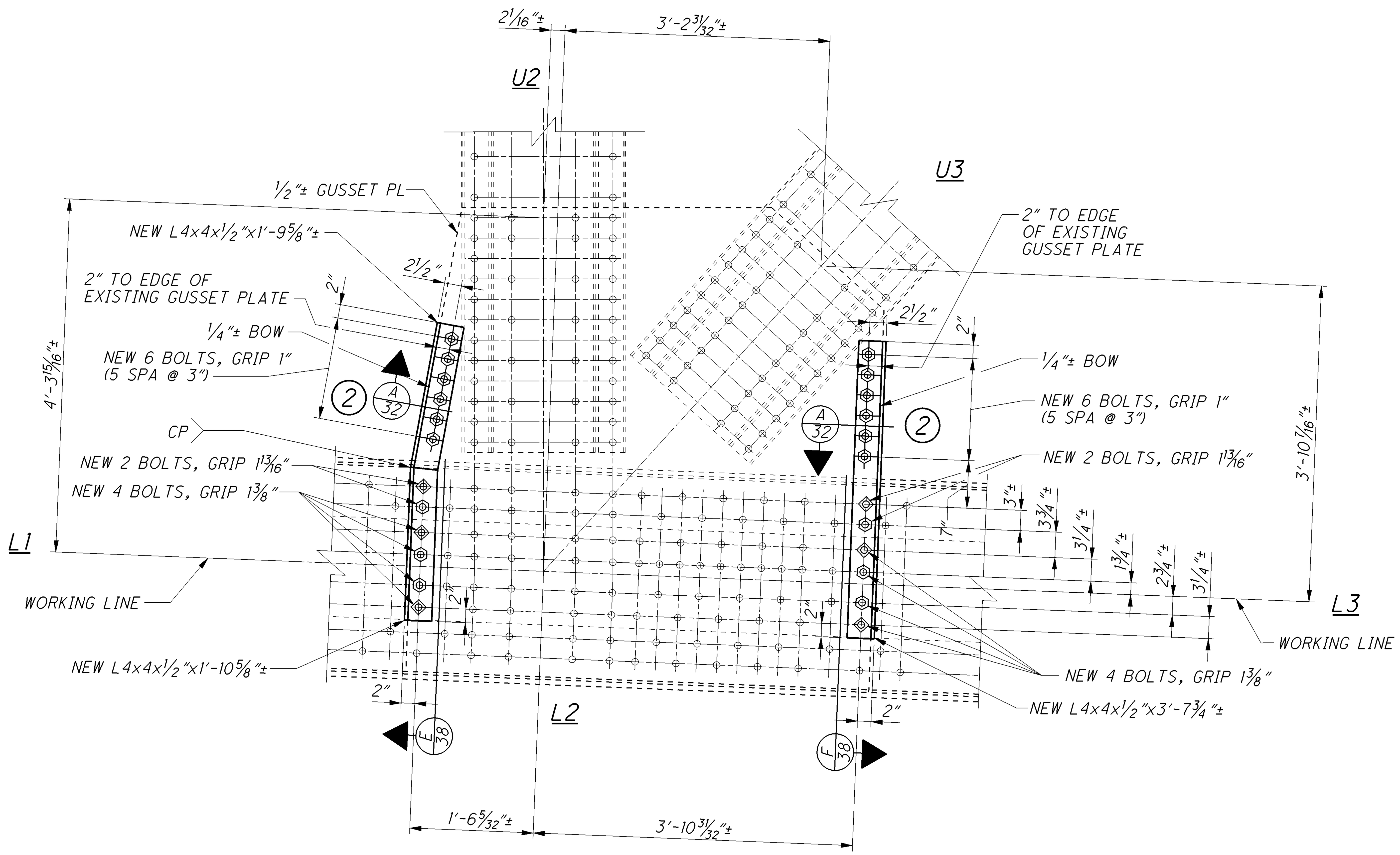
REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN LVB REVISED
DESIGNED ALP CHECKED KAK

SPAN 1 - PANEL PT L2 (L102) NORTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

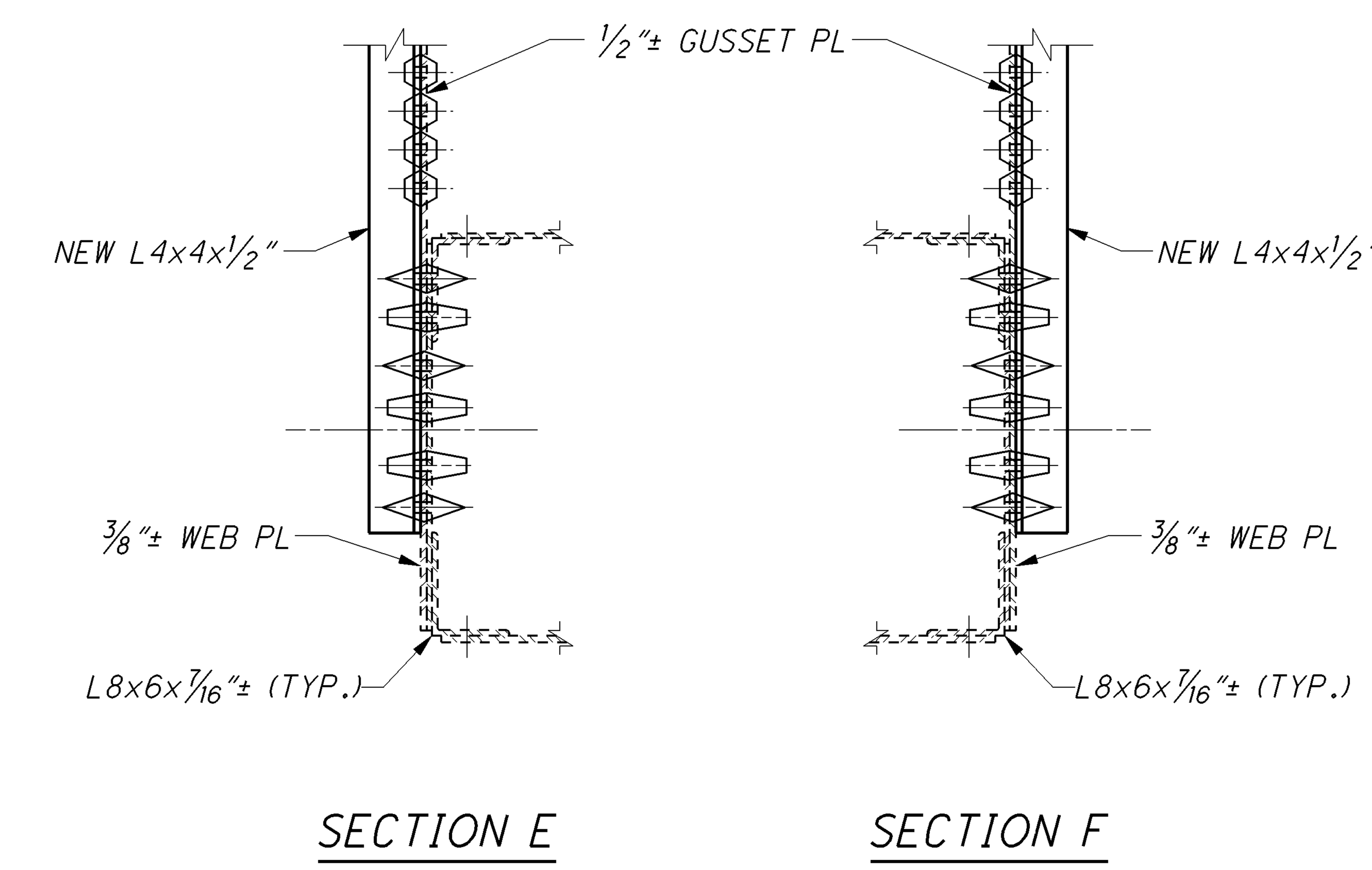
CUY-90-15.24
PID No. 82069

L102N(INSIDE).DGN 7/28/09 KH.TWH.JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	12	24
1 3/8"	3"	8	16
1 13/16"	3 1/4"	4	8



L102
SPAN 1 - PANEL POINT L2 - 2 GUSSET PLATES
SOUTH TRUSS OUTSIDE - SHOWN
SOUTH TRUSS INSIDE - OPPOSITE HAND



SECTION E

SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

ADDITIONAL NOTES: SEE SHEET 32/140.

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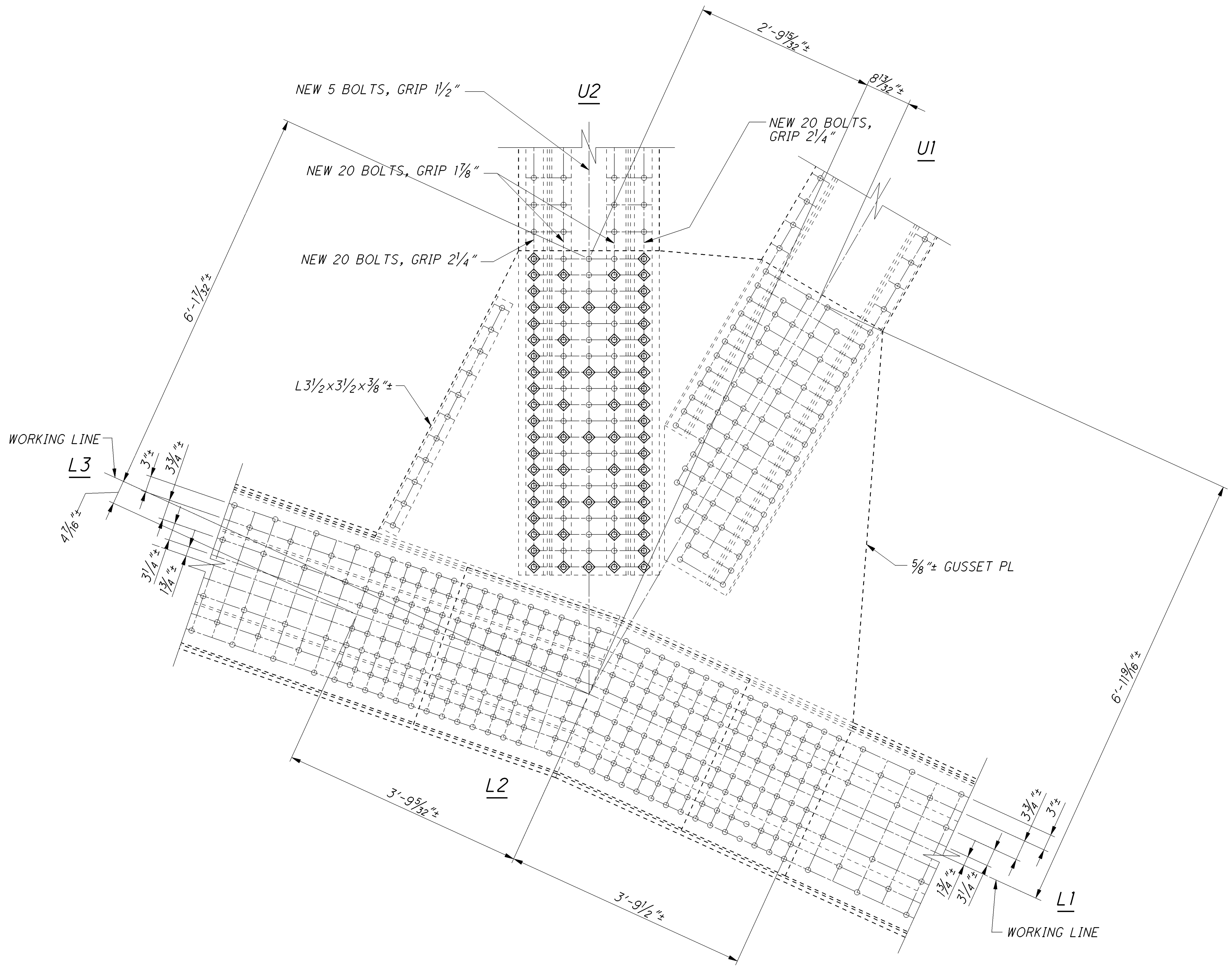
REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393
DESIGNED ALP | DRAWN LVB | CHECKED KAK | REVISED

SPAN 1 - PANEL PT L2 (L102) SOUTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L102S.DGN 7/28/09 RB,KH,JLS



L111
SPAN 2 - PANEL POINT L2 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1½"	3"	5	10
1⅞"	3¼"	20	40
2¼"	3¾"	40	80

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: ⅞" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

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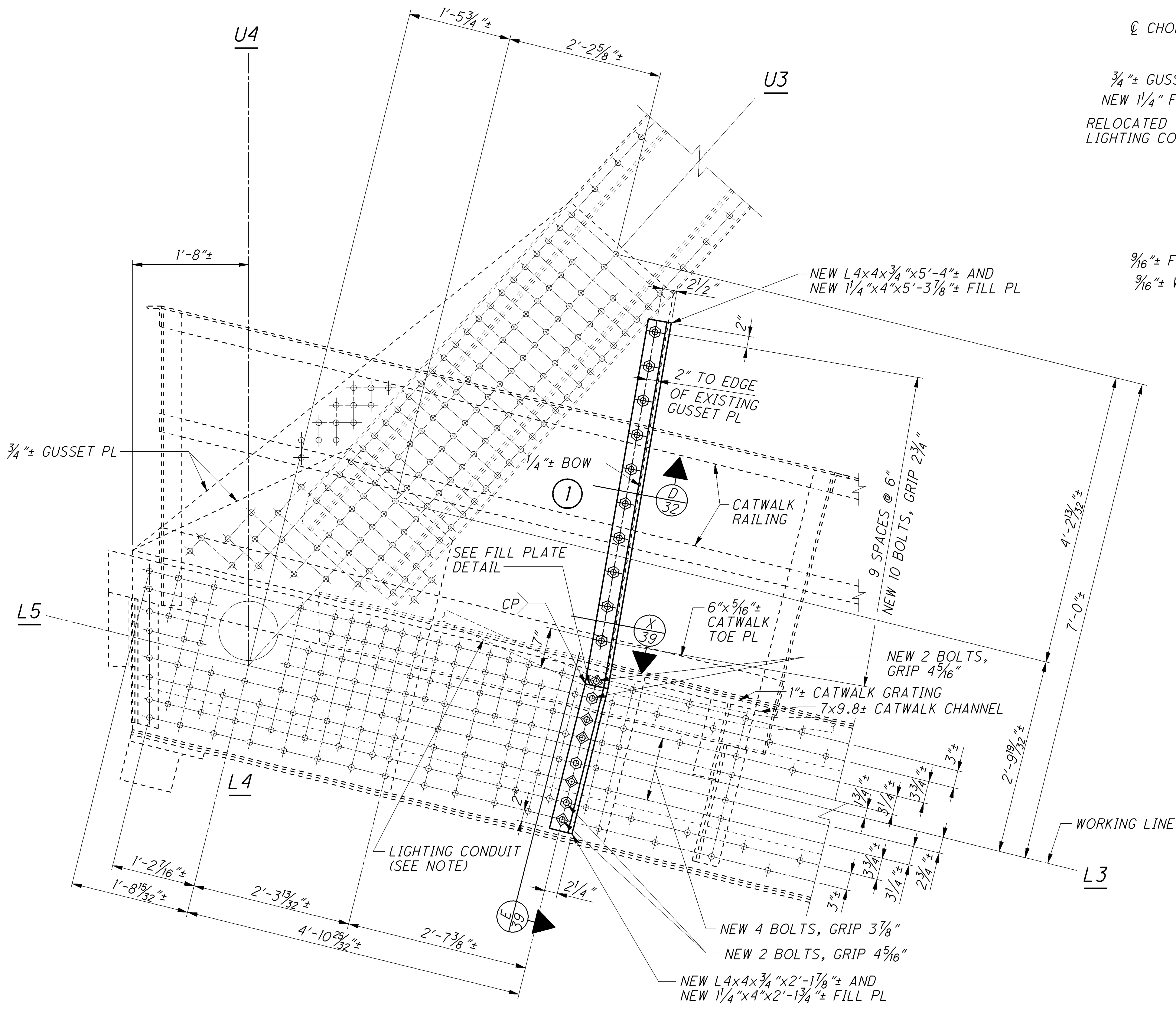
REVIEWED DAP DATE 9/4/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED ALP CHECKED dht

SPAN 2 - PANEL PT L2 (L111) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

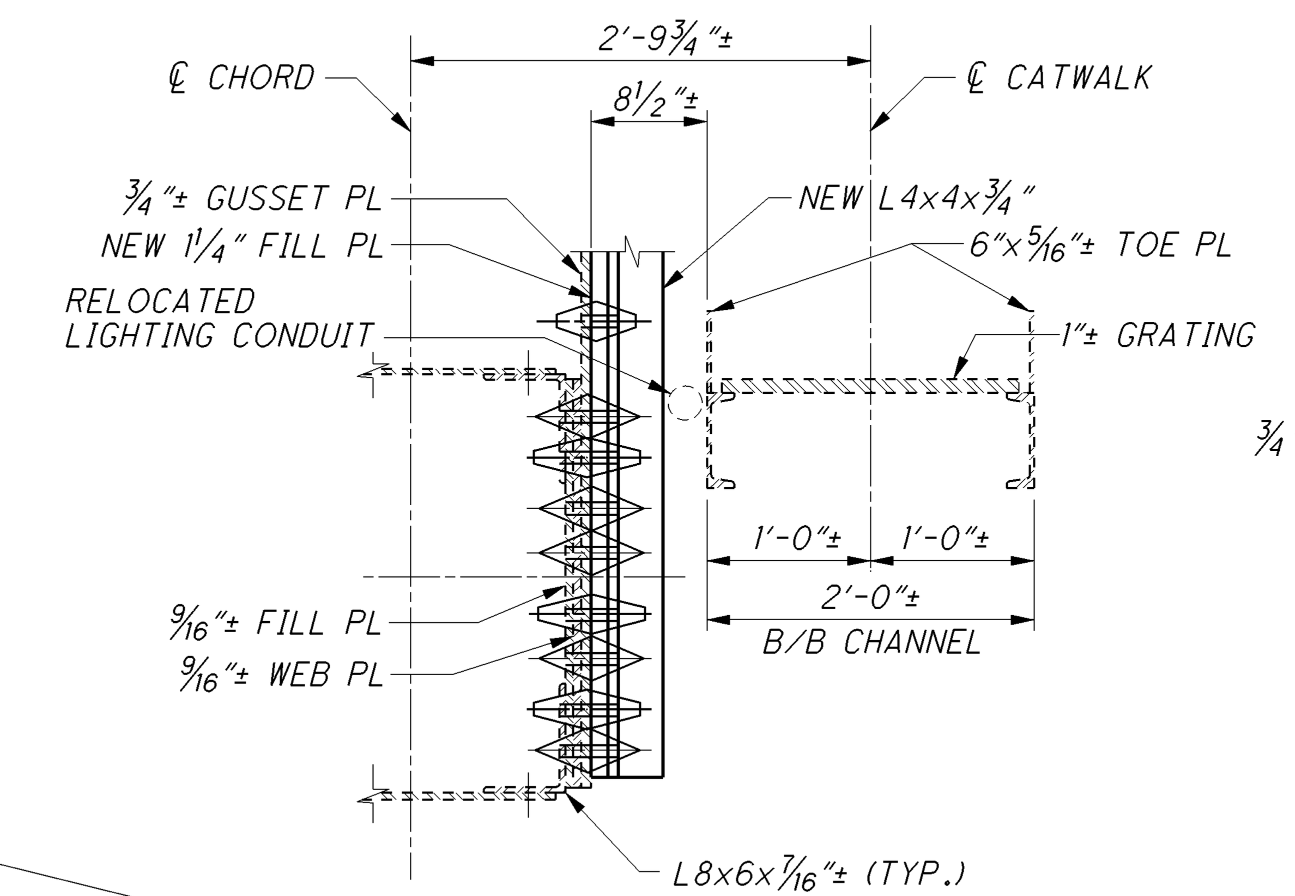
CUY-90-15.24
PID No. 82069

L111N.DGN 9/02/09 JLS

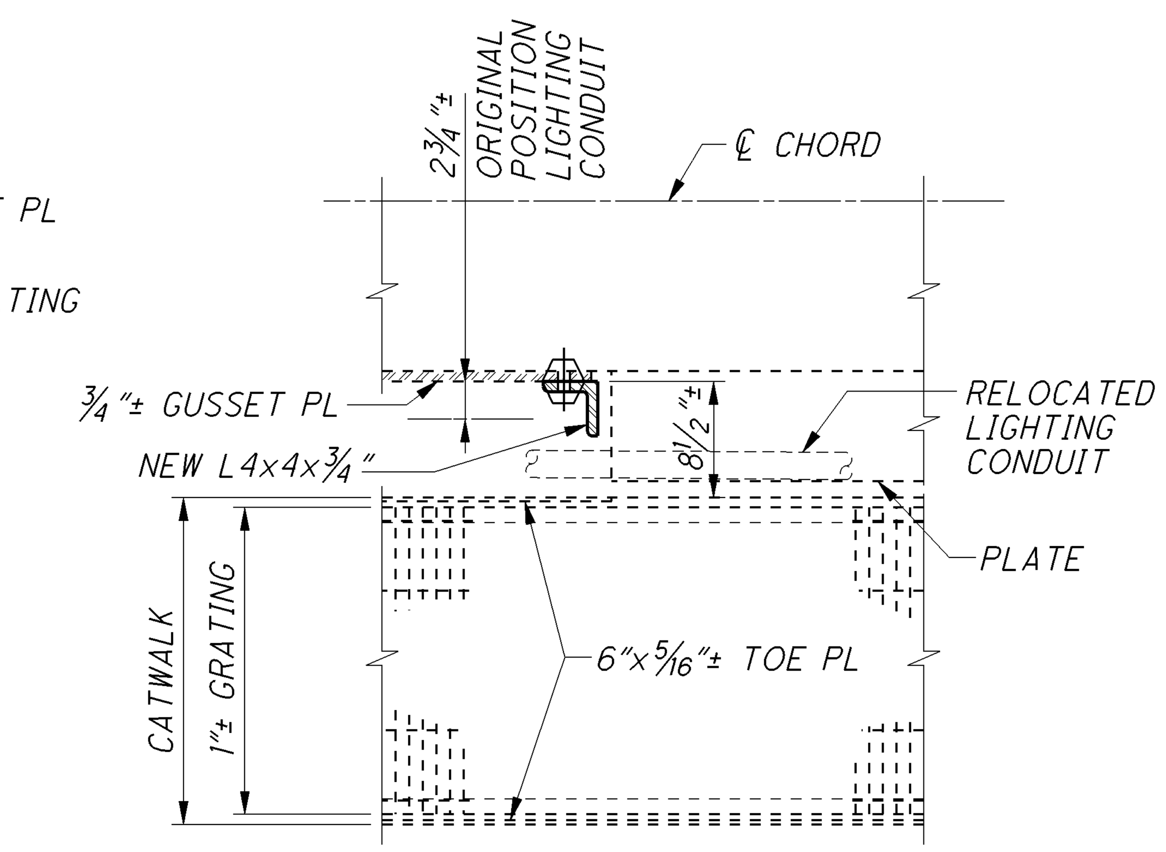
BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2¾"	4¼"	10	10
3⅞"	5½"	4	4
4 5/16"	6"	4	4



L113
SPAN 2 - PANEL POINT L4 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E



SECTION X

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

EXISTING LIGHTING CONDUIT: RELOCATE THE LIGHTING CONDUIT BETWEEN THE GUSSET PLATE AND THE CATWALK AS NEEDED TO ACCOMMODATE THE NEW GUSSET STIFFENING ANGLES. WORK SHALL BE CONSIDERED INCIDENTAL TO THE GUSSET WORK AND PAYMENT SHALL BE INCLUDED IN THE GUSSET REPAIR.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

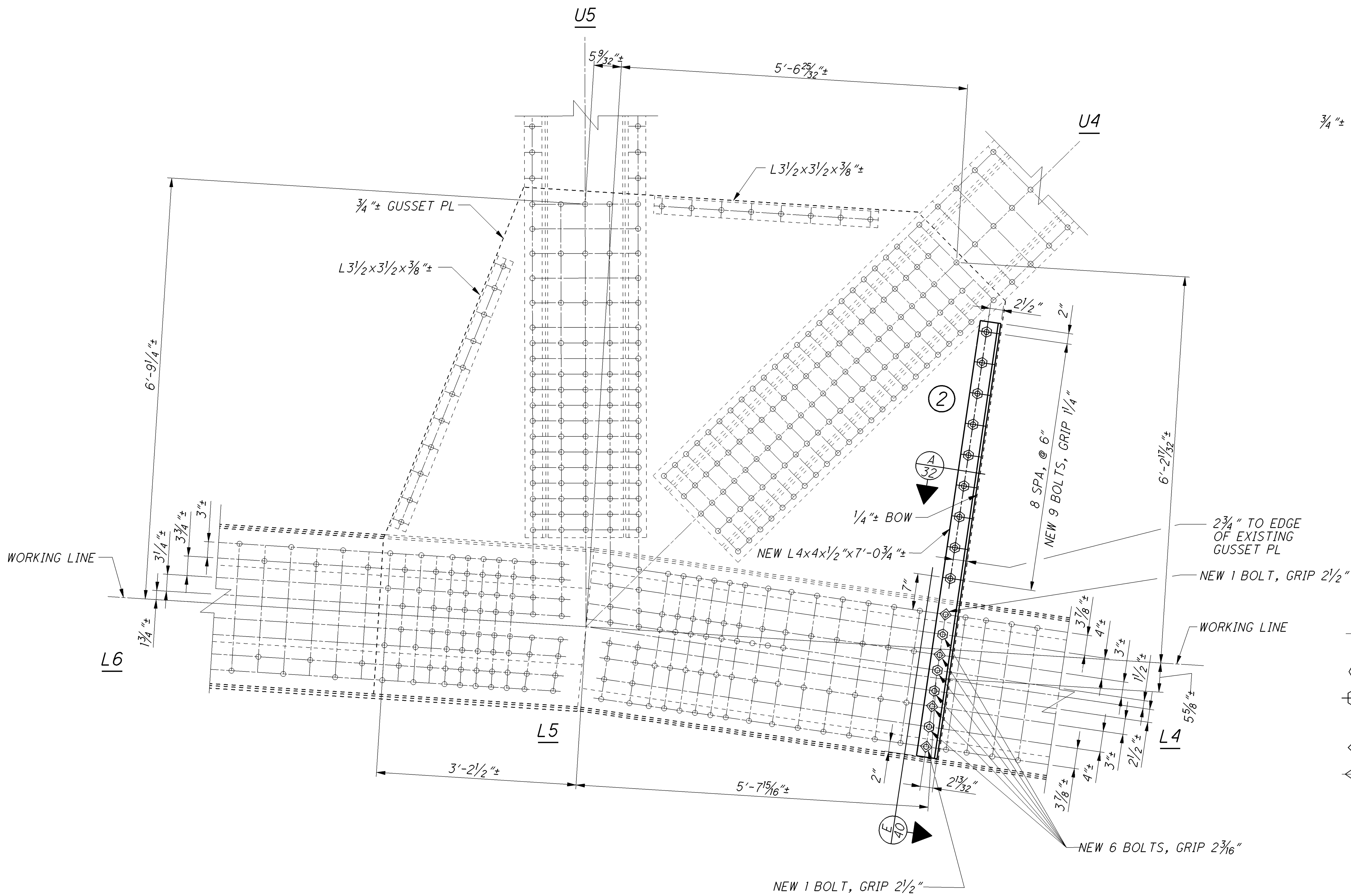
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
ALP	KAK	TWH		DAP	7/31/09	1809393

SPAN 2 - PANEL PT L4 (L113) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

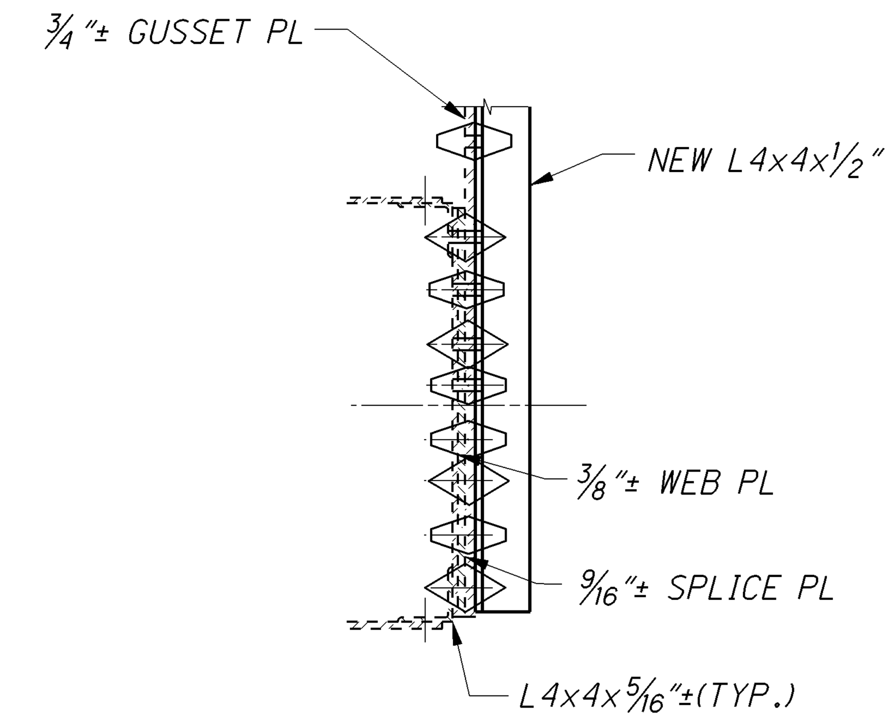
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/4"	2 3/4"	9	9
2 3/16"	3 3/4"	6	6
2 1/2"	4"	2	2



L21

SPAN 2 - PANEL POINT L5 - 1 GUSSET PLATE

NORTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L21N(OUTSIDE).DGN 7/28/09 SAM,BB,KH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

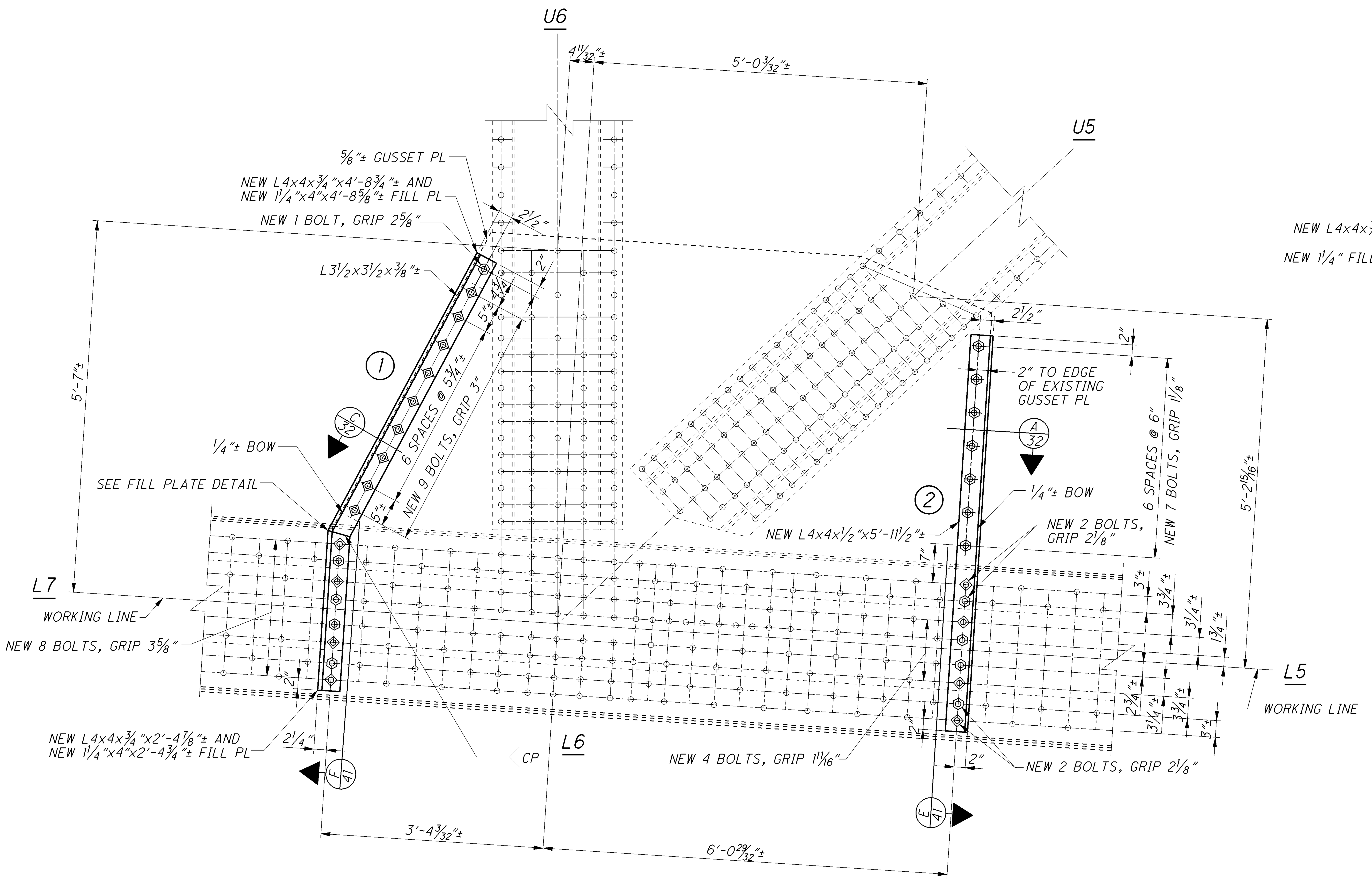
DESIGNED	DRAWN	REVIEWED	DATE
ALP	SAM	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 2 - PANEL PT L5 (L21) NORTH TRUSS - OUTSIDE GUSSET

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

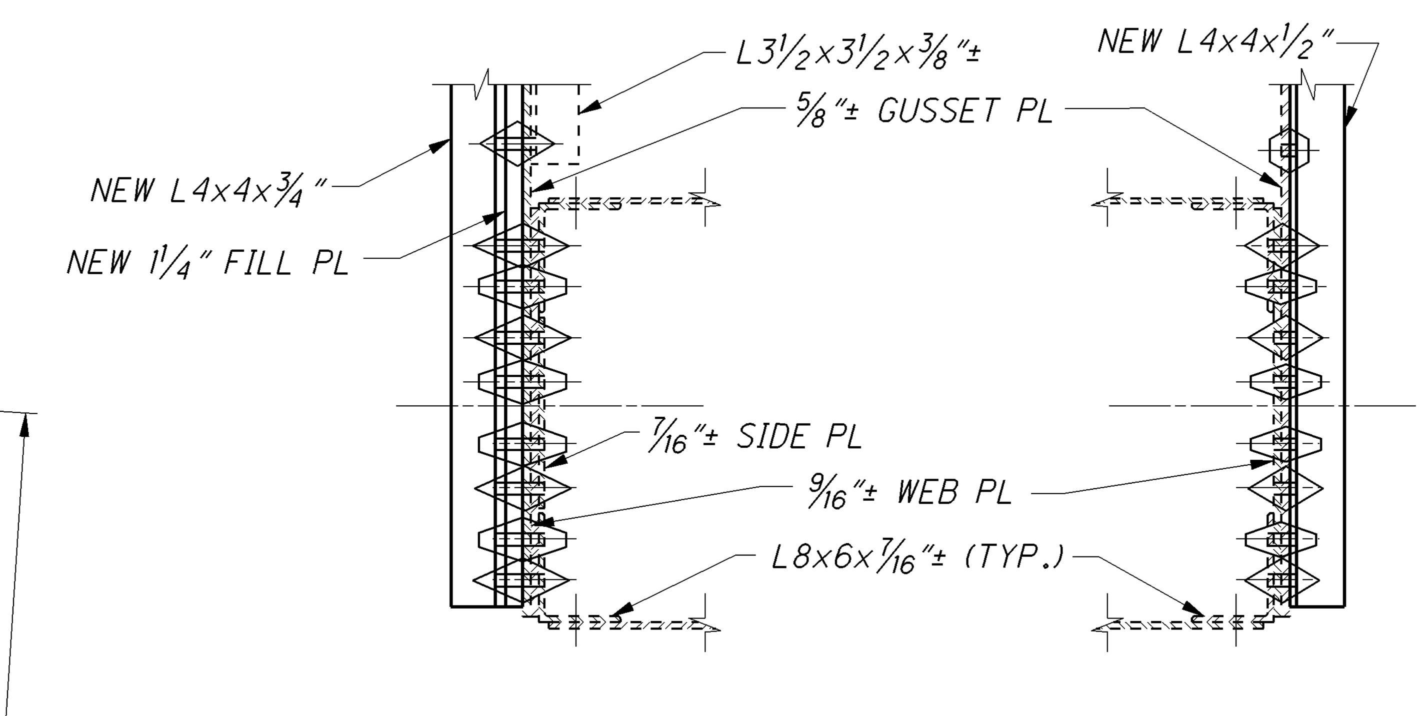


L22

SPAN 2 - PANEL POINT L6 - 1 GUSSET PLATE

NORTH TRUSS OUTSIDE

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/8"	2 3/4"	7	7
1 11/16"	3 1/4"	4	4
2 1/8"	3 3/4"	4	4
2 5/8"	4 1/4"	1	1
3"	4 1/2"	9	9
3 5/8"	5 1/2"	8	8



SECTION F

SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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DESIGNED ALP | CHECKED KAK | DRAWN TWH | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

SPAN 2 - PANEL PT L6 (L22) NORTH TRUSS - OUTSIDE GUSSET

BRIDGE NO. CUY-90-1524

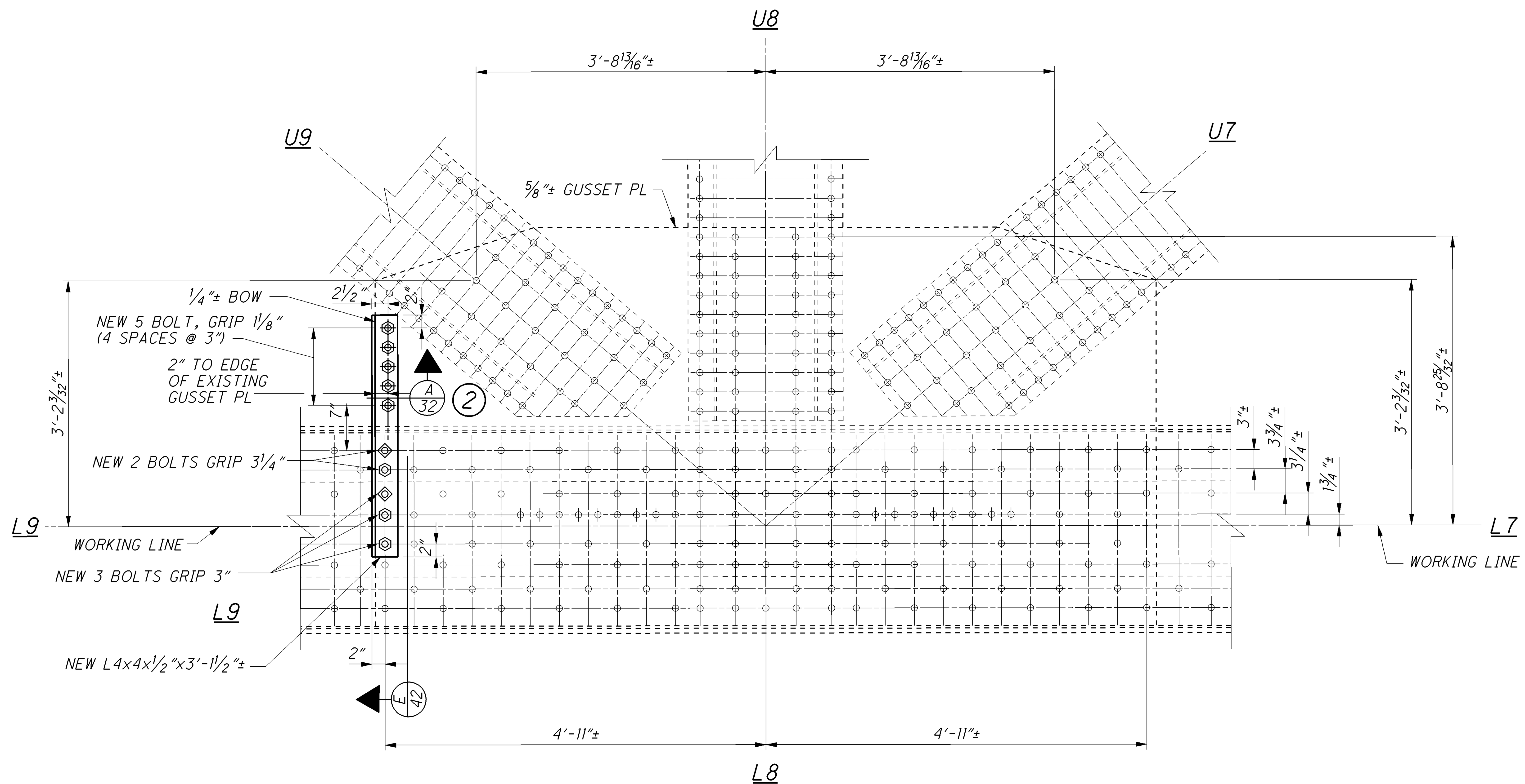
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

L22NOUTSIDE).DGN 7/29/09 TWH,KMK,KH,JLS

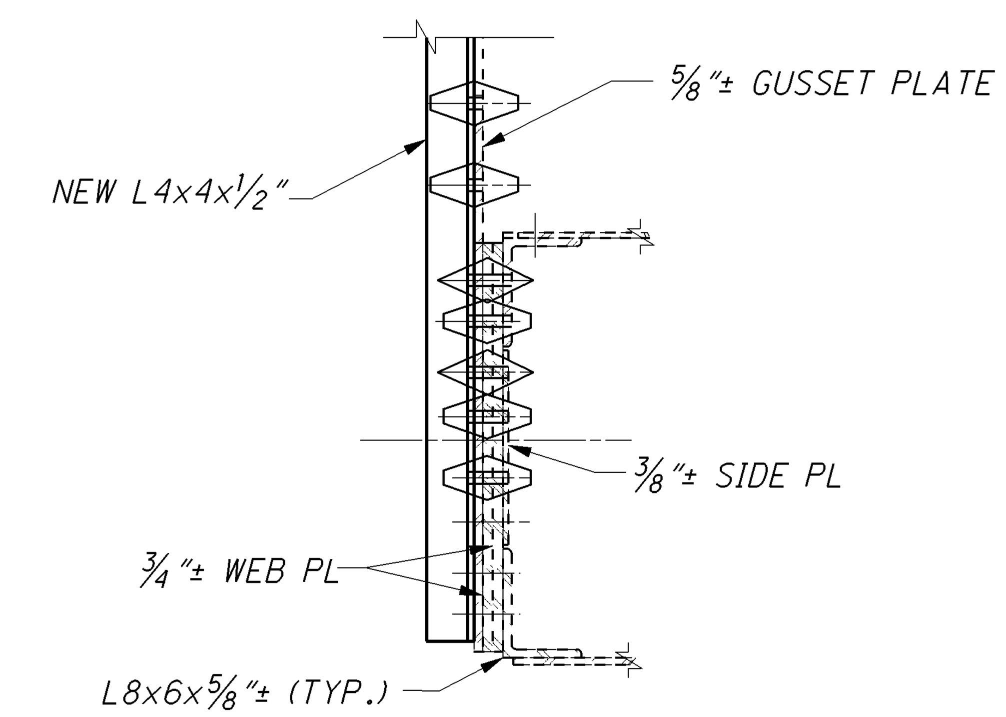
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1-1/8"	2-3/4"	5	5
3"	4-1/2"	3	3
3-1/4"	4-3/4"	2	2



L24

SPAN 2- PANEL POINT L8- 1 GUSSET PLATE

NORTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
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DRAWN LVB REVISED
DESIGNED ALP CHECKED KAK

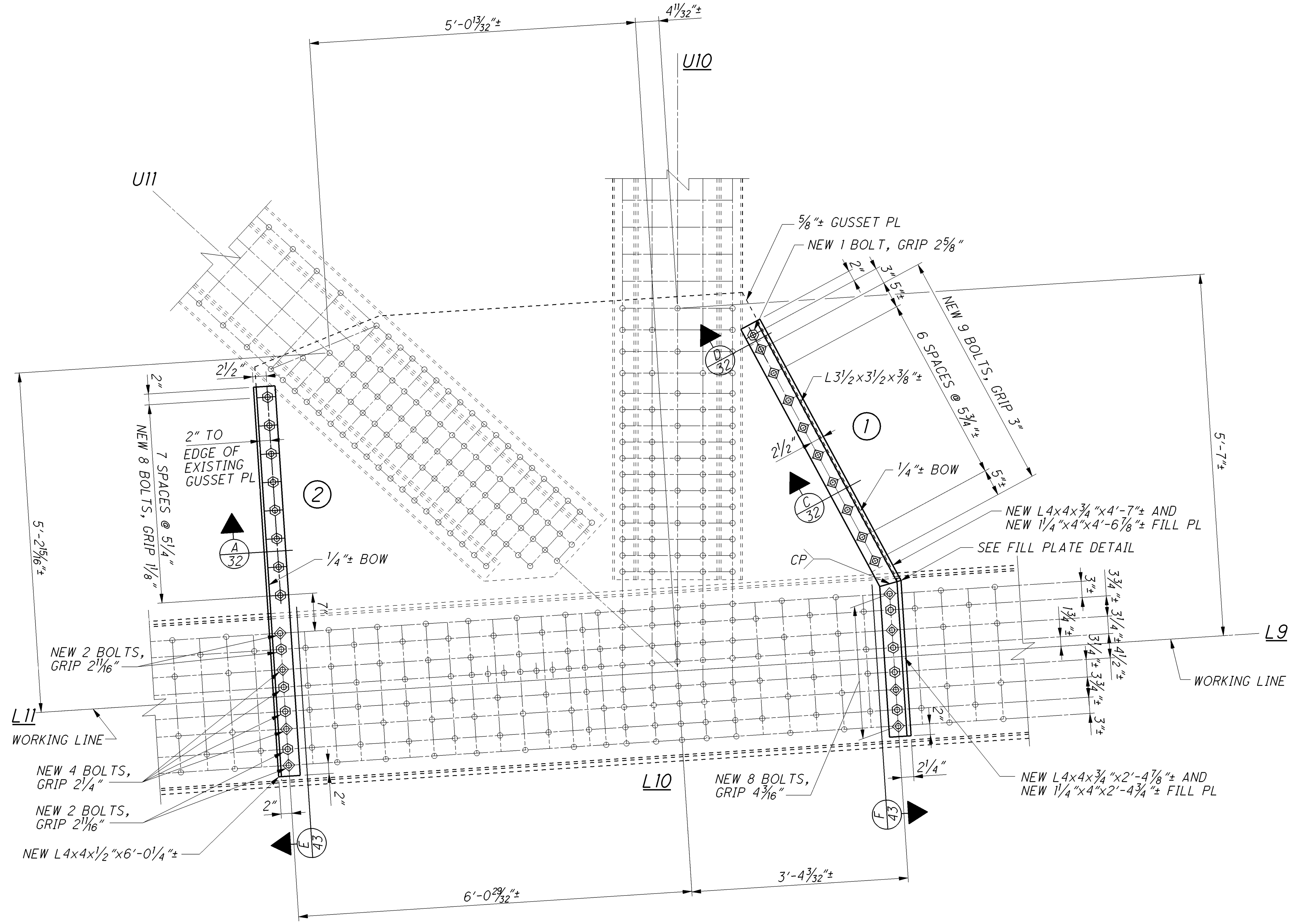
SPAN 2 - PANEL PT L8 (L24) NORTH TRUSS - OUTSIDE GUSSET

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

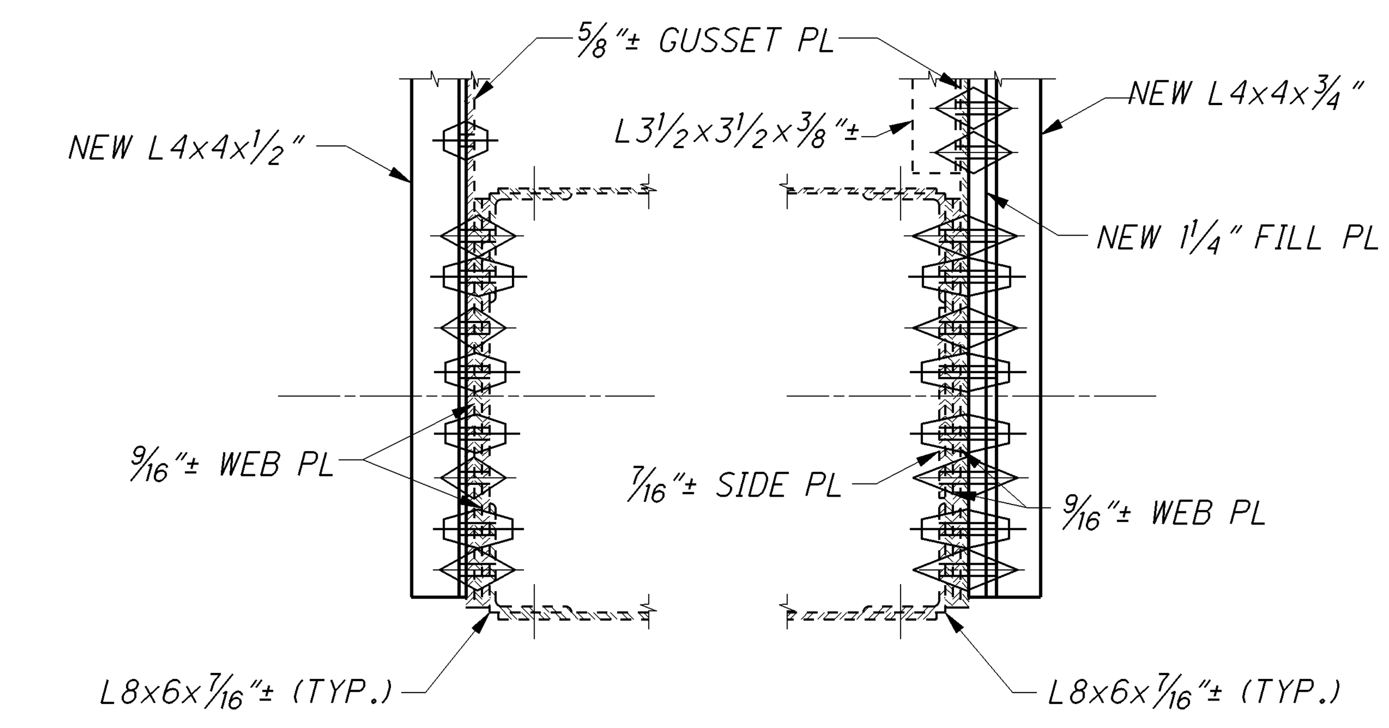
CUY-90-15.24
PID No. 82069

L24N(OUTSIDE).DGN 7/29/09 LVB,TWH,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/8"	2 3/4"	8	8
2 1/4"	3 3/4"	4	4
2 5/8" - 2 11/16"	4 1/4"	5	5
3"	4 1/2"	9	9
4 3/16"	6"	8	8



L26
SPAN 2 - PANEL POINT L10 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E   SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

LEGEND

(1) REPAIR TYPE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

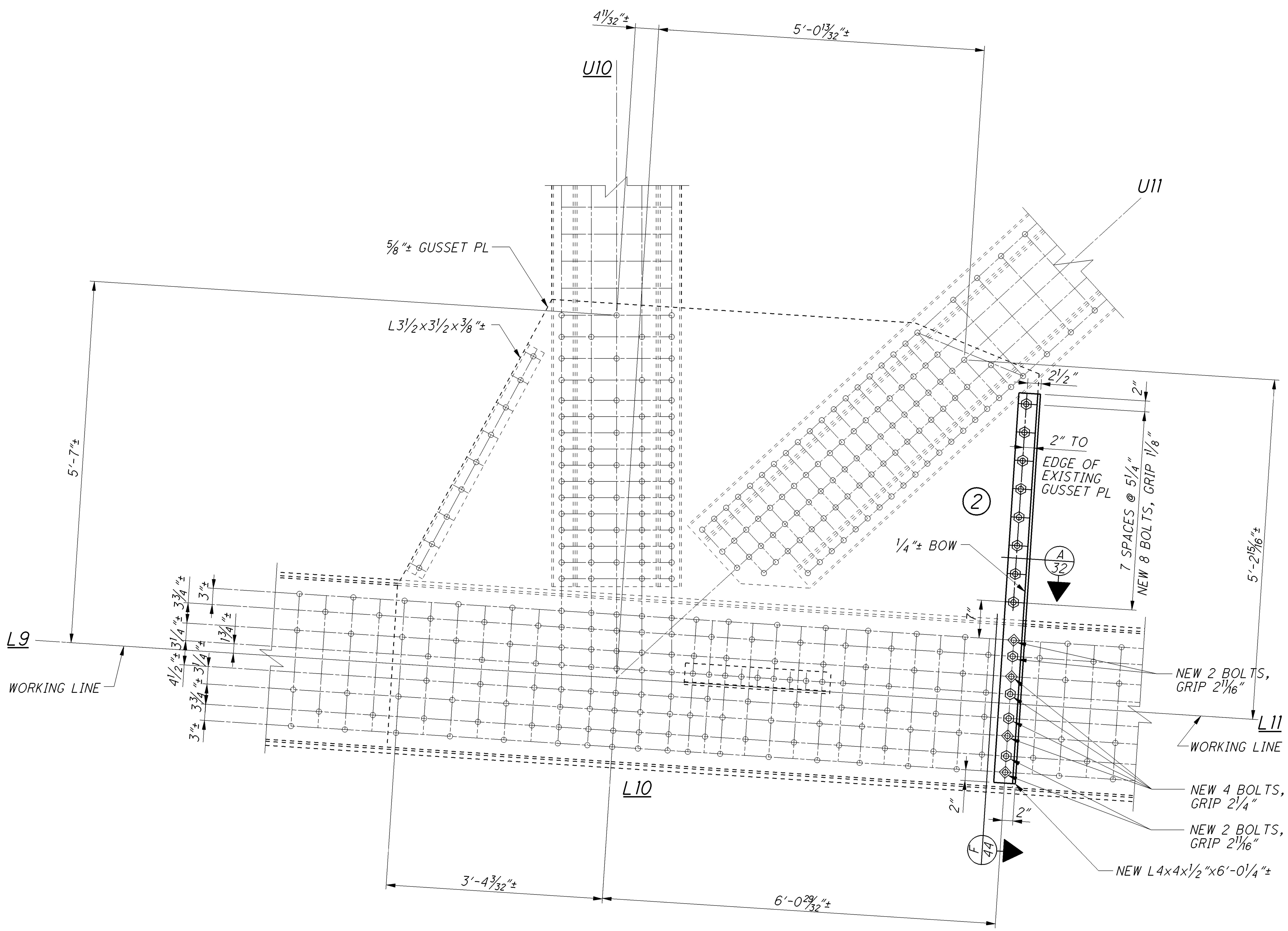
DESIGNED ALP | DRAWN RB | REVIEWED DAP | DATE 7/31/09
CHECKED KAK | REVISED | STRUCTURE FILE NUMBER 1809393

SPAN 2 - PANEL PT L10 (L26) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

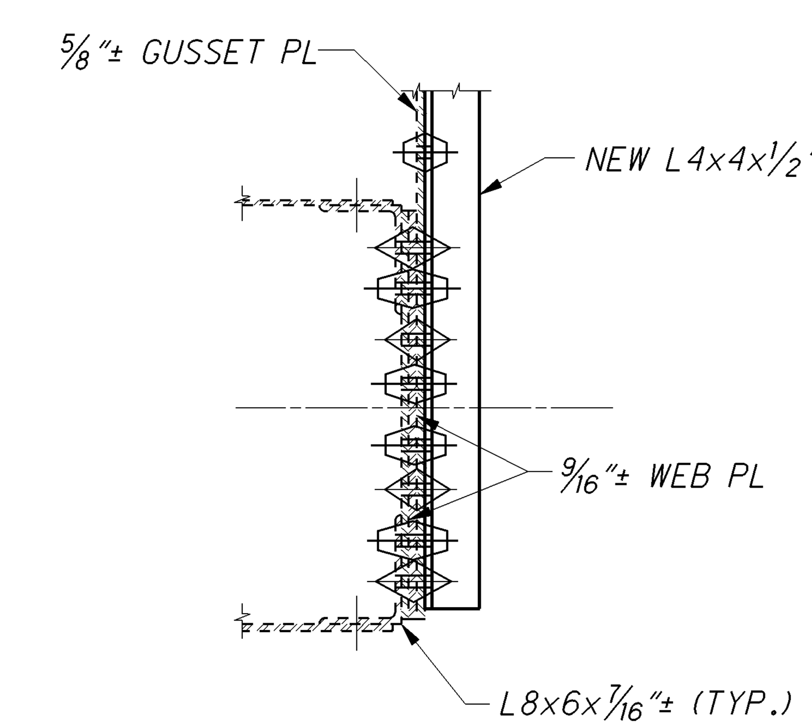
CUY-90-15.24
PID No. 82069

L26NOUTSIDE).DGN 7/29/09 TWH,KH,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅛"	2¾"	8	8
2¼"	3¾"	4	4
2$^{11}/_{16}$"	4¼"	4	4



L26
SPAN 2 - PANEL POINT L10 - 1 GUSSET PLATE
NORTH TRUSS INSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE
DAP	7/31/09

STRUCTURE FILE NUMBER 1809393

DESIGNED	DRAWN	CHECKED	REVISED
ALP	RB	KAK	

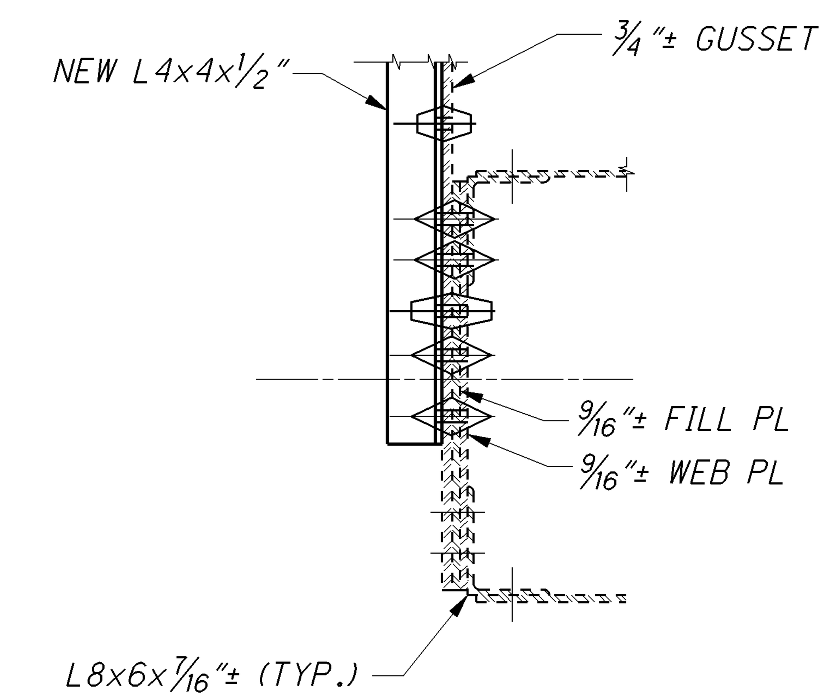
SPAN 2 - PANEL PT L10 (L26) NORTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L26N(INSIDE).DGN 06/19/09 TWH,KH,JLS

L300
SPAN 2 - PANEL POINT L12 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/4"	2 3/4"	5	5
2 3/8"	4"	3	3
2 13/16"	4 1/4"	2	2



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

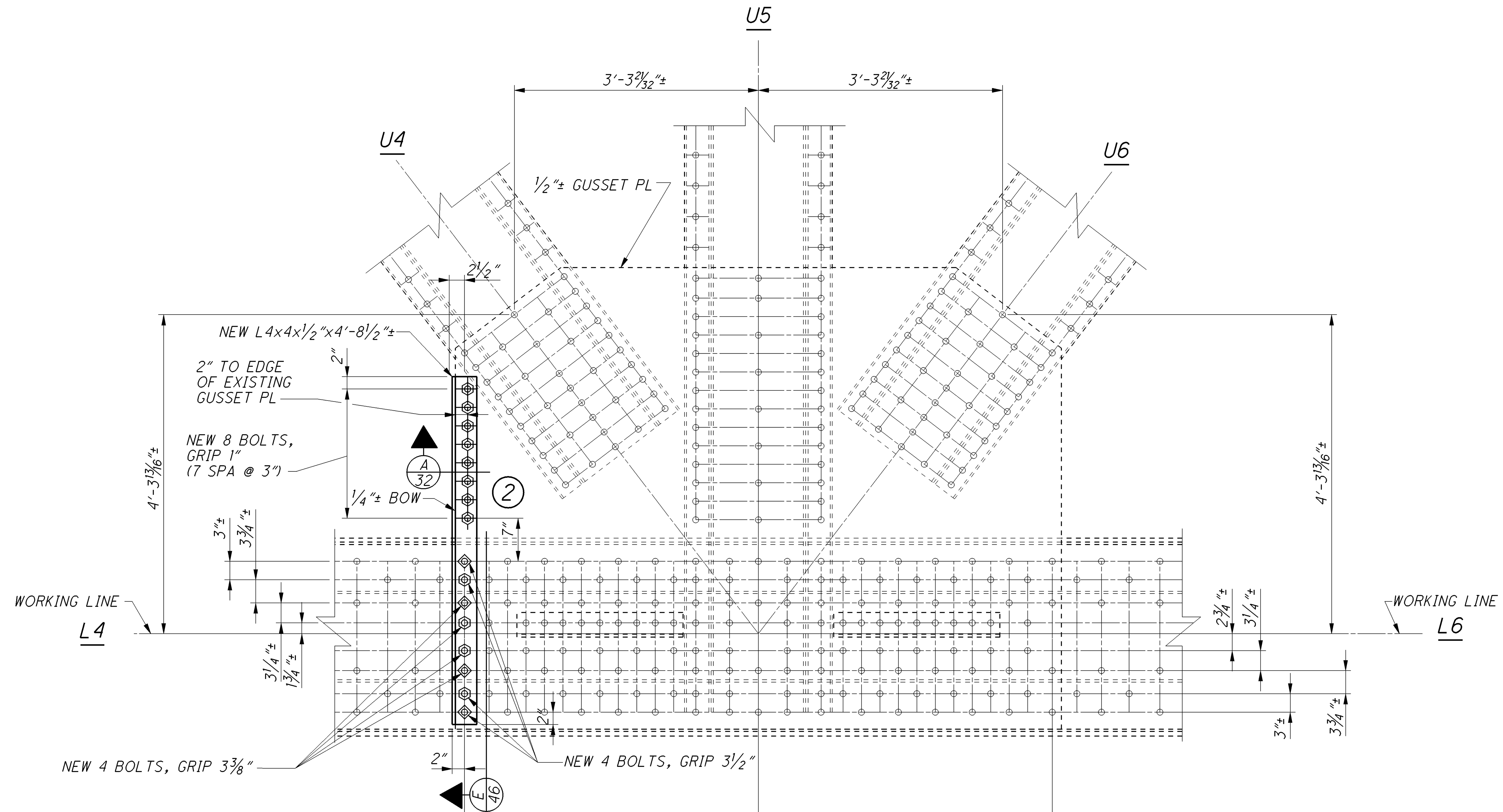
REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN SCB REVISED
DESIGNED ALP CHECKED KAK

SPAN 2 - PANEL PT L12 (L300) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

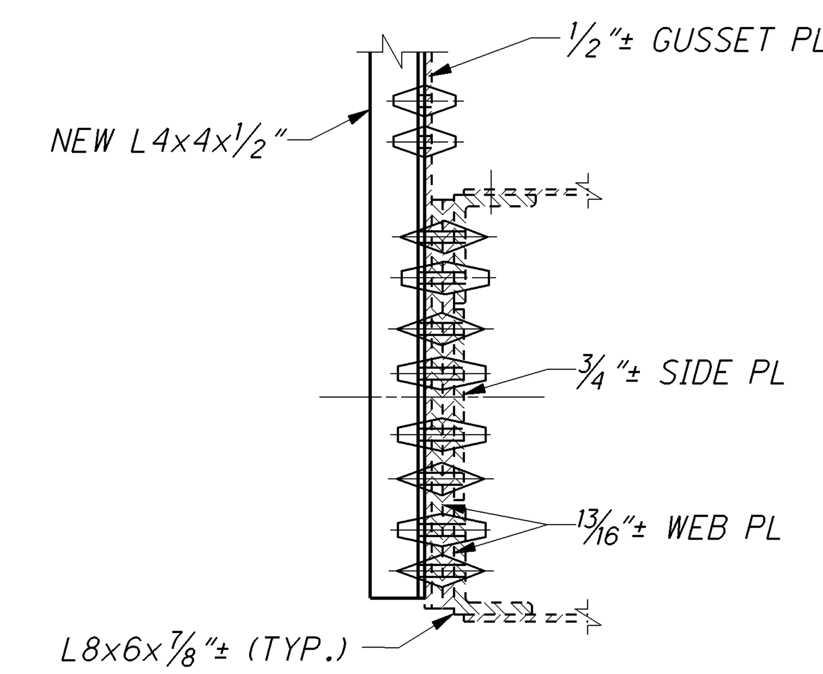
CUY-90-15.24
PID No. 82069

L300N(OUTSIDE).DGN 6/19/09 SCB,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
3 3/8" - 3 1/2"	5"	8	8



L309
SPAN 3 - PANEL POINT L5 - 1 GUSSET PLATE
NORTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

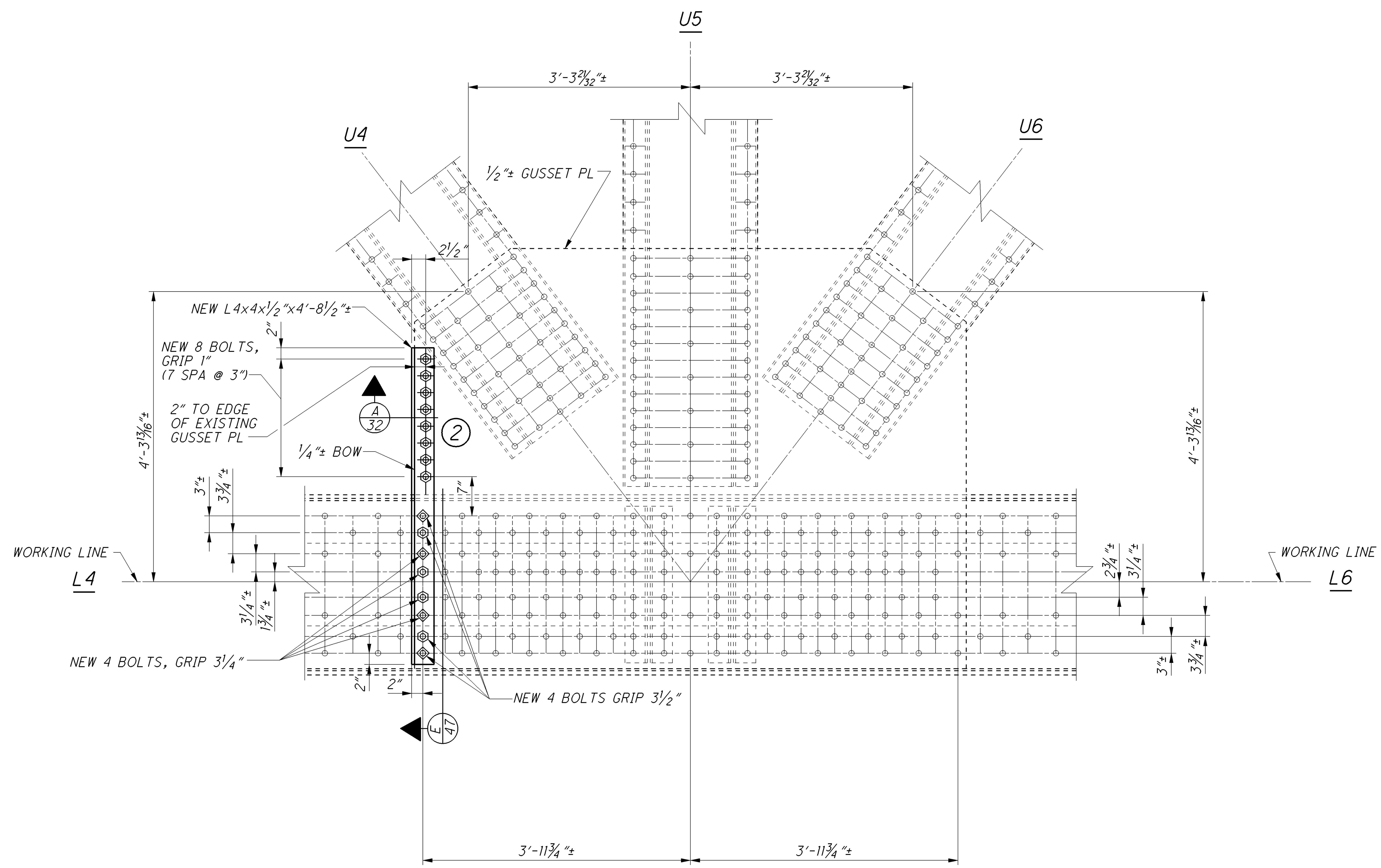
L309N(INSIDE).DGN 7/29/09 RB,KH,TWH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN SAM REVISED
DESIGNED ALP CHECKED KAK

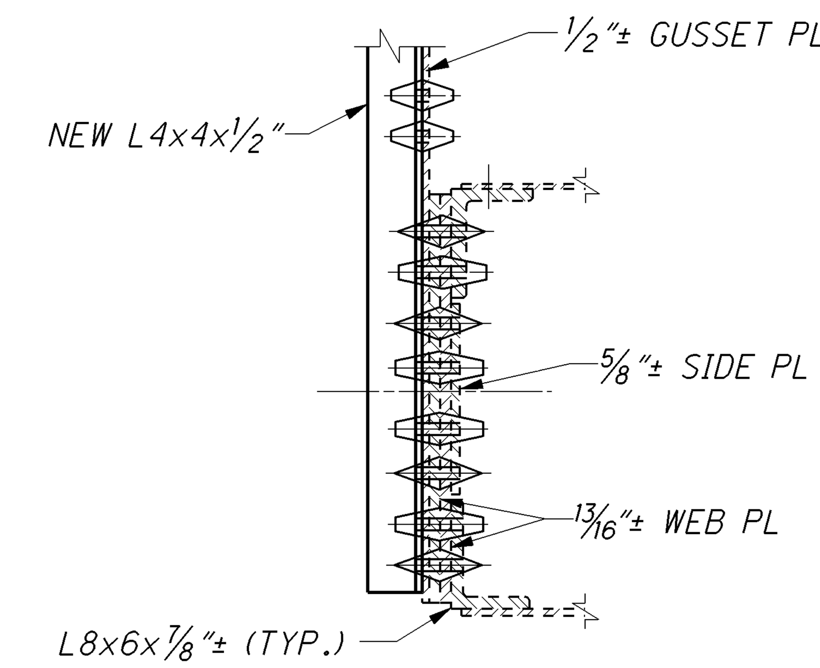
SPAN 3 - PANEL PT L5 (L309) NORTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



L309
SPAN 3 - PANEL POINT L5 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
3 1/4"	4 3/4"	4	4
3 1/2"	5"	4	4



SECTION E

LEGEND

(1) REPAIR TYPE

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

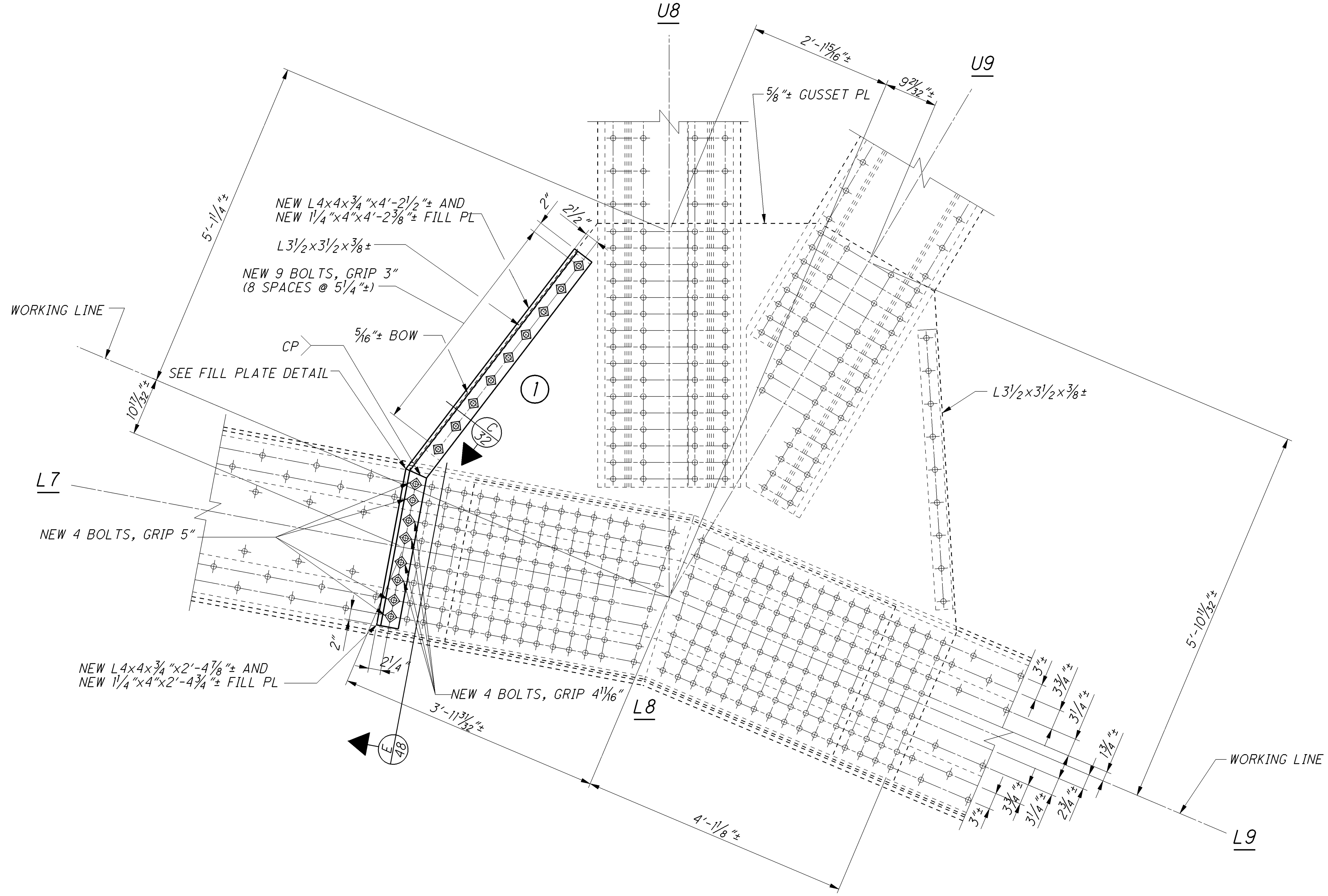
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN SAM REVISED
DESIGNED ALP CHECKED KAK

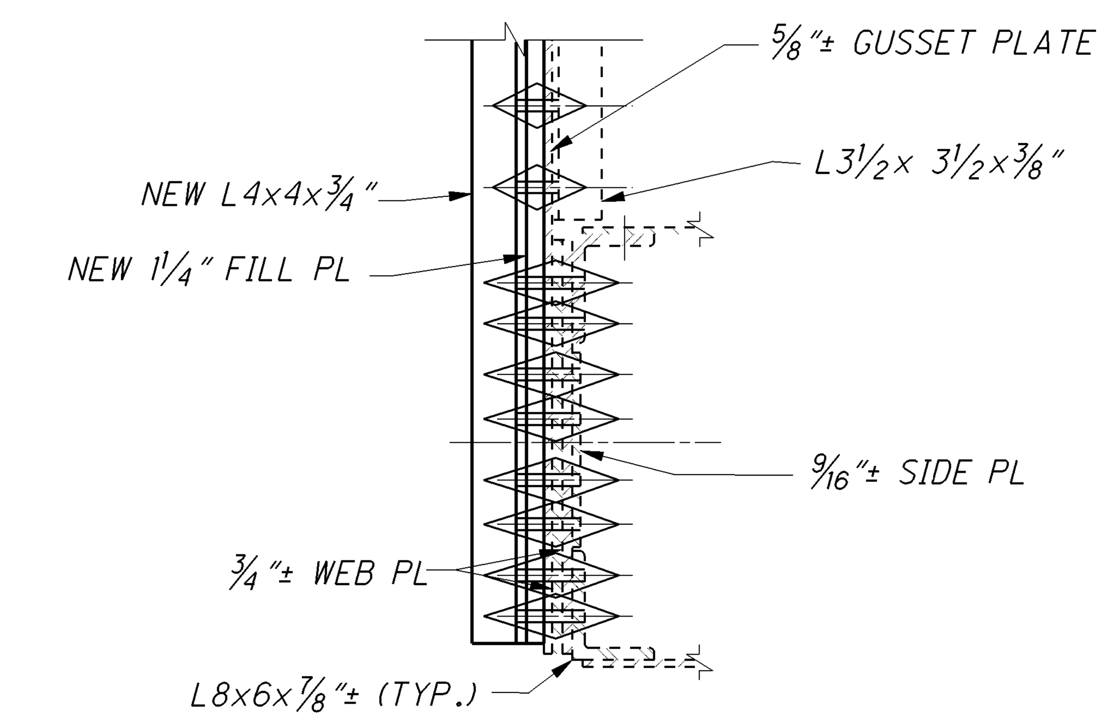
SPAN 3 - PANEL PT L5 (L309) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
3"	4 1/2"	9	9
4 11/16", 5"	6 1/2"	8	8



L312
SPAN 3 - PANEL POINT L8 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

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SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
ALP	KAK	LVB		DAP	7/31/09

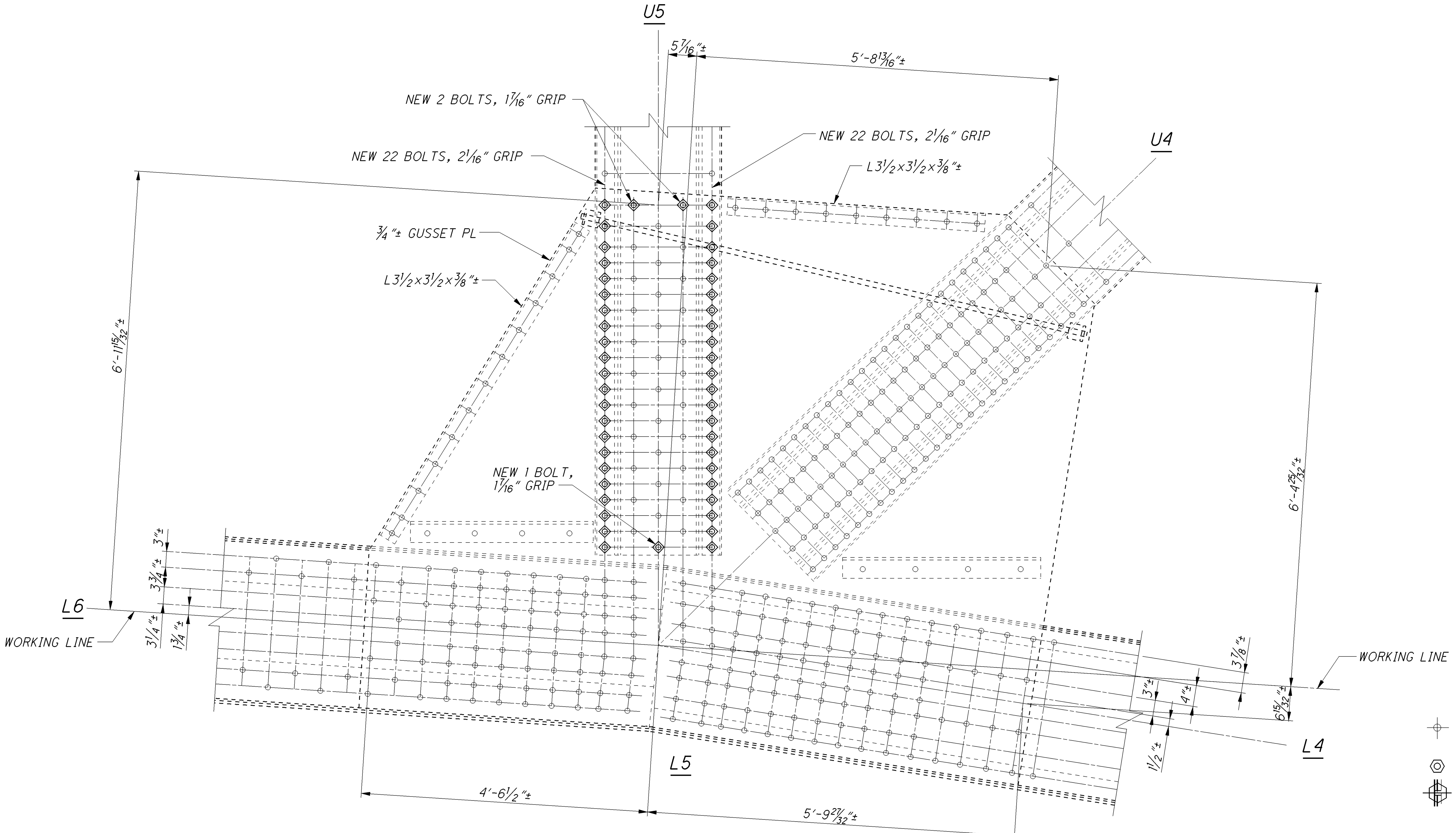
STRUCTURE FILE NUMBER 1809393

SPAN 3 - PANEL PT L8 (L312) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L312S(OUTSIDE).DGN 7/29/09 TWH,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 7/16"	2 3/4"	3	6
2 1/16"	3 1/2"	44	88



L41
SPAN 4 - PANEL POINT L5 - 2 GUSSET PLATES
NORTH TRUSS OUTSIDE - SHOWN
NORTH TRUSS INSIDE - OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER TRUSS GUSSET REPAIR CONNECTION BOLTS ON SHEET 12/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

SHEET ADDED 9/4/09

L41N.DGN 9/01/09 JLS

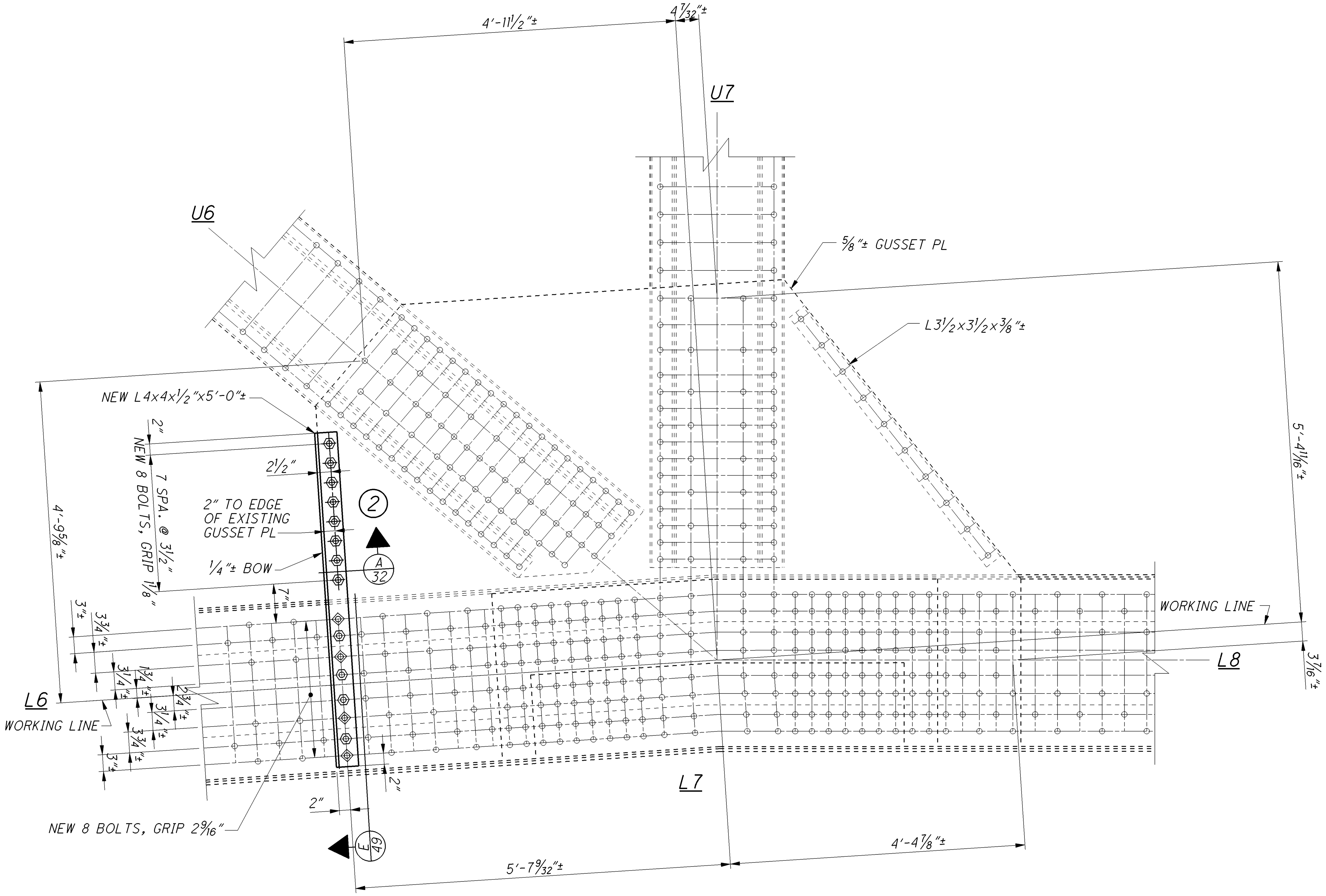
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	9/4/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
dht		1809393	

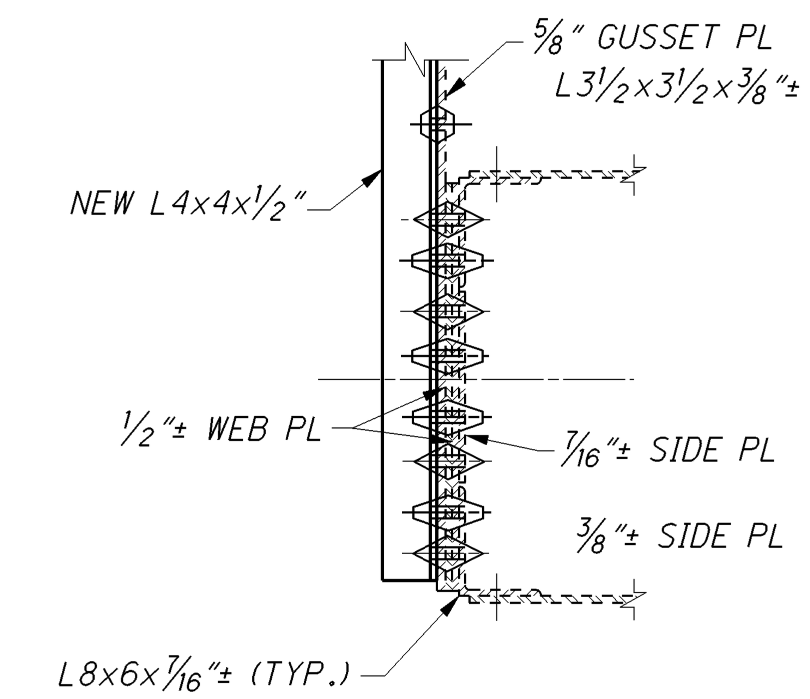
SPAN 4 - PANEL PT L5 (L41) NORTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/8"	2 3/4"	8	8
2 9/16"	4"	8	8



L43
SPAN 4 - PANEL POINT L7 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 4 - PANEL PT L7 (L43) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

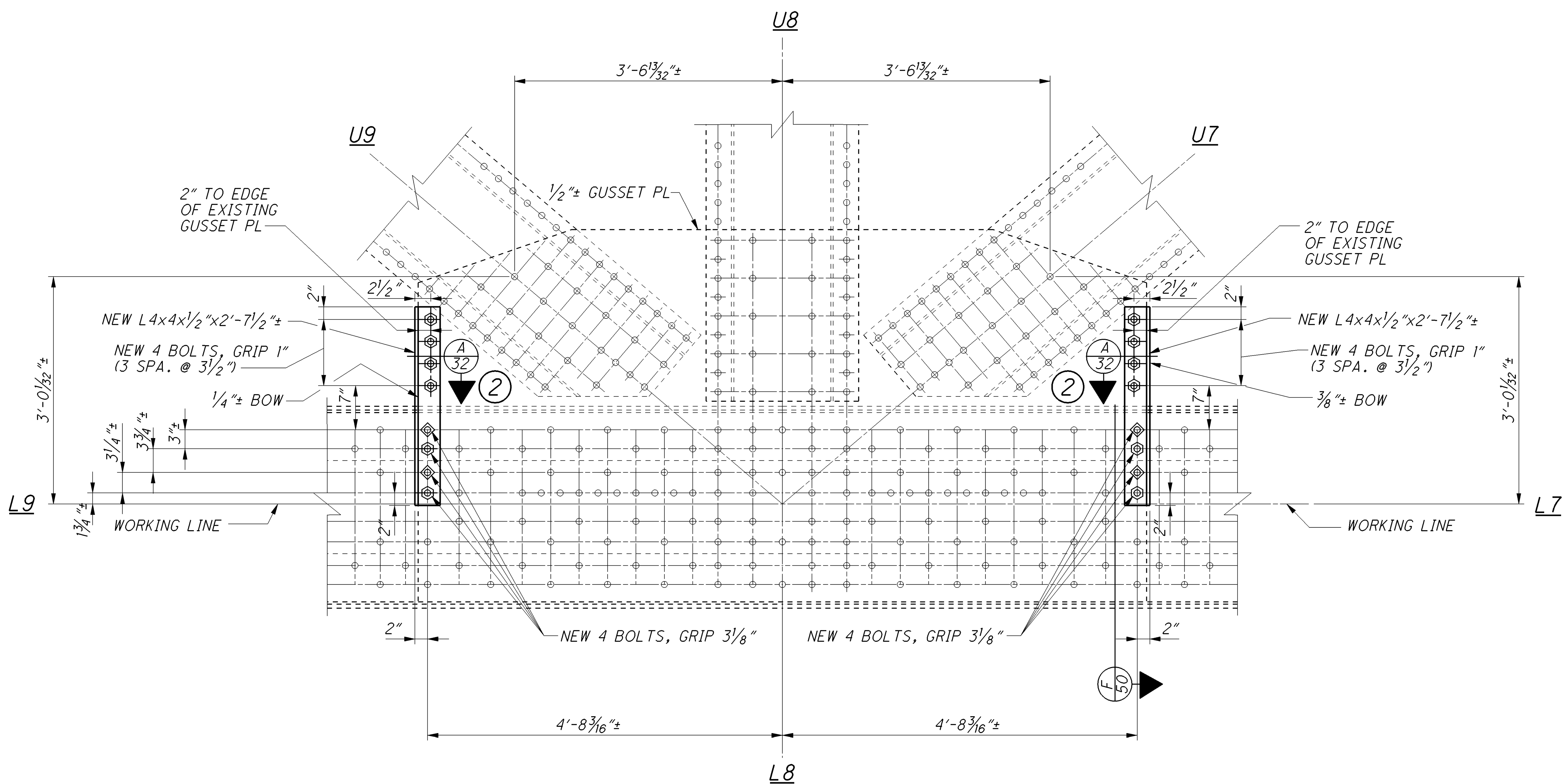
CUY-90-15.24
PID No. 82069

49/140

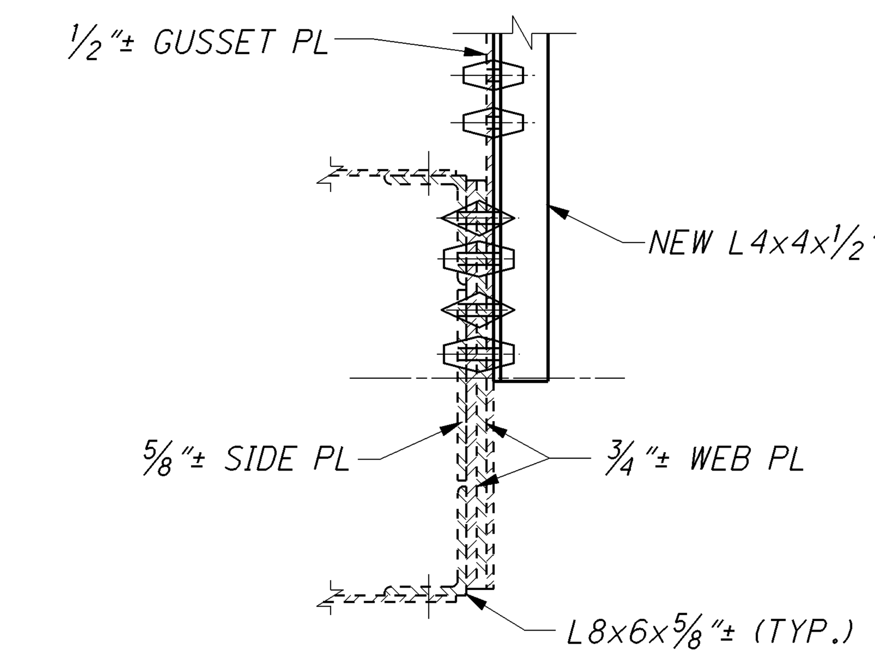
84/175

L43S(OUTSIDE).DGN 7/29/09 SCB,RB,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
3 1/8"	4 3/4"	8	8



L44
SPAN 4- PANEL POINT L8 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

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SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

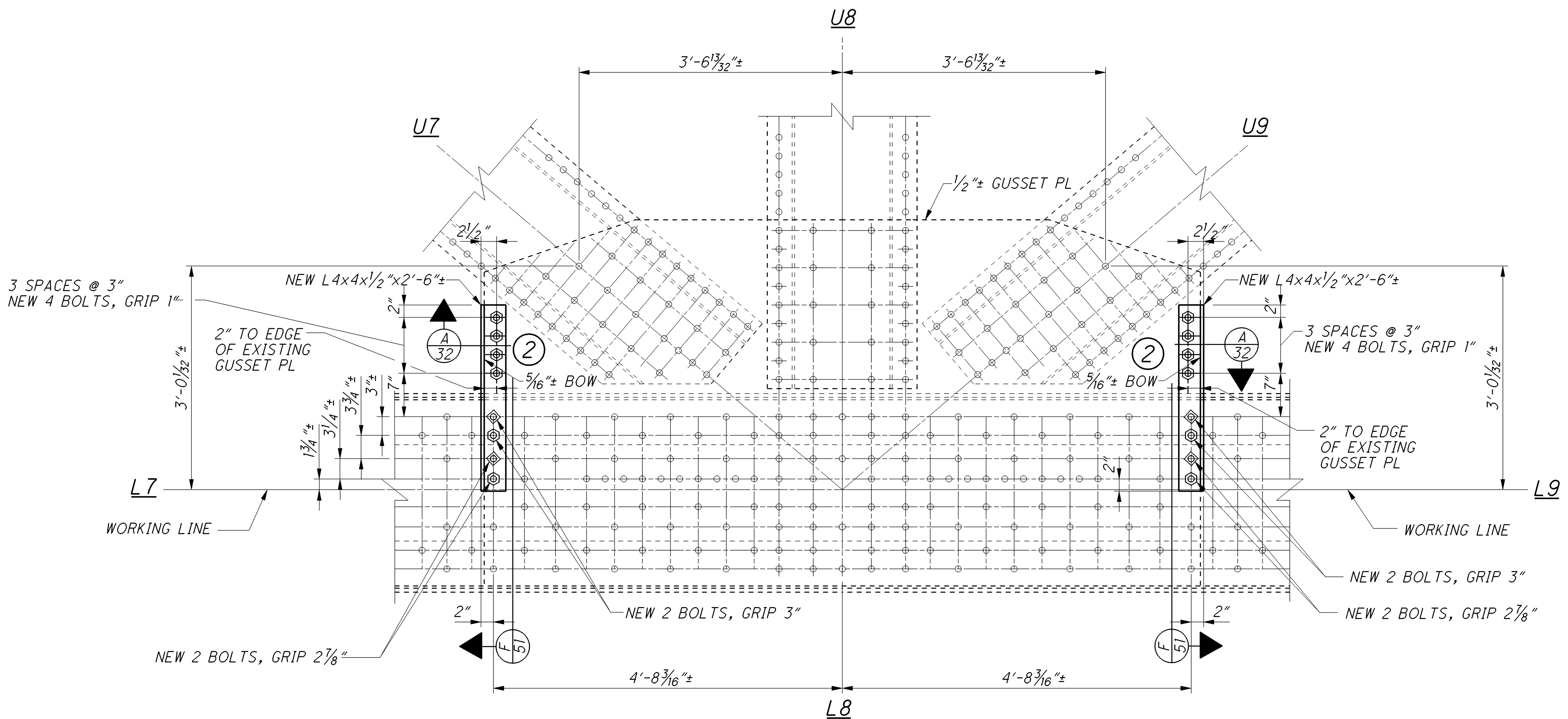
REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN LVB REVISED
DESIGNED ALP CHECKED KAK

SPAN 4 - PANEL PT L8 (L44) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

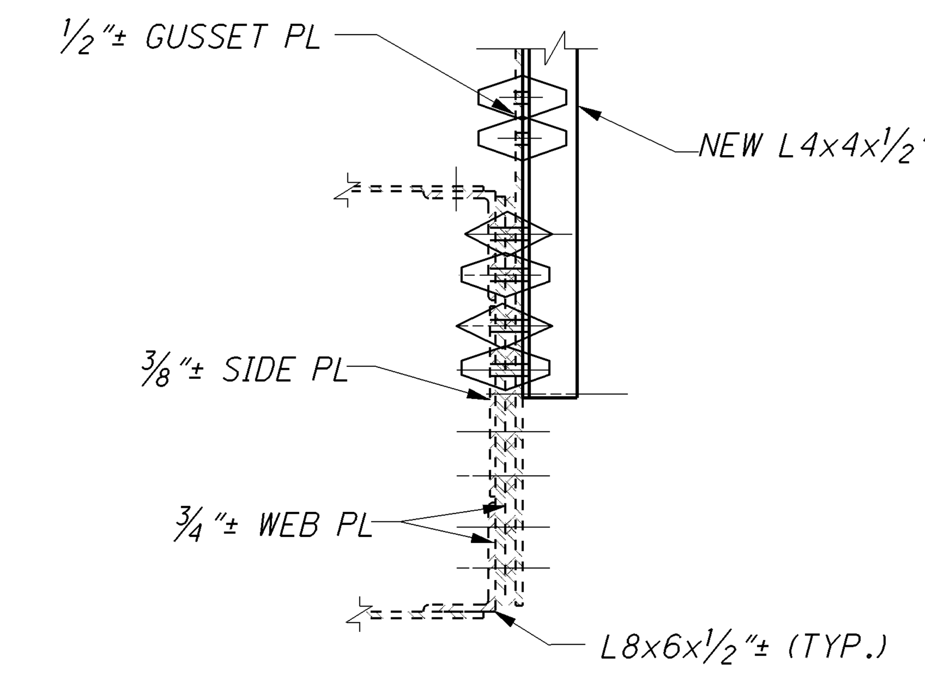
CUY-90-15.24
PID No. 82069

L44N(OUTSIDE).DGN 7/31/09 SCB,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2½"	8	8
2⅞" - 3"	4½"	8	8



L44
SPAN 4 - PANEL POINT L8- 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION F
LEFT SIDE OPPOSITE HAND

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

LEGEND

1 REPAIR TYPE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

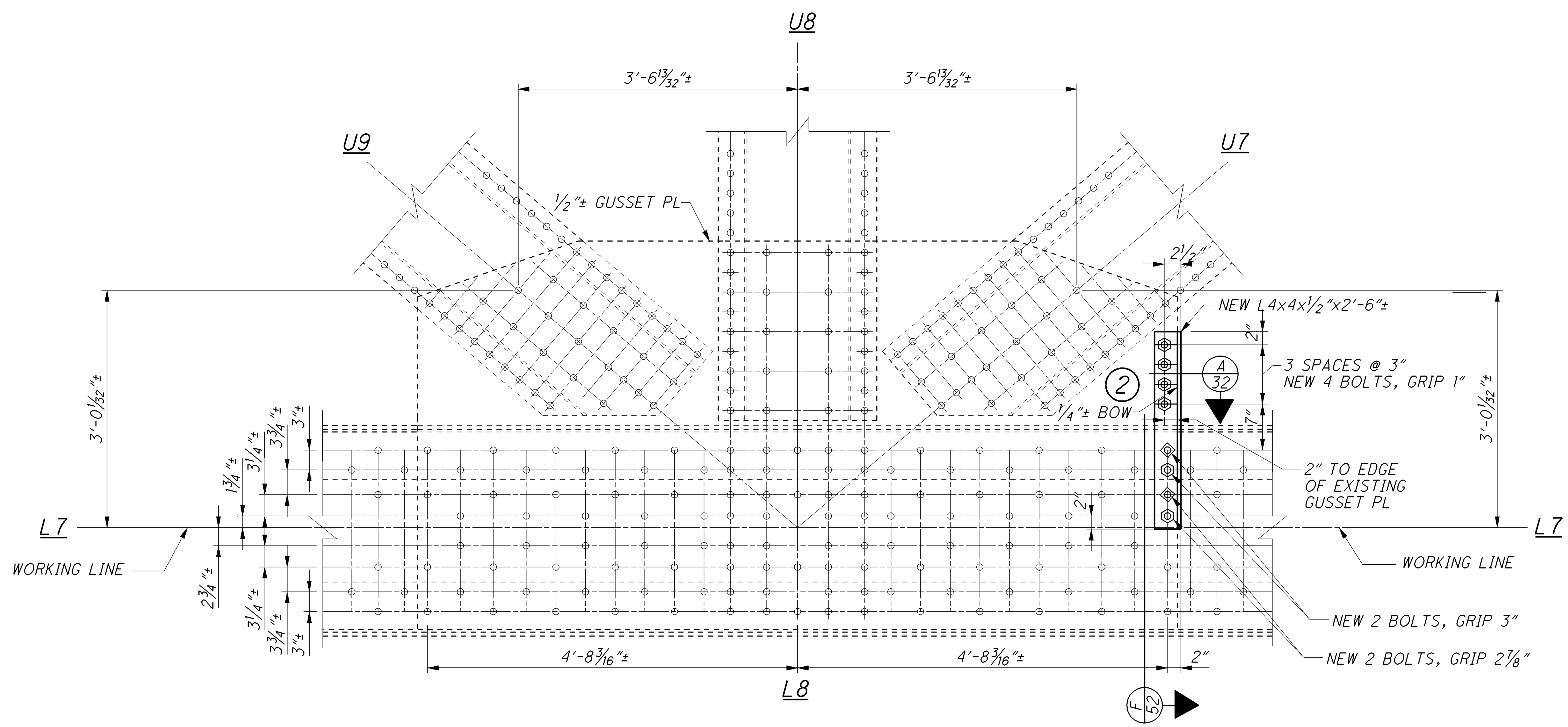
DESIGNED ALP | CHECKED KAK | DRAWN LVB | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

SPAN 4 - PANEL PT L8 (L44) SOUTH TRUSS -OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L44S(OUTSIDE).DGN 7/29/09 BB,KH,JLS

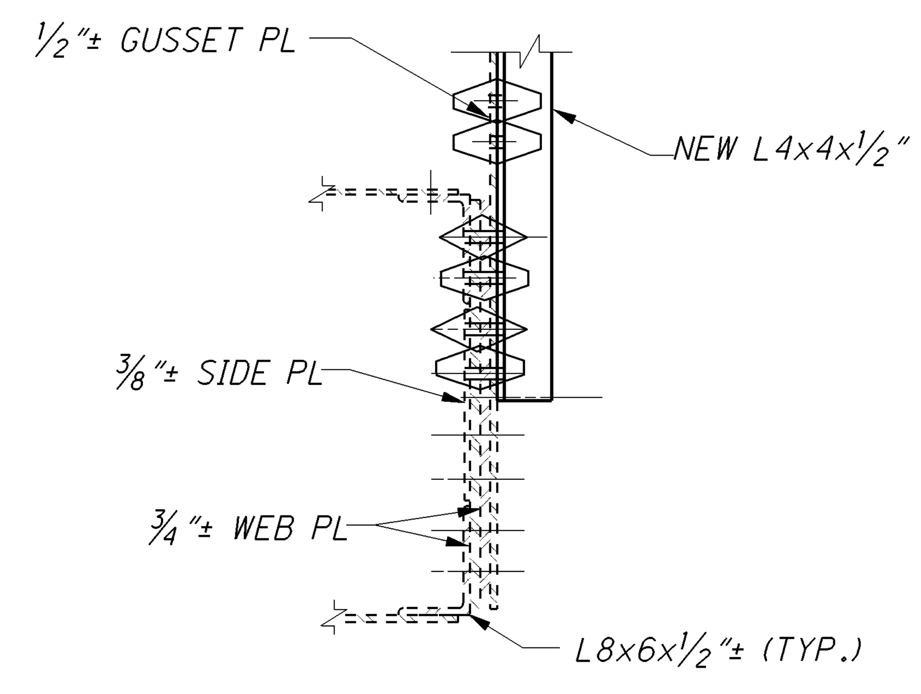
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	4	4
2 7/8" - 3"	4 1/2"	4	4



L44

SPAN 4 - PANEL POINT L8 - 1 GUSSET PLATE

SOUTH TRUSS INSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED KAK | DRAWN LVB | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

SPAN 4 - PANEL PT L8 (L44) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

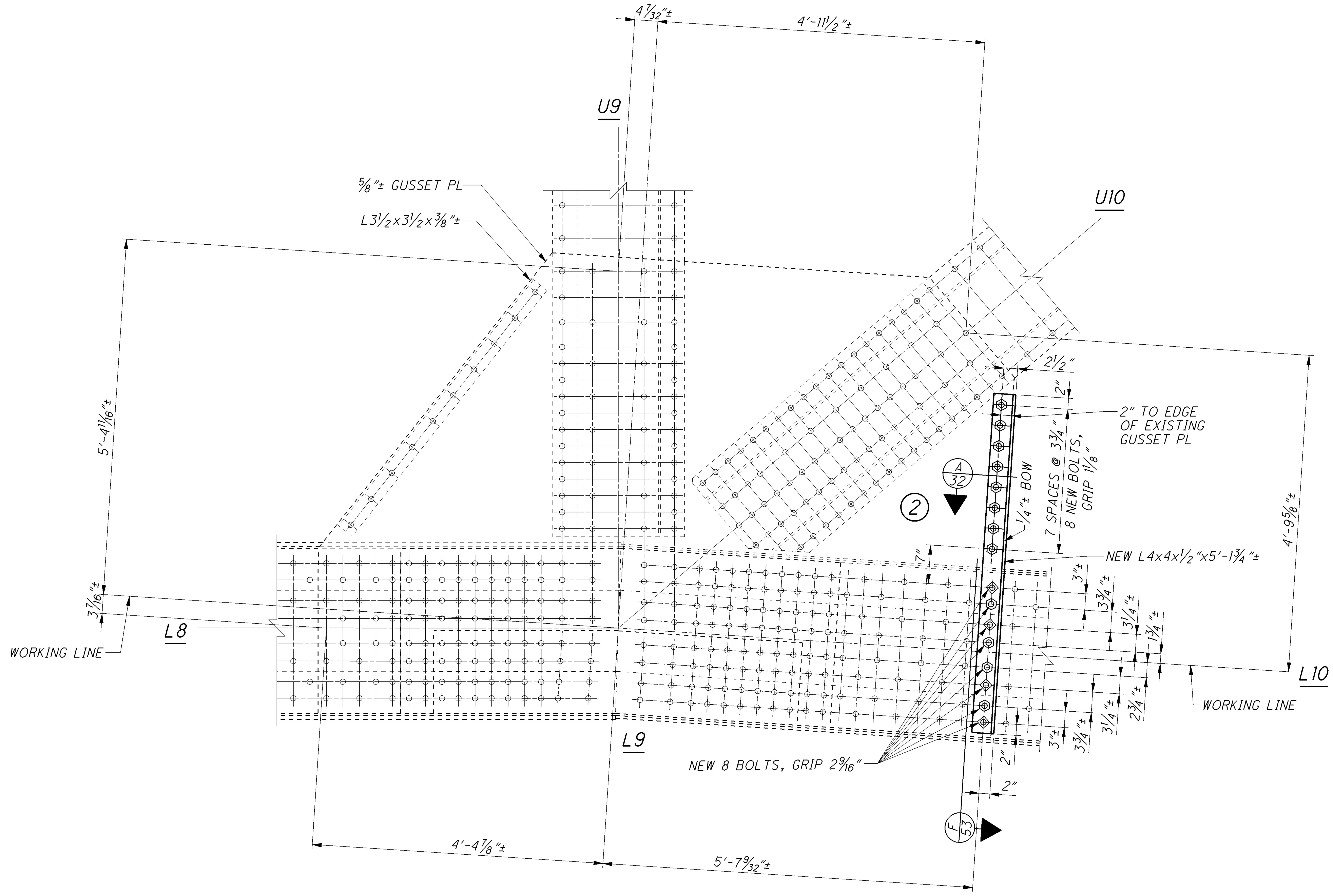
CUY-90-15.24
PID No. 82069

52/140

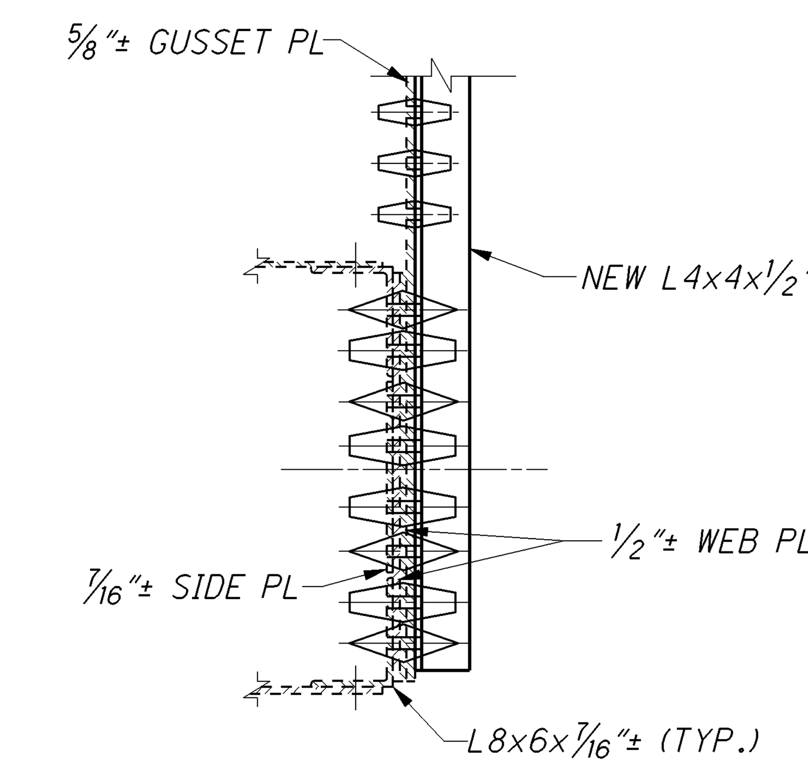
87/175

L44S(INSIDE).DGN 7/29/09 KH,TWH,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1⅛"	2¾"	8	8
2⁹⁄₁₆"	4"	8	8



L45
SPAN 4 - PANEL POINT L9 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

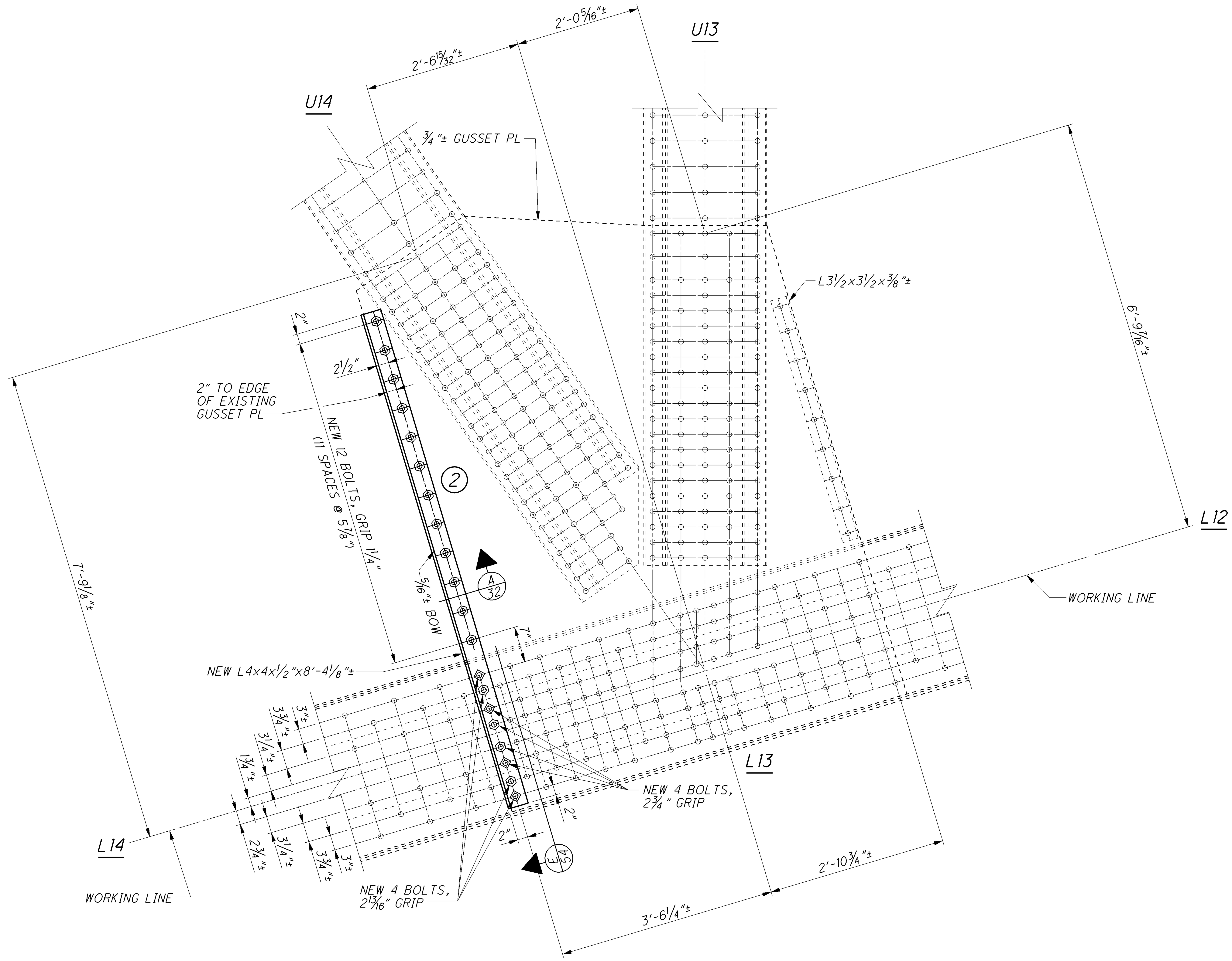
L45S(OUTSIDE).DGN 7/29/09 KH,TWH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

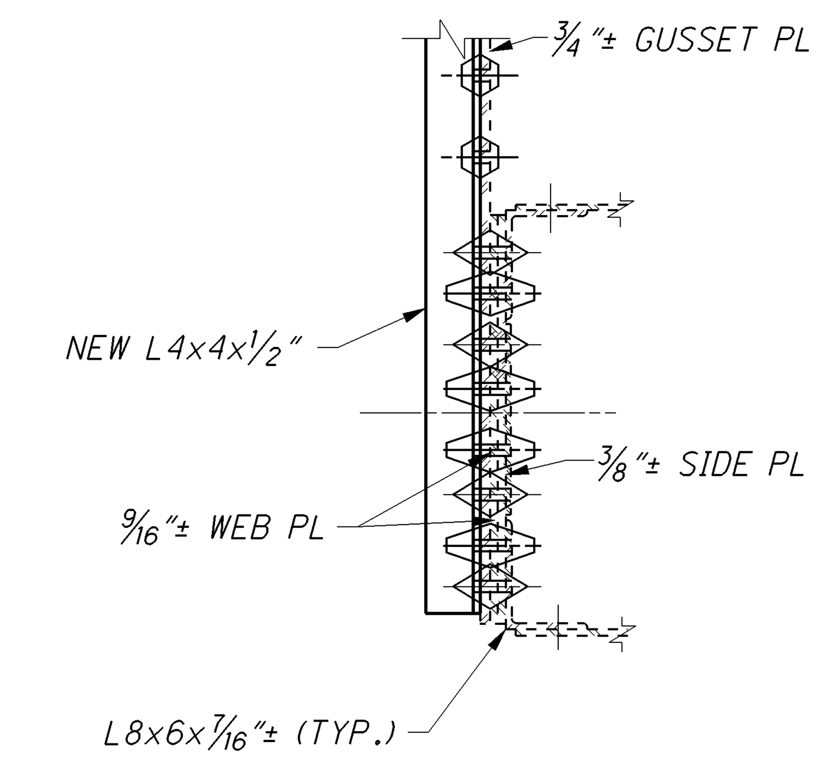
DESIGNED ALP | DRAWN KMK | REVIEWED DAP | DATE 7/31/09
CHECKED KAK | REVISED | STRUCTURE FILE NUMBER 1809393

SPAN 4 - PANEL PT L9 (L45) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/4"	2 3/4"	12	12
2 3/4" - 2 13/16"	4 1/4"	8	8



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L501
SPAN 4 - PANEL POINT L13 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE

L501N(OUTSIDE).DGN 7/29/09 KH,TWH,JLS

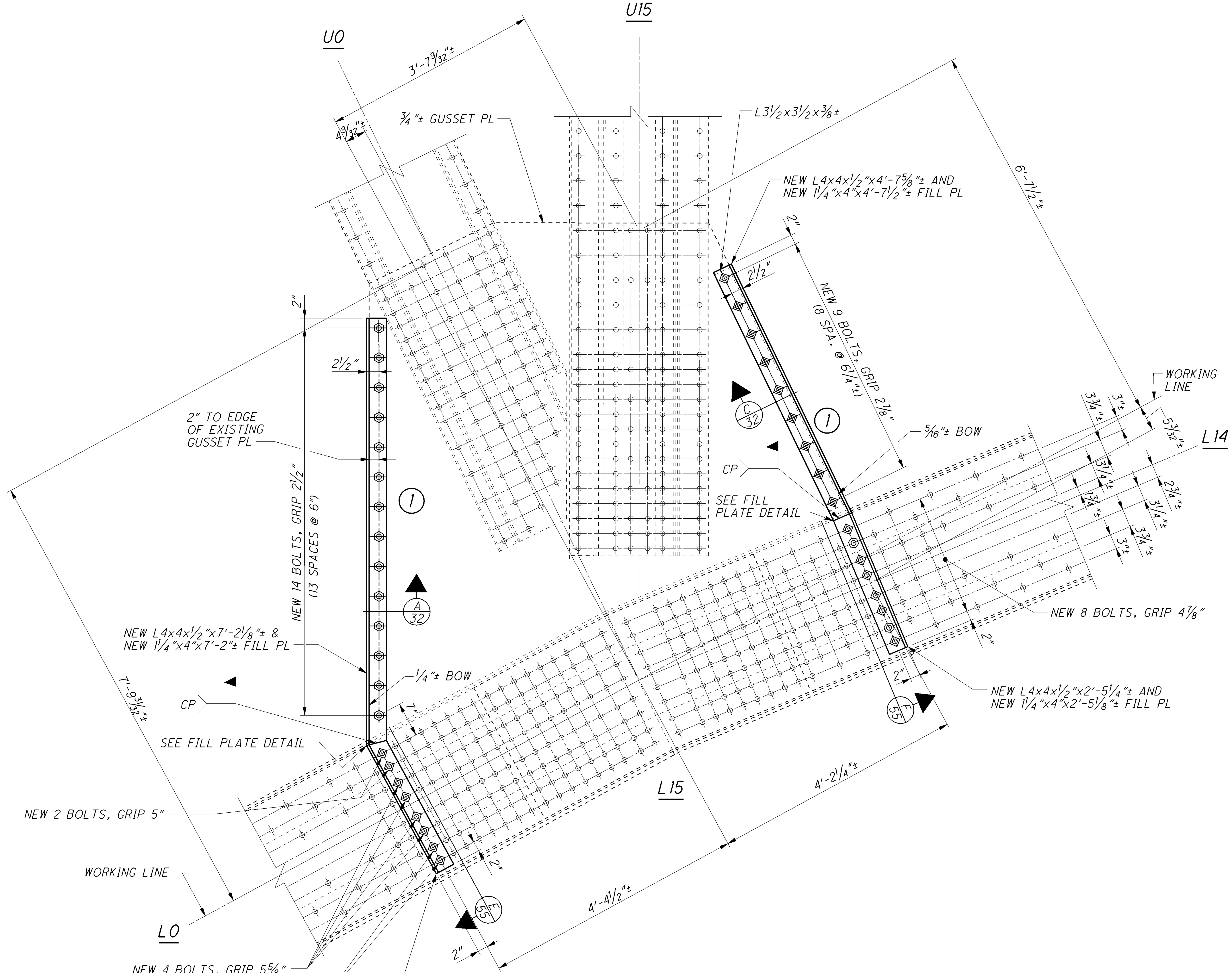
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN SAM REVISED
DESIGNED ALP CHECKED KAK

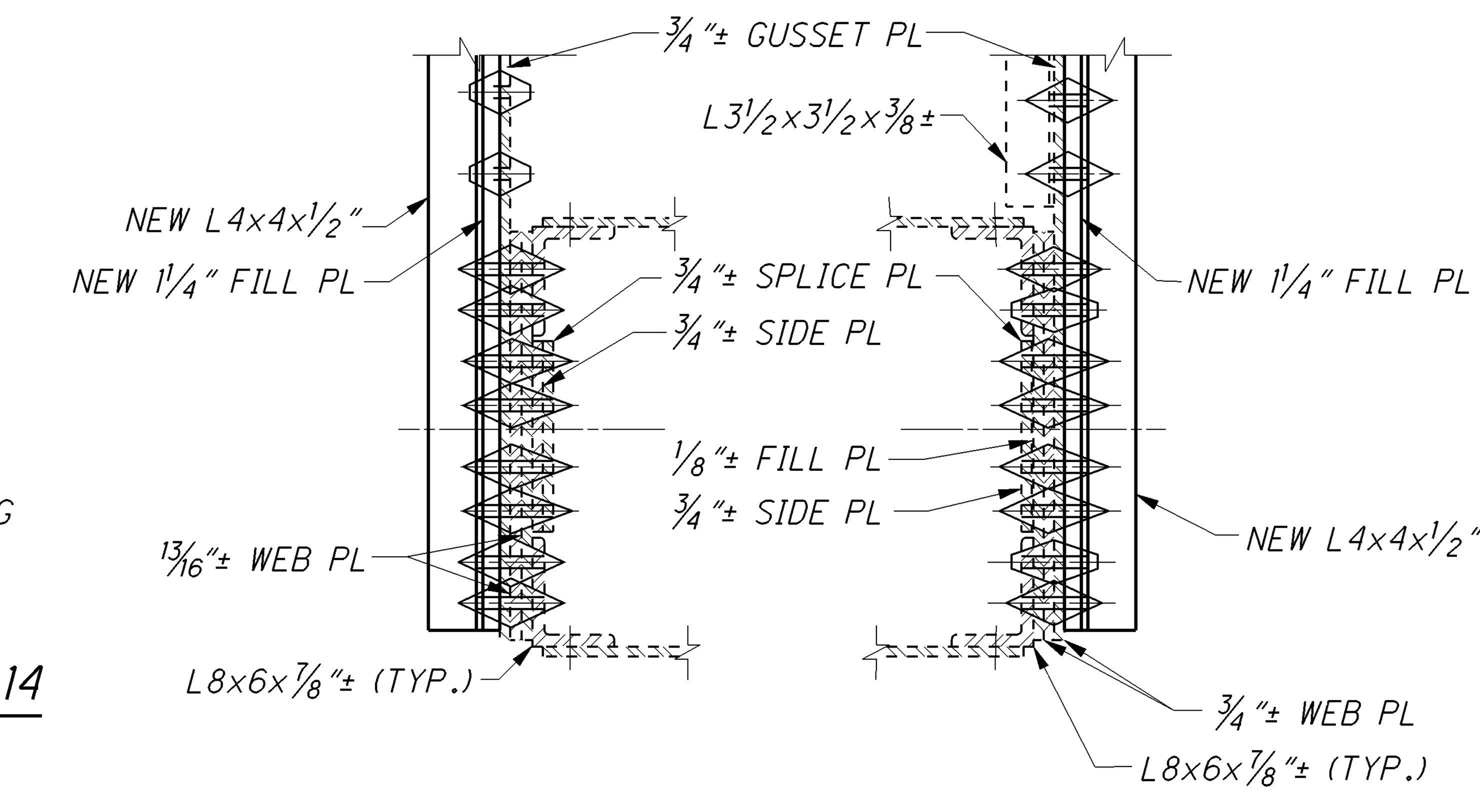
SPAN 4 - PANEL PT L13 (L501) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 1/2"	4"	14	14
2 7/8"	4 1/2"	9	9
4 7/8" - 5"	6 1/2"	12	12
5 5/8"	7 1/2"	4	4



L503
SPAN 4 - PANEL POINT L15 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

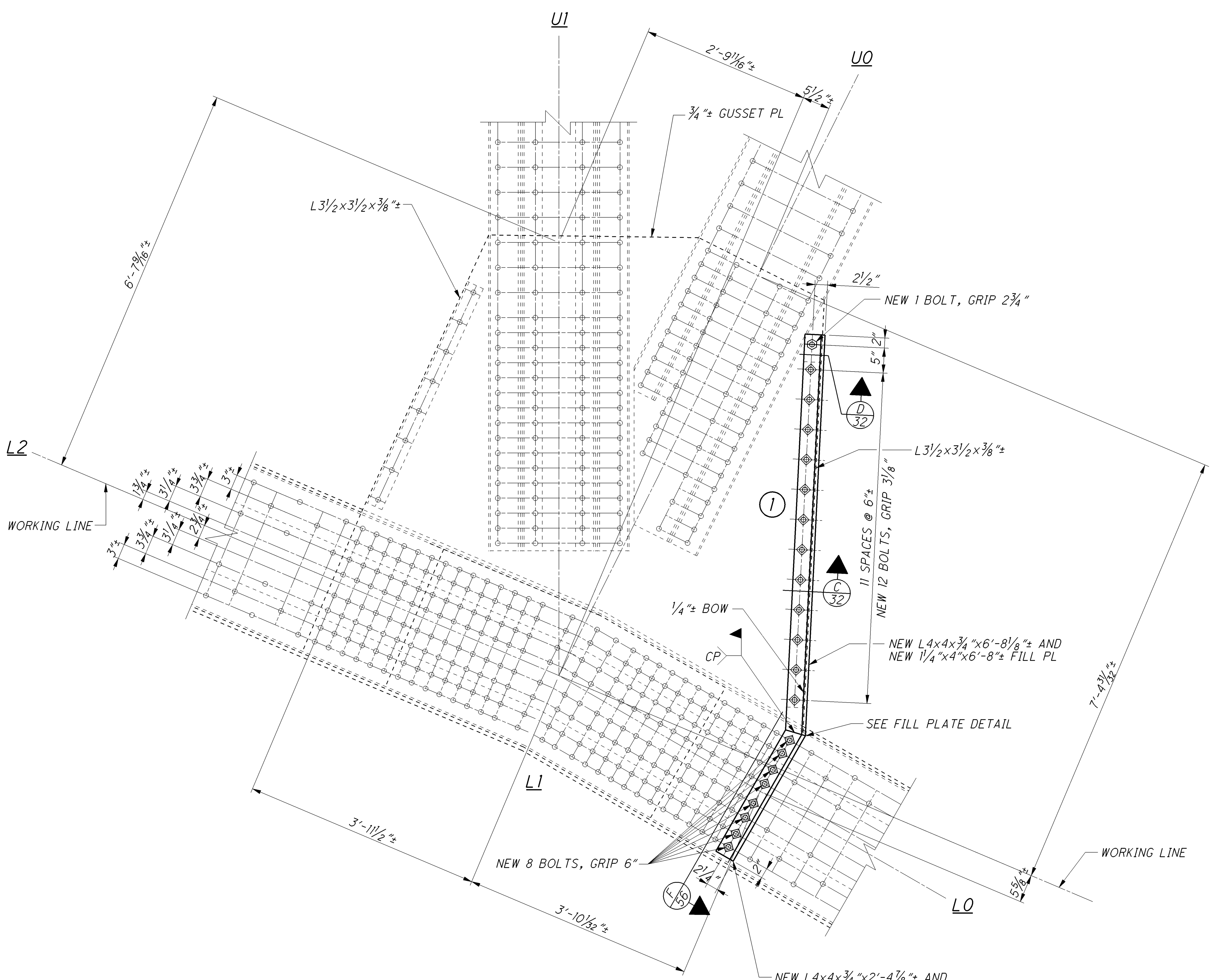
DESIGNED	DRAWN	REVIEWED	DATE
ALP	KH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 4 - PANEL PT L15 (L503) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

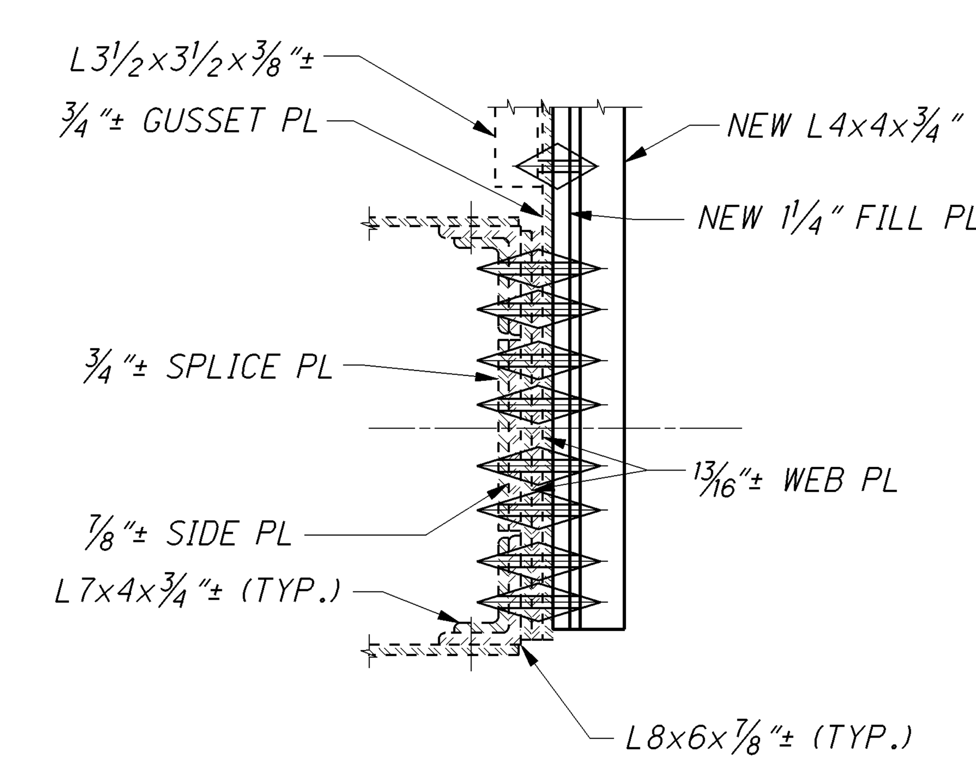
CUY-90-15.24
PID No. 82069

L503N(OUTSIDE).DGN 7/27/09 KH,TWH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 3/4"	4 1/4"	1	1
3 1/8"	4 3/4"	12	12
6"	7 1/2"	8	8



L505
SPAN 5 - PANEL POINT L1 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L505N(OUTSIDE).DGN 8/3/09 SCB,TWH,JLS

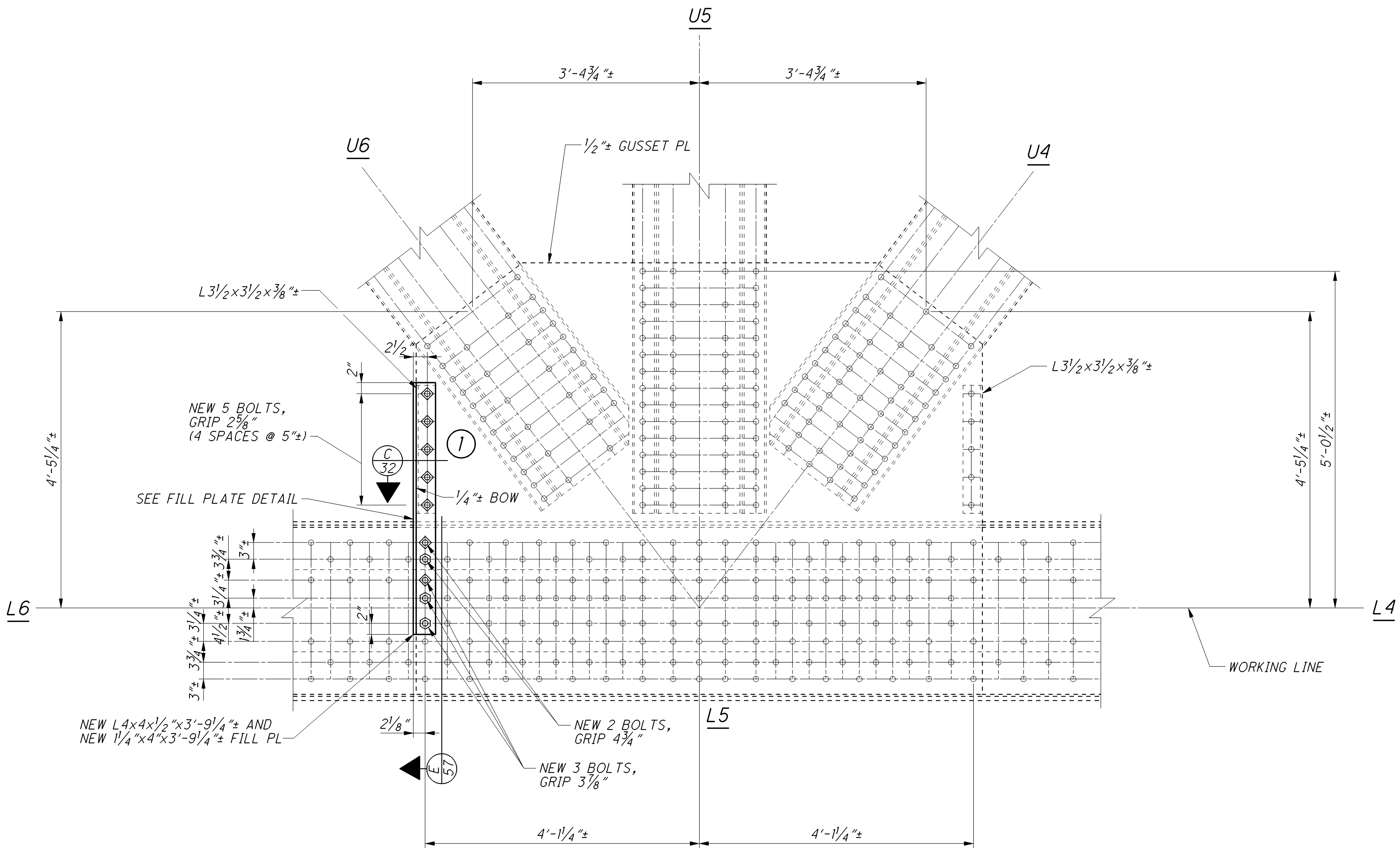
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

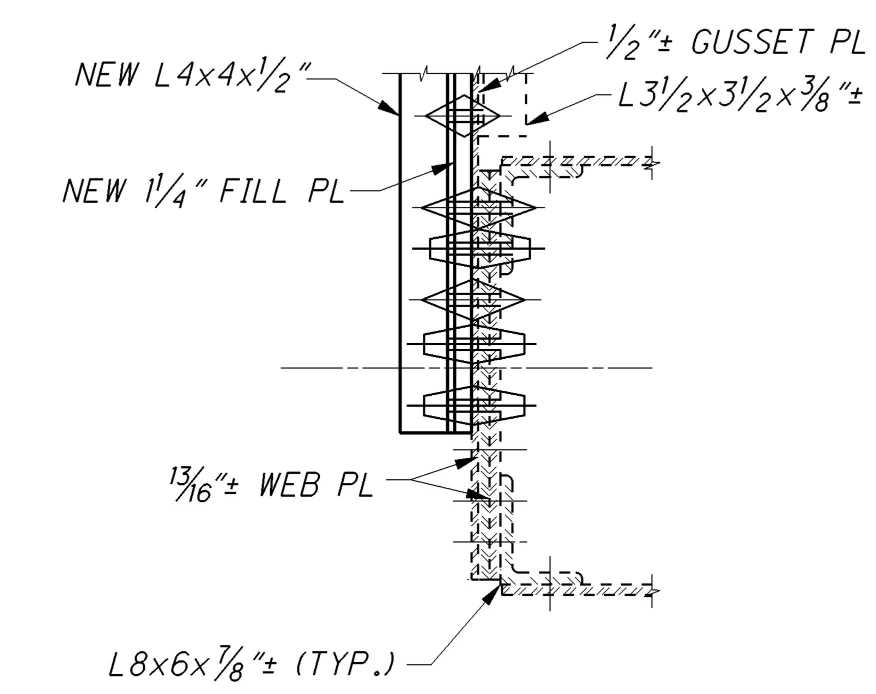
SPAN 5 - PANEL PT L1 (L505) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 5/8"	4 1/4"	5	5
3 7/8"	5 1/2"	3	3
4 3/4"	6 1/2"	2	2



L509
SPAN 5 - PANEL POINT L5 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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DESIGNED	DRAWN	REVIEWED	DATE
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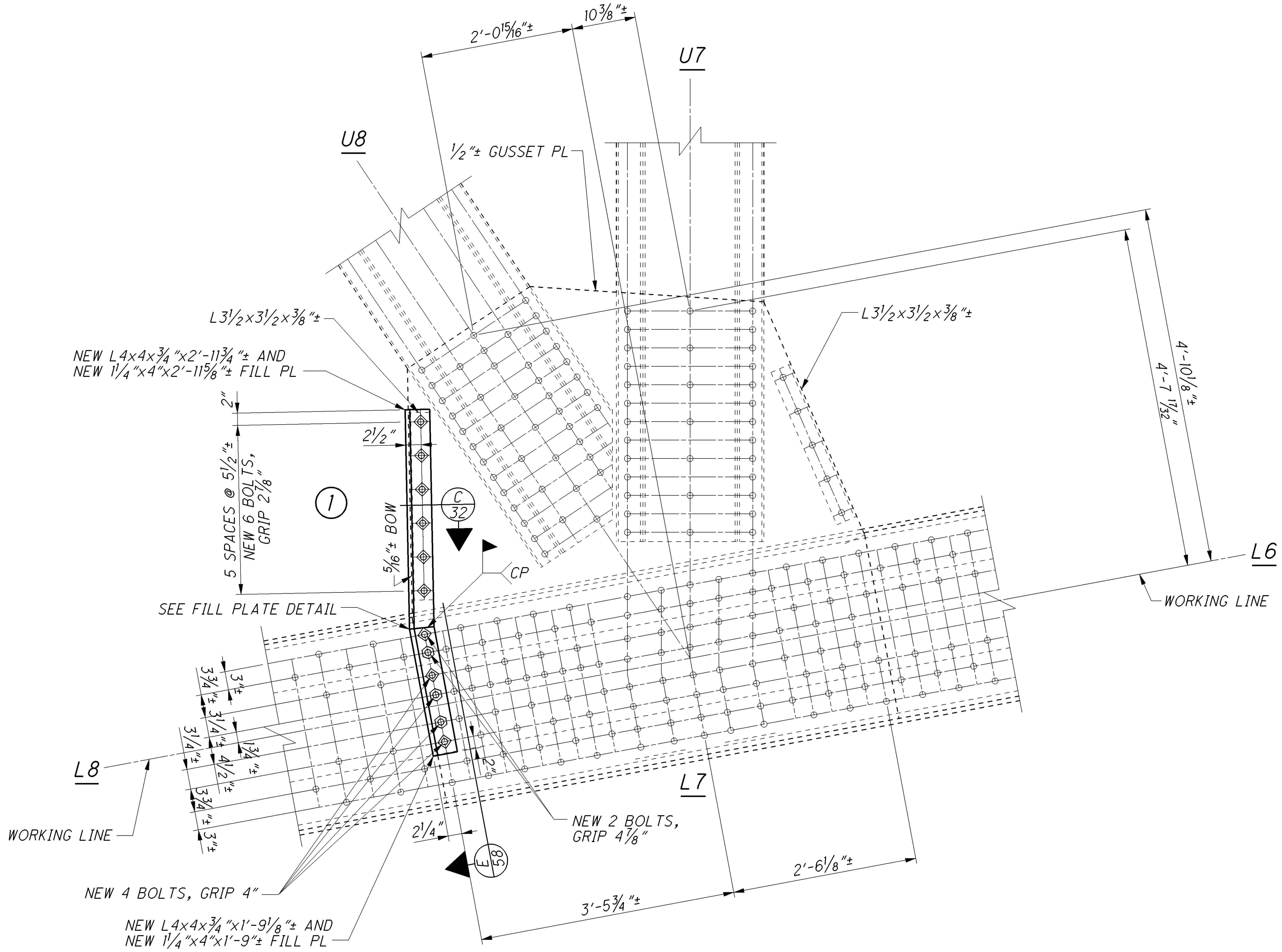
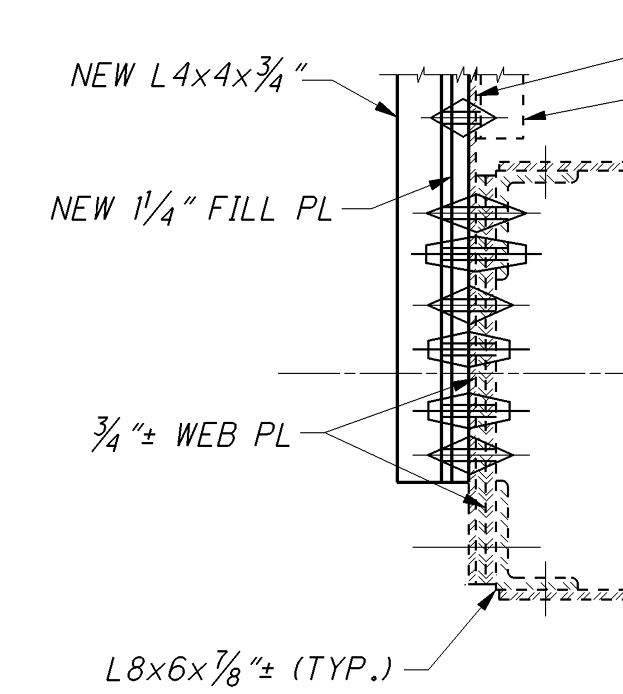
SPAN 5 - PANEL PT L5 (L509) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2⅞"	4½"	6	6
4"	5½"	4	4
4⅞"	6½"	2	2



L511
SPAN 5 - PANEL POINT L7 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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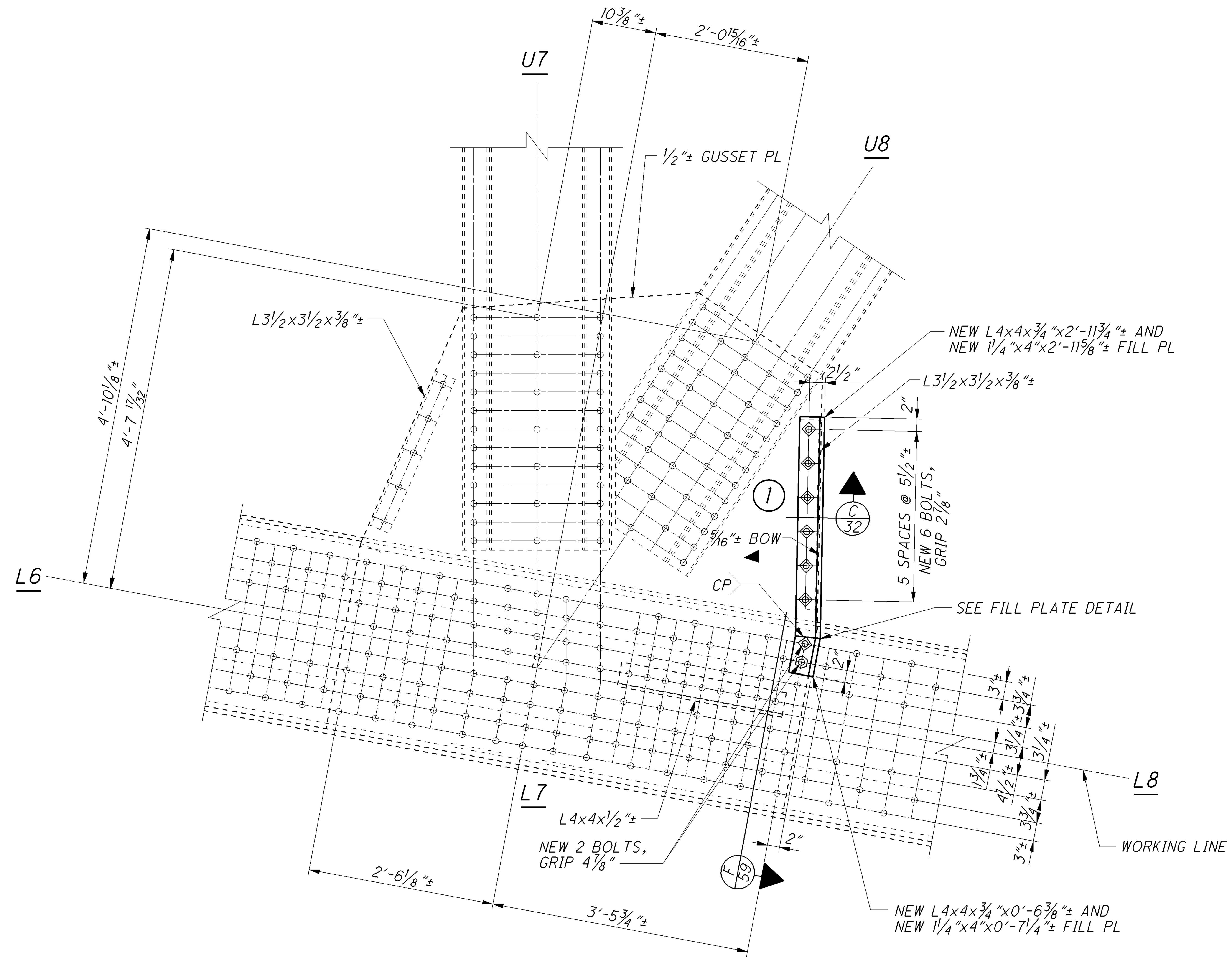
SPAN 5 - PANEL PT L7 (L511) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L511N(OUTSIDE).DGN 07/30/09 BB,SCB,KH,TWH,JLS

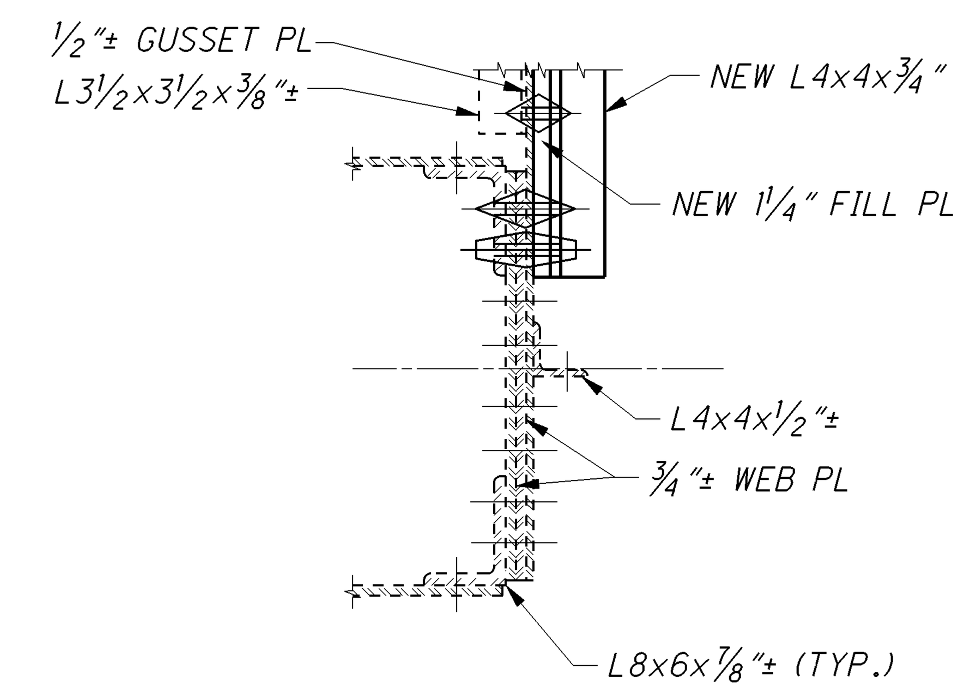
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 7/8"	4 1/2"	6	6
4 7/8"	6 1/2"	2	2



L511

SPAN 5 - PANEL POINT L7 - 1 GUSSET PLATE

NORTH TRUSS INSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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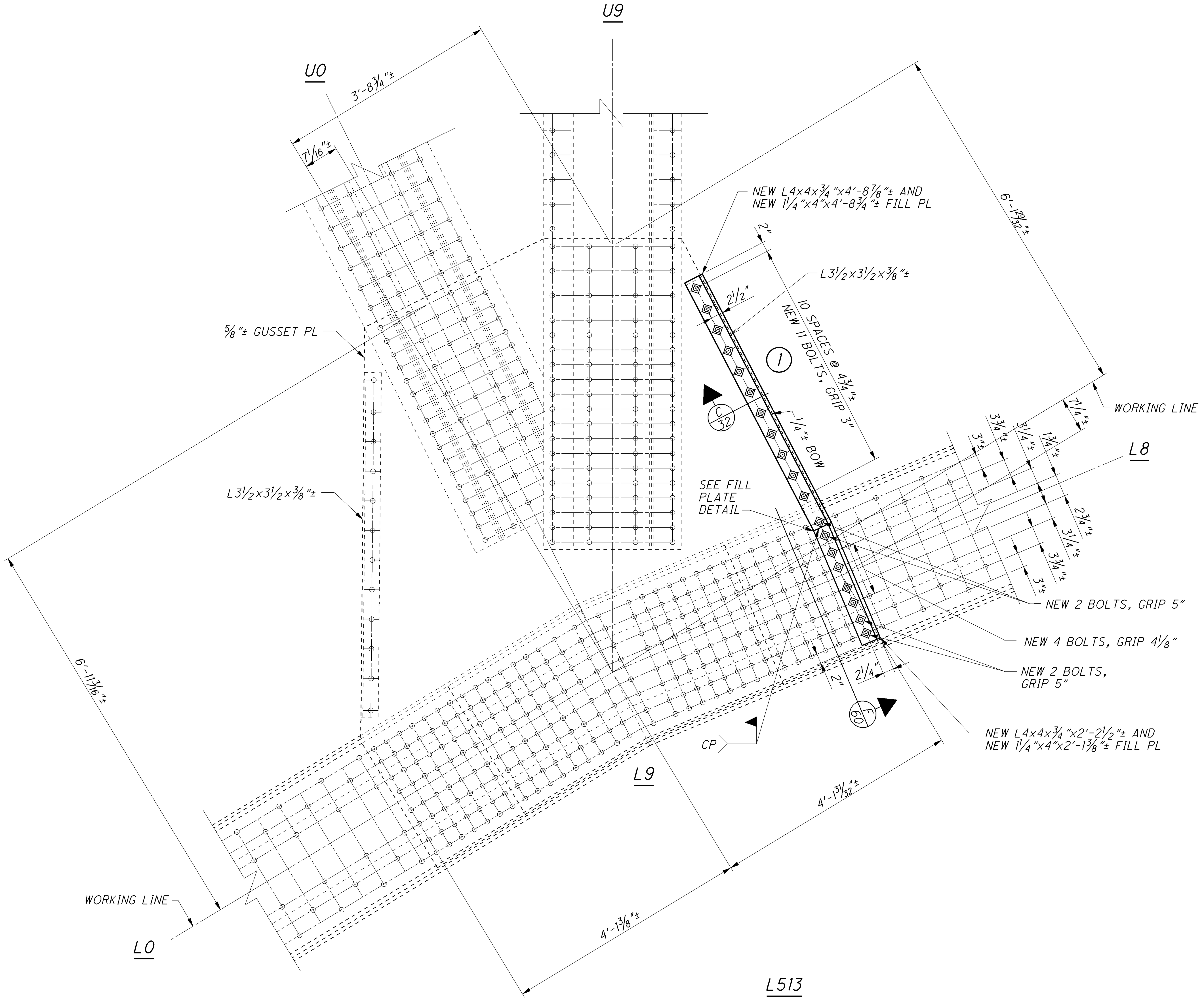
SPAN 5 - PANEL PT L7 (L511) NORTH TRUSS - INSIDE GUSSET

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

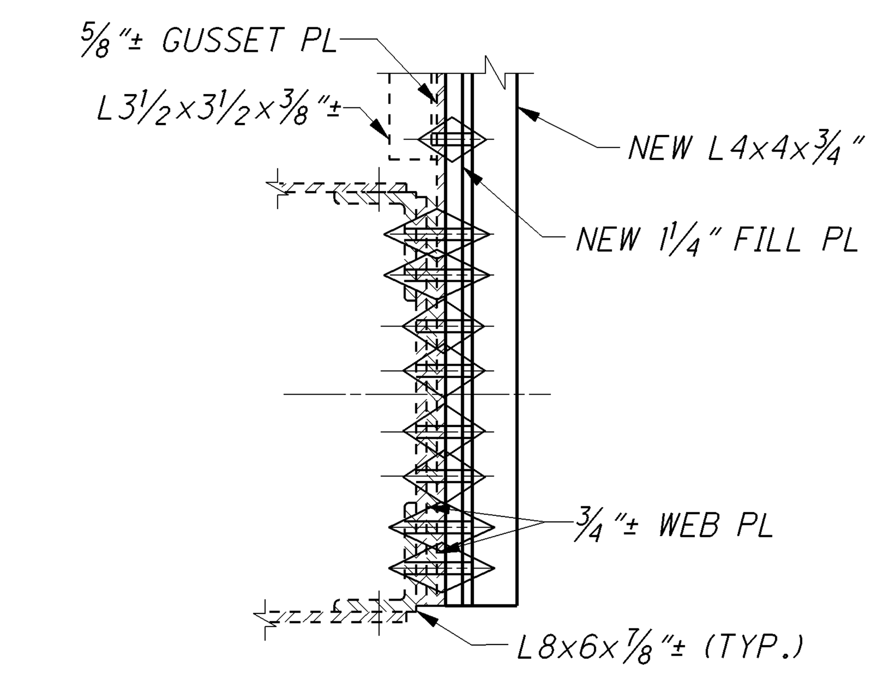
CUY-90-15.24
PID No. 82069

L511N(INSIDE).DGN 07/30/09 BB,SCB,KH,TWH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
3"	4 1/2"	11	11
4 1/8"	6"	4	4
5"	6 1/2"	4	4



L513
SPAN 5 - PANEL POINT L9 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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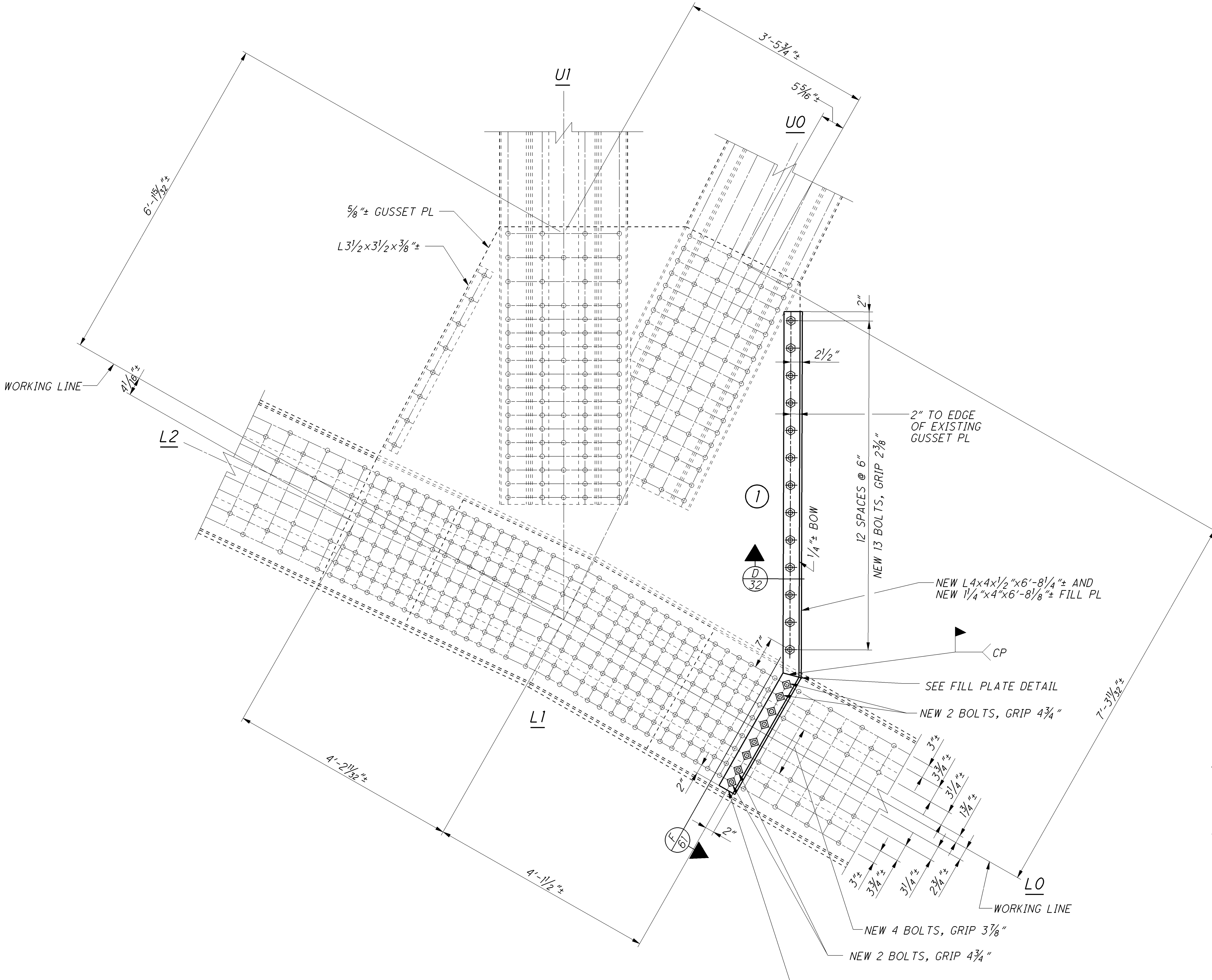
SPAN 5 - PANEL PT L9 (L513) NORTH TRUSS - OUTSIDE GUSSET

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

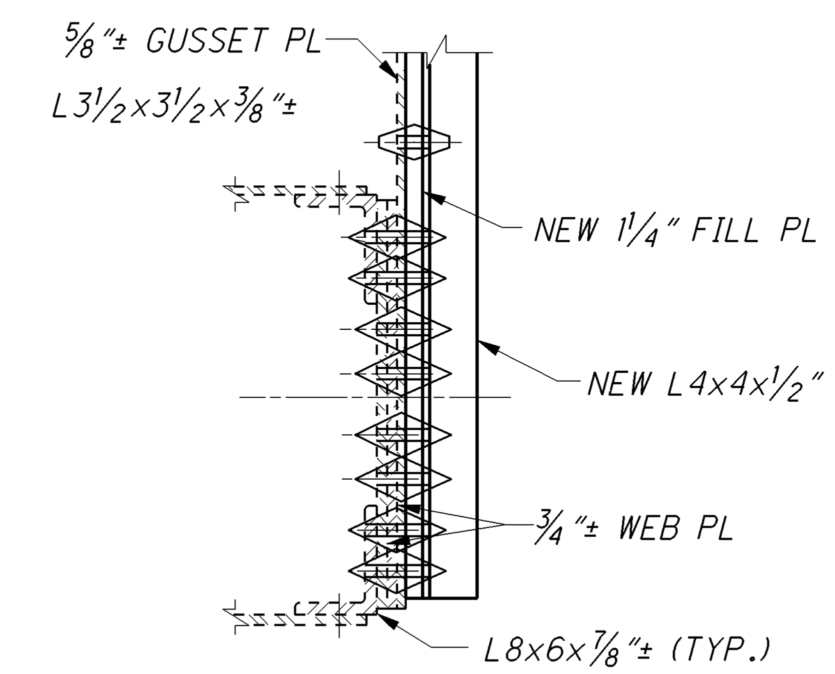
CUY-90-15.24
PID No. 82069

BOLT TABLE - ⅞" DIA. A490

BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2⅜"	4"	13	13
3⅞"	5½"	4	4
4¾"	6½"	4	4



L515
SPAN 6 - PANEL POINT L1 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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MANSFIELD, OHIO 44902

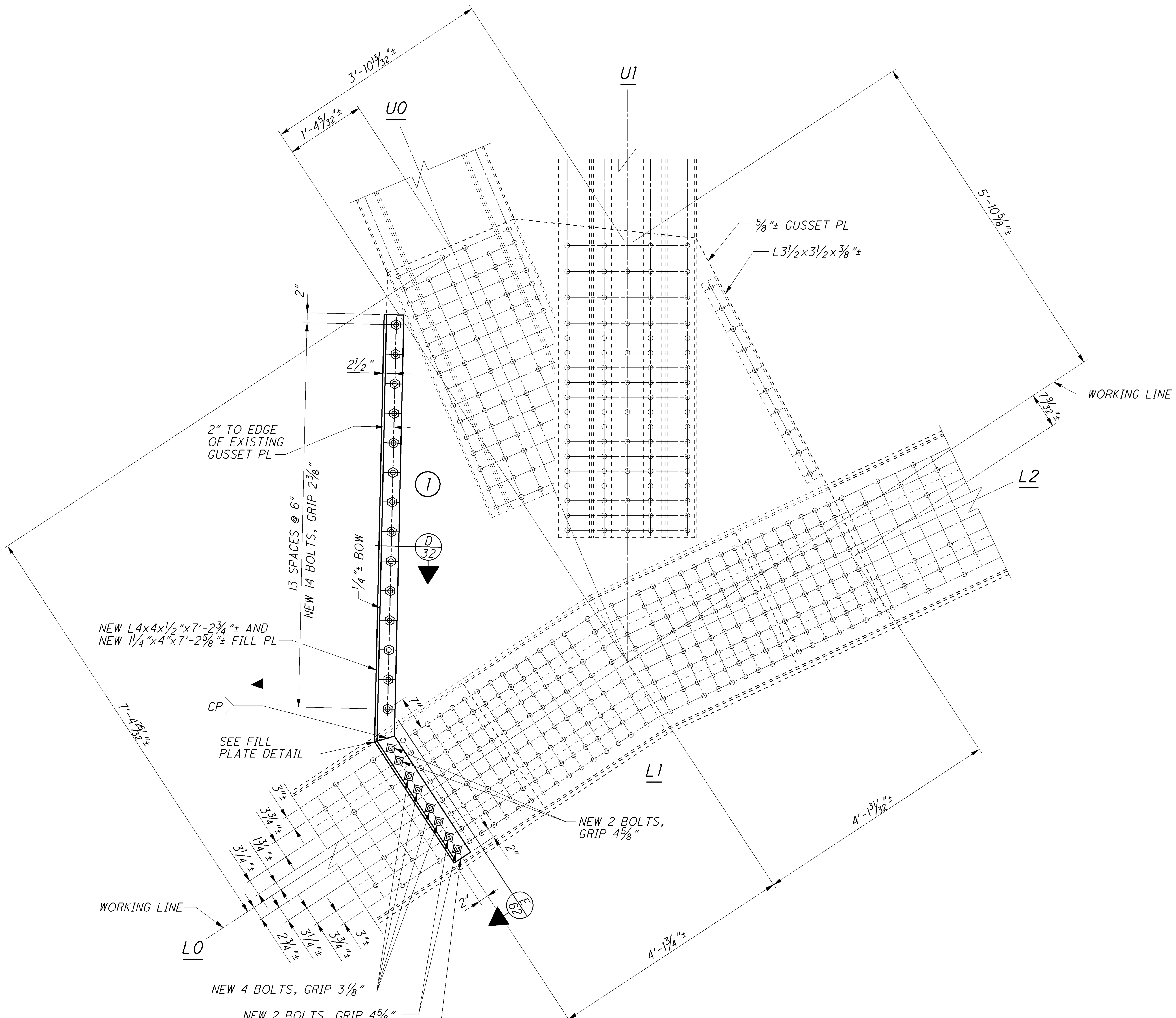
DESIGNED ALP | CHECKED KAK | DRAWN TWH | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

SPAN 6 - PANEL PT L1 (L515) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

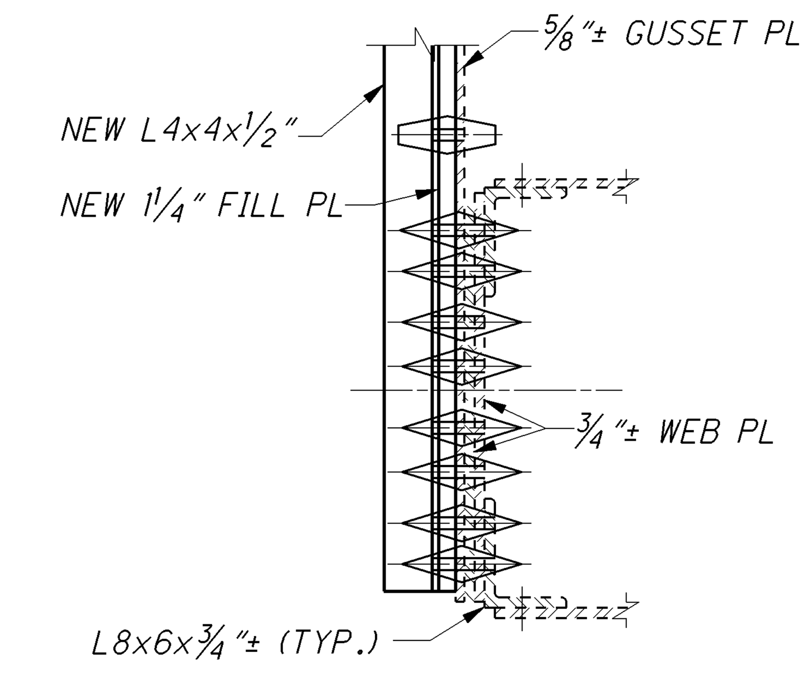
CUY-90-15.24
PID No. 82069

L515N(OUTSIDE).DGN 7/30/09 SAM,TWH,SCB,KH,JLS

BOLT TABLE - $\frac{7}{8}$" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2⅜"	4"	14	14
3⅞"	5½"	4	4
4⅝"	6½"	4	4



L515
SPAN 6 - PANEL POINT L1 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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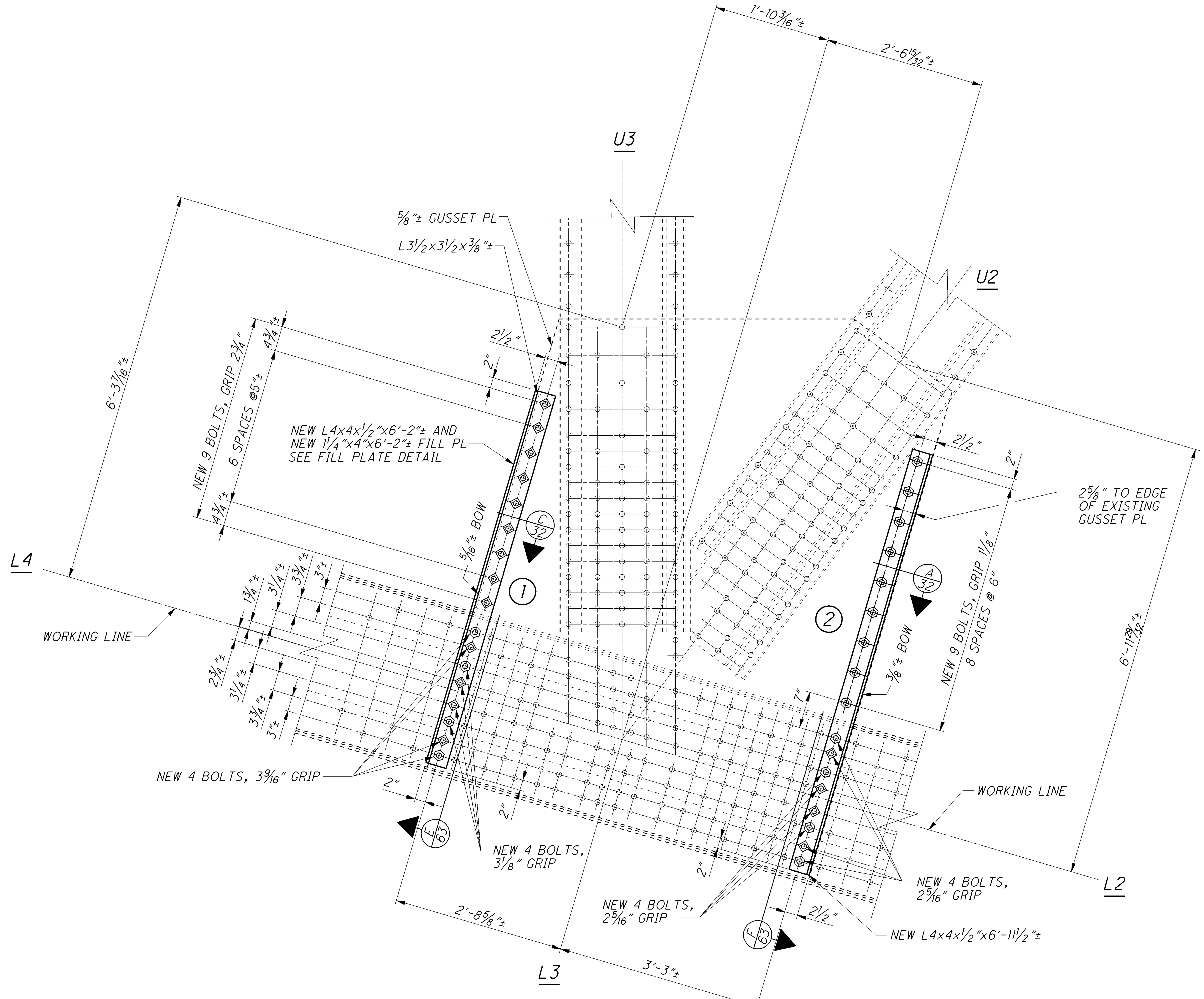
SPAN 6 - PANEL PT L1 (L515) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

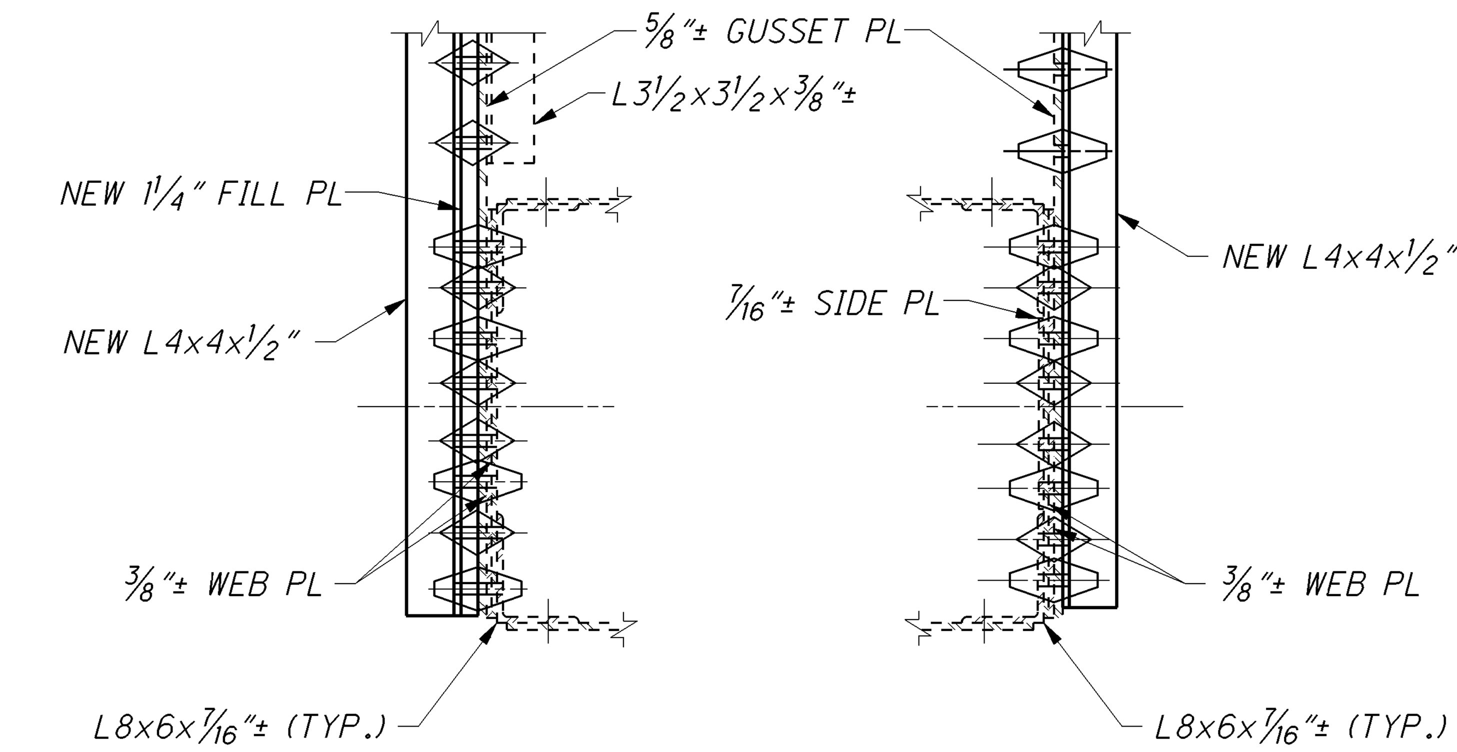
CUY-90-15.24
PID No. 82069

L515S(OUTSIDE).DGN 7/30/09 SCB,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/8"	2 3/4"	9	9
2 5/16"	3 3/4"	8	8
2 3/4"	4 1/4"	9	9
3 1/8"	4 3/4"	4	4
3 9/16"	5"	4	4



L517
SPAN 6 - PANEL POINT L3 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

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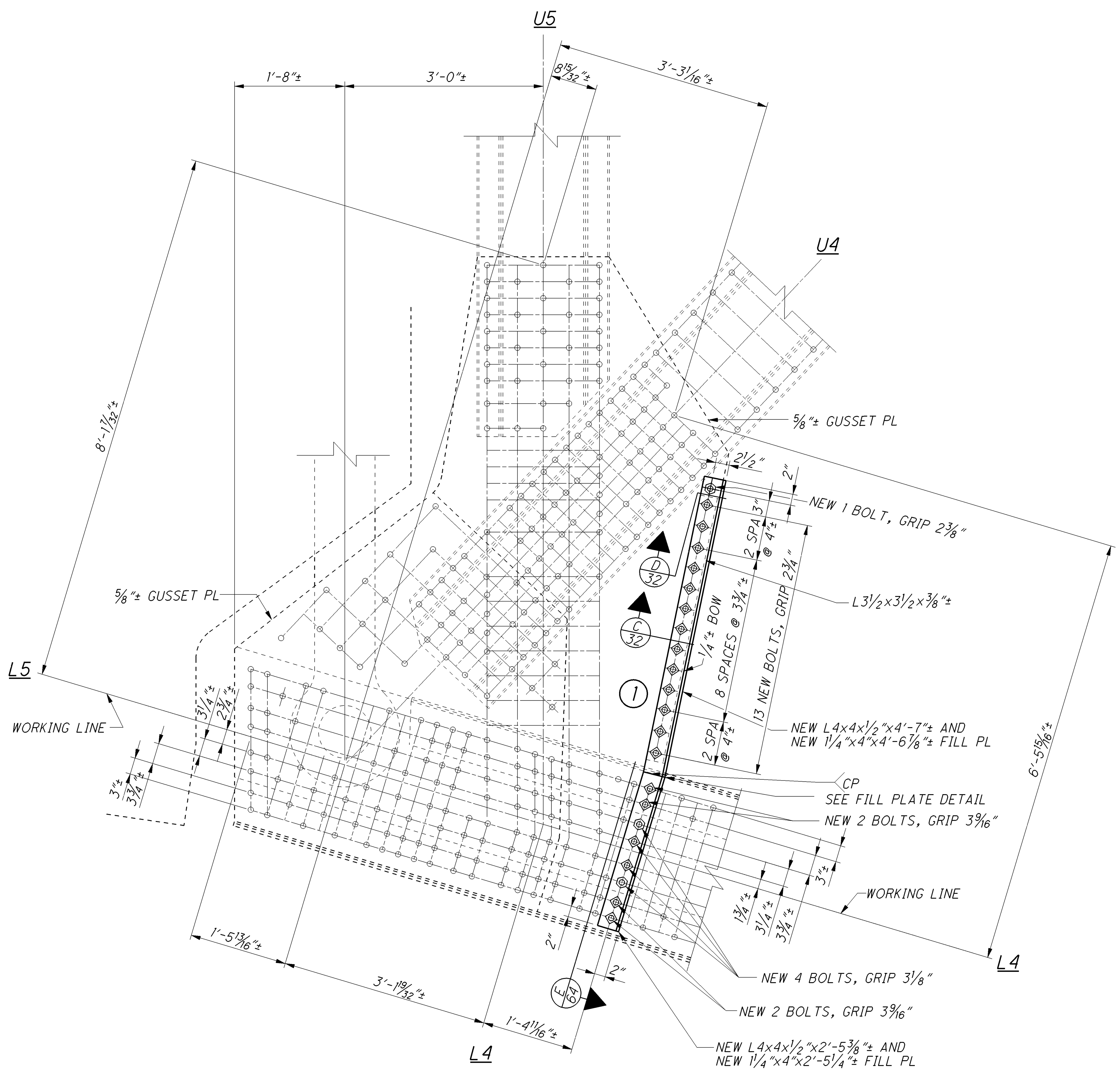
ALP	KAK	TWH		DAP	7/31/09	1809393

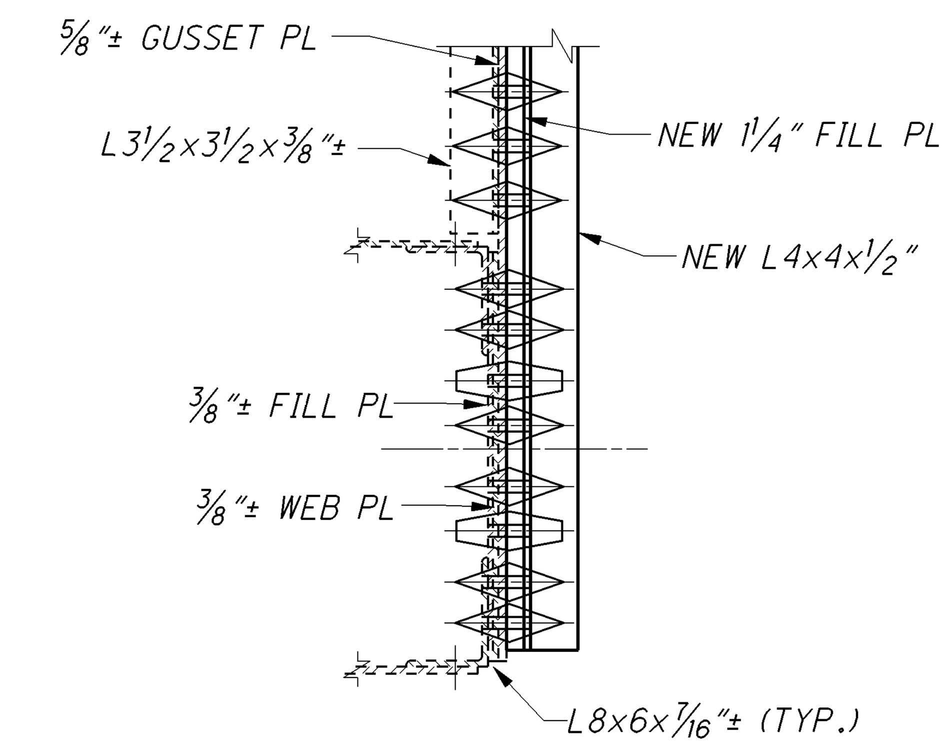
SPAN 6 - PANEL PT L3 (L517) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



L518
SPAN 6 - PANEL POINT L4 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
$2\frac{3}{8}$"	4"	1	1
$2\frac{3}{4}$"	$4\frac{1}{4}$"	13	13
$3\frac{1}{8}$"	$4\frac{3}{4}$"	4	4
$3\frac{9}{16}$"	5"	4	4



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L518N(OUTSIDE).DGN 7/30/09 RB,SCB,JLS

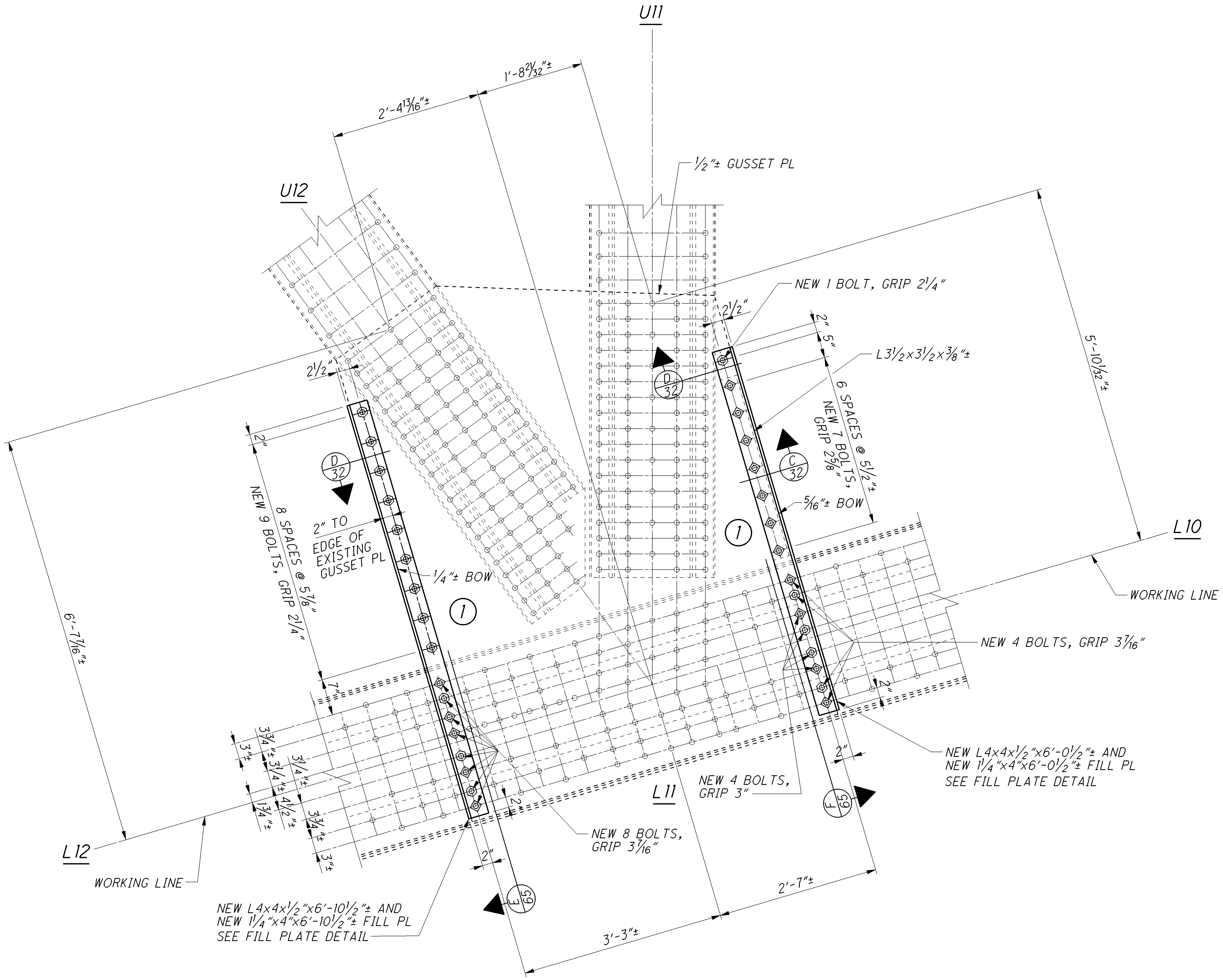
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

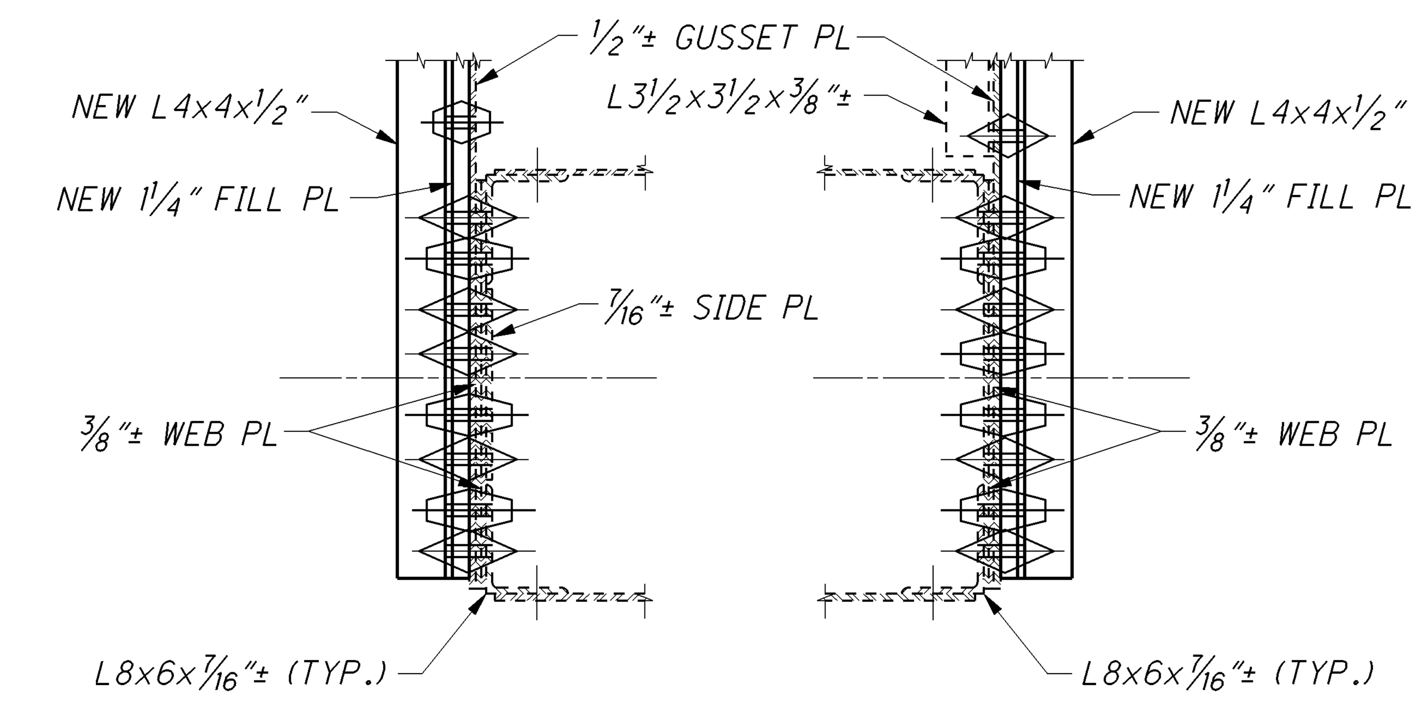
SPAN 6 - PANEL PT L4 (L518) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2¼"	3¾"	10	10
2⅝"	4¼"	7	7
3"	4½"	4	4
3 7/16"	5"	12	12



L701
SPAN 6 - PANEL POINT L11 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E   SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

LEGEND

(1) REPAIR TYPE

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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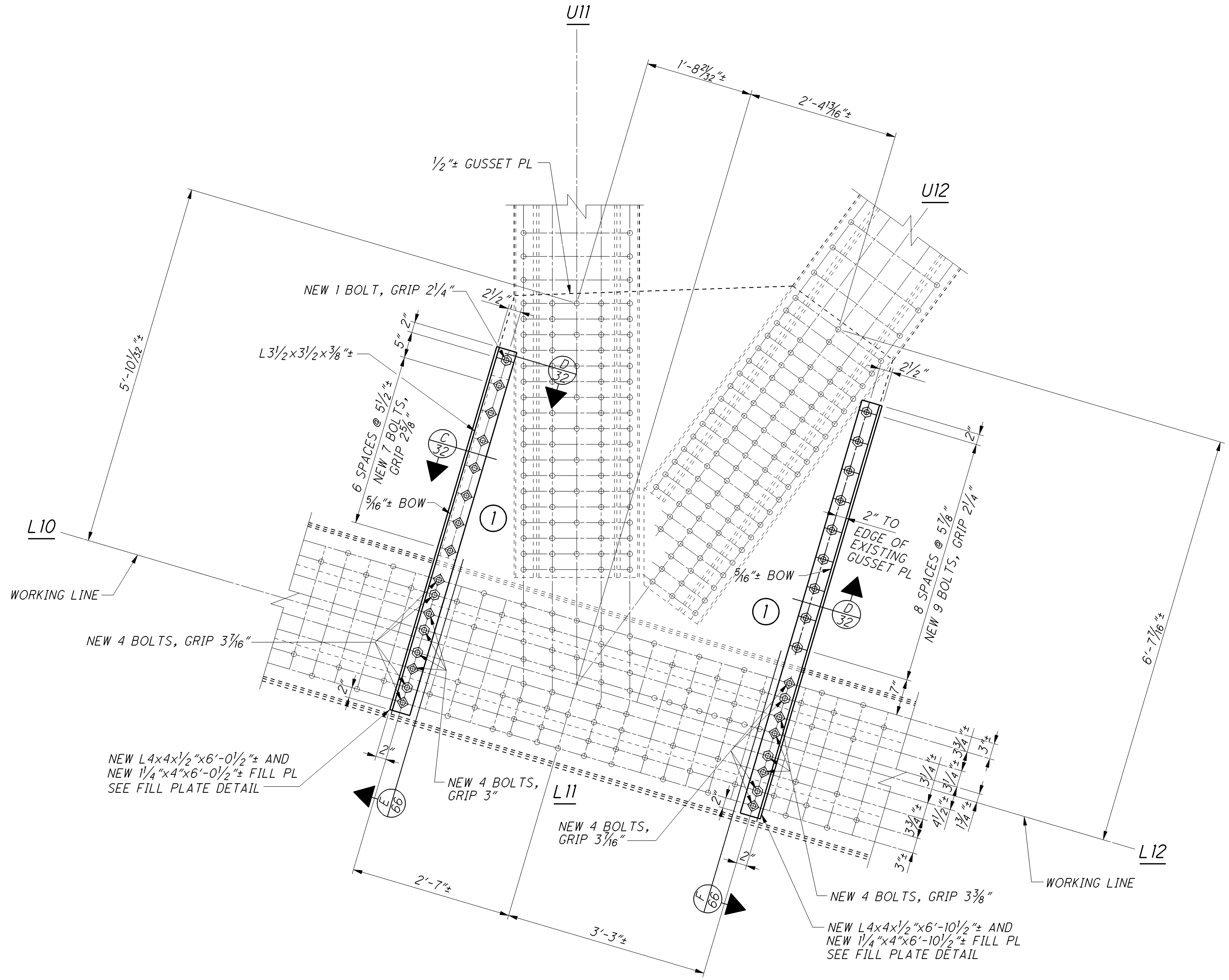
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

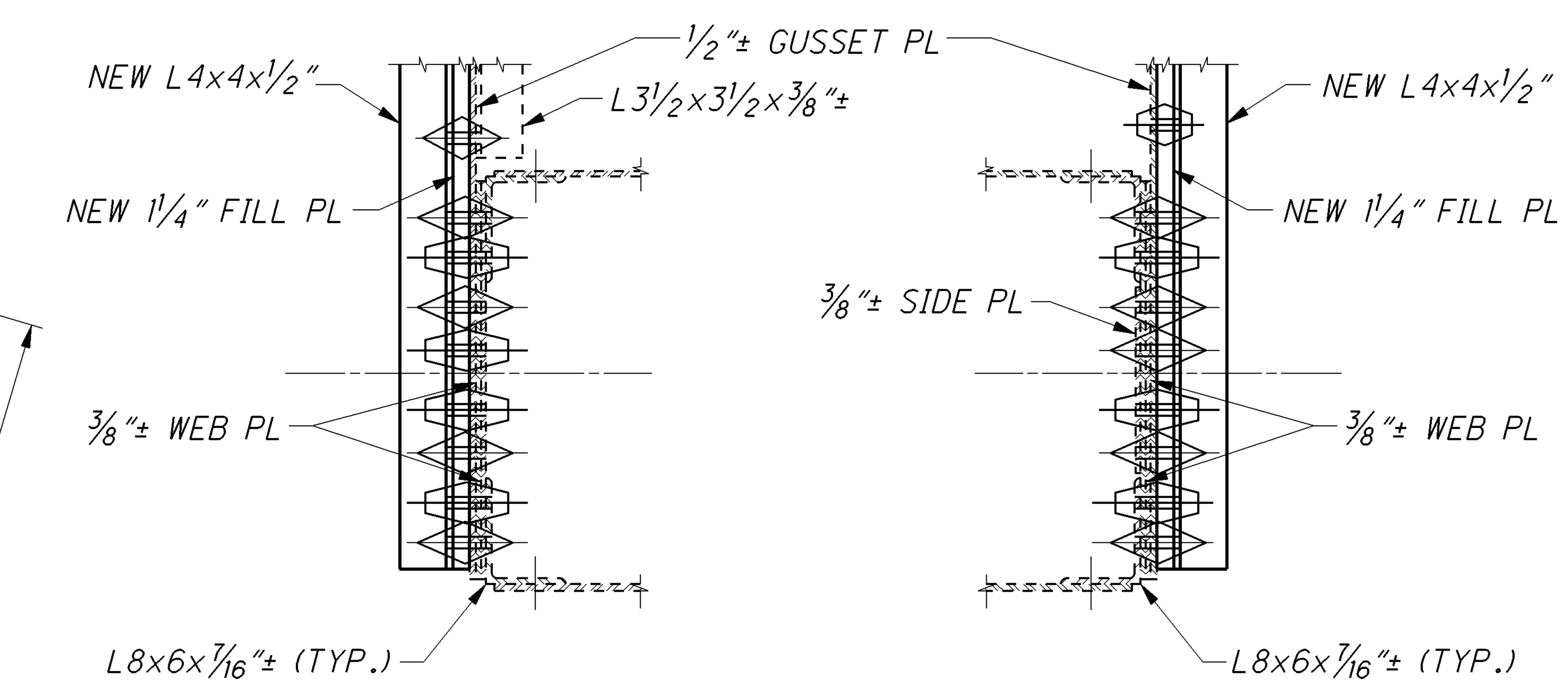
SPAN 6 - PANEL PT L11 (L701) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2¼"	3¾"	10	10
2⅝"	4¼"	7	7
3"	4½"	4	4
3⅜" & 3⁷⁄₁₆"	5"	12	12



L701
SPAN 6 - PANEL POINT L11 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E   SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

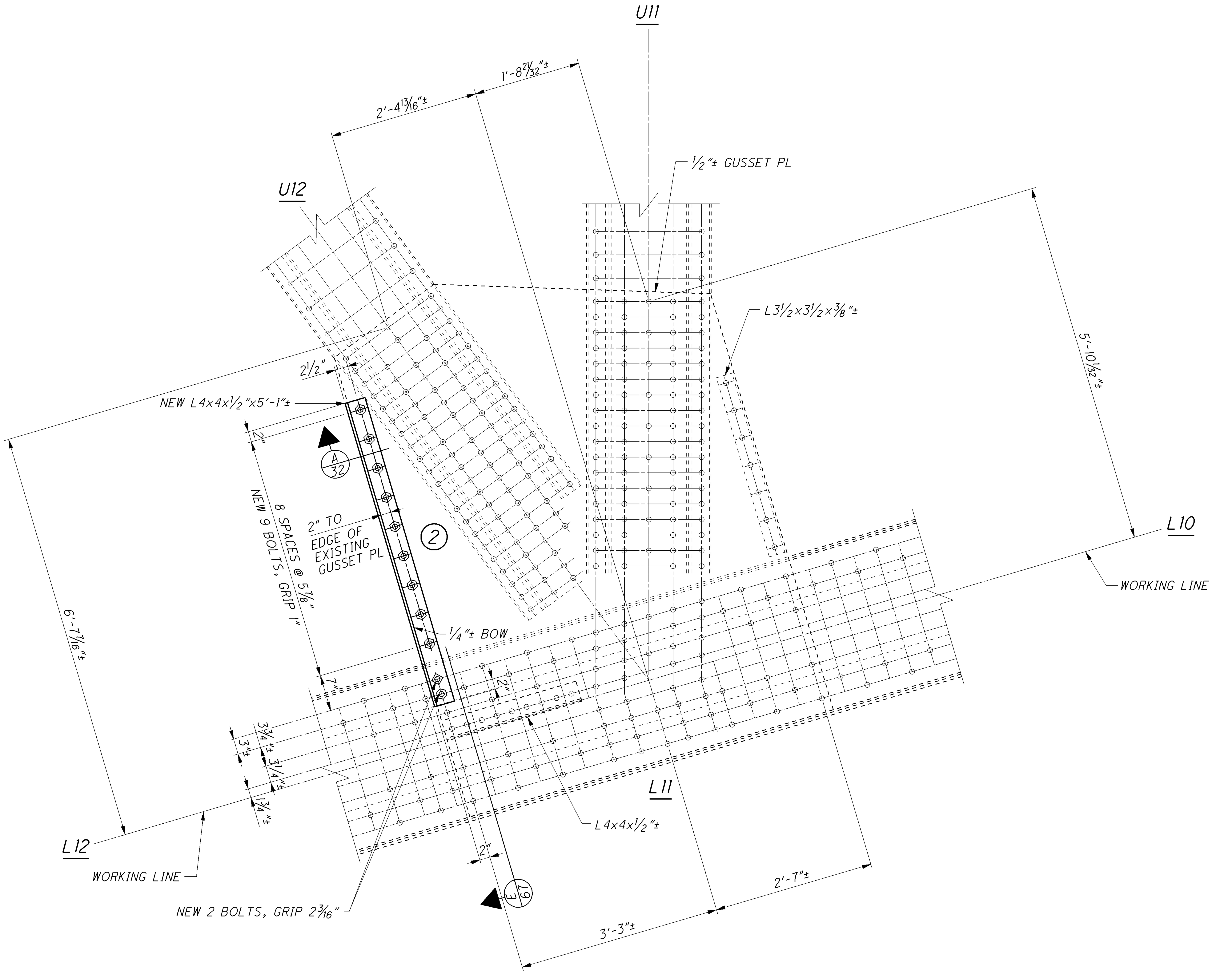
DESIGNED ALP | CHECKED KAK | DRAWN SCB | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

SPAN 6 - PANEL PT L11 (L701) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

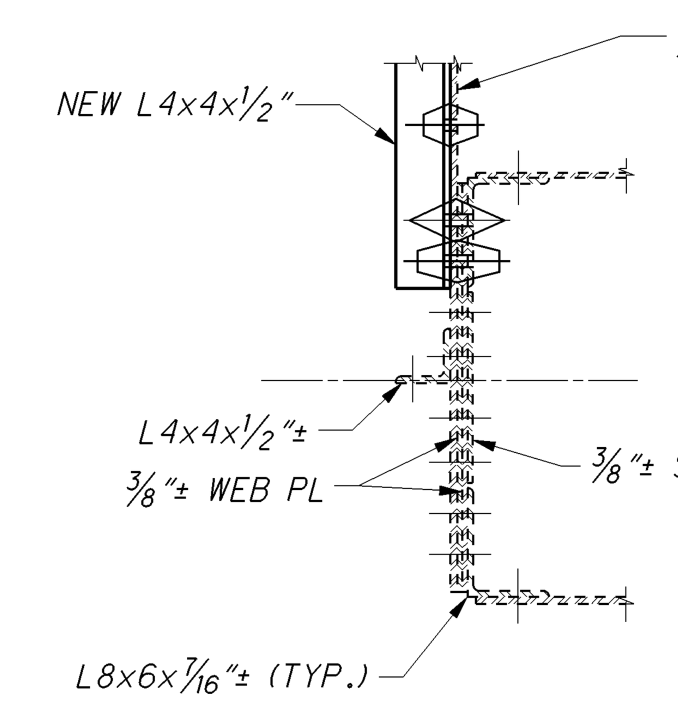
CUY-90-15.24
PID No. 82069

L701S(OUTSIDE).DGN 7/30/09 SCB,KH,TWH,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2½"	9	9
2³⁄₁₆"	3¾"	2	2



L701
SPAN 6 - PANEL POINT L11 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L701S(INSIDE).DGN 7/30/09 SCB,KH,TWH,JLS

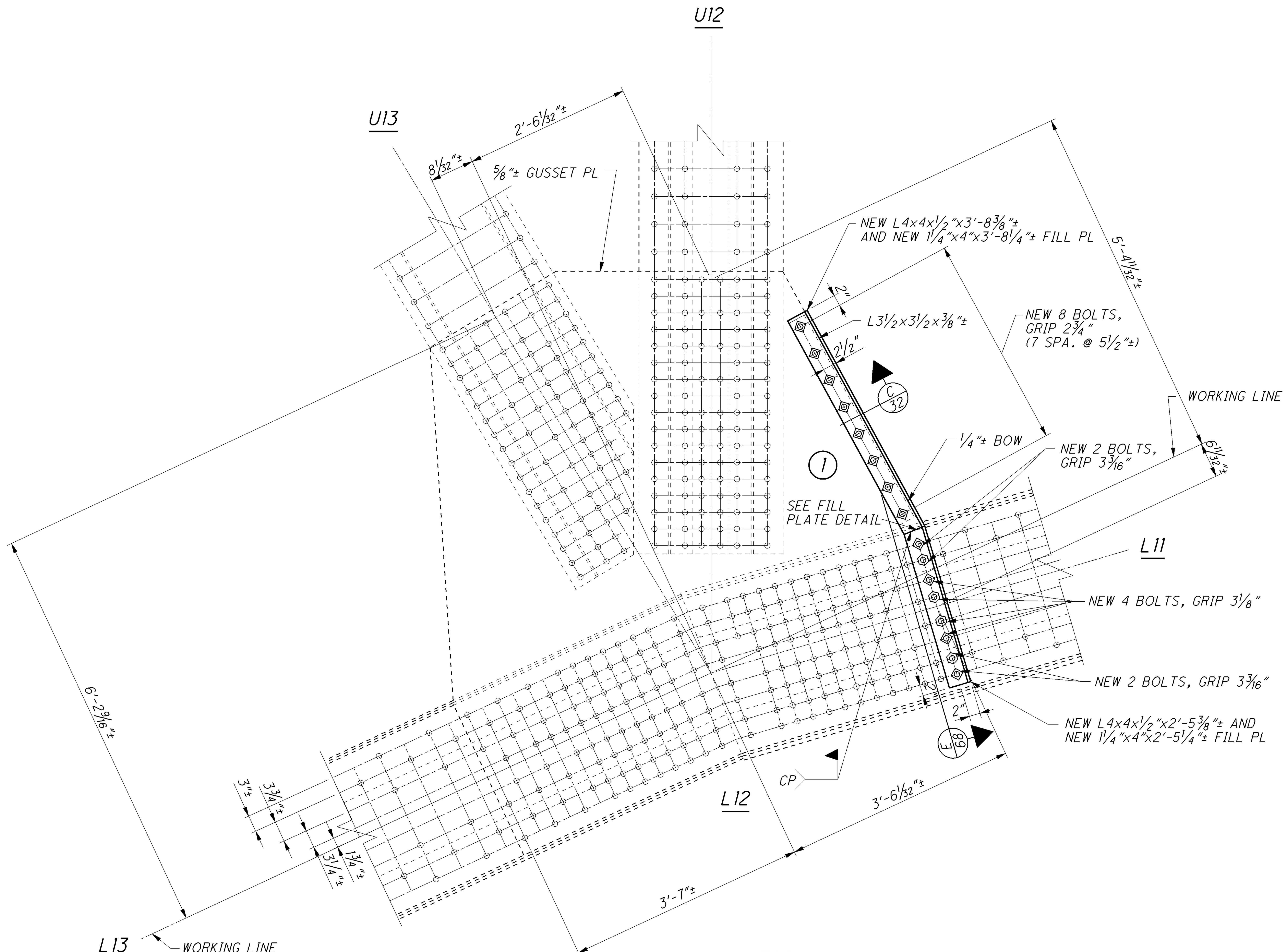
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
ALP	KAK	SCB		DAP	7/31/09	1809393

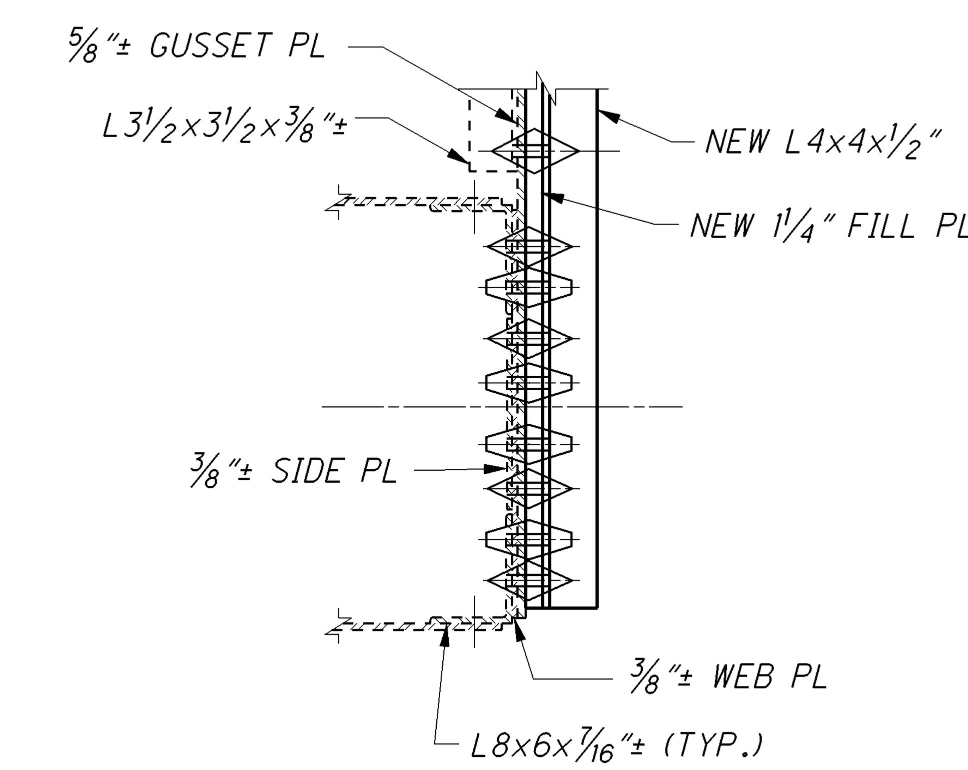
SPAN 6 - PANEL PT L11 (L701) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 3/4"	4 1/4"	8	8
3 1/8" - 3 3/16"	4 3/4"	8	8



L702
SPAN 6 - PANEL POINT L12 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

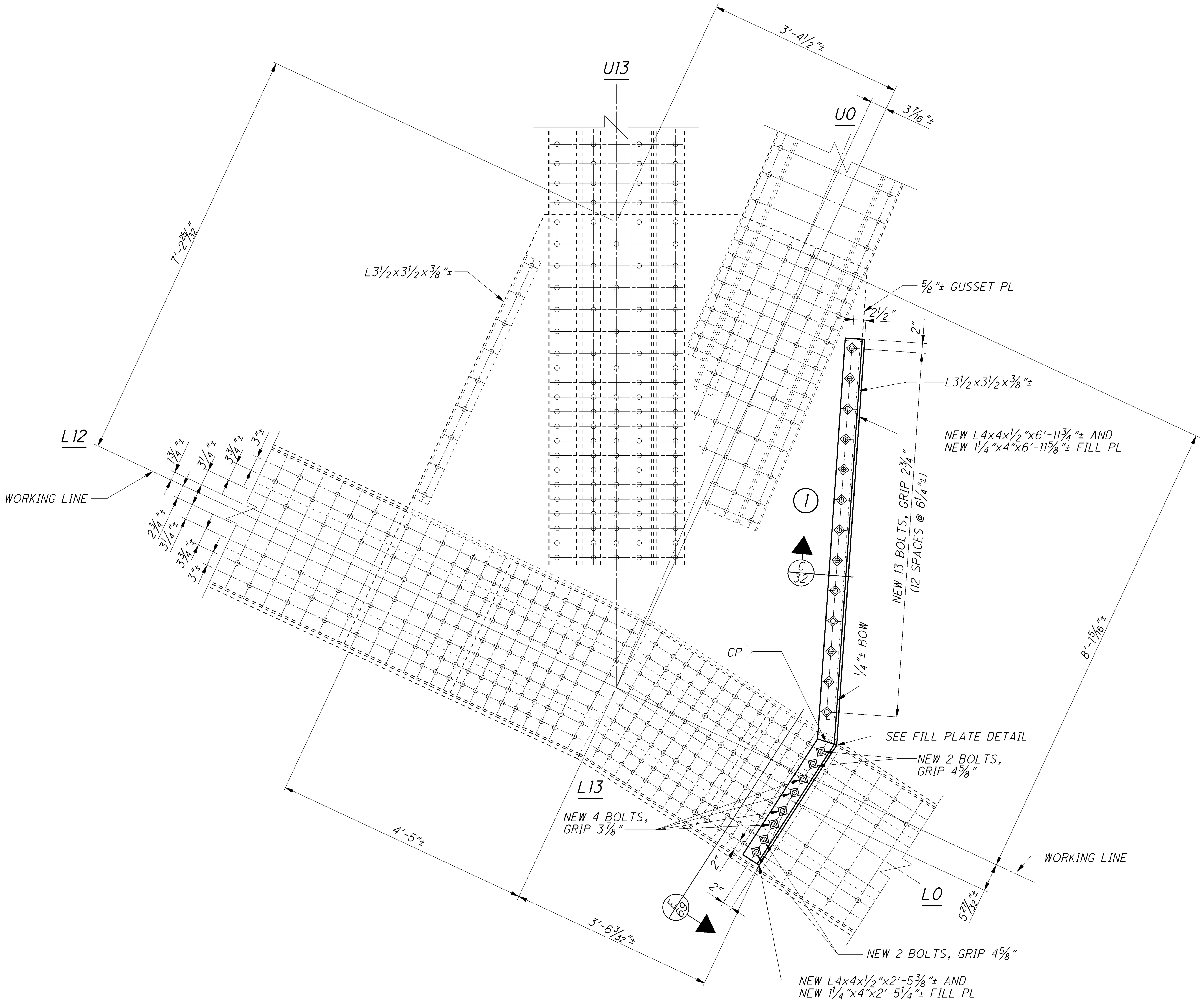
DESIGNED	DRAWN	REVIEWED	DATE
ALP	SAM	DAP	7/31/09
CHECKED KAK	REVISED	STRUCTURE FILE NUMBER 1809393	

SPAN 6 - PANEL PT L12 (L702) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

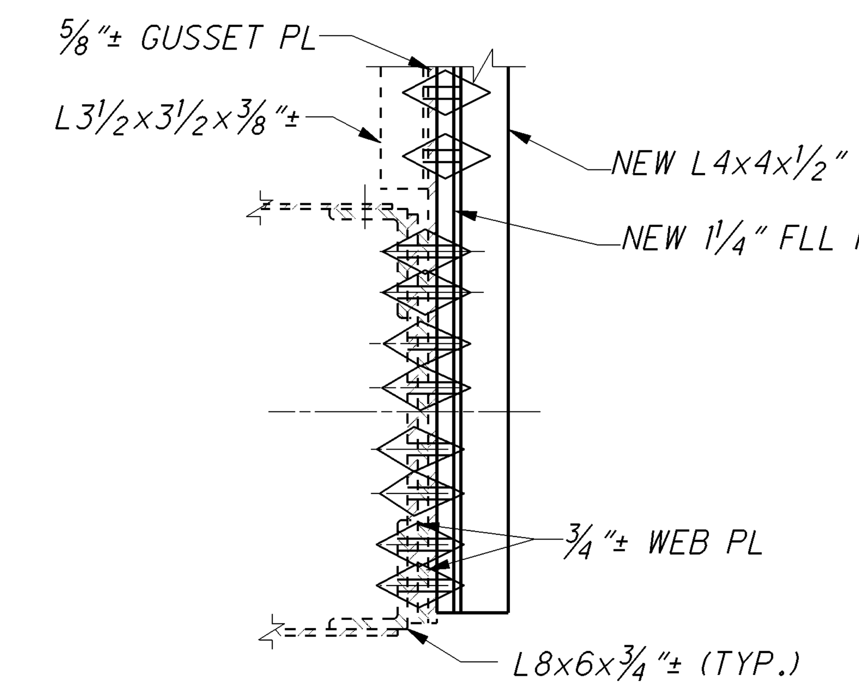
CUY-90-15.24
PID No. 82069

L702S(INSIDE).DGN 7/30/09 SAM,KH,TWH,SCB,JLS

BOLT TABLE - $\frac{7}{8}$" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
$2\frac{3}{4}$"	$4\frac{1}{4}$"	13	13
$3\frac{7}{8}$"	$5\frac{1}{2}$"	4	4
$4\frac{5}{8}$"	$6\frac{1}{2}$"	4	4



L703
SPAN 6 - PANEL POINT L13 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

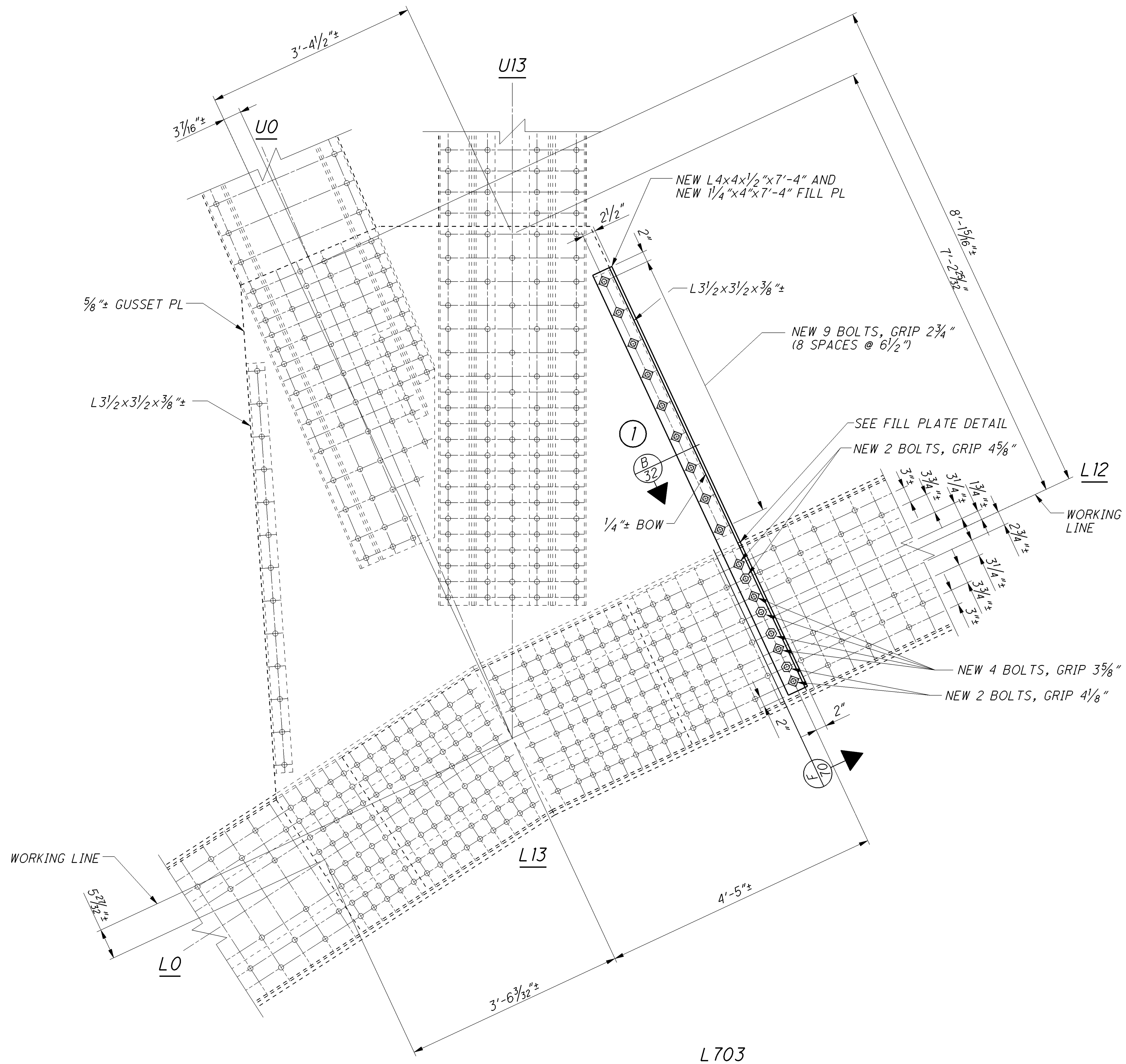
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN LVB REVISED
DESIGNED ALP CHECKED KAK

SPAN 6 - PANEL PT L13 (L703) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

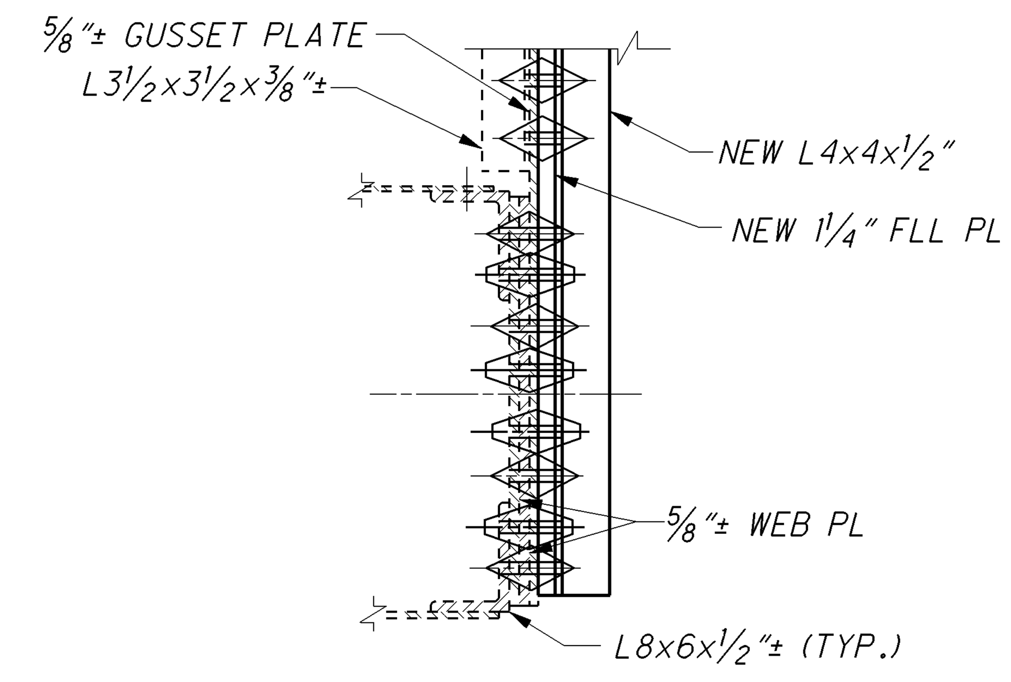
CUY-90-15.24
PID No. 82069

L703S(OUTSIDE).DGN 7/30/09 LVB,SCB,BB,JLS



L703
SPAN 6 - PANEL POINT L13 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2¾"	4¼"	9	9
3⅝"	5½"	4	4
4⅛"	6"	2	2
4⅝"	6½"	2	2



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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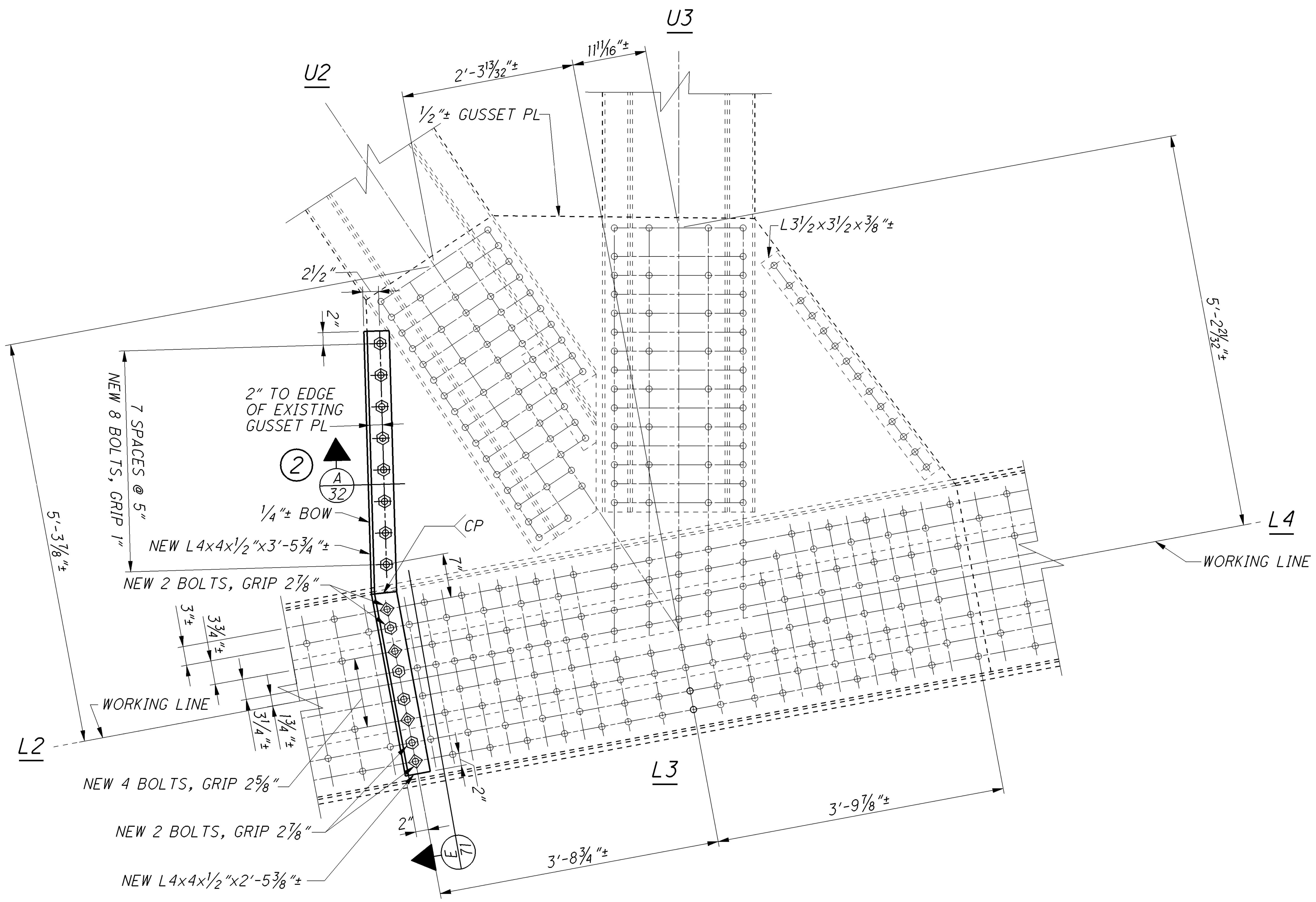
KAK		1809393	

SPAN 6 - PANEL PT L13 (L703) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L703S(INSIDE).DGN 7/30/09 BB,TWH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	16
2 5/8"	4 1/4"	4	8
2 7/8"	4 1/2"	4	8

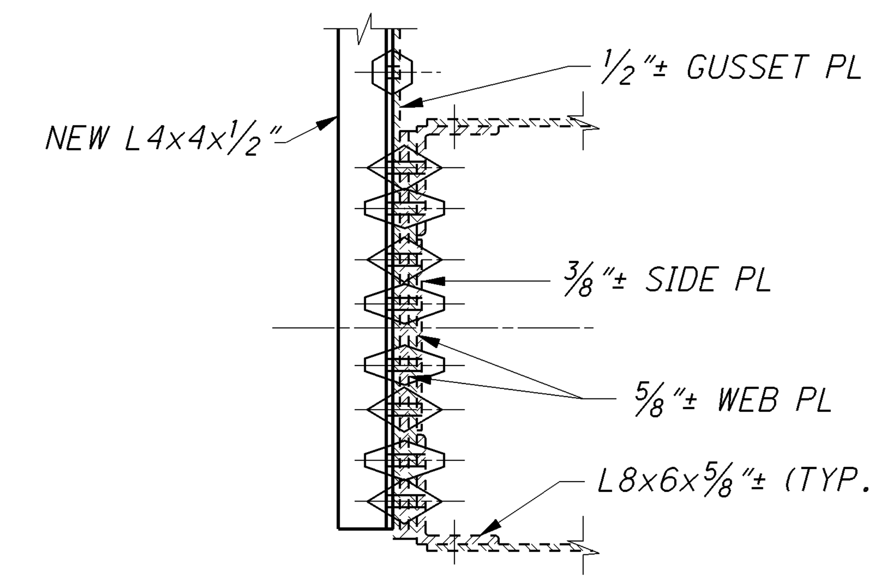


L707

SPAN 7 - PANEL POINT L3 - 2 GUSSET PLATES

SOUTH TRUSS OUTSIDE - SHOWN

SOUTH TRUSS INSIDE - OPPOSITE HAND



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L707S.DGN 7/30/09 TWH,BB,SCB,JLS

DESIGN AGENCY
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED KAK | DRAWN TWH | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

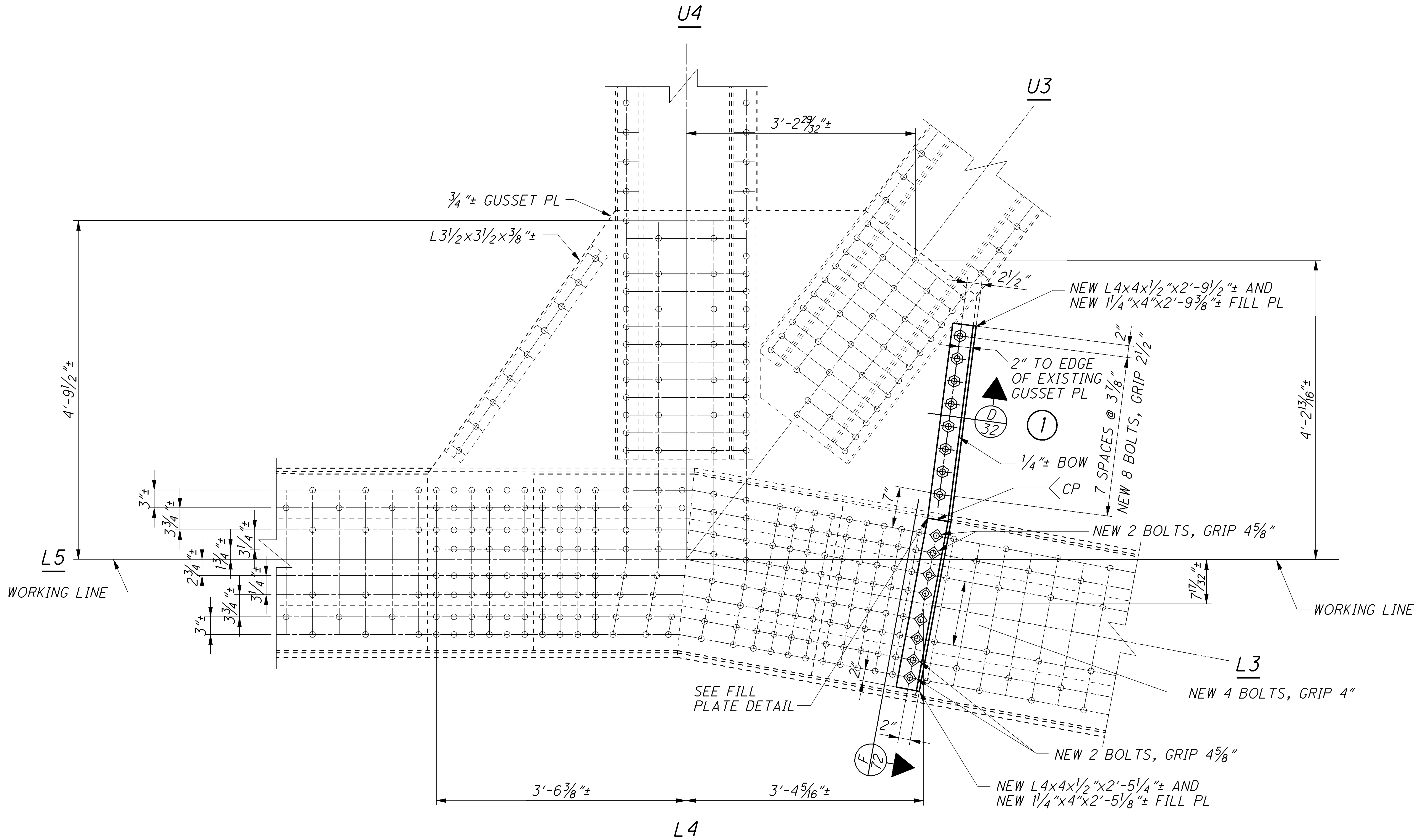
SPAN 7 - PANEL PT L3 (L707) SOUTH TRUSS

BRIDGE NO. CUY-90-1524 OVER CUYAHOGA RIVER

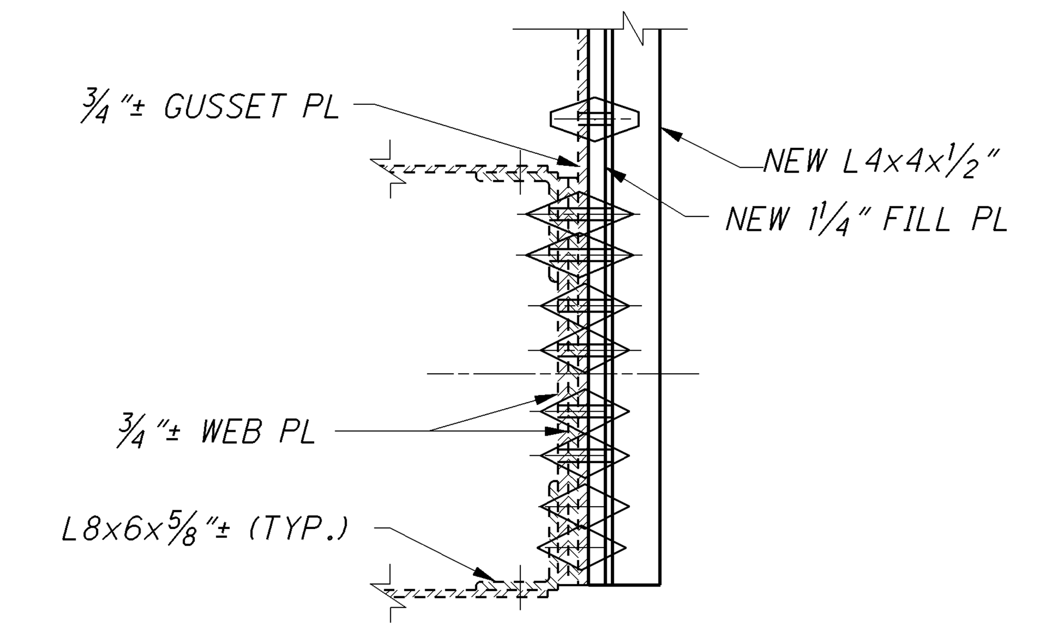
CUY-90-15.24

PID No. 82069

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2½"	4"	8	8
4"	5½"	4	4
4⅝"	6½"	4	4



L708
SPAN 7 - PANEL POINT L4 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L708N(OUTSIDE).DGN 7/30/09 TWH,BB,SCB,JLS

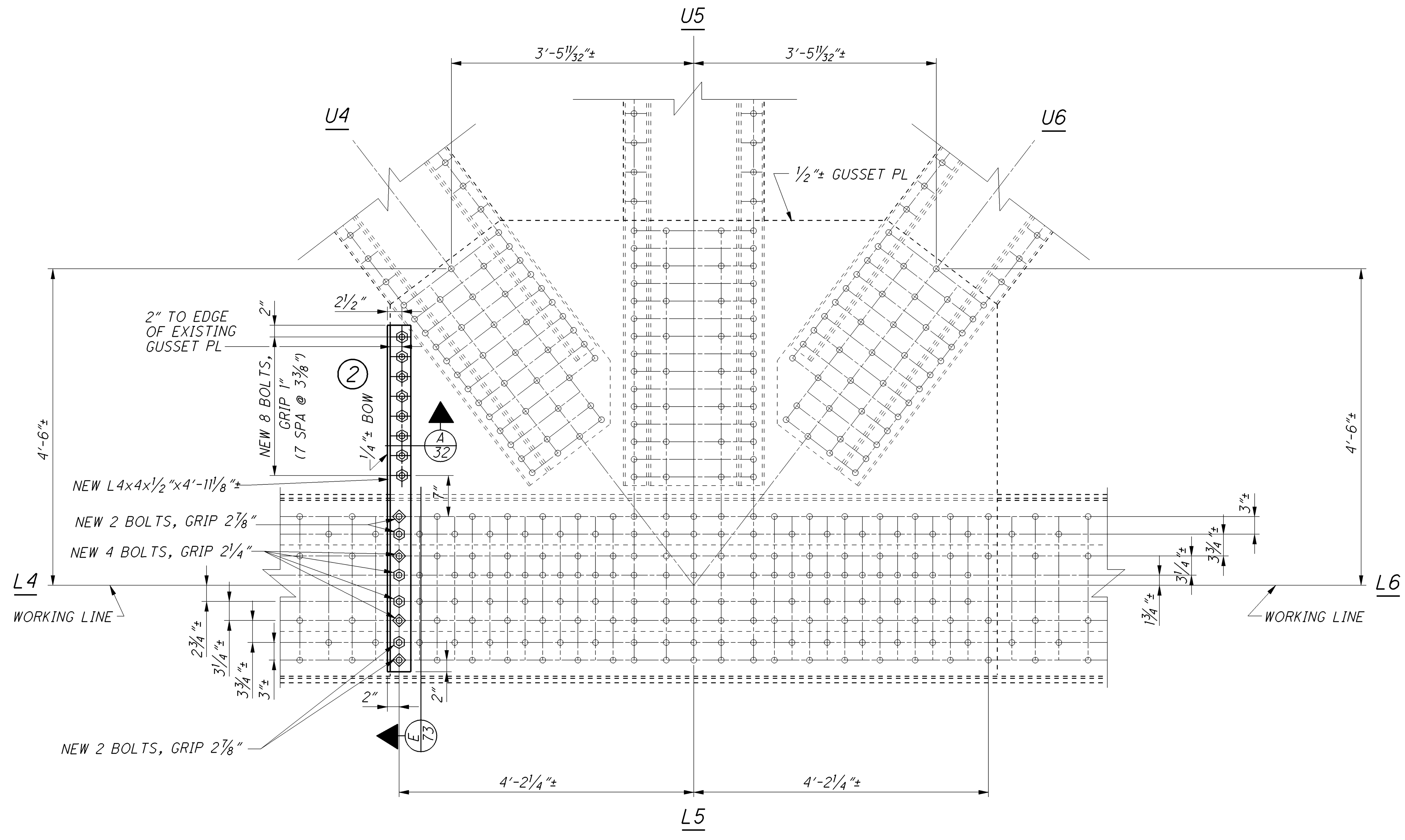
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

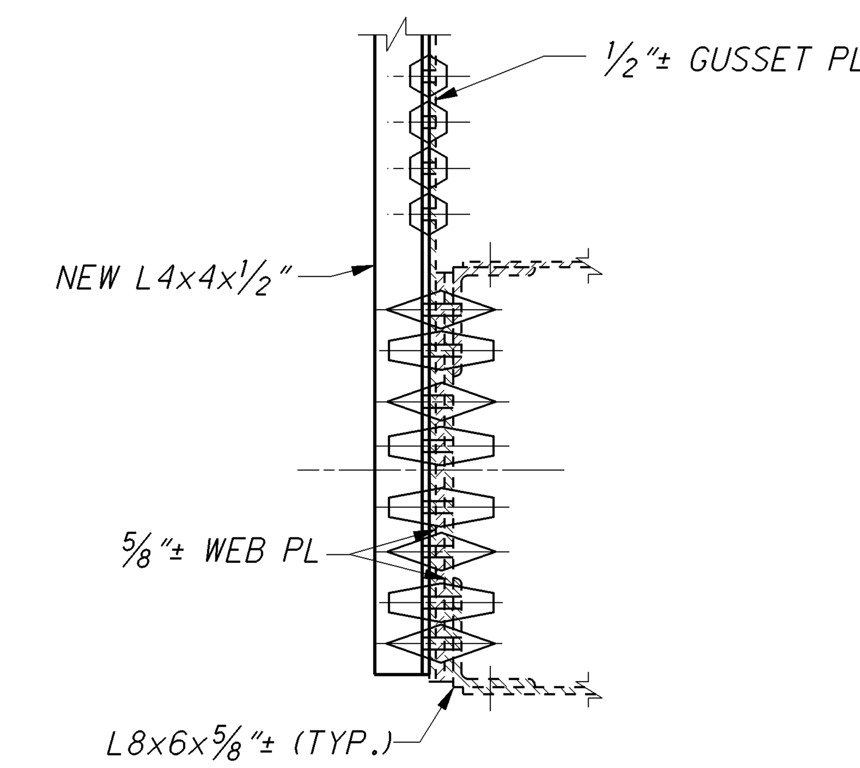
SPAN 7 - PANEL PT L4 (L708) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
2 1/4"	3 3/4"	4	4
2 7/8"	4 1/2"	4	4



L709
SPAN 7 - PANEL POINT L5 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

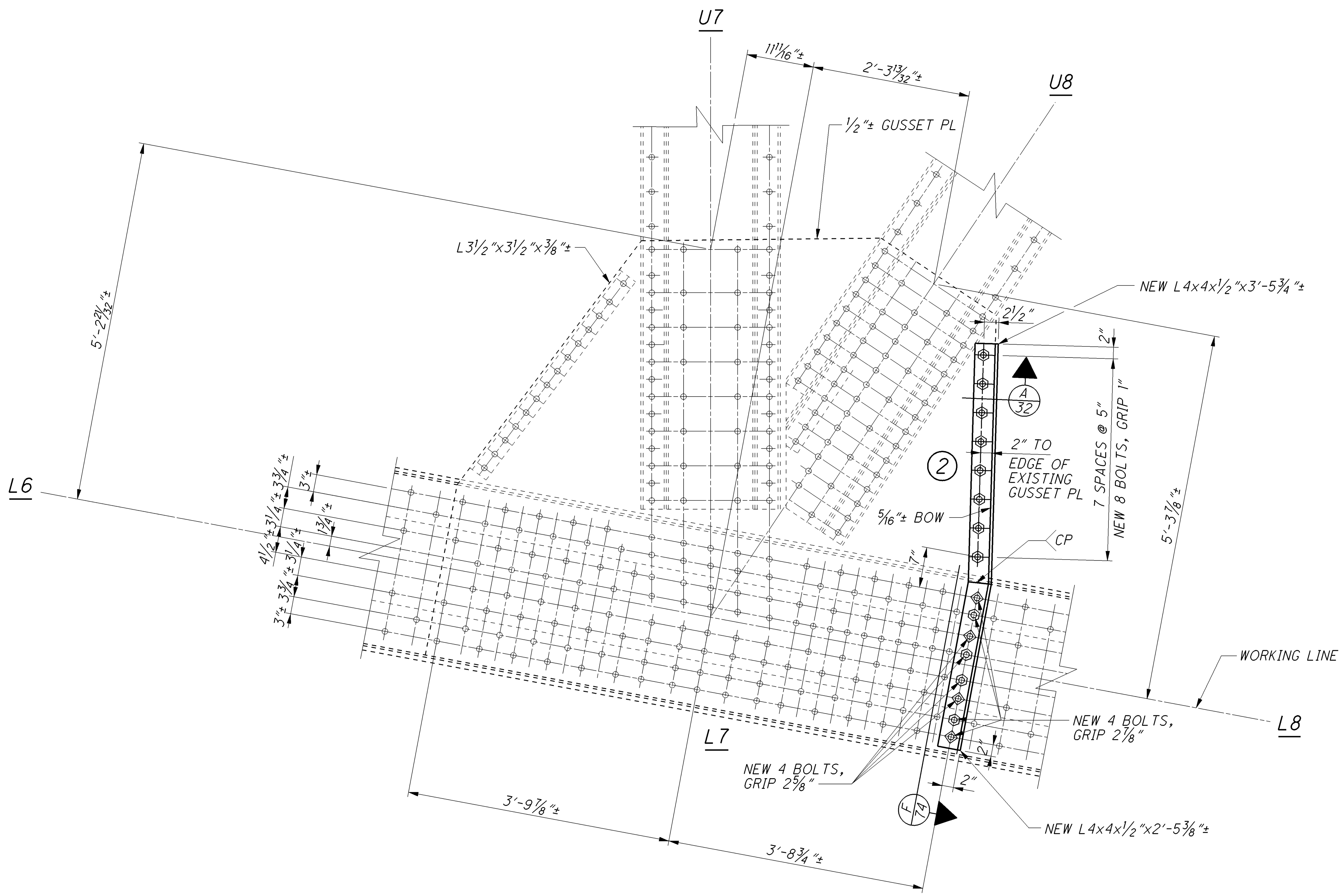
REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN SAM REVISED
DESIGNED ALP CHECKED KAK

SPAN 7 - PANEL PT L5 (L709) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

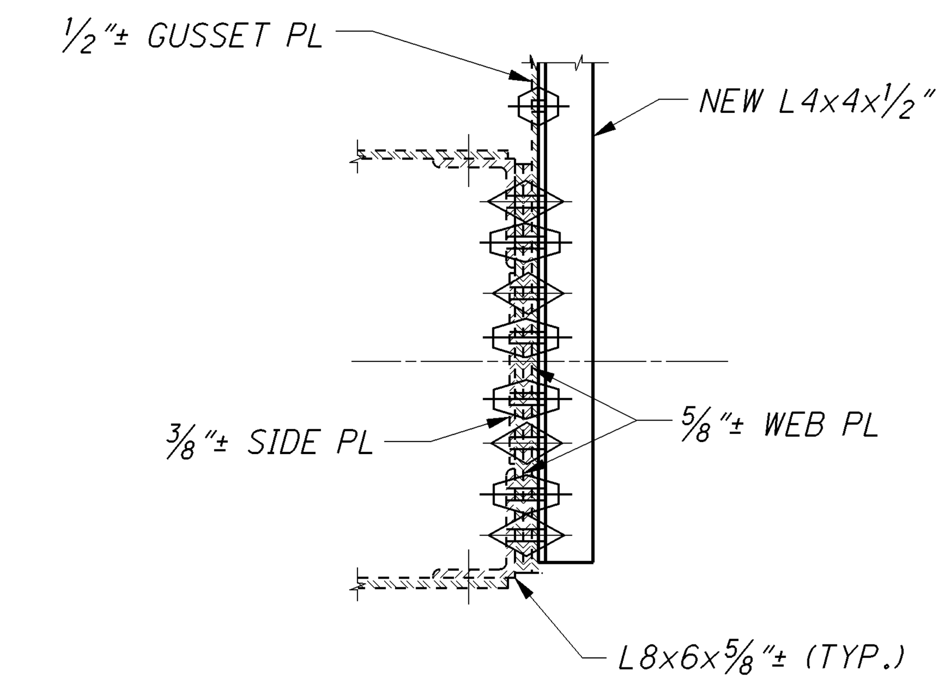
CUY-90-15.24
PID No. 82069

L709S(OUTSIDE).DGN 7/30/09 SAM,SCB,KMK,TWH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
2 5/8"	4 1/4"	4	4
2 7/8"	4 1/2"	4	4



L7I1
SPAN 7 - PANEL POINT L7 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
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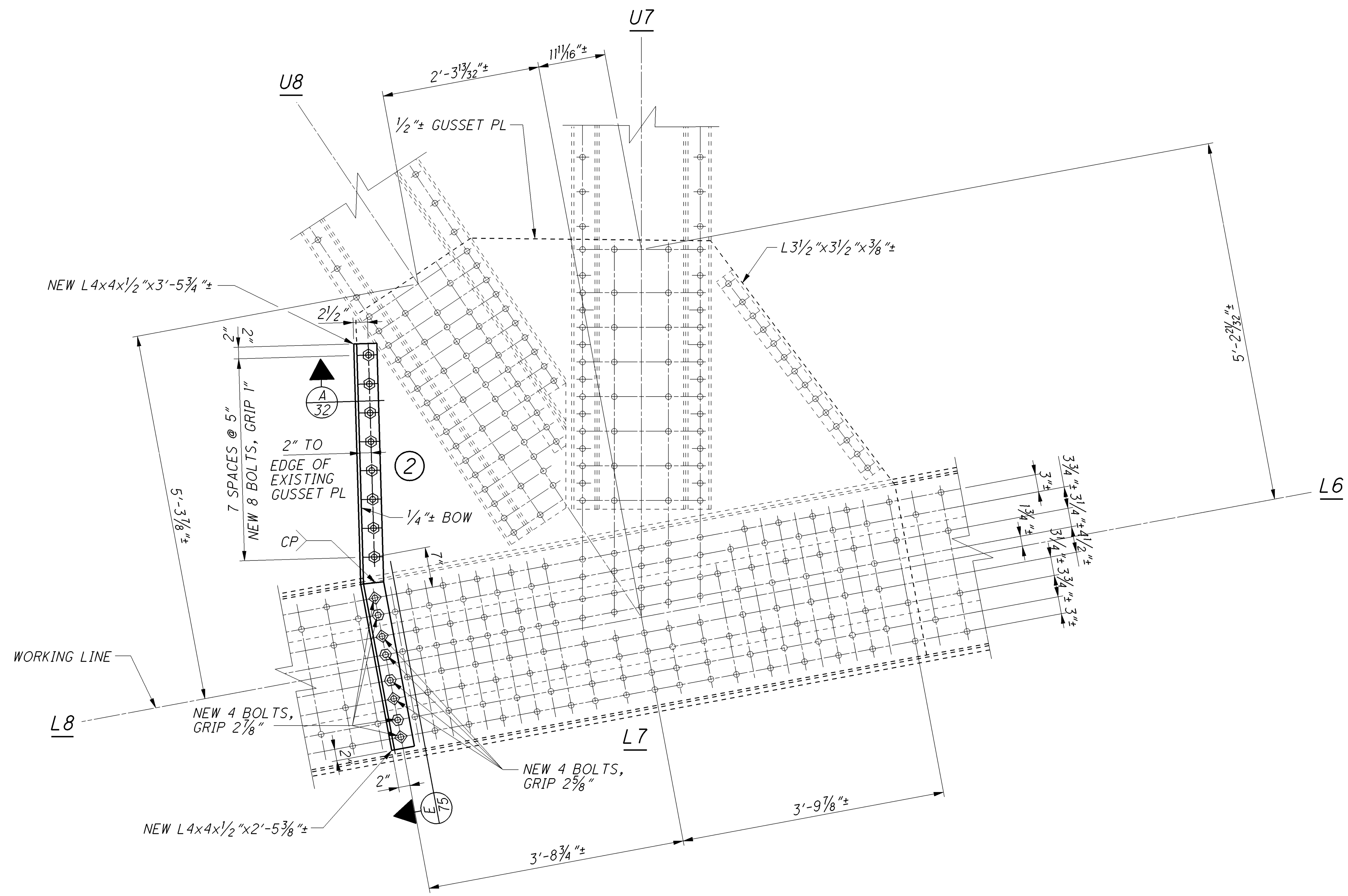
KAK		1809393	

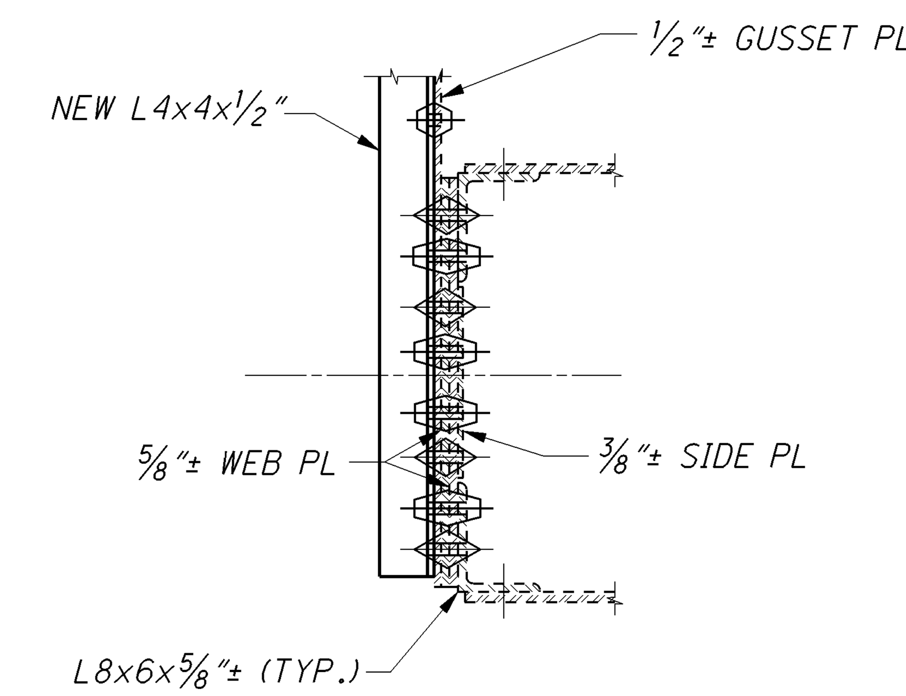
SPAN 7 - PANEL PT L7 (L7I1) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
2 5/8"	4 1/4"	4	4
2 7/8"	4 1/2"	4	4



L711
SPAN 7 - PANEL POINT L7 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

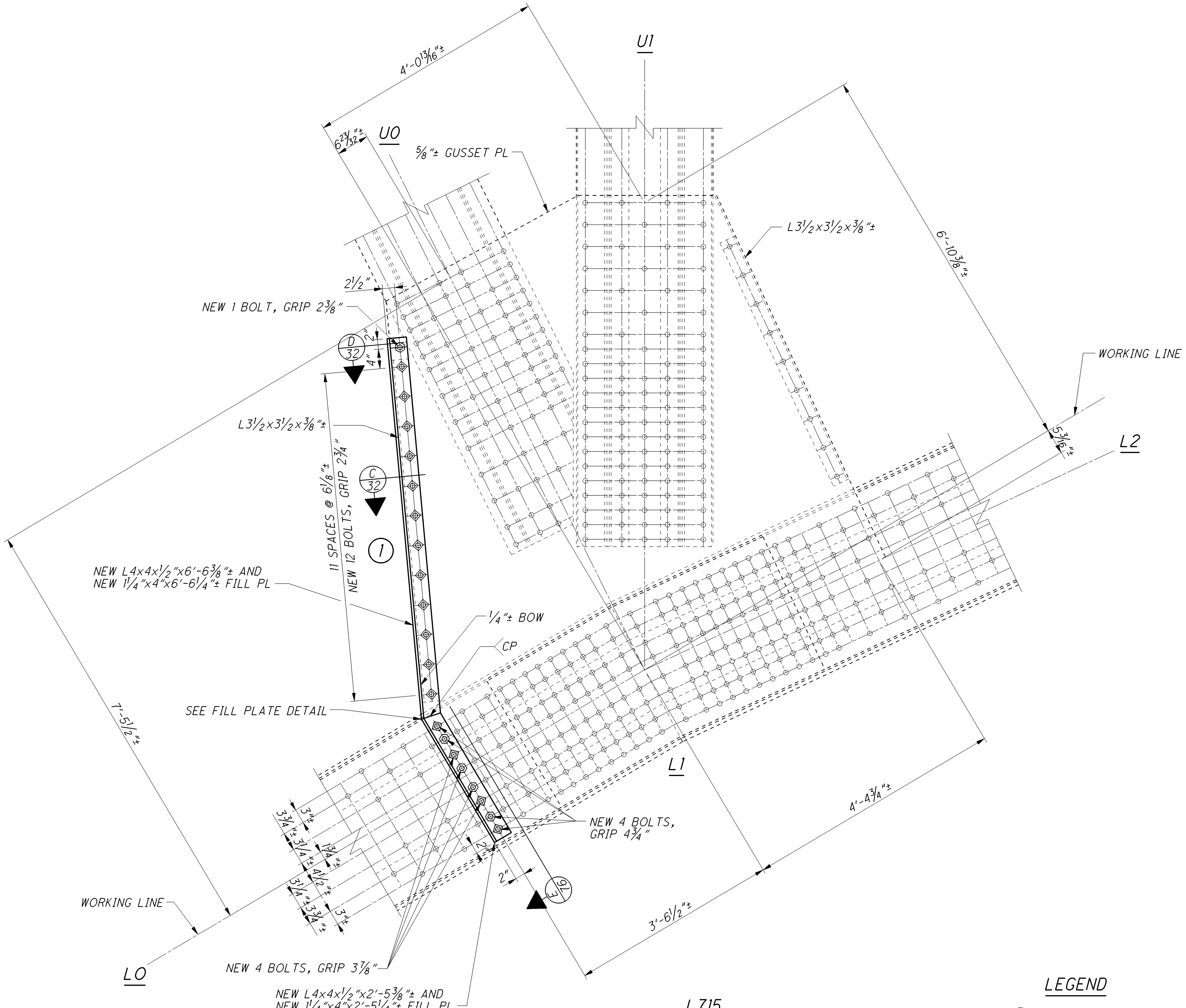
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
ALP	KAK	TWH		DAP	7/31/09	1809393

SPAN 7 - PANEL PT L7 (L711) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

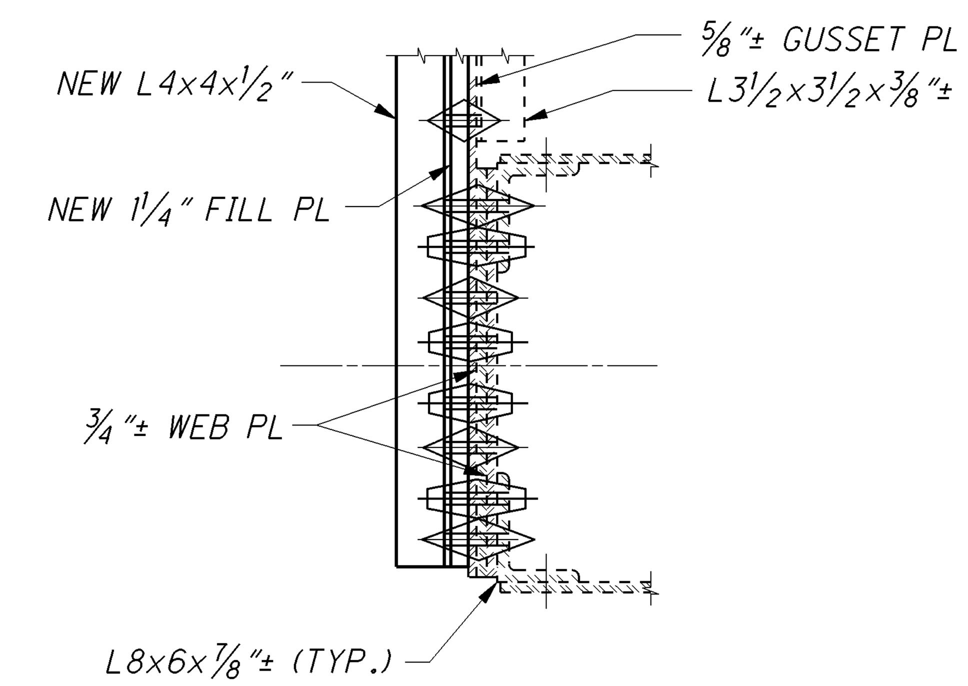
CUY-90-15.24
PID No. 82069

L711S(INSIDE).DGN 7/30/09 TWH,SAM,KH,BB,SCB,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2⅜"	4"	1	1
2¾"	4¼"	12	12
3⅞"	5½"	4	4
4¾"	6½"	4	4



L715
SPAN 8 - PANEL POINT L1 - 1 GUSSET PLATE
NORTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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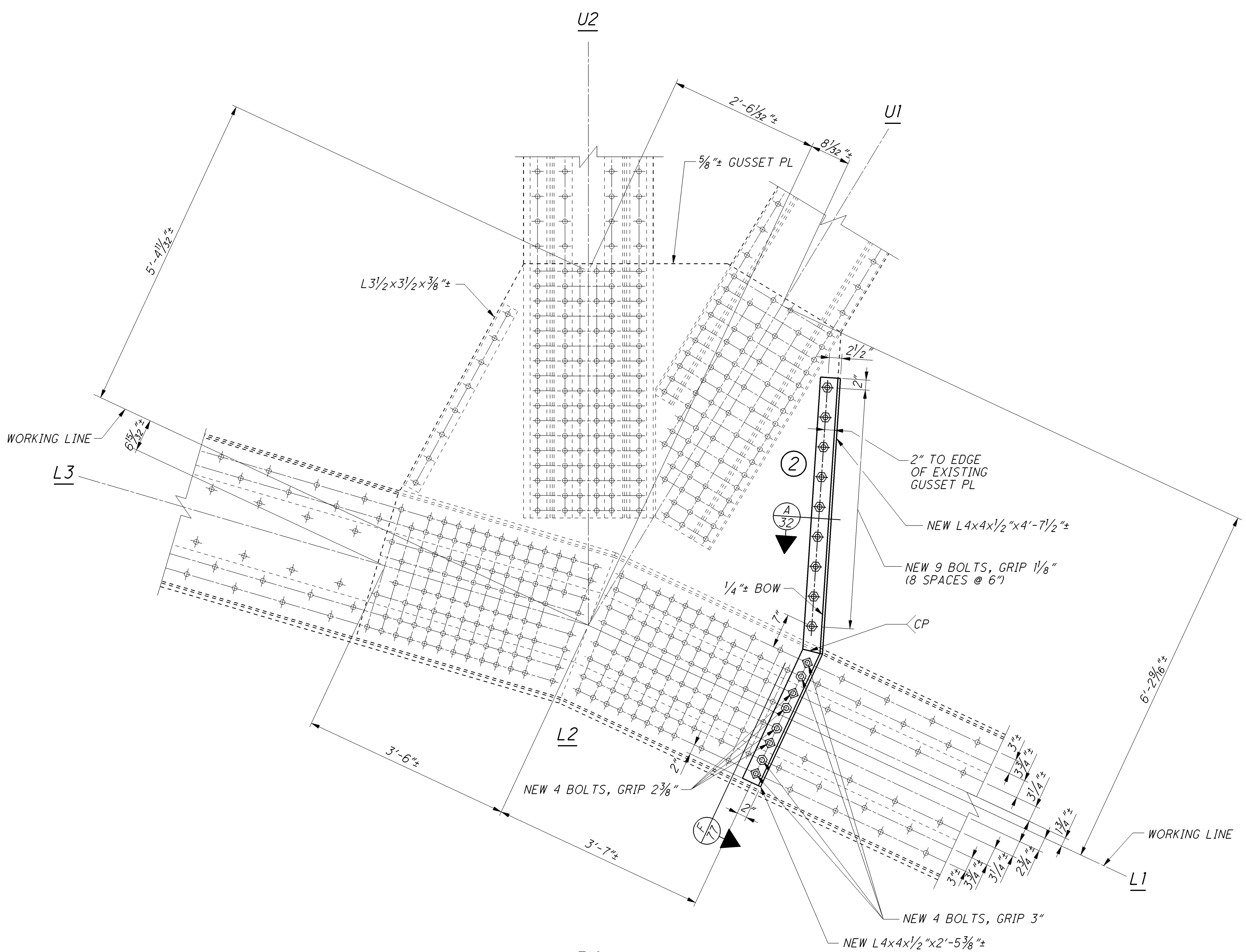
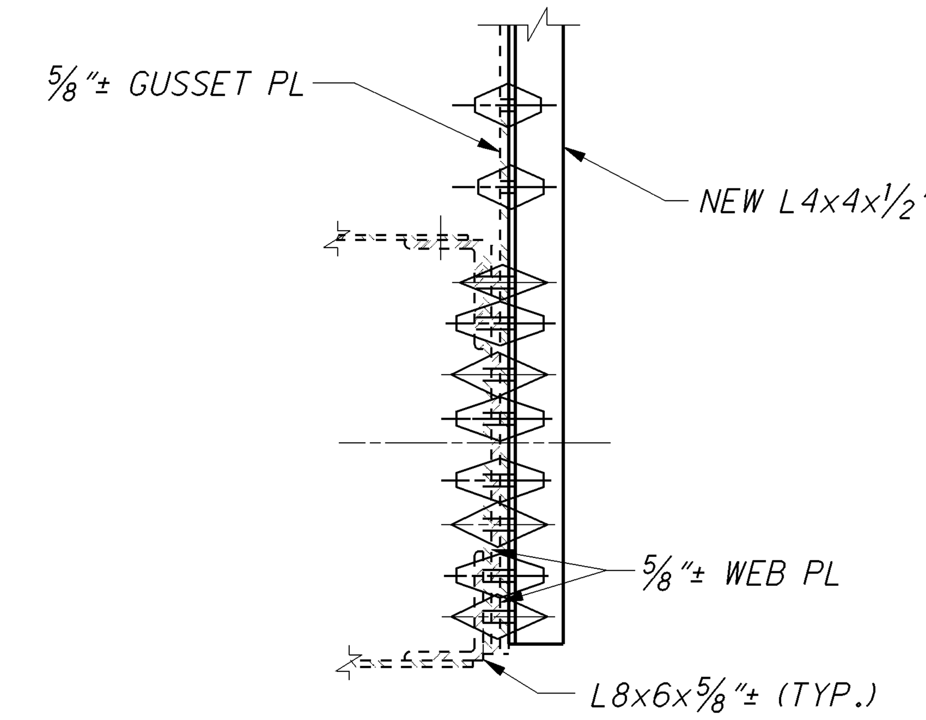
SPAN 8 - PANEL PT L1 (L715) NORTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



L716
SPAN 8 - PANEL POINT L2 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/8"	2 3/4"	9	9
2 3/8"	4"	4	4
3"	4 1/2"	4	4



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	LVB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 8 - PANEL PT L2 (L716) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

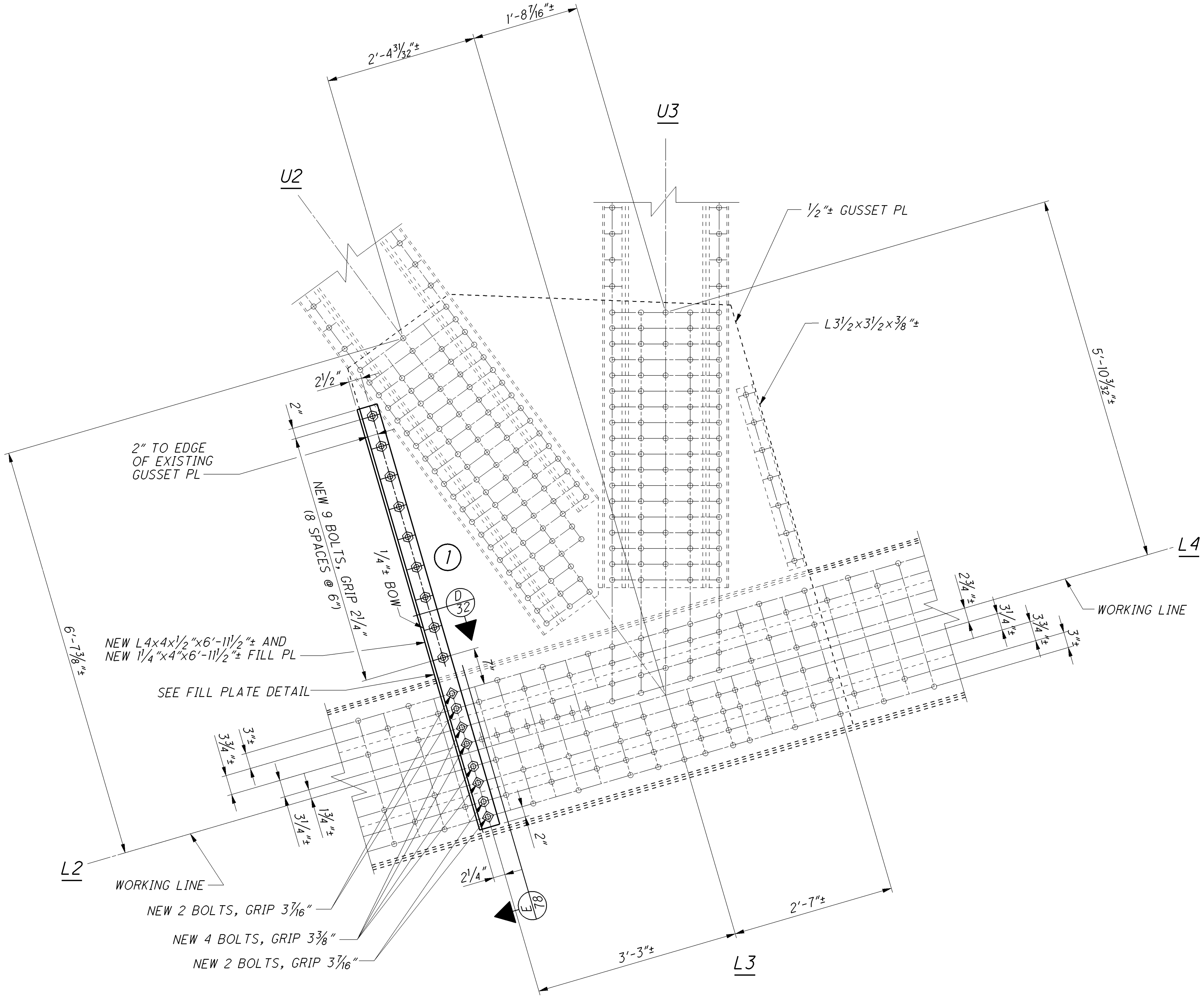
CUY-90-15.24
PID No. 82069

77/140

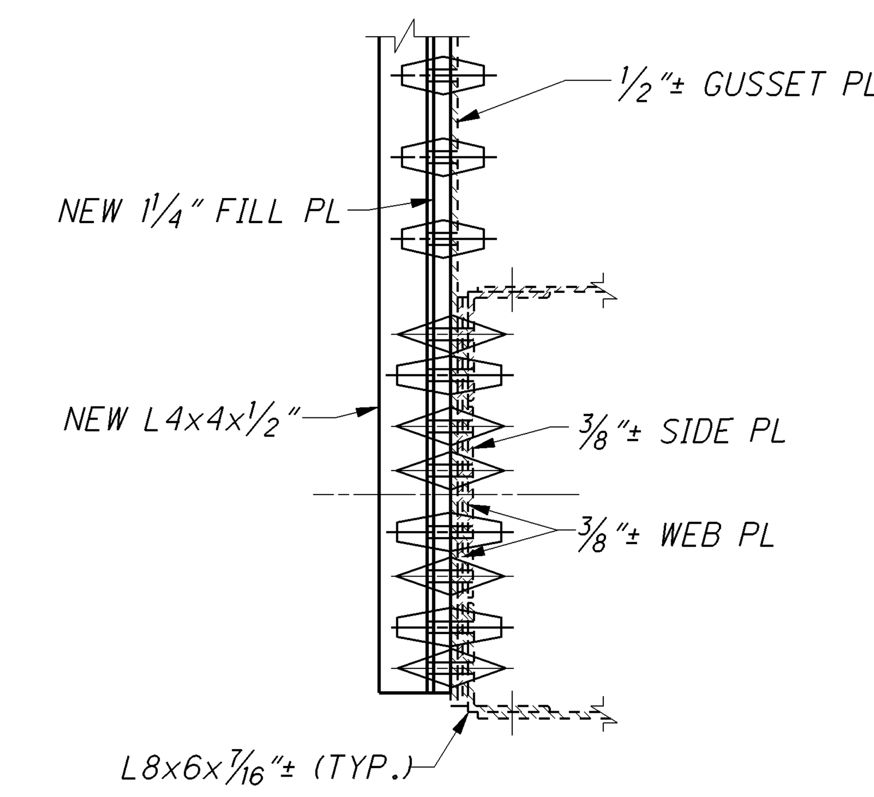
112/175

L716N(OUTSIDE).DGN 7/30/09 LVB,KH,BB,SCB,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 1/4"	3 3/4"	9	9
3 3/8" - 3 7/16"	5"	8	8



L717
SPAN 8 - PANEL POINT L3 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

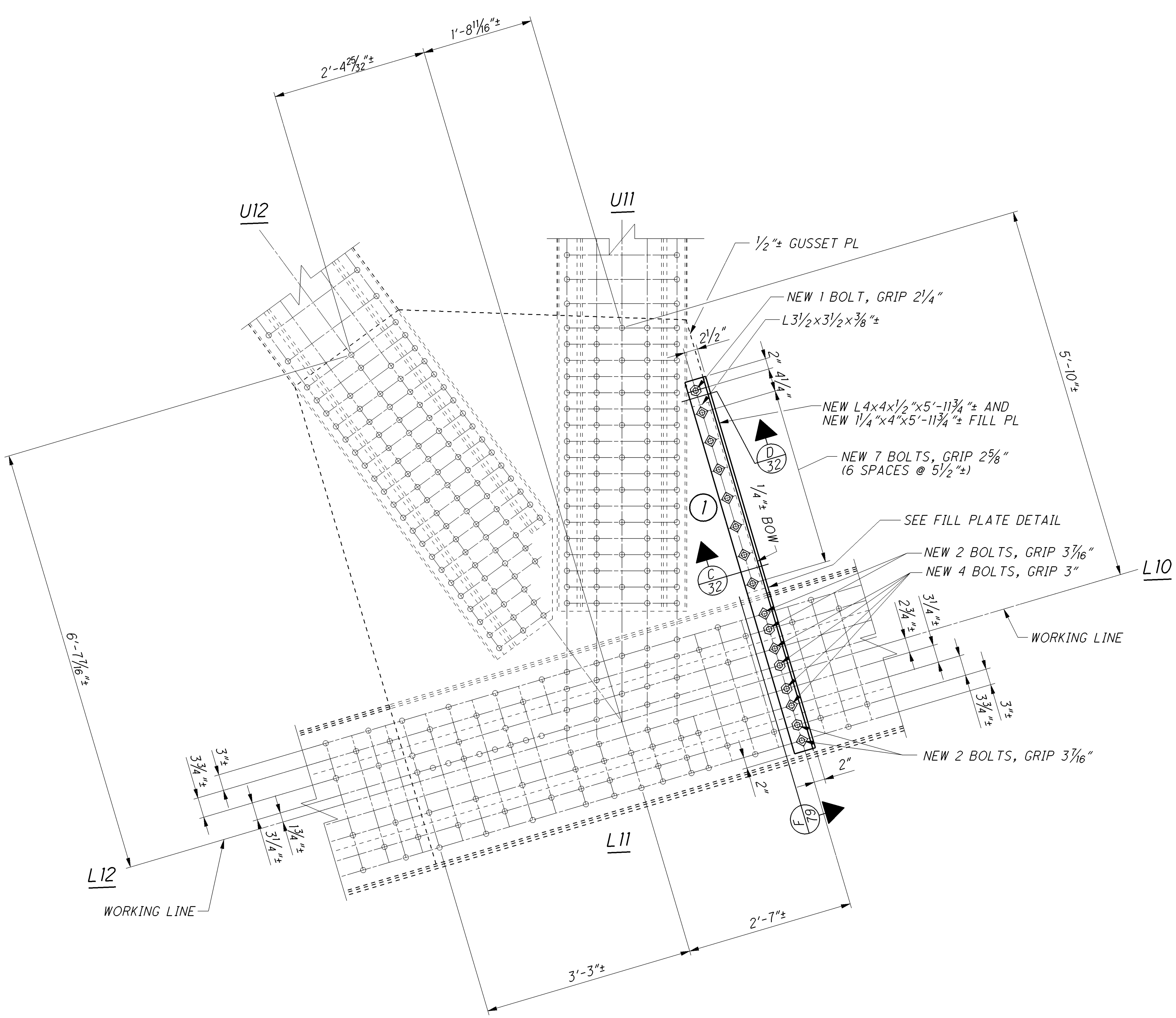
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN SAM REVISED
DESIGNED ALP CHECKED KAK

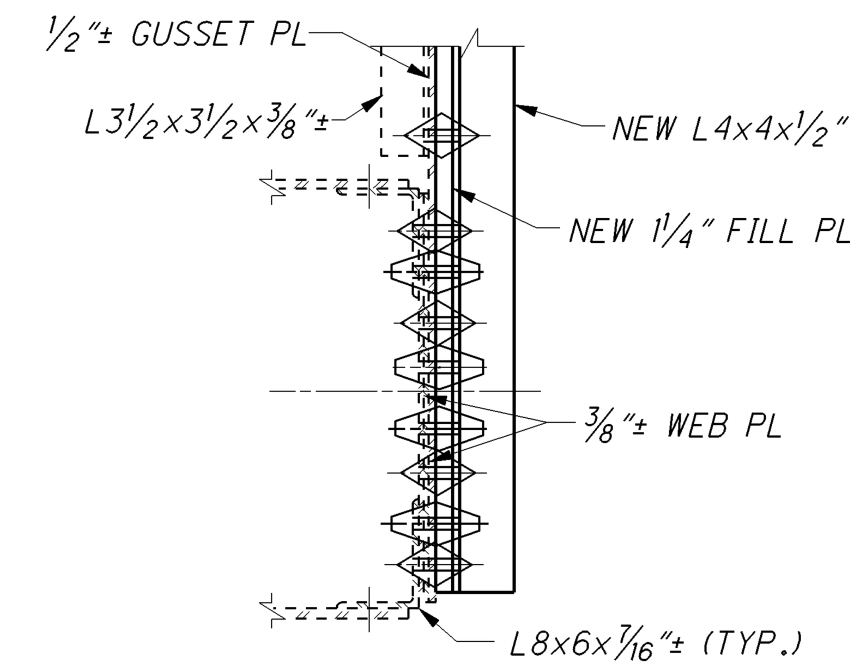
SPAN 8 - PANEL PT L3 (L717) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 1/4"	3 3/4"	1	1
2 5/8"	4 1/4"	7	7
3"	4 1/2"	4	4
3 7/16"	5"	4	4



L901
SPAN 8 - PANEL POINT L11 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
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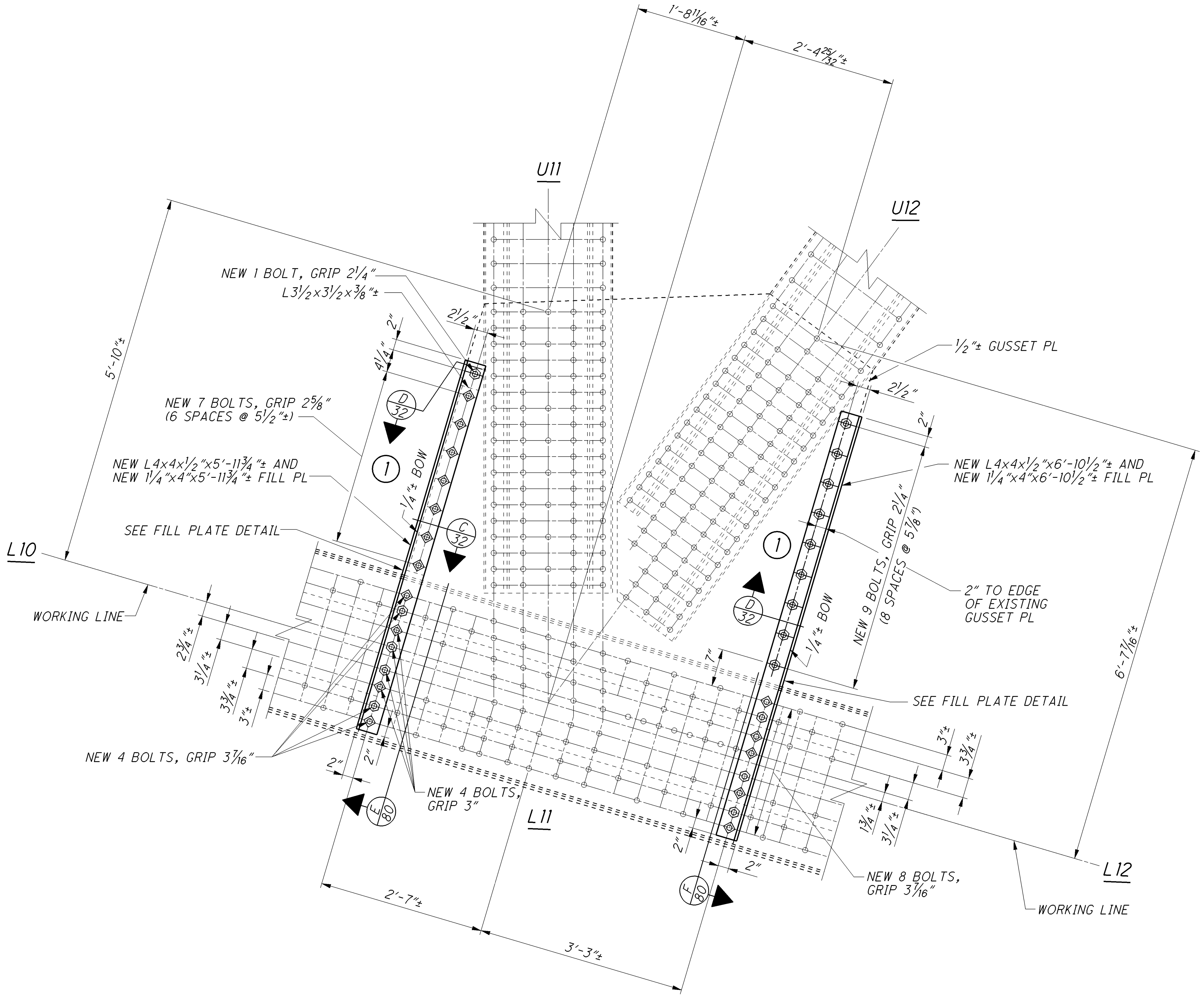
DRAWN SCB REVISED
DESIGNED ALP CHECKED KAK

SPAN 8 - PANEL PT L11 (L901) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

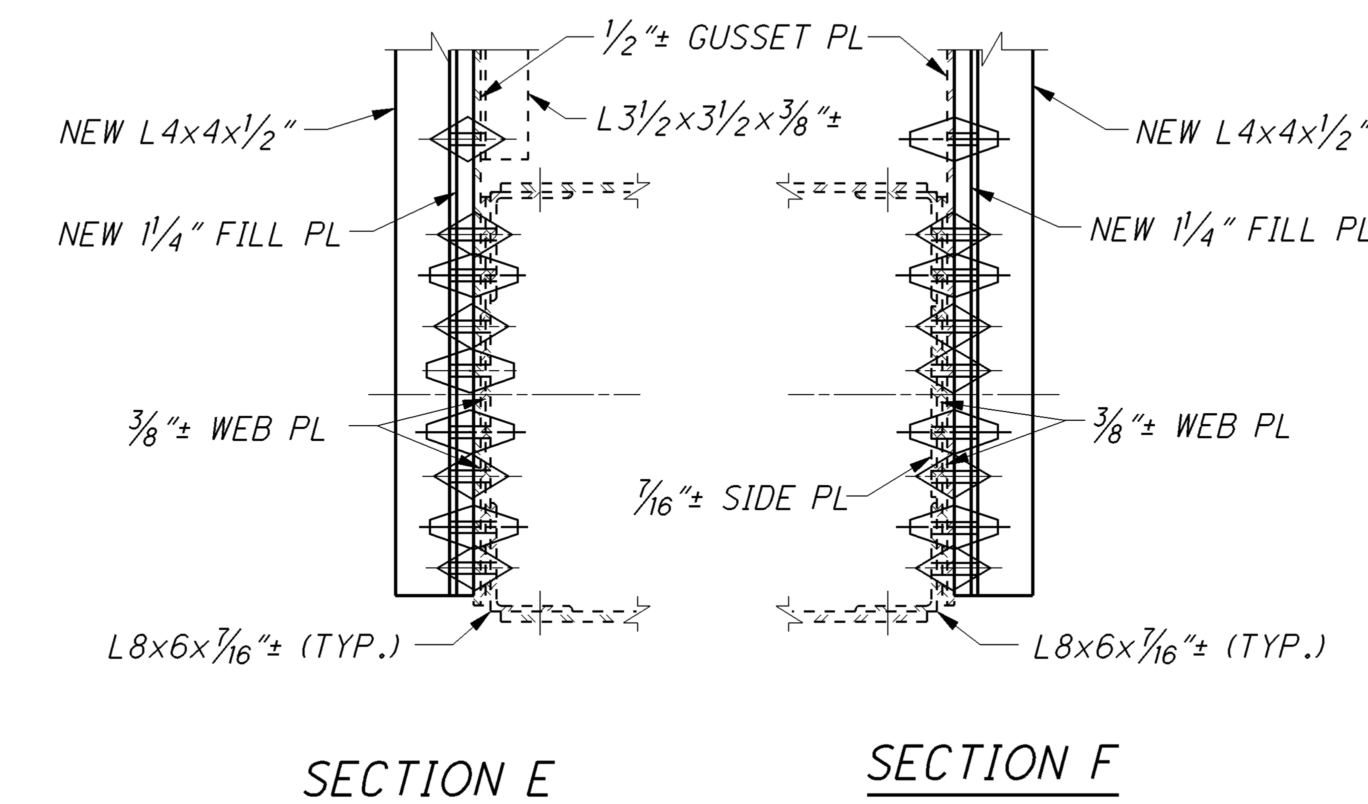
CUY-90-15.24
PID No. 82069

L901N(OUTSIDE).DGN 7/30/09 KMK,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 1/4"	3 3/4"	10	10
2 5/8"	4 1/4"	7	7
3"	4 1/2"	4	4
3 7/16"	5"	12	12



L901
SPAN 8 - PANEL POINT L11 - 1 GUSSET PLATE
SOUTH TRUSS OUTSIDE



SECTION E

SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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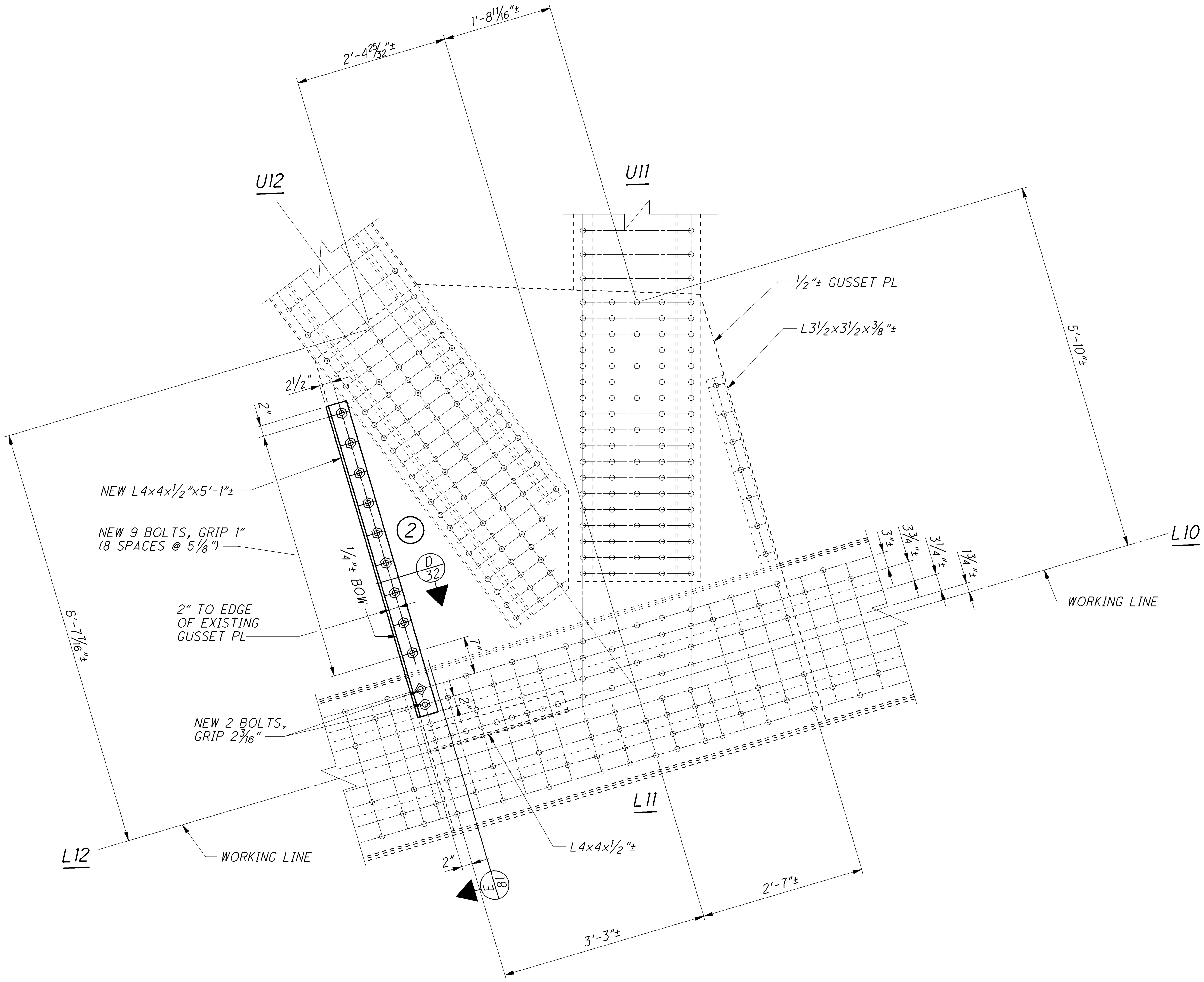
KAK		1809393	

SPAN 8 - PANEL PT L11 (L901) SOUTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

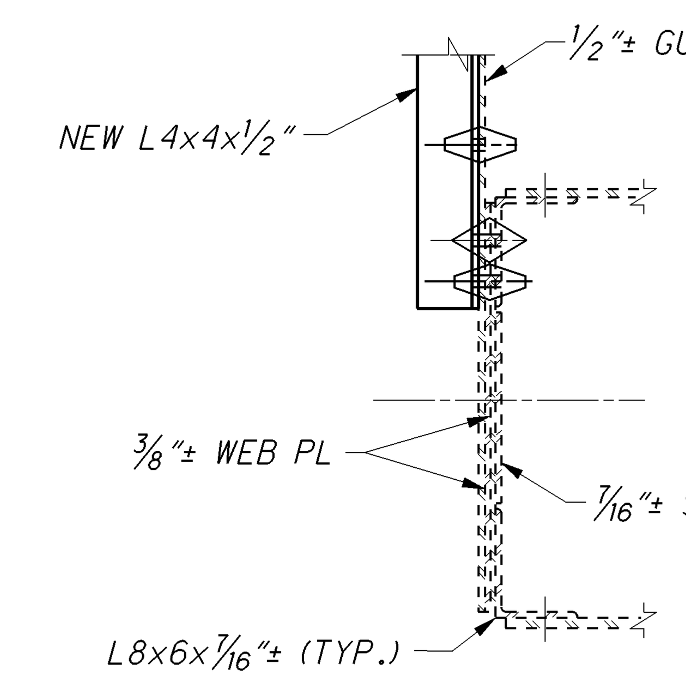
CUY-90-15.24
PID No. 82069

L901S(OUTSIDE).DGN 7/30/09 KMK,KH,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2½"	9	9
2$\frac{3}{16}$"	3¾"	2	2



L901
SPAN 8 - PANEL POINT L11 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE
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DESIGNED	DRAWN	CHECKED	REVISED
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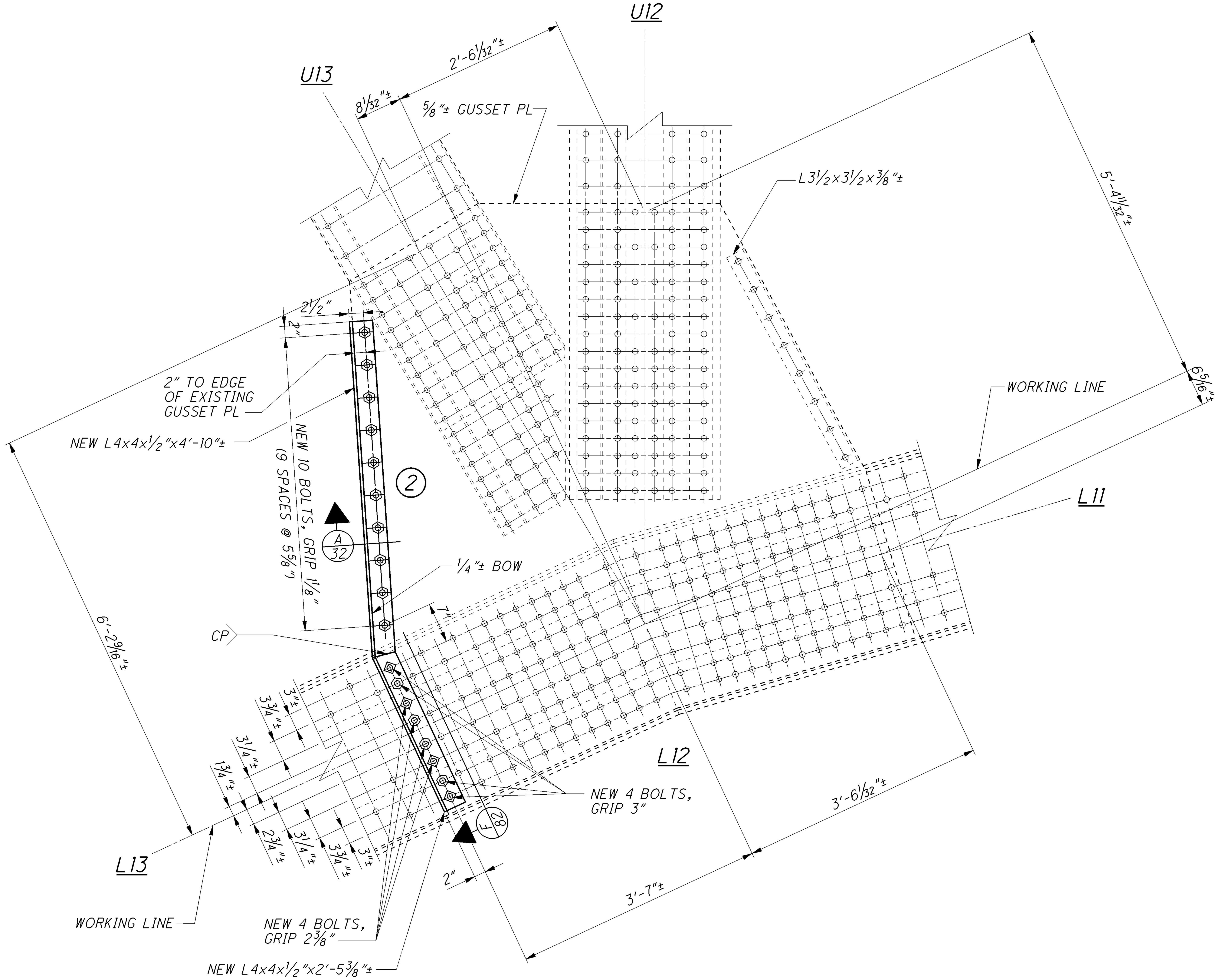
SPAN 8 - PANEL PT L11 (L901) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

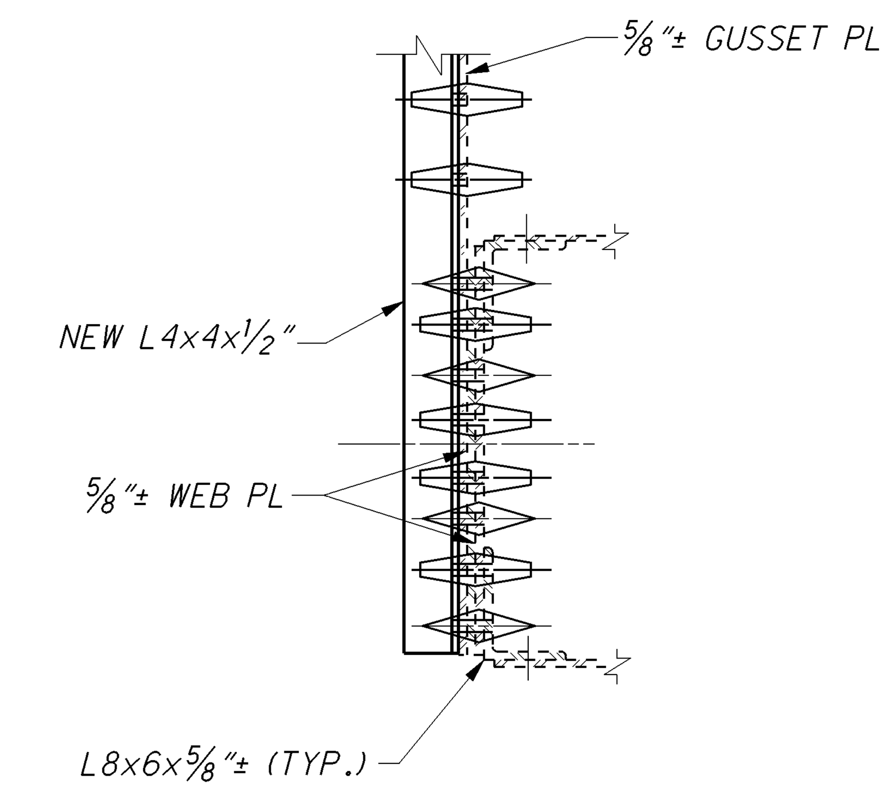
CUY-90-15.24
PID No. 82069

L901S(INSIDE).DGN 7/30/09 KH,RB,JLS



L902
SPAN 8 - PANEL POINT L12 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1 1/8"	2 3/4"	10	10
2 3/8"	4"	4	4
3"	4 1/2"	4	4



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

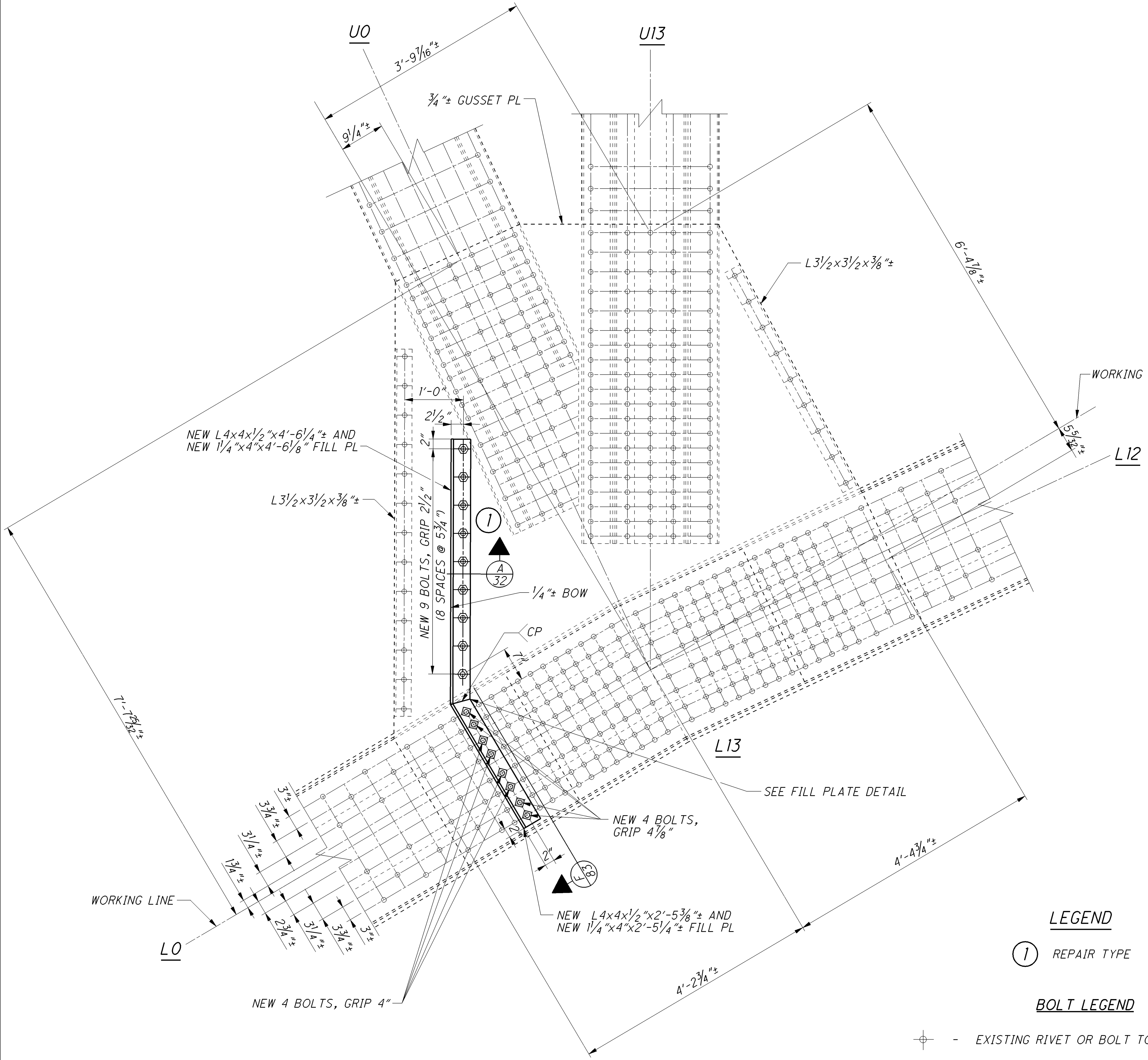
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

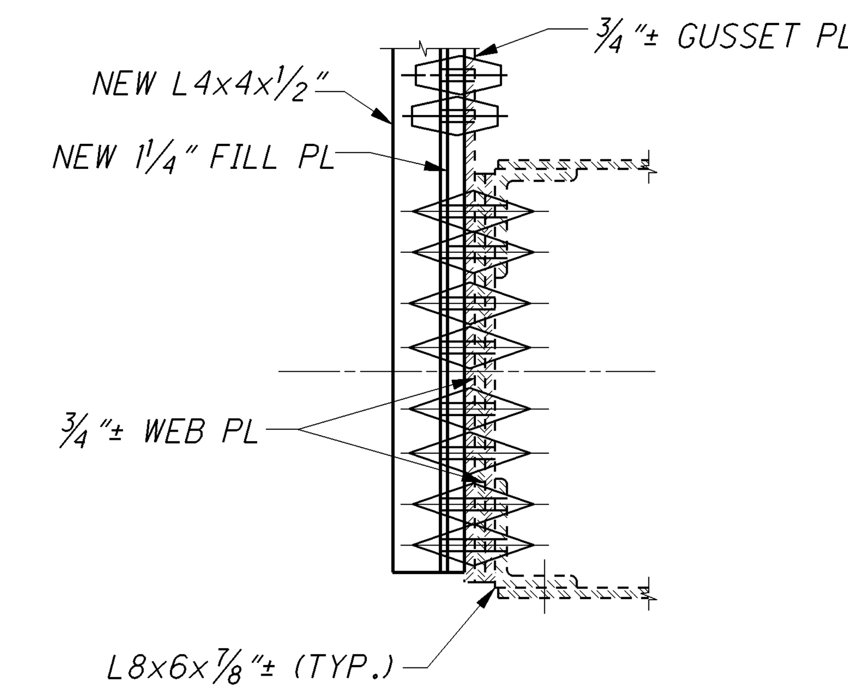
REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED ALP CHECKED KAK

SPAN 8 - PANEL PT L12 (L902) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 1/2"	4"	9	9
4"	5 1/2"	4	4
4 7/8"	6 1/2"	4	4





SECTION F

L903
SPAN 8 - PANEL POINT L13 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE

LEGEND

(1) REPAIR TYPE

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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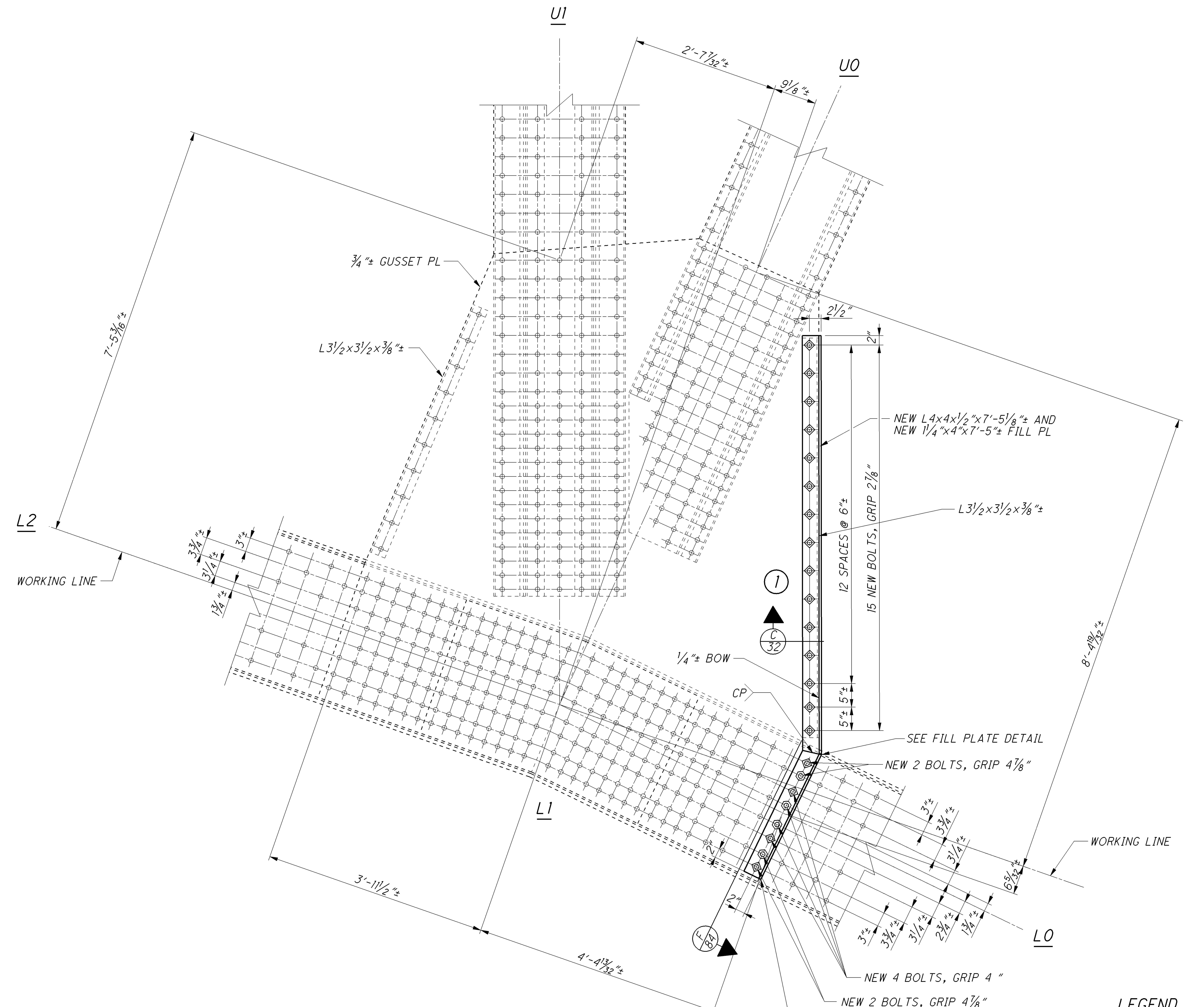
SPAN 8 - PANEL PT L13 (L903) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



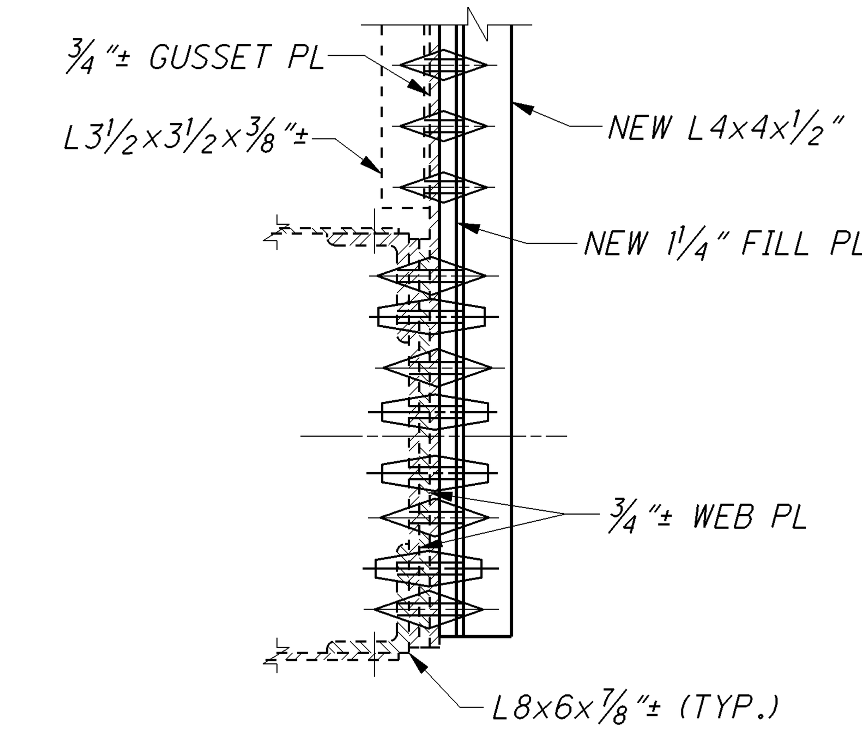
L905

SPAN 9 - PANEL POINT L1 - 1 GUSSET PLATE

NORTH TRUSS OUTSIDE

BOLT TABLE - 7/8" DIA. A490

BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 7/8"	4 1/2"	15	15
4"	5 1/2"	4	4
4 7/8"	6 1/2"	4	4



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | DRAWN JLS | REVIEWED DAP | DATE 7/31/09
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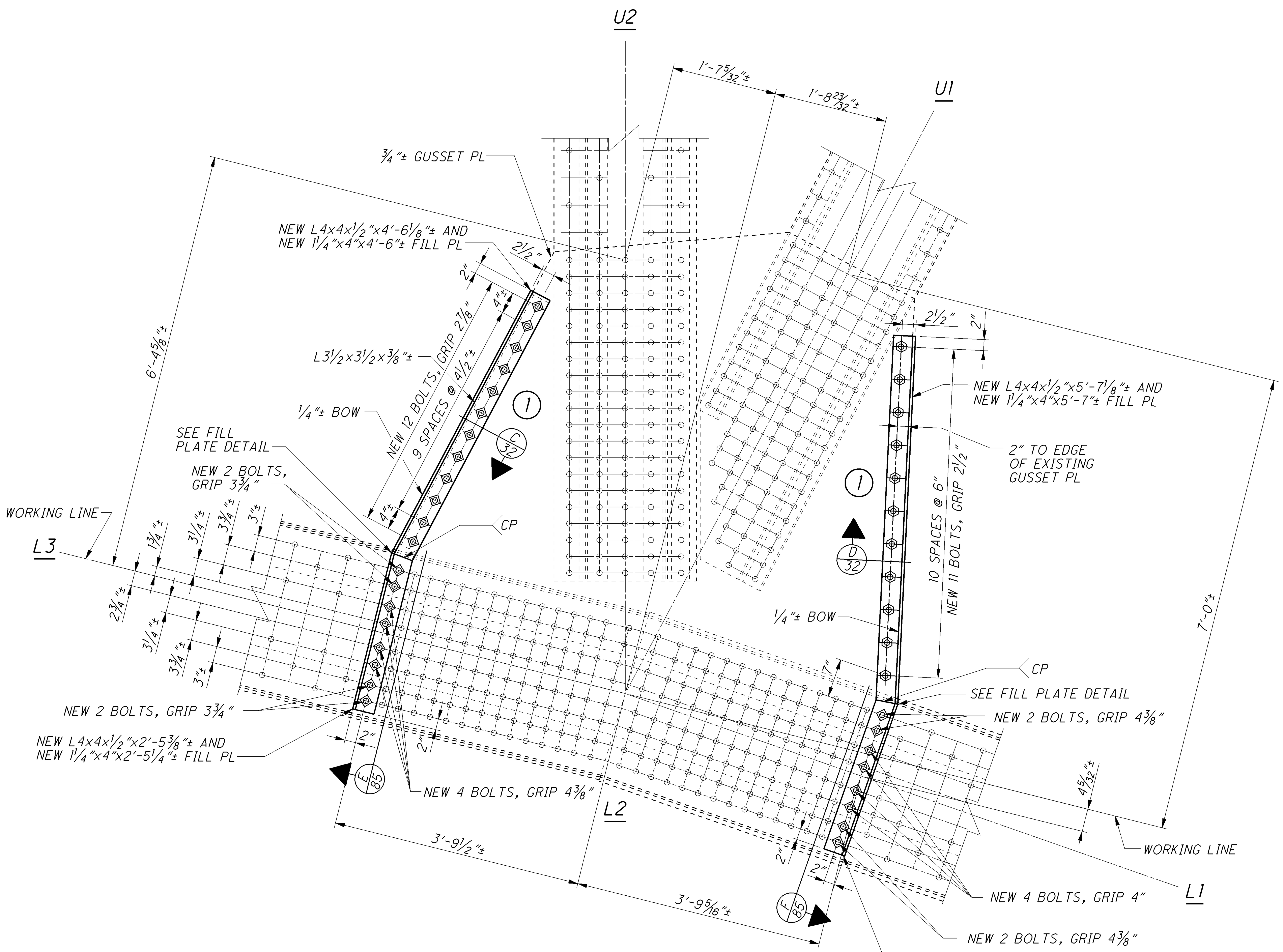
SPAN 9 - PANEL PT L1 (L905) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L905N(OUTSIDE).DGN 07/30/09 TWH,KH,JLS

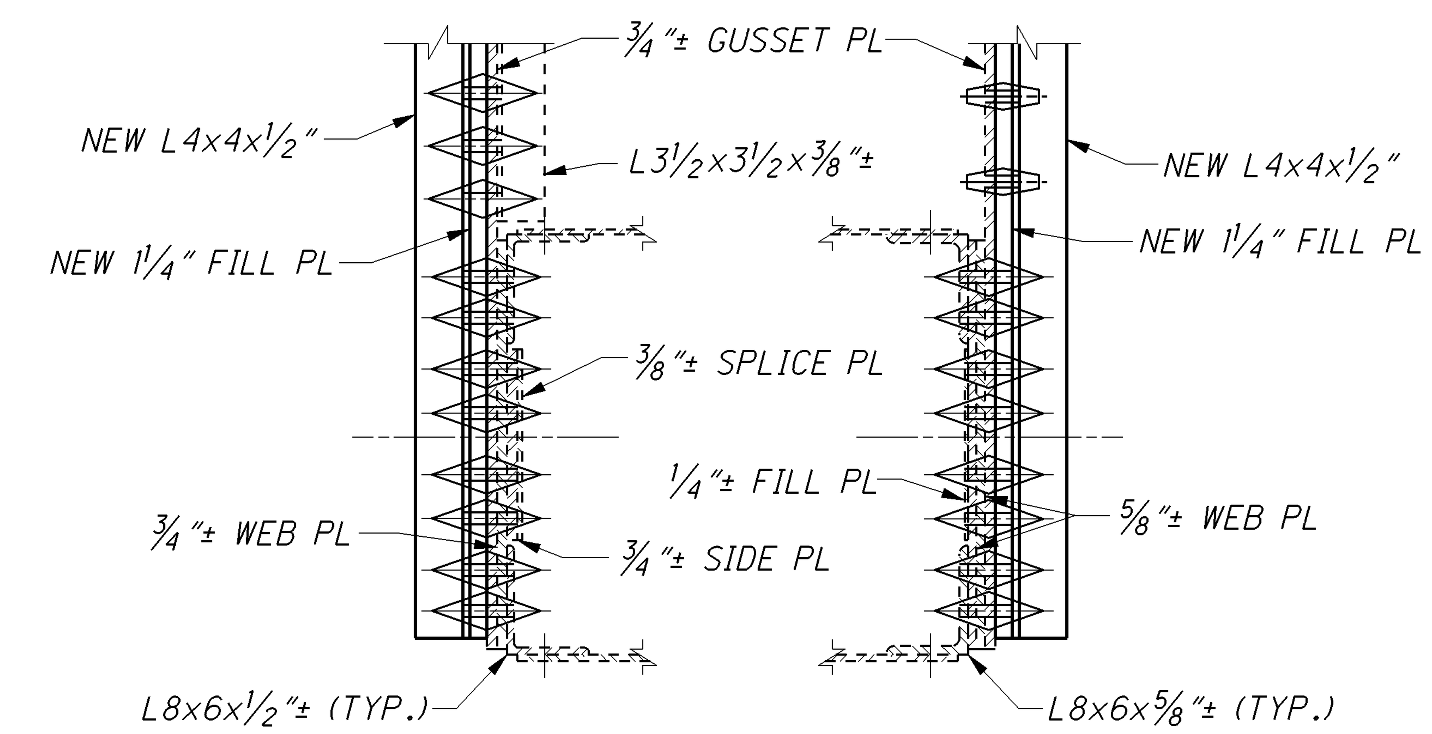
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
2 1/2"	4"	11	11
2 7/8"	4 1/2"	12	12
3 3/4" - 4"	5 1/2"	8	8
4 3/8"	6"	8	8



L906

SPAN 9 - PANEL POINT L2 - 1 GUSSET PLATE

NORTH TRUSS OUTSIDE



SECTION E SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
ALP	JLS	DAP	7/31/09
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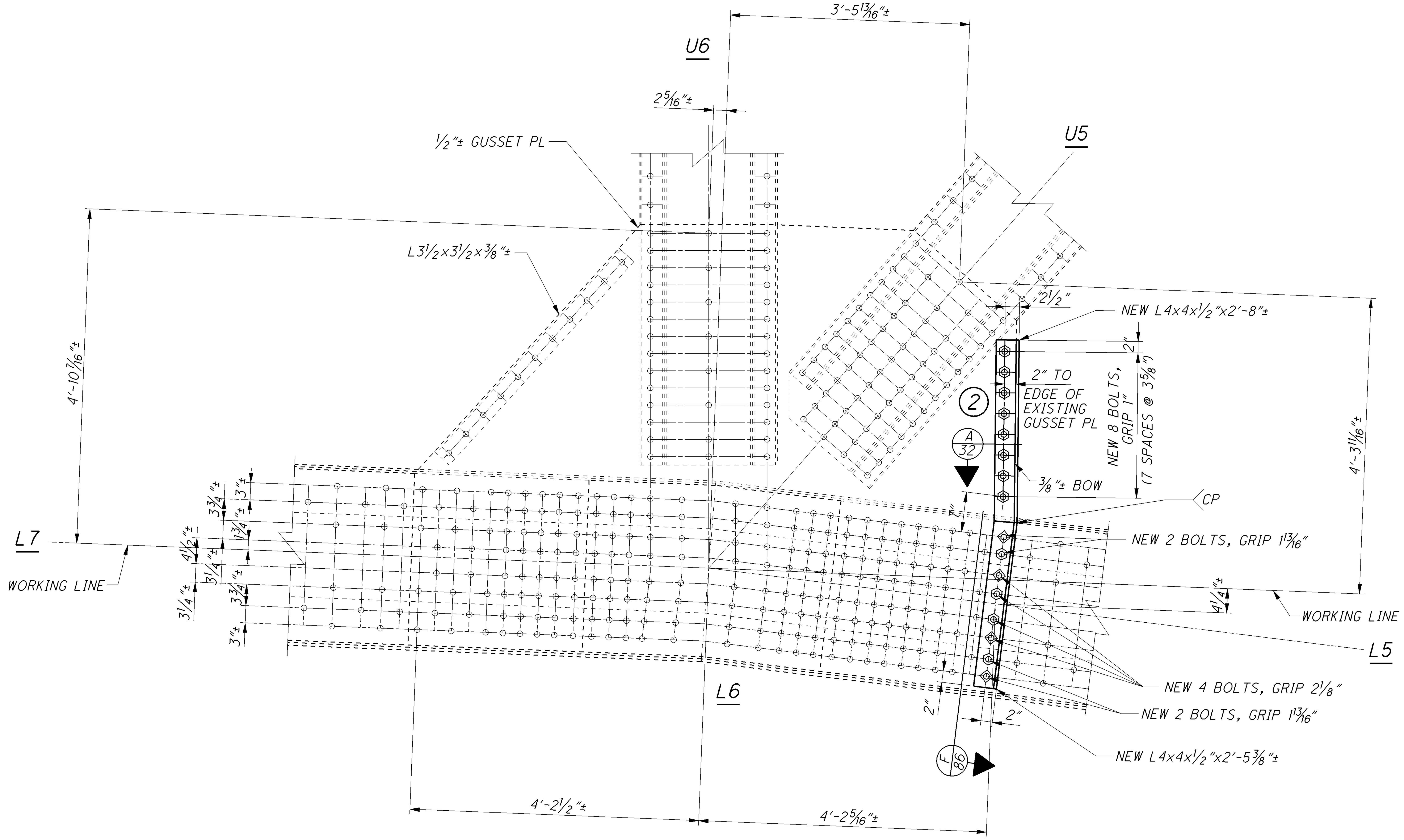
SPAN 9 - PANEL PT L2 (L906) NORTH TRUSS - OUTSIDE GUSSET

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

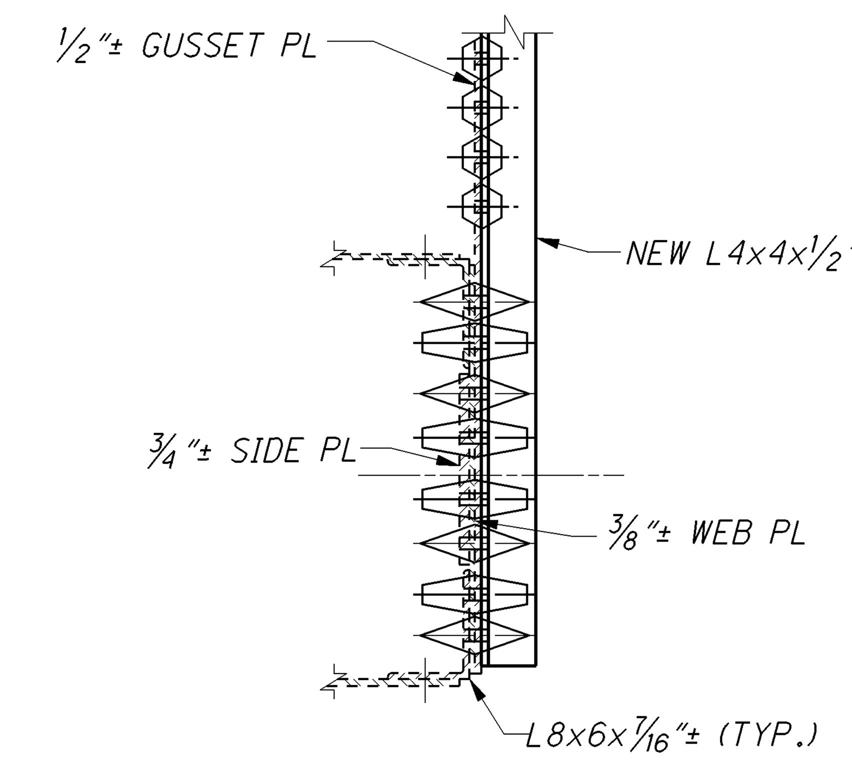
CUY-90-15.24
PID No. 82069

L906N(OUTSIDE).DGN 7/30/09 SCB,TWH,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
1 13/16"	3 1/4"	4	4
2 1/8"	3 3/4"	4	4



L910
SPAN 9 - PANEL POINT L6 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

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TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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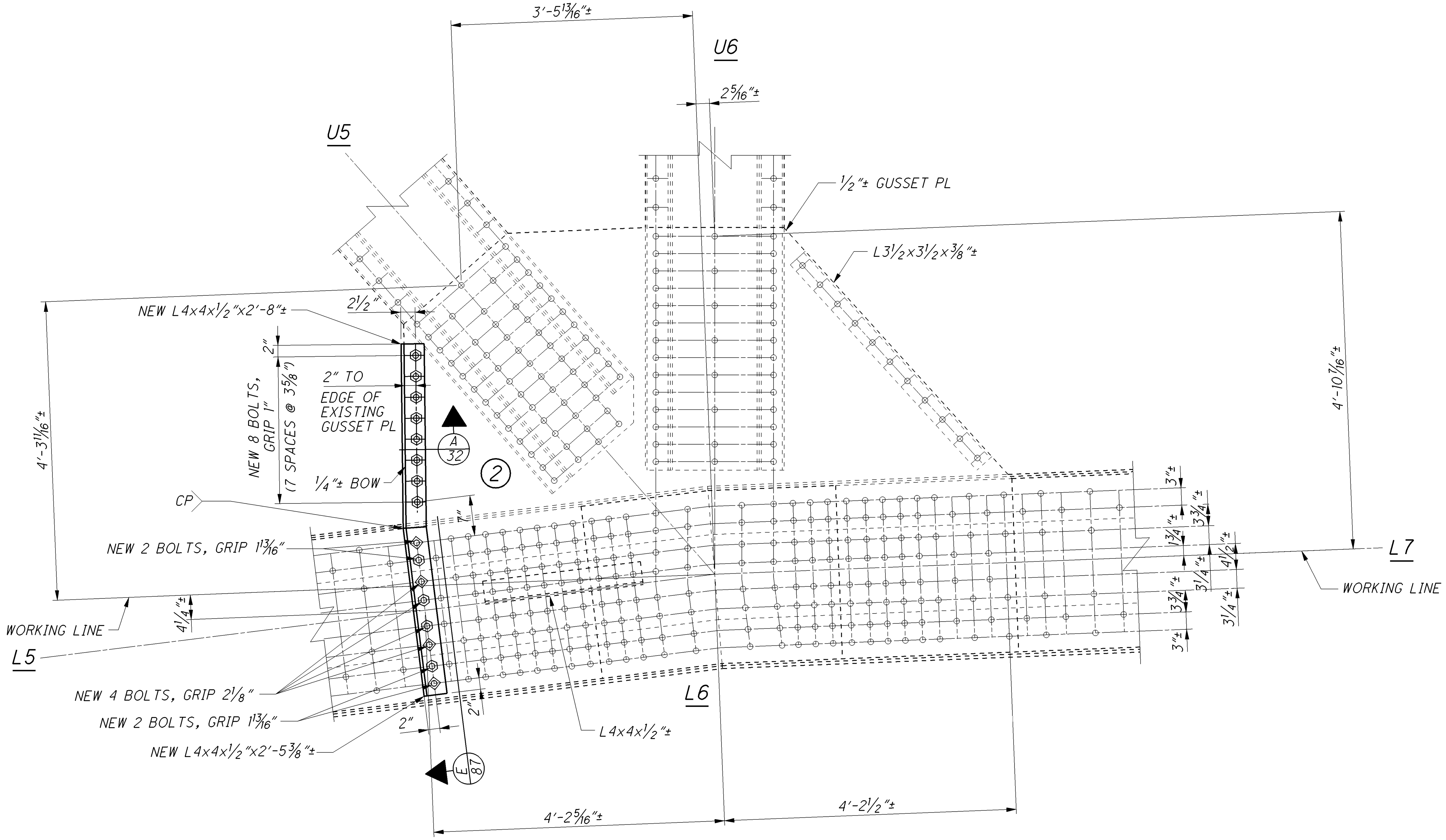
SPAN 9 - PANEL PT L6 (L910) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

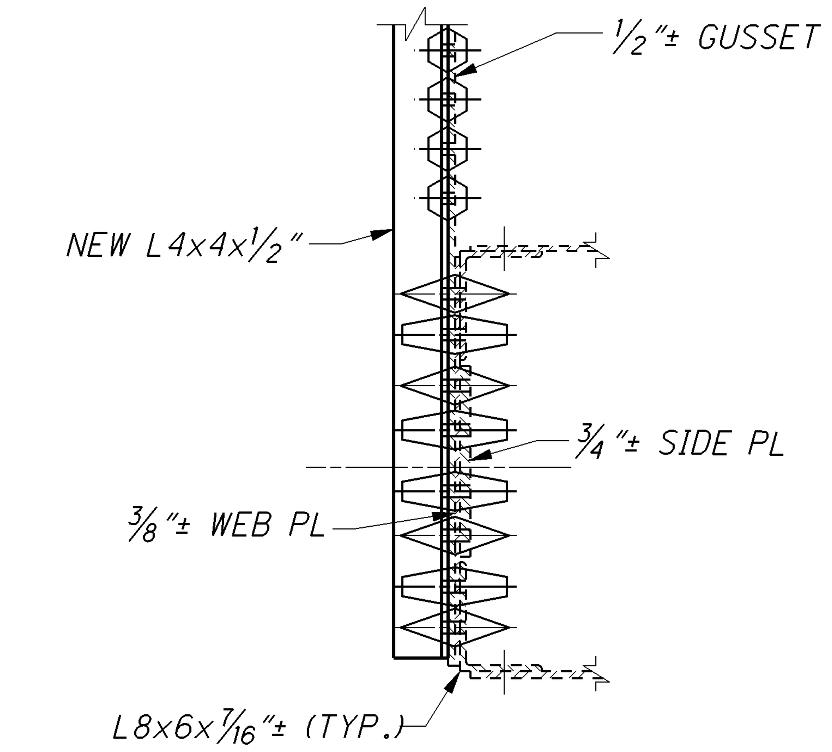
CUY-90-15.24
PID No. 82069

L910N(OUTSIDE).DGN 7/30/09 SAM,SCB,KH,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	8
1 13/16"	3 1/4"	4	4
2 1/8"	3 3/4"	4	4



L910
SPAN 9 - PANEL POINT L6 - 1 GUSSET PLATE
NORTH TRUSS INSIDE



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

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SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

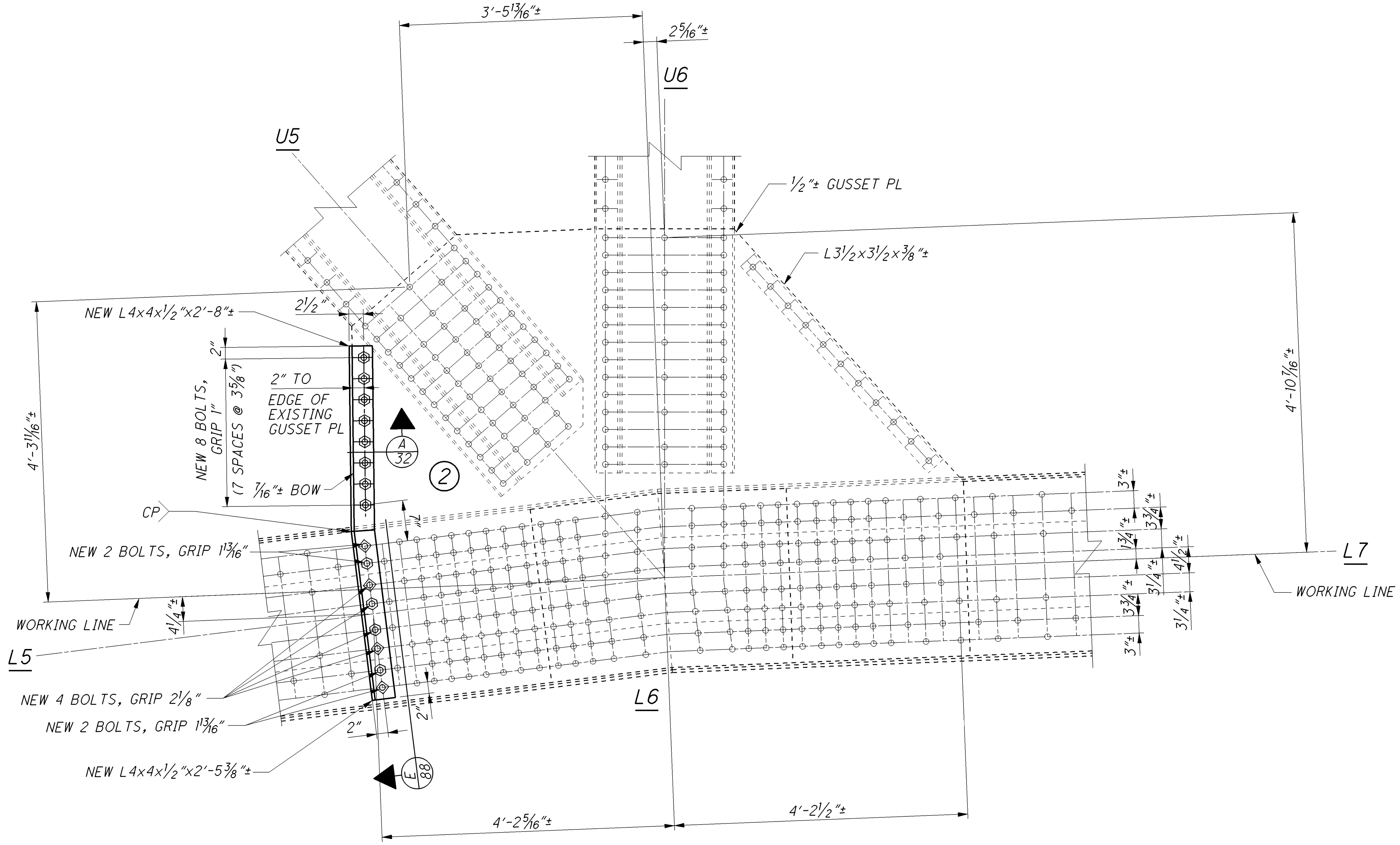
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED KAK | DRAWN JLS | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

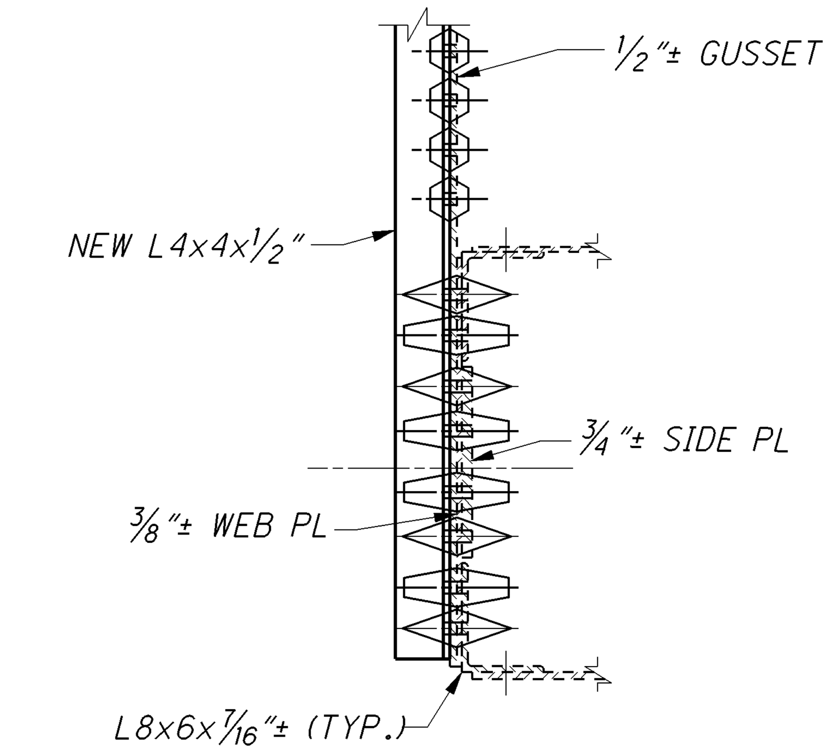
SPAN 9 - PANEL PT L6 (L910) NORTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	8	16
1 13/16"	3 1/4"	4	8
2 1/8"	3 3/4"	4	8



L910
SPAN 9 - PANEL POINT L6 - 2 GUSSET PLATE
SOUTH TRUSS OUTSIDE -SHOWN
SOUTH TRUSS INSIDE - OPPOSITE HAND



SECTION E

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

L910S.DGN 7/30/09 SAM,SCB,KH,BB,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

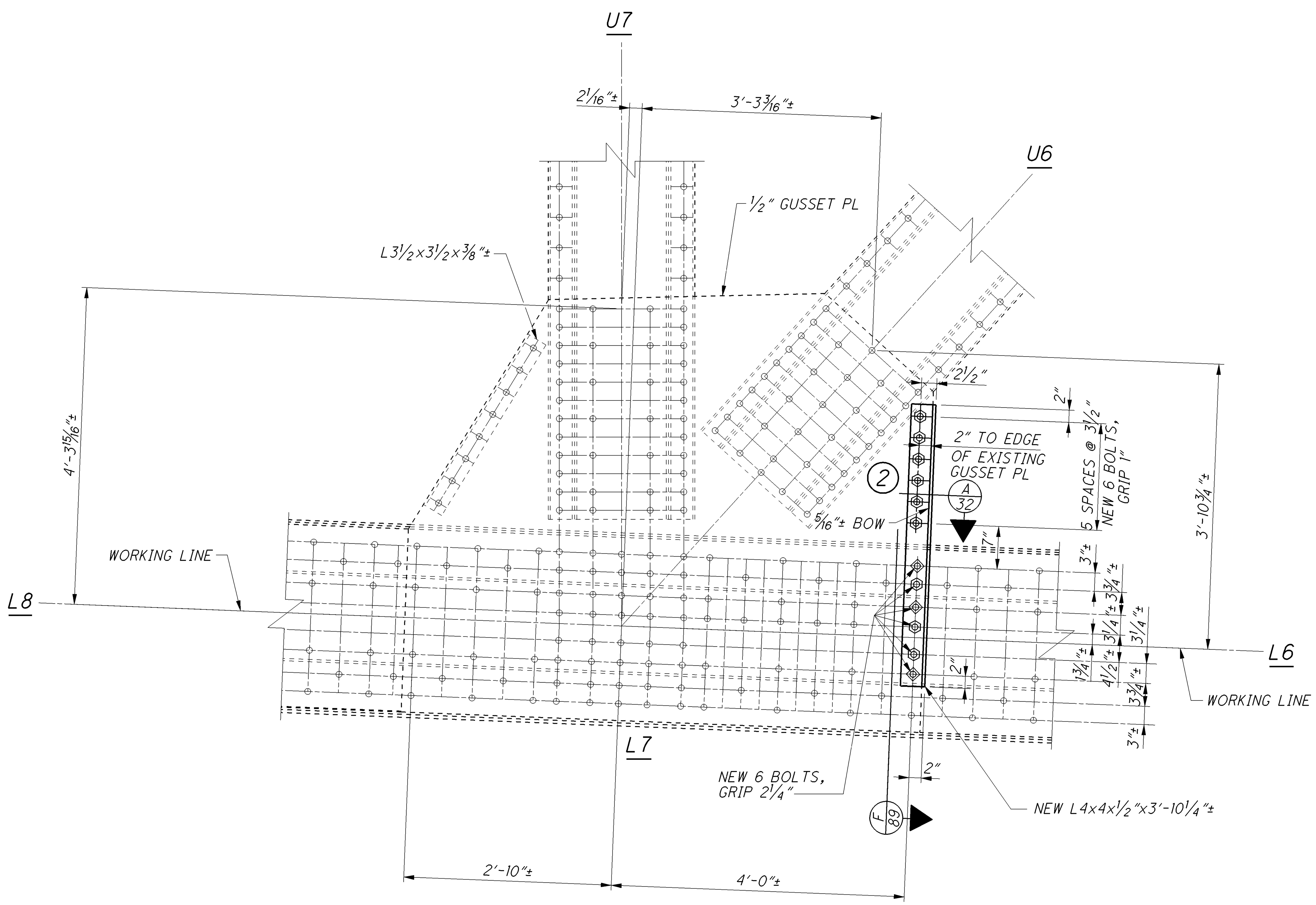
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
ALP	KAK	JLS		DAP	7/31/09

STRUCTURE FILE NUMBER 1809393

SPAN 9 - PANEL PT L6 (L910) SOUTH TRUSS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

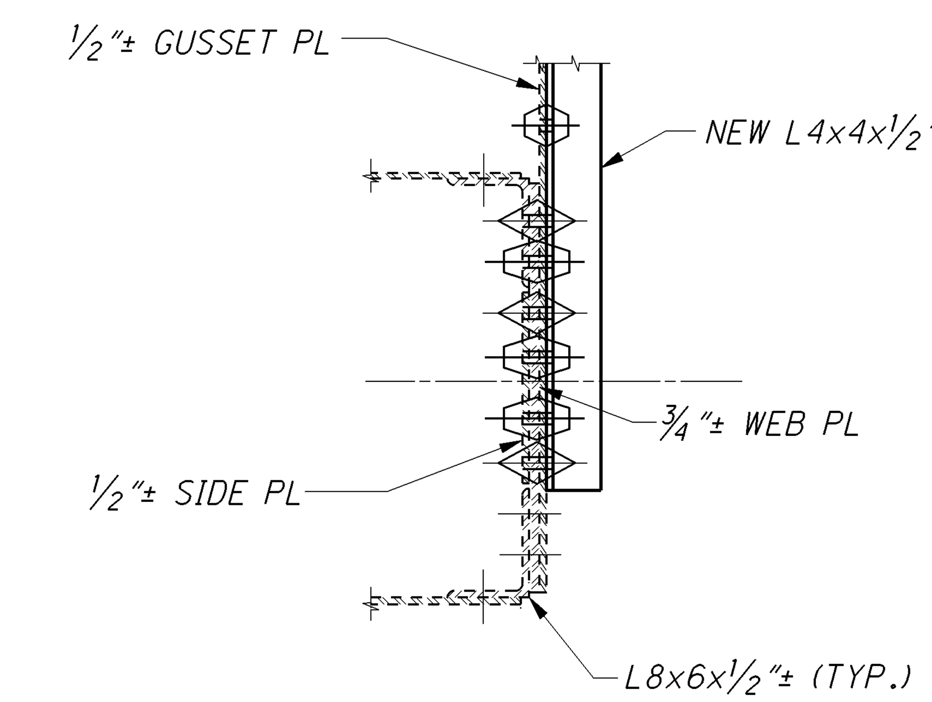
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2½"	6	6
2¼"	3¾"	6	6



L911

SPAN 9 - PANEL POINT L7 - 1 GUSSET PLATE

NORTH TRUSS OUTSIDE



SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

(1) REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

FILL PLATE DETAIL: SEE SHEET 32/140.

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP | CHECKED KAK | DRAWN SAM | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

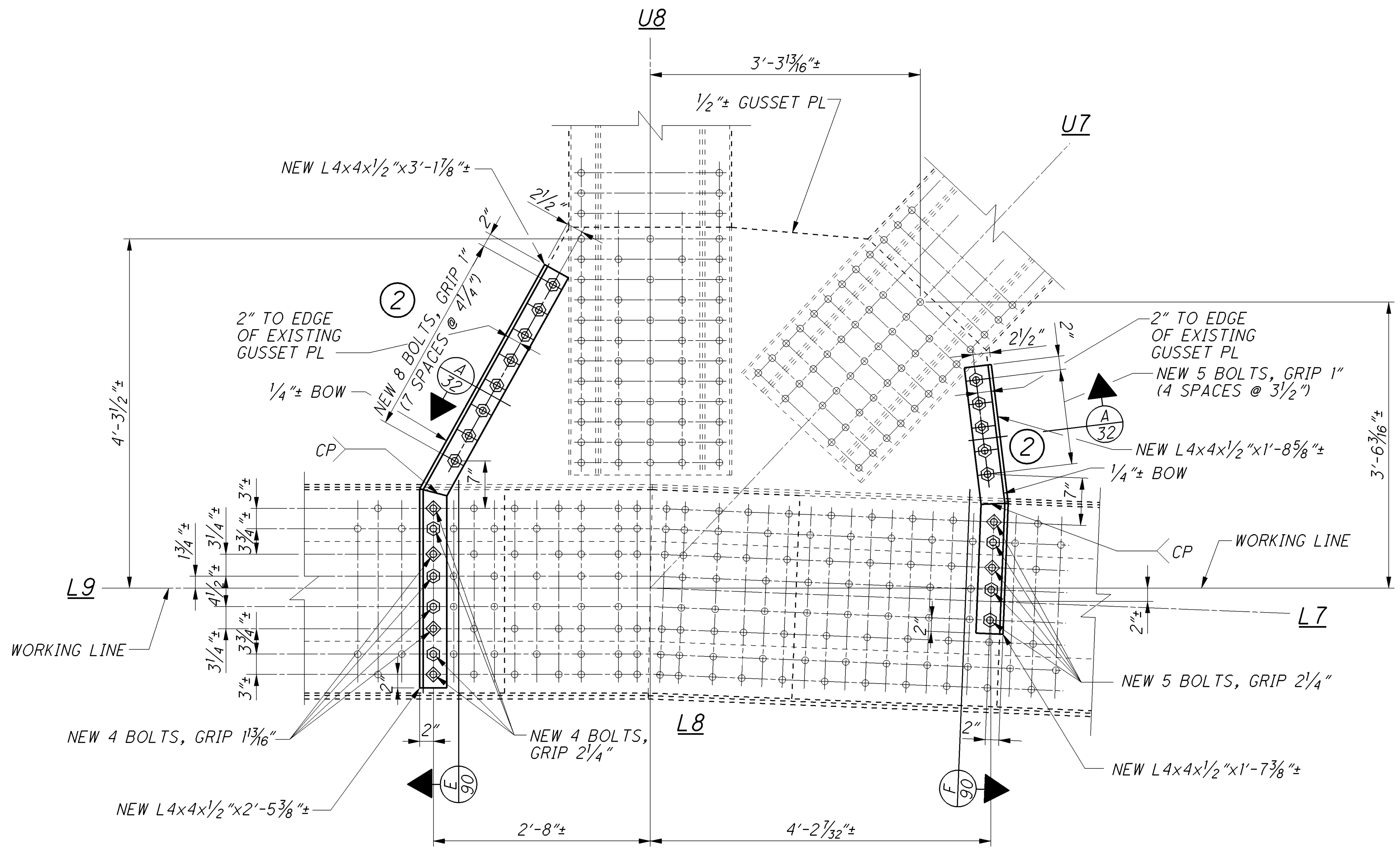
SPAN 9 - PANEL PT L7 (L911) NORTH TRUSS - OUTSIDE GUSET

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

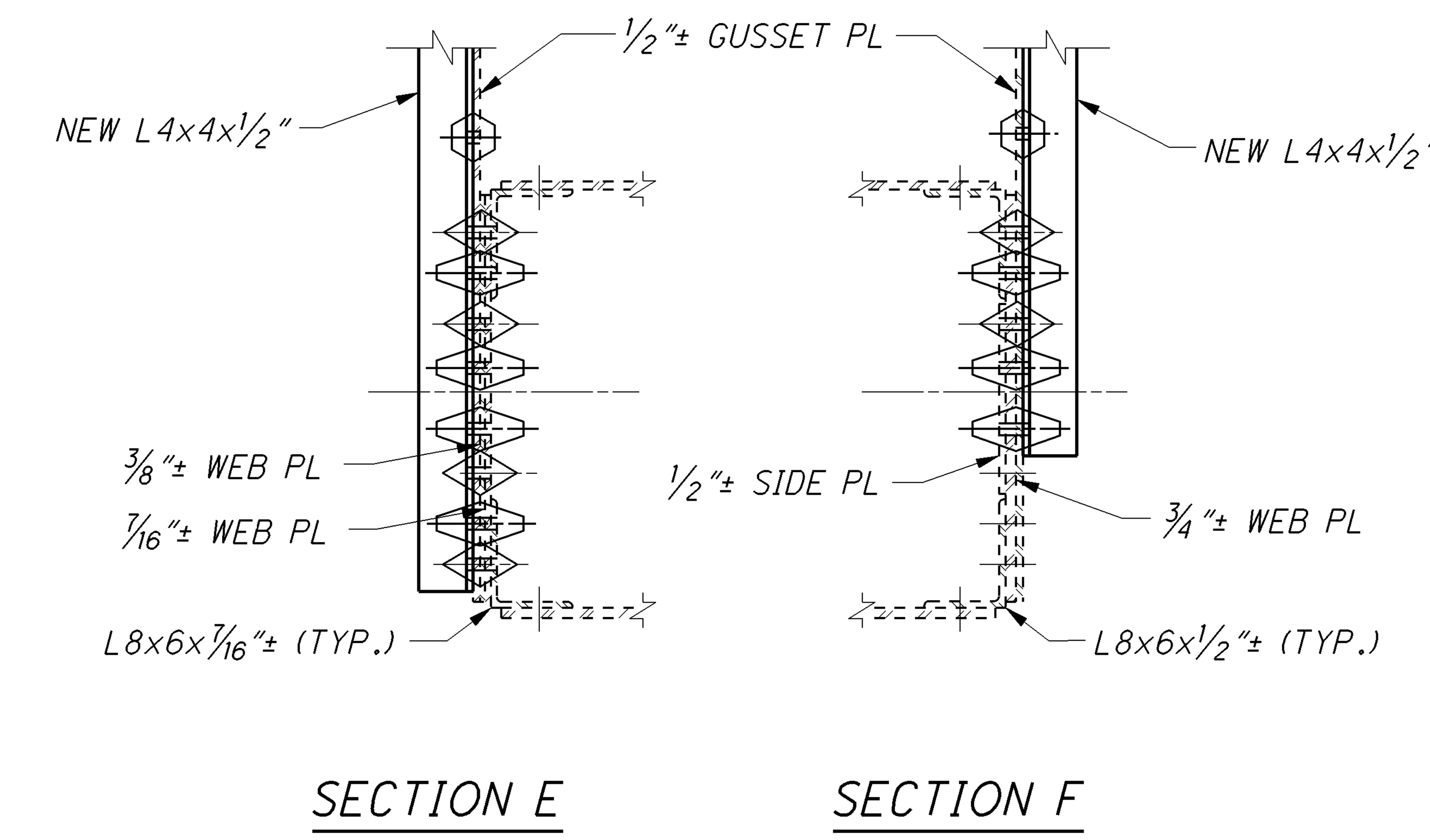
CUY-90-15.24
PID No. 82069

L911N(OUTSIDE).DGN 7/30/09 SAM,KMK,KH,SCB,JLS

BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2 1/2"	13	13
1 13/16"	3 1/4"	4	4
2 1/4"	3 3/4"	9	9



L912
SPAN 9- PANEL POINT L8 - 1 GUSSET PLATE
NORTH TRUSS OUTSIDE



SECTION E SECTION F

LEGEND

(1) REPAIR TYPE

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

ADDITIONAL NOTES: SEE SHEET 32/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

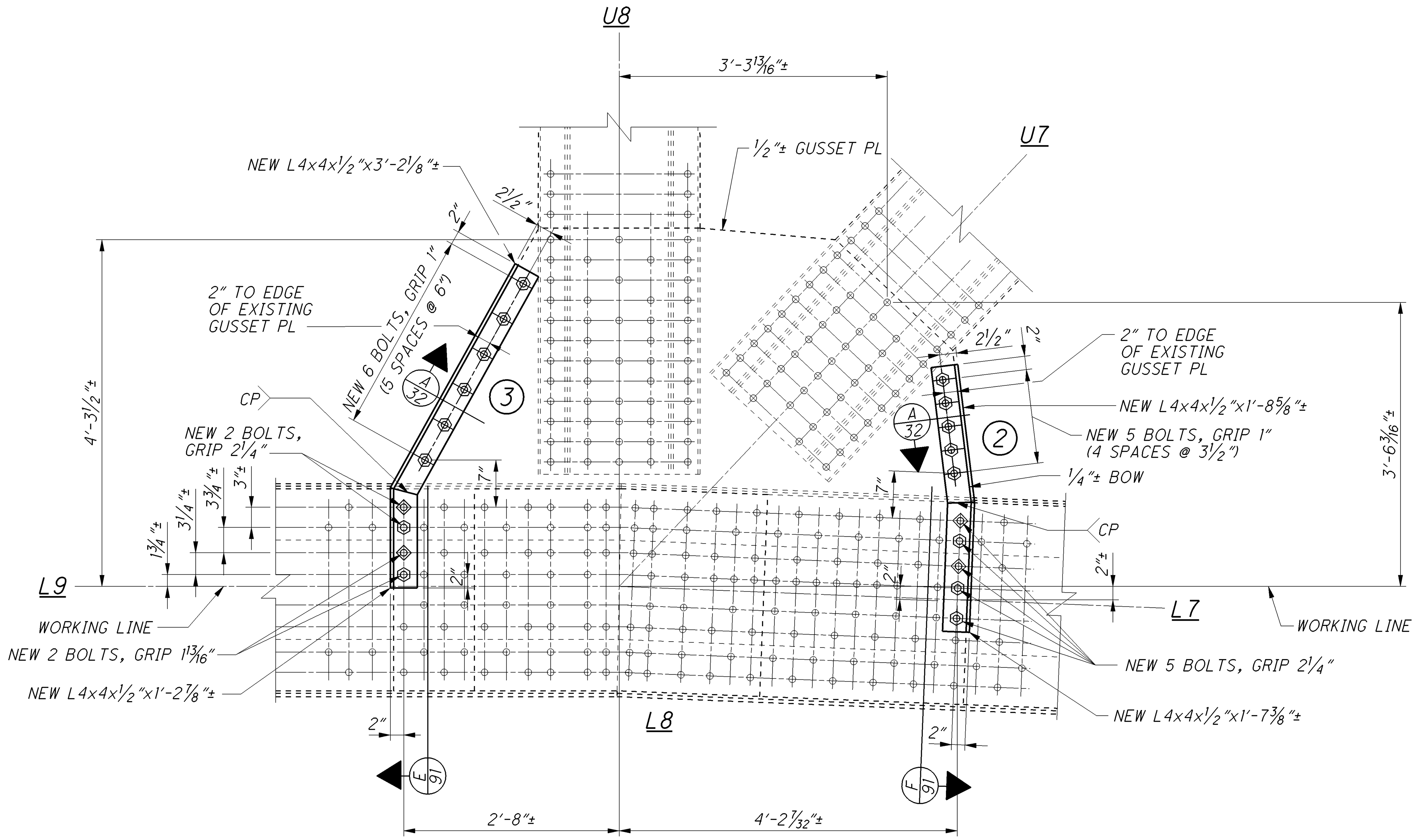
DESIGNED	DRAWN	REVIEWED	DATE
ALP	LVB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 9 - PANEL PT L8 (L912) NORTH TRUSS - OUTSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

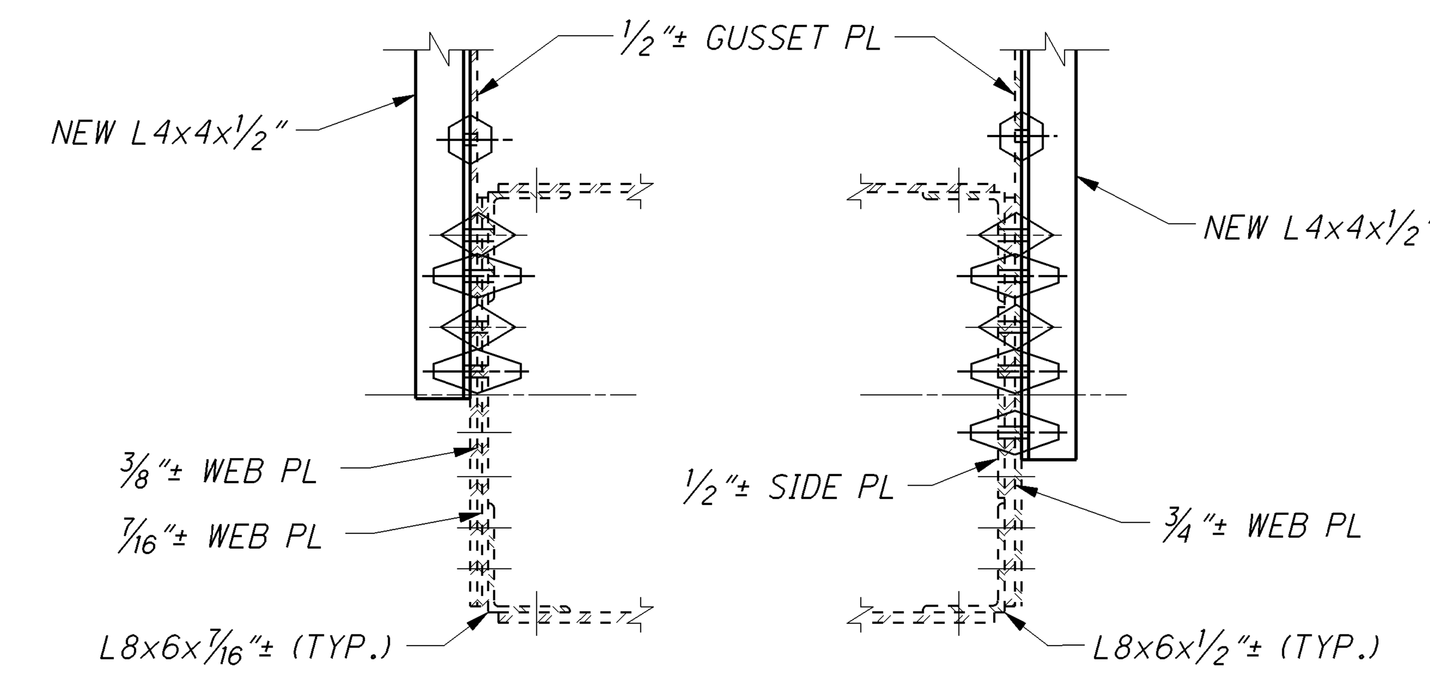
CUY-90-15.24
PID No. 82069

L912N(OUTSIDE).DGN 7/30/09 KH,SAM,JLS

BOLT TABLE - ⅞" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER PLATE	SHEET TOTAL
1"	2½"	11	11
1 13/16"	3¼"	2	2
2¼"	3¾"	7	7



L912
SPAN 9- PANEL POINT L8 - 1 GUSSET PLATE
SOUTH TRUSS INSIDE



SECTION E SECTION F

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

LEGEND

1 REPAIR TYPE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

TRUSS GUSSET REPAIR: GENERAL REQUIREMENTS, INSTALLATION INSTRUCTIONS AND PROVISIONS FOR PAYMENT SEE ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR NOTES ON SHEET 11/140.

CP - COMPLETE PENETRATION (ANGLES ONLY).

ADDITIONAL NOTES: SEE SHEET 32/140.

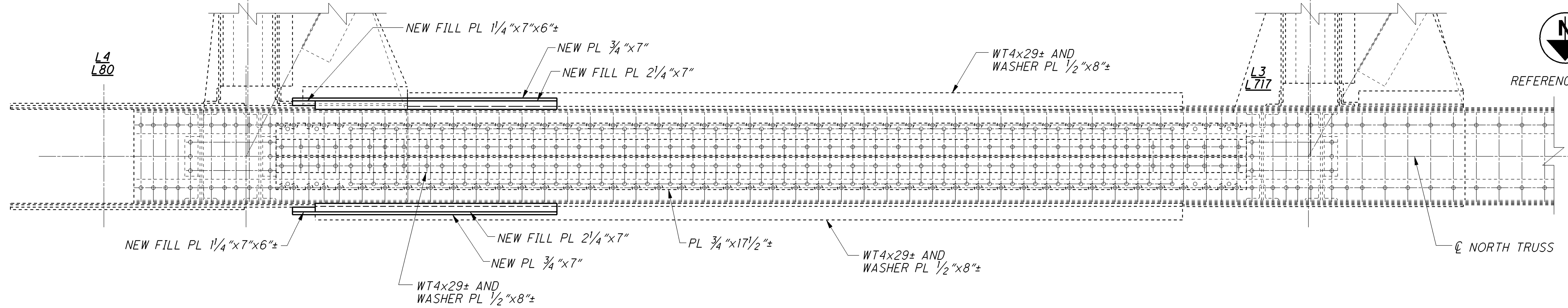
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED ALP CHECKED KAK DRAWN LVB REVISED REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393

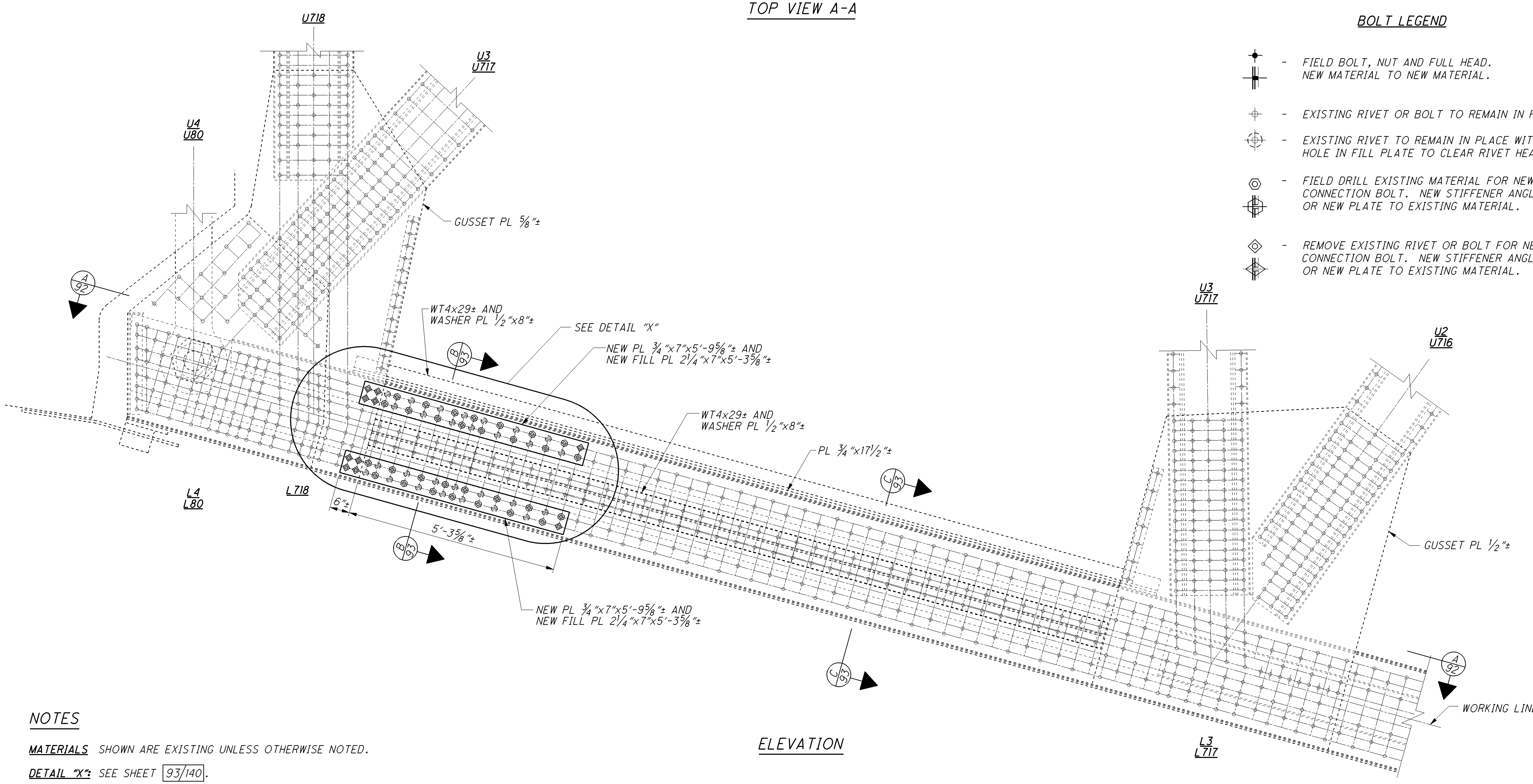
SPAN 9 - PANEL PT L8 (L912) SOUTH TRUSS - INSIDE GUSSET
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

L912S(INSIDE).DGN 7/27/09 SCB,KH,JLS



TOP VIEW A-A



ELEVATION

BOLT LEGEND

- FIELD BOLT, NUT AND FULL HEAD. NEW MATERIAL TO NEW MATERIAL.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- EXISTING RIVET TO REMAIN IN PLACE WITH HOLE IN FILL PLATE TO CLEAR RIVET HEAD.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAIL "X": SEE SHEET 93/140.

ITEM 513-STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING: SEE GENERAL NOTE SHEET 10/140.

090_1524CSD020.DGN 8/4/09 TWH,KH,JLS

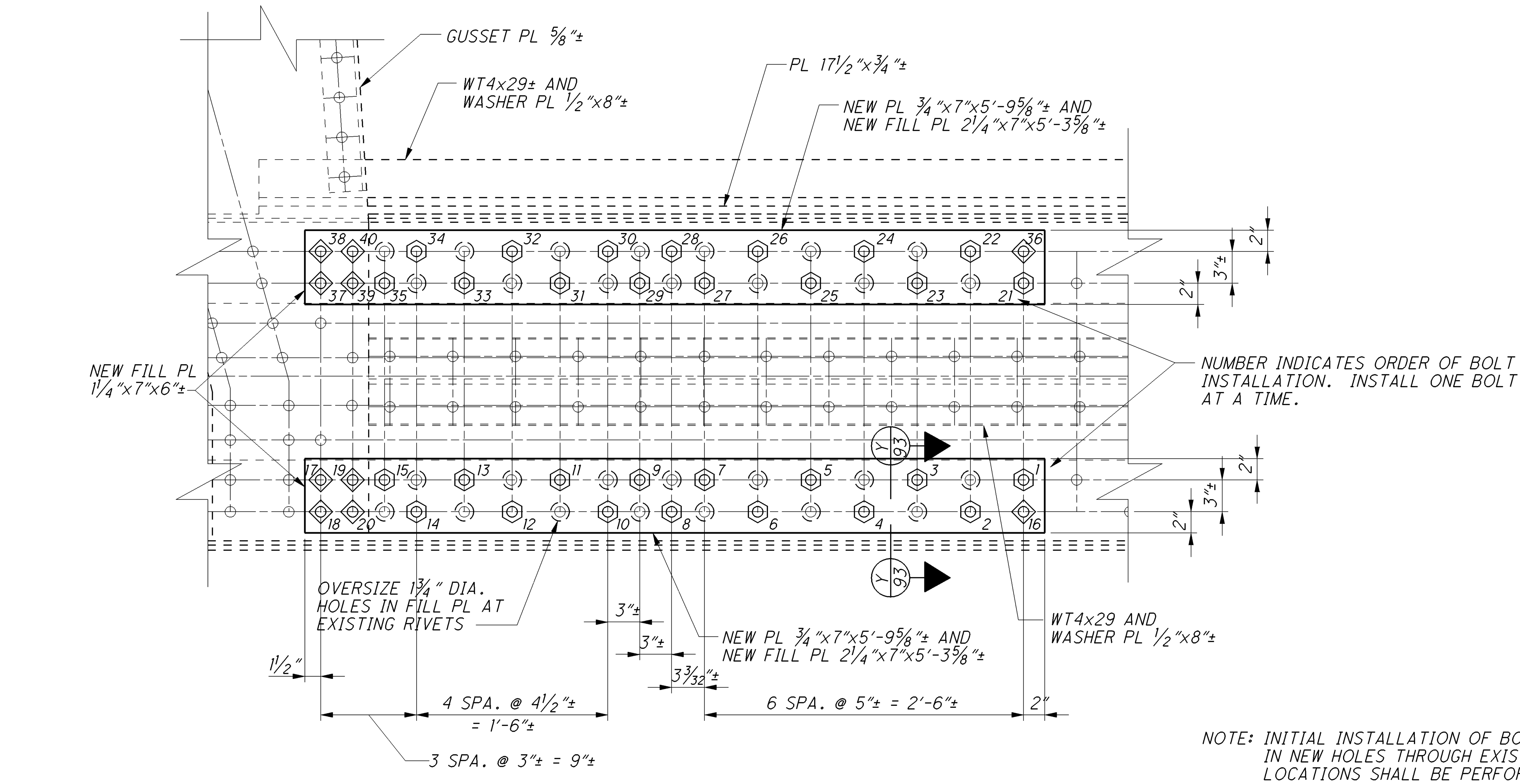
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE
DAP	7/31/09
STRUCTURE FILE NUMBER	
1809393	

DESIGNED	DRAWN	REVIEWED
JDB	TWH	
CHECKED	REVISED	
ALP		

SPAN 8 L3-L4 (L717-L718) NORTH TRUSS CHORD REPAIR - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

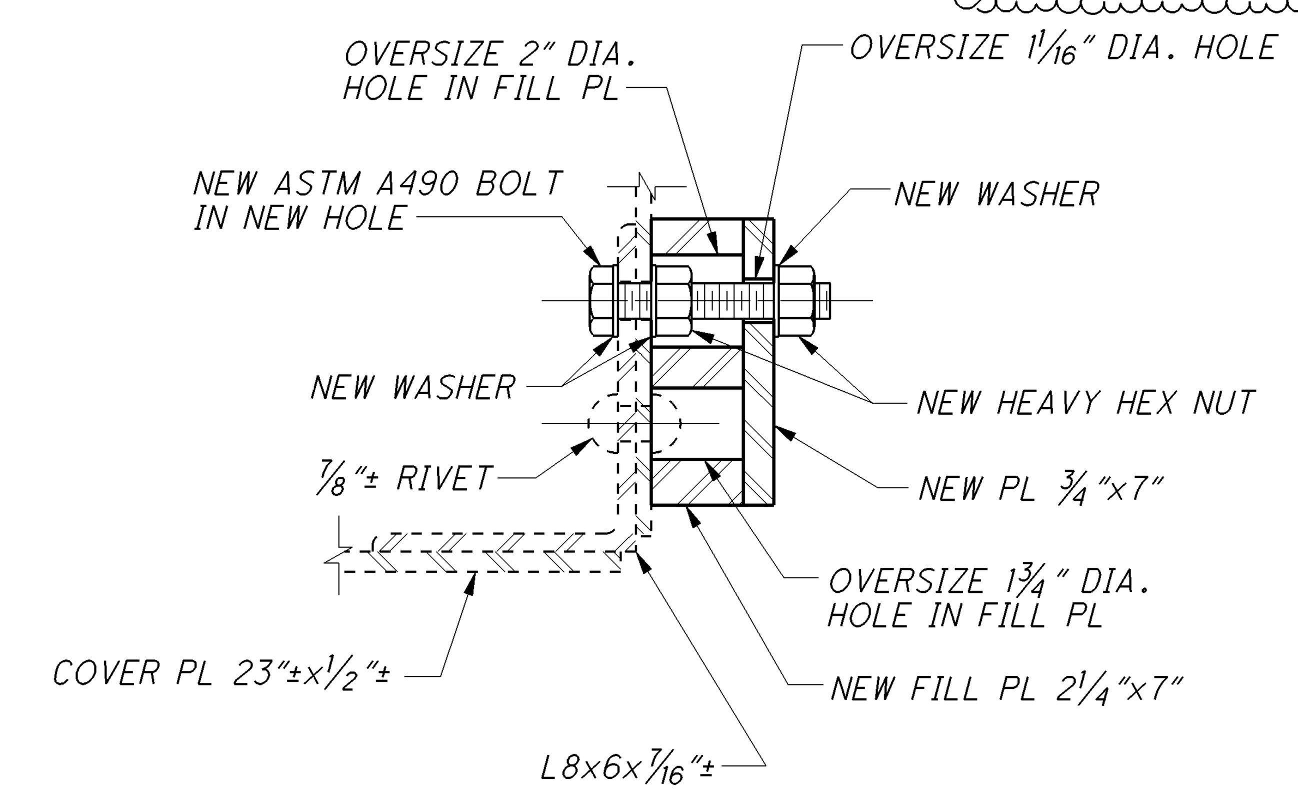
CUY-90-15.24
PID No. 82069



DETAIL "X" - NEW BOLT INSTALLATION SEQUENCE

(NORTH FACE SHOWN; SOUTH FACE OPPOSITE HAND. WORK ON ONLY ONE FACE AT A TIME.)

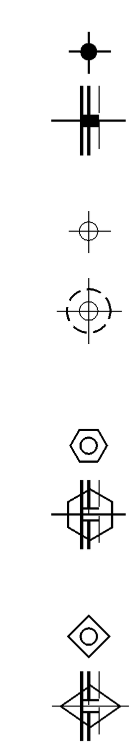
BOLT TABLE - 7/8" DIA. A490			
BOLT GRIP	MINIMUM BOLT LENGTH	QTY. PER SIDE	SHEET TOTAL
3 13/16"	5 1/2" (5" THREAD)	40	80



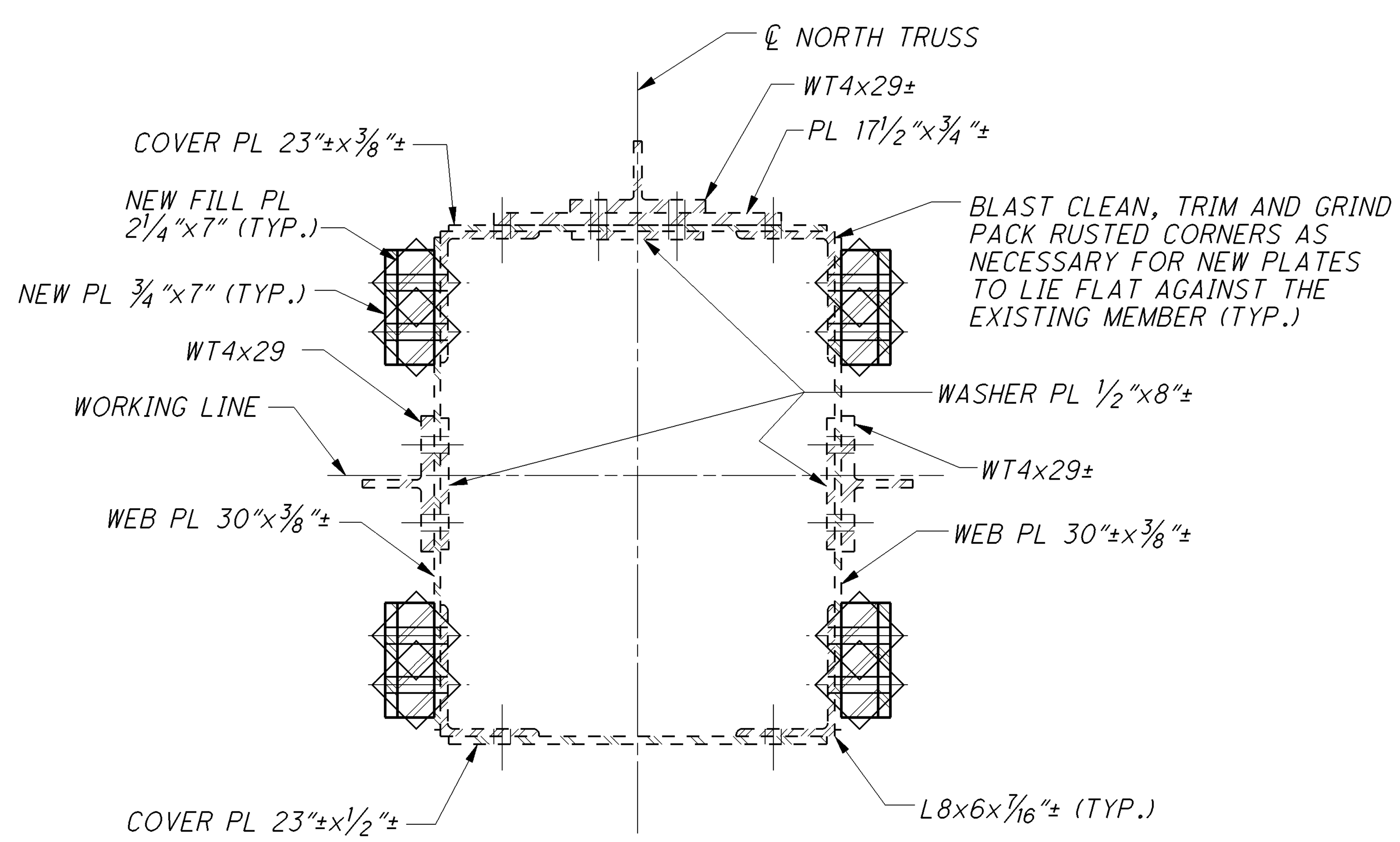
SECTION Y-Y

NOTE: INITIAL INSTALLATION OF BOLTS #1 TO #16 AND #21 TO #36 IN NEW HOLES THROUGH EXISTING MATERIAL OR EXISTING RIVET LOCATIONS SHALL BE PERFORMED ONE AT A TIME WITH TRAFFIC ON THE BRIDGE. INITIAL INSTALLATION OF BOLTS #17 TO #20 AND #37 TO #40 SHALL BE PERFORMED ONE AT A TIME WITH THE BRIDGE CLOSED TO TRAFFIC. FINAL TIGHTENING OF THE SECOND NUTS OVER THE NEW PLATES SHALL BE COMPLETED WITH THE BRIDGE CLOSED TO TRAFFIC.

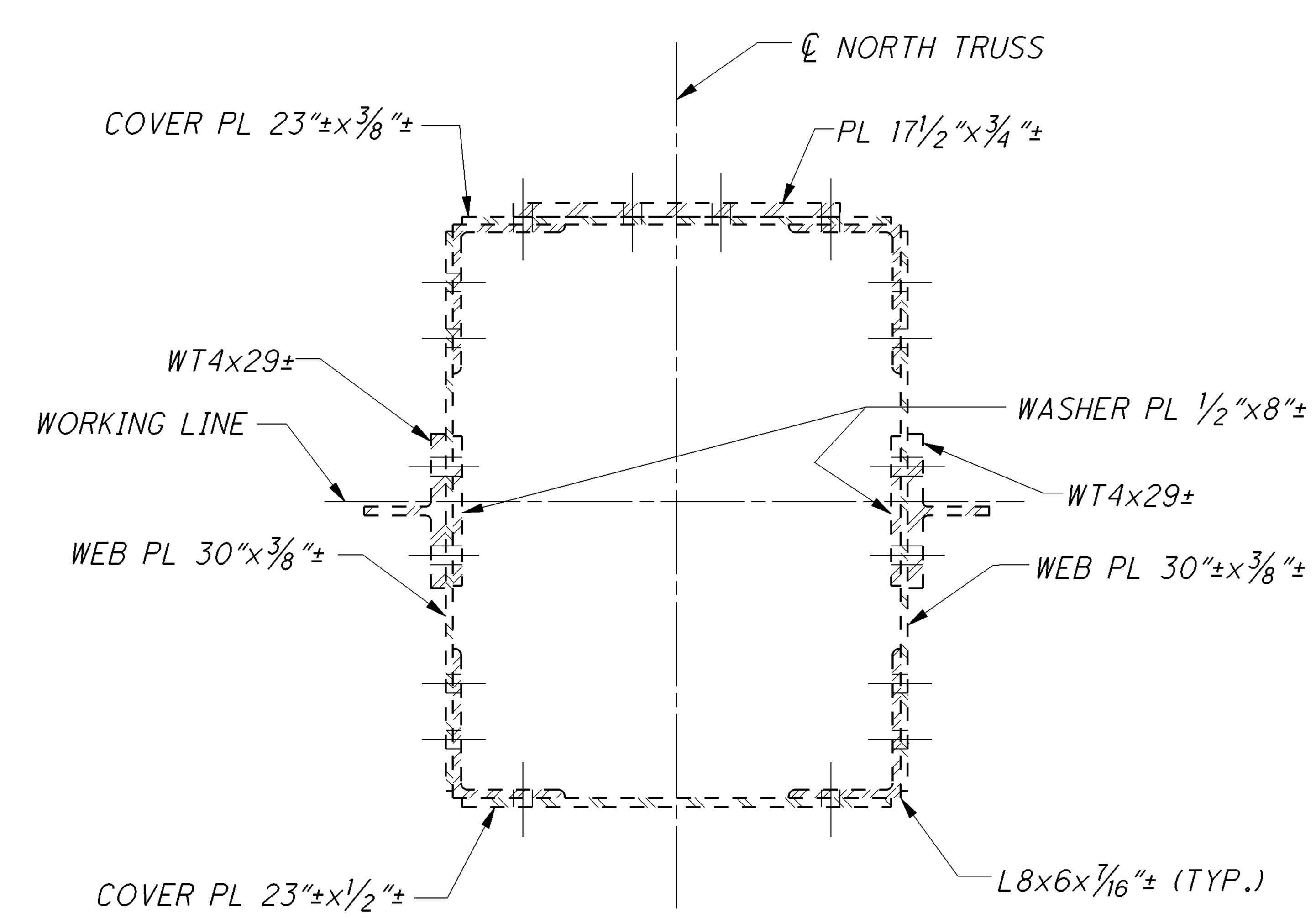
BOLT LEGEND



- FIELD BOLT, NUT AND FULL HEAD. NEW MATERIAL TO NEW MATERIAL.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- EXISTING RIVET TO REMAIN IN PLACE WITH HOLE IN FILL PLATE TO CLEAR RIVET HEAD.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.



SECTION B-B



SECTION C-C

REVISED 9/4/09

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAIL "X": FOR LOCATIONS SEE SHEET 92/140.

SECTIONS B-B & C-C: FOR LOCATIONS SEE SHEET 92/140.

ITEM 513-STRUCTURAL STEEL, MISC.: L717-L718 NORTH TRUSS CHORD STRENGTHENING: SEE GENERAL NOTE SHEET 10/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

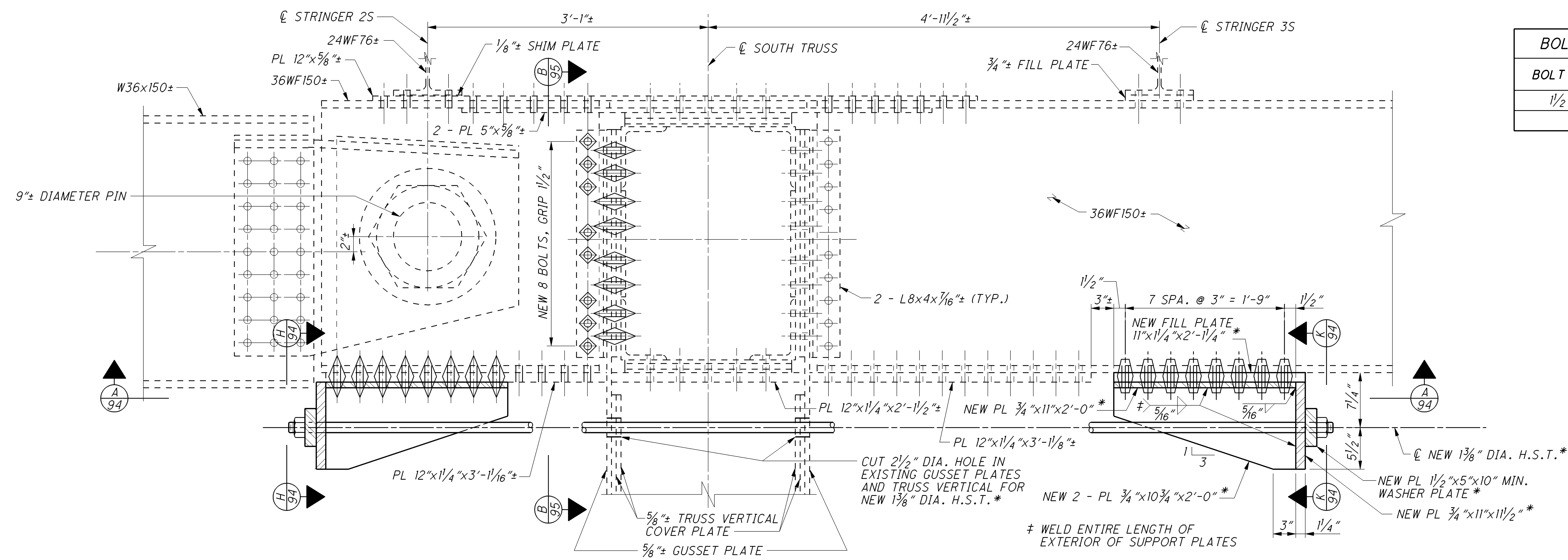
REVIEWED	DATE	DRAWN	DESIGNED
DAP	7/31/09	TWH	JDB
STRUCTURE FILE NUMBER 1809393		REVISED 9/4/09	CHECKED ALP

SPAN 8 L3-L4 (L717-L718) NORTH TRUSS CHORD REPAIR - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

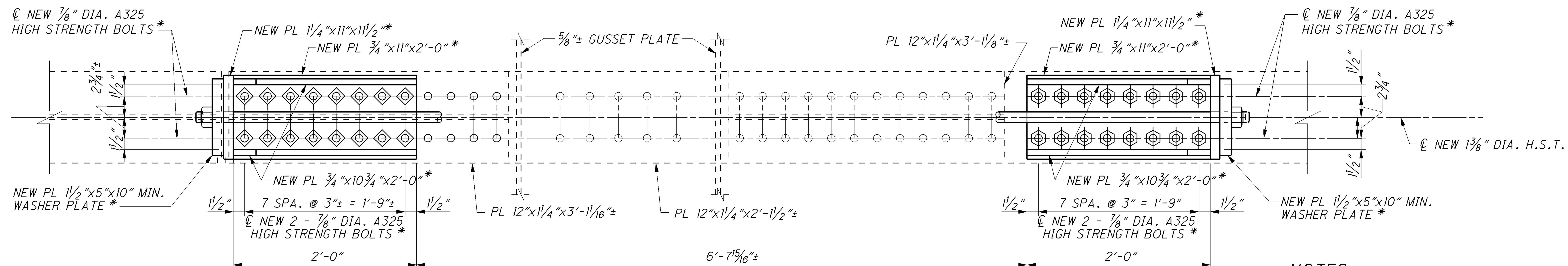
090_1524CSD021.DGN 9/01/09 TWH,KH,JLS

BOLT TABLE - 7/8" DIA. A325		
BOLT GRIP	MINIMUM BOLT LENGTH	SHEET TOTAL
1½"	2¾"	8

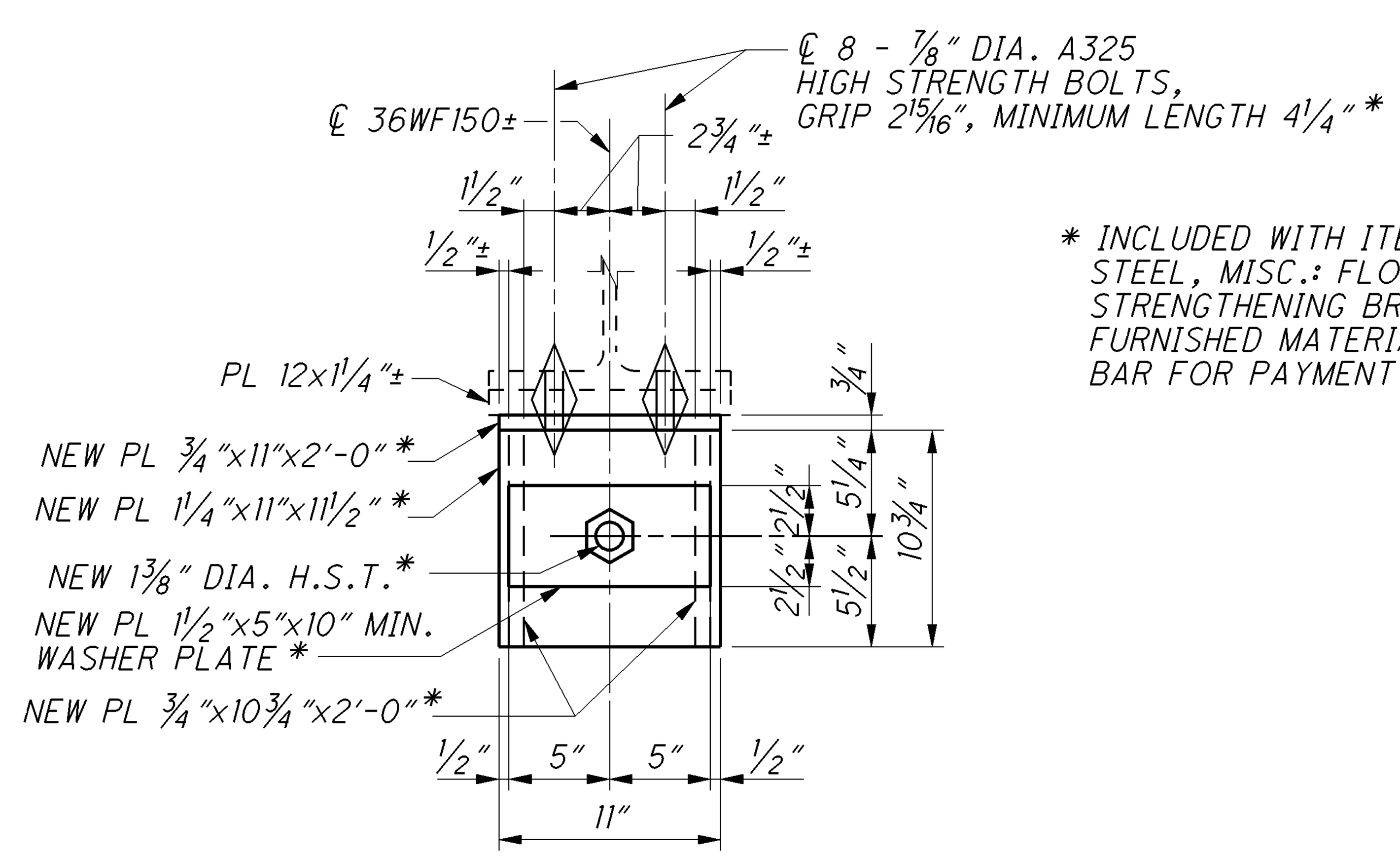


ELEVATION

(CATWALK AND LADDER NOT SHOWN FOR CLARITY)

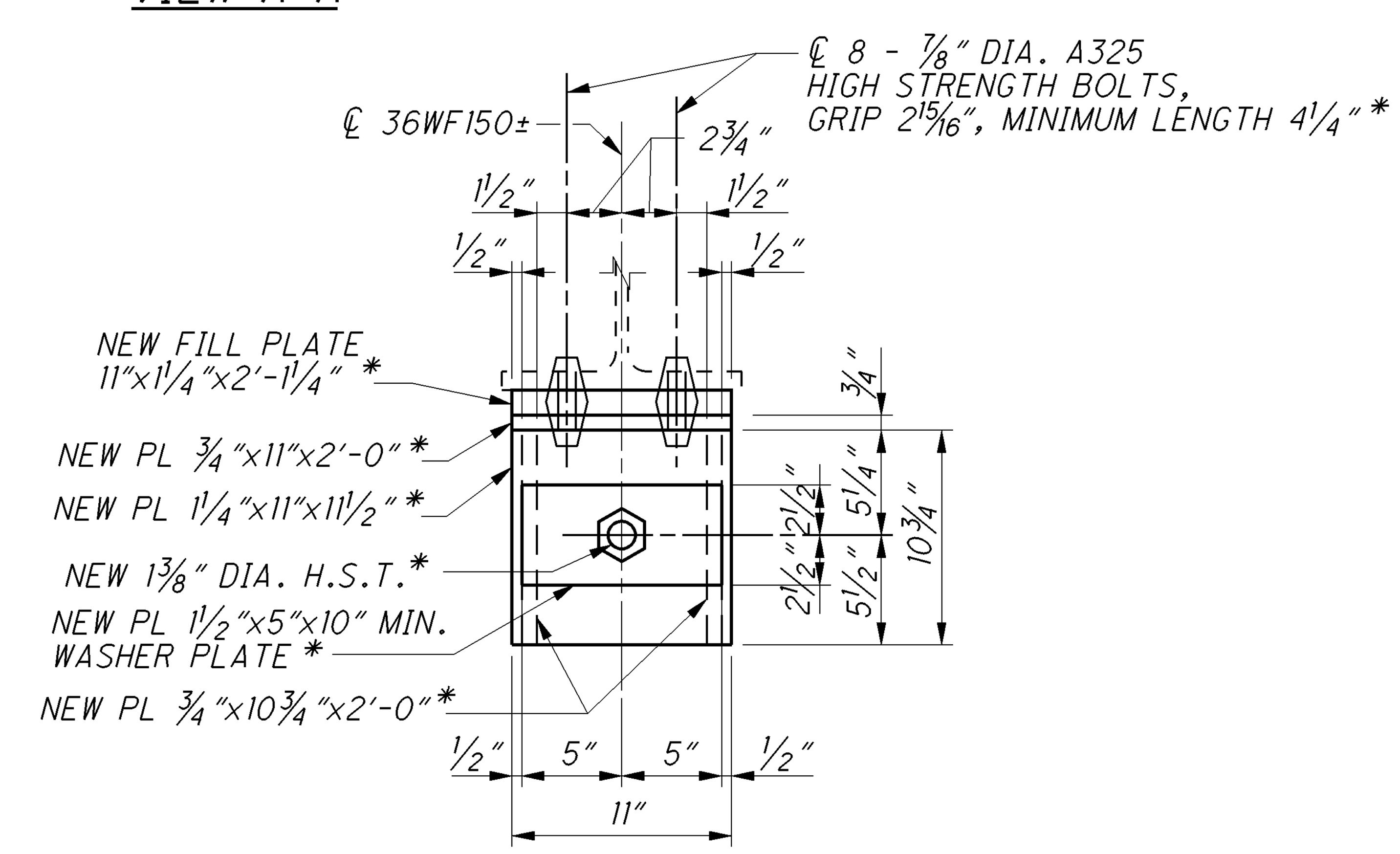


VIEW A-A



SECTION H-H

* INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR FOR PAYMENT.



SECTION K-K

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 95/140.

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING ANGLES, BEAMS, FILL PLATES, AND SPLICE PLATES. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH. ADDITIONAL LENGTH MAY NEED TO BE ADDED TO THE CALCULATED "GRIP" TO ACCOUNT FOR PACK RUST AND BOWS IN THE EXISTING MATERIAL BEING CONNECTED.

CONNECTION BOLTS: SHALL BE 7/8" DIA. A325, GALVANIZED, UNLESS OTHERWISE NOTED.

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS: SEE GENERAL NOTES SHEET 13/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR: SEE GENERAL NOTES SHEET 13/140.

H.S.T.: INDICATES HIGH STRENGTH THREAD BAR.

WASHER PLATES AND NUTS ARE PART OF THE HIGH STRENGTH THREAD BAR SYSTEM AND SHALL BE FURNISHED BY THE MANUFACTURER OF THE HIGH STRENGTH THREAD BAR.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

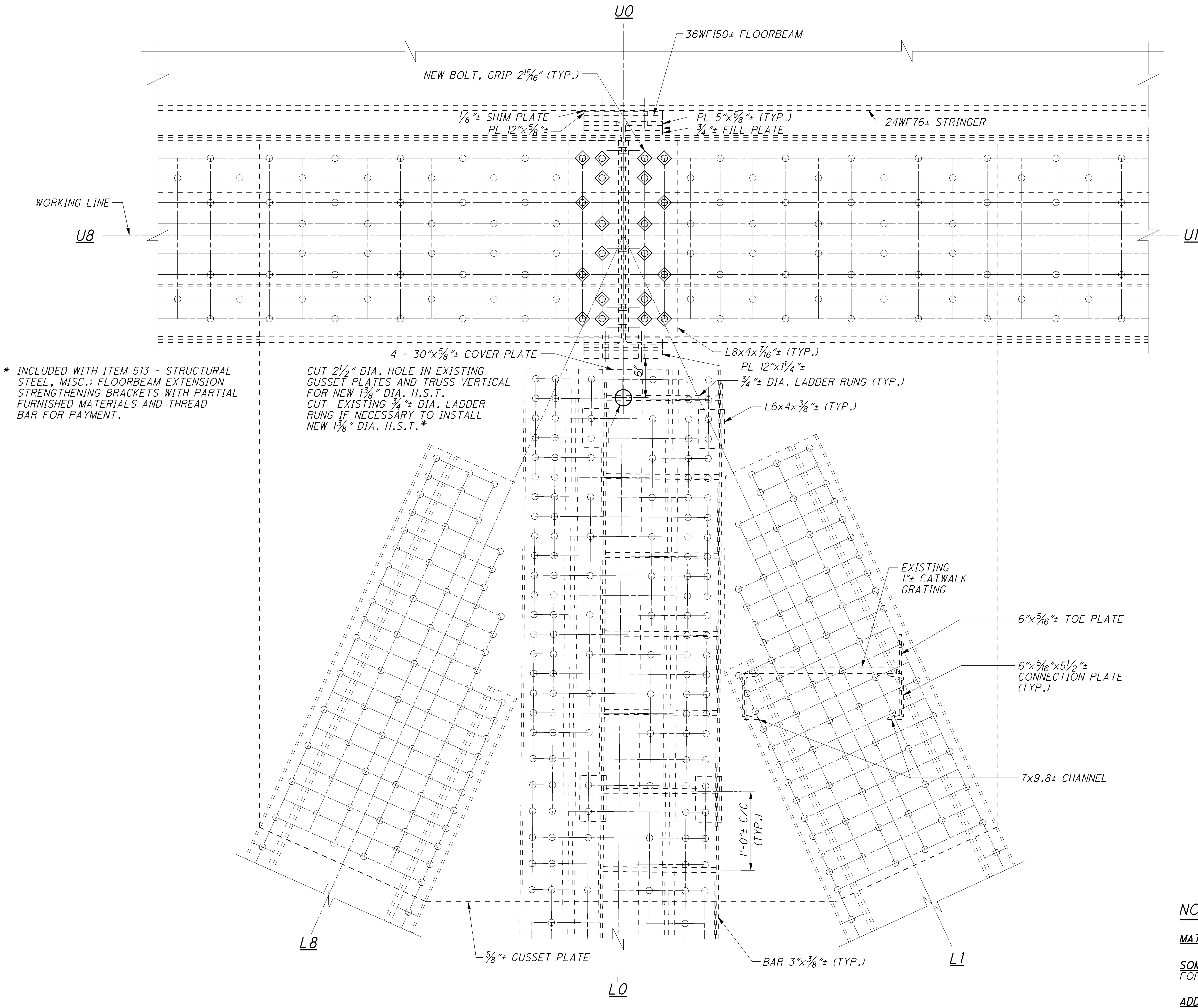
SPAN 2 - FLOORBEAM 0 EXTENSION STRENGTHENING - 1

BRIDGE NO. CUY-90-1524 OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

82069SD001.DGN 7/30/09 KH,JLS



* INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM EXTENSION STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR FOR PAYMENT.

SECTION B-B

BOLT TABLE - 7/8" DIA. A325		
BOLT GRIP	MINIMUM BOLT LENGTH	SHEET TOTAL
2 15/16"	4 1/4"	20

BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.

- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SOME EXISTING INTERIOR ANGLES AND PLATES ARE NOT SHOWN FOR CLARITY.

ADDITIONAL NOTES: SEE SHEET 94/140.

SECTION B-B: FOR LOCATION SEE SHEET 94/140 .

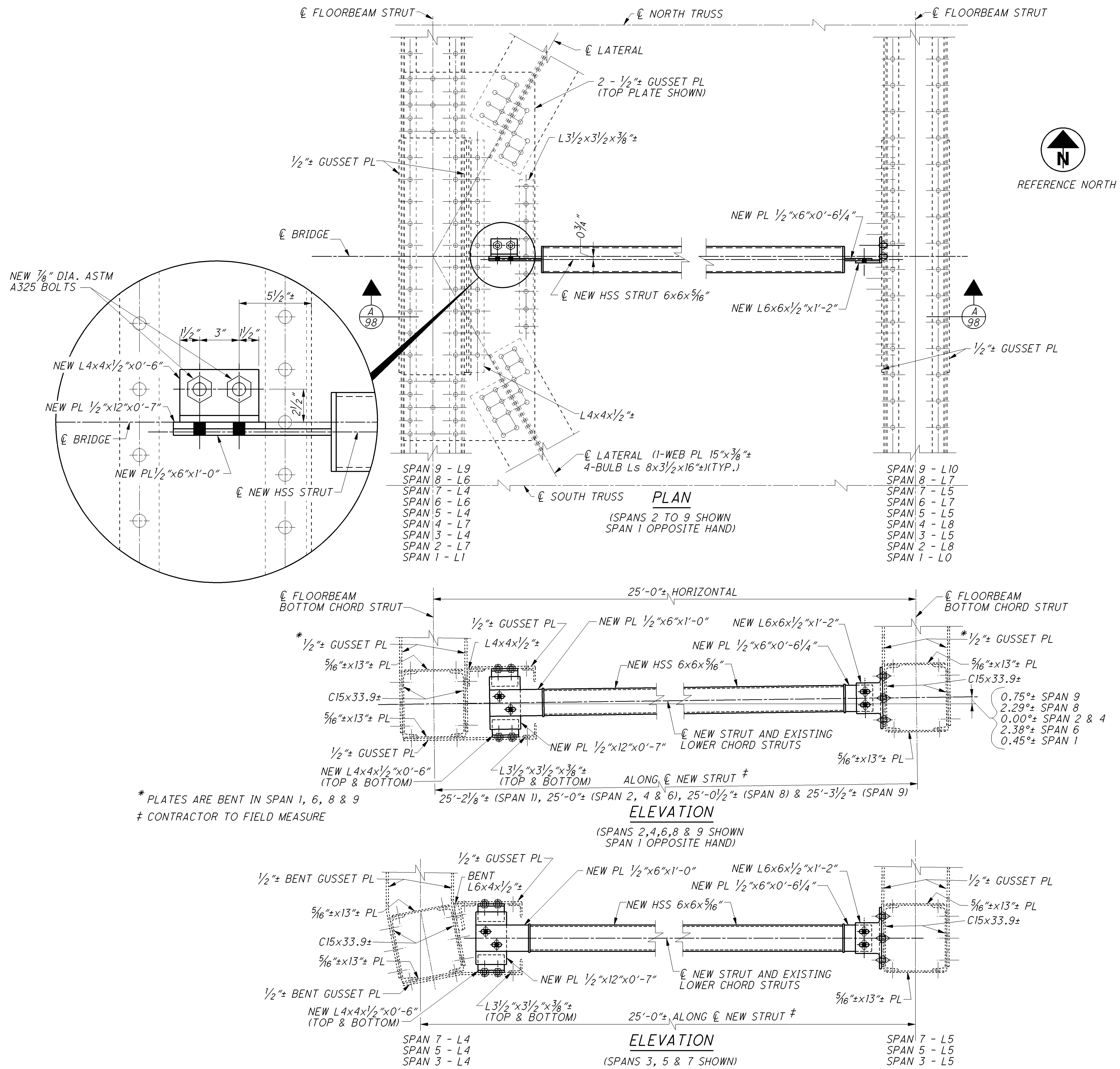
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	KH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 2 - FLOORBEAM 0 EXTENSION STRENGTHENING - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

82069SD002.DGN 7/30/09 KH,TWH,JLS



NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM BRACING
SEE GENERAL NOTE SHEET 10/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

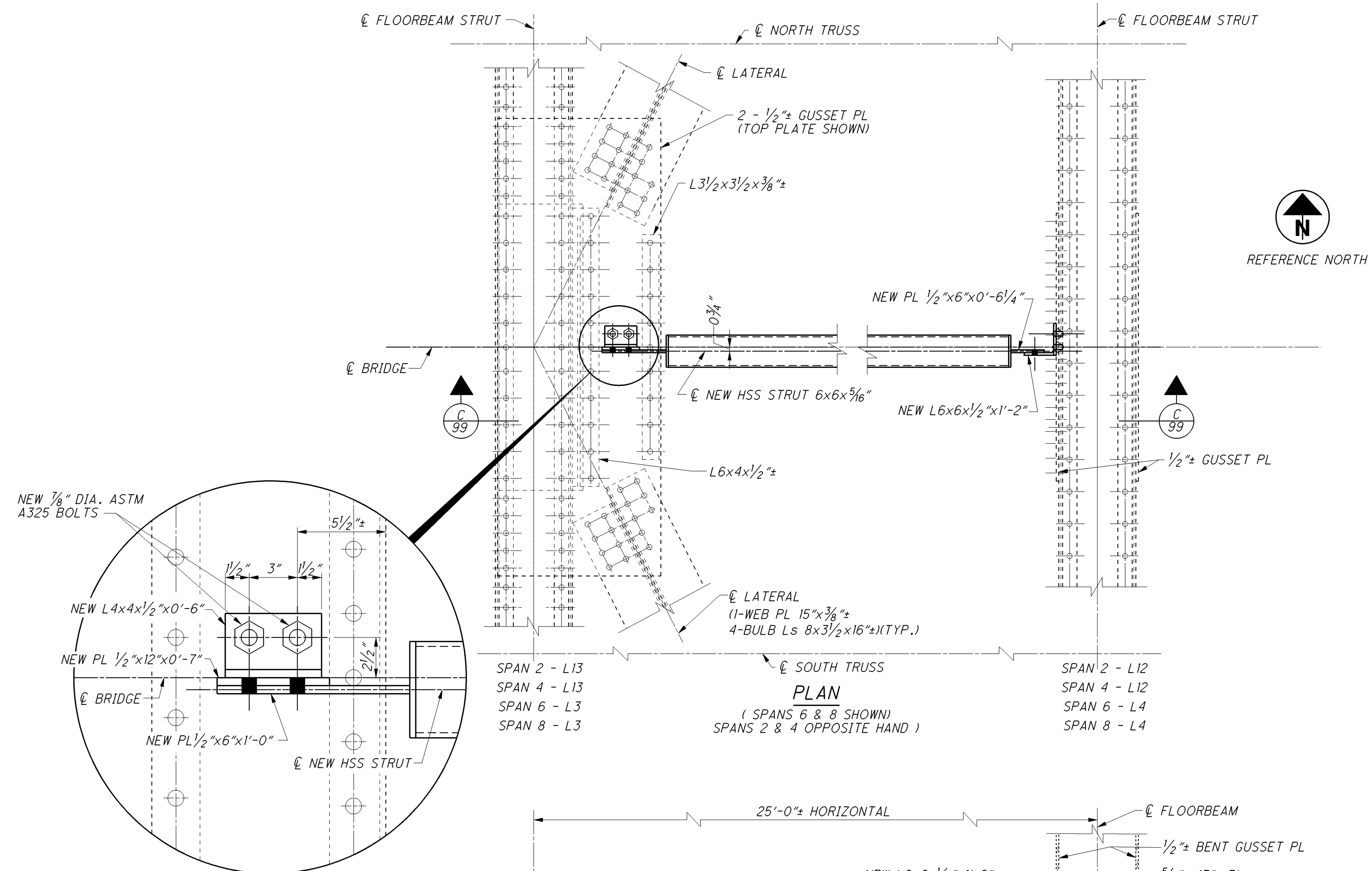
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
KAK	BLN	RB		DAP	7/31/09

STRUCTURE FILE NUMBER 1809393

FLOORBEAM BRACING PLAN AND ELEVATION - 1

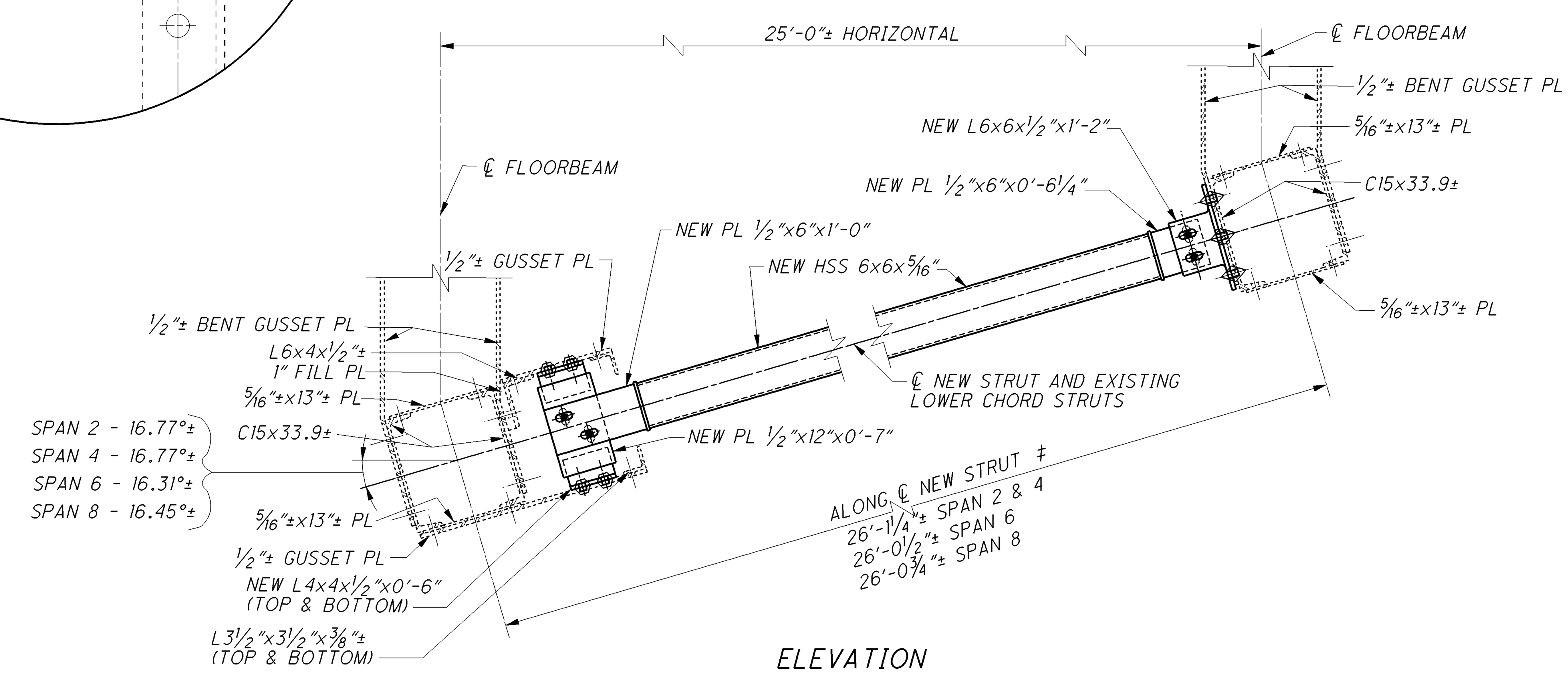
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



PLAN

(SPANS 6 & 8 SHOWN)
SPANS 2 & 4 OPPOSITE HAND)



ELEVATION

(SPANS 6 & 8 SHOWN)
SPANS 2 & 4 OPPOSITE HAND)

‡ CONTRACTOR TO FIELD MEASURE

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 96/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		1809393	

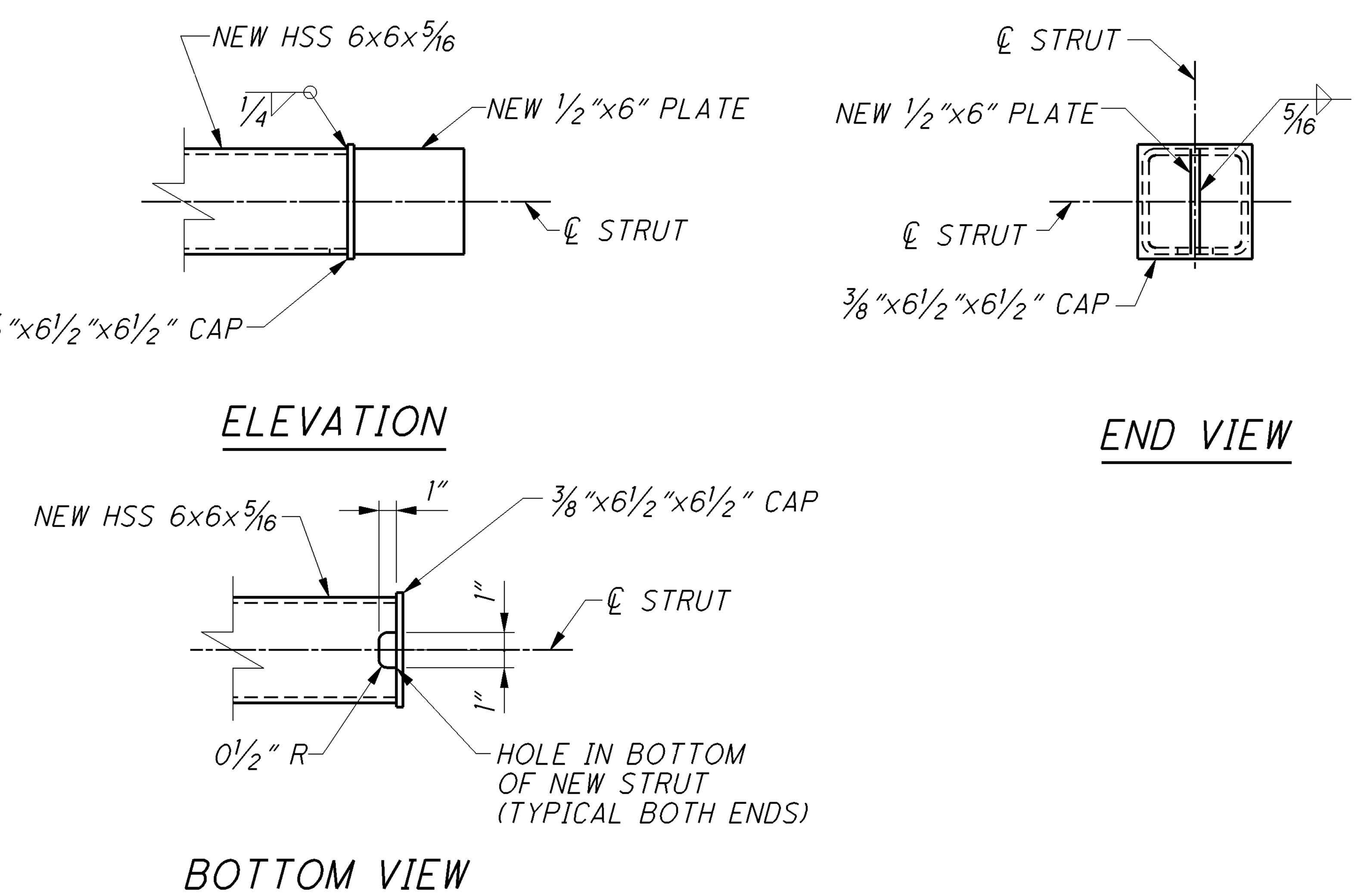
FLOORBEAM BRACING PLAN AND ELEVATION - 2

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

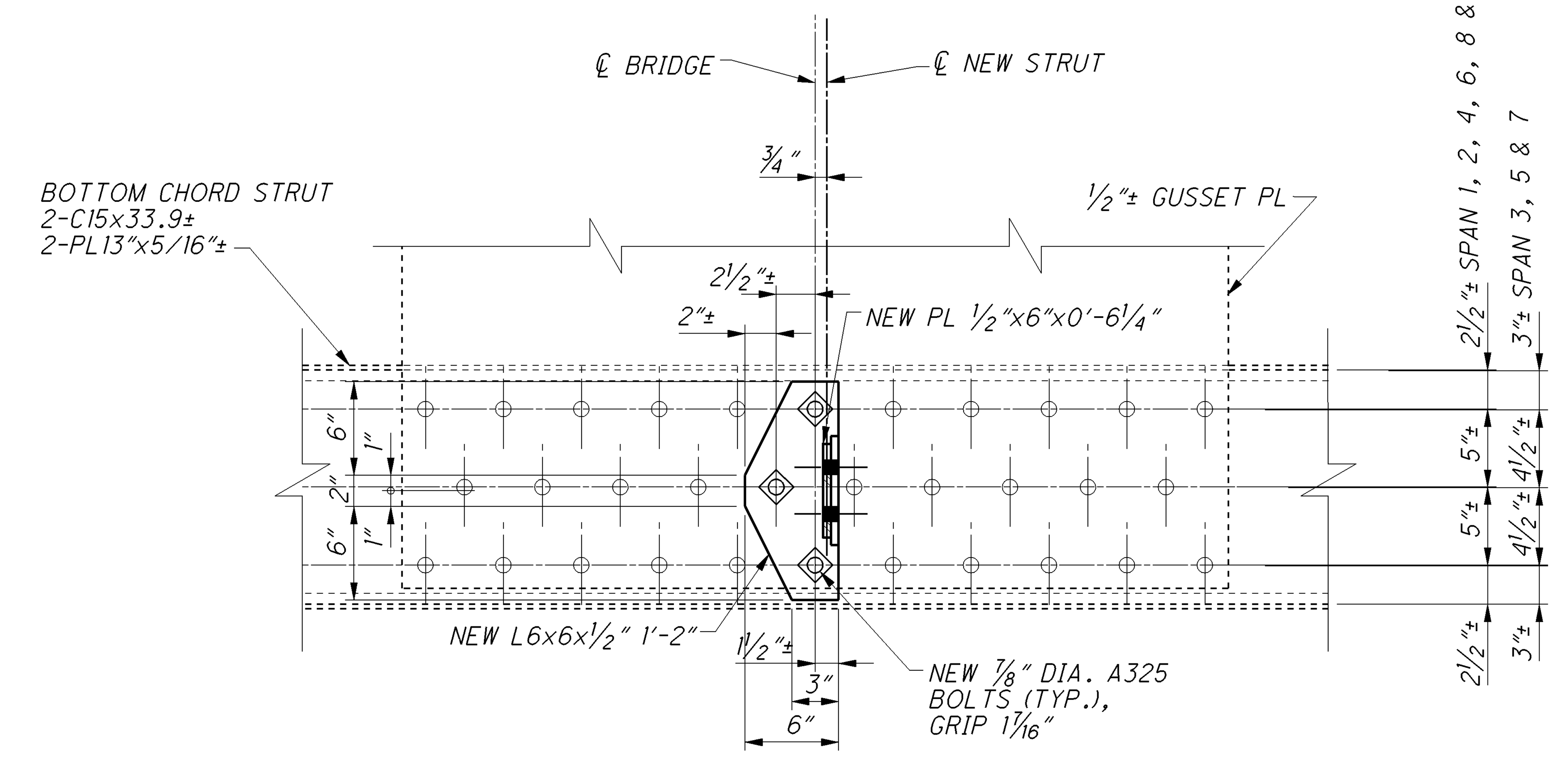
CUY-90-15.24

PID No. 82069

STRUT PLAN-3.DGN 7/30/09 TWH.JLS

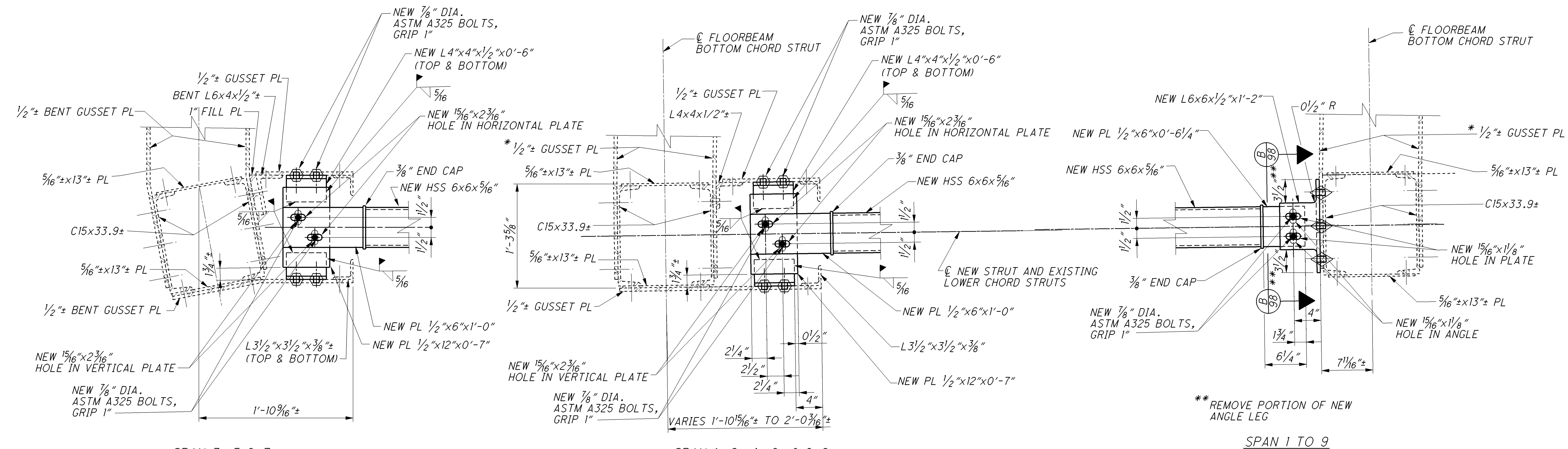


HOLLOW STRUCTURAL SECTION END DETAILS



SECTION B-B

BOLT TABLE - 7/8" DIA. A325		
BOLT GRIP	MINIMUM BOLT LENGTH	FLOORBEAM BRACING 9 LOCATIONS TOTAL
1"	21/4"	72
17/16"	23/4"	27



*PLATES ARE BENT IN SPAN 1, 6 & 8

SECTION A-A

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

SECTION A-A: FOR LOCATION SEE SHEET 96/140.

ADDITIONAL NOTES: SEE SHEET 96/140.

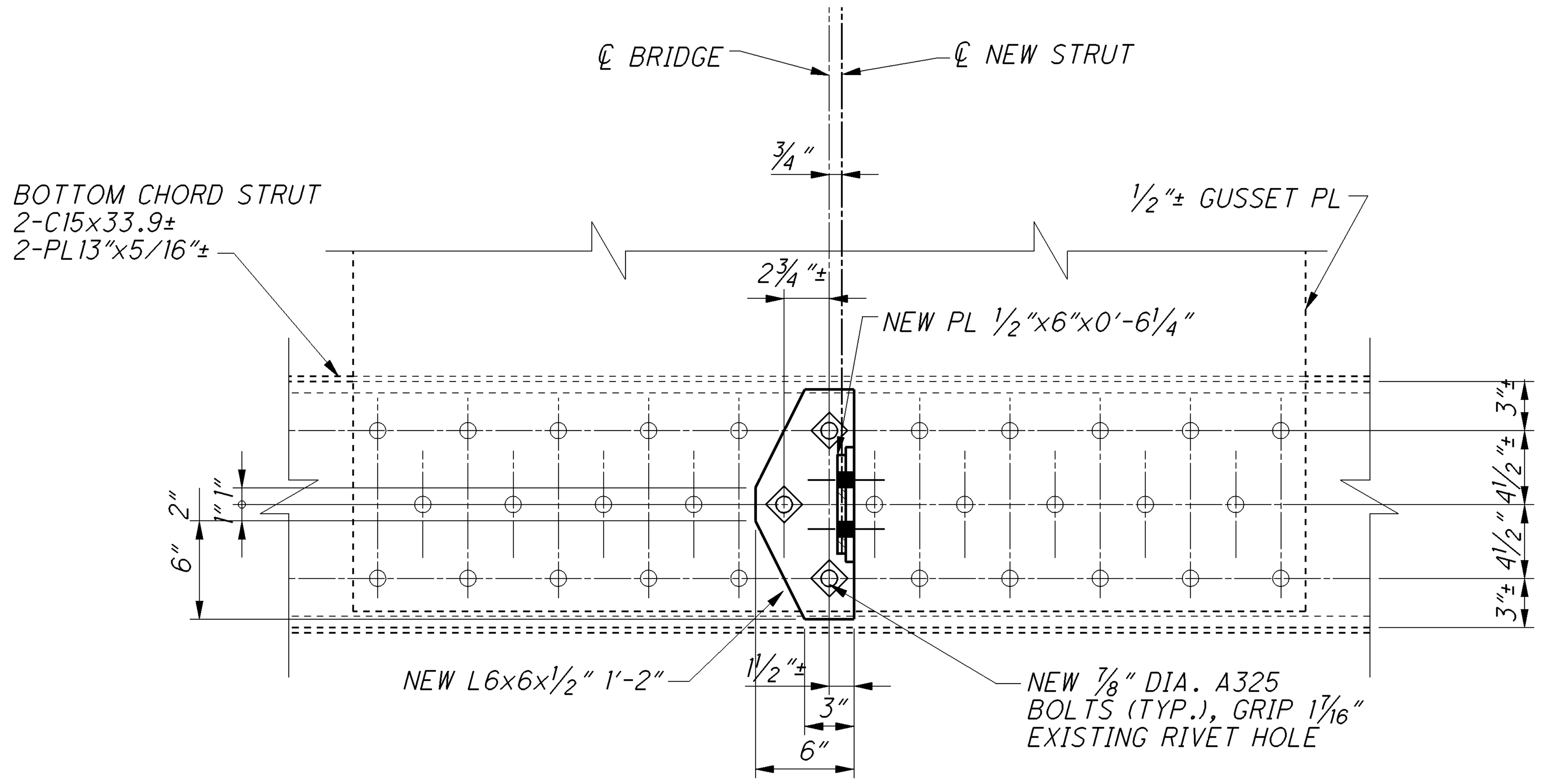
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN RB REVISED
DESIGNED KAK CHECKED BLN

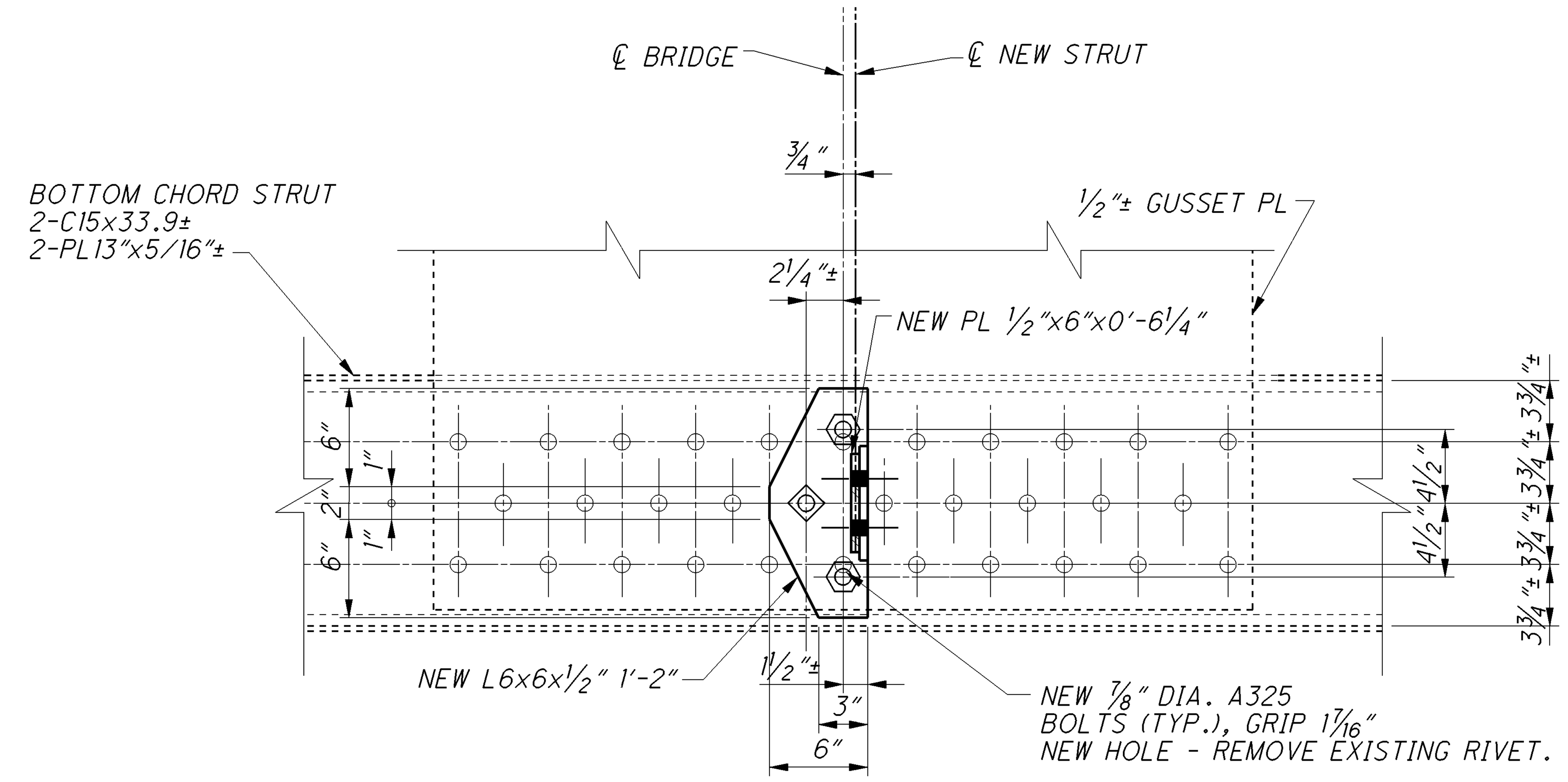
FLOORBEAM BRACING DETAIL- 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

STRUT SECTIONS-1.DGN 8/03/09 RB,SCB,TWH,JLS

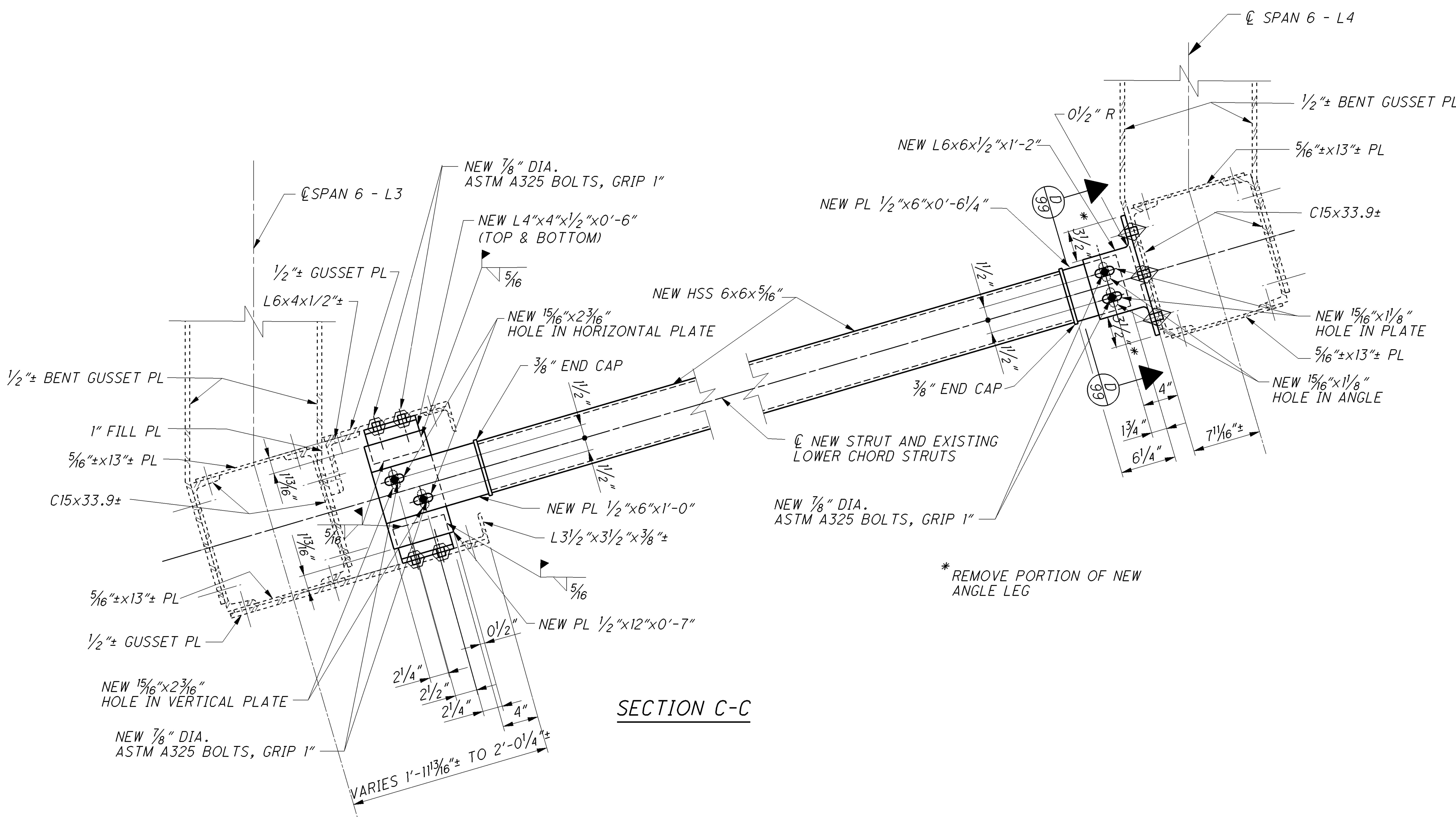


SECTION D-D
SPAN 2, 4



SECTION D-D
SPAN 6, 8

BOLT TABLE - 7/8" DIA. A325		
BOLT GRIP	MINIMUM BOLT LENGTH	FLOORBEAM BRACING 4 LOCATIONS -TOTAL
1"	2 1/4"	32
1 7/16"	2 3/4"	12



SECTION C-C

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

HOLLOW STRUCTURAL SECTION END DETAILS: SEE SHEET 98/140.

SECTION C-C: FOR LOCATION SEE SHEET 97/140.

ADDITIONAL NOTES: SEE SHEET 96/140.

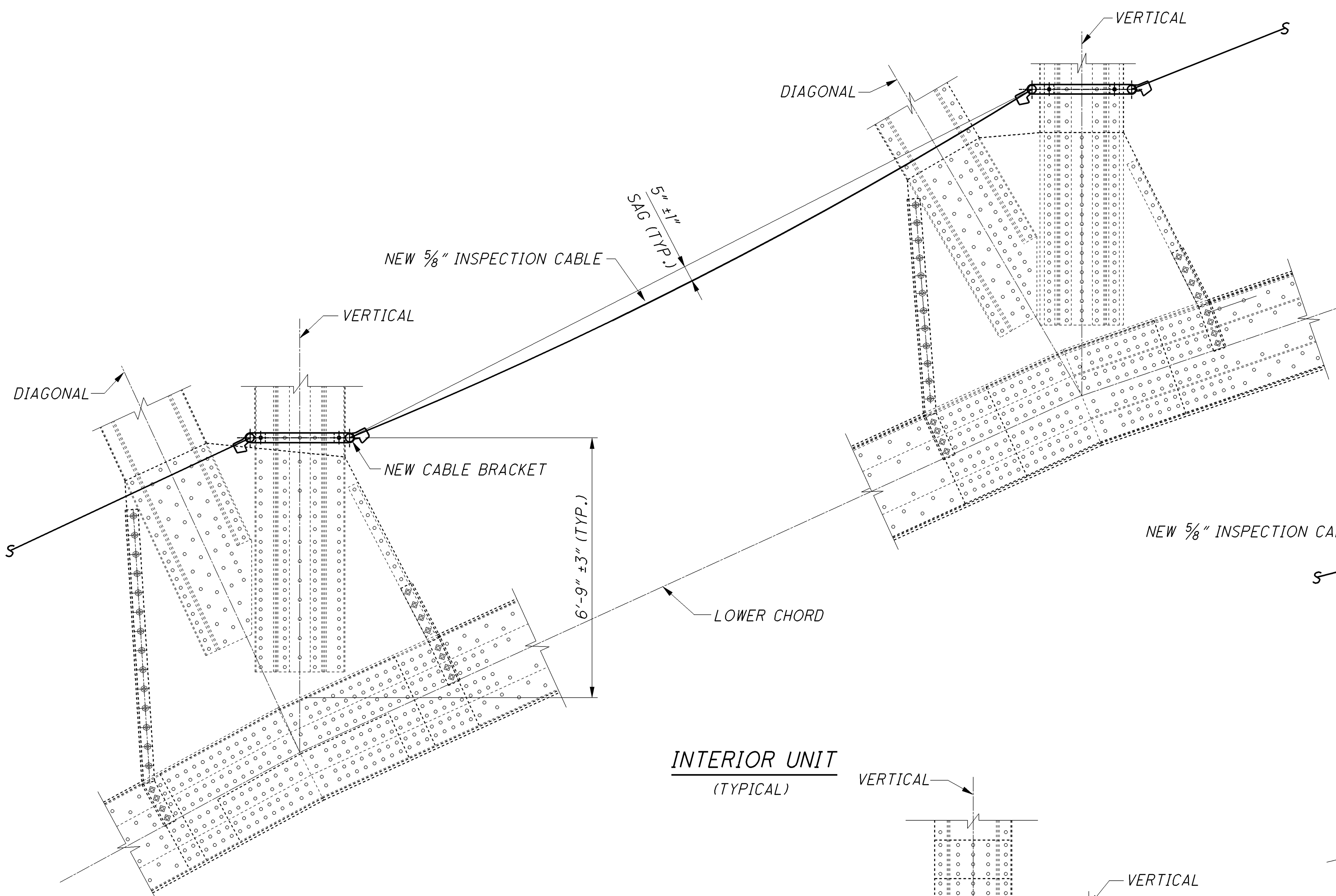
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | CHECKED BLN | DRAWN TWH | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

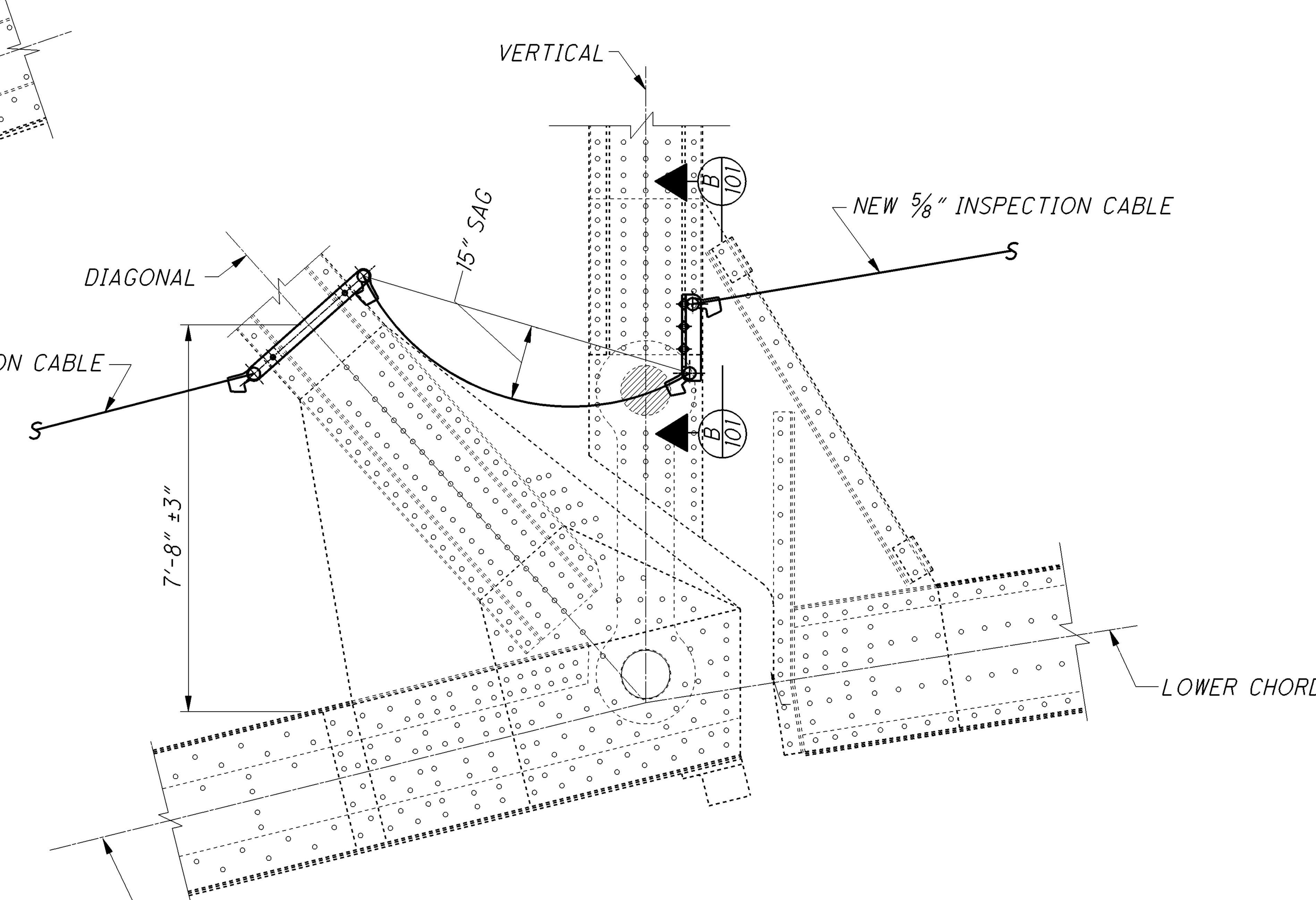
FLOORBEAM BRACING DETAIL - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

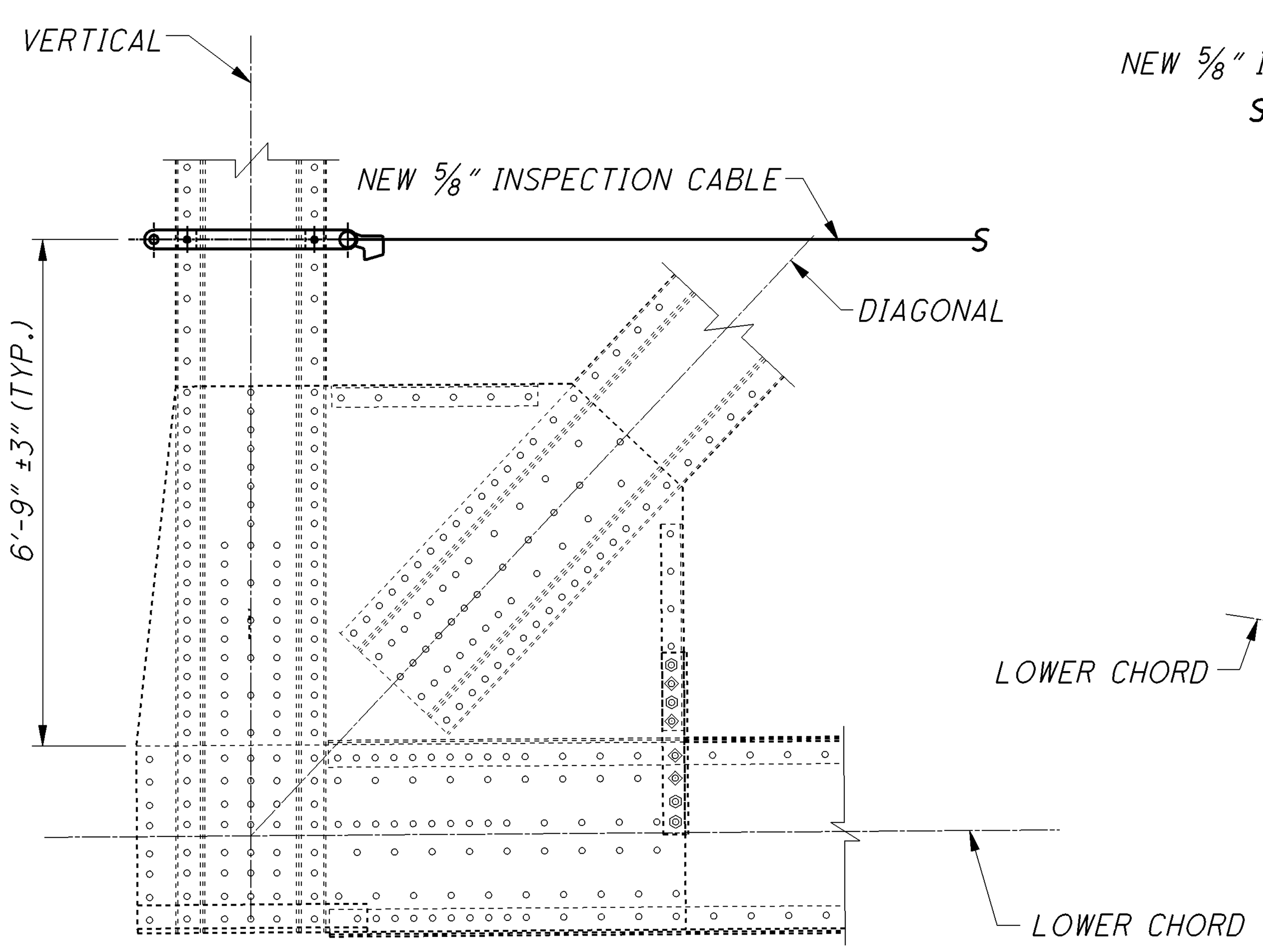
STRUT SECTIONS-3.DGN 7/30/09 TWH.JLS



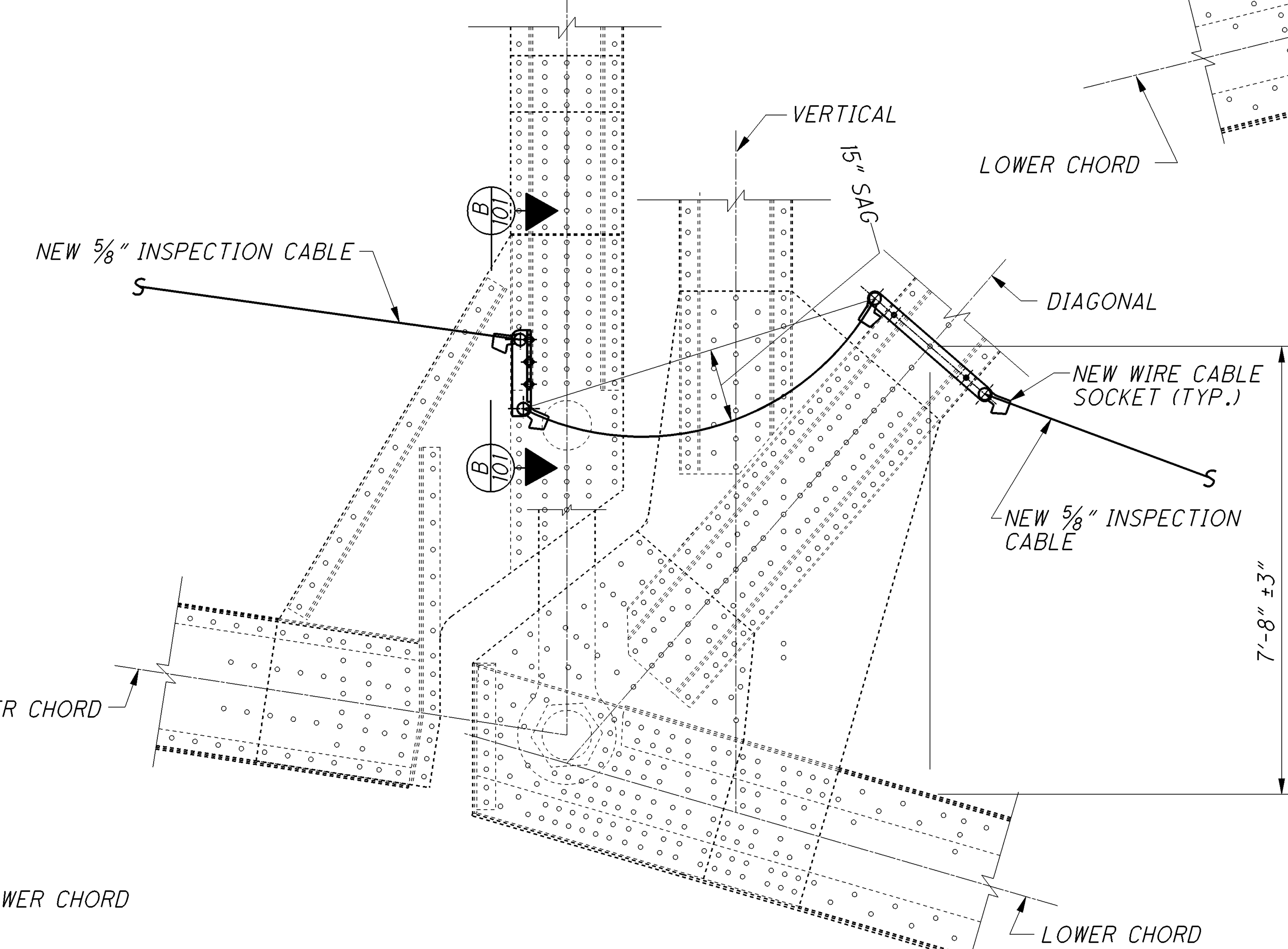
INTERIOR UNIT
(TYPICAL)



DEFLECTION JOINT
L20
L40
L66
L86



END UNIT
L100 & L914



EXPANSION JOINT
L28
L48
L60
L80

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CABLE BRACKET DETAIL: SEE SHEET 101/140.

CABLE WEDGE SOCKET: SEE SHEET 101/140.

ITEM 513-STRUCTURAL STEEL MISC.: INSPECTION CABLE
SEE GENERAL NOTE SHEET 11 /140.

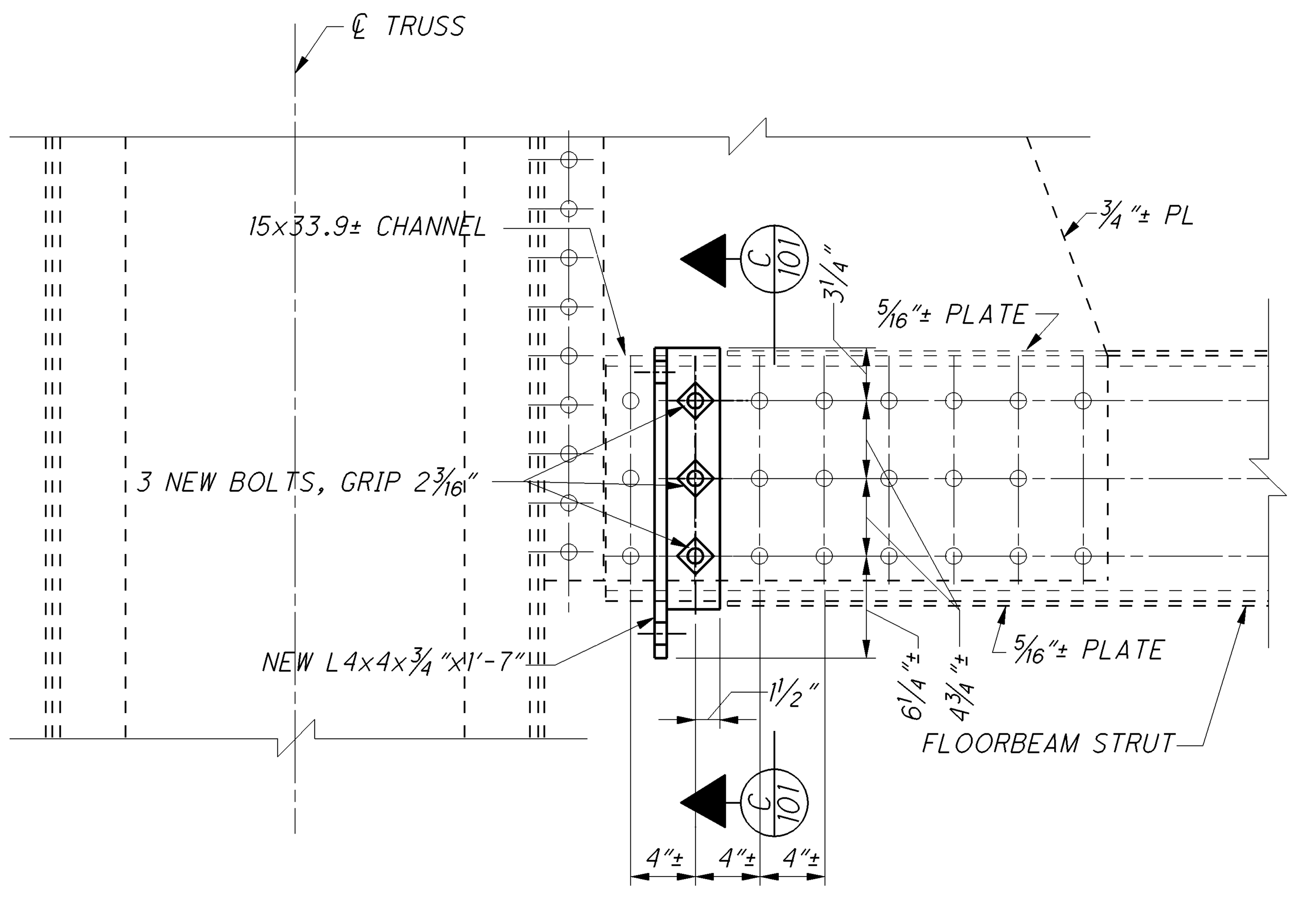
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
DLR	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

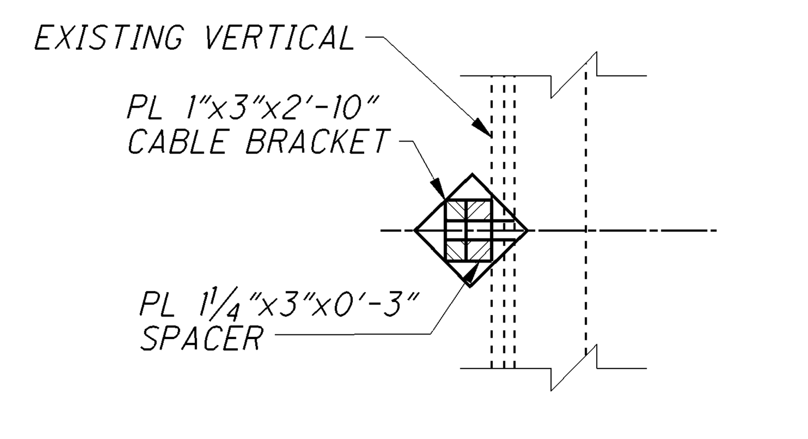
INSPECTION CABLE - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

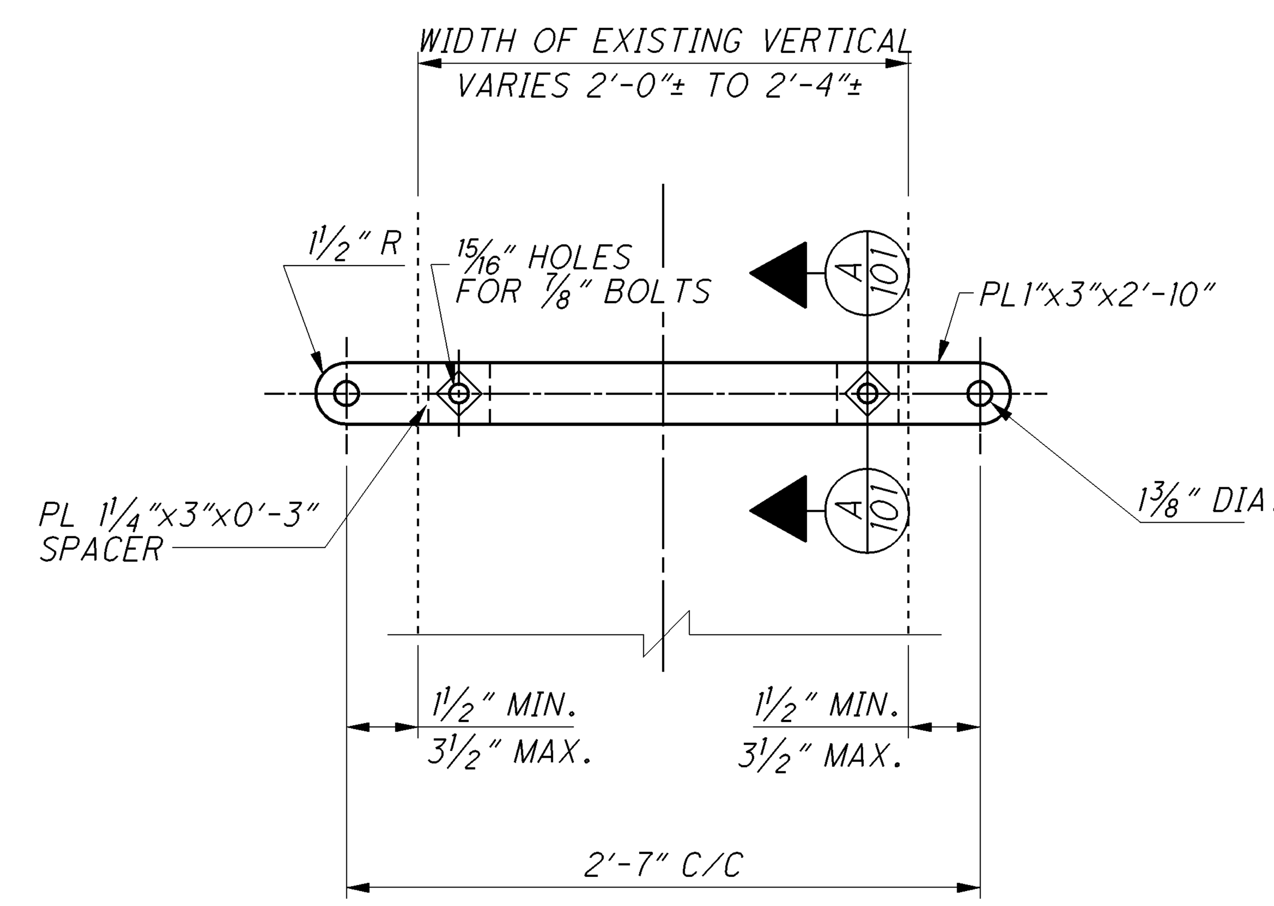
CABLE BRACKET DETAIL.DGN 7/28/09 RB,SCB,TWH,JLS



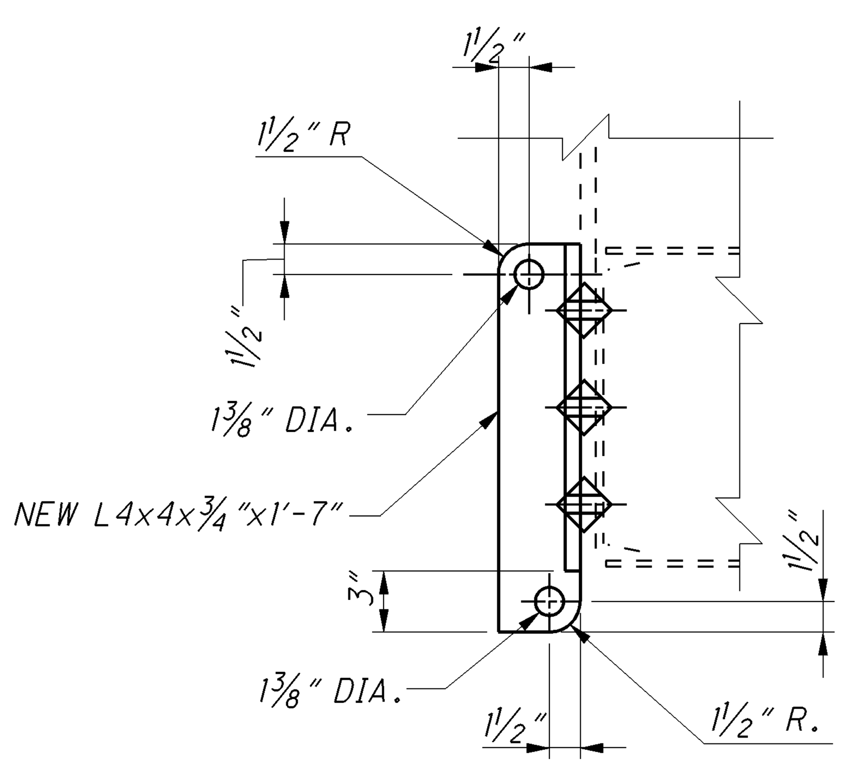
VIEW B-B



SECTION A-A



CABLE BRACKET DETAIL



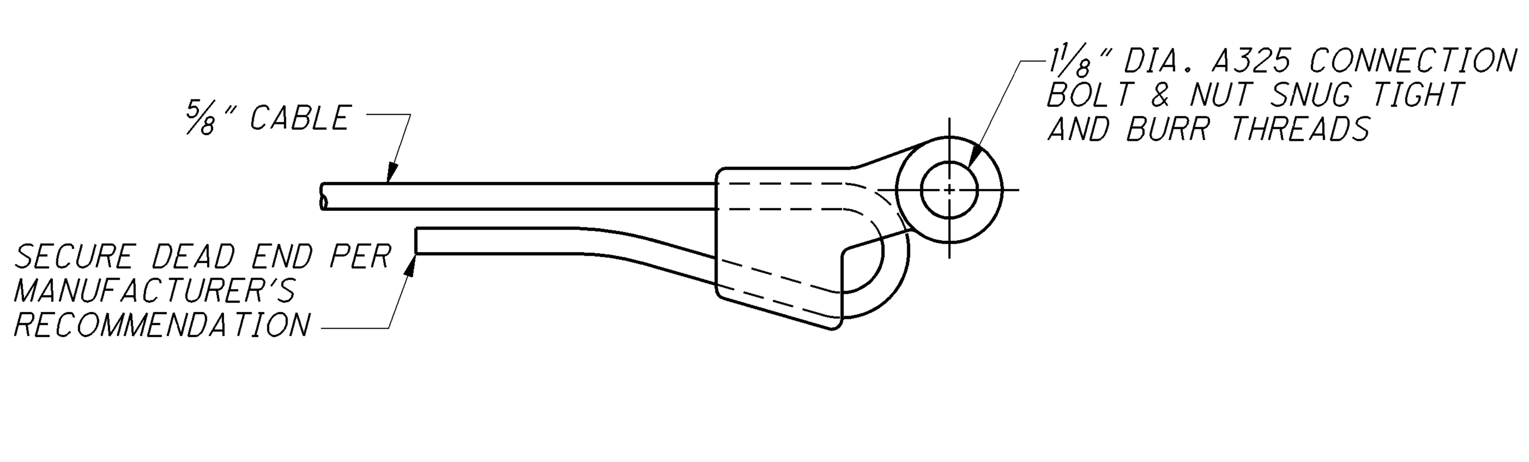
SECTION C-C

BOLT TABLE FOR 7/8" DIA. A325						
	NORTH TRUSS			SOUTH TRUSS		
PANEL	GRIP	MINIMUM BOLT LENGTH	QTY.	GRIP	MINIMUM BOLT LENGTH	QTY.
L100	3"	4 1/2"	2	3"	4 1/2"	2
L101	3 1/16"	4 1/2"	2	3 1/16"	4 1/2"	2
L102	3"	4 1/2"	2	3"	4 1/2"	2
L103	3"	4 1/2"	2	3"	4 1/2"	2
L104	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L105	3 3/8"	5"	2	3 3/8"	5"	2
L106	3 9/16"	5"	2	3 9/16"	5"	2
L107	3 3/4"	5 1/2"	2	3 3/4"	5 1/2"	2
L108	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L109	4 3/8"	6"	2	4 3/8"	6"	2
L110	3 1/2"	5"	2	3 1/2"	5"	2
L111	3 7/8"	5 1/2"	2	3 7/8"	5 1/2"	2
L112	3 1/2"	5"	2	3 1/2"	5"	2
L113(D)	4 1/8"	6"	2	4 1/8"	6"	2
L21	3 9/16"	5"	2	3 9/16"	5"	2
L22	3 5/16"	4 3/4"	2	3 5/16"	4 3/4"	2
L23	3"	4 1/2"	2	3"	4 1/2"	2
L24	3"	4 1/2"	2	3"	4 1/2"	2
L25	3"	4 1/2"	2	3"	4 1/2"	2
L26	3 5/16"	4 3/4"	2	3 5/16"	4 3/4"	2
L27	3 9/16"	5"	2	3 9/16"	5"	2
L300(D)	3 1/2"	5"	2	3 1/8"	4 3/4"	2
L301	3 1/2"	5"	2	3 3/8"	5"	2
L302	3 1/2"	5"	2	3 1/2"	5"	2
L303	3 1/2"	5"	2	3 1/2"	5"	2
L304	3 1/2"	5"	2	3 1/2"	5"	2
L305	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L306	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L307	3"	4 1/2"	2	3"	4 1/2"	2
L308	3"	4 1/2"	2	3"	4 1/2"	2
L309	3"	4 1/2"	2	3"	4 1/2"	2
L310	3"	4 1/2"	2	3"	4 1/2"	2
L311	3"	4 1/2"	2	3"	4 1/2"	2
L312	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L313	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L314	3 1/2"	5"	2	3 1/2"	5"	2
L315	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L316	3 1/2"	5"	2	3 1/2"	5"	2
L317	3 1/2"	5"	2	3 3/8"	5"	2
L318(D)	4 1/8"	6"	2	4"	5 1/2"	2
L41	3 3/8"	5"	2	3 3/8"	5"	2
L42	3 5/16"	4 3/4"	2	3 1/4"	4 3/4"	2
L43	3"	4 1/2"	2	3"	4 1/2"	2
L44	3"	4 1/2"	2	3"	4 1/2"	2
L45	3"	4 1/2"	2	3"	4 1/2"	2
L46	3 5/16"	4 3/4"	2	3 1/4"	4 3/4"	2
L47	3 3/8"	5"	2	3 3/8"	5"	2
L500(D)	4 1/8"	6"	2	4"	5 1/2"	2
L501	3 1/2"	5"	2	3 3/8"	5"	2
L502	3 1/2"	5"	2	3 1/2"	5"	2
L503	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L504	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L505	3 3/16"	4 3/4"	2	3 1/8"	4 3/4"	2
L506	3 1/4"	4 3/4"	2	3 1/4"	4 3/4"	2
L507	3 1/16"	4 1/2"	2	3 1/16"	4 1/2"	2
L508	3 1/8"	4 3/4"	2	3 1/16"	4 1/2"	2

(D)=DIAGONAL

BOLT TABLE FOR 7/8" DIA. A325						
	NORTH TRUSS			SOUTH TRUSS		
PANEL	GRIP	MINIMUM BOLT LENGTH	QTY.	GRIP	MINIMUM BOLT LENGTH	QTY.
L509	3"	4 1/2"	2	3"	4 1/2"	2
L510	3"	4 1/2"	2	3"	4 1/2"	2
L511	3"	4 1/2"	2	3 1/16"	4 1/2"	2
L512	3 1/8"	4 3/4"	2	3 1/16"	4 1/2"	2
L513	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L514	3 1/2"	5"	2	3 1/2"	5"	2
L515	3 3/8"	5"	2	3 3/8"	5"	2
L516	3 3/4"	5 1/2"	2	3 5/8"	5 1/2"	2
L517	3 5/8"	5 1/2"	2	3 9/16"	5"	2
L518(D)	3 13/16"	5 1/2"	2	3 3/4"	5 1/2"	2
L61	3 3/16"	4 3/4"	2	3 1/8"	4 3/4"	2
L62	3"	4 1/2"	2	3"	4 1/2"	2
L63	3"	4 1/2"	2	3"	4 1/2"	2
L64	3"	4 1/2"	2	3"	4 1/2"	2
L65	3 3/16"	4 3/4"	2	3 1/8"	4 3/4"	2
L700(D)	3 13/16"	5 1/2"	2	3 3/4"	5 1/2"	2
L701	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L702	3 3/4"	5 1/2"	2	3 5/8"	5 1/2"	2
L703	3 3/8"	5"	2	3 3/8"	5"	2
L704	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L705	3 3/16"	4 3/4"	2	3 3/16"	4 3/4"	2
L706	3 1/4"	4 3/4"	2	3 1/4"	4 3/4"	2
L707	3 1/16"	4 1/2"	2	3 1/16"	4 1/2"	2
L708	3"	4 1/2"	2	3"	4 1/2"	2
L709	3"	4 1/2"	2	3"	4 1/2"	2
L710	3"	4 1/2"	2	3"	4 1/2"	2
L711	3 1/16"	4 1/2"	2	3 1/16"	4 1/2"	2
L712	3 1/4"	4 3/4"	2	3 1/4"	4 3/4"	2
L713	3 3/16"	4 3/4"	2	3 3/16"	4 3/4"	2
L714	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L715	3 3/8"	5"	2	3 3/8"	5"	2
L716	3 3/4"	5 1/2"	2	3 5/8"	5 1/2"	2
L717	3 5/8"	5 1/2"	2	3 9/16"	5"	2
L718(D)	3 13/16"	5 1/2"	2	3 3/4"	5 1/2"	2
L81	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L82	3"	4 1/2"	2	3"	4 1/2"	2
L83	3"	4 1/2"	2	3"	4 1/2"	2
L84	3"	4 1/2"	2	3"	4 1/2"	2
L85	3 1/8"	4 3/4"	2	3 1/8"	4 3/4"	2
L900(D)	3 13/16"	5 1/2"	2	3 13/16"	5 1/2"	2
L901	3 5/8"	5 1/2"	2	3 5/8"	5 1/2"	2
L902	3 3/4"	5 1/2"	2	3 3/4"	5 1/2"	2
L903	3 3/8"	5"	2	3 3/8"	5"	2
L904	3 3/4"	5 1/2"	2	3 3/4"	5 1/2"	2
L905	3 7/8"	5 1/2"	2	3 7/8"	5 1/2"	2
L906	3 7/8"	5 1/2"	2	3 7/8"	5 1/2"	2
L907	3 3/4"	5 1/2"	2	3 3/4"	5 1/2"	2
L908	3 1/2"	5"	2	3 1/2"	5"	2
L909	3 1/4"	4 3/4"	2	3 1/4"	4 3/4"	2
L910	3"	4 1/2"	2	3"	4 1/2"	2
L911	3"	4 1/2"	2	3"	4 1/2"	2
L912	3"	4 1/2"	2	3"	4 1/2"	2
L913	3 1/4"	4 3/4"	2	3 1/4"	4 3/4"	2
L914	3"	4 1/2"	2	3"	4 1/2"	2

(D) = DIAGONAL



WIRE ROPE SOCKET

FEDERAL SPECIFICATION
RR-S-550 D, TYPE C

BOTTOM FLOORBEAM STRUTS BOLT TABLE FOR 7/8" DIA. A325						
	NORTH TRUSS			SOUTH TRUSS		
PANEL	GRIP	MINIMUM BOLT LENGTH	QTY.	GRIP	MINIMUM BOLT LENGTH	QTY.
L20	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L28	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L40	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L48	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L60	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L66	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L80	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3
L86	2 3/16"	3 3/4"	3	2 3/16"	3 3/4"	3

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

FOR LOCATION OF VIEW B-B: SEE SHEET 100/140 .

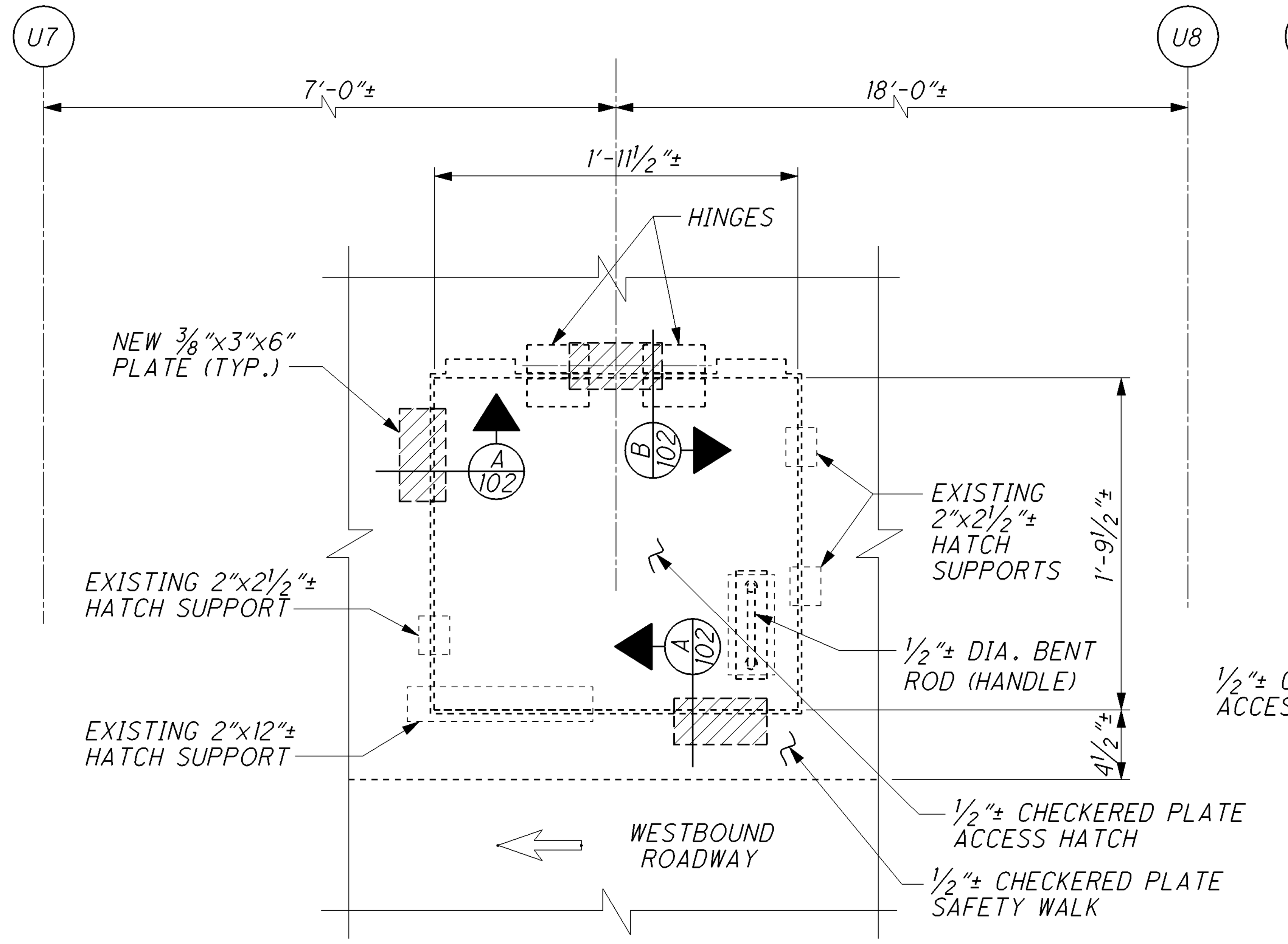
ADDITIONAL NOTES: SEE SHEET 100/140 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
DLR	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

INSPECTION CABLE - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

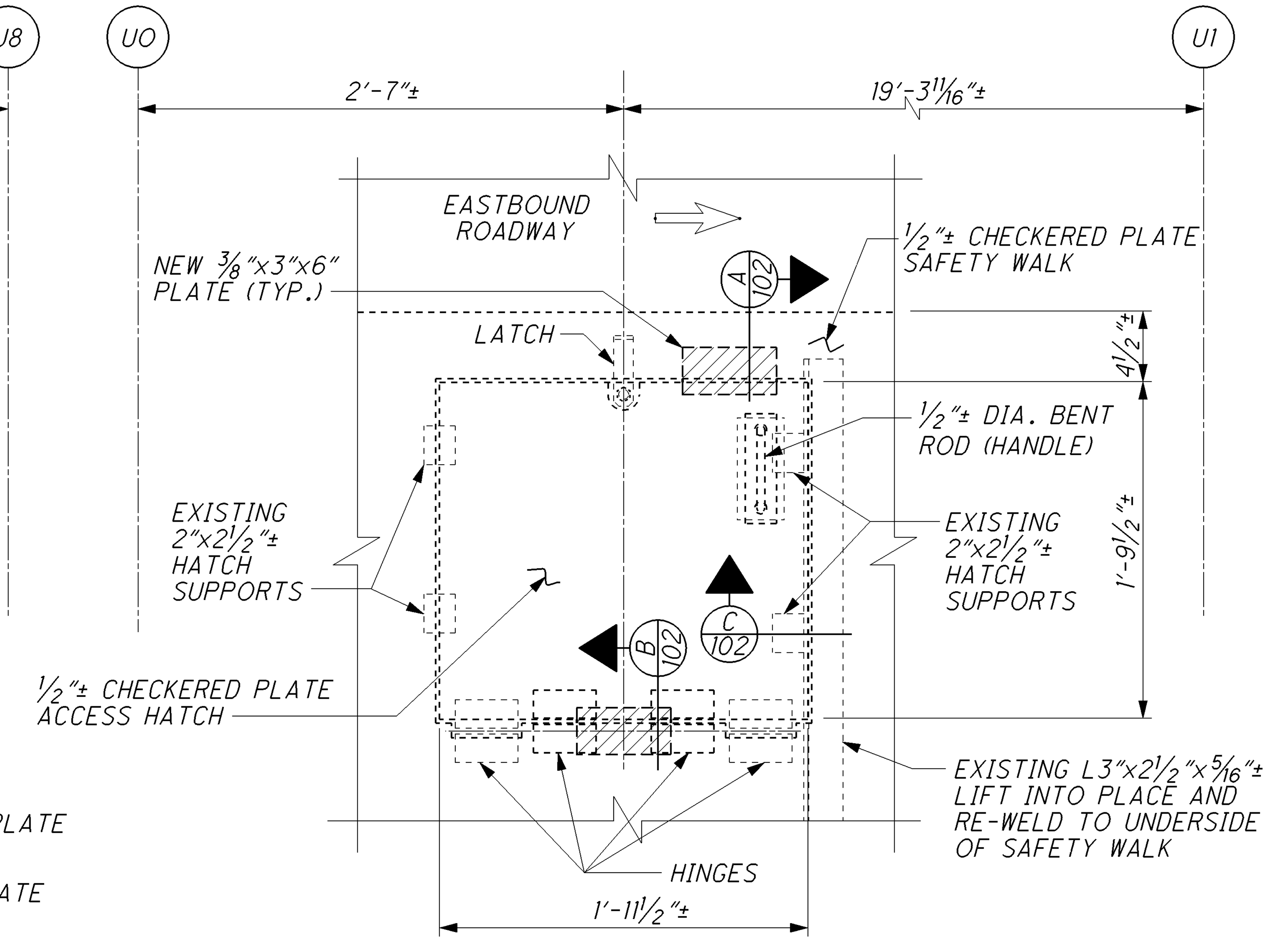
CUY-90-15.24
PID No. 82069



PLAN

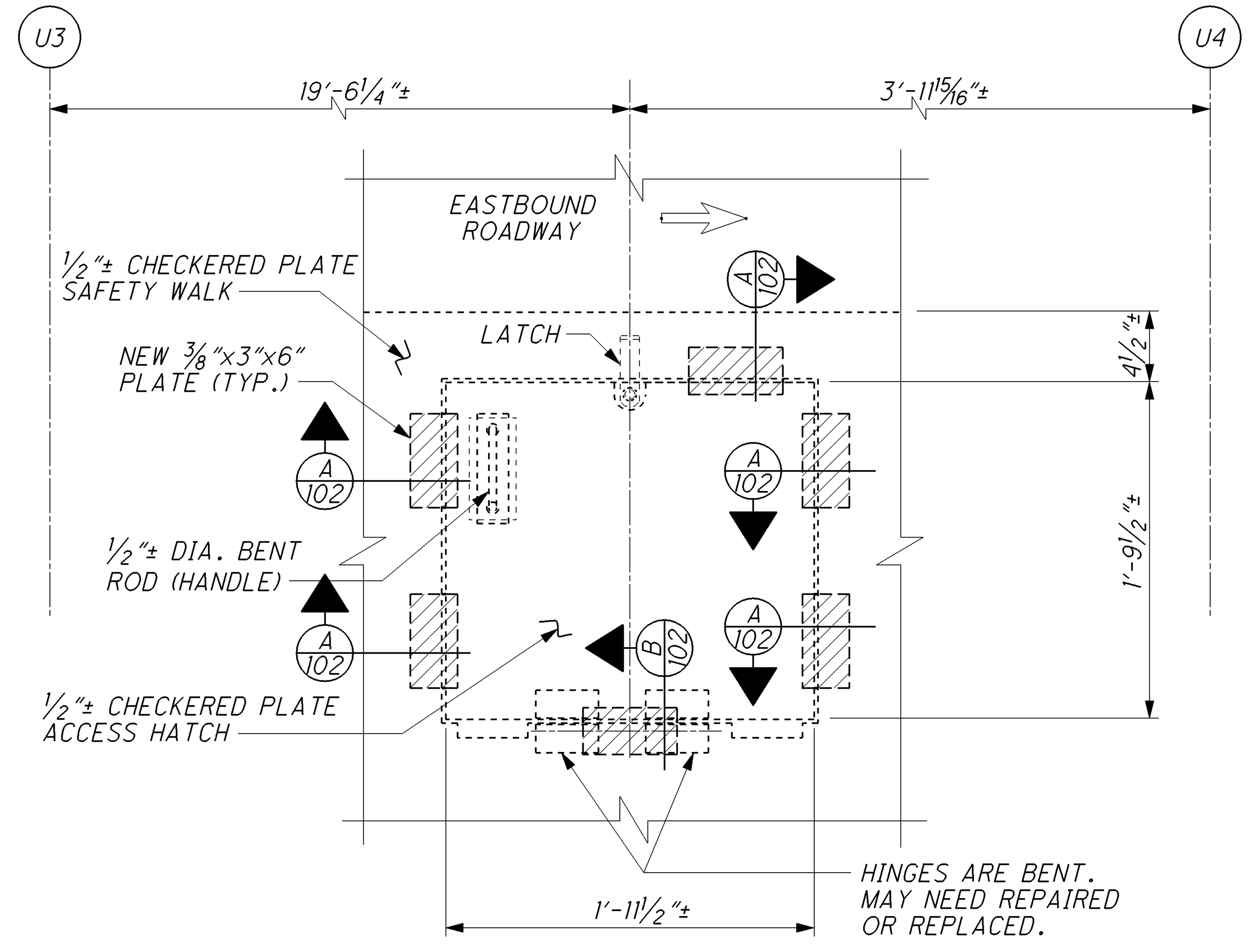
SPAN 1, U7-U8 NORTH SAFETY WALK

REFERENCE NORTH



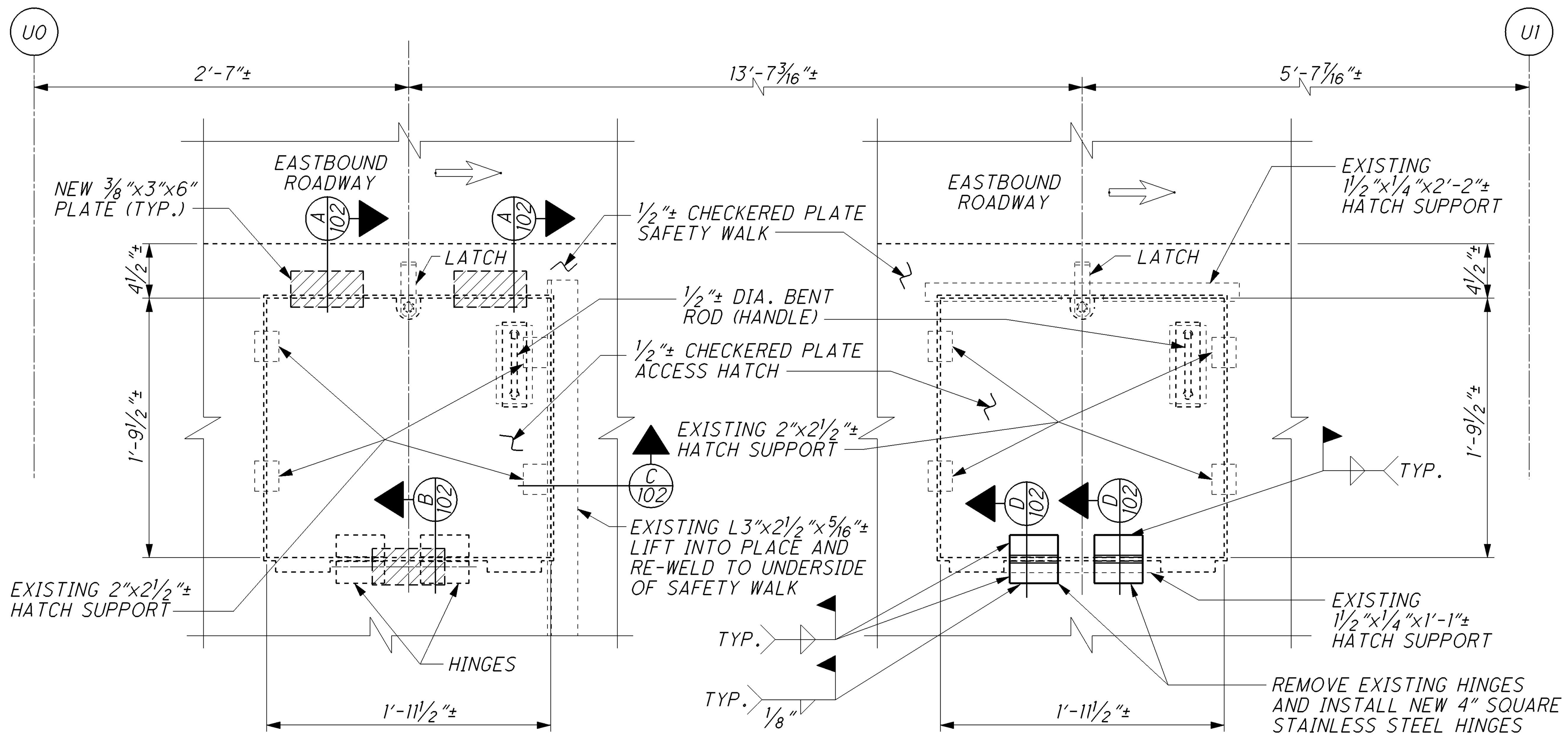
PLAN

SPAN 6, U0-U1 SOUTH SAFETY WALK



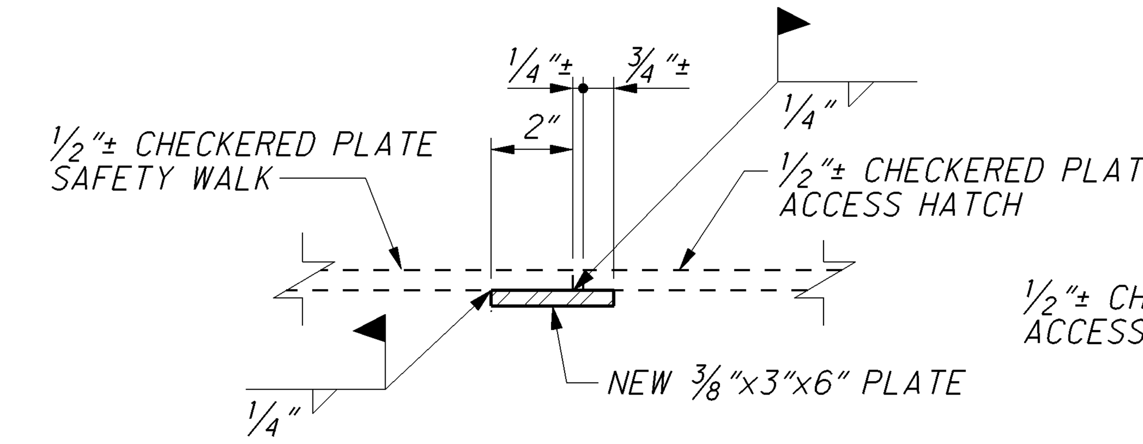
PLAN

SPAN 8, U3-U4 SOUTH SAFETY WALK

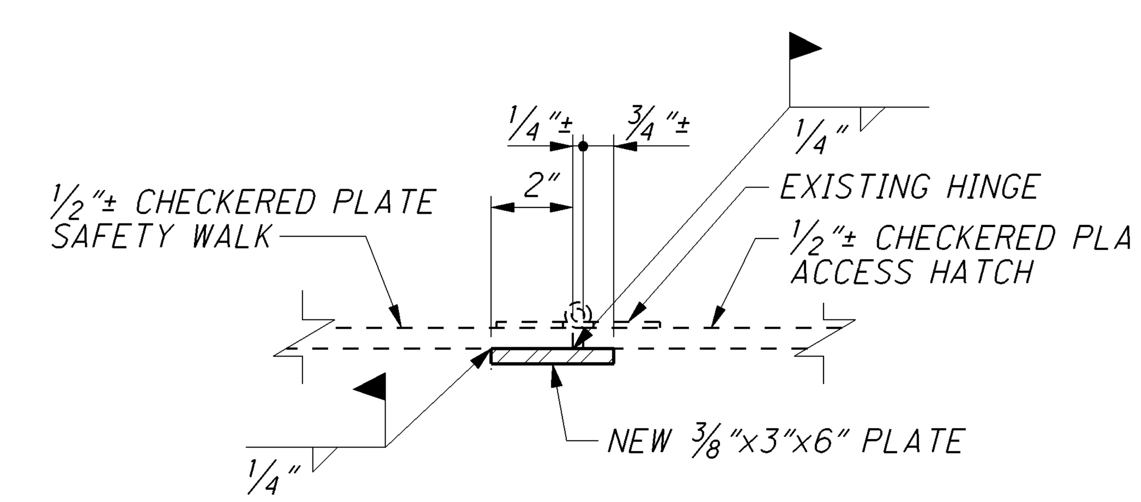


PLAN

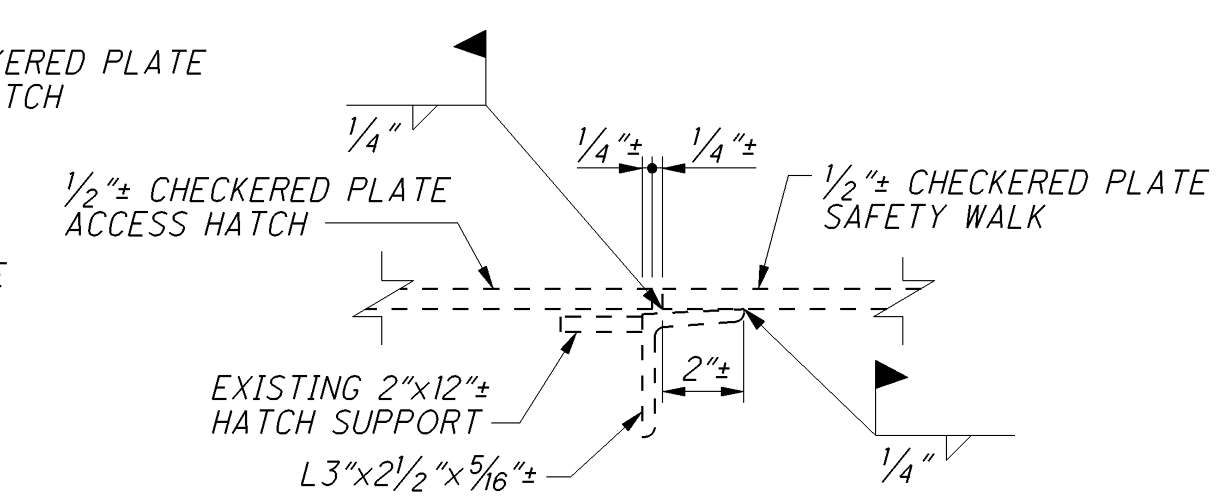
SPAN 8, U0-U1 SOUTH SAFETY WALK



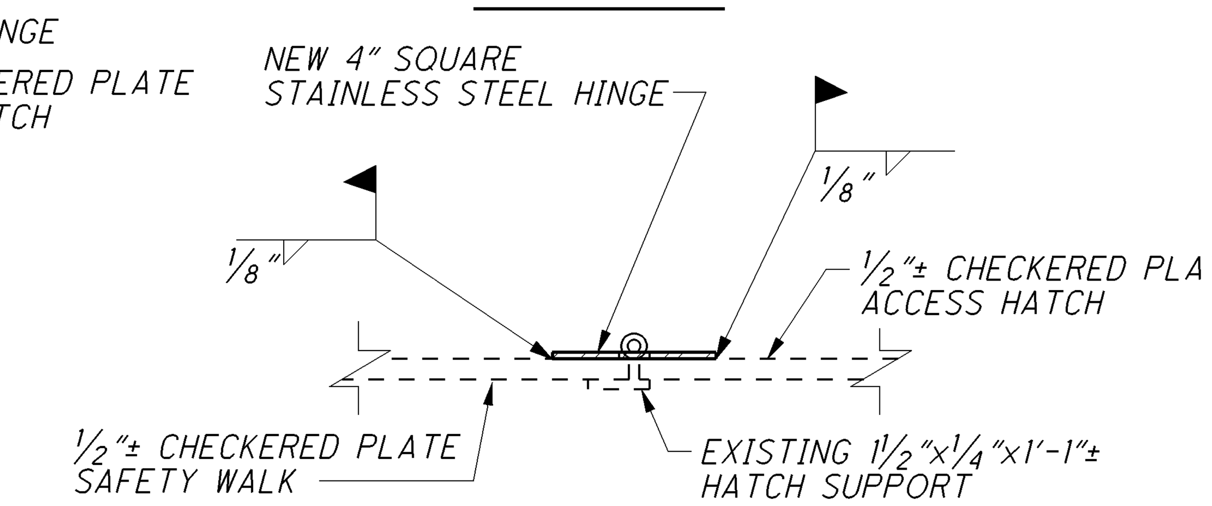
SECTION A



SECTION B



SECTION C



SECTION D

LEGEND

- INDICATES NEW STEEL HATCH SUPPORT PLATES.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

WELDING TO EXISTING STEEL: THE SHOP DRAWINGS INDICATE THAT ALL MATERIAL FOR THE SAFETY WALKS AND ACCESS HATCHES WAS TO BE COPPER BEARING STEEL, ASTM A7.

EXISTING SUPPORTS: PORTIONS OF EXISTING STEEL BAR HATCH SUPPORTS MAY STILL BE HANGING TO THE BOTTOM OF THE SAFETY WALK IN SOME LOCATIONS. IF THE EXISTING SUPPORTS INTERFERE WITH THE PROPOSED SUPPORTS THEY SHALL BE REMOVED. ANY REMOVALS REQUIRED SHALL BE CONSIDERED INCIDENTAL TO ITEM 513 - STRUCTURAL STEEL,MISC.: SAFETY WALK ACCESS HATCH REPAIR, PER EACH LOCATION.

ITEM 513-STRUCTURAL STEEL, MISC.: SAFETY WALK ACCESS HATCH REPAIR: SEE GENERAL NOTE SHEET 12/140 .

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		1809393	

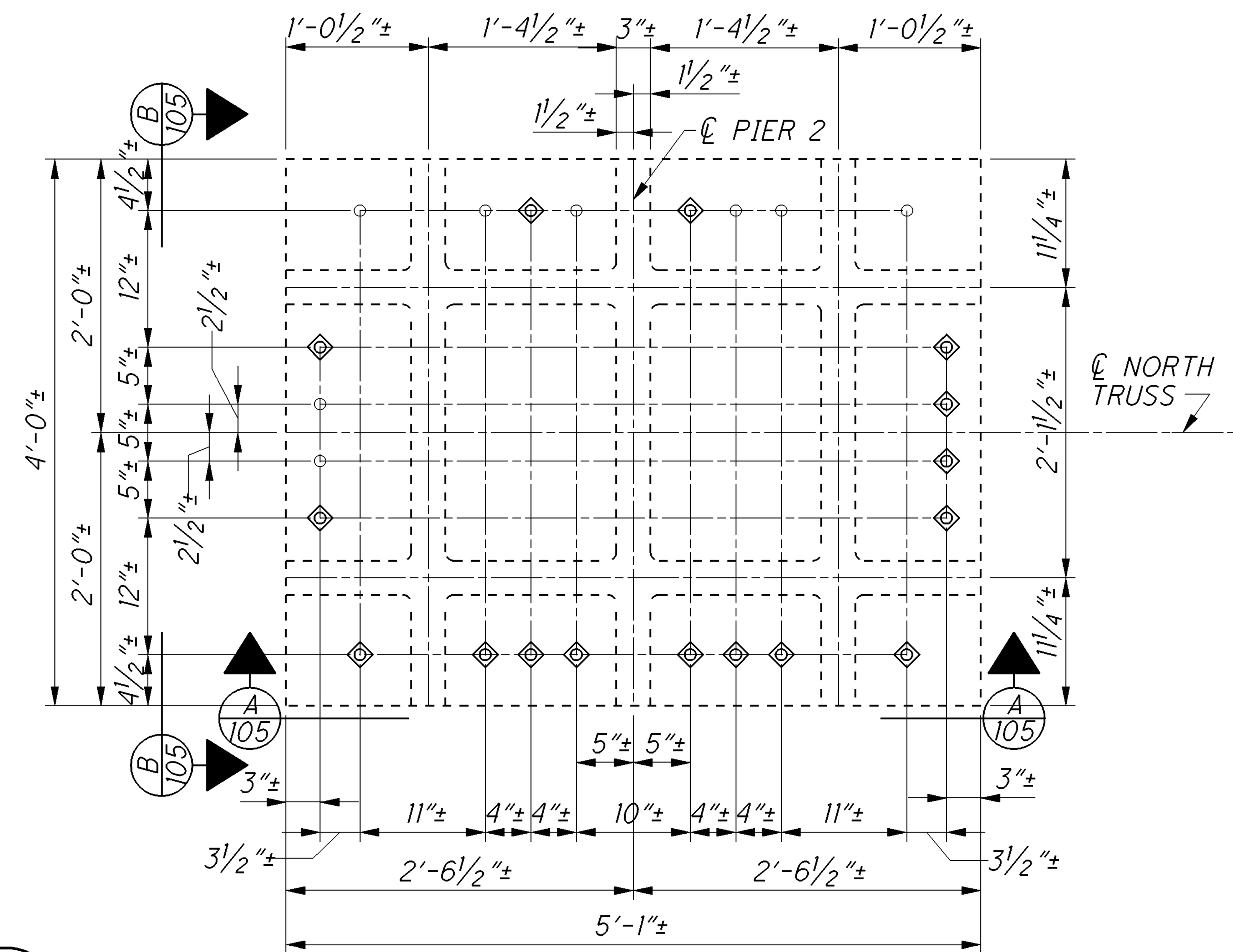
SAFETY WALK ACCESS HATCH REPAIRS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

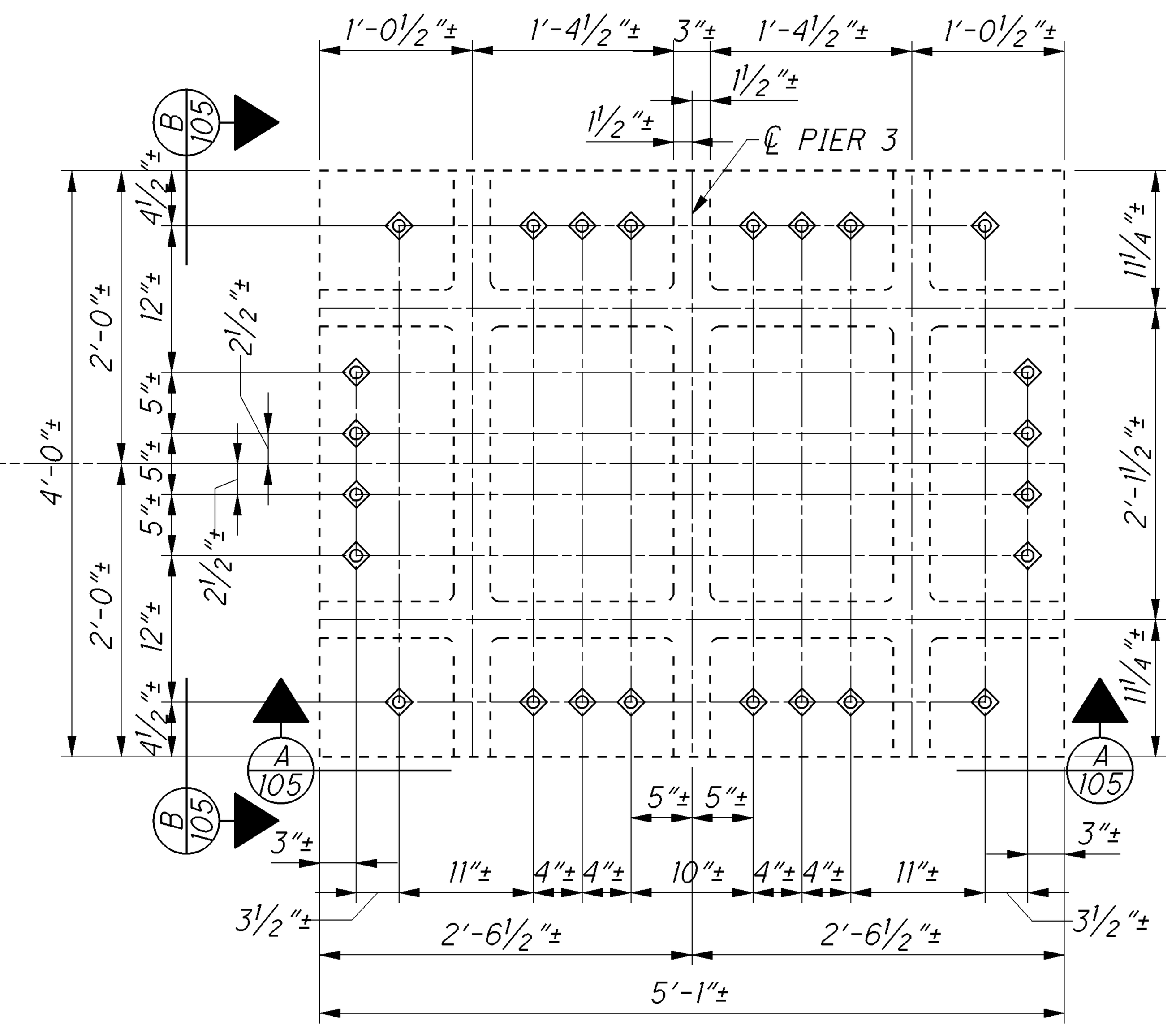
102/140

137/175

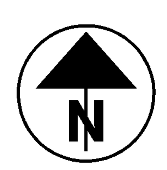
ACCESS HATCH.DGN 7/28/09 RB,KH,TWH,JLS



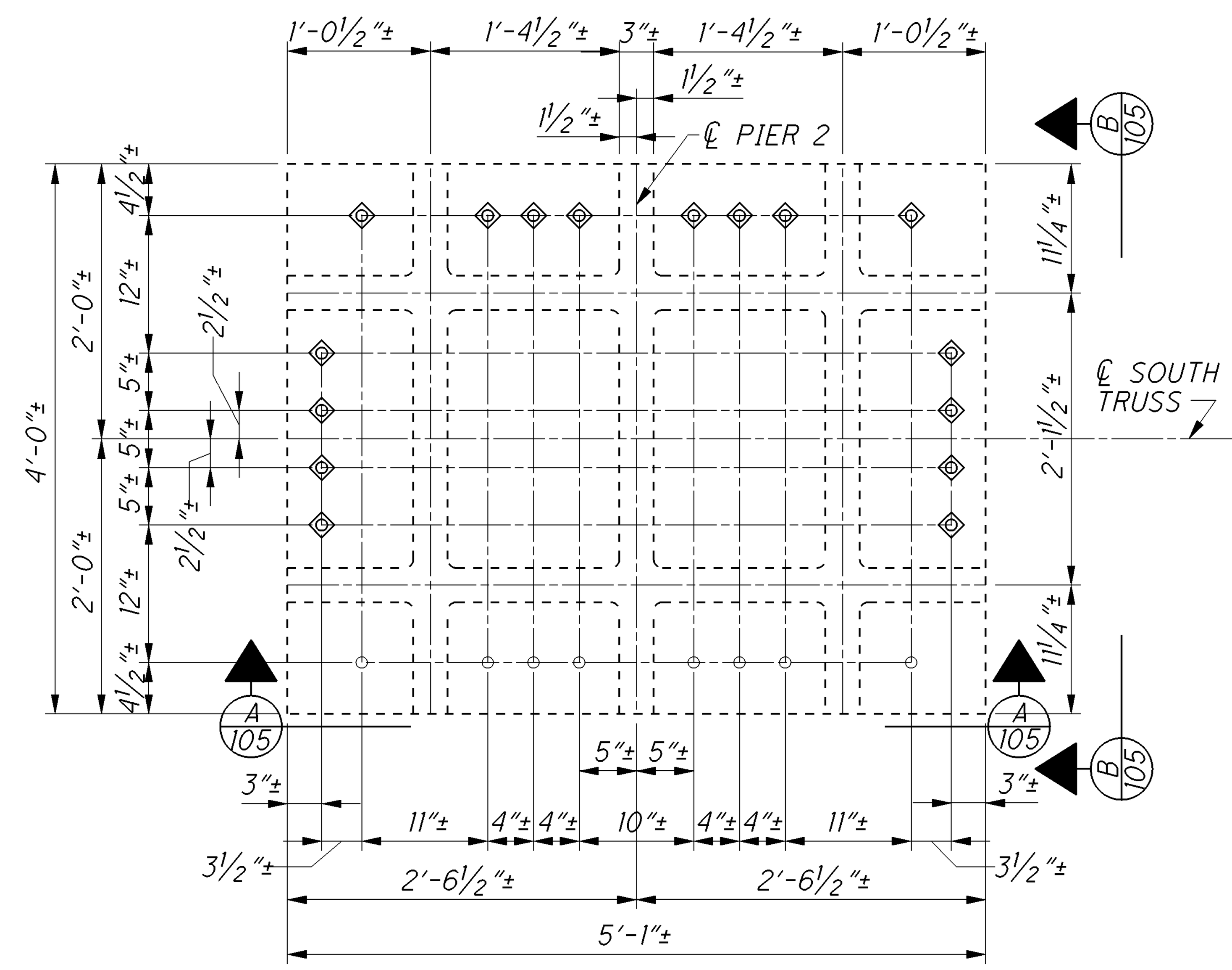
PLAN
PIER 2 NORTH
(16 BOLTS REPLACED)



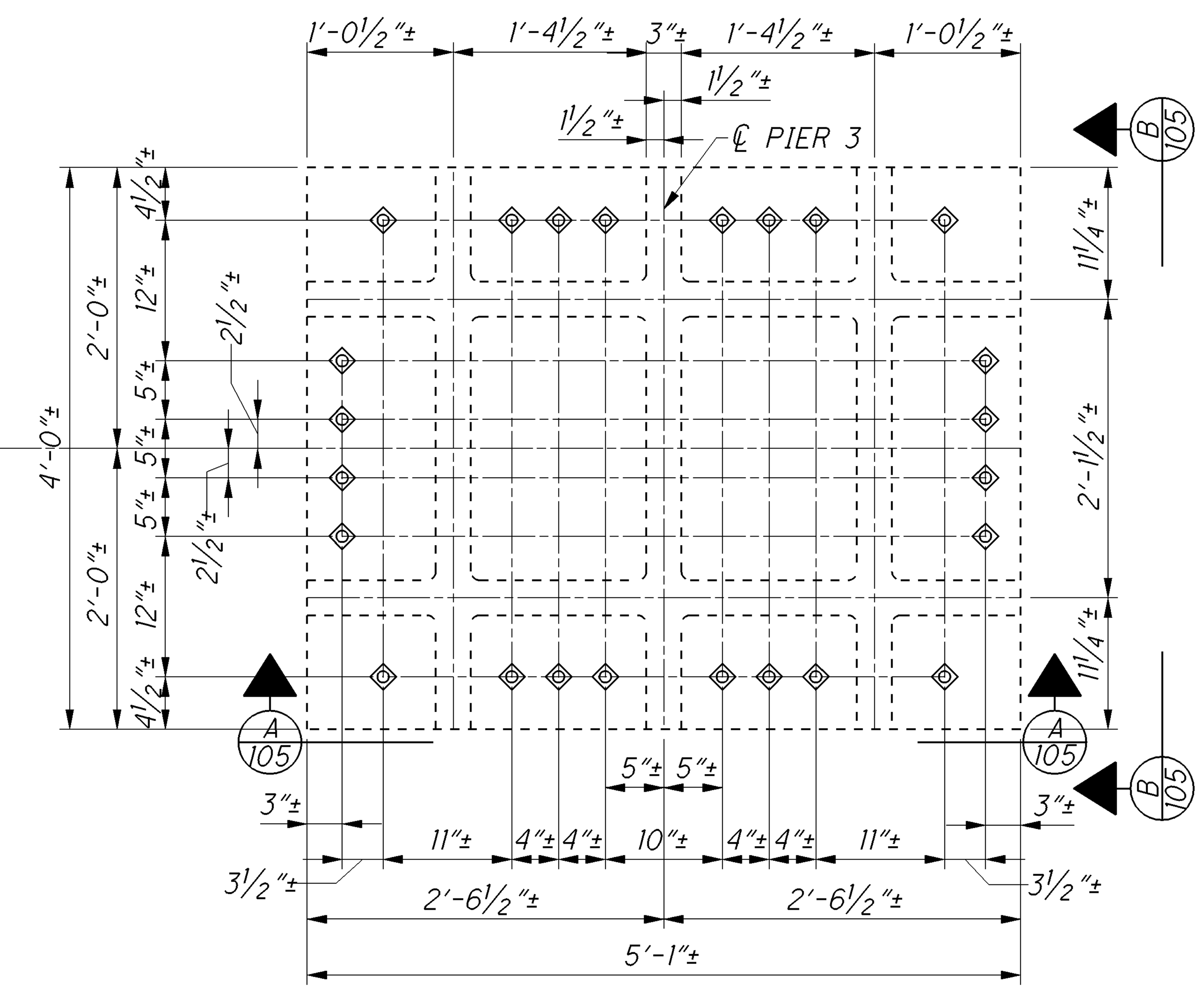
PLAN
PIER 3 NORTH
(24 BOLTS REPLACED)



REFERENCE NORTH



PLAN
PIER 2 SOUTH
(16 BOLTS REPLACED)



PLAN
PIER 3 SOUTH
(24 BOLTS REPLACED)

BOLT SUMMARY TABLE - 1" DIA. A325

LOCATION	5½" MINIMUM BOLT LENGTH 3¾" BOLT GRIP	6" MINIMUM BOLT LENGTH 4½" BOLT GRIP	6½" MINIMUM BOLT LENGTH 4⅞" BOLT GRIP
PIER 2 NORTH	6	10	
PIER 2 SOUTH	8	8	
PIER 3 NORTH	8		16
PIER 3 SOUTH	8		16
PIER 4 NORTH	8	8	
PIER 4 SOUTH	8	16	
PIER 5 NORTH	8	8	
PIER 5 SOUTH	8	11	
PIER 6 NORTH	8	8	
PIER 6 SOUTH	8	16	
PIER 7 NORTH	2	8	
PIER 7 SOUTH	1	14	
PIER 8 NORTH	8	9	
PIER 8 SOUTH	7	6	
TOTAL REPLACED	96	122	32

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING ANGLES, GUSSET PLATES, AND BEARING CASTINGS. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH.

CONNECTION BOLTS SHALL BE 1" DIA. A325, GALVANIZED, UNLESS OTHERWISE NOTED.

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" DIAMETER TRUSS BEARING CONNECTION BOLTS: SEE GENERAL NOTES SHEET 12/140.

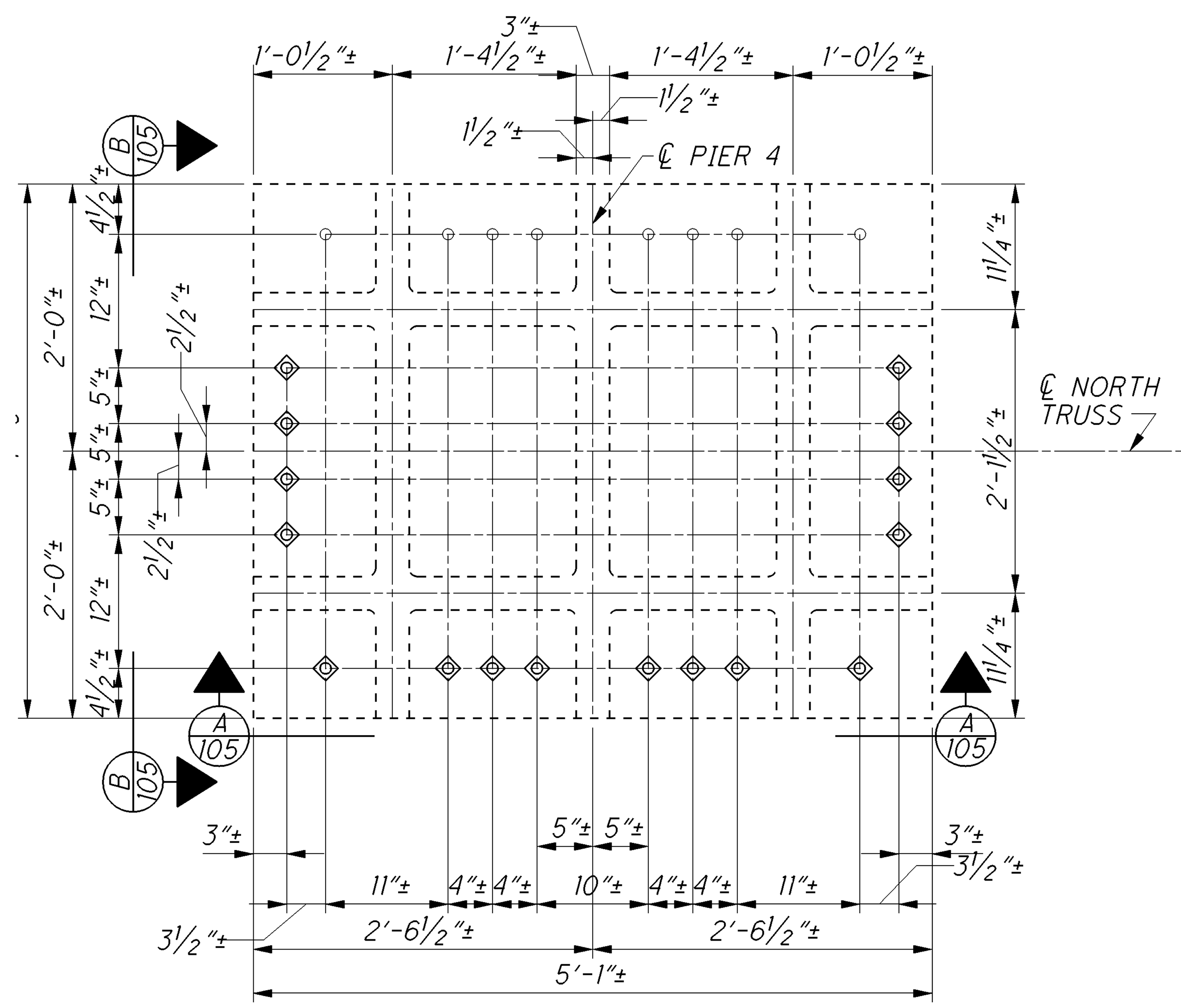
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | CHECKED BLN | DRAWN RB | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

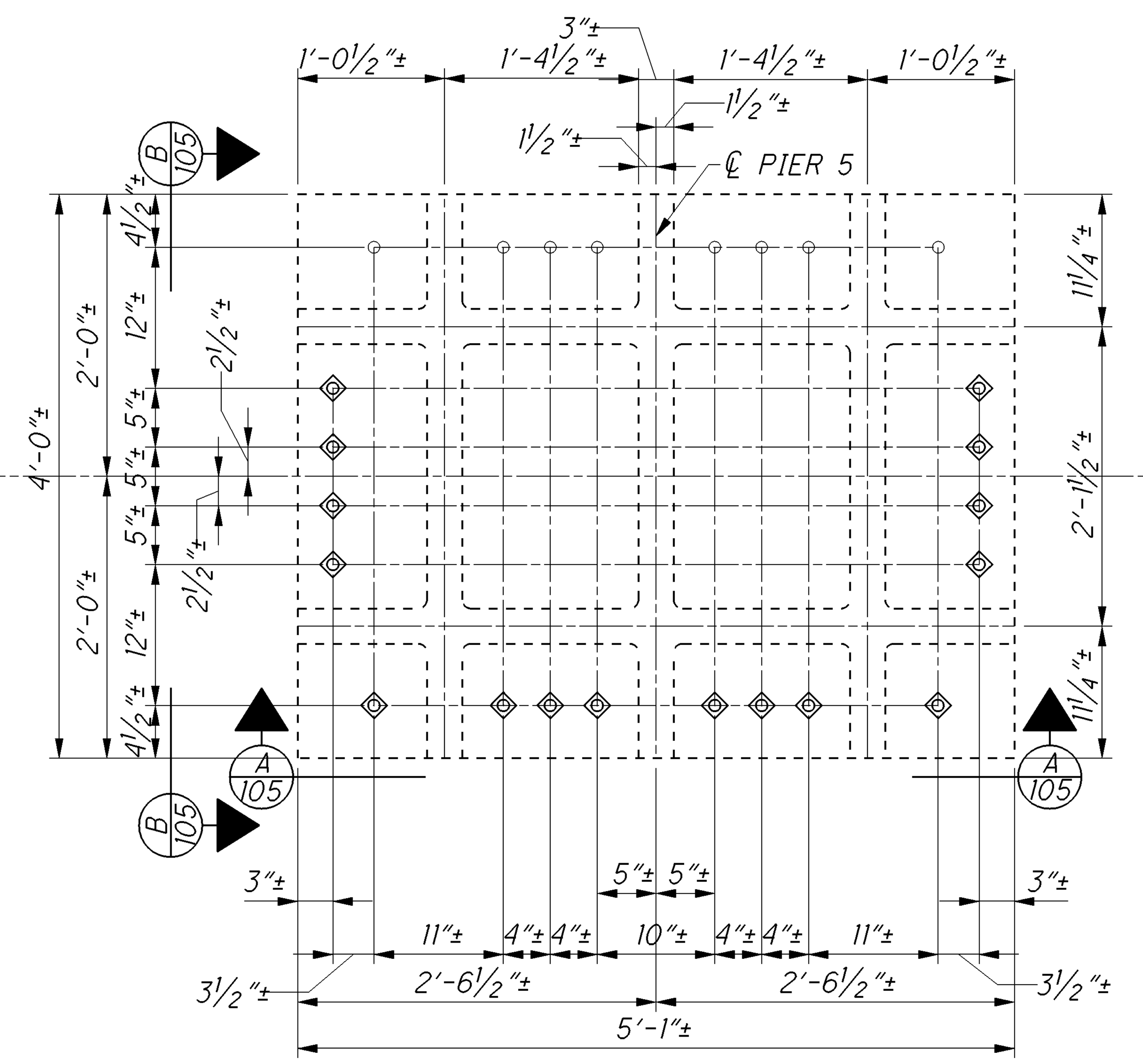
TRUSS BEARING CONNECTION BOLT REPLACEMENT - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

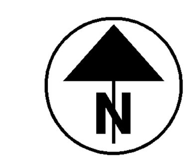
BEARING CONNECTIONS-1.DGN 7/28/09 RB,KH,TWH,JLS



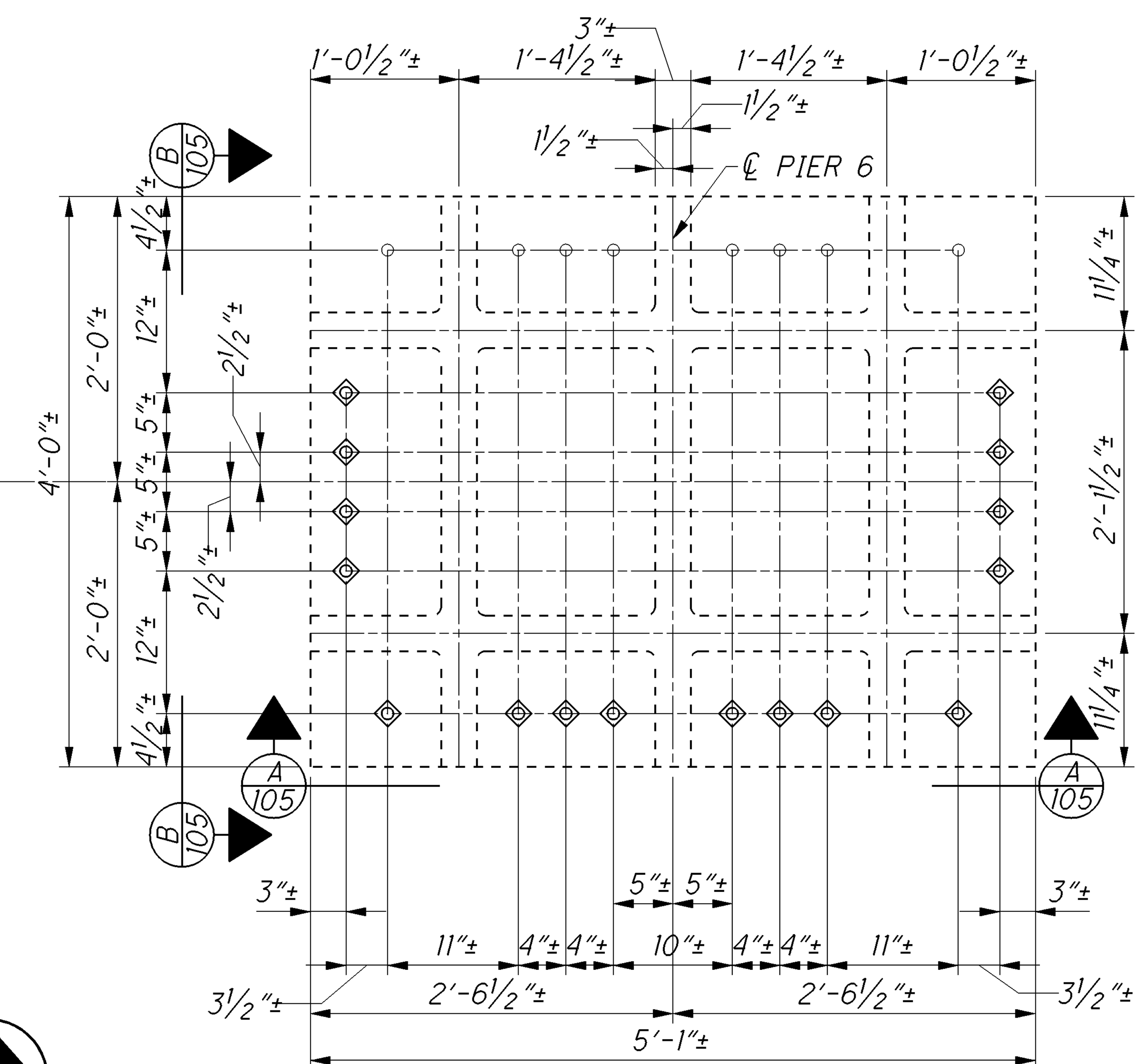
PLAN
PIER 4 NORTH
(16 BOLTS REPLACED)



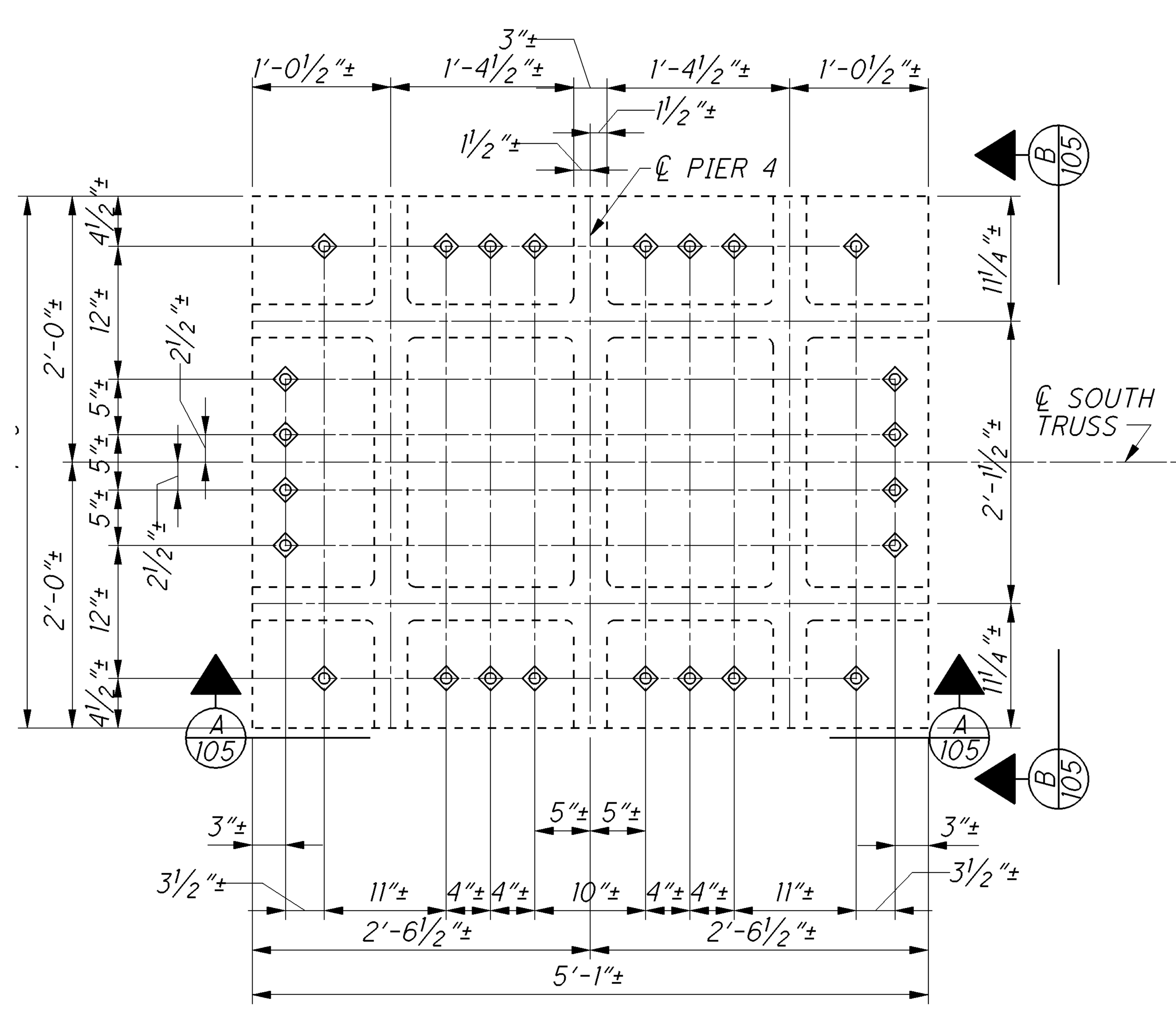
PLAN
PIER 5 NORTH
(16 BOLTS REPLACED)



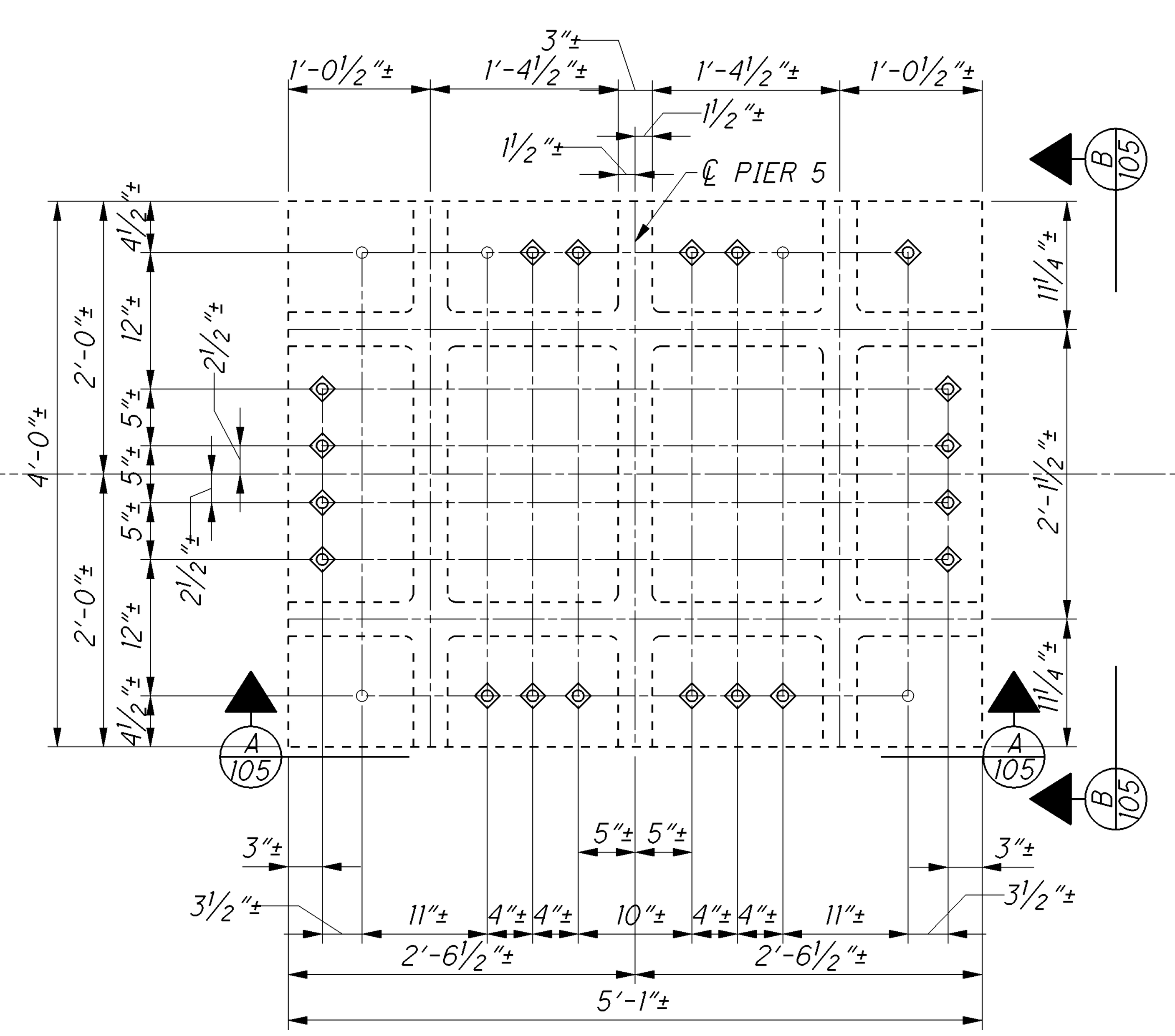
REFERENCE NORTH



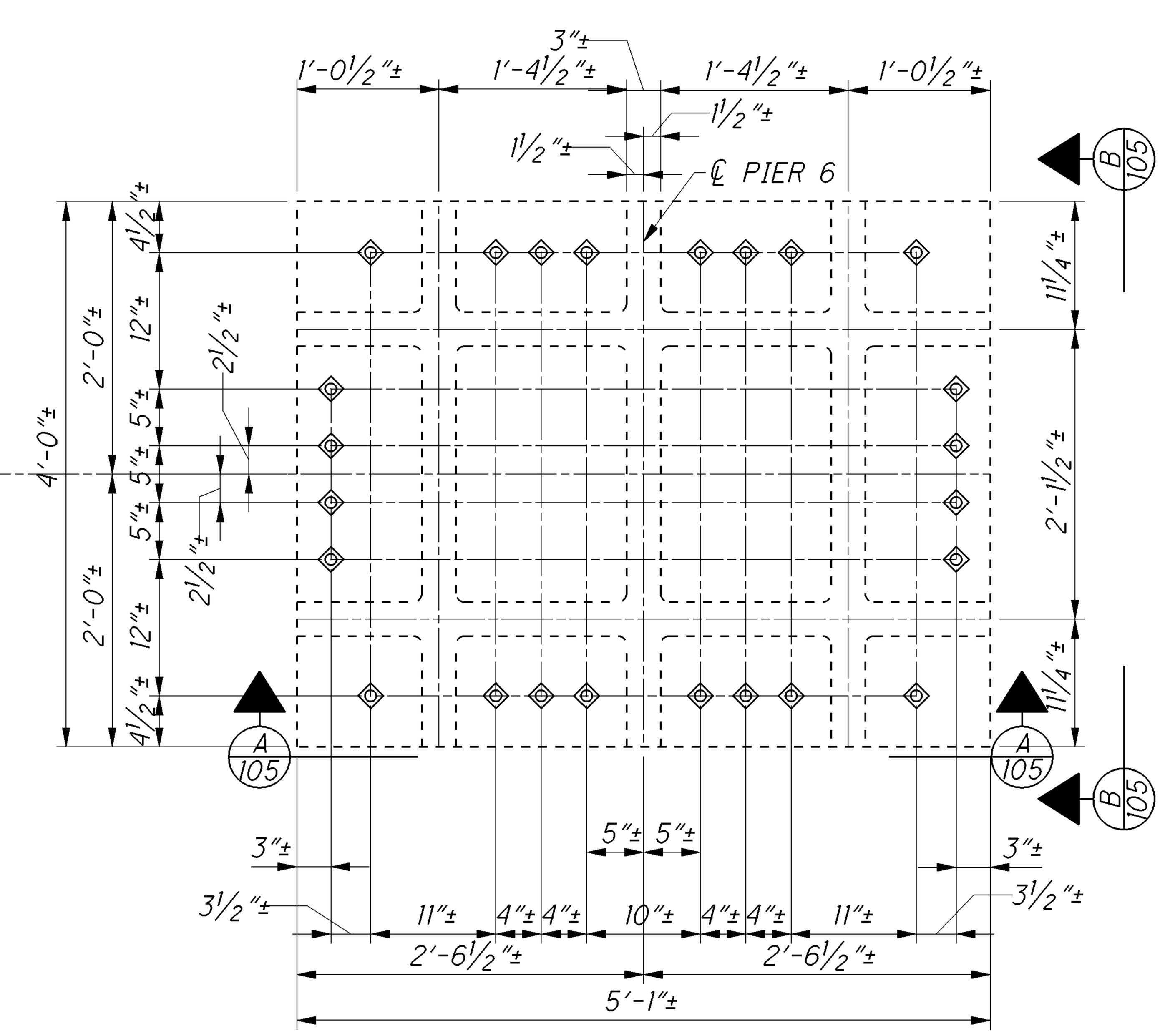
PLAN
PIER 6 NORTH
(16 BOLTS REPLACED)



PLAN
PIER 4 SOUTH
(24 BOLTS REPLACED)



PLAN
PIER 5 SOUTH
(19 BOLTS REPLACED)



PLAN
PIER 6 SOUTH
(24 BOLTS REPLACED)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

BOLT SUMMARY TABLE: SEE SHEET 103/140.

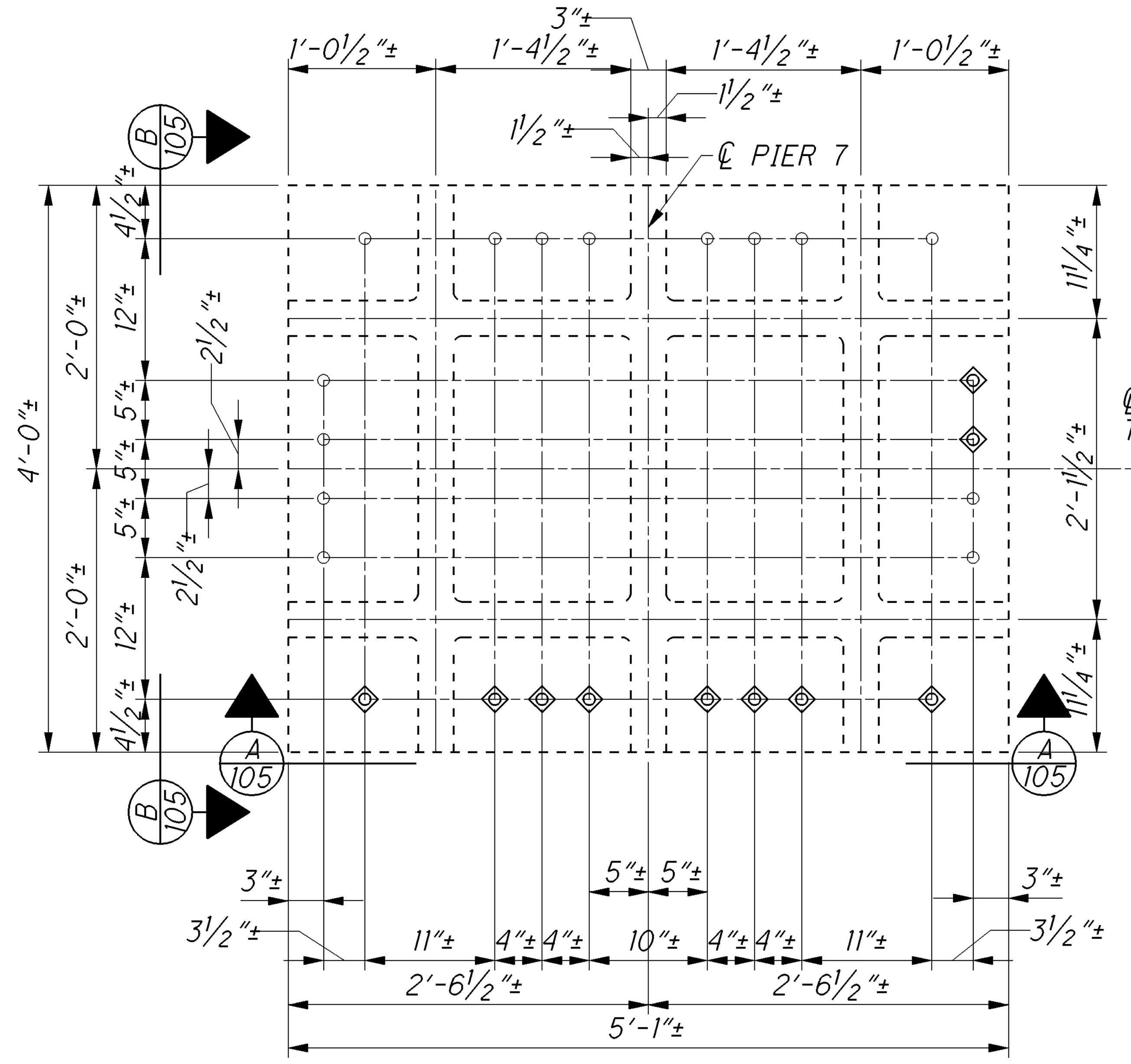
ADDITIONAL NOTES: SEE SHEET 103/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

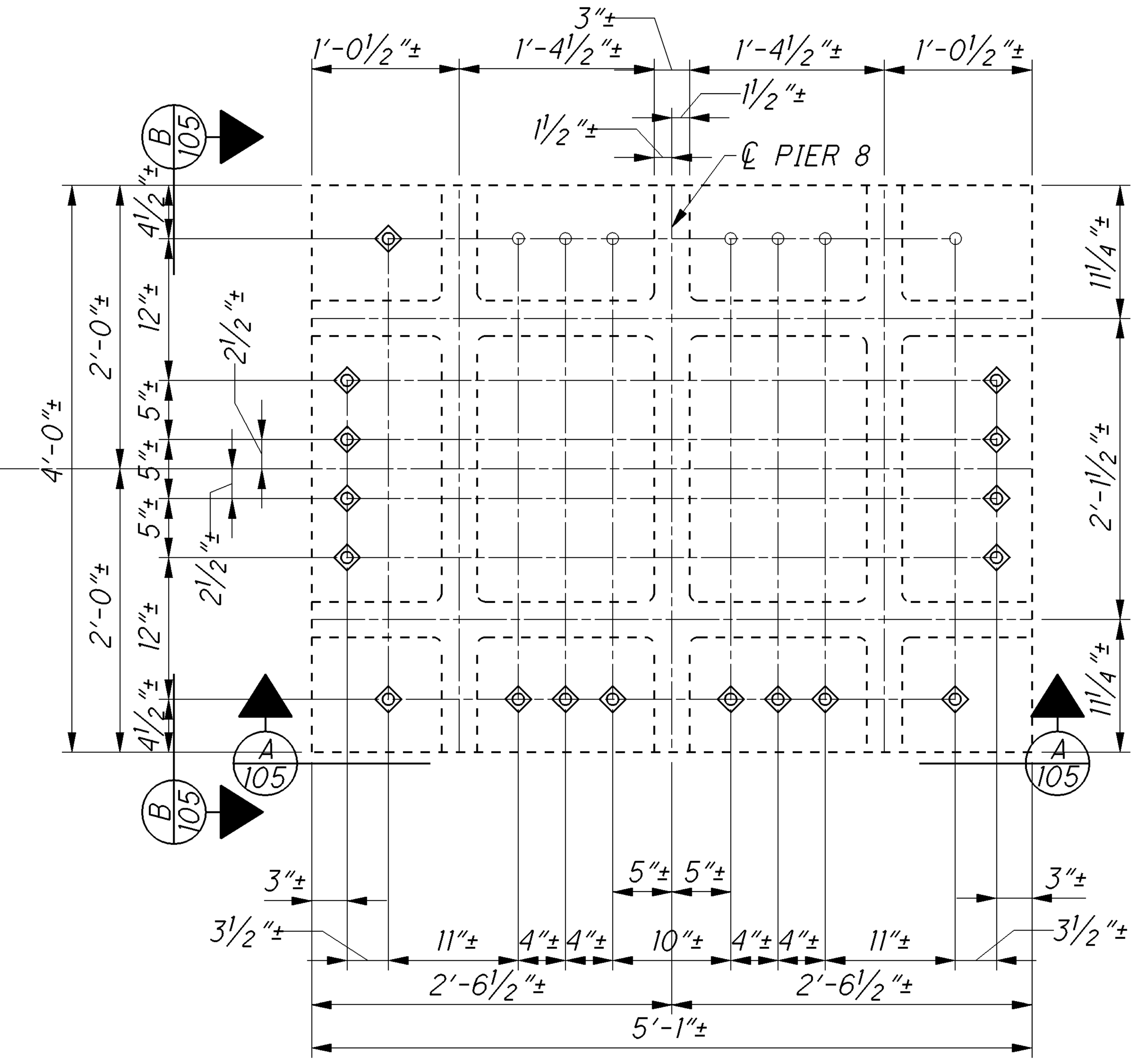
REVIEWED DAP	DATE 7/31/09	STRUCTURE FILE NUMBER 1809393
DRAWN RB	REVISED	
DESIGNED JDB	CHECKED BLN	

TRUSS BEARING CONNECTION BOLT REPLACEMENT - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

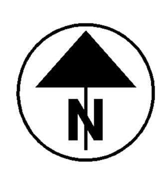
CUY-90-15.24
PID No. 82069

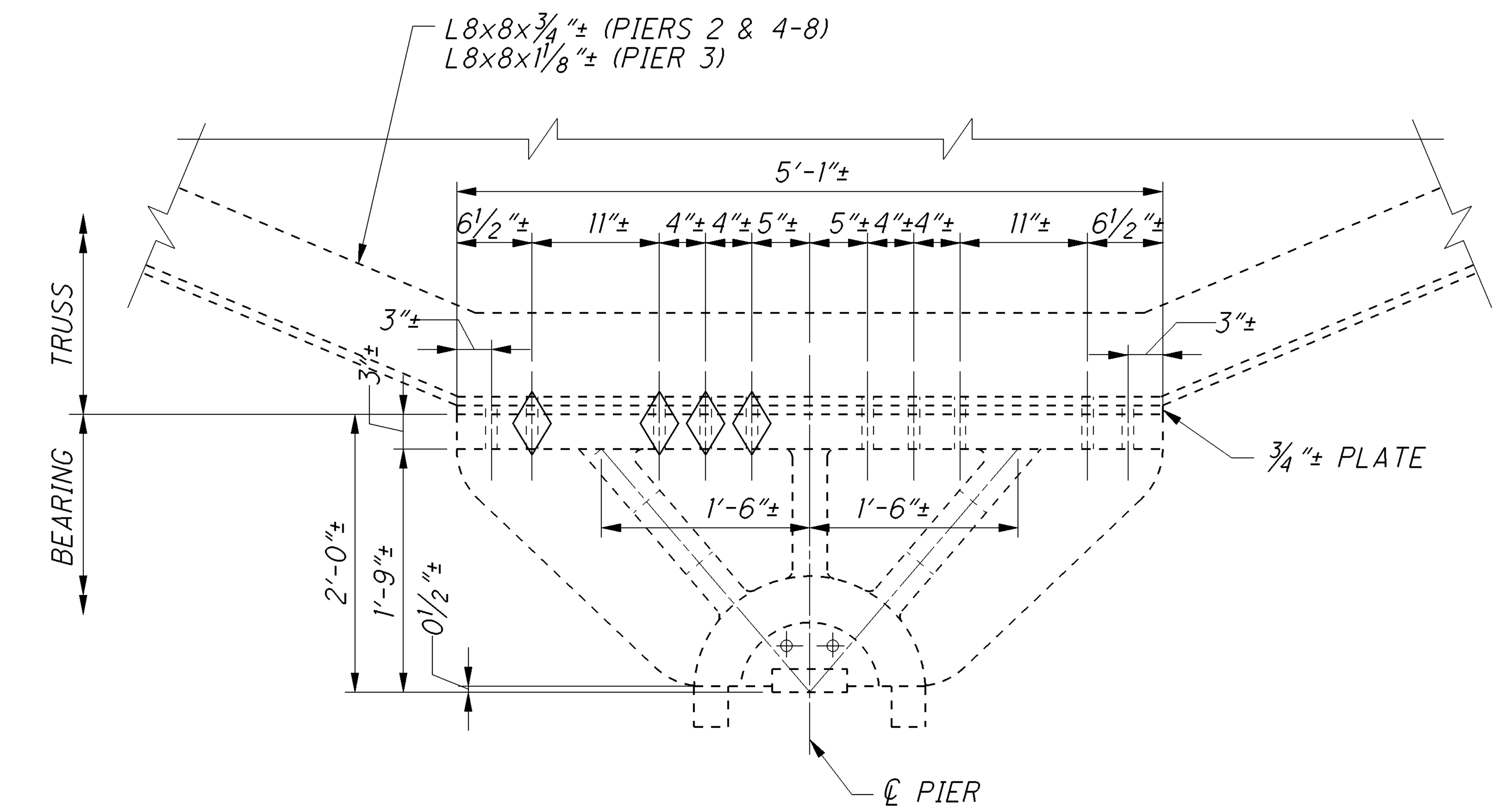


PLAN
PIER 7 NORTH
(10 BOLTS REPLACED)

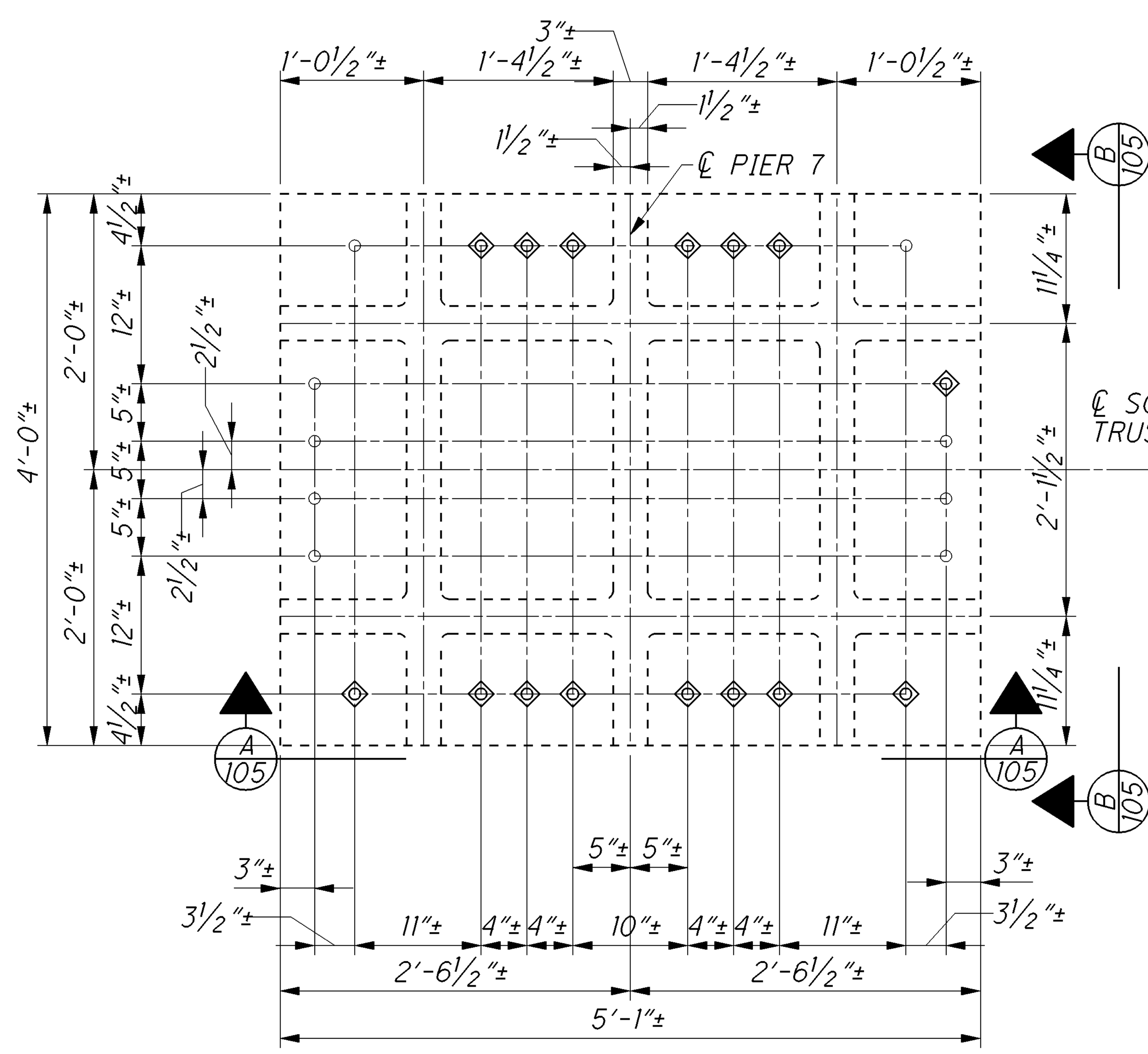


PLAN
PIER 8 NORTH
(17 BOLTS REPLACED)

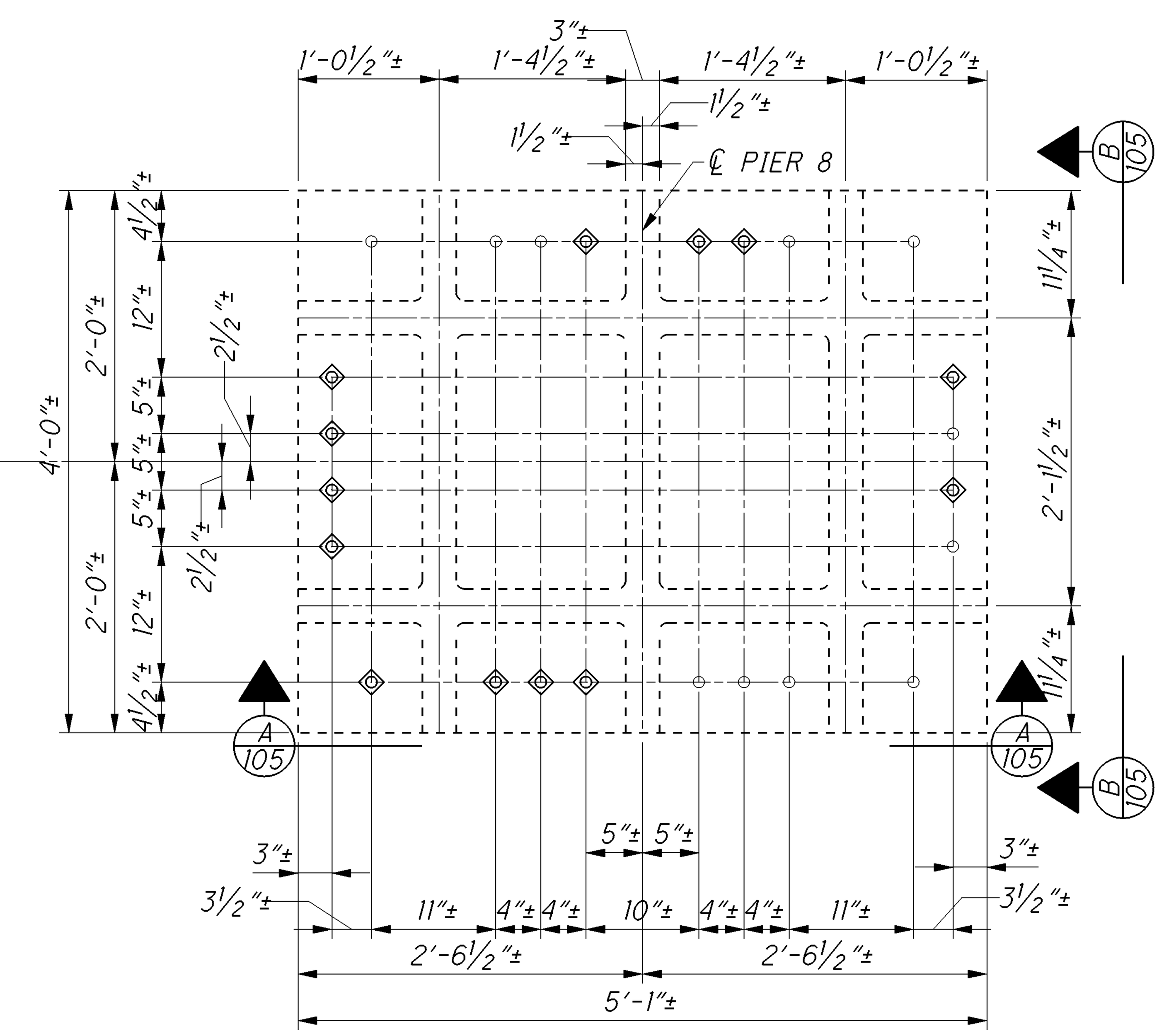




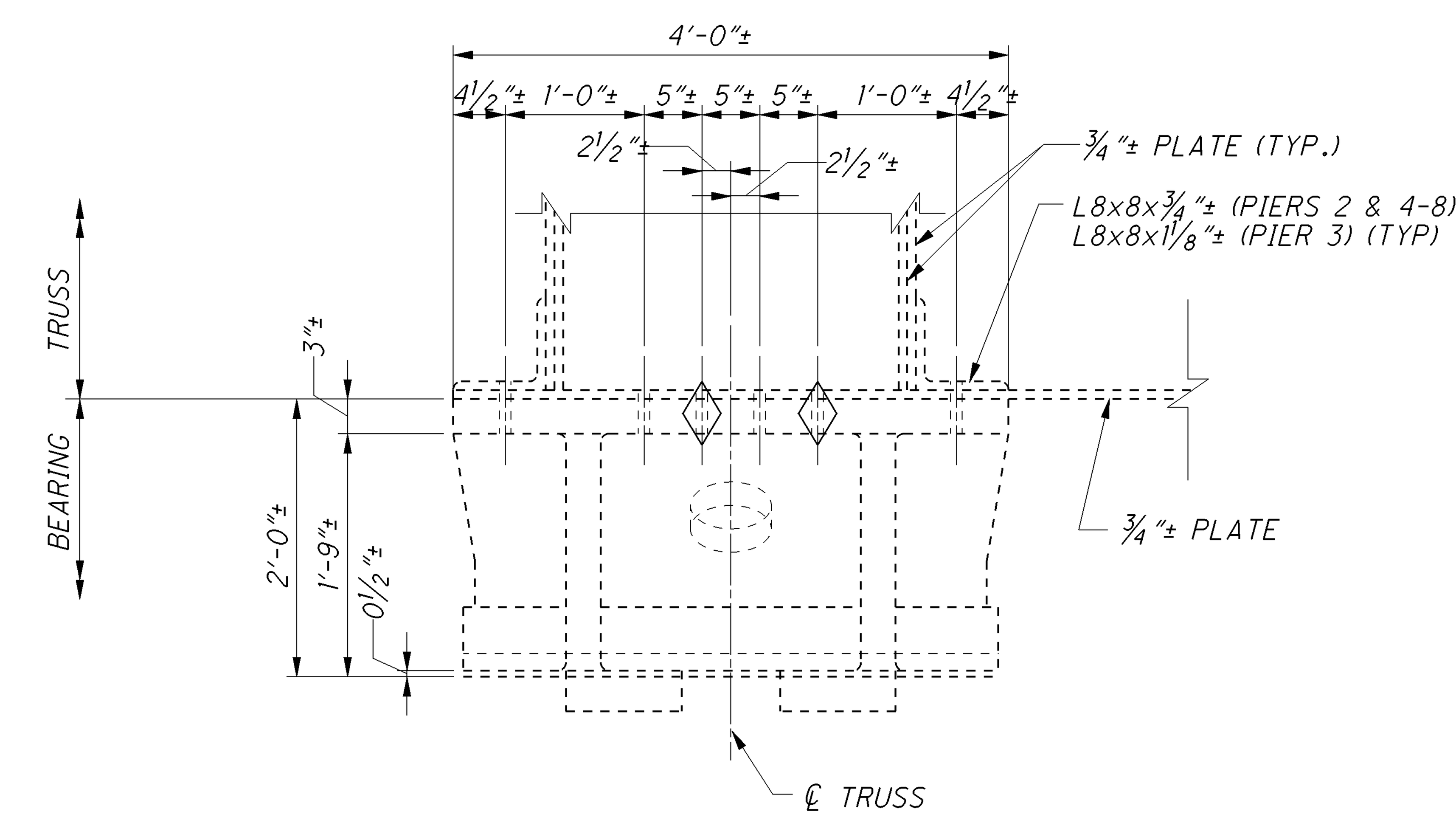
VIEW A-A
(BOTTOM CASTING NOT SHOWN)
(BOLTS REPLACED VARIES BY BEARING)



PLAN
PIER 7 SOUTH
(15 BOLTS REPLACED)



PLAN
PIER 8 SOUTH
(13 BOLTS REPLACED)



VIEW B-B
(BOTTOM CASTING AND FLOORBEAM LOWER CHORD NOT SHOWN)
(BOLTS REPLACED VARIES BY BEARING)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

BOLT SUMMARY TABLE: SEE SHEET 103/140.

ADDITIONAL NOTES: SEE SHEET 103/140.

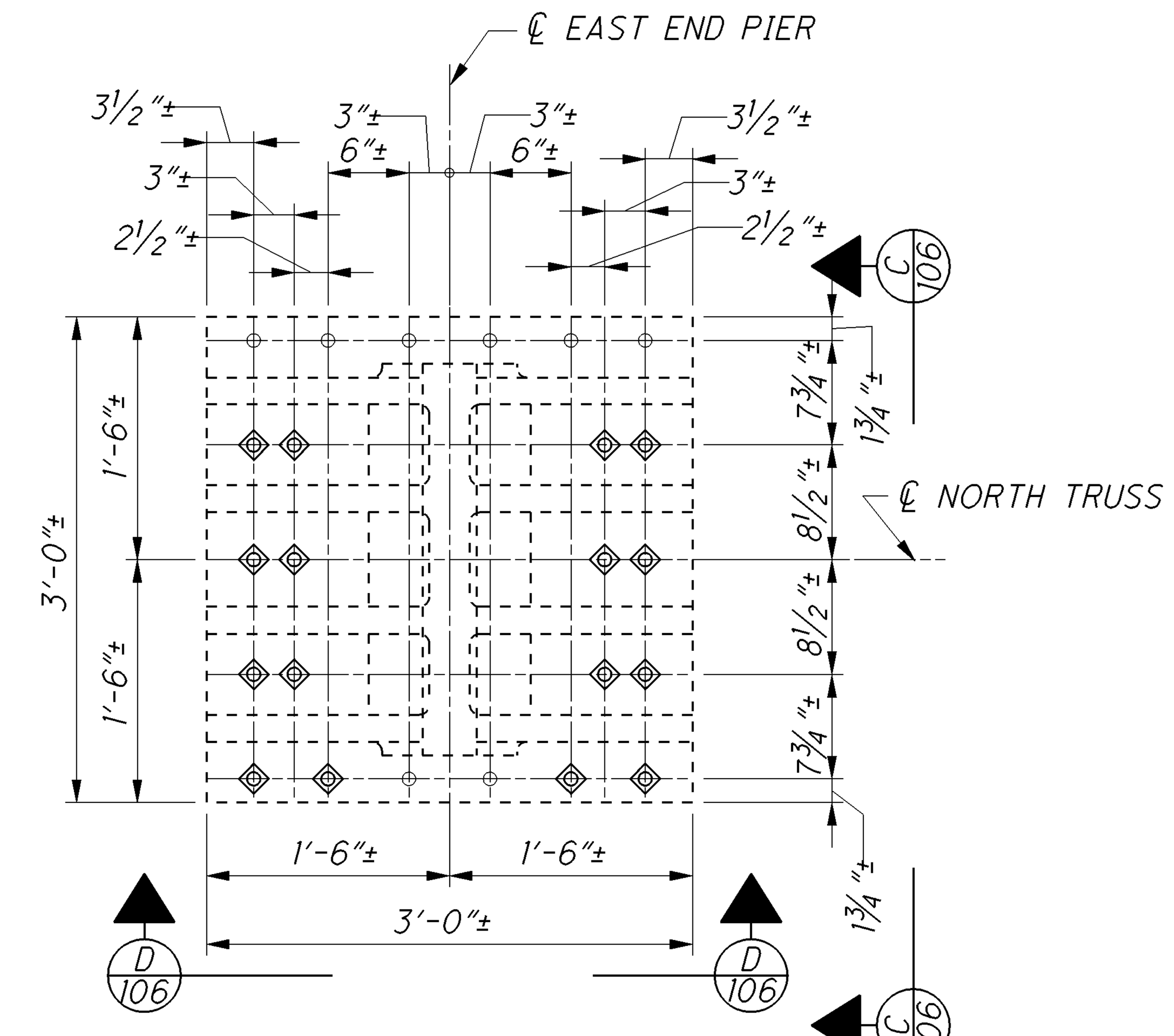
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN RB | REVIEWED DAP | DATE 7/31/09
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 1809393

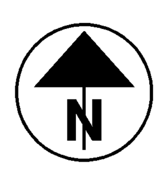
TRUSS BEARING CONNECTION BOLT REPLACEMENT - 3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

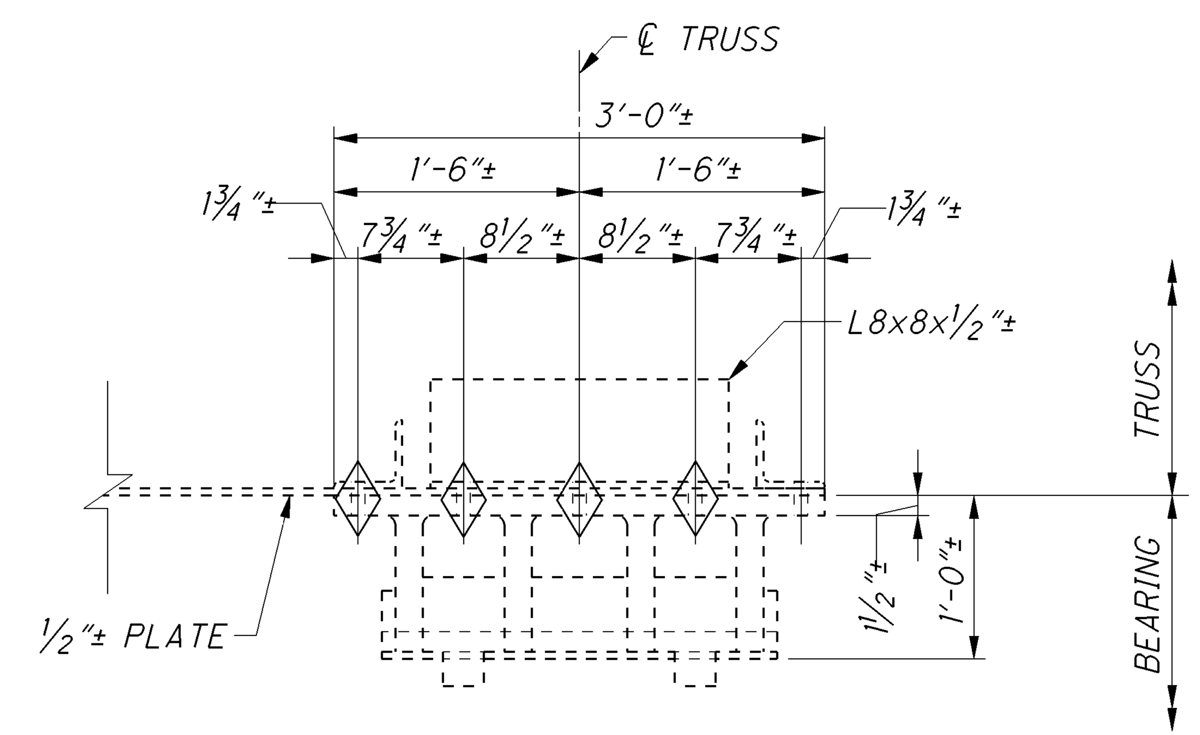
BEARING CONNECTIONS-3.DGN 7/28/09 RB,TWH,JLS



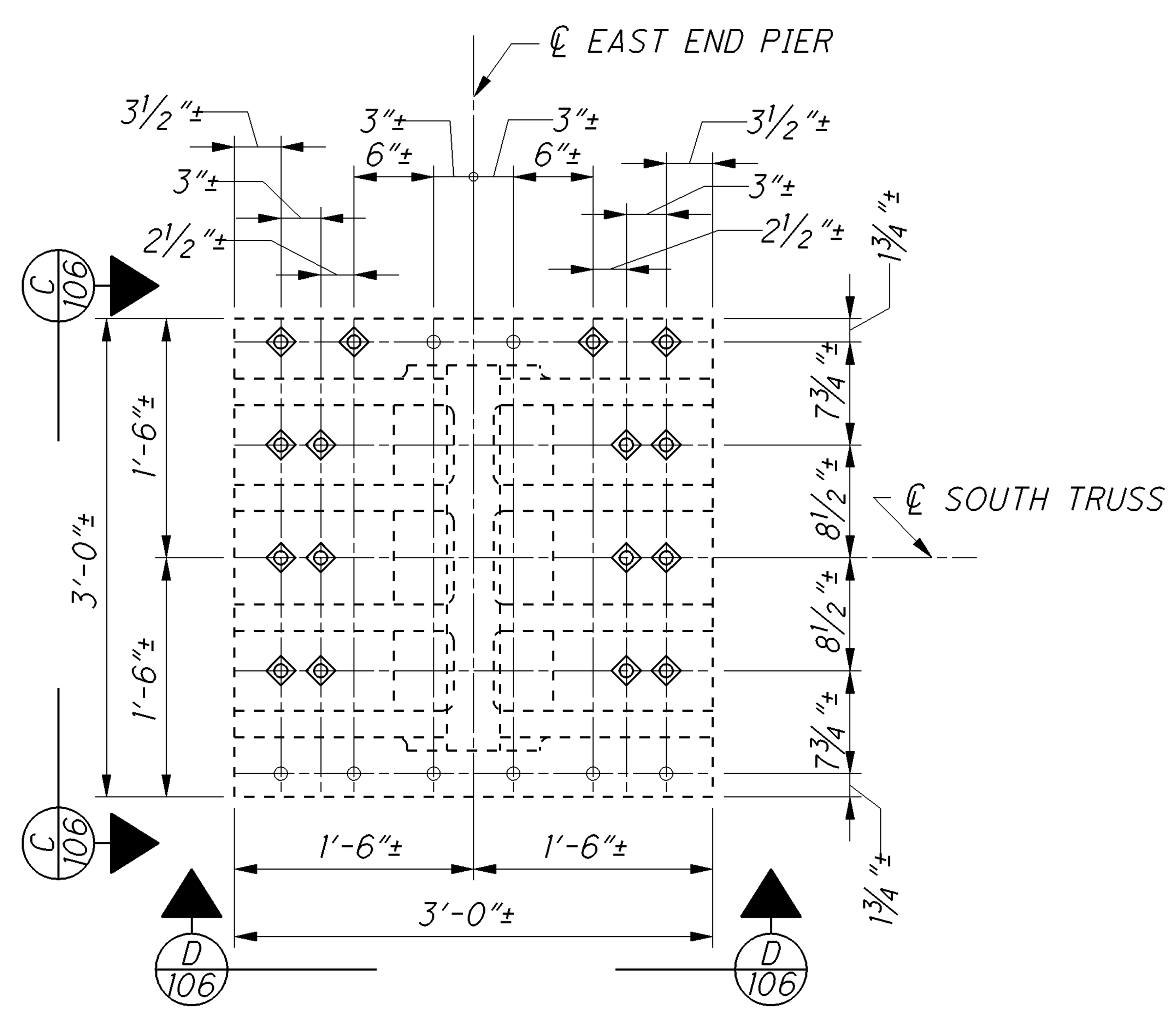
PLAN
EAST END PIER NORTH
(16 BOLTS REPLACED)



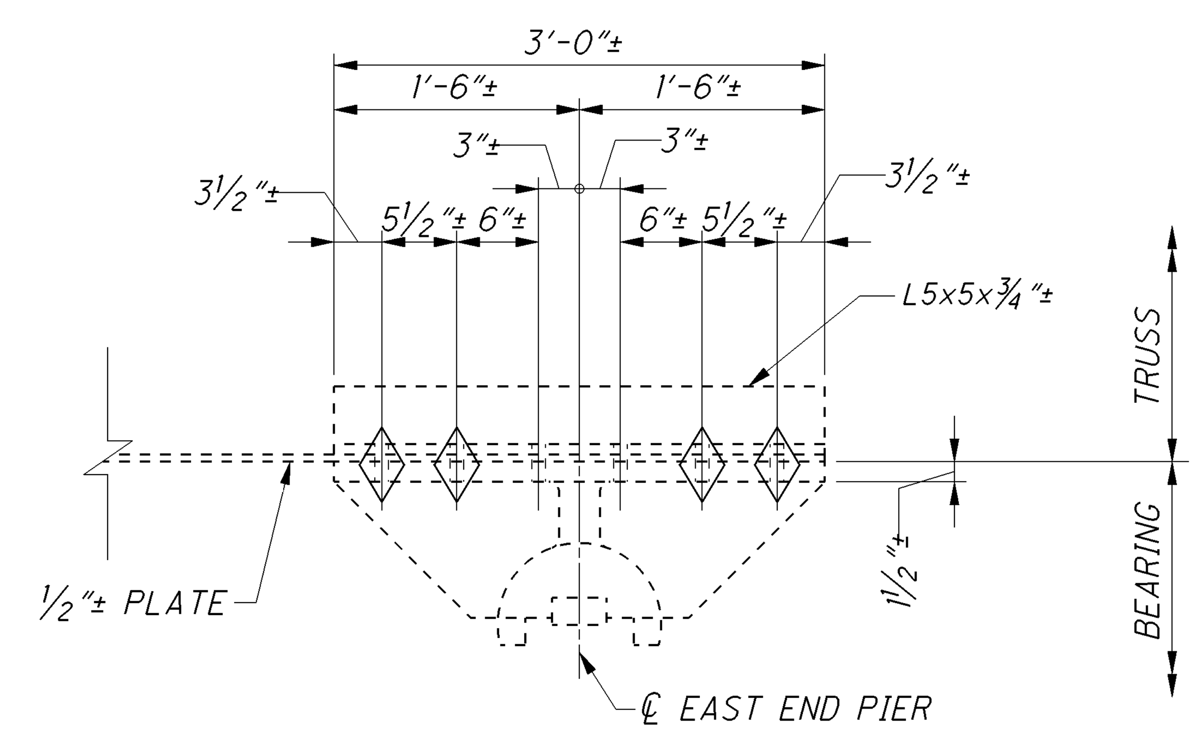
REFERENCE NORTH



VIEW C-C
(BOTTOM CASTING, TRUSS MEMBERS, AND FLOORBEAM LOWER CHORD NOT SHOWN)



PLAN
EAST END PIER SOUTH
(16 BOLTS REPLACED)



VIEW D-D
(BOTTOM CASTING AND TRUSS MEMBERS NOT SHOWN)

BOLT SUMMARY TABLE - 1" DIA. A325		
LOCATION	4" MINIMUM BOLT LENGTH 2½" BOLT GRIP	4¼" MINIMUM BOLT LENGTH 2¾" BOLT GRIP
EAST END PIER NORTH	12	4
EAST END PIER SOUTH	12	4
TOTAL REPLACED	24	8

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 103/140.

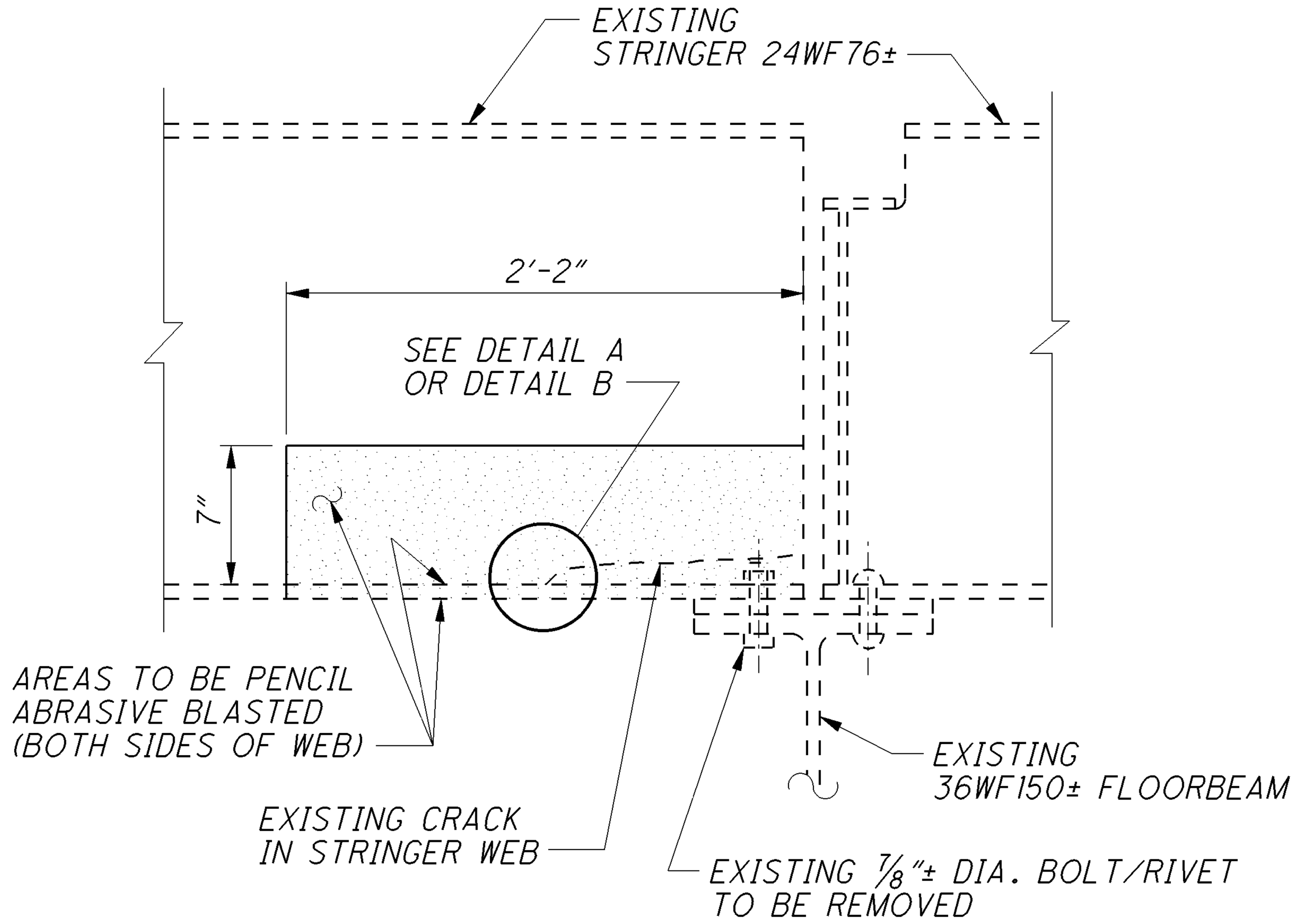
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN RB REVISED
DESIGNED JDB CHECKED BLN

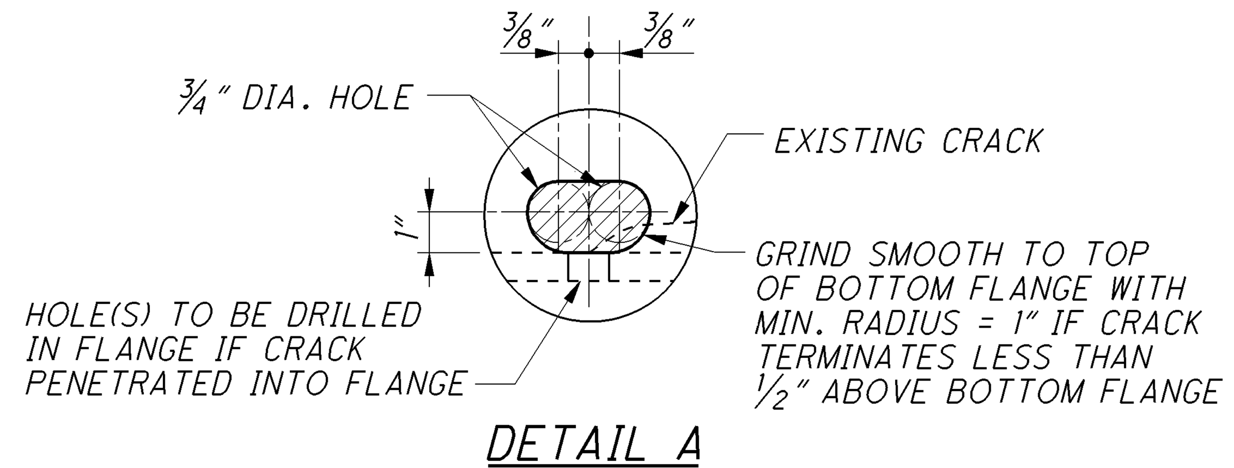
TRUSS BEARING CONNECTION BOLT REPLACEMENT - 4
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

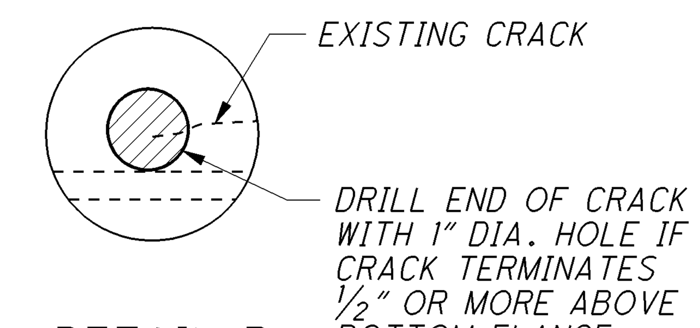
BEARING CONNECTIONS-4.DGN 7/28/09 RB,TWH,JLS



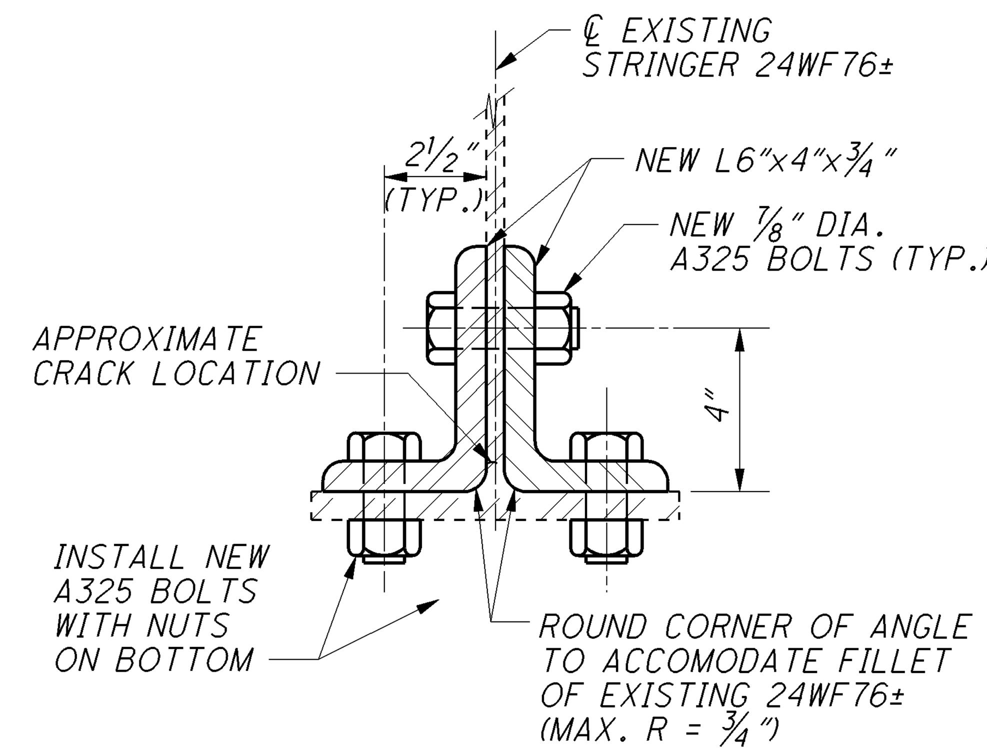
EXISTING STRINGER ELEVATION



DETAIL A

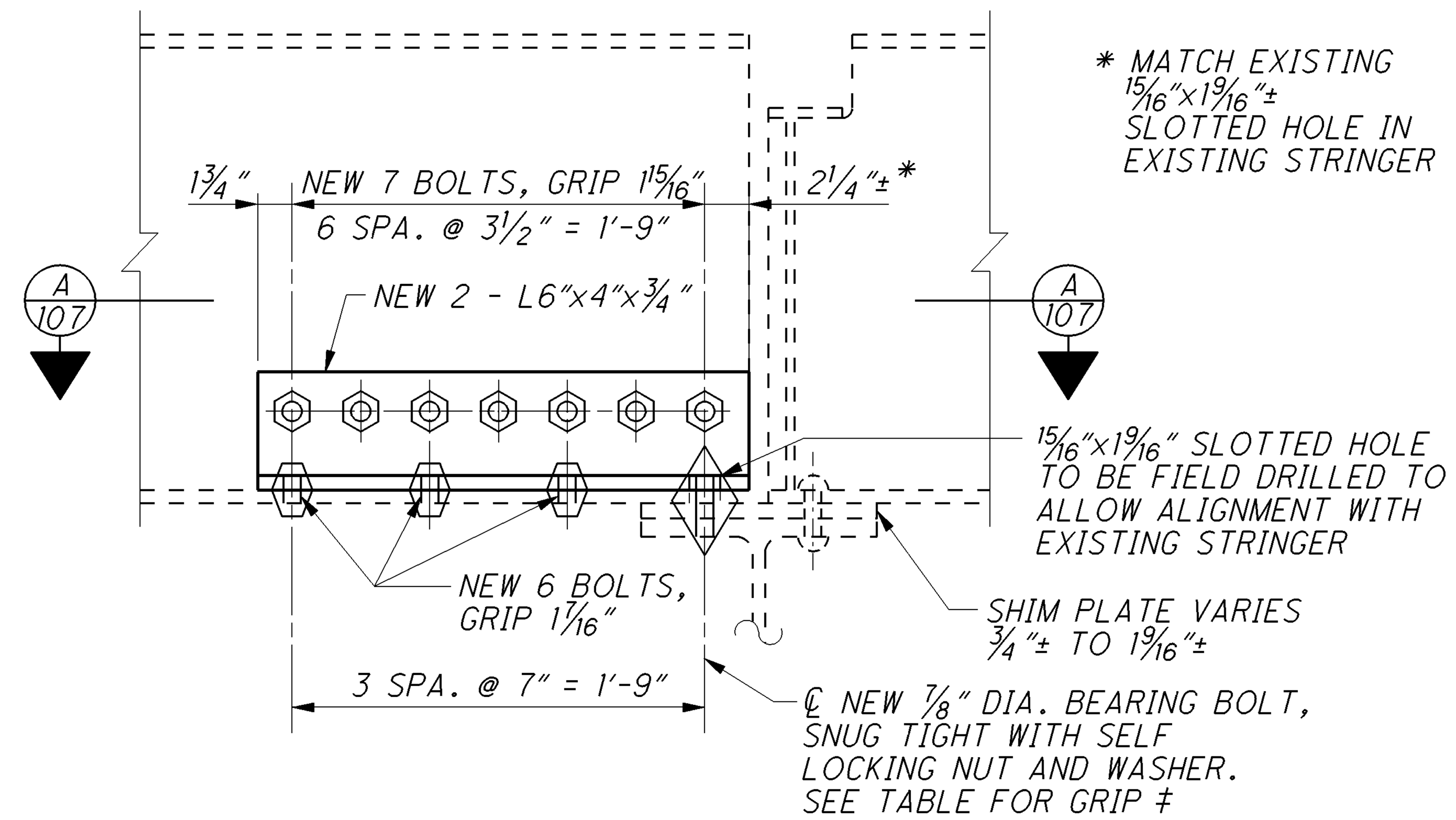


DETAIL B

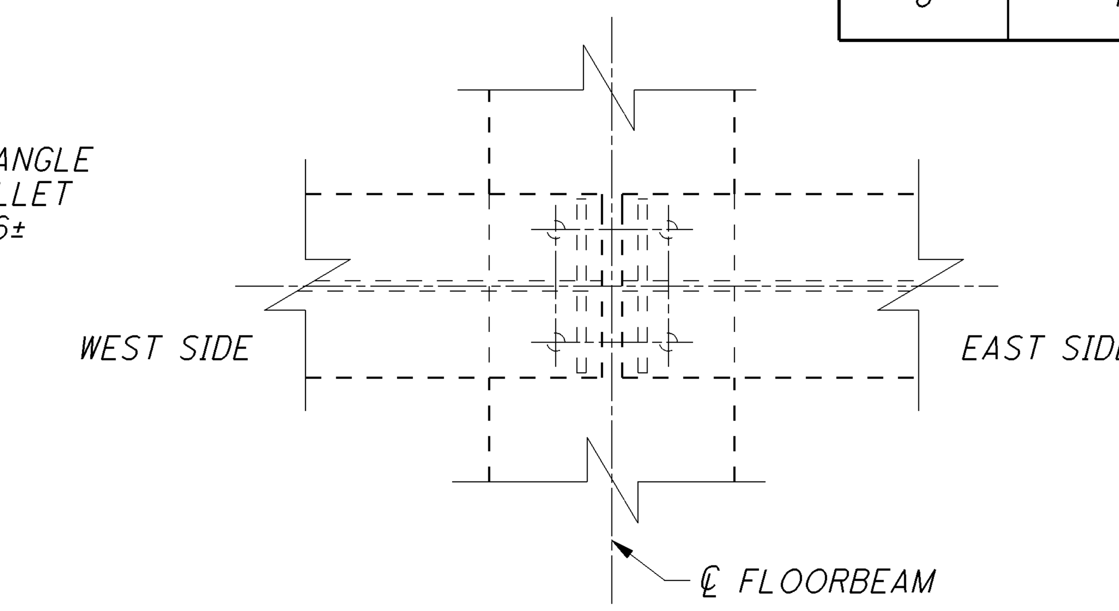


SECTION B-B

STRINGER CRACK LOCATIONS					
SPAN	FLOORBEAM	STRINGER	SIDE	BOLT GRIP ‡	MINIMUM BOLT LENGTH ‡
2	4	4N	WEST	3 1/8"	4 1/2"
2	4	2S	WEST	3 1/8"	4 1/2"
3	7	1S	EAST	3 1/8"	4 1/2"
4	4	3N	WEST	3 7/16"	4 3/4"
4	4	5N	WEST	3 7/16"	4 3/4"
5	7	1S	EAST	3 1/2"	4 3/4"
6	10	CENTER	EAST	3 1/8"	4 1/2"
6	10	4S	EAST	3 1/16"	4 1/2"
6	10	3S	EAST	3 1/16"	4 1/2"
6	10	1S	EAST	3 1/16"	4 1/2"
7	7	3N	EAST	3 15/16"	5 1/2"
8	7	CENTER	WEST	3 7/16"	4 3/4"
8	10	3S	EAST	3 7/16"	4 3/4"
8	10	7N	EAST	3 9/16"	5"
		TOTAL	14		

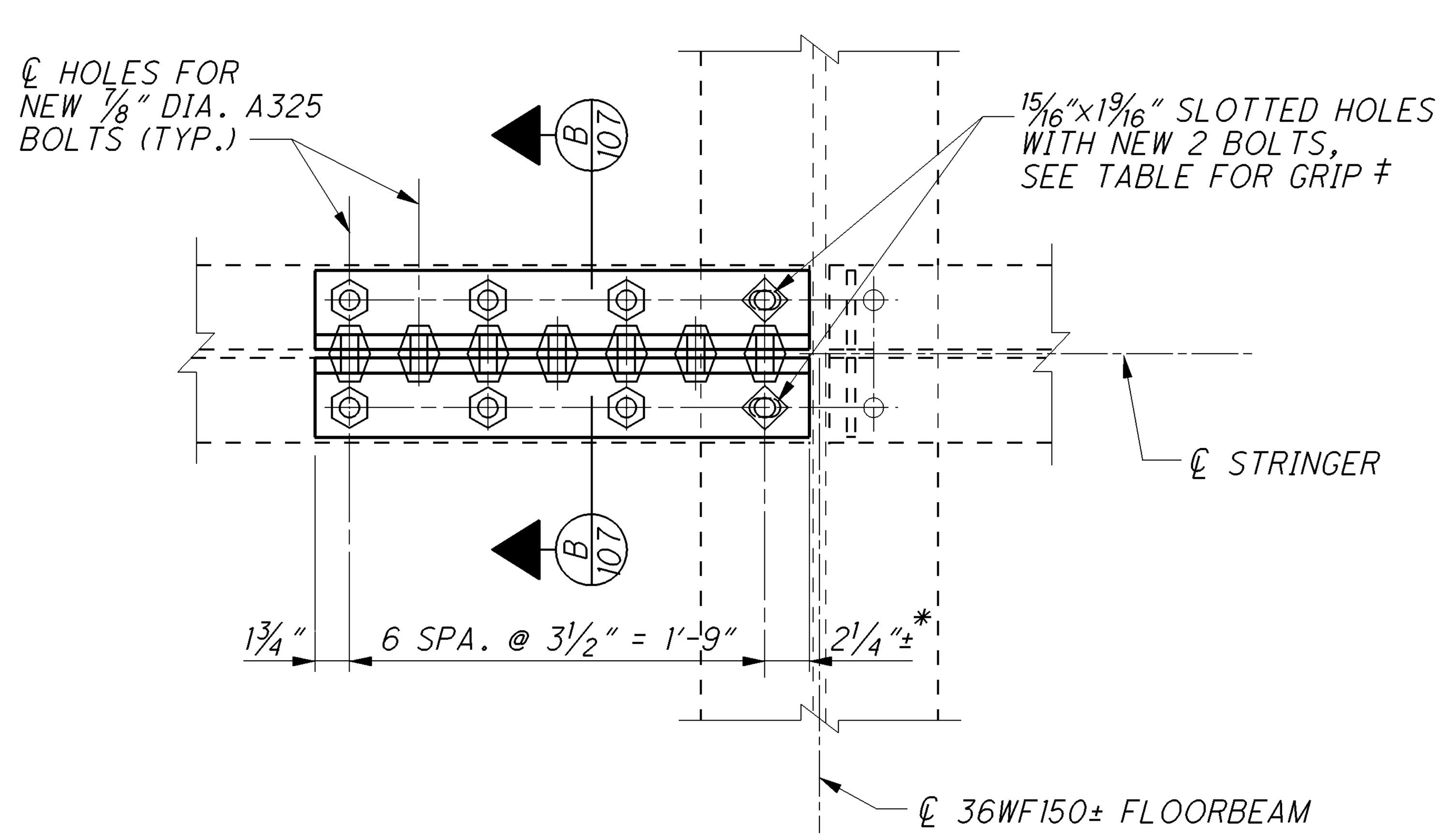


TYPICAL STRINGER BOTTOM FLANGE RETROFIT TYPE A



PLAN

(EXAMPLE OF STRINGER LABELING NOMENCLATURE)



SECTION A-A

SEQUENCE OF OPERATIONS FOR STRINGER BOTTOM FLANGE RETROFIT TYPE A

1. CLEAN STRINGER WEB AND TOP AND BOTTOM OF BOTTOM FLANGE BY PENCIL ABRASIVE BLASTING TO THE LIMITS SHOWN IN THE PLANS.
2. NON-DESTRUCTIVELY TEST (NDT) CRACK AREA TO EXPOSE END OF CRACK.
3. FIELD DRILL HOLES IN CRACK ENDS IN STRINGER WEB AND FLANGE AS REQUIRED. CUT AND GRIND COPE PER DETAIL A IF REQUIRED.
4. REPEAT (NDT) TO ENSURE INTERCEPTION OF CRACK ENDS OR CRACK REMOVAL.
5. REMOVE EXISTING 7/8" DIA. BEARING BOLTS/RIVETS AT FLOORBEAM CONNECTION.
6. PLACE MATCHED, PREDRILLED ANGLES IN PLACE AND MARK HOLES ON STRINGER.
7. FIELD DRILL SLOTTED BEARING BOLT HOLE IN ANGLES TO MATCH EXISTING SLOTTED HOLES IN STRINGER.
8. BOLT ANGLES TO STRINGER .
9. BOLT ANGLES AND STRINGER TO FLOORBEAM.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

STRINGER NUMBERING NOMENCLATURE: SEE PARTIAL FRAMING PLAN ON SHEET 110/140.

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING ANGLES, BEAMS, FILL PLATES, AND SPLICE PLATES. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH. ADDITIONAL LENGTH MAY NEED TO BE ADDED TO THE CALCULATED "GRIP" TO ACCOUNT FOR PACK RUST AND BOWS IN THE EXISTING MATERIAL BEING CONNECTED.

CONNECTION BOLTS SHALL BE 7/8" DIA. A325, GALVANIZED, UNLESS OTHERWISE NOTED. BOLT HOLES SHALL BE EQUAL TO THE NOMINAL BOLT DIAMETER PLUS 1/16".

ITEM 513 - STRUCTURAL STEEL, MISC.: PENCIL ABRASIVE BLASTING, GRINDING AND NDT: SEE GENERAL NOTES SHEET 12/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING AND NDT: SEE GENERAL NOTES SHEET 13/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE A: SEE GENERAL NOTES SHEET 13/140.

BOLT LEGEND: SEE SHEET 15/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

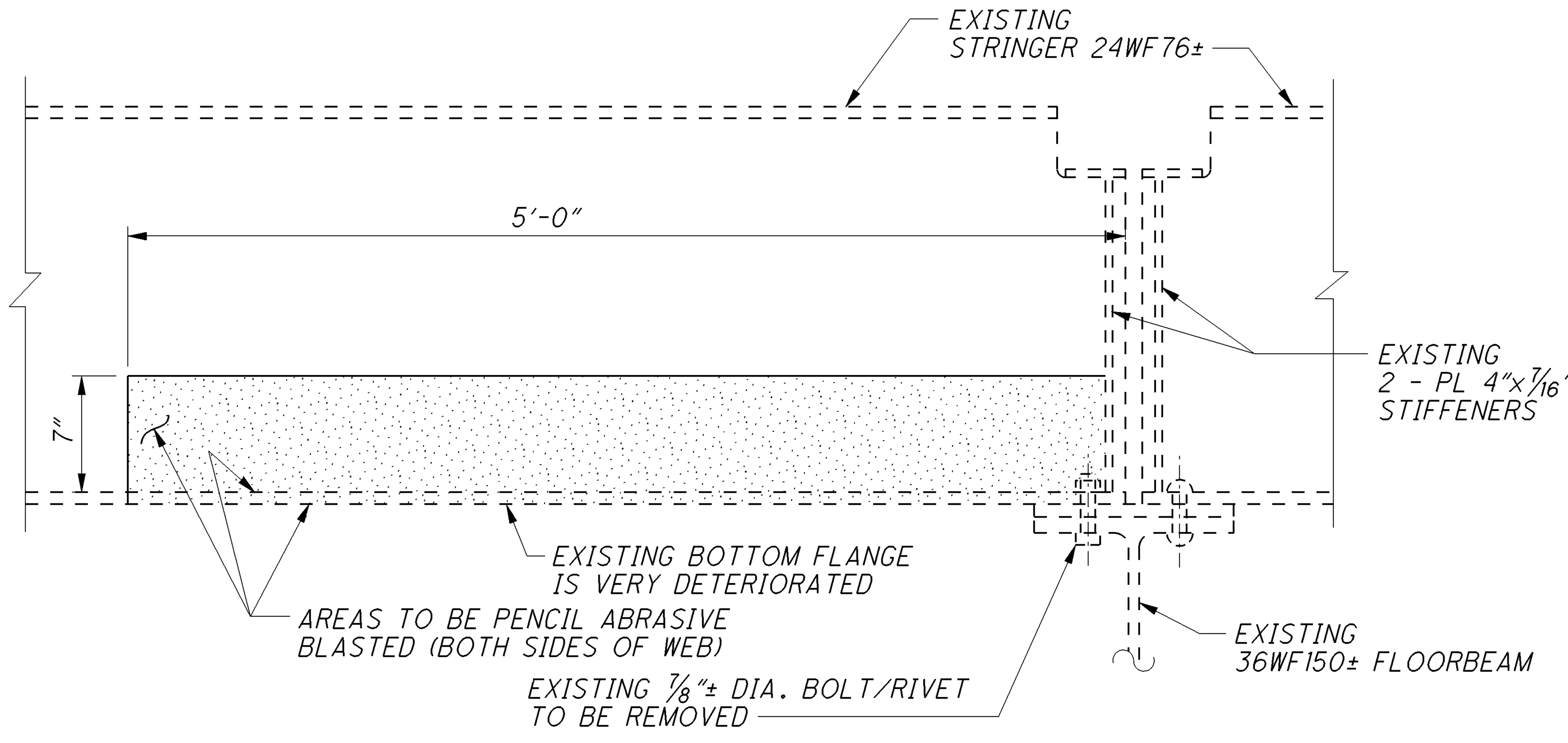
DESIGNED	DRAWN	REVIEWED	DATE
JDB	KH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		1809393	

STRINGER BOTTOM FLANGE RETROFIT TYPE A

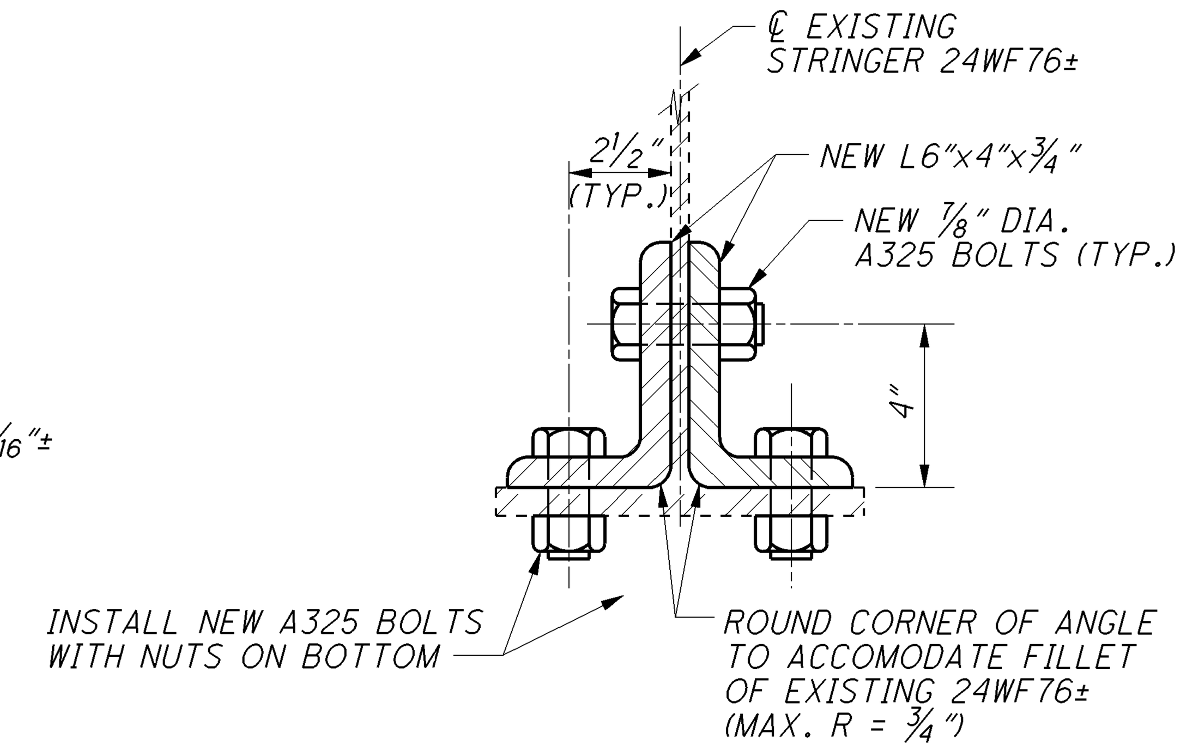
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

82069MD002.DGN 8/3/09 RB,JLS,KH

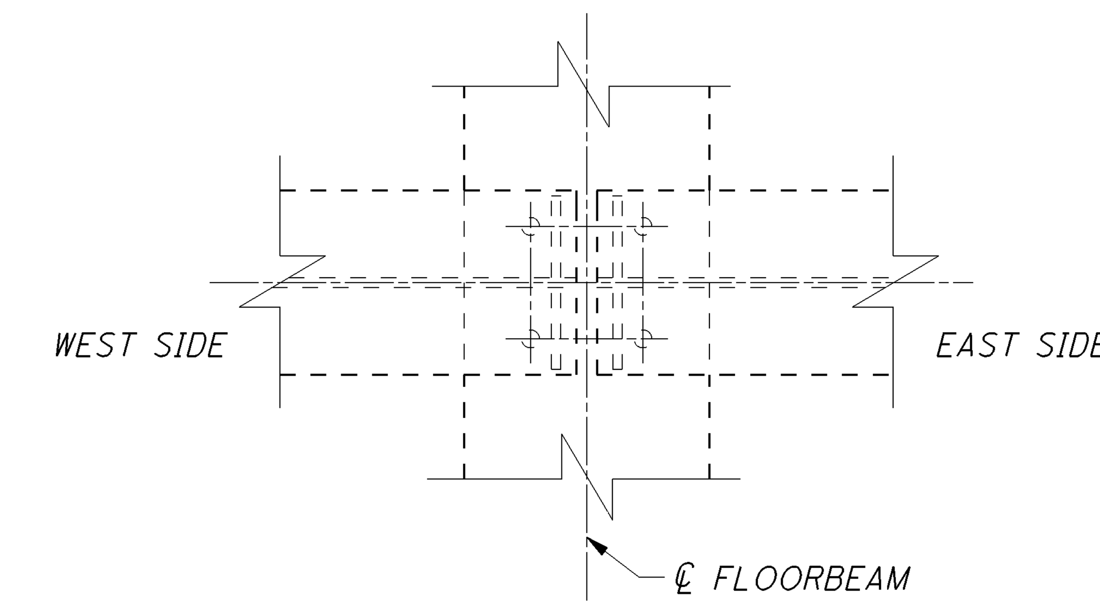


EXISTING STRINGER ELEVATION



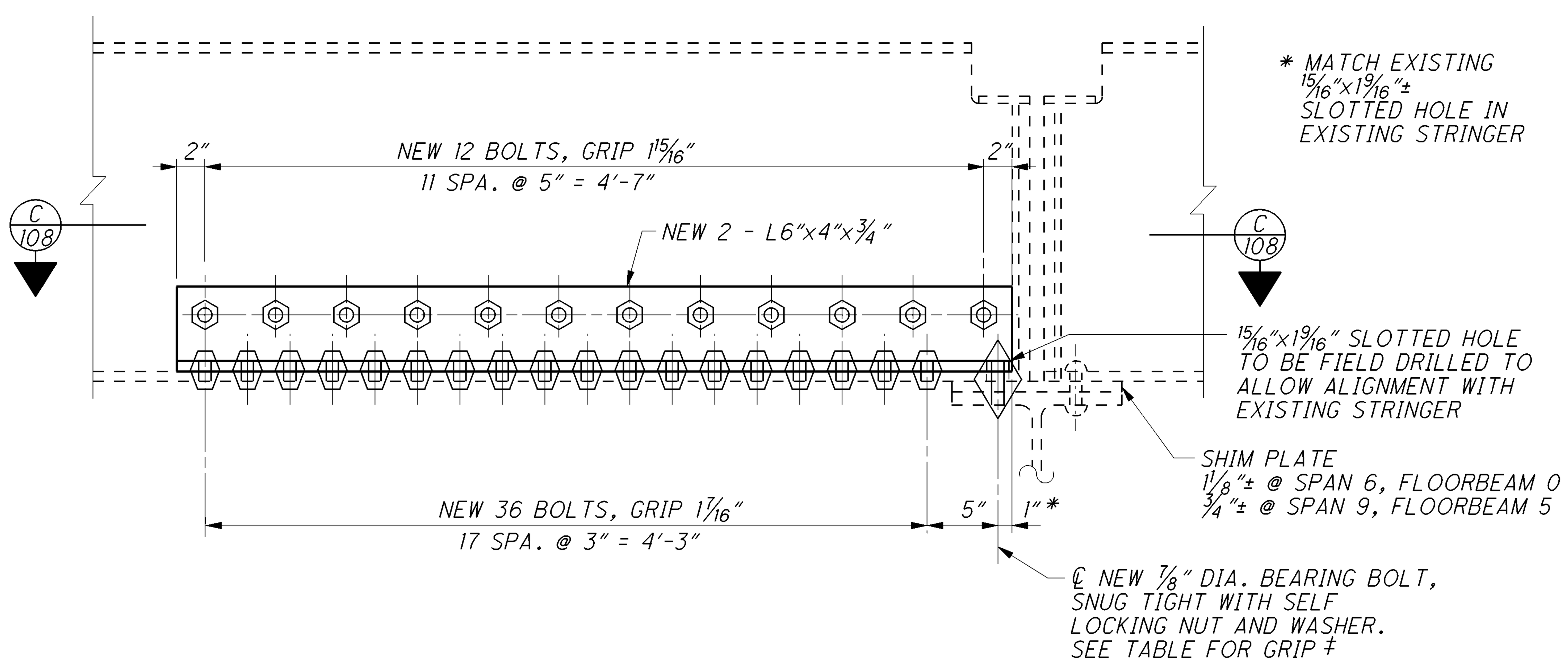
SECTION D-D

STRINGER BOTTOM FLANGE REPAIR LOCATIONS					
SPAN	FLOORBEAM	STRINGER	SIDE	BOLT GRIP‡	MINIMUM BOLT LENGTH‡
6	0	1S	WEST	3½"	4¾"
6	0	1S	EAST	3½"	4¾"
9	5	1N	EAST	3⅛"	4½"
		TOTAL	3		

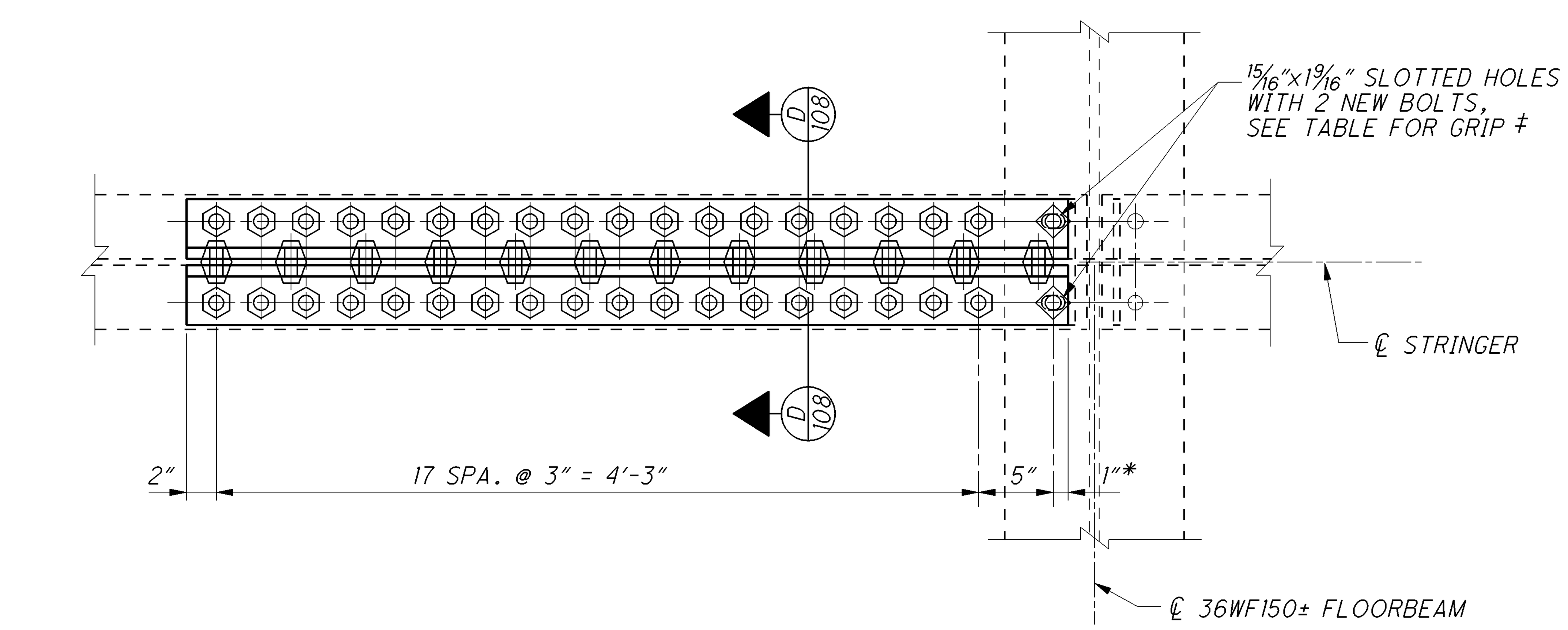


PLAN

(EXAMPLE OF STRINGER LABELING NOMENCLATURE)



TYPICAL STRINGER BOTTOM FLANGE RETROFIT TYPE B



SECTION C-C

SEQUENCE OF OPERATIONS FOR STRINGER BOTTOM FLANGE RETROFIT TYPE B

1. CLEAN STRINGER WEB AND TOP AND BOTTOM OF BOTTOM FLANGE BY PENCIL ABRASIVE BLASTING TO THE LIMITS SHOWN IN THE PLANS.
2. REMOVE EXISTING 7/8" DIA. BEARING BOLTS/RIVETS AT FLOORBEAM CONNECTION.
3. PLACE MATCHED, PREDRILLED ANGLES IN PLACE AND MARK HOLES ON STRINGER.
4. FIELD DRILL SLOTTED BEARING BOLT HOLE IN ANGLES TO MATCH EXISTING SLOTTED HOLES IN STRINGER.
5. BOLT ANGLES TO STRINGER .
6. BOLT ANGLES AND STRINGER TO FLOORBEAM.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

STRINGER NUMBERING NOMENCLATURE: SEE PARTIAL FRAMING PLAN ON SHEET 110/140.

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING ANGLES, BEAMS, FILL PLATES, AND SPLICE PLATES. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH. ADDITIONAL LENGTH MAY NEED TO BE ADDED TO THE CALCULATED "GRIP" TO ACCOUNT FOR PACK RUST AND BOWS IN THE EXISTING MATERIAL BEING CONNECTED.

CONNECTION BOLTS SHALL BE 7/8" DIA. A325, GALVANIZED, UNLESS OTHERWISE NOTED. BOLT HOLES SHALL BE EOUAL TO THE NOMINAL BOLT DIAMETER PLUS 1/16".

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BOTTOM FLANGE RETROFIT TYPE B: SEE GENERAL NOTES SHEET 13/140.

BOLT LEGEND: SEE SHEET 15/140.

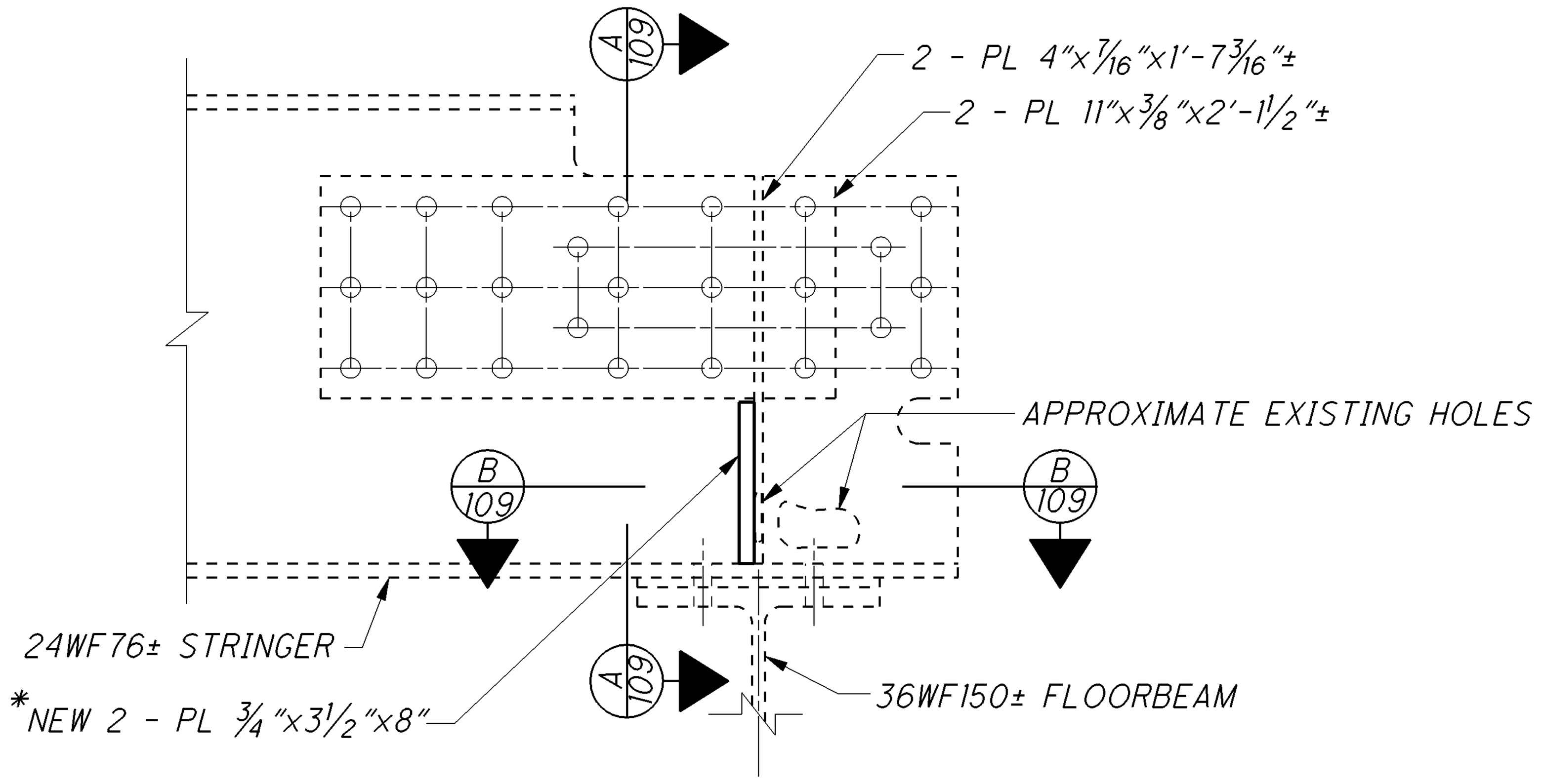
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | CHECKED BLN | DRAWN KH | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

STRINGER BOTTOM FLANGE RETROFIT TYPE B
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

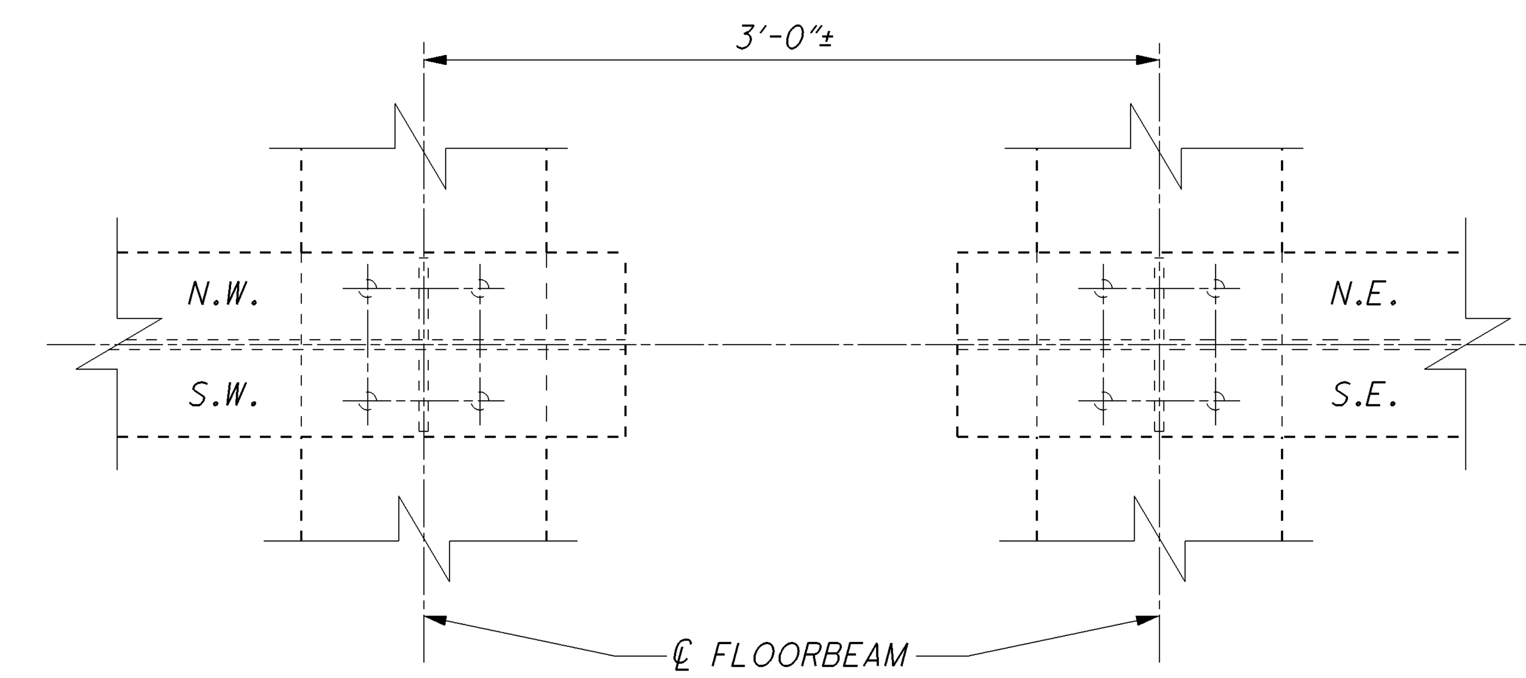
CUY-90-15.24
PID No. 82069

82069MD010.DGN 7/28/08 RB,KH,JLS

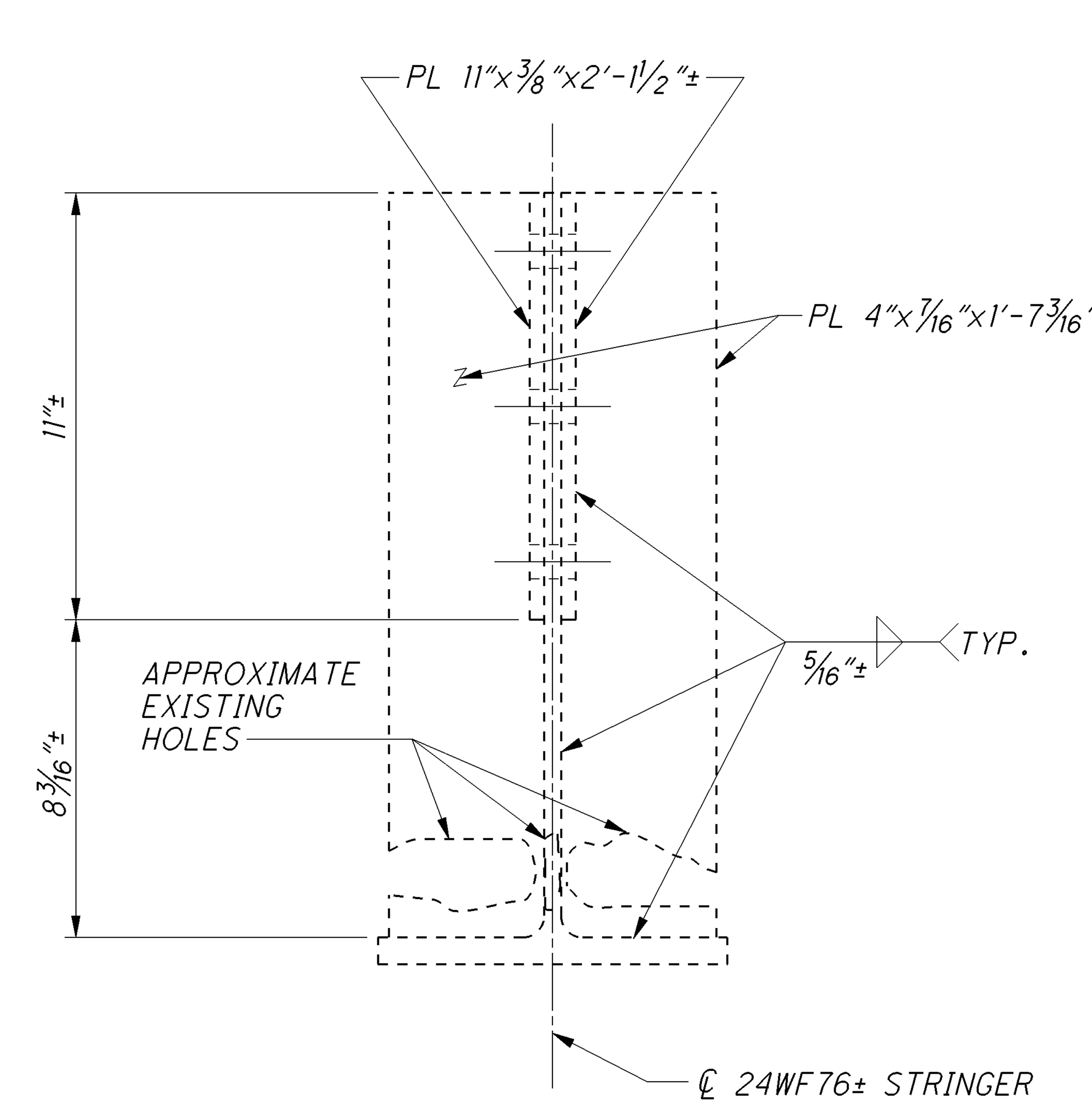


ELEVATION

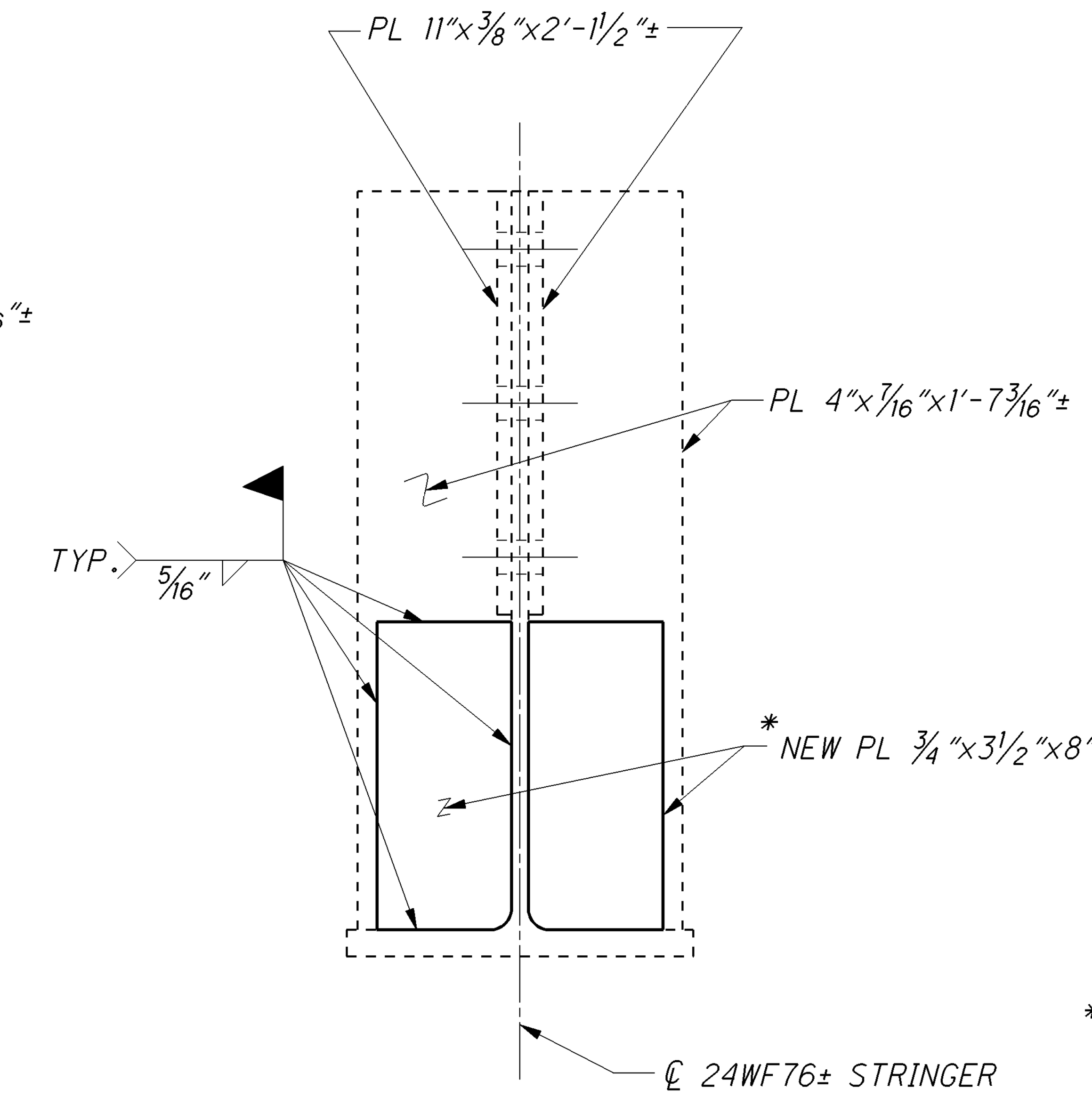
BEARING STIFFENER REPAIR LOCATIONS				
SPAN	FLOORBEAM	STRINGER	SIDE	BEARING STIFFENER
1	0	5N	EAST	N.E. & S.E.
2	12	5N	EAST	N.E. & S.E.
2	12	5S	EAST	N.E. & S.E.
4	12	5N	EAST	N.E. & S.E.
6	4	5S	WEST	N.W. & S.W.
		TOTAL		10



PLAN
(EXAMPLE OF BEARING STIFFENER LABELING NOMENCLATURE)

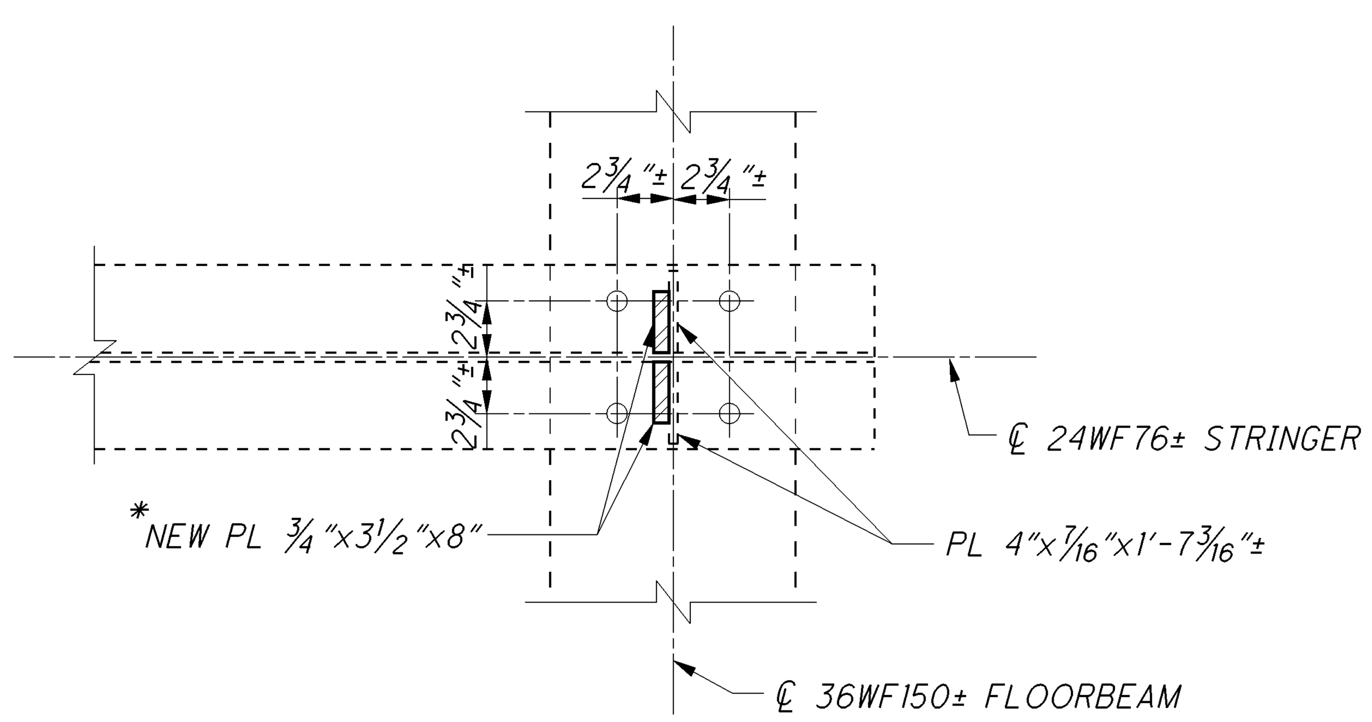


EXISTING SECTION A-A



PROPOSED SECTION A-A

* NEW STIFFENER PLATES SHALL BE TRIMMED TO ACCOMODATE THE STRINGER WEB TO FLANGE FILLET AND THE EXISTING STIFFENER 5/16"± FILLET WELDS.



PROPOSED SECTION B-B

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

STRINGER NUMBERING NOMENCLATURE: SEE PARTIAL FRAMING PLAN ON SHEET 110/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER BEARING STIFFENER REPAIR WITH FURNISHED MATERIAL: SEE GENERAL NOTES SHEET 13/140.

BOLT LEGEND: SEE SHEET 15/140.

82069MD009.DGN 7/28/09 KH,RB,JLS

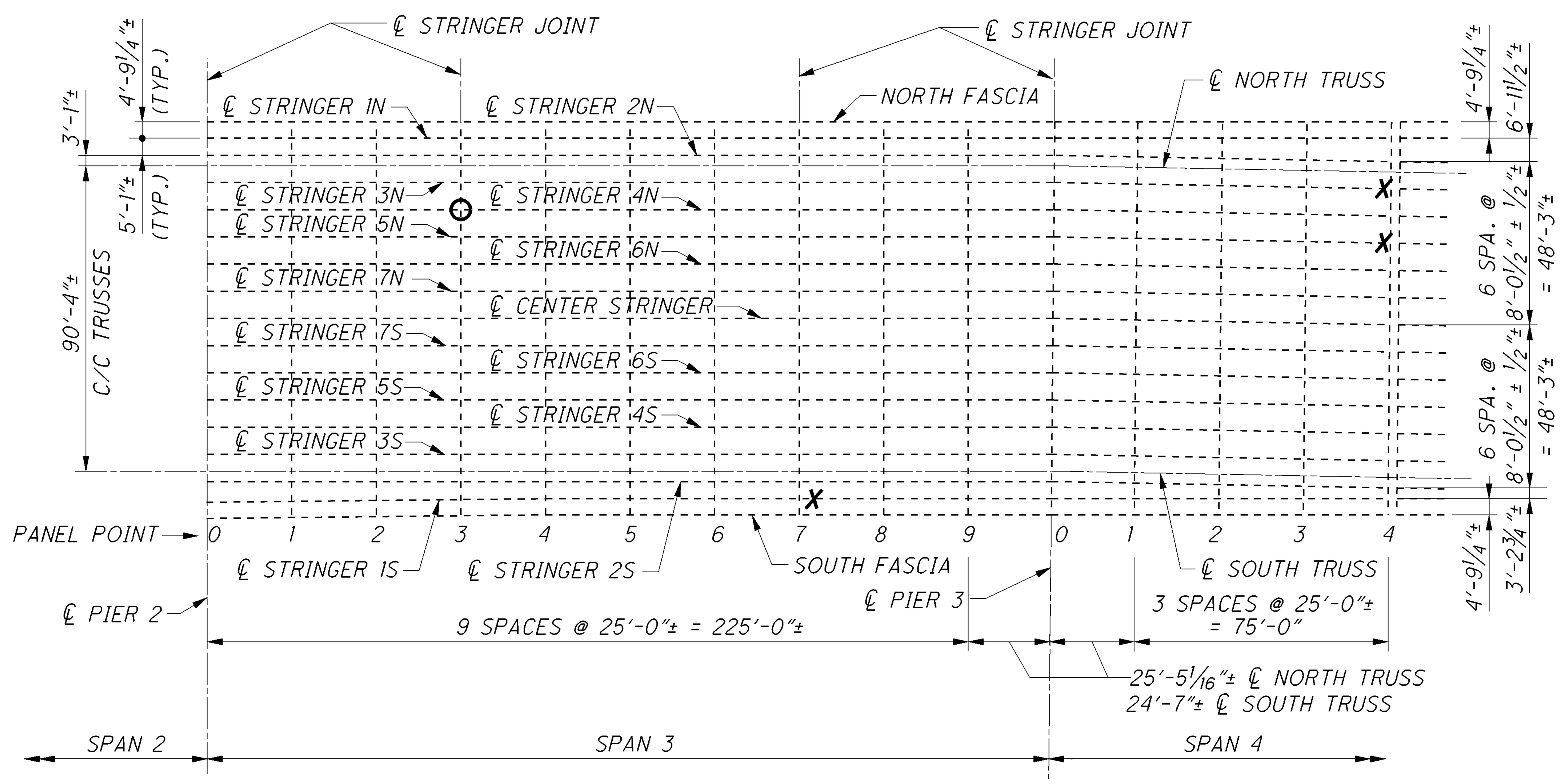
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN KH REVISED
DESIGNED JDB CHECKED BLN

STRINGER BEARING STIFFENER REPAIR
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

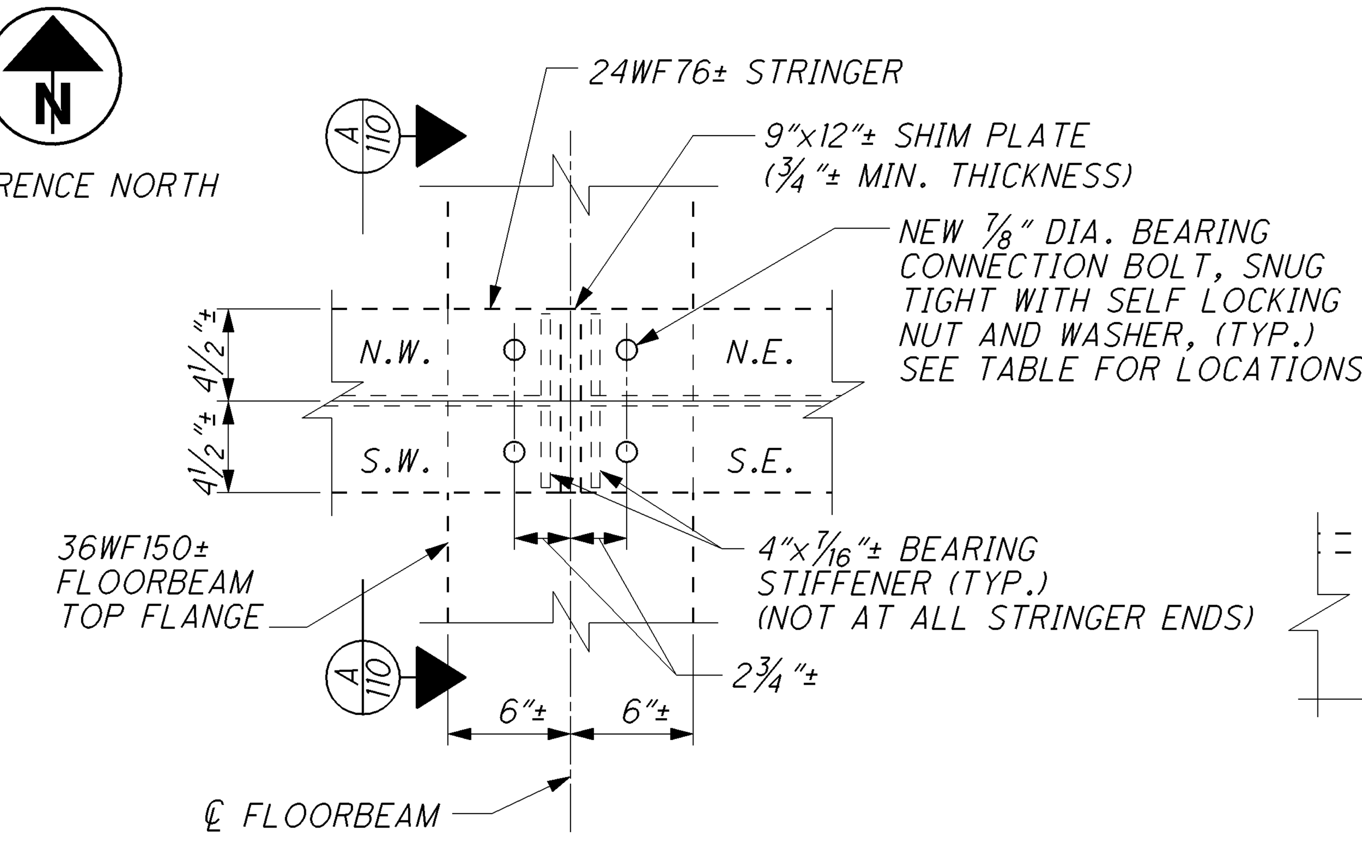
CUY-90-15.24
PID No. 82069

O - STRINGER - FLOORBEAM CONNECTION BOLT/RIVET REPLACEMENT LOCATION.
X - STRINGER BOTTOM FLANGE RETROFIT TYPE A LOCATION. SEE SHEET 107/140.



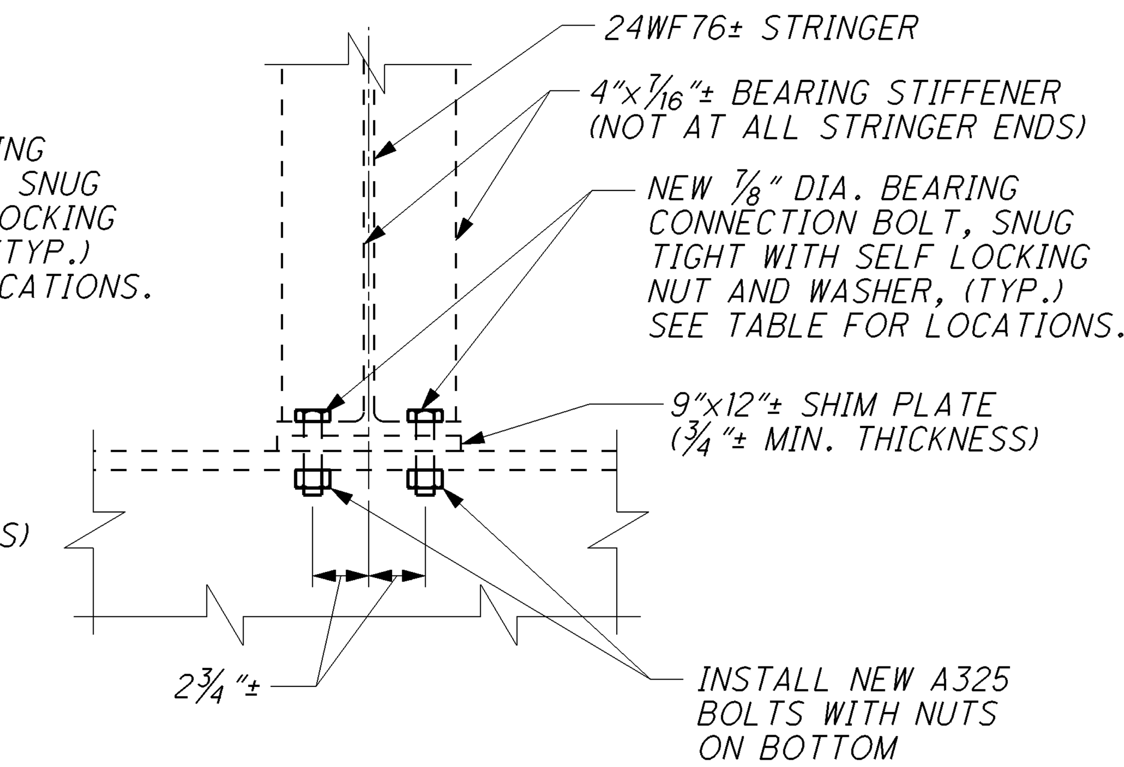
PARTIAL FRAMING PLAN TRUSS SPANS 3 & 4

(EXAMPLE OF STRINGER NUMBERING NOMENCLATURE)



PLAN

REFERENCE NORTH



SECTION A-A

STRINGER - FLOORBEAM CONNECTION BOLT/RIVET REPLACEMENT LOCATIONS

SPAN	FLOORBEAM	STRINGER	CONNECTORS TO BE REPLACED	BOLT GRIP	MINIMUM BOLT LENGTH
1	5	4S	N.E., S.E.	2 3/8"	3 3/4"
2	4	5S	S.W.	2 3/8"	3 3/4"
3	3	4N	N.W.	2 3/8"	3 3/4"
6	7	1N	N.W.	2 5/8"	4"
6	10	1N	S.E.	2 1/2"	3 3/4"
6	10	4N	N.E.	2 7/16"	3 3/4"
6	10	5N	S.E.	2 7/16"	3 3/4"
6	10	7N	S.E.	2 3/8"	3 3/4"
6	10	6S	S.E.	2 3/8"	3 3/4"
7	0	1N	N.E.	2 3/8"	3 3/4"
7	3	1N	N.W.	2 7/8"	4 1/4"
7	7	1S	N.W.	3 1/16"	4 1/2"
9	0	1N	N.W., S.W.	2 9/16"	4"
9	0	1S	N.W., S.W.	2 3/8"	3 3/4"
9	5	1N	N.W., S.W.	2 3/8"	3 3/4"
	TOTAL REPLACED		19		

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING BEAMS, FILL PLATES, AND SPLICE PLATES. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH. ADDITIONAL LENGTH MAY NEED TO BE ADDED TO THE CALCULATED "GRIP" TO ACCOUNT FOR PACK RUST AND BOWS IN THE EXISTING MATERIAL BEING CONNECTED.

CONNECTION BOLTS SHALL BE 7/8" DIA. A325, GALVANIZED, UNLESS OTHERWISE NOTED.

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS: SEE GENERAL NOTES SHEET 13/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN JLS REVISED
DESIGNED JDB CHECKED BLN

STRINGER - FLOORBEAM CONNECTION BOLT/RIVET REPLACEMENT
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

82069MD008.DGN 7/28/09 RB,KH,TWH,JLS

FLOORBEAM CANTILEVER CONNECTION REPAIR TABLE

SPAN	FLOORBEAM	SIDE	SHOP DRAWING PANEL POINT	REPAIR TYPE	SEE SHEET /140
1	0	NORTH	100	CB1-2	113
1	0	SOUTH	100	CB1-2	113
1	5	NORTH	105	CB1-1	112
1	5	SOUTH	105	CB1-2	113
2	0	NORTH	109	CB1-2	113
2	0	SOUTH	109	CB1-1	112
2	4	NORTH	20	CB1-1	112
2	4	SOUTH	20	CB1-2	113
2	8	NORTH	24	CB1-1	112
2	8	SOUTH	24	CB1-1	112
2	12 WEST	NORTH	28	CB1-1	112
2	12 WEST	SOUTH	28	CB1-2	113
3	0	NORTH	304	CB1-2	113
3	0	SOUTH	304	CB1-2	113
3	3	NORTH	307	CB1-2	113
3	3	SOUTH	307	CB1-2	113
3	7	NORTH	311	CB1-1	112
3	7	SOUTH	311	CB1-1	112
4	0	NORTH	314	CB5	118
4	0	SOUTH	314	CB4	117
4	4	NORTH	40	CB3	116
4	4	SOUTH	40	CB2-1	114
4	8	SOUTH	44	CB2-1	114
4	12 WEST	NORTH	48	CB3	116
4	12 WEST	SOUTH	48	CB2-2	115
4	12 EAST	SOUTH	500	CB2-2	115
5	0	NORTH	504	CB7	120
5	0	SOUTH	504	CB6	119
5	3	NORTH	507	CB2-1	114
5	3	SOUTH	507	CB3	116
5	7	NORTH	511	CB2-1	114
5	7	SOUTH	511	CB3	116
6	0	NORTH	514	CB7	120
6	0	SOUTH	514	CB6	119
6	4 WEST	SOUTH	518	CB2-2	115
6	4 EAST	SOUTH	60	CB2-2	115
6	7	NORTH	63	CB3	116
6	10	NORTH	66	CB3	116
6	10	SOUTH	66	CB2-1	114
7	0	NORTH	704	CB7	120
7	0	SOUTH	704	CB6	119
7	3	NORTH	707	CB2-1	114
7	3	SOUTH	707	CB3	116
7	7	NORTH	711	CB2-1	114
7	7	SOUTH	711	CB3	116
8	0	SOUTH	714	CB6	119
8	4 WEST	SOUTH	718	CB2-2	115
8	4 EAST	SOUTH	80	CB2-2	115
8	7	NORTH	83	CB3	116
8	7	SOUTH	83	CB2-1	114
8	10	NORTH	86	CB3	116
8	10	SOUTH	86	CB2-1	114
9	0	NORTH	904	CB5	118
9	0	SOUTH	904	CB4	117
9	5	NORTH	909	CB1-1	112
9	5	SOUTH	909	CB1-1	112

NOTES

CONNECTION BOLT "GRIP": THE "GRIP" IS THE THICKNESS OF THE CONNECTED MATERIAL INCLUDING ANGLES, BEAMS, FILL PLATES, AND SPLICE PLATES. THE "GRIP" DOES NOT INCLUDE WASHERS, NUTS, OR BOLT STICK THROUGH. ADDITIONAL LENGTH MAY NEED TO BE ADDED TO THE CALCULATED "GRIP" TO ACCOUNT FOR PACK RUST AND BOWS IN THE EXISTING MATERIAL BEING CONNECTED.

CONNECTION BOLTS: SHALL BE 7/8" DIA. A325, GALVANIZED, UNLESS OTHERWISE NOTED.

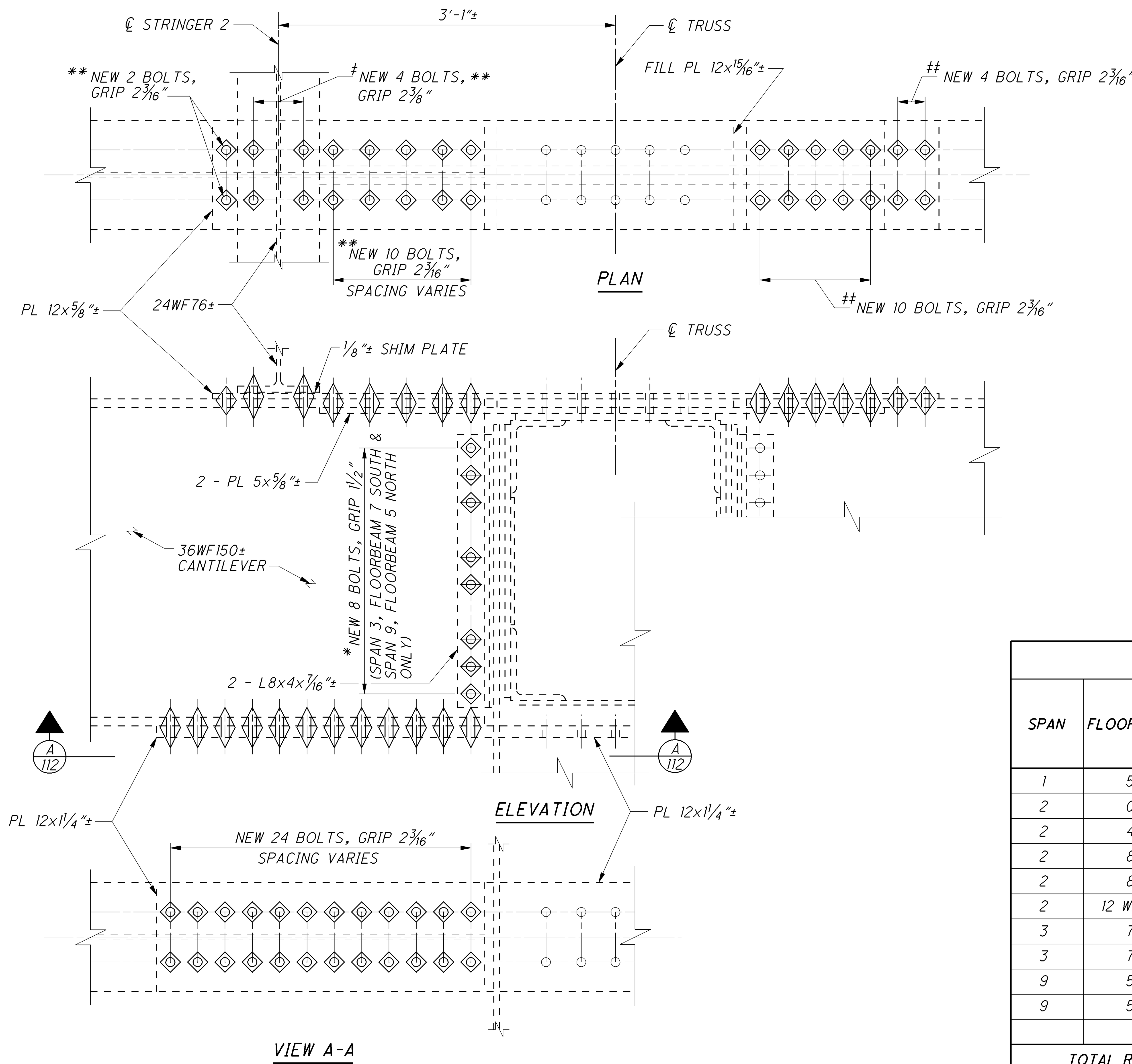
ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS: SEE GENERAL NOTES SHEET 13/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | CHECKED BLN | DRAWN KH | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

FLOORBEAM CANTILEVER CONNECTION REPAIR TABLE
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



TYPE CB1

‡ EAST RIVETS PREVIOUSLY REPLACED AT SPAN 3, FLOORBEAM 7 NORTH AND SOUTH.

‡‡ NOT REPLACED AT SPAN 2, FLOORBEAM 8 NORTH.

** NOT REPLACED AT SPAN 2, FLOORBEAM 12 NORTH WEST.

BOLT SUMMARY TABLE - ⅞" DIA. A325

SPAN	FLOORBEAM	SIDE	2¾" MINIMUM BOLT LENGTH 1½" BOLT GRIP	3" MINIMUM BOLT LENGTH 1⁹⁄₁₆" BOLT GRIP	3½" MINIMUM BOLT LENGTH 2³⁄₁₆" BOLT GRIP	3¾" MINIMUM BOLT LENGTH 2⅜" BOLT GRIP
1	5	NORTH		6	44	4
2	0	SOUTH		6	44	4
2	4	NORTH		6	44	4
2	8	NORTH		2 ‡‡	34 ‡‡	4
2	8	SOUTH		6	44	4
2	12 WEST	NORTH		4 **	34 **	**
3	7	NORTH		6	44	2 ‡
3	7	SOUTH	8 *	6	44	2 ‡
9	5	NORTH	8 *	6	44	4
9	5	SOUTH		6	44	4
TOTAL REPLACED			16	54	420	32

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

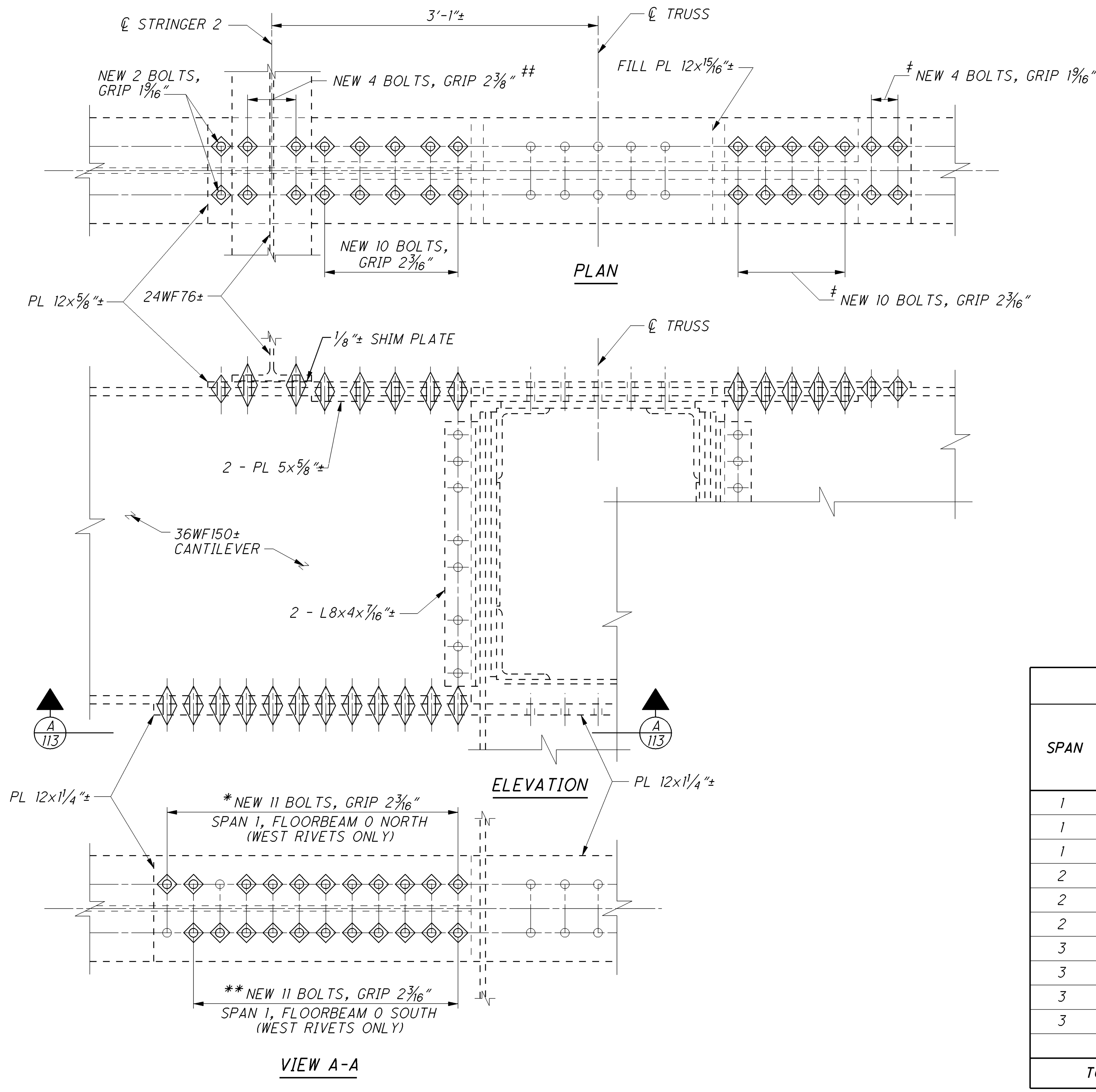
CB1-1.DGN 7/28/09 RB,KH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN RB | REVIEWED DAP | DATE 7/31/09
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 1809393

FLOORBEAM CANTILEVER CONNECTION TYPE CB1 - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



TYPE CB1

NOT REPLACED AT SPAN 2, FLOORBEAM 0 NORTH, SPAN 2, FLOORBEAM 4 SOUTH AND SPAN 3, FLOORBEAM 3 SOUTH

THE WEST 2 BOLTS AT SPAN 2, FLOORBEAM 4 SOUTH WILL BE REPLACED AS PART OF THE STRINGER END REPAIR.

BOLT SUMMARY TABLE - 7/8" DIA. A325

SPAN	FLOORBEAM	SIDE	3" MINIMUM BOLT LENGTH 1 9/16" BOLT GRIP	3 1/2" MINIMUM BOLT LENGTH 2 3/16" BOLT GRIP	3 3/4" MINIMUM BOLT LENGTH 2 3/8" BOLT GRIP
1	0	NORTH	6	31 *	4
1	0	SOUTH	6	31 **	4
1	5	SOUTH	6	20	4
2	0	NORTH	2 #	10 #	4
2	4	SOUTH	2 #	10 #	2 ##
2	12 WEST	SOUTH	6	20	4
3	0	NORTH	6	20	4
3	0	SOUTH	6	20	4
3	3	NORTH	6	20	4
3	3	SOUTH	2 #	10 #	4
TOTAL REPLACED			48	192	38

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

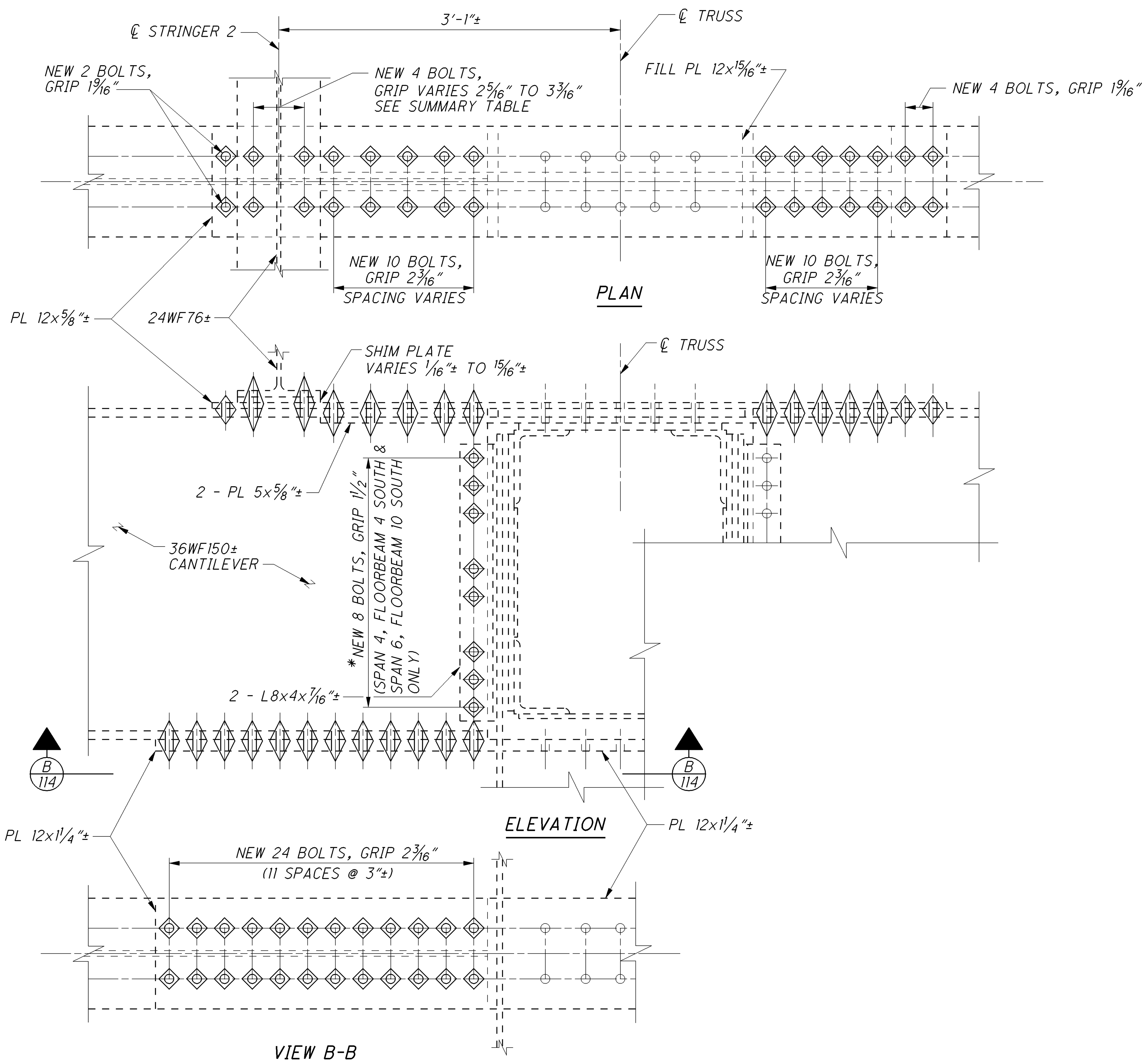
ADDITIONAL NOTES: SEE SHEET 111/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | CHECKED BLN | DRAWN RB | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

FLOORBEAM CANTILEVER CONNECTION TYPE CB1 - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



TYPE CB2

BOLT SUMMARY TABLE - 7/8" DIA. A325					
SPAN	FLOORBEAM	SIDE	2 3/4" MINIMUM BOLT LENGTH 1 1/2" BOLT GRIP	3" MINIMUM BOLT LENGTH 1 9/16" BOLT GRIP	3 1/2" MINIMUM BOLT LENGTH 2 3/16" BOLT GRIP
4	4	SOUTH	8 *	6	44
4	8	SOUTH		6	44
5	3	NORTH		6	44
5	7	NORTH		6	44
6	10	SOUTH	8 *	6	44
7	3	NORTH		6	44
7	7	NORTH		6	44
8	7	SOUTH		6	44
8	10	SOUTH		6	44
TOTAL REPLACED			16	54	396

BOLT SUMMARY TABLE - 7/8" DIA. A325						
SPAN	FLOORBEAM	SIDE	3 3/4" MINIMUM BOLT LENGTH 2 5/16" BOLT GRIP	4" MINIMUM BOLT LENGTH 2 9/16" - 2 3/4" BOLT GRIP	4 1/4" MINIMUM BOLT LENGTH 2 7/8" BOLT GRIP	4 1/2" MINIMUM BOLT LENGTH 3 3/16" BOLT GRIP
4	4	SOUTH		4		
4	8	SOUTH		4		
5	3	NORTH			4	
5	7	NORTH		4		
6	10	SOUTH	4			
7	3	NORTH			4	
7	7	NORTH				4
8	7	SOUTH		4		
8	10	SOUTH		4		
TOTAL REPLACED			4	20	8	4

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

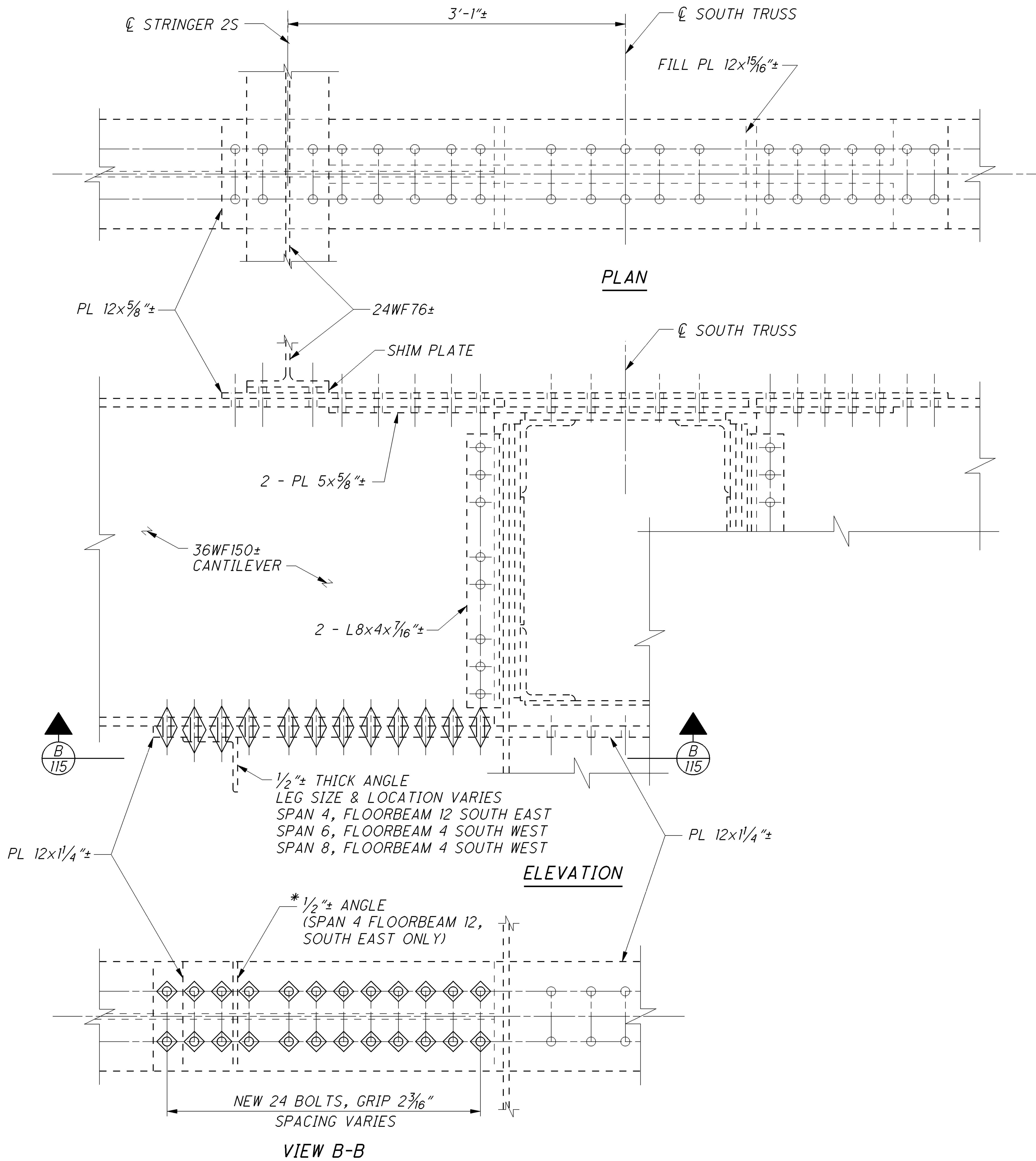
DESIGNED JDB | CHECKED BLN | DRAWN RB | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

FLOORBEAM CANTILEVER CONNECTION TYPE CB2 - 1

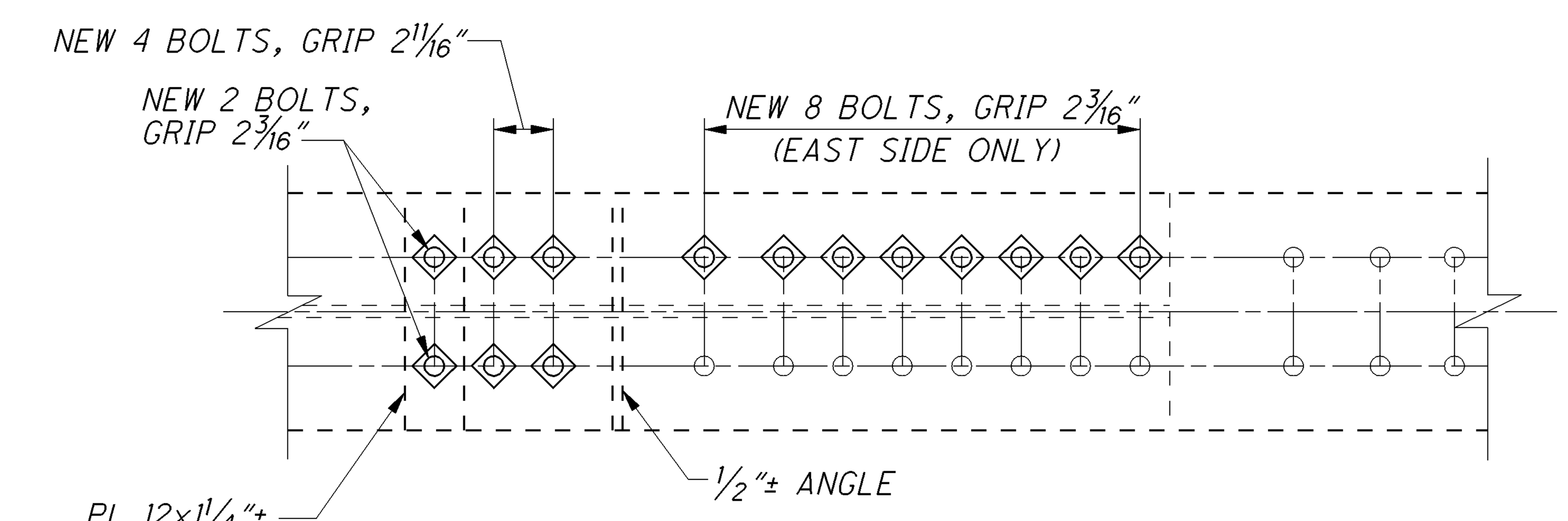
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

CB2-1.DGN 7/28/09 RB,KH,JLS

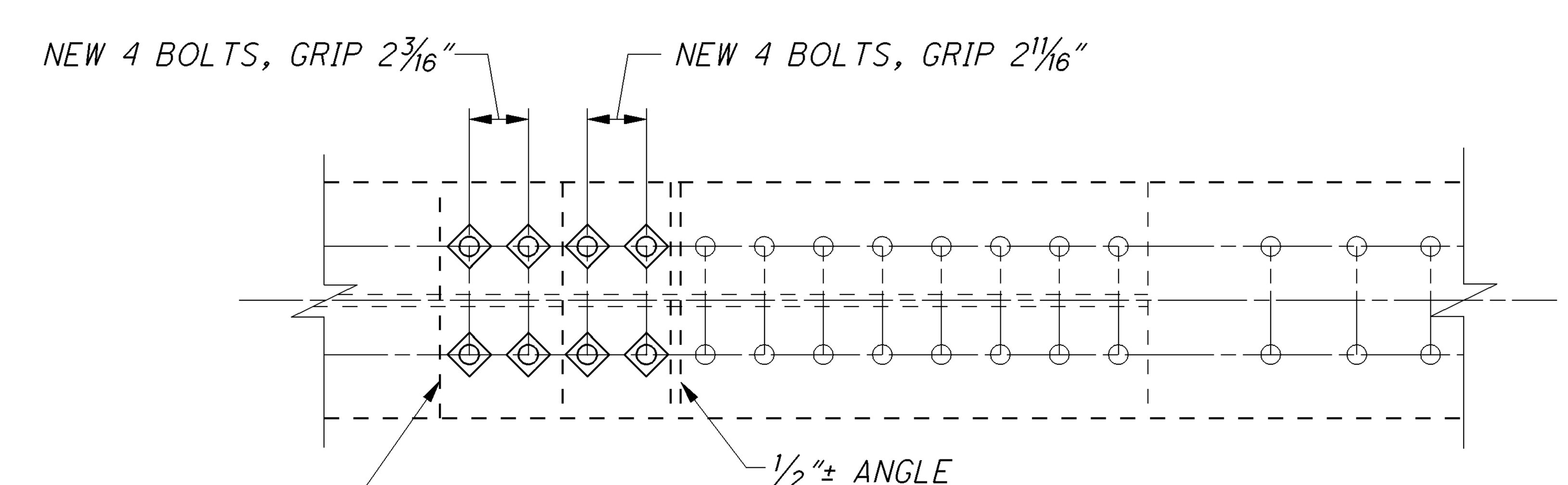


TYPE CB2



VIEW B-B ‡

(SPAN 6, FLOORBEAM 4 SOUTH WEST)



VIEW B-B **

(SPAN 8, FLOORBEAM 4 SOUTH WEST)

BOLT SUMMARY TABLE - 7/8" DIA. A325

SPAN	FLOORBEAM	SIDE	3 1/2" MINIMUM BOLT LENGTH 2 3/16" BOLT GRIP	4" MINIMUM BOLT LENGTH 2 11/16" BOLT GRIP
4	12 WEST	SOUTH	24	
4	12 EAST	SOUTH	20	4 *
6	4 WEST	SOUTH	10	4 ‡
6	4 EAST	SOUTH	24	
8	4 WEST	SOUTH	4	4 **
8	4 EAST	SOUTH	24	
TOTAL REPLACED			106	12

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

DRAWN RB | REVISED

DESIGNED JDB | CHECKED BLN

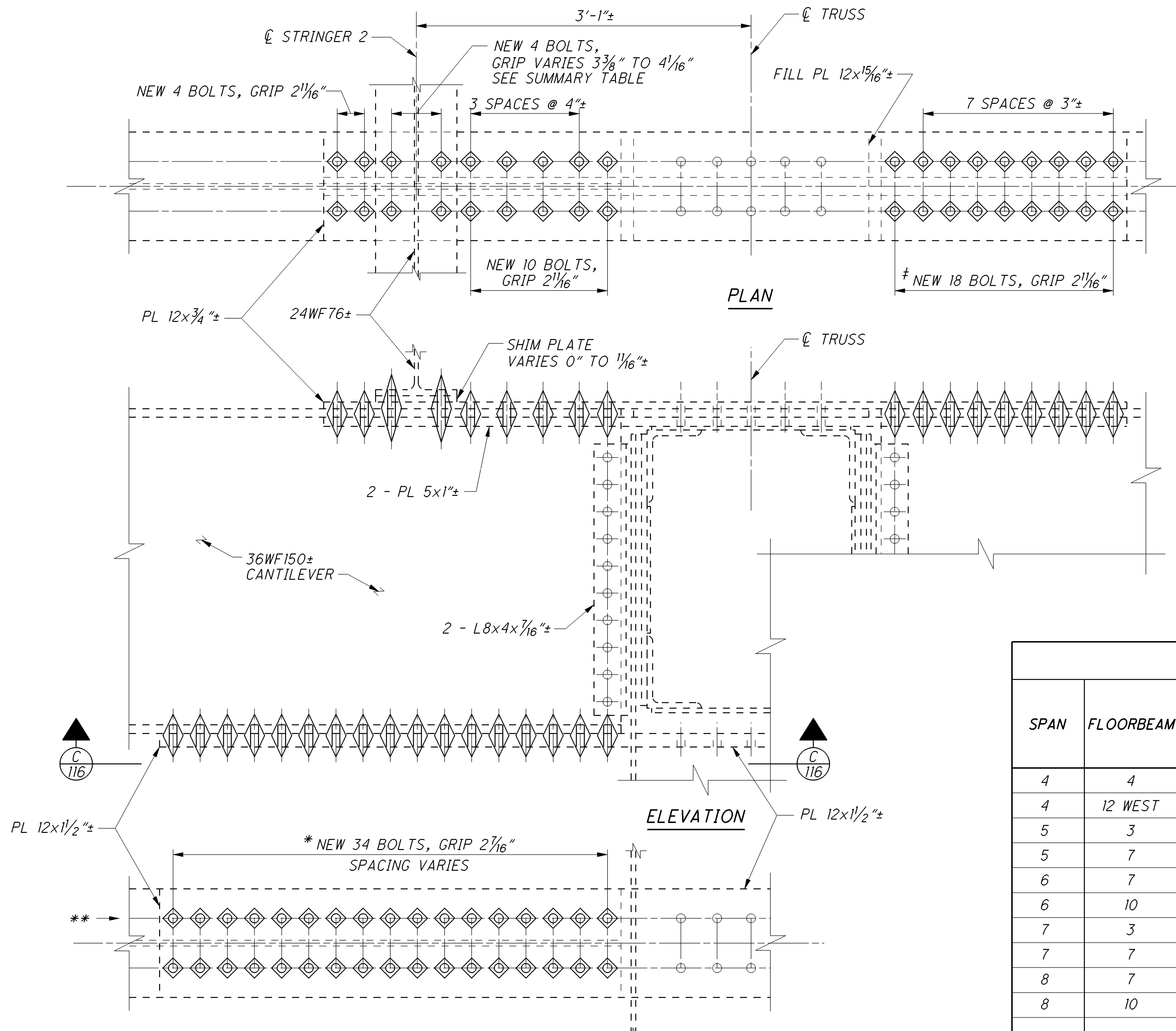
FLOORBEAM CANTILEVER CONNECTION TYPE CB2 - 2

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24

PID No. 82069

CB2-2.DGN 7/28/09 RB,KH,JLS



VIEW C-C

TYPE CB3

* NOT REPLACED AT SPAN 4, FLOORBEAM 4 NORTH AND SPAN 6, FLOORBEAM 7 NORTH.

** 17 RIVETS ON WEST SIDE NOT REPLACED AT SPAN 4, FLOORBEAM 12 NORTH WEST.

‡ NOT REPLACED AT SPAN 4, FLOORBEAM 4 NORTH AND SPAN 8, FLOORBEAM 7 NORTH

BOLT SUMMARY TABLE - 7/8" DIA. A325

SPAN	FLOORBEAM	SIDE	3¾" MINIMUM BOLT LENGTH 2 7/16" BOLT GRIP	4" MINIMUM BOLT LENGTH 2 11/16" BOLT GRIP	4¾" MINIMUM BOLT LENGTH 3⅜" BOLT GRIP	5" MINIMUM BOLT LENGTH 3⅝" - 3¾" BOLT GRIP	5½" MINIMUM BOLT LENGTH 3⅞" - 4 1/16" BOLT GRIP
4	4	NORTH	*	14 ‡		4	
4	12 WEST	NORTH	17 **	32	4		
5	3	SOUTH	34	32		4	
5	7	SOUTH	34	32		4	
6	7	NORTH	*	32		4	
6	10	NORTH	34	32	4		
7	3	SOUTH	34	32			4
7	7	SOUTH	34	32			4
8	7	NORTH	34	14 ‡		4	
8	10	NORTH	34	32			4
TOTAL REPLACED			255	284	8	20	12

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

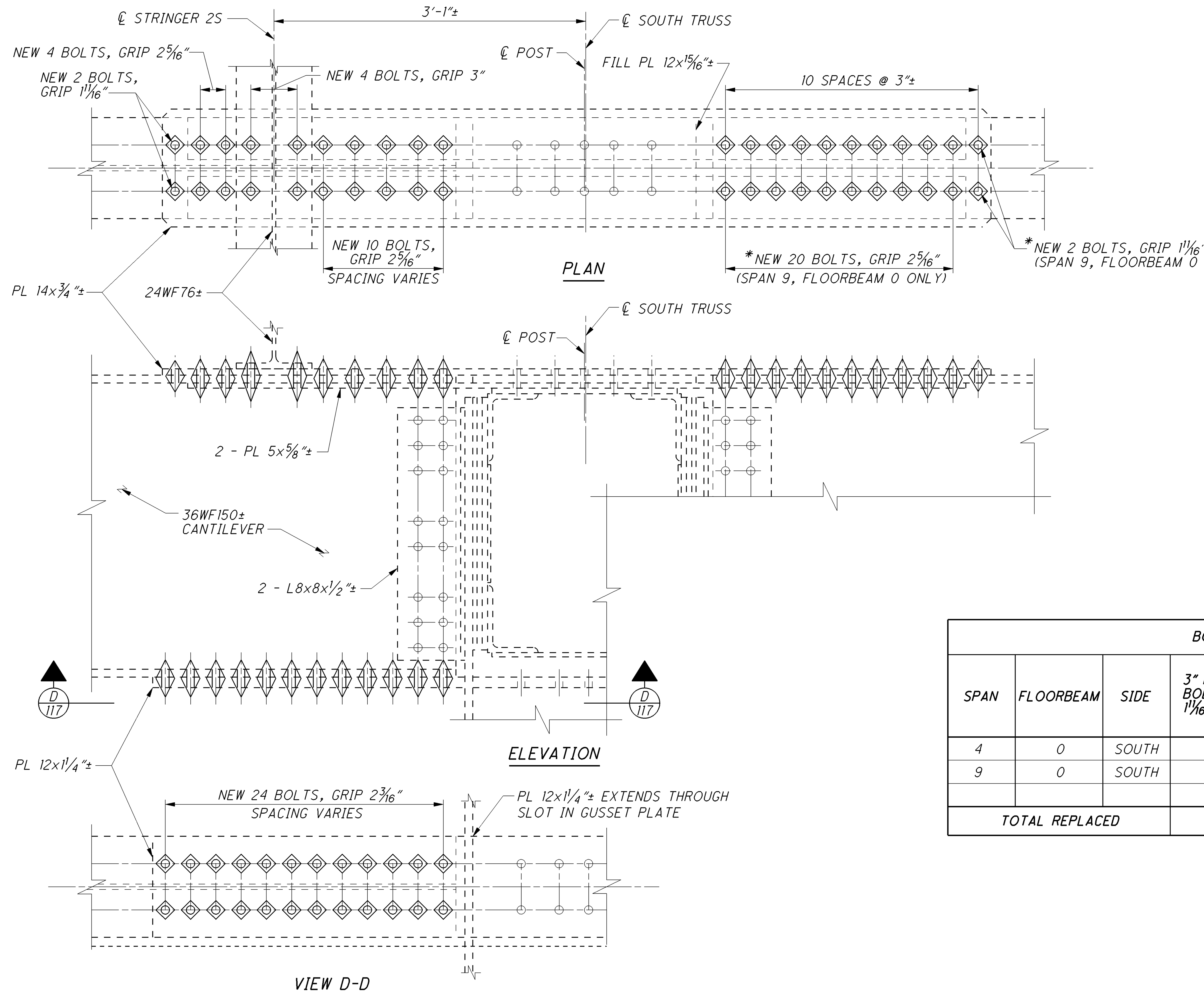
CB3.DGN 7/28/09 RB,KH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN RB | REVIEWED DAP | DATE 7/31/09
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 1809393

FLOORBEAM CANTILEVER CONNECTION TYPE CB3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



TYPE CB4

BOLT SUMMARY TABLE - 7/8" DIA. A325						
SPAN	FLOORBEAM	SIDE	3" MINIMUM BOLT LENGTH 1 11/16" BOLT GRIP	3 1/2" MINIMUM BOLT LENGTH 2 3/16" BOLT GRIP	3 3/4" MINIMUM BOLT LENGTH 2 5/16" BOLT GRIP	4 1/4" MINIMUM BOLT LENGTH 3" BOLT GRIP
4	0	SOUTH	2	24	14	4
9	0	SOUTH	4 *	24	34 *	4
TOTAL REPLACED			6	48	48	8

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

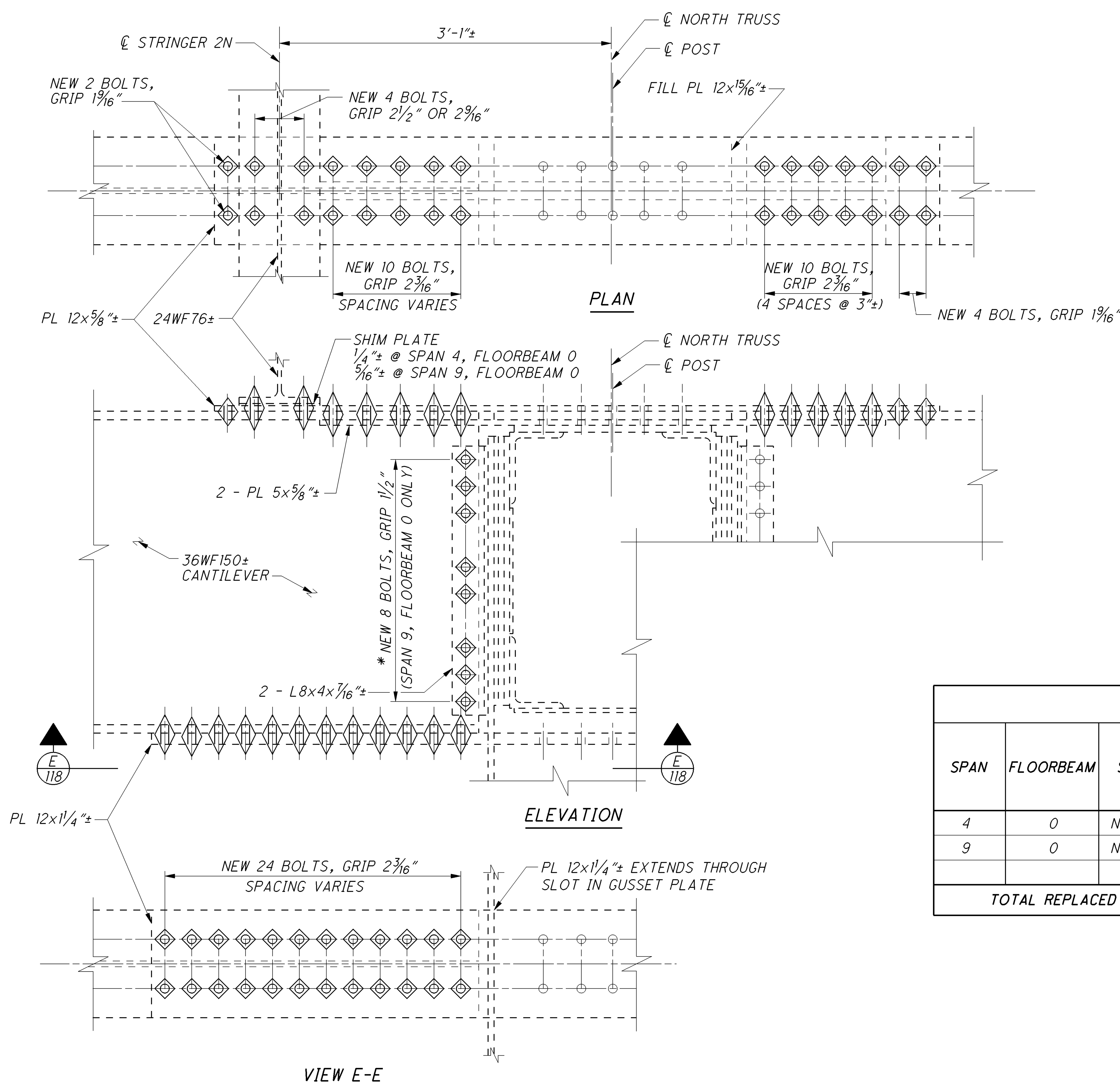
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	RB	DAP	7/31/09
CHECKED BLN	REVISED	STRUCTURE FILE NUMBER 1809393	

FLOORBEAM CANTILEVER CONNECTION TYPE CB4
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

CB4.DGN 7/28/09 RB,KH,JLS



TYPE CB5

BOLT SUMMARY TABLE - $\frac{7}{8}$" DIA. A325							
SPAN	FLOORBEAM	SIDE	$2\frac{3}{4}$" MINIMUM BOLT LENGTH $1\frac{1}{2}$" BOLT GRIP	3" MINIMUM BOLT LENGTH $1\frac{9}{16}$" BOLT GRIP	$3\frac{1}{2}$" MINIMUM BOLT LENGTH $2\frac{3}{16}$" BOLT GRIP	$3\frac{3}{4}$" MINIMUM BOLT LENGTH $2\frac{1}{2}$" BOLT GRIP	4" MINIMUM BOLT LENGTH $2\frac{9}{16}$" BOLT GRIP
4	0	NORTH		6	44	4	
9	0	NORTH	8 *	6	44		4
TOTAL REPLACED			8	12	88	4	4

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

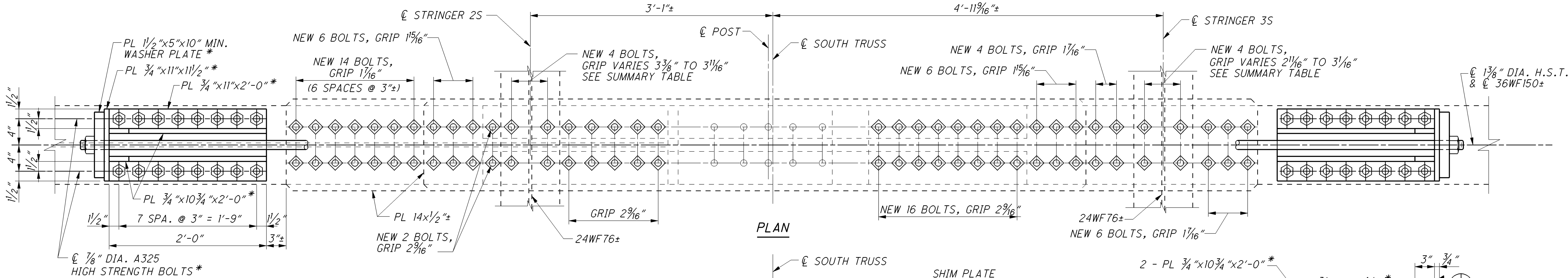
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

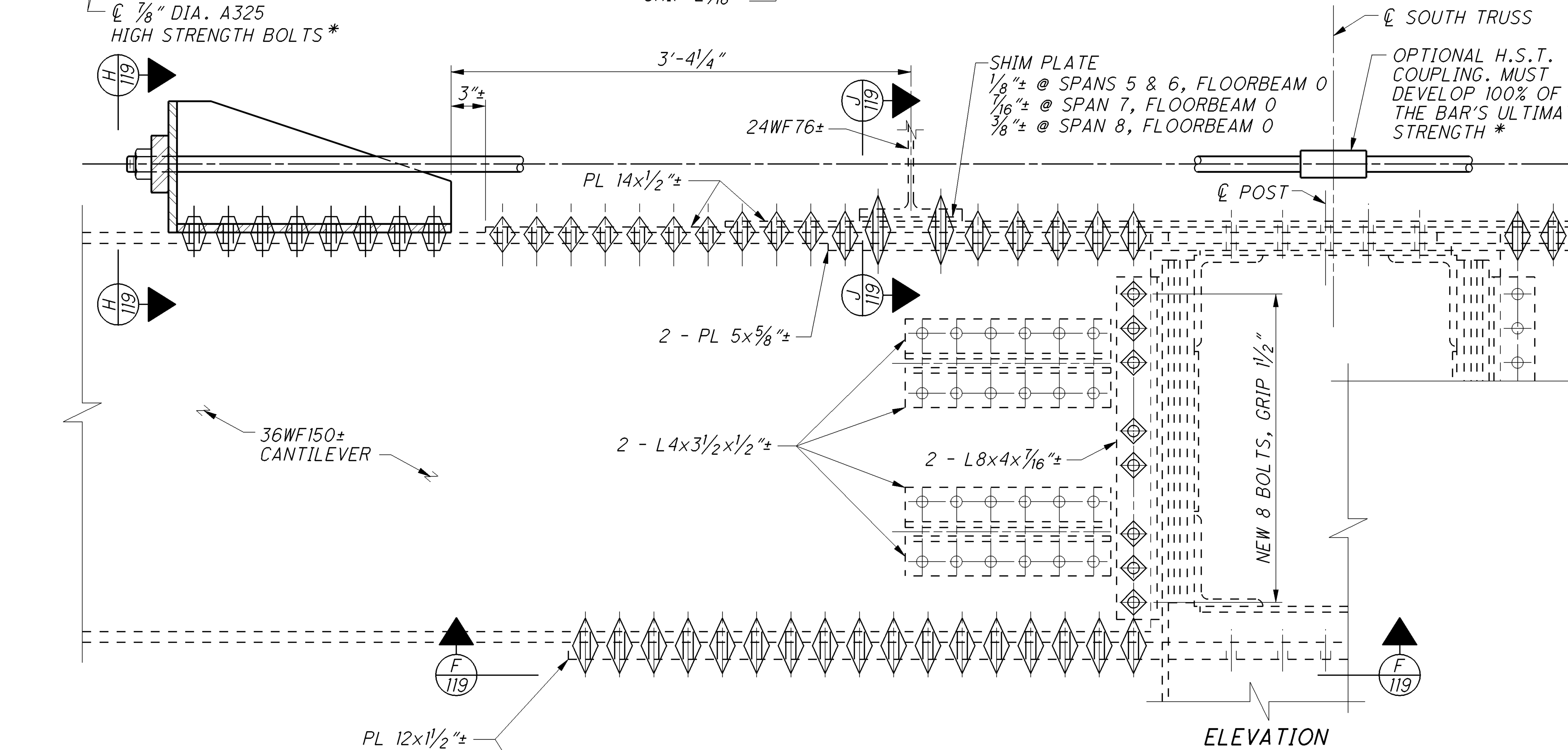
DESIGNED JDB | DRAWN RB | REVIEWED DAP | DATE 7/31/09
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 1809393

FLOORBEAM CANTILEVER CONNECTION TYPE CB5
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

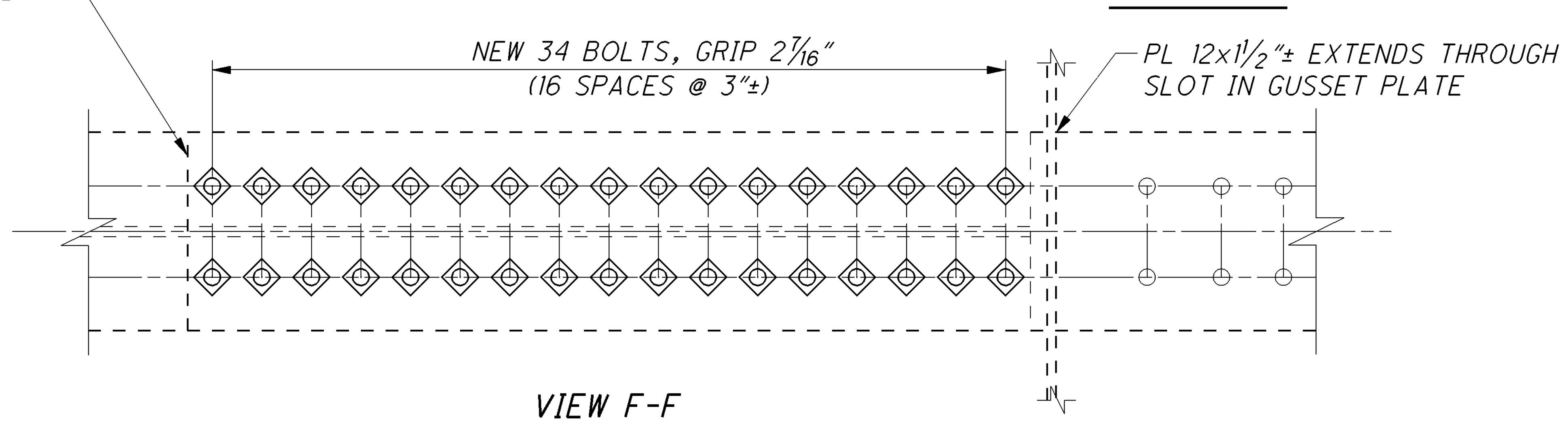
CUY-90-15.24
PID No. 82069

CB5.DGN 7/28/09 RB,KH,JLS



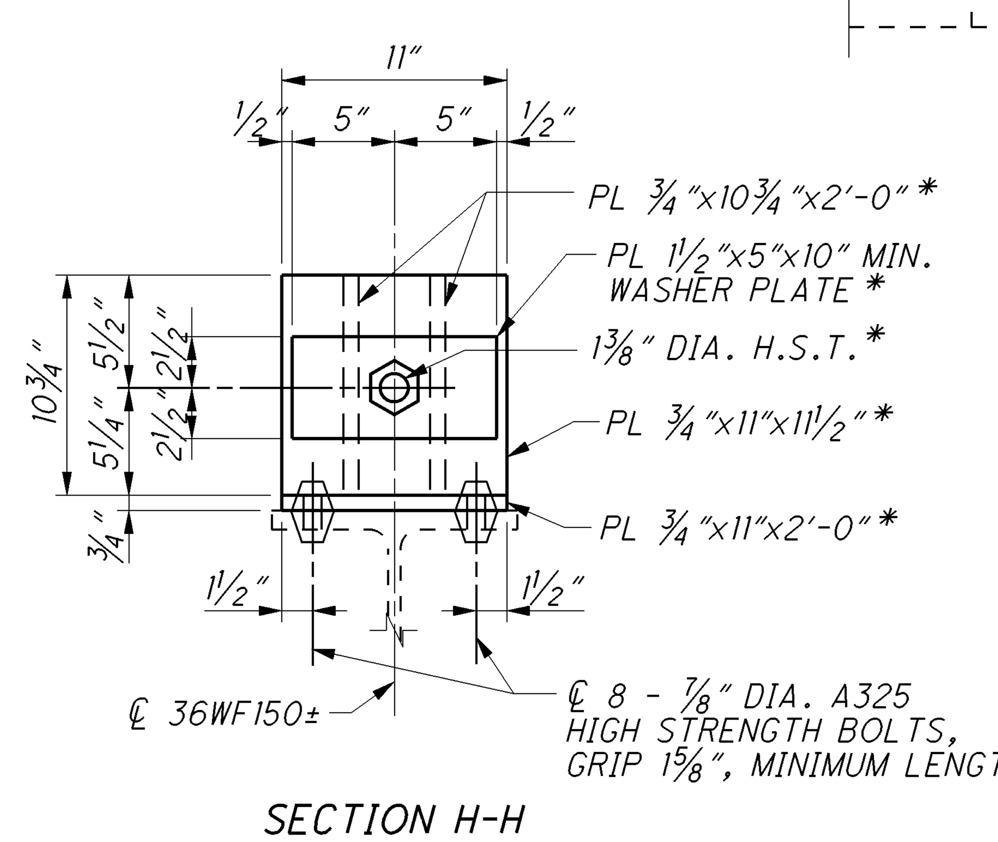


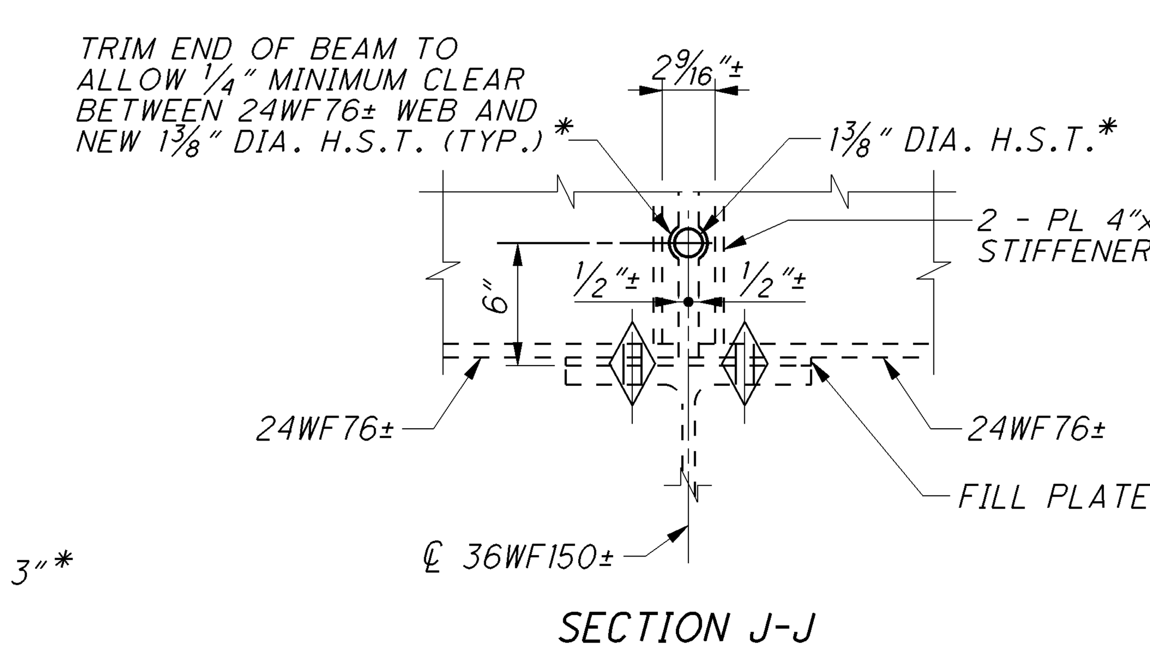
PL 12x1½"±



* INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR, PER EACH FLOORBEAM LOCATION, FOR PAYMENT.

TYPE CB6





BOLT SUMMARY TABLE - ⅞" DIA. A325

SPAN	FLOORBEAM	SIDE	2¾" MINIMUM BOLT LENGTH 1⁷⁄₁₆" - 1½" BOLT GRIP	3¼" MINIMUM BOLT LENGTH 1¹⁵⁄₁₆" BOLT GRIP	3¾" MINIMUM BOLT LENGTH 2⁷⁄₁₆" BOLT GRIP	4" MINIMUM BOLT LENGTH 2⁹⁄₁₆" - 2¾" BOLT GRIP
5	0	SOUTH	32	12	34	32
6	0	SOUTH	32	12	34	32
7	0	SOUTH	32	12	34	28
8	0	SOUTH	32	12	34	28
TOTAL REPLACED			128	48	136	120

BOLT SUMMARY TABLE - ⅞" DIA. A325

SPAN	FLOORBEAM	SIDE	4¼" MINIMUM BOLT LENGTH 3" BOLT GRIP	4½" MINIMUM BOLT LENGTH 3¹⁄₁₆" BOLT GRIP	4¾" MINIMUM BOLT LENGTH 3⅜" BOLT GRIP	5" MINIMUM BOLT LENGTH 3⅝" - 3¹¹⁄₁₆" BOLT GRIP
5	0	SOUTH			4	
6	0	SOUTH			4	
7	0	SOUTH		4		4
8	0	SOUTH	4			4
TOTAL REPLACED			4	4	8	8

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

H.S.T.: INDICATES HIGH STRENGTH THREAD BAR.

WASHER PLATES AND NUTS ARE PART OF THE HIGH STRENGTH THREAD BAR SYSTEM AND SHALL BE FURNISHED BY THE MANUFACTURER OF THE HIGH STRENGTH THREAD BARS.

ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CANTILEVER STRENGTHENING BRACKETS WITH PARTIAL FURNISHED MATERIALS AND THREAD BAR: SEE GENERAL NOTES SHEET 13/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		1809393	

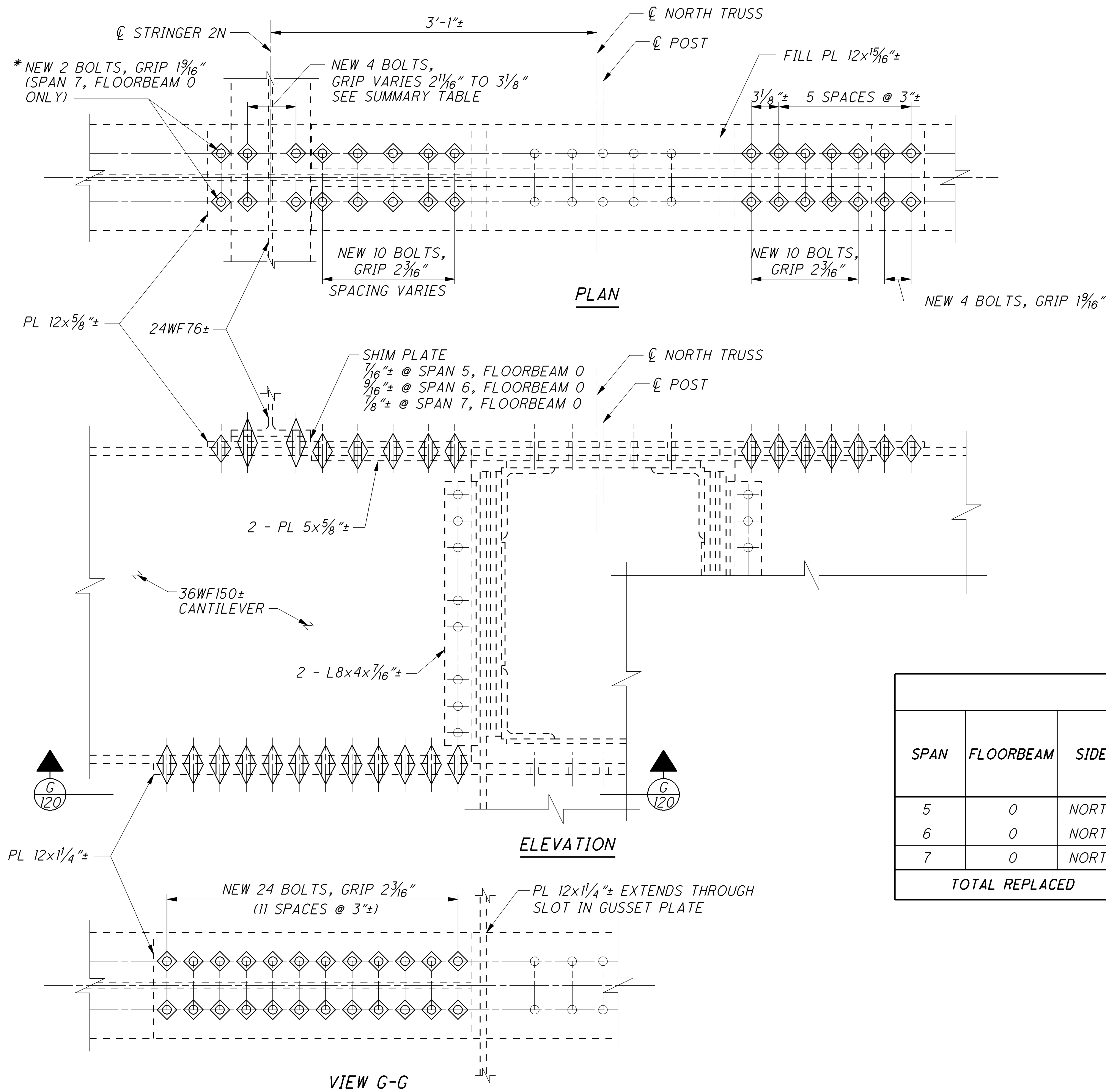
FLOORBEAM CANTILEVER CONNECTION TYPE CB6
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

119/140

154/175

CB6.DGN 7/28/09 RB,KH,JLS



TYPE CB7

BOLT SUMMARY TABLE - 7/8" DIA. A325							
SPAN	FLOORBEAM	SIDE	3" MINIMUM BOLT LENGTH 1 9/16" BOLT GRIP	3 1/2" MINIMUM BOLT LENGTH 2 3/16" BOLT GRIP	4" MINIMUM BOLT LENGTH 2 11/16" BOLT GRIP	4 1/4" MINIMUM BOLT LENGTH 2 13/16" BOLT GRIP	4 1/2" MINIMUM BOLT LENGTH 3 1/8" BOLT GRIP
5	0	NORTH	4	44	4		
6	0	NORTH	4	44		4	
7	0	NORTH	6*	44			4
TOTAL REPLACED			14	132	4	4	4

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ADDITIONAL NOTES: SEE SHEET 111/140.

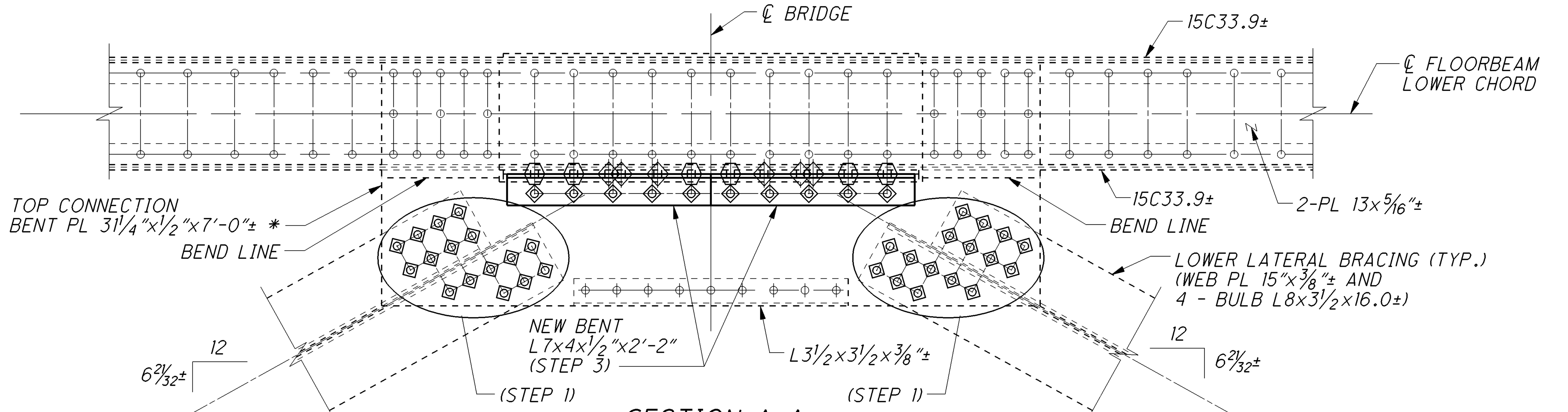
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393
DRAWN RB REVISED
DESIGNED JDB CHECKED BLN

FLOORBEAM CANTILEVER CONNECTION TYPE CB7
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

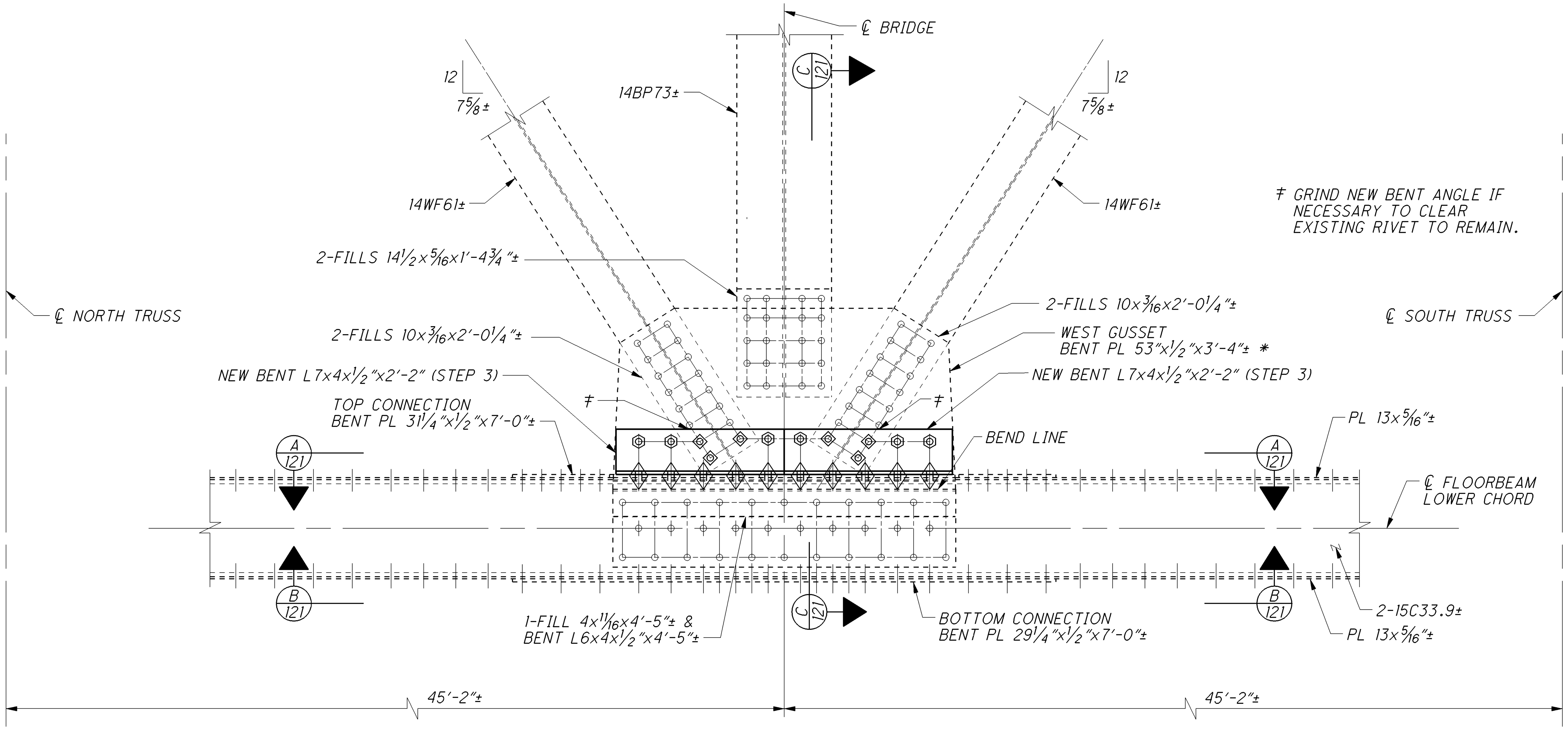
CUY-90-15.24
PID No. 82069

CB7.DGN 7/28/09 RB,KH,JLS



SECTION A-A

* BENT PLATE IN THIS VIEW IS SHOWN IN "UNBENT" POSITION WITH FACES OF ALL CONNECTION MEMBERS IN THE SAME PLANE.

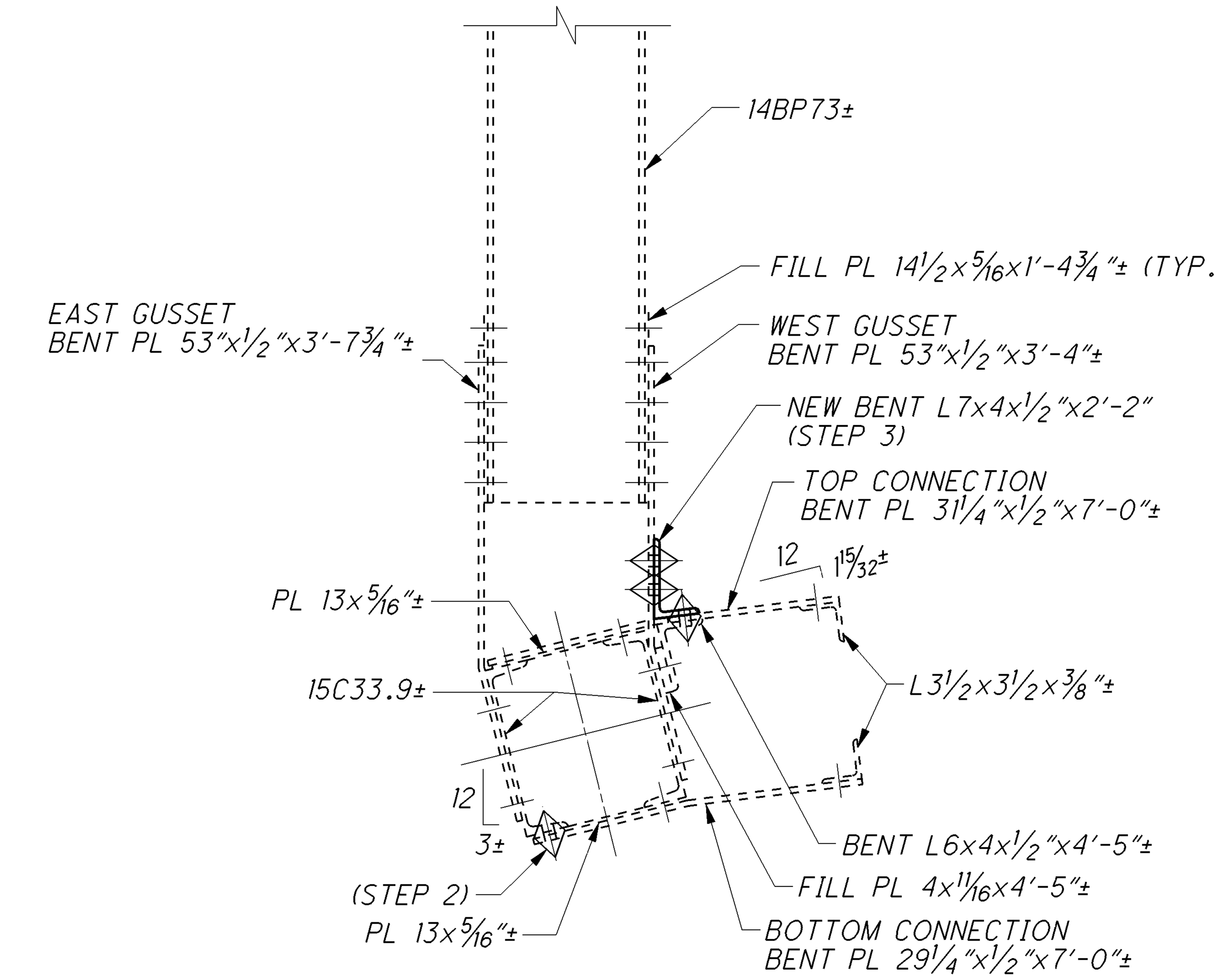


ǂ GRIND NEW BENT ANGLE IF NECESSARY TO CLEAR EXISTING RIVET TO REMAIN.

EXISTING LOWER CHORD CENTER CONNECTION

(LOOKING EAST)
SPAN 1 - FLOORBEAM 5
SHOP DRAWING MARK 105

NOTE: LOWER LATERAL BRACING AND CONNECTION MEMBERS ARE NOT SHOWN IN THIS VIEW FOR CLARITY.



SECTION C-C

(LOOKING SOUTH)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 122/140.

CONNECTION BOLTS: SHALL BE 7/8" DIA. ASTM A325 GALVANIZED UNLESS OTHERWISE NOTED.

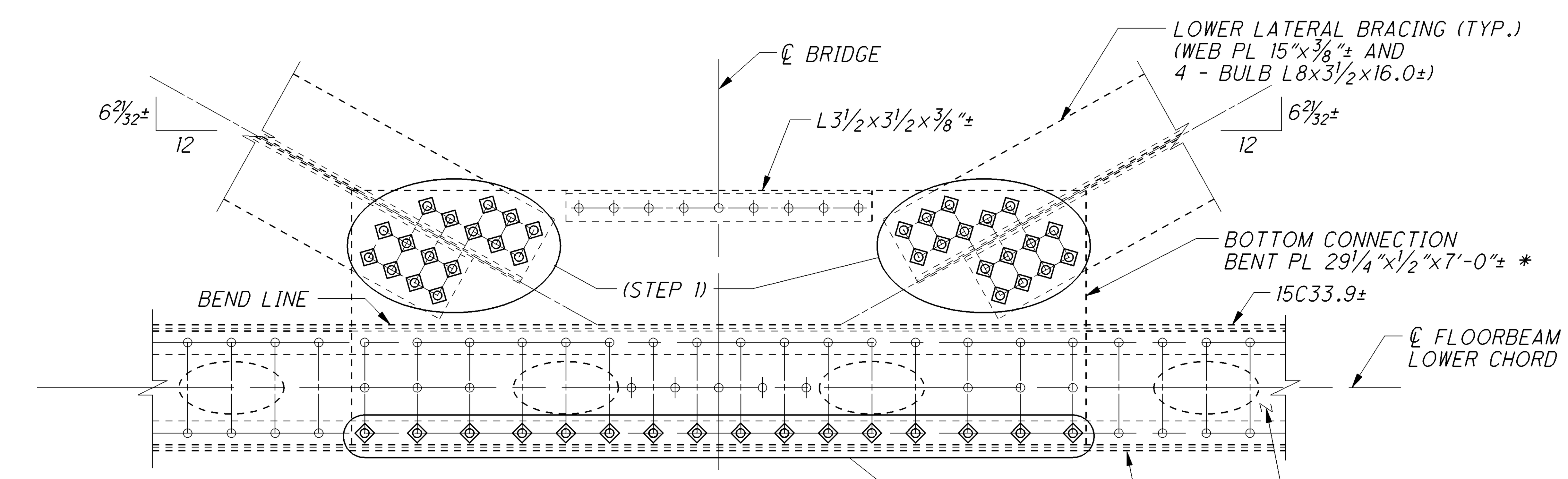
ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM GUSSET REPAIR: SEE GENERAL NOTES SHEET 11/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: 7/8" DIAMETER STRINGER AND FLOORBEAM CONNECTION BOLTS: SEE GENERAL NOTES SHEET 13/140.

CONSTRUCTION SEQUENCE FOR THIS SHEET:

1. REPLACE RIVETS CONNECTING LOWER LATERAL BRACING TO BENT CONNECTION PLATES WITH HIGH STRENGTH BOLTS:
   A. REMOVE ONE RIVET AT A TIME. INSTALL AND PROPERLY TENSION HIGH STRENGTH BOLT BEFORE REMOVING NEXT RIVET.
2. REPLACE DESIGNATED RIVETS CONNECTING FLOORBEAM LOWER CHORD TO BOTTOM CONNECTION BENT PLATE WITH HIGH STRENGTH BOLTS:
   A. REMOVE ONE RIVET AT A TIME. INSTALL AND PROPERLY TENSION HIGH STRENGTH BOLT BEFORE REMOVING NEXT RIVET.
3. INSTALL NEW BENT L7"x4"x½" SUPPORTS (2 PIECES HALF WIDTH):
   A. WORK ON ONLY ONE ANGLE AT A TIME.
   B. REMOVE RIVETS NECESSARY FOR CONNECTING THE NEW ANGLE.
   C. ERECT THE NEW BENT ANGLE AND INSTALL NEW BOLTS IN THE EXISTING RIVET HOLES.
   D. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW ANGLE AND EXISTING WEST GUSSET PLATE.
   E. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   F. REPEAT STEPS "D" AND "E" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.
   G. REPEAT STEPS "B" THROUGH "F" FOR THE SECOND ANGLE SUPPORT.

CONSTRUCTION SEQUENCE CONTINUED: SEE SHEET 122/140.



VIEW B-B

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

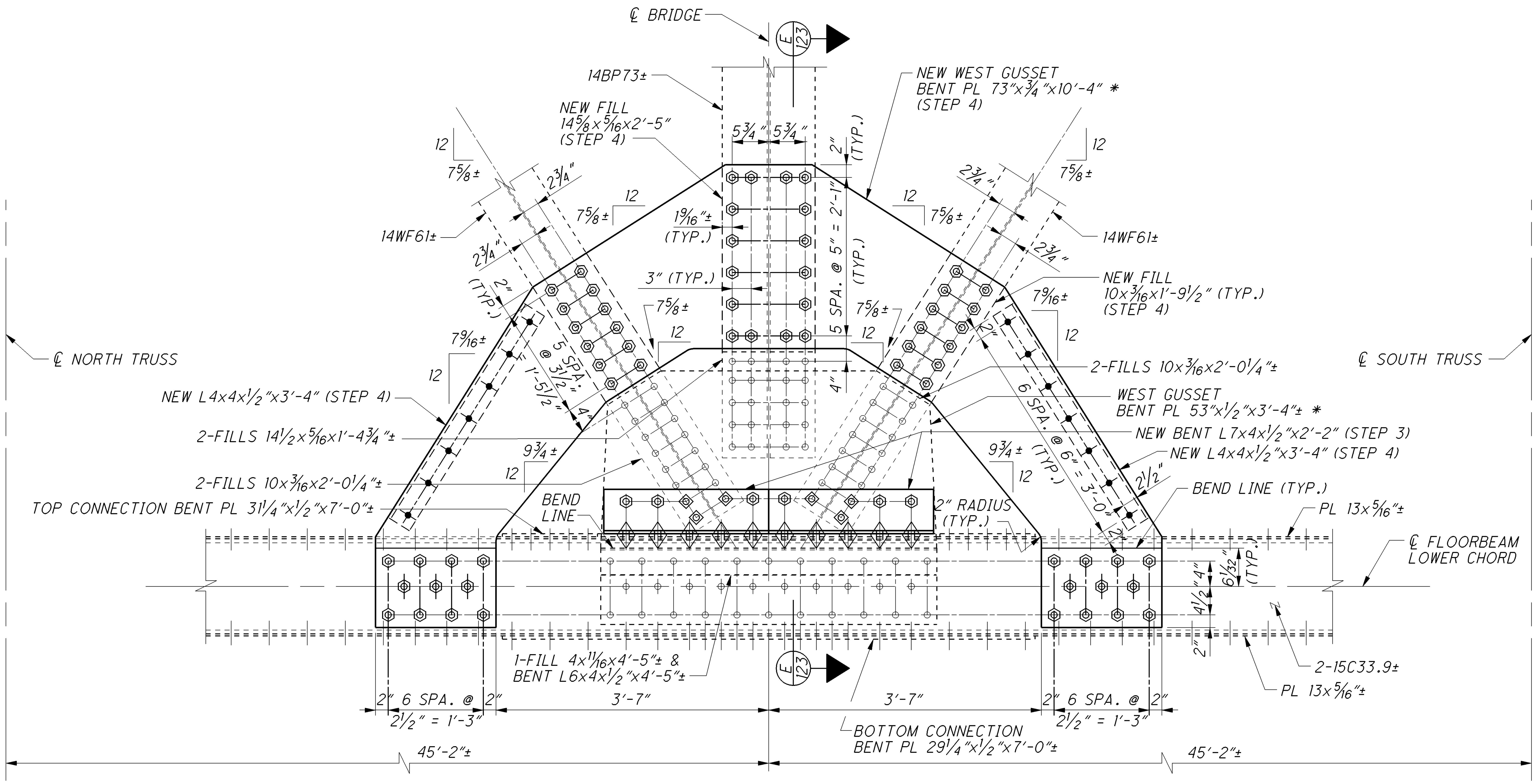
DESIGNED	DRAWN	REVIEWED	DATE
JDB	KH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KAK		1809393	

SPAN 1 FLOORBEAM 5 LOWER CHORD CENTER CONNECTION - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

CONNECTION-2.DGN 7/28/09 KH,JLS

* BENT PLATE IN THIS VIEW IS SHOWN IN "UNBENT" POSITION WITH FACES OF ALL CONNECTION MEMBERS IN THE SAME PLANE.



EXISTING LOWER CHORD CENTER CONNECTION

(LOOKING EAST)
SPAN 1 - FLOORBEAM 5
SHOP DRAWING MARK 105

NOTE: LOWER LATERAL BRACING AND CONNECTION MEMBERS ARE NOT SHOWN IN THIS VIEW FOR CLARITY.

BOLT LEGEND

- FIELD BOLT, NUT AND FULL HEAD. NEW MATERIAL TO NEW MATERIAL.
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE OR NEW PLATE TO EXISTING MATERIAL.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CONSTRUCTION SEQUENCE FOR THIS SHEET:

4. INSTALL NEW WEST GUSSET PLATE:
   A. ERECT THE NEW BENT WEST GUSSET PLATE AND FILL PLATES.
   B. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW GUSSET AND EXISTING FLOORBEAM MEMBER.
   C. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   D. REPEAT STEPS "B" AND "C" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.
   E. NEW EDGE STIFFENING ANGLES MAY BE ATTACHED TO THE NEW WEST GUSSET PLATE BEFORE OR AFTER THE GUSSET PLATE INSTALLATION.

CONSTRUCTION SEQUENCE CONTINUED: SEE SHEET 123/140.

ADDITIONAL NOTES: SEE SHEET 121/140.

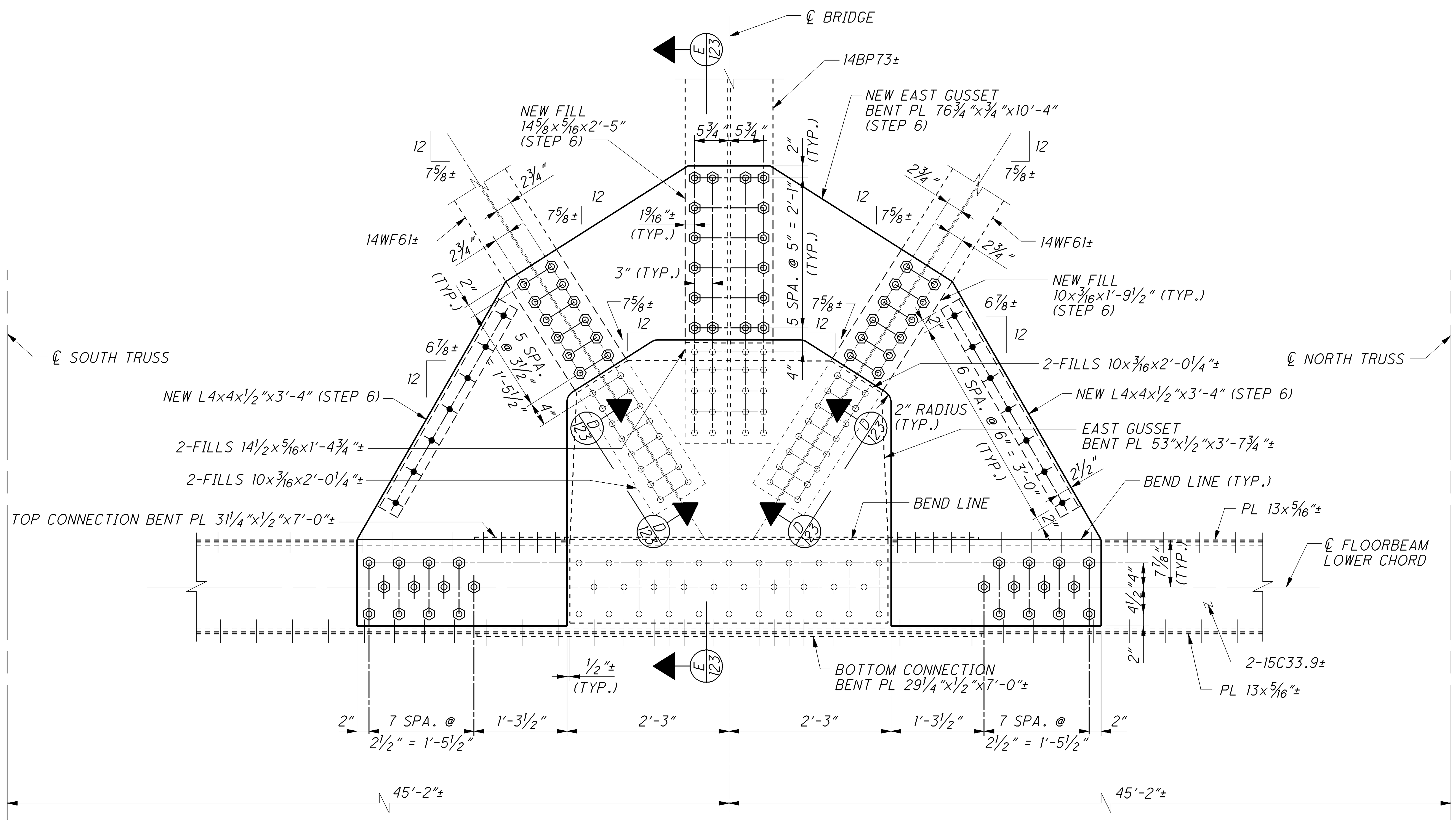
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DESIGNED JDB CHECKED KAK DRAWN KH REVISED

SPAN 1 FLOORBEAM 5 LOWER CHORD CENTER CONNECTION - 2
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

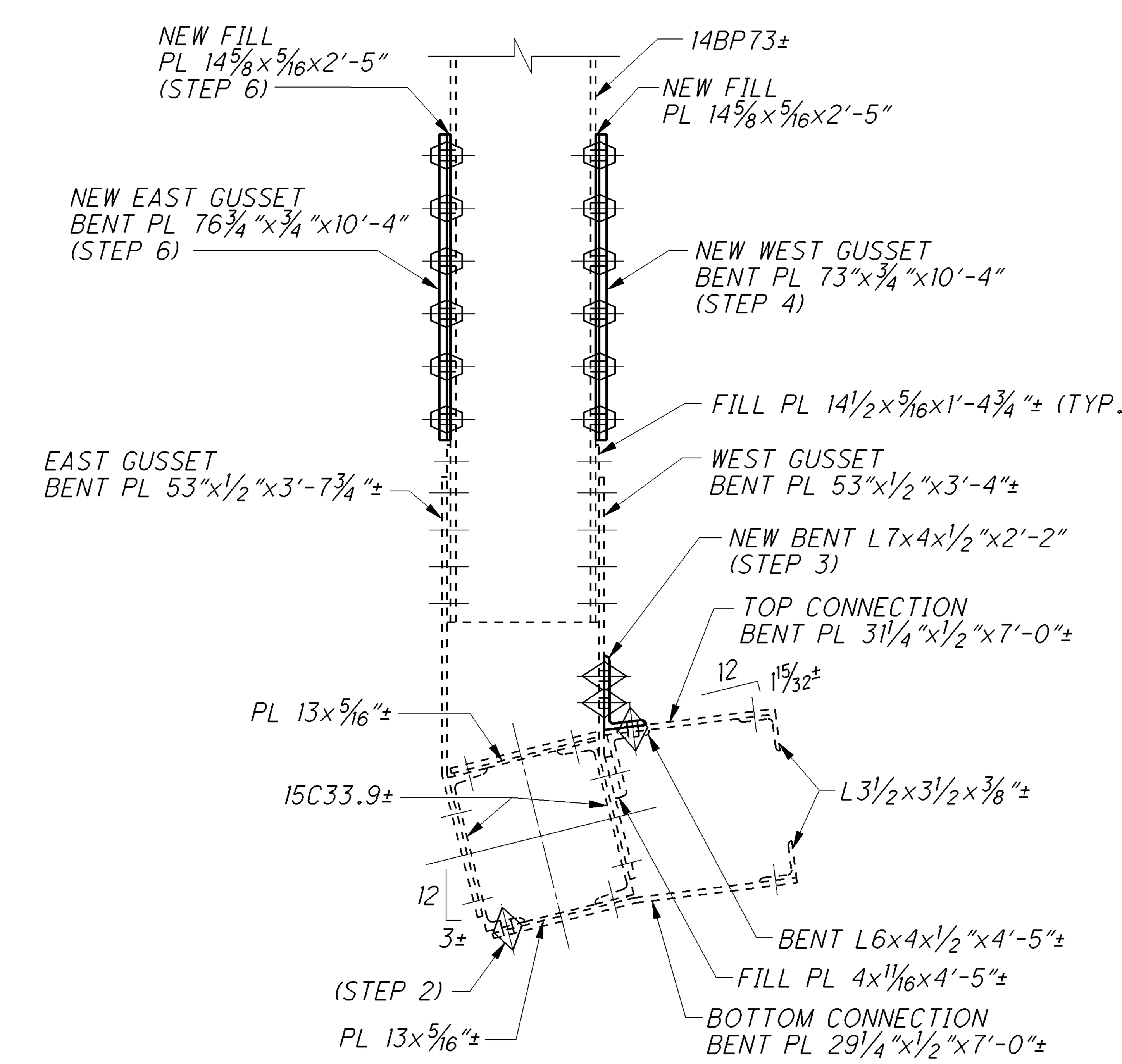
CONNECTION-3.DGN 7/28/09 KH,JLS



EXISTING LOWER CHORD CENTER CONNECTION

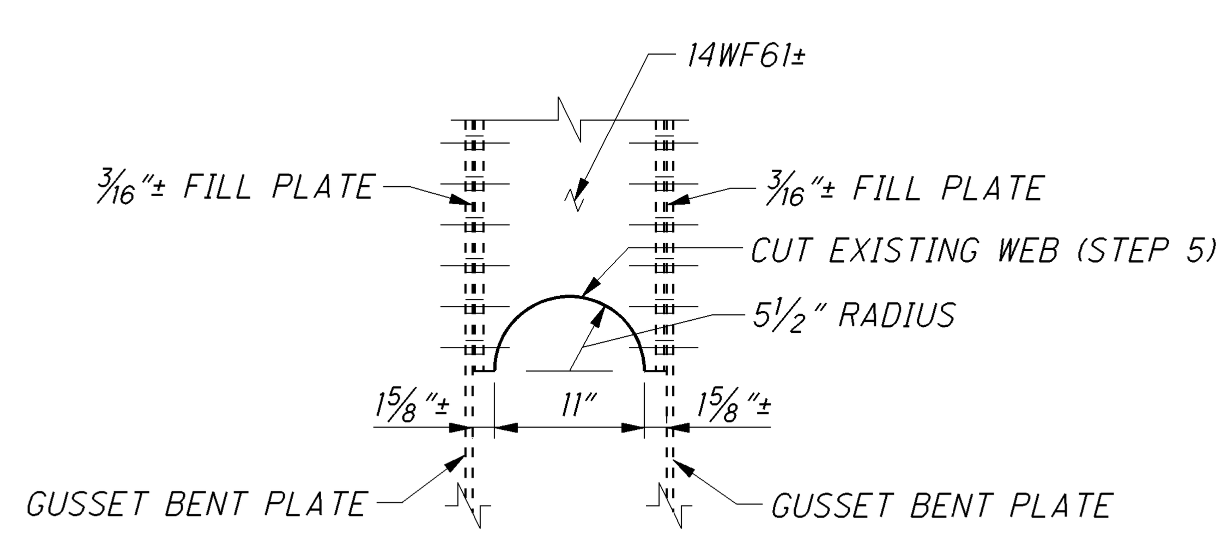
(LOOKING WEST)
SPAN 1 - FLOORBEAM 5
SHOP DRAWING MARK 105

NOTE: THIS DRAWING SHOWS THE GUSSET PLATE IN THE "UNBENT" POSITION WITH THE FACE OF ALL MEMBERS IN THE SAME PLANE.



SECTION E-E

(LOOKING SOUTH)



SECTION D-D

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 122/140.

CONSTRUCTION SEQUENCE FOR THIS SHEET:

5. CUT WEB ON BOTTOM OF EXISTING DIAGONALS.

6. INSTALL NEW EAST GUSSET PLATE:
   A. ERECT THE NEW BENT EAST GUSSET PLATE AND FILL PLATES.
   B. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW GUSSET AND EXISTING FLOORBEAM MEMBER.
   C. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   D. REPEAT STEPS "B" AND "C" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL. DO NOT INSTALL BOLTS WHERE THE NEW SPLICE PLATES WILL BE ATTACHED.
   E. NEW EDGE STIFFENING ANGLES MAY BE ATTACHED TO THE NEW EAST GUSSET PLATE BEFORE OR AFTER THE GUSSET PLATE INSTALLATION.

CONSTRUCTION SEQUENCE CONTINUED: SEE SHEET 124/140.

ADDITIONAL NOTES: SEE SHEET 121/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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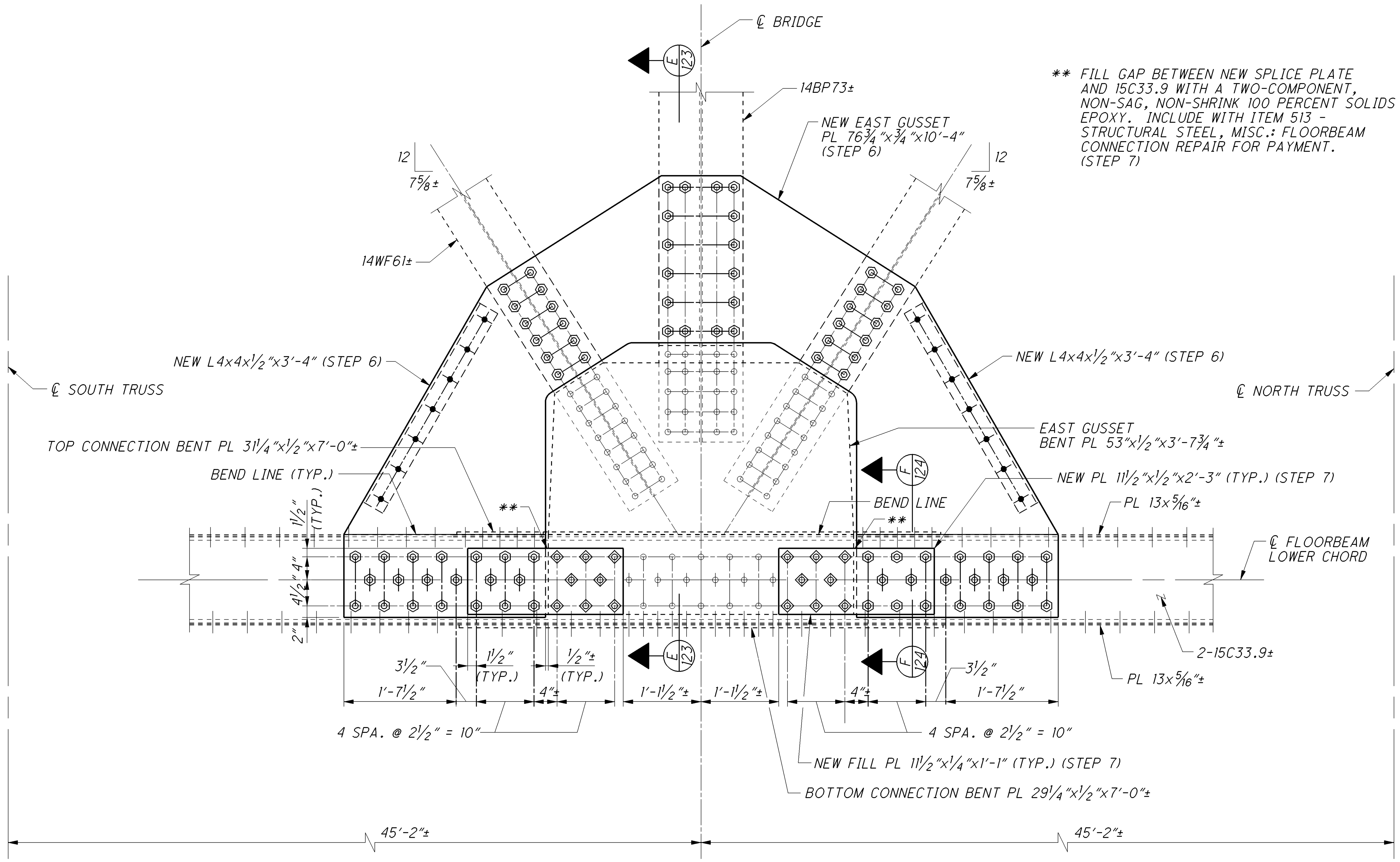
CHECKED KAK	REVISED	STRUCTURE FILE NUMBER 1809393	

SPAN 1 FLOORBEAM 5 LOWER CHORD CENTER CONNECTION - 3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

CONNECTION-4.DGN 7/28/09 KH.JLS

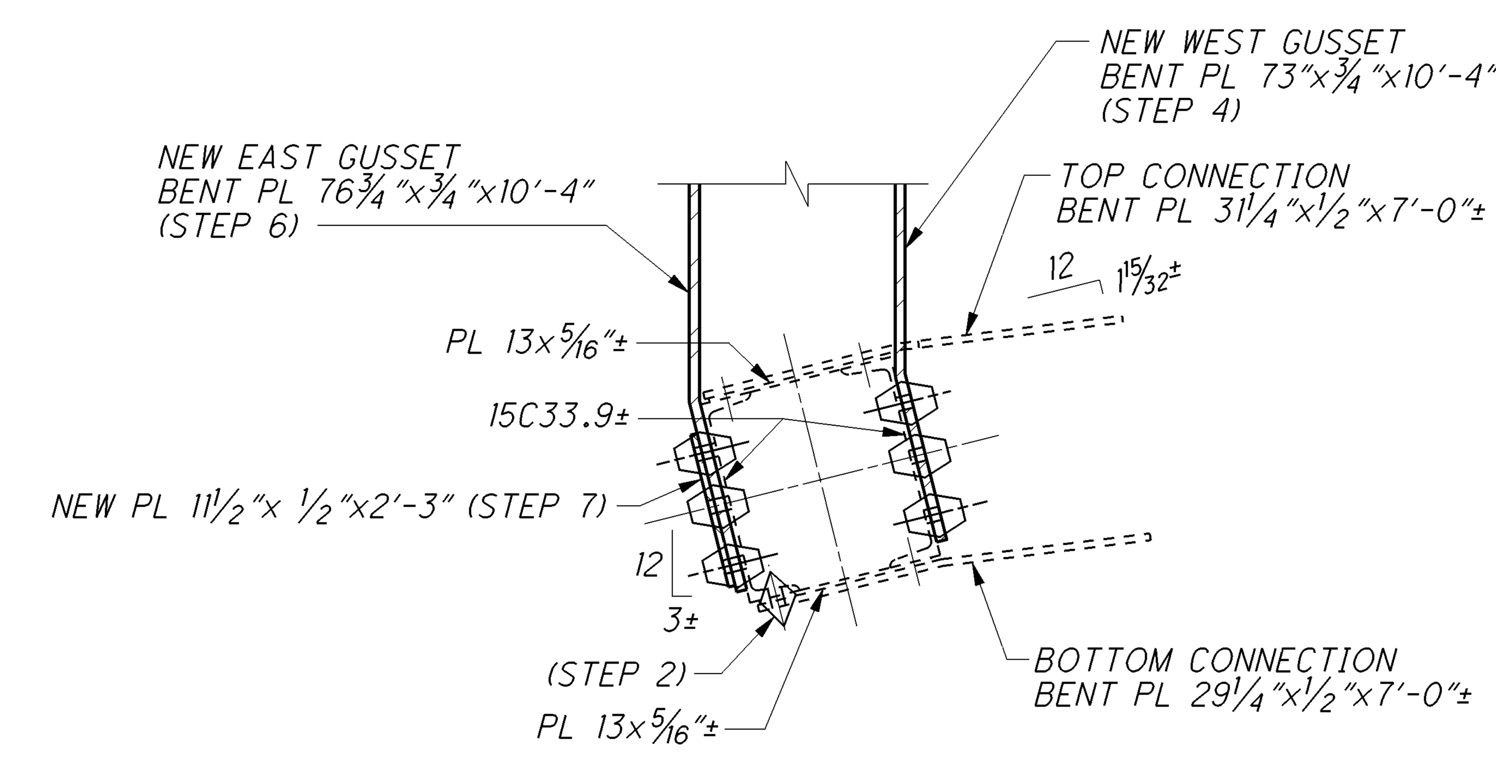


** FILL GAP BETWEEN NEW SPLICE PLATE AND 15C33.9 WITH A TWO-COMPONENT, NON-SAG, NON-SHRINK 100 PERCENT SOLIDS EPOXY. INCLUDE WITH ITEM 513 - STRUCTURAL STEEL, MISC.: FLOORBEAM CONNECTION REPAIR FOR PAYMENT. (STEP 7)

EXISTING LOWER CHORD CENTER CONNECTION

(LOOKING WEST)
SPAN 1 - FLOORBEAM 5
SHOP DRAWING MARK 105

NOTE: THIS DRAWING SHOWS THE GUSSET PLATE IN THE "UNBENT" POSITION WITH THE FACE OF ALL MEMBERS IN THE SAME PLANE.



SECTION F-F

(LOOKING SOUTH)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 122/140.

CONSTRUCTION SEQUENCE FOR THIS SHEET:

7. INSTALL THE NEW FLOORBEAM LOWER CHORD SPLICE PLATES:
   A. WORK ON ONLY ONE SPLICE PLATE AT A TIME.
   B. REMOVE NO MORE RIVETS THAN ARE NECESSARY FOR CONNECTING THE NEW SPLICE PLATE.
   C. ERECT THE NEW SPLICE PLATE AND FILL PLATE AND INSTALL NEW BOLTS IN THE EXISTING RIVET HOLES.
   D. FIELD DRILL ONE NEW HOLE FOR NEW BOLT THROUGH THE NEW SPLICE PLATE, NEW EAST GUSSET PLATE AND EXISTING FLOORBEAM LOWER CHORD.
   E. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
   F. REPEAT STEPS "D" AND "E" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.
   G. REPEAT STEPS "B" THROUGH "F" FOR THE SECOND SPLICE PLATE.

ADDITIONAL NOTES: SEE SHEET 121/140.

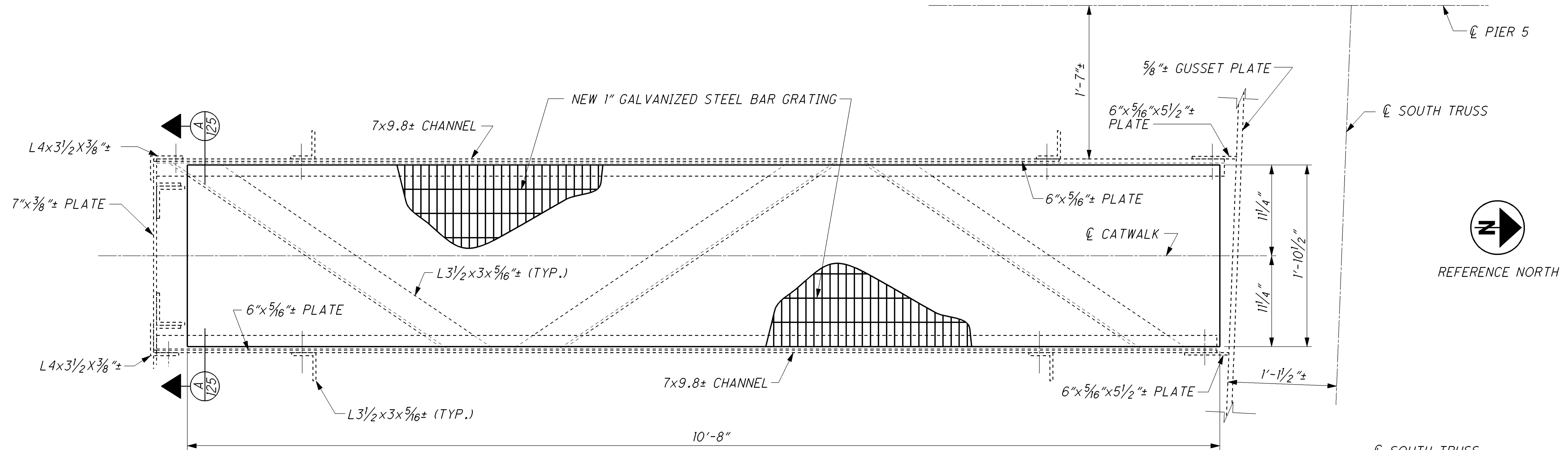
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN KH | REVIEWED DAP | DATE 7/31/09
CHECKED KAK | REVISED | STRUCTURE FILE NUMBER 1809393

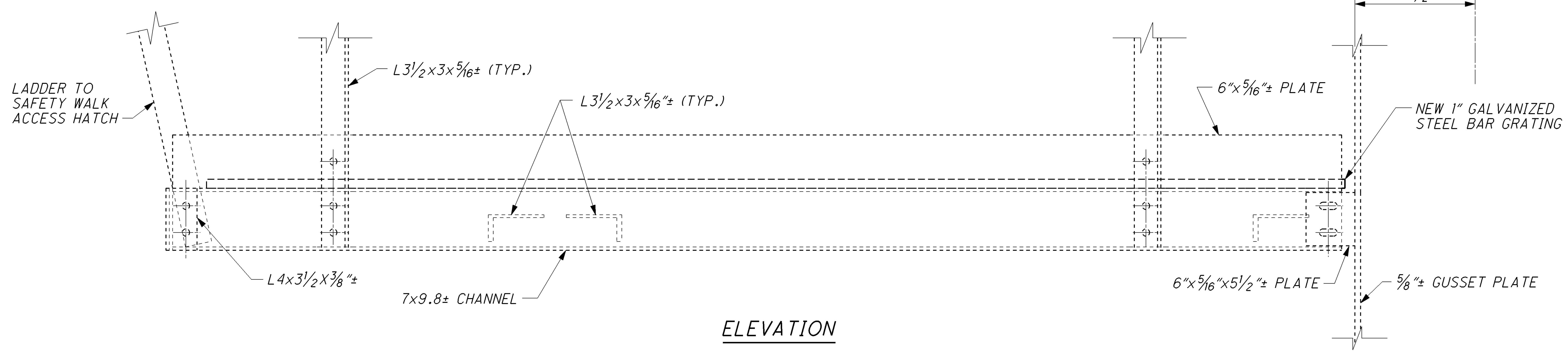
SPAN 1 FLOORBEAM 5 LOWER CHORD CENTER CONNECTION - 4
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

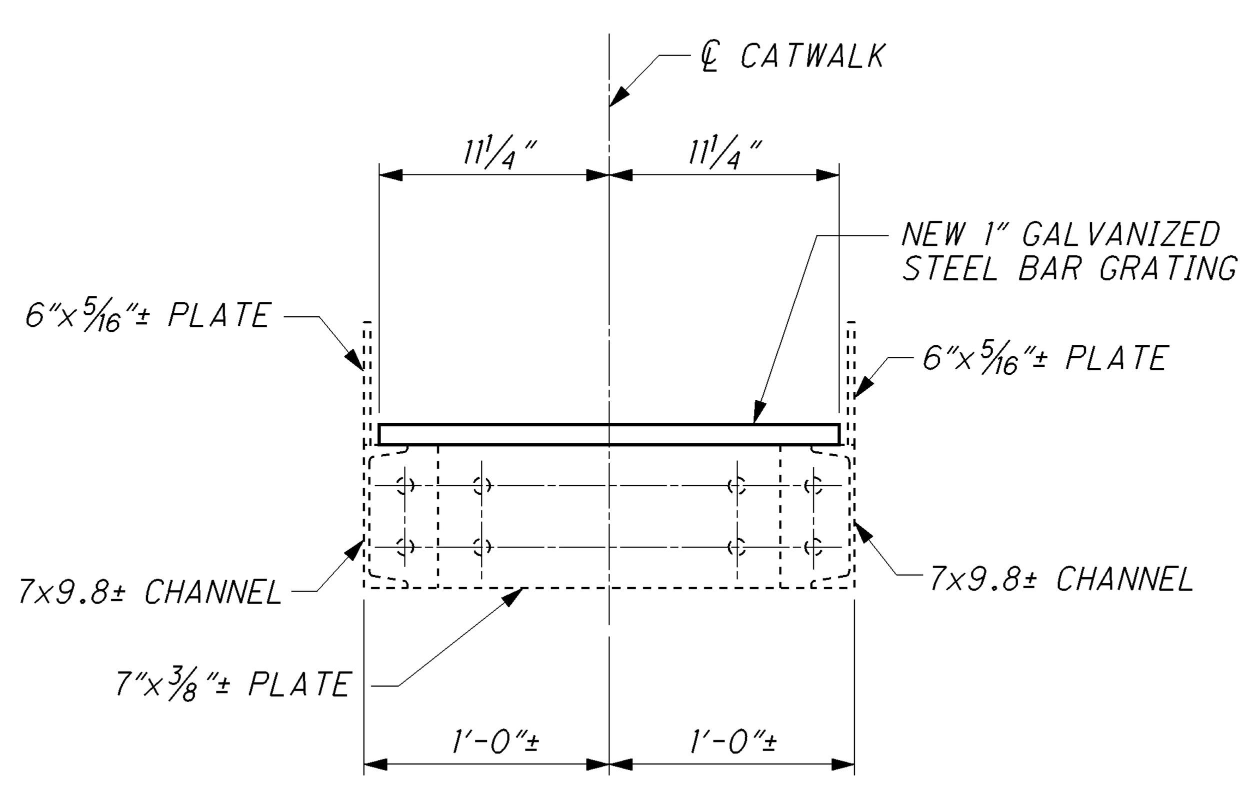
CONNECTION-5.DGN 7/28/09 KH,JLS



PLAN



ELEVATION



SECTION A-A

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM 513 - STRUCTURAL STEEL, MISC.: 1" GALVANIZED STEEL BAR CATWALK GRATING: SEE GENERAL NOTES SHEET 14/140.

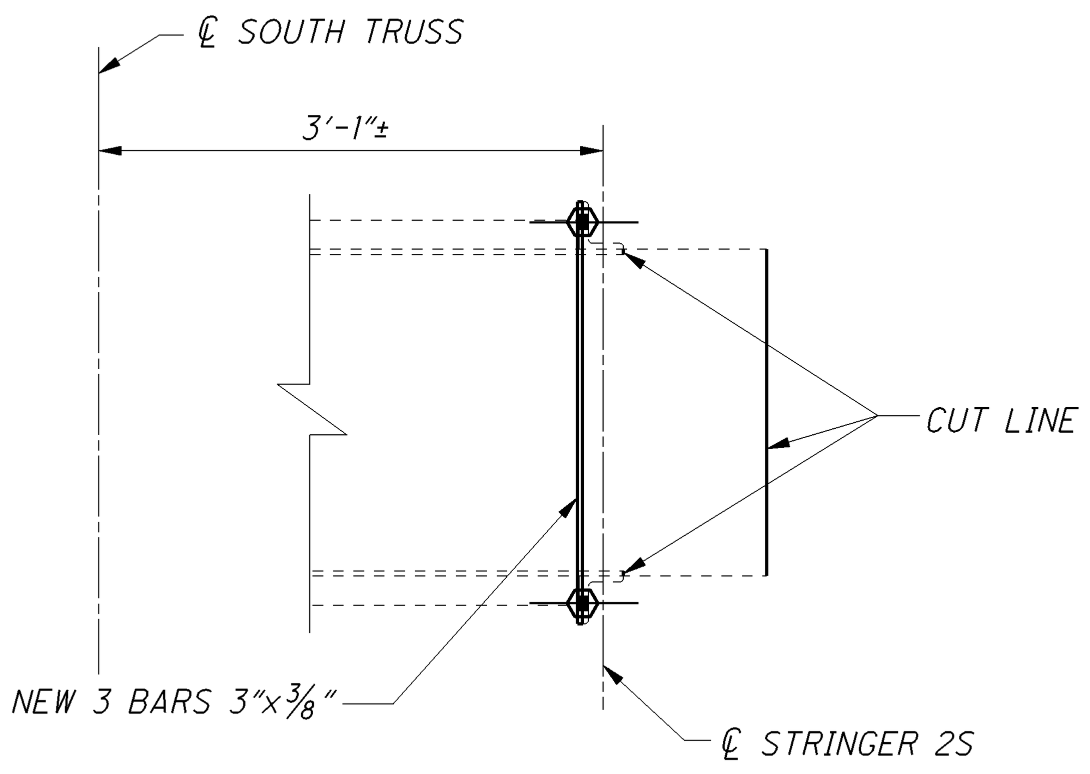
CATWALK-1.DGN 7/28/08 RB,KH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

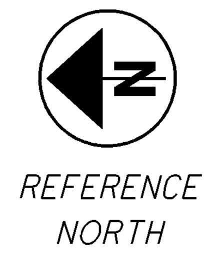
DESIGNED	DRAWN	REVIEWED	DATE
JDB	RB	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		1809393	

CATWALK GRATING REPAIR - PIER 5 SOUTH
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

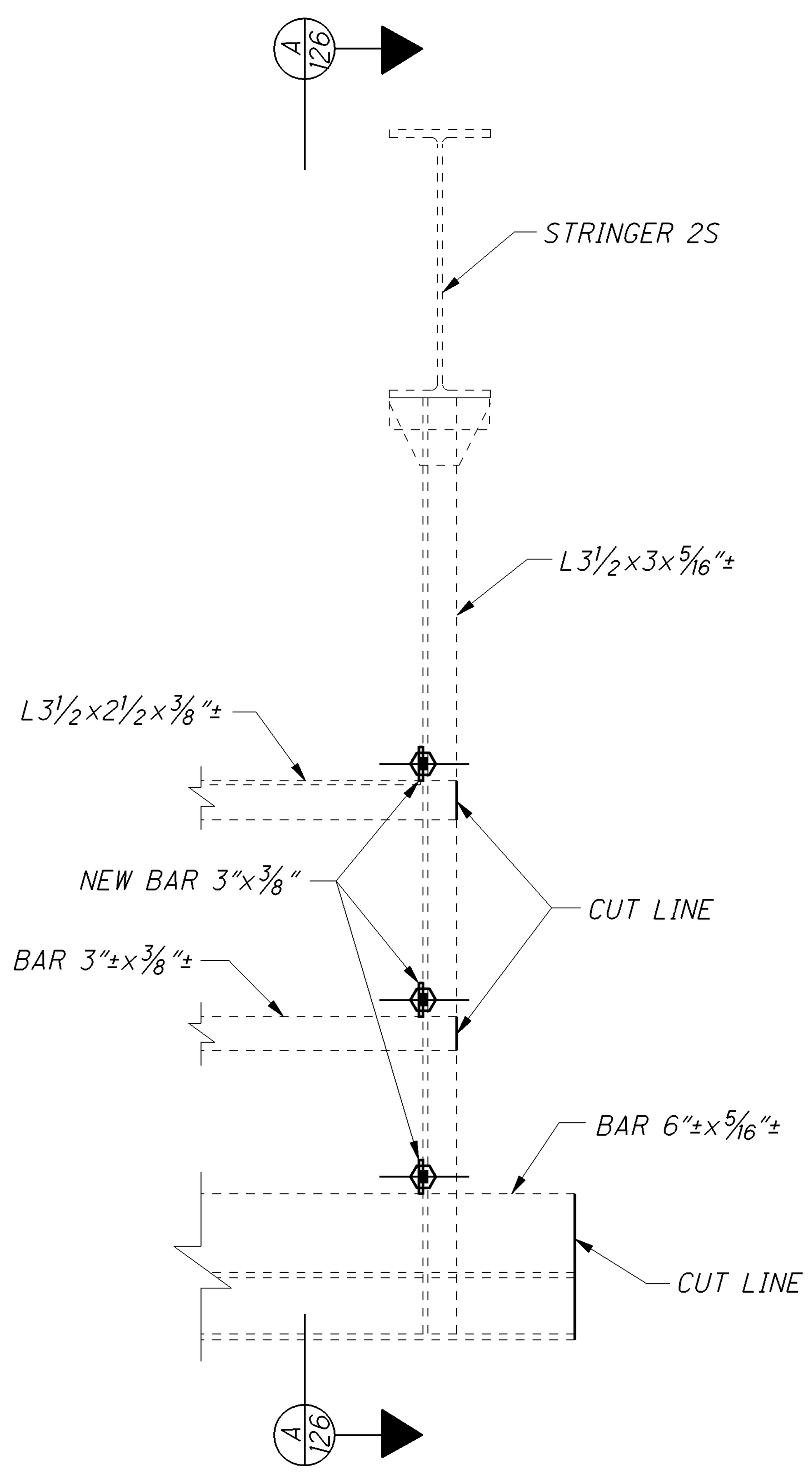


PLAN

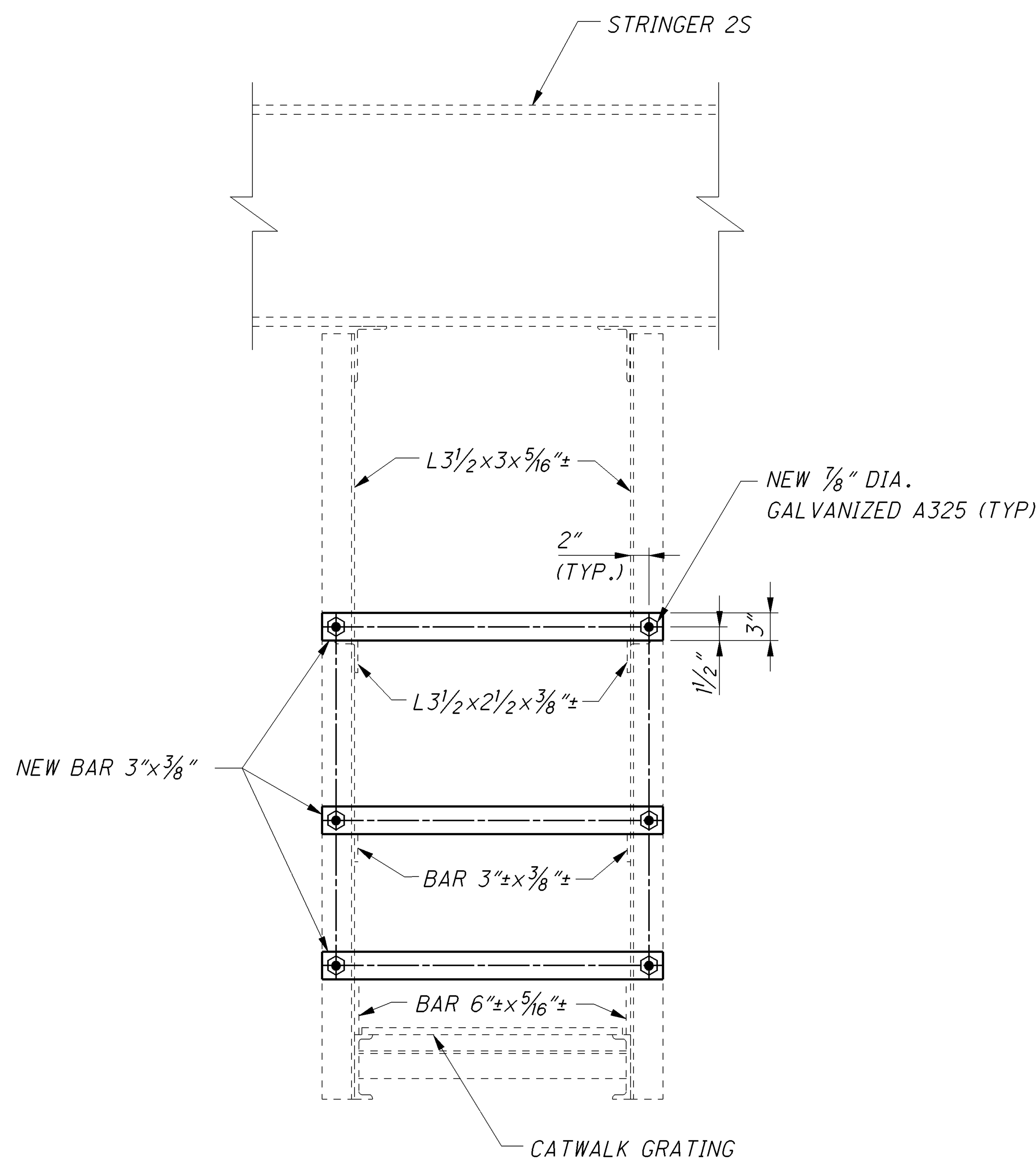


LOCATIONS

SPAN 1 FLOORBEAM 0
SPAN 1 FLOORBEAM 4
SPAN 1 FLOORBEAM 7
SPAN 2 FLOORBEAM 0
SPAN 2 FLOORBEAM 1
SPAN 2 FLOORBEAM 4
SPAN 2 FLOORBEAM 8
SPAN 2 FLOORBEAM 12
SPAN 2 FLOORBEAM 15



ELEVATION



SECTION A-A

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: CATWALK END CLOSURE: SEE GENERAL NOTES SHEET 13/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE
DAP	7/31/09
STRUCTURE FILE NUMBER	
1809393	
DRAWN	REVISED
JLS	
DESIGNED	CHECKED
JDB	ALP

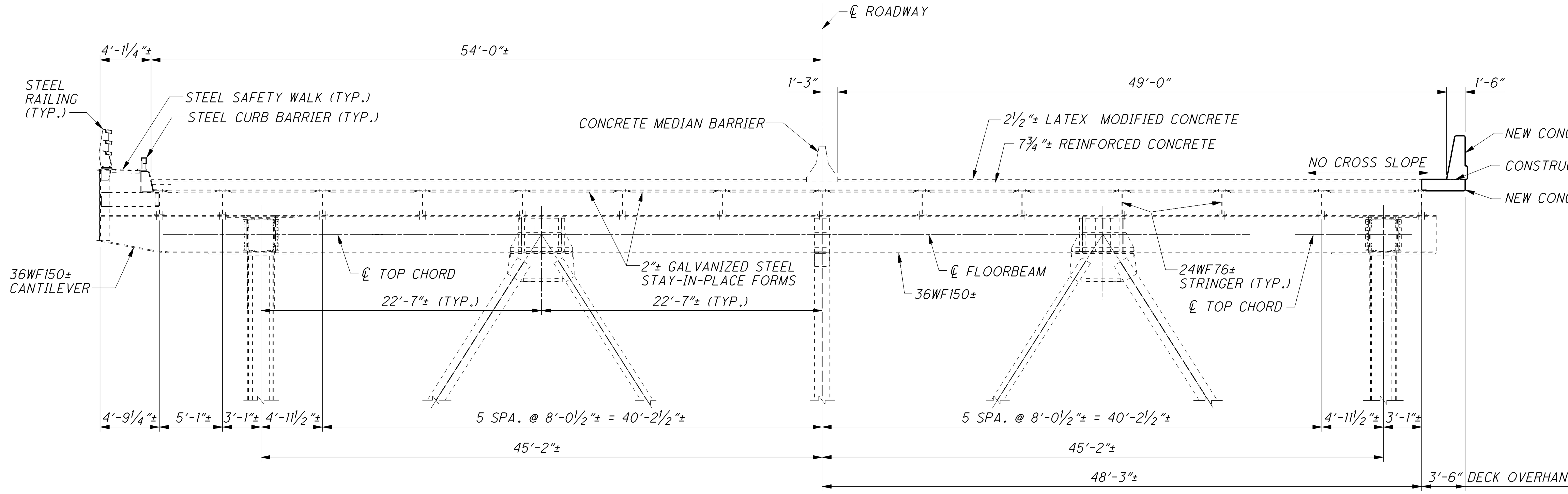
TYPICAL CATWALK END CLOSURE DETAILS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

126/140

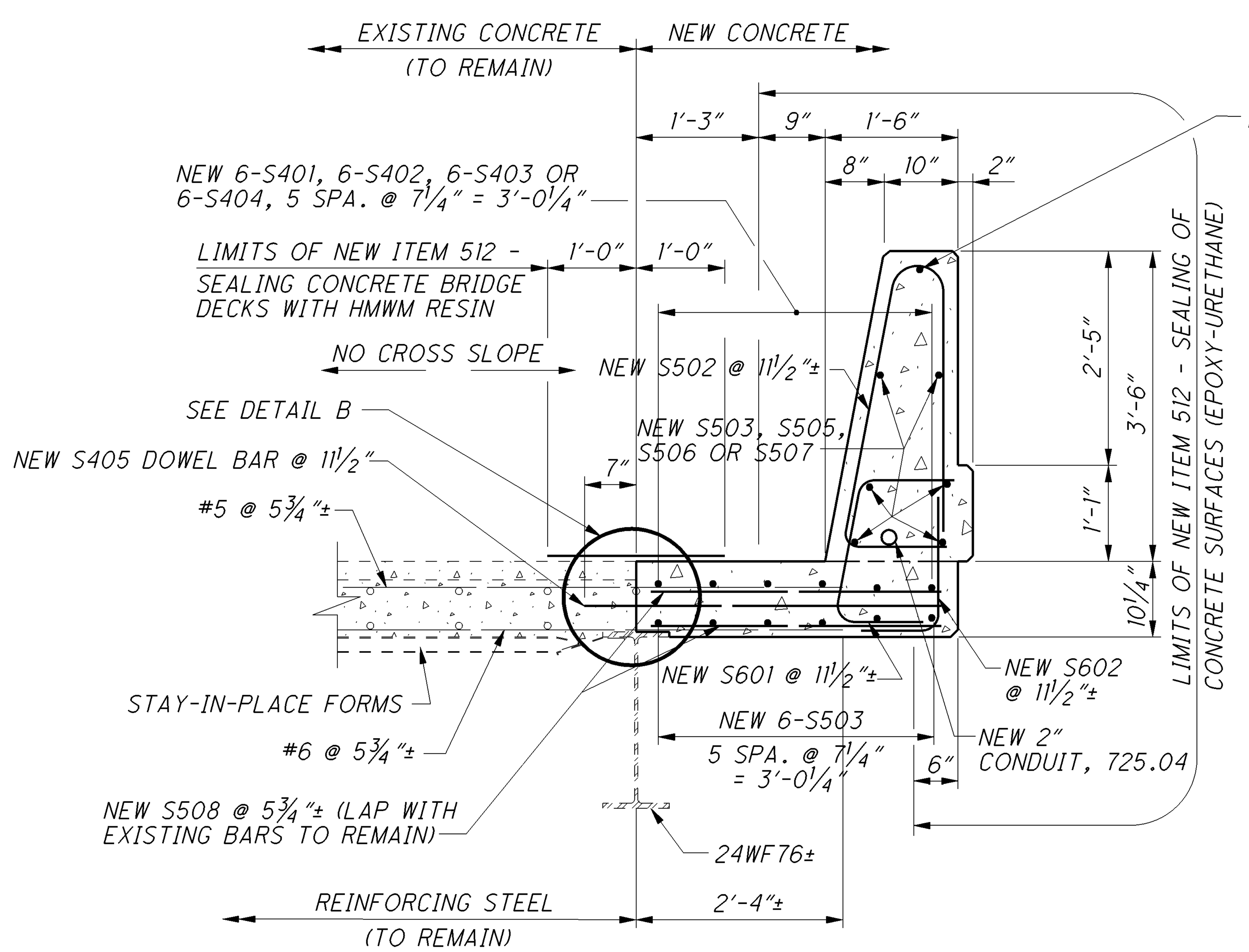
161/175

090_1524CSD023.DGN 7/30/09 JLS

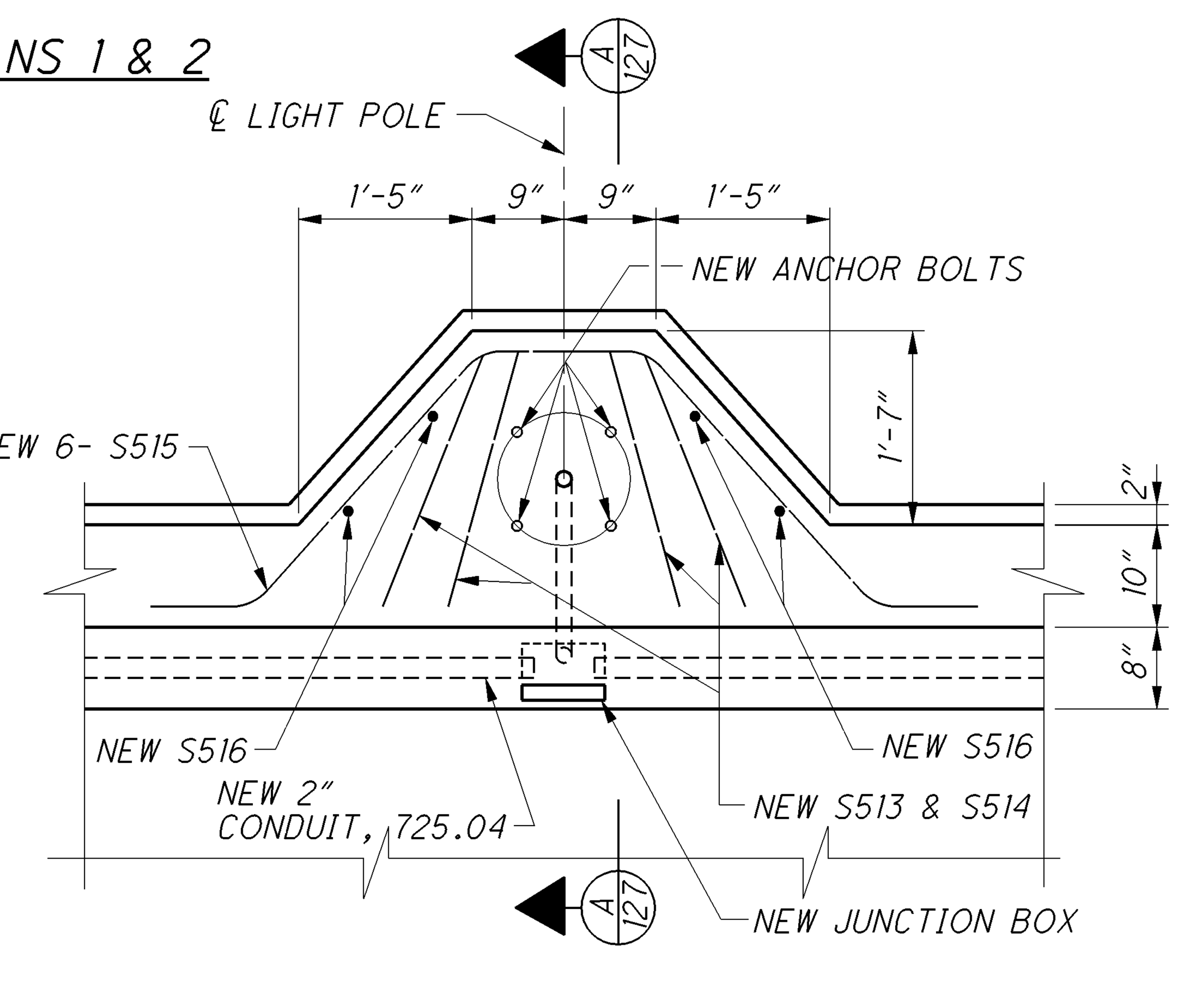


PROPOSED TRANSVERSE SECTION - SPANS 1 & 2

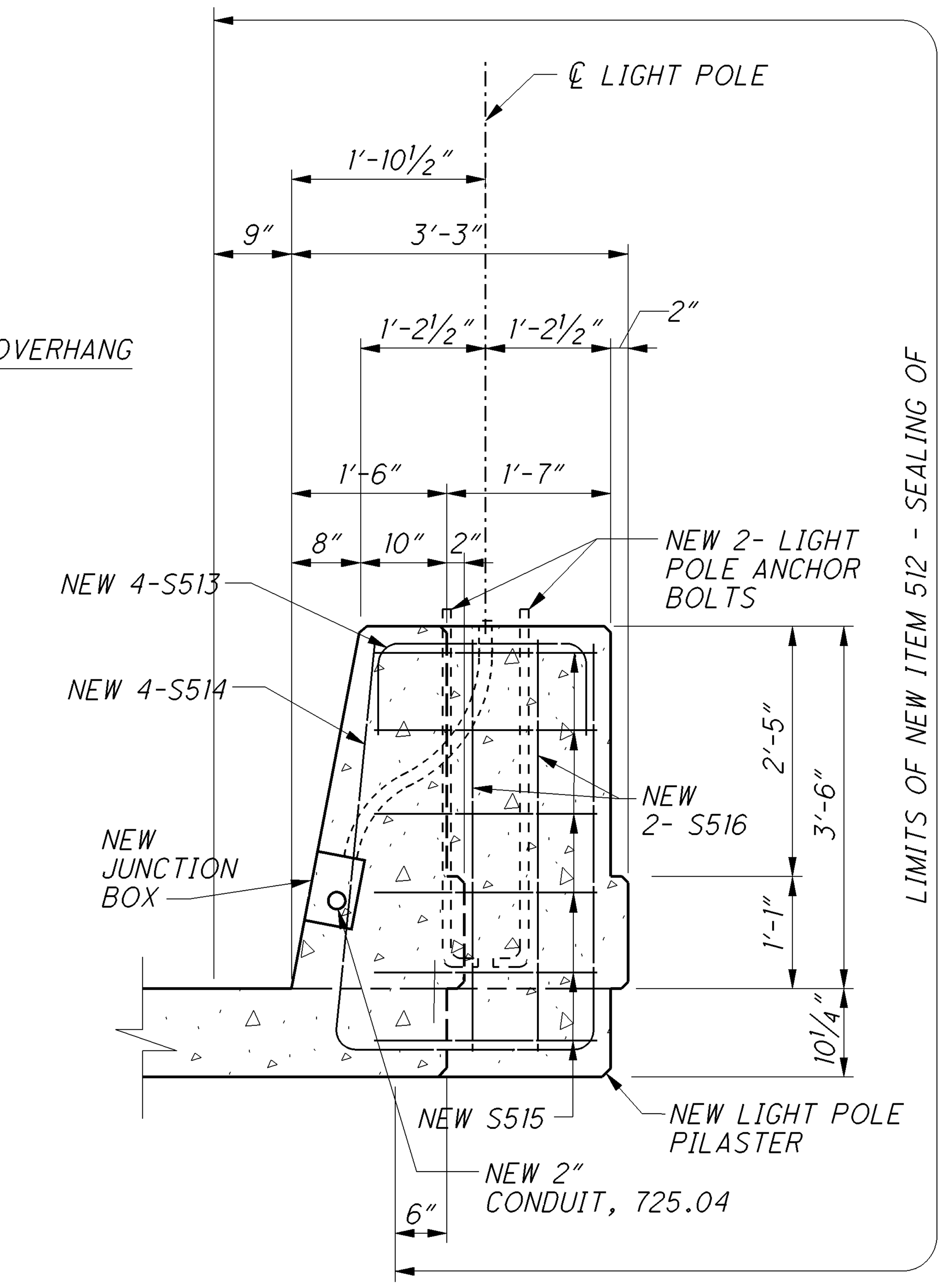
SPAN 1 - FLOORBEAM 5 SHOWN



NEW CONCRETE DECK AND PARAPET DETAIL

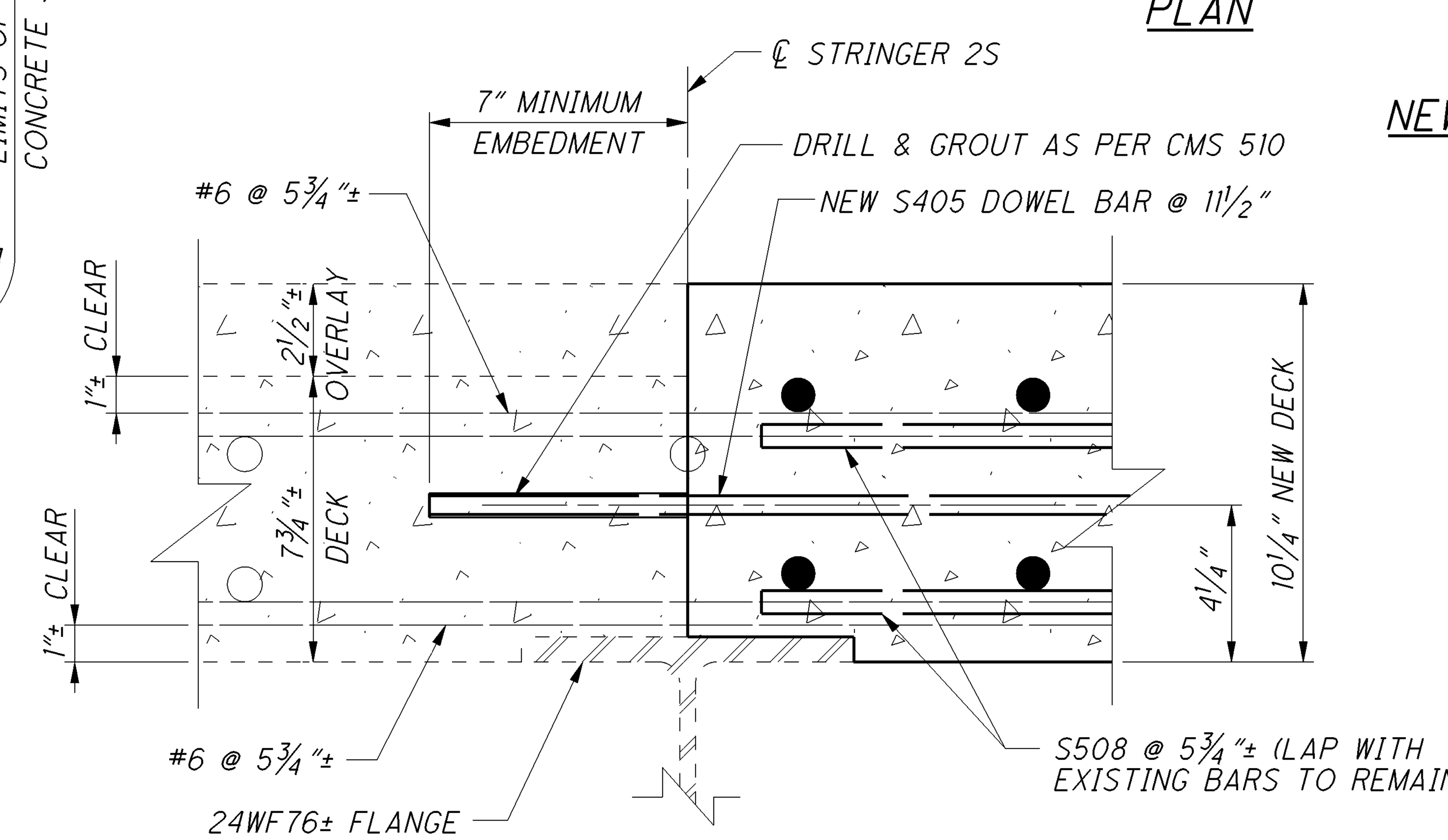


PLAN



SECTION A-A

NEW PILASTER DETAILS



DETAIL B

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

REINFORCING STEEL SPLICE LENGTHS SHALL BE 2'-0" FOR FOR #4 BARS, 2'-6 FOR #5 BARS AND 3'-0" FOR #6 BARS.

CONCRETE PARAPET: SEE STANDARD DRAWING SBR-1-99 FOR ADDITIONAL DETAILS.

PILASTER LOCATIONS: SEE SHEET 130/140.

ROADWAY LIGHTING DETAILS: SEE SHEETS 30/175 THROUGH 35/175.

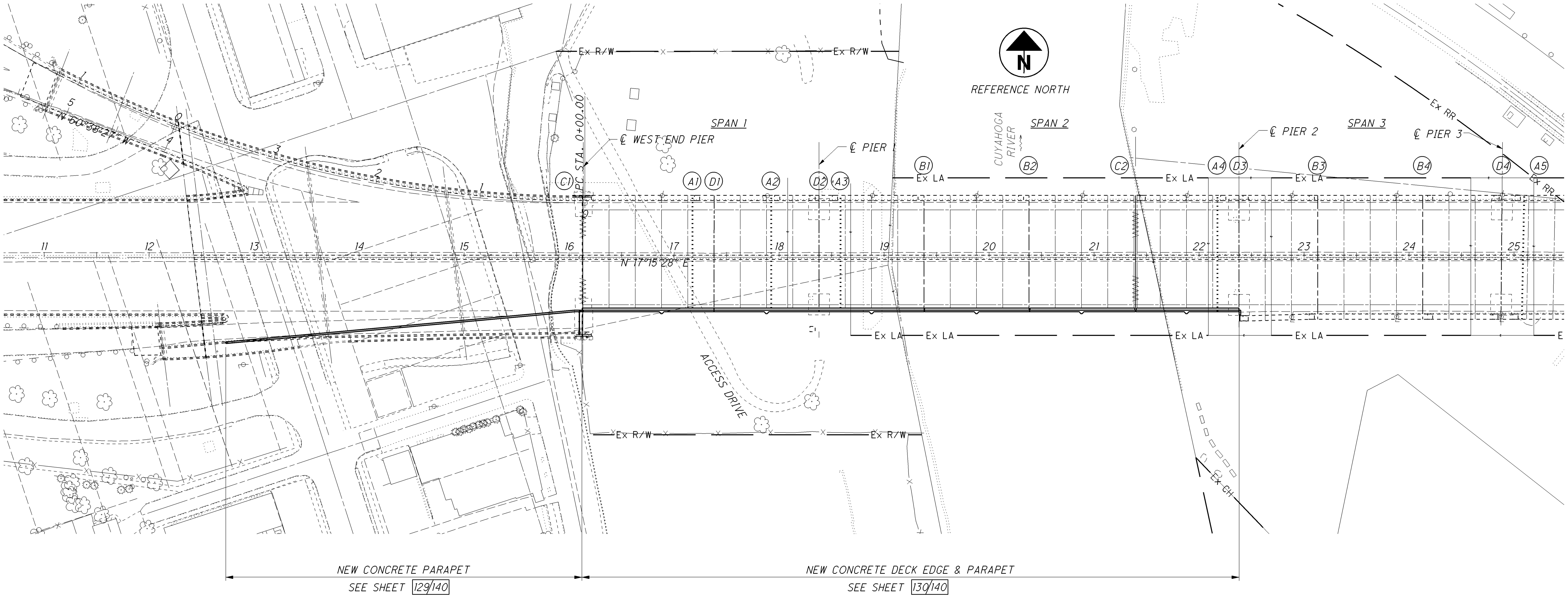
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	RB	DAP	7/31/09
CHECKED ALP	REVISED	STRUCTURE FILE NUMBER 1809393	

PROPOSED TRANSVERSE SECTION
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1542CRE002.DGN 8/03/09 RB,SCB,KH,JLS



LEGEND

(A)	TRANSVERSE DRAIN CASTING
(B) — — — — —	TRANSVERSE DRAIN CASTING AT DEFLECTION JOINT
(C) ——/\/\/\/\/\——	FINGER TYPE EXPANSION JOINT & TRANSVERSE DRAIN
(D) — - — - — - —	DEFLECTION JOINT
□	ACCESS HATCH THROUGH SAFETY WALK

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

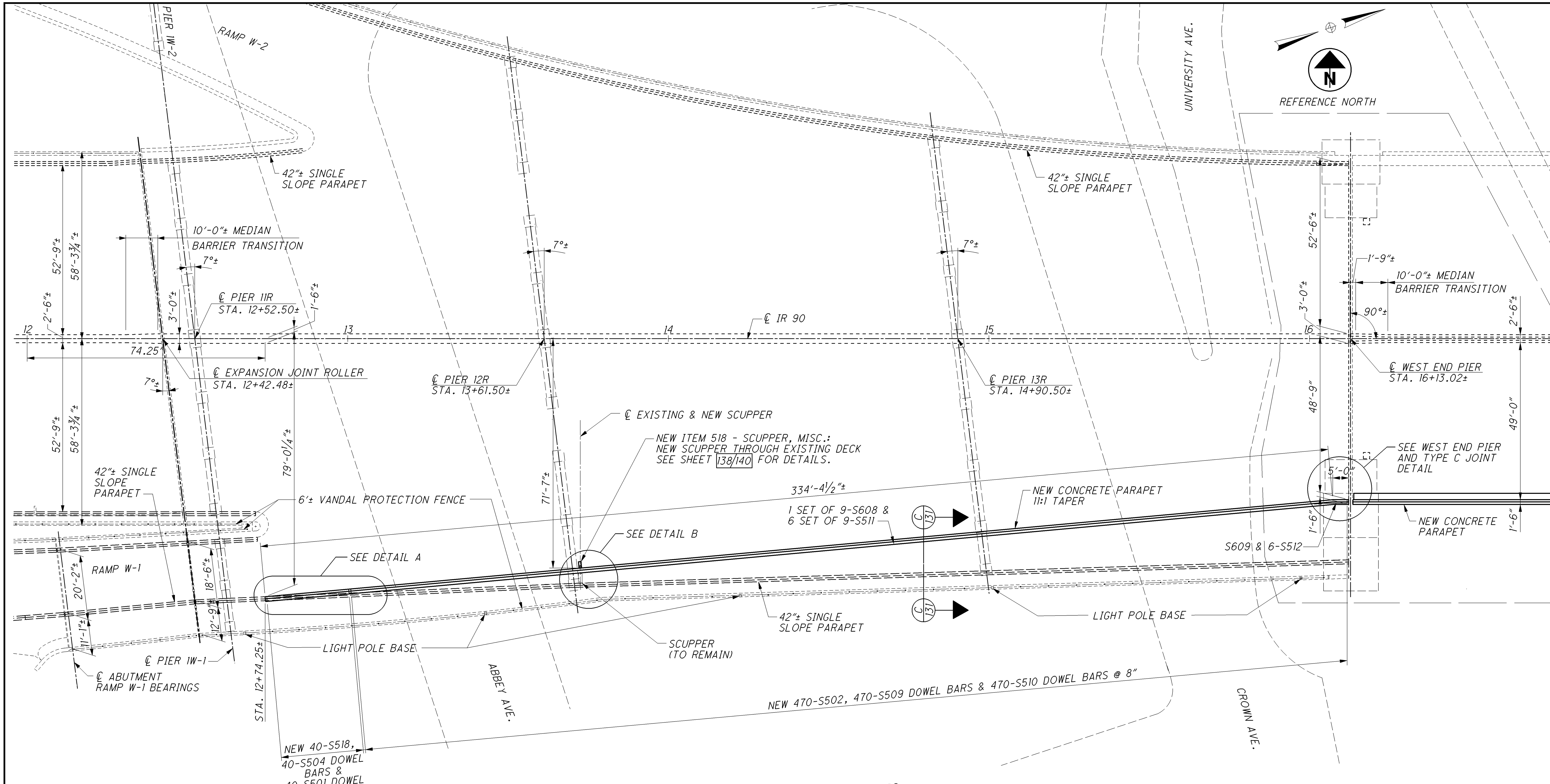
DESIGNED	DRAWN	REVIEWED	DATE
JDB	JLS	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP		1809393	

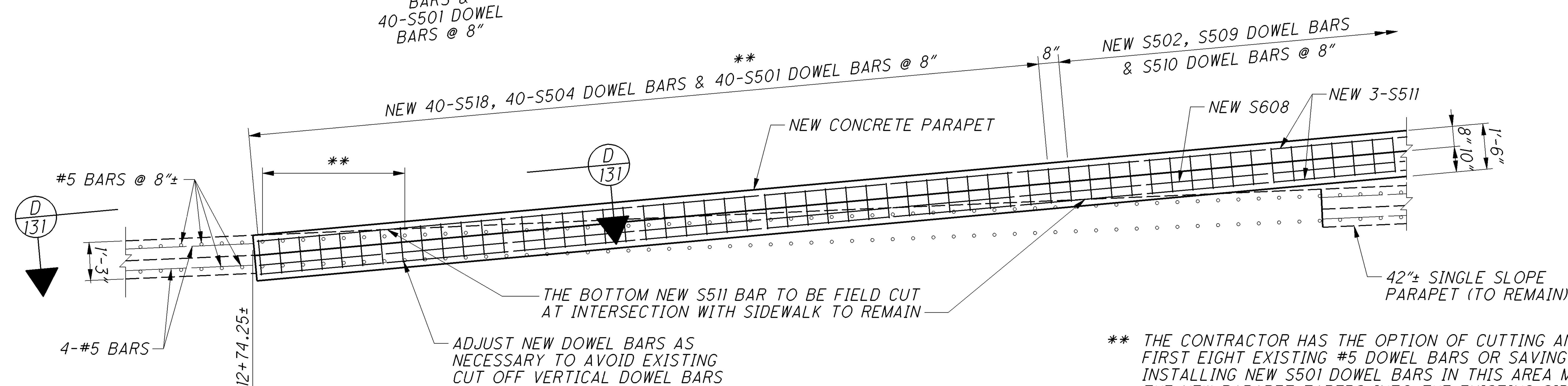
PROPOSED DECK PLAN SCHEMATIC

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1524CSD001.DGN 7/27/09 RBJLS





DETAIL A

** THE CONTRACTOR HAS THE OPTION OF CUTTING AND REPLACING THE FIRST EIGHT EXISTING #5 DOWEL BARS OR SAVING THEM FOR REUSE. INSTALLING NEW S501 DOWEL BARS IN THIS AREA MAY BE DIFFICULT AS THE NEW PARAPET TAPERS INTO THE EXISTING SIDEWALK. REUSED DOWEL BARS SHALL BE FIELD BENT AND CUT TO MATCH THE PROPOSED SECTION. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

DETAIL B: SEE SHEET 138/140.

WEST END PIER AND TYPE C JOINT DETAIL: SEE SHEET 132/140.

STATIONING IS APPROXIMATE AND IS TIED TO PIER LOCATIONS. THERE IS NO MONUMENTATION IN THE FIELD.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
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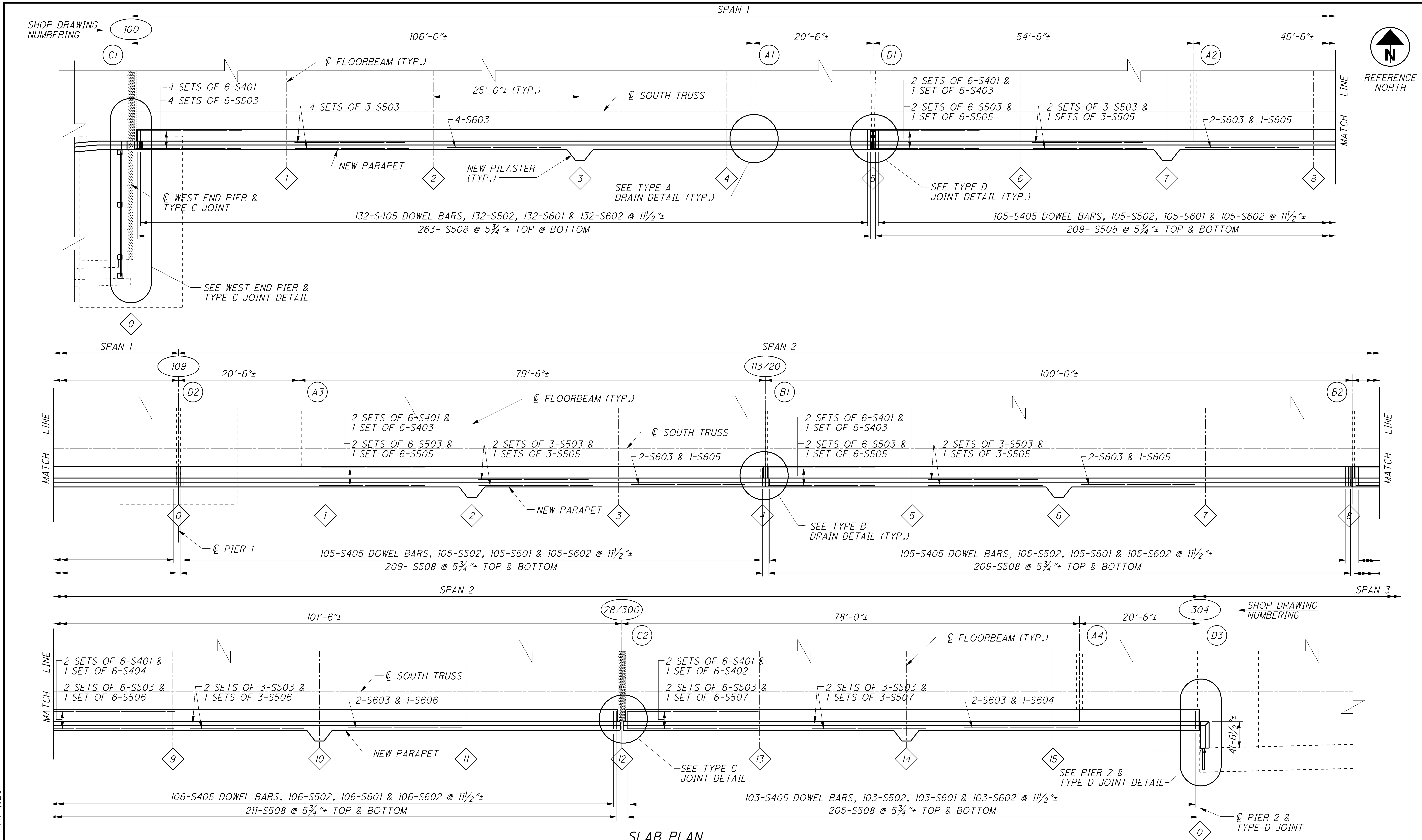
WEST APPROACH PROPOSED DECK PLAN

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069



SLAB PLAN

LEGEND

- A1 TRANSVERSE DRAIN CASTING TYPE A
- B1 TRANSVERSE DRAIN CASTING TYPE B AT DEFLECTION JOINT
- C1 FINGER TYPE EXPANSION JOINT & TRANSVERSE DRAIN
- D1 DEFLECTION JOINT
- 0 FLOORBEAM NO.

NOTES

TRANSVERSE SECTION: SEE SHEET 127/140.

WEST END PIER & TYPE C JOINT DETAIL: SEE SHEETS 132/140 & 133/140.

TYPE A, B & D JOINT AND DRAIN DETAILS: SEE SHEET 134/140.

TYPE C JOINT DETAILS: SEE SHEET 135/140.

PIER 2 & TYPE D JOINT DETAIL: SEE SHEETS 136/140 & 137/140.

PILASTER DETAILS: SEE SHEET 127/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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REVIEWED DAP DATE 7/31/09 STRUCTURE FILE NUMBER 1809393

DRAWN JLS REVISED

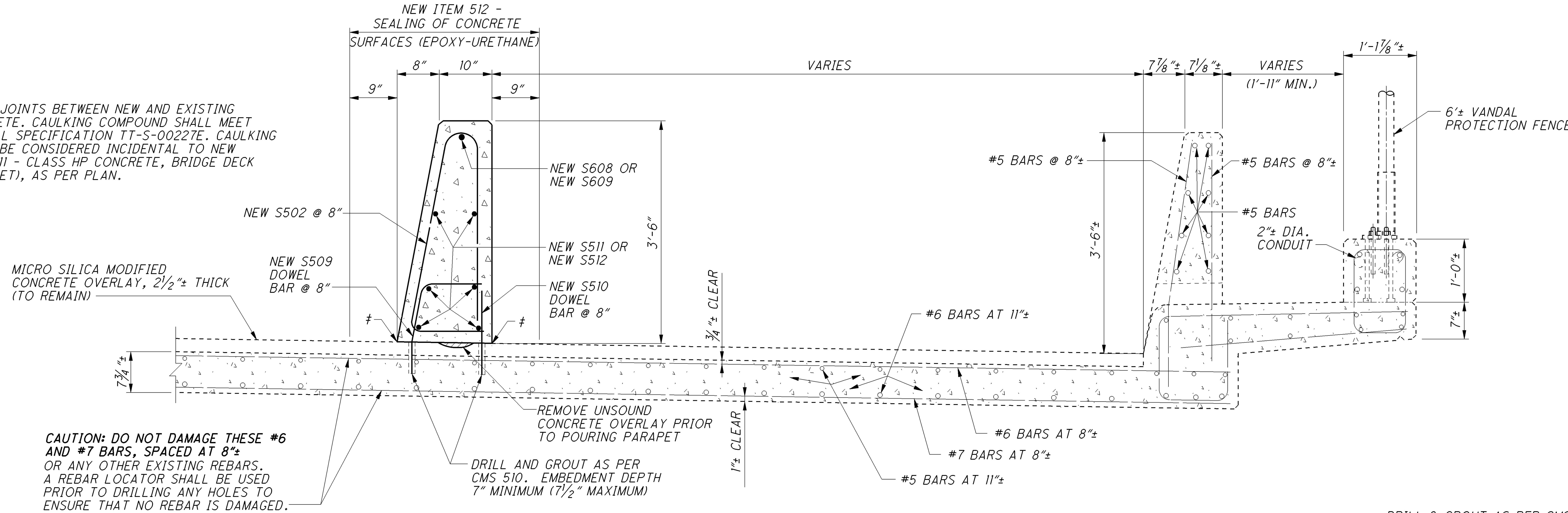
DESIGNED JDB CHECKED ALP

SLAB PLAN - TRUSS SPANS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

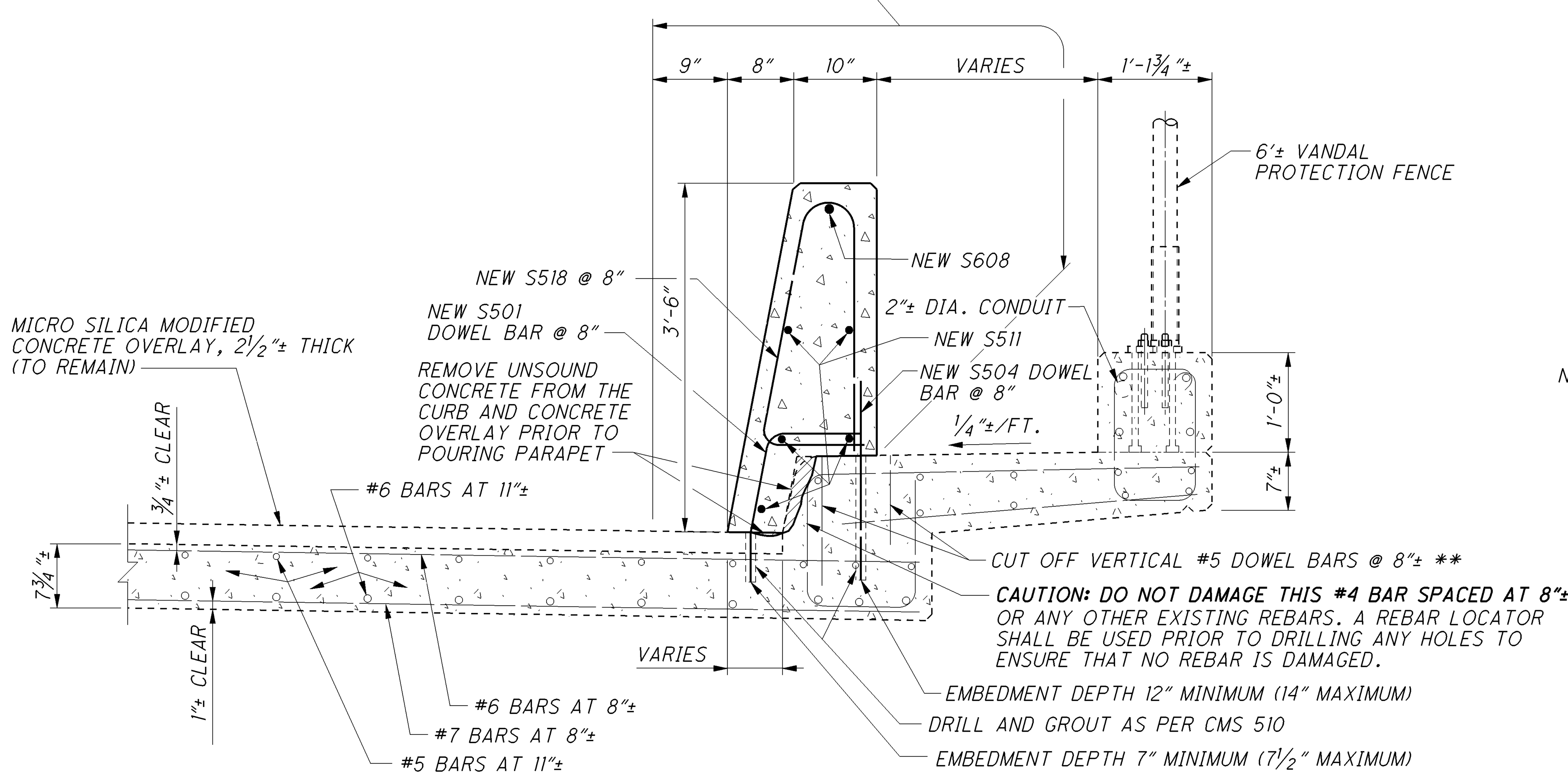
CUY-90-15.24
PID No. 82069

090_1524CDP001.DGN 8/03/09 TWH.JLS

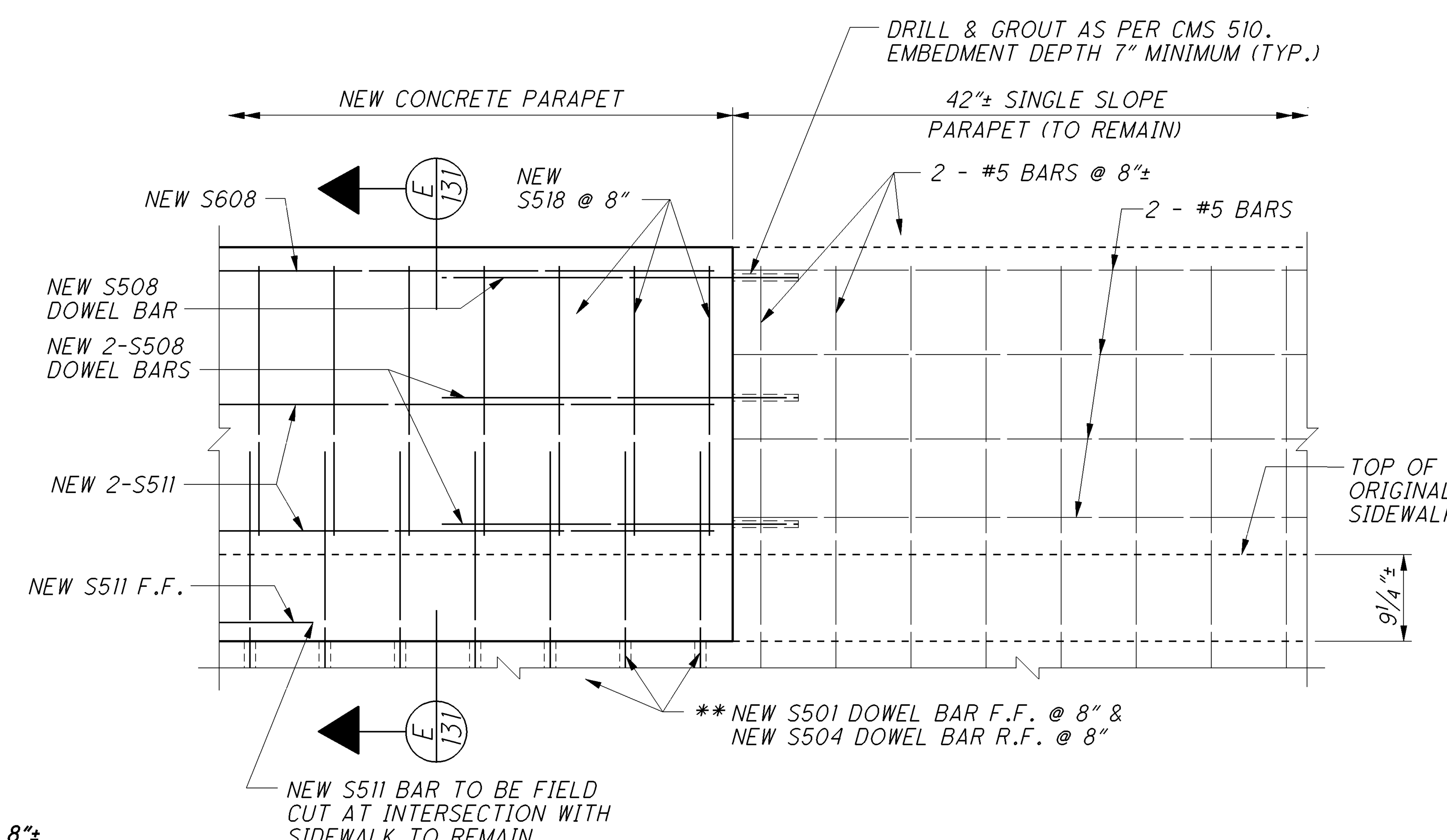
‡ CAULK JOINTS BETWEEN NEW AND EXISTING CONCRETE. CAULKING COMPOUND SHALL MEET FEDERAL SPECIFICATION TT-S-00227E. CAULKING SHALL BE CONSIDERED INCIDENTAL TO NEW ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.



SECTION C-C



SECTION E-E



VIEW D-D

** THE CONTRACTOR HAS THE OPTION OF CUTTING AND REPLACING THE FIRST EIGHT EXISTING #5 DOWEL BARS OR SAVING THEM FOR REUSE. INSTALLING NEW S501 DOWEL BARS IN THIS AREA MAY BE DIFFICULT AS THE NEW PARAPET TAPERS INTO THE EXISTING SIDEWALK. REUSED DOWEL BARS SHALL BE FIELD BENT AND CUT TO MATCH THE PROPOSED SECTION. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

LEGEND

(hatched) - REMOVAL OF EXISTING OVERLAY INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTION C-C: FOR LOCATION SEE SHEET 129/140 .

VIEW D-D: FOR LOCATION SEE SHEET 129/140 .

REINFORCING STEEL SPLICE LENGTHS: SHALL BE 2'-6" FOR #5 BARS AND 3'-0" FOR #6 BARS.

ALL REBAR SHALL MAINTAIN 2" COVER.

NOTATION: F.F - FRONT FACE
R.F. - REAR FACE

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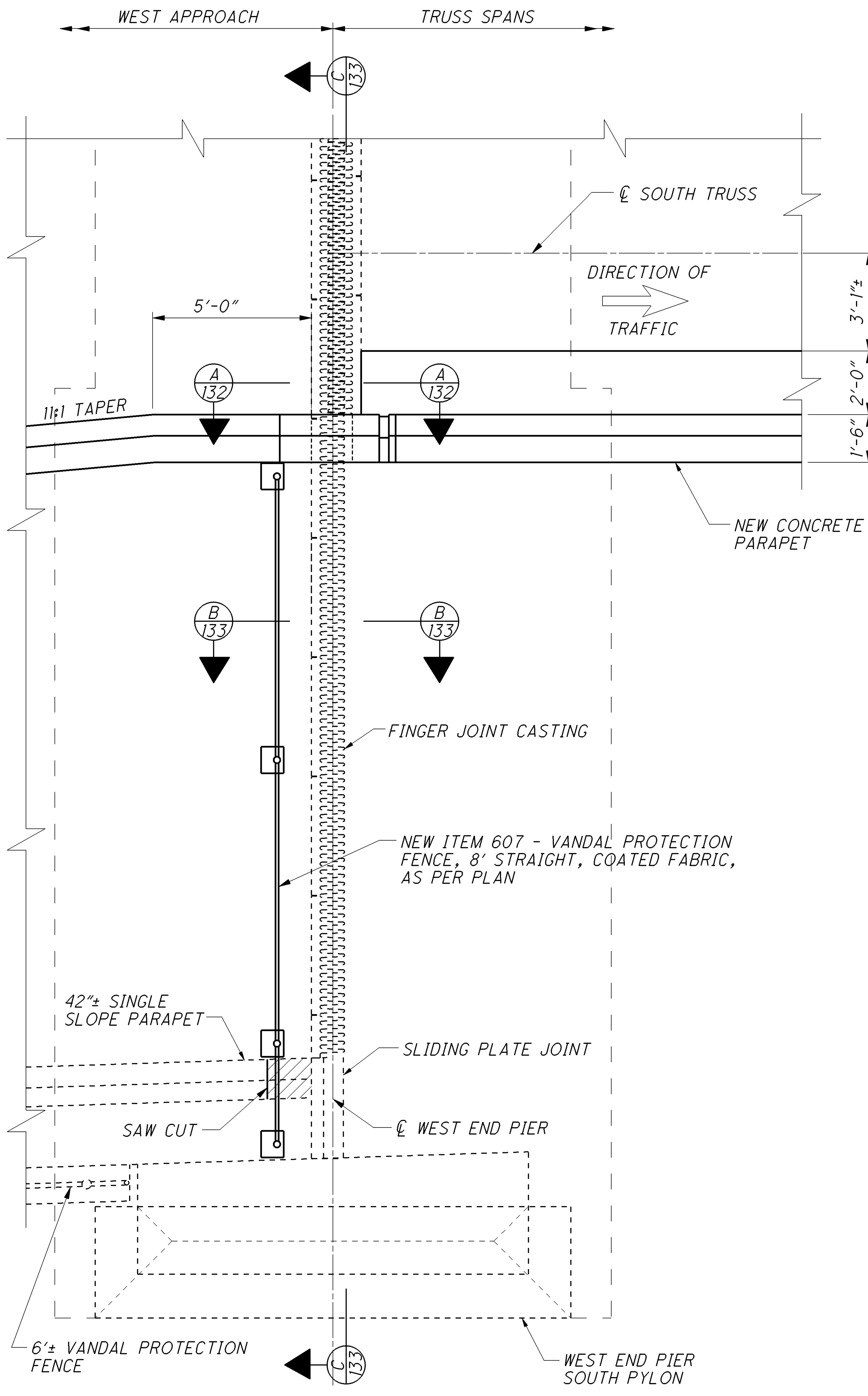
ALP		1809393	

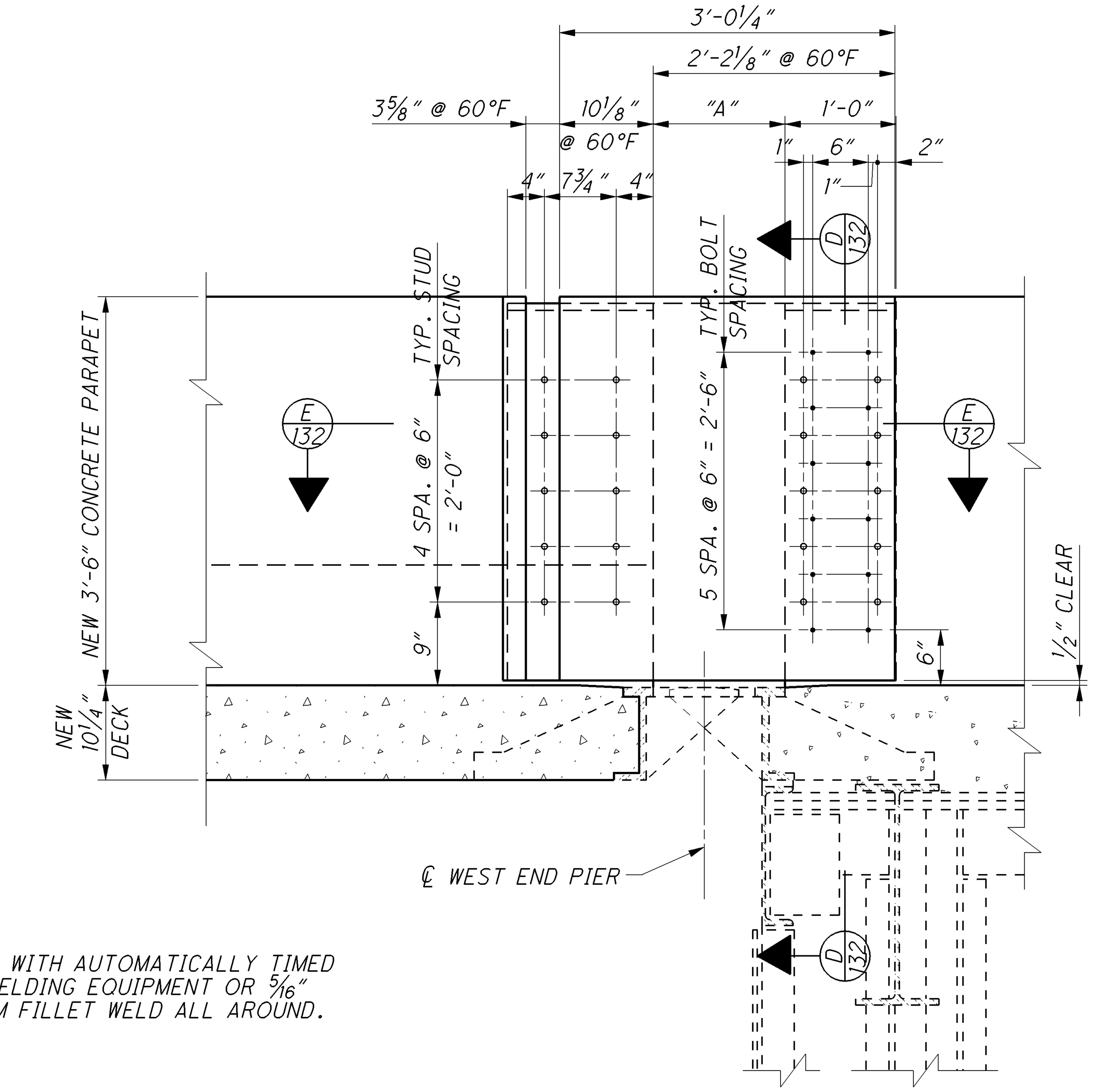
WEST APPROACH PARAPET DETAILS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

090_1542CSD019.DGN 8/04/09 KH,TWH,JLS

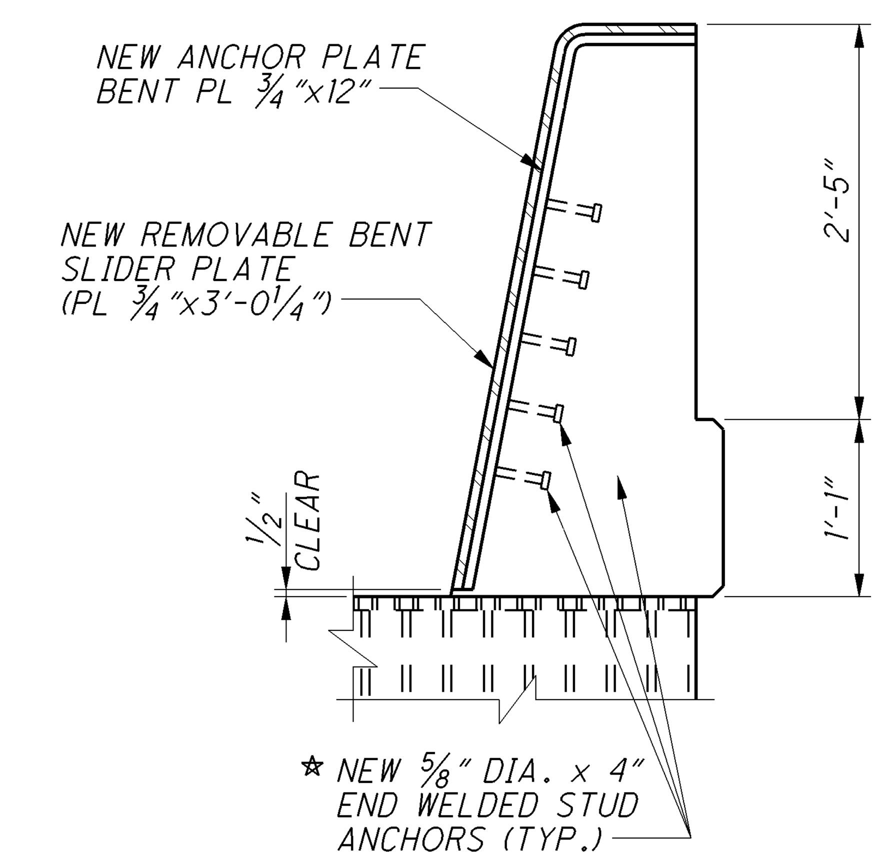


EXPANSION JOINT AT WEST END PIER

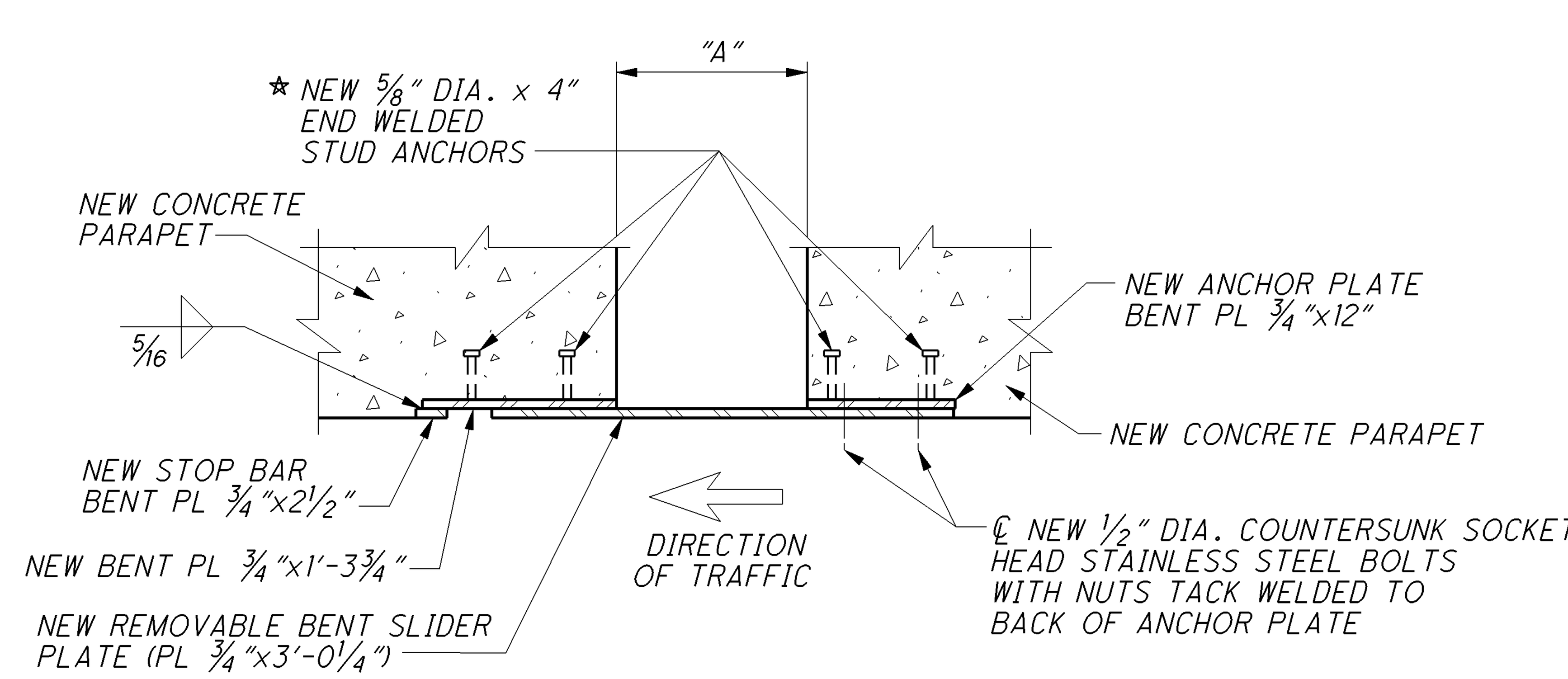


SECTION A-A

* WELDED WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT OR 5/16" MINIMUM FILLET WELD ALL AROUND.



SECTION D-D



SECTION E-E

JOINT SETTING TABLE	
TEMPERATURE (°F)	DIMENSION "A" (INCHES) WEST END PIER
30°F	15⅜"
40°F	15"
50°F	14⅝"
60°F	14¼"
70°F	13⅞"
80°F	13½"
90°F	13⅛"

LEGEND

- INDICATES MATERIAL TO BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

PARAPET PLATES SHALL BE GALVANIZED PER 711.02 AFTER FABRICATION.

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT ARMOR WORK SHALL BE INCLUDED IN THE UNIT PRICE BID, PER EACH JOINT LOCATION, FOR ITEM 516 - STRUCTURAL JOINT OR JOINT SEAL, MISC.: 42" PARAPET JOINT ARMOR.

REINFORCING STEEL SHALL BE ADJUSTED AS NECESSARY TO CLEAR THE ¾" PARAPET PLATES.

RICHLAND ENGINEERING LIMITED
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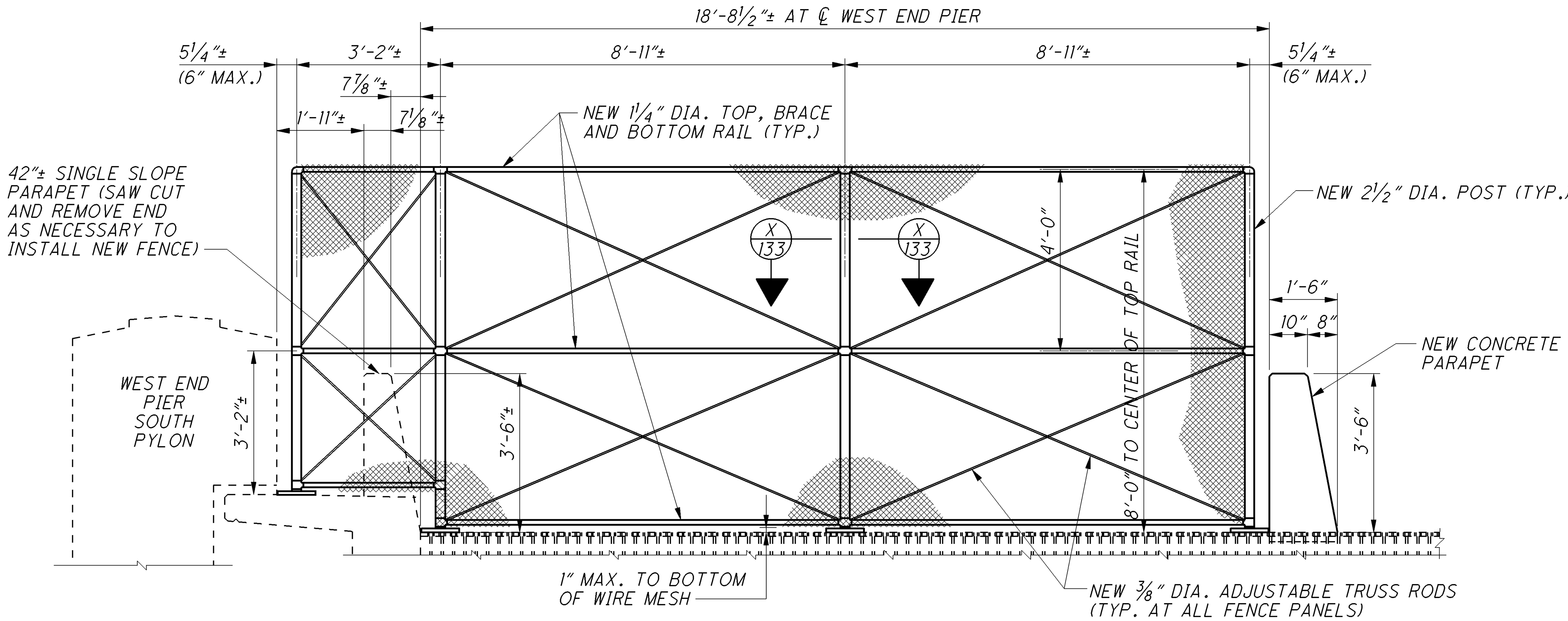
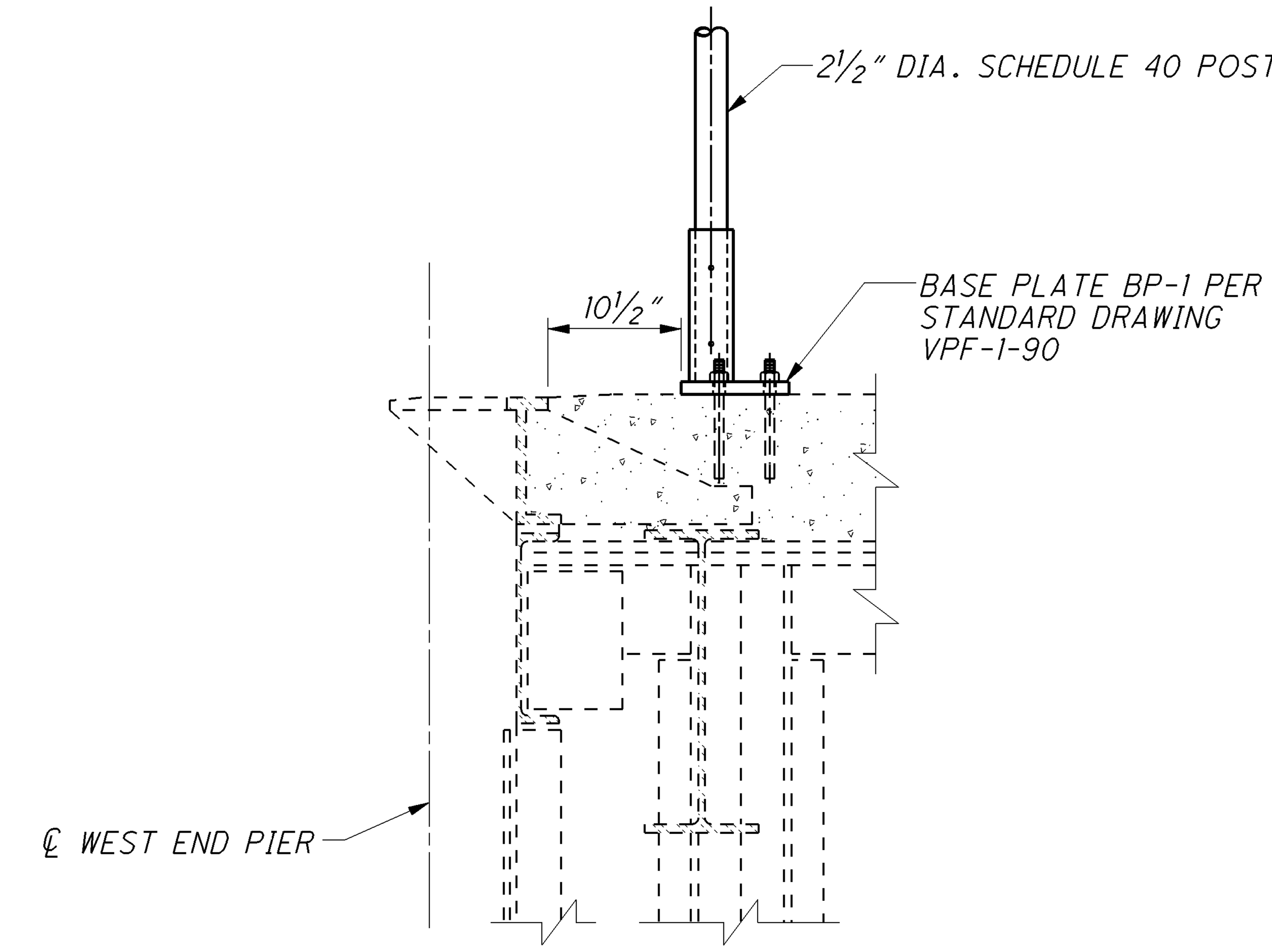
SLAB PLAN DETAILS AT JOINTS AND DRAINS - 1
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

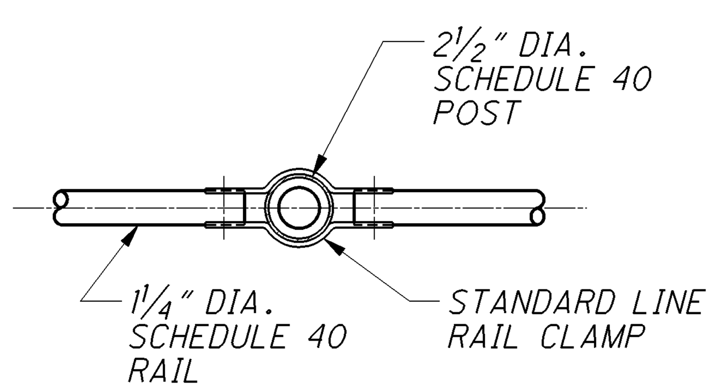
CUY-90-15.24
PID No. 82069



SECTION C-C



SECTION B-B



SECTION X-X

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SECTIONS B-B & C-C: FOR LOCATIONS SEE SHEET 132/140.

ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

THIS ITEM OF WORK INCLUDES THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE FENCING. FENCE POSTS AND ANCHOR BOLTS SHALL BE PERPENDICULAR TO GRADE. RAILS SHALL BE PARALLEL TO GRADE. MATERIALS AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF ITEM 607 EXCEPT THAT ALL COMPONENTS SHALL BE GALVANIZED ACCORDING TO 711.02. ALUMINUM OR ALUMINUM ALLOYS SHALL NOT BE USED. ALL POST AND RAIL SIZES ARE NOTED IN TERMS OF THE NOMINAL INSIDE DIAMETER OF STANDARD WEIGHT PIPE SCHEDULE 40. PAYMENT FOR THE ABOVE SHALL BE MADE AT THE UNIT BID PRICE, PER FOOT, UNDER ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN.

SEE STANDARD DRAWING VPF-1-90 FOR MATERIAL PROPERTIES, DETAILS AND DIMENSIONS NOT SHOWN.

RICHLAND ENGINEERING LIMITED
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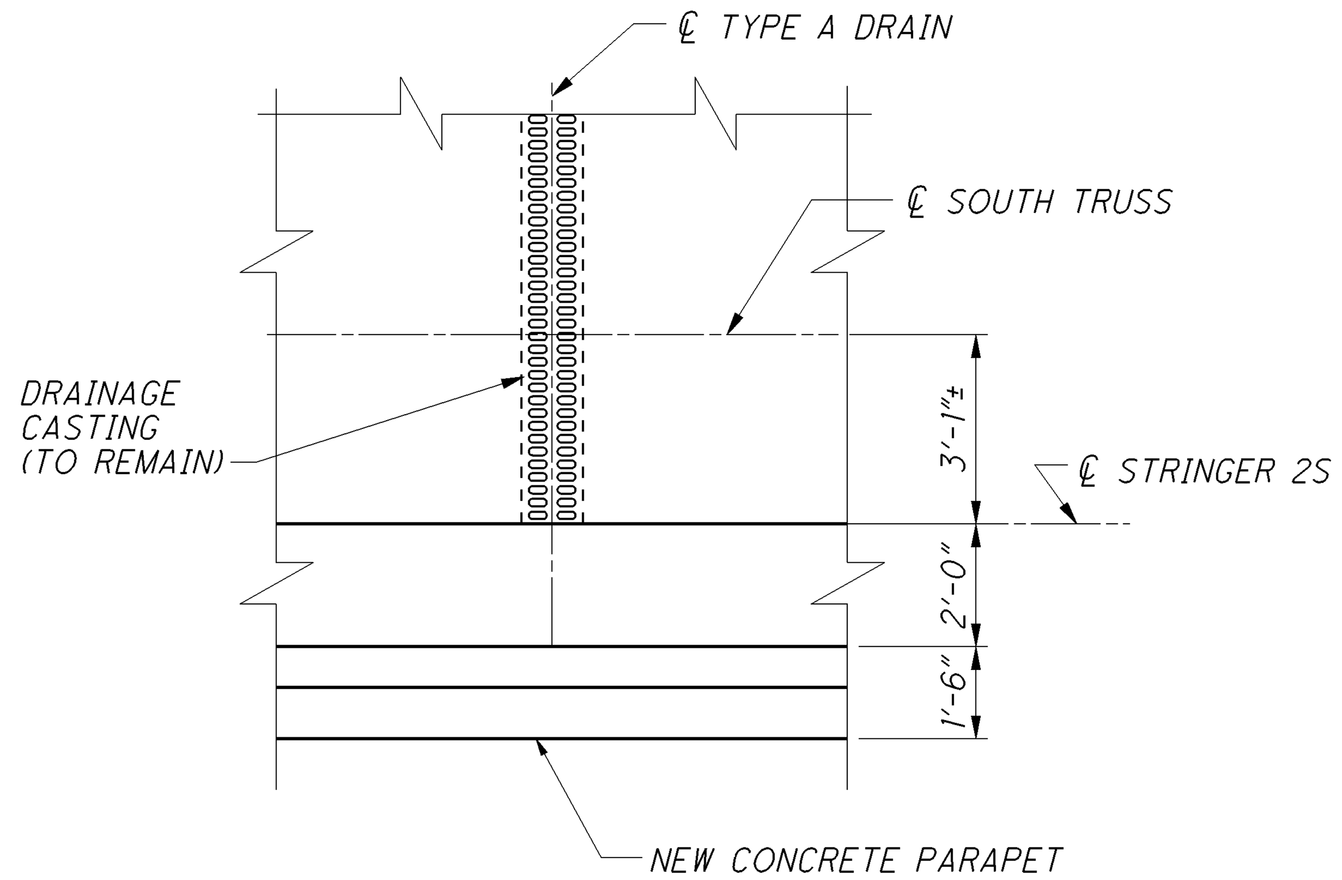
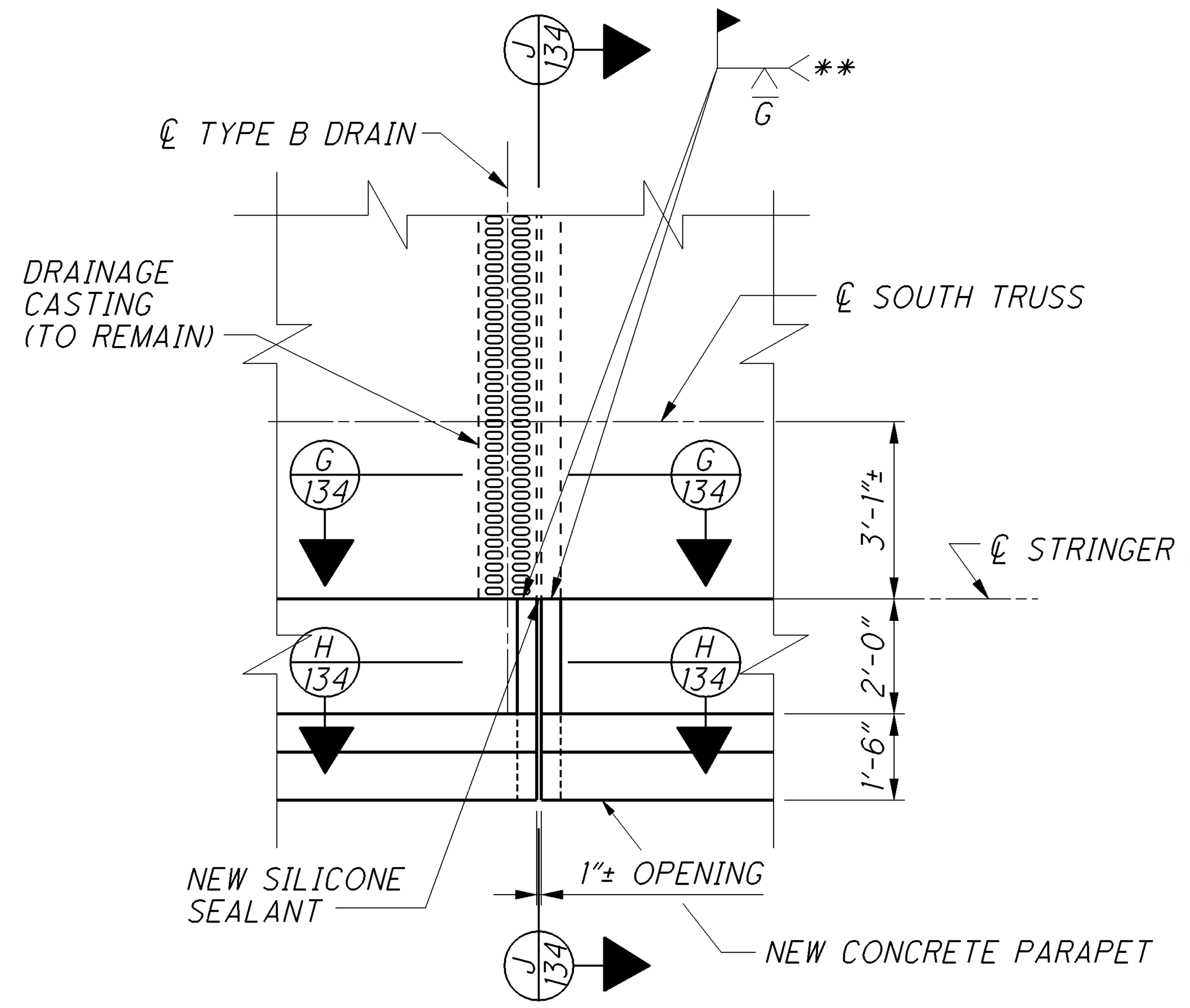
SLAB PLAN DETAILS AT JOINTS AND DRAINS - 2

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

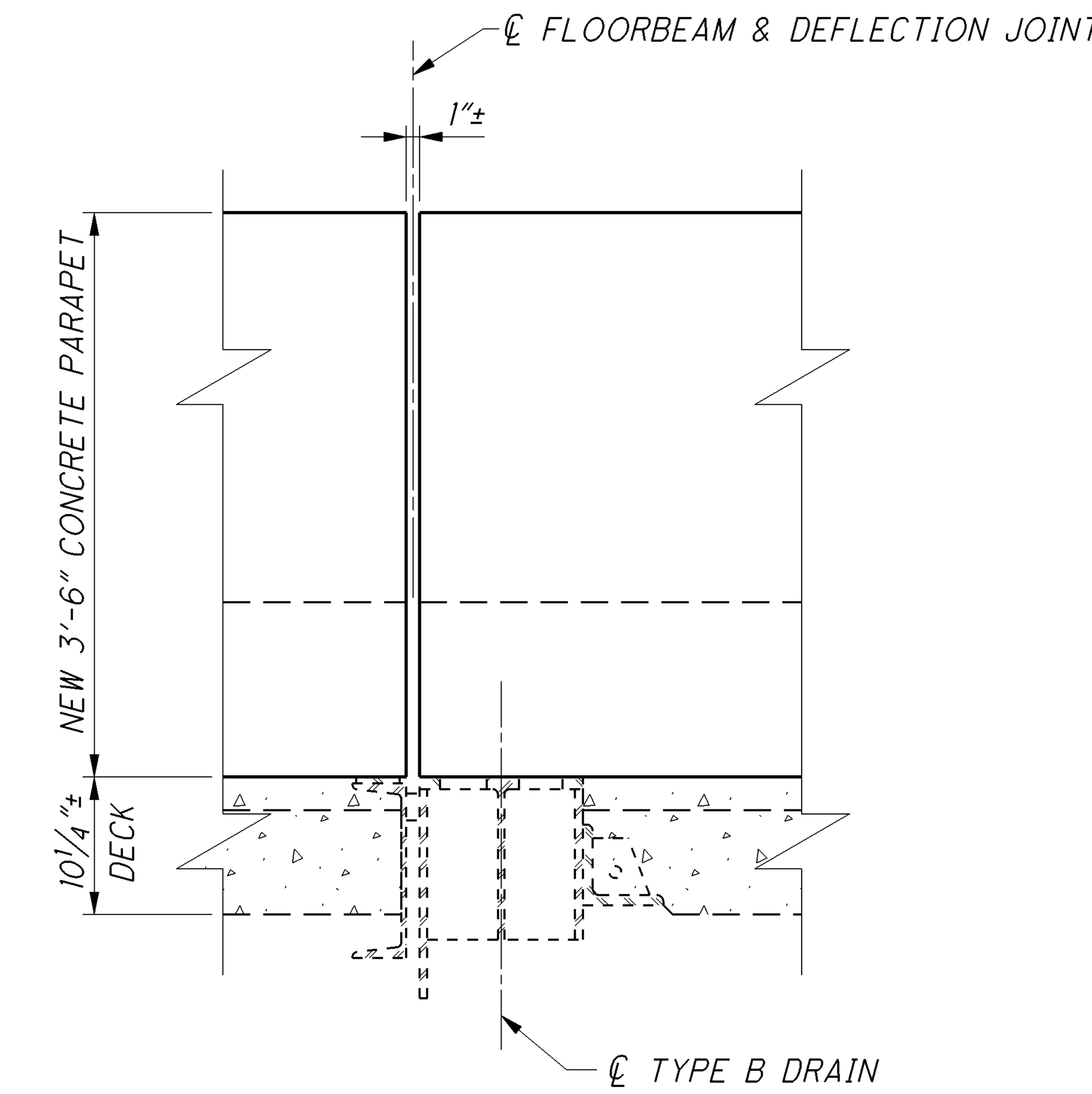
CUY-90-15.24
PID No. 82069



TYPE A DRAIN
SPAN 1 - FLOORBEAM 4
SPAN 1 - FLOORBEAM 7
SPAN 2 - FLOORBEAM 1
SPAN 2 - FLOORBEAM 15

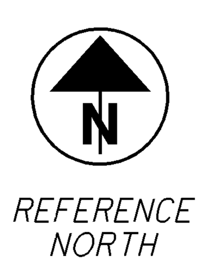


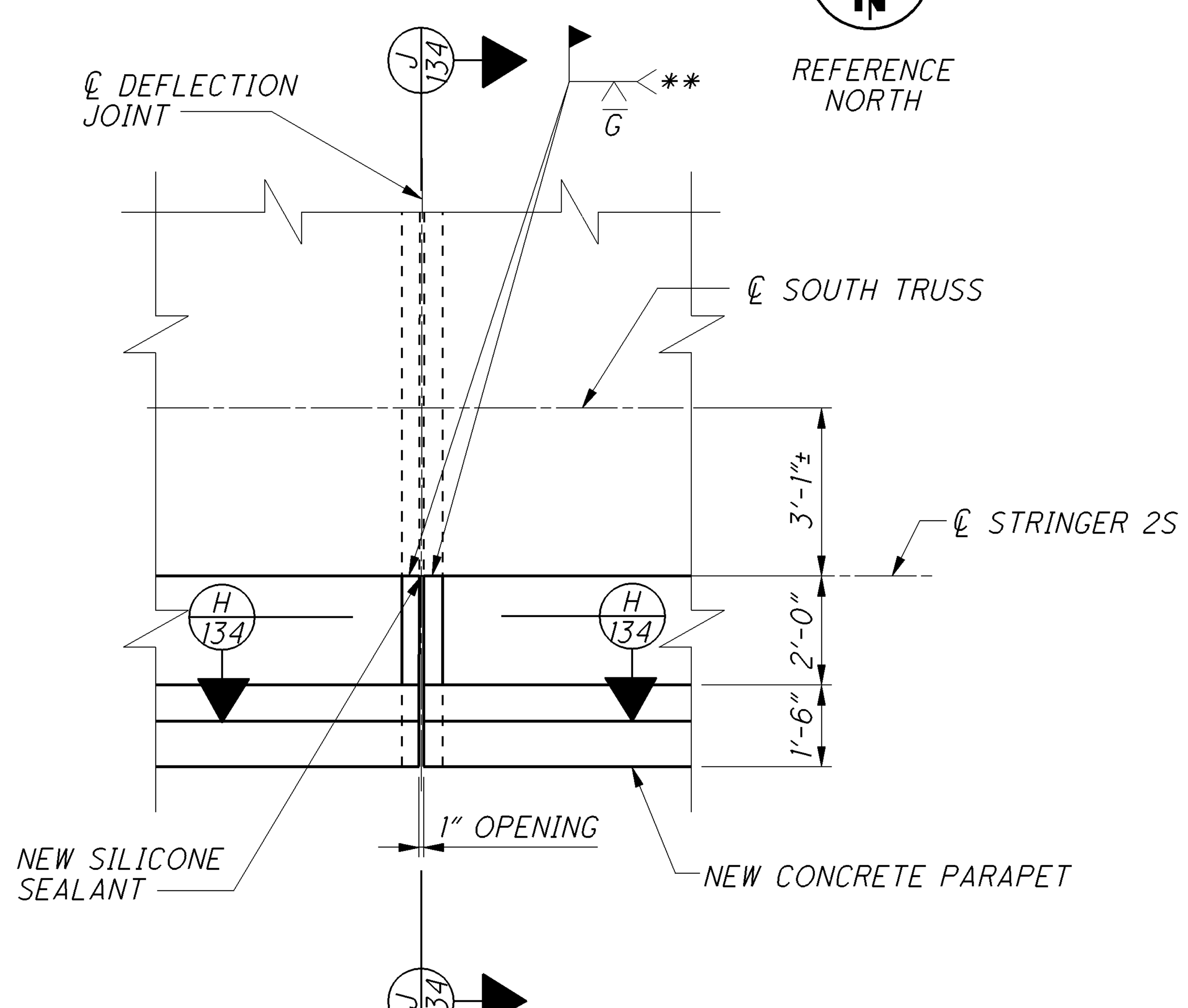
TYPE B DRAIN
SPAN 2 - FLOORBEAM 4
SPAN 2 - FLOORBEAM 8



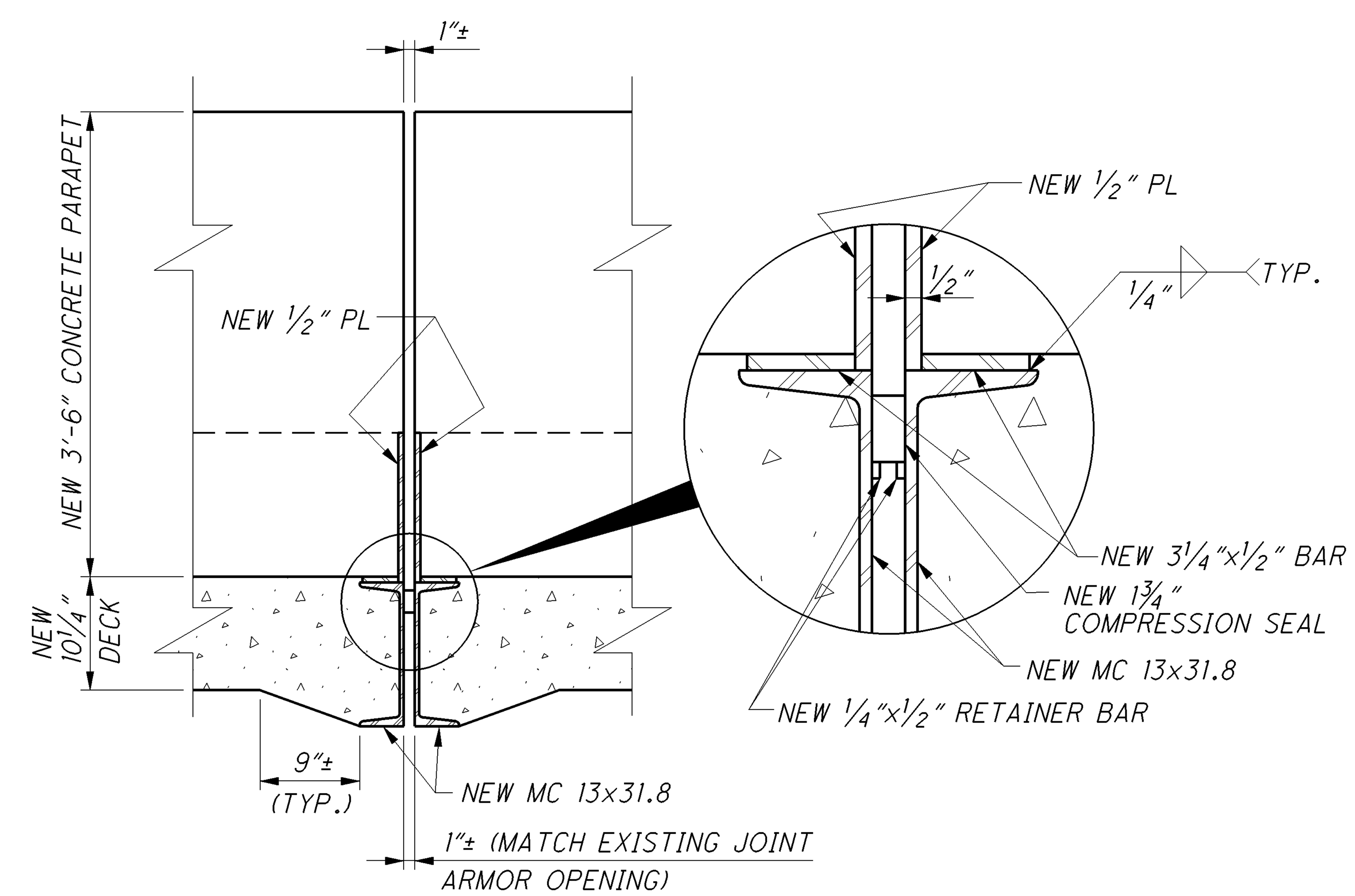
SECTION G-G
TYPE B DRAIN AND DEFLECTION JOINT

** THE NEW CHANNELS SHALL BE CAREFULLY ALIGNED WITH THE EXISTING CHANNELS PRIOR TO WELDING. THE ALIGNMENT SHALL BE MAINTAINED DURING THE WELDING. THE JOINT OPENING SHALL BE CLEANED AFTER WELDING TO ENSURE PROPER SEATING OF THE NEW COMPRESSION SEAL.

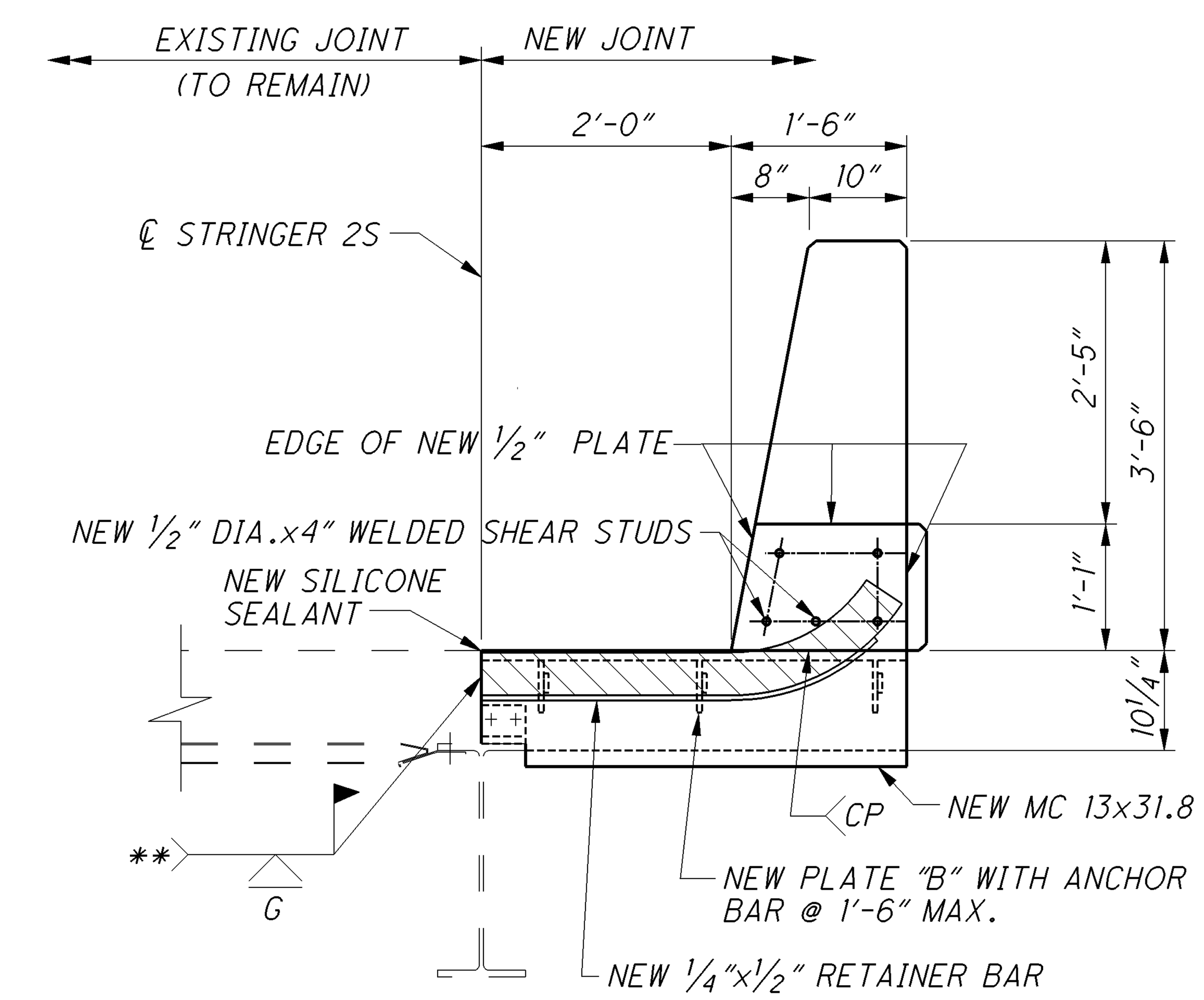




TYPE D JOINT
SPAN 1 - FLOORBEAM 5
SPAN 2 - FLOORBEAM 0



SECTION H-H
TYPE B & D JOINTS



SECTION J-J
TYPE B & D JOINTS

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

REMOVE EXISTING CONCRETE AS REQUIRED TO INSTALL NEW DEFLECTION JOINT EXTENSIONS. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING REINFORCING STEEL TO REMAIN. INCLUDE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT. REPLACE REMOVED CONCRETE WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

COMPRESSION SEAL GLAND SHALL BE 1¾" FOR ALL DEFLECTION JOINT EXTENSIONS.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN: SEE GENERAL NOTES SHEET 14/140.

ADDITIONAL NOTES AND DETAILS: SEE STANDARD DRAWING EXJ-2-81.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
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DESIGNED	DRAWN	REVIEWED	DATE
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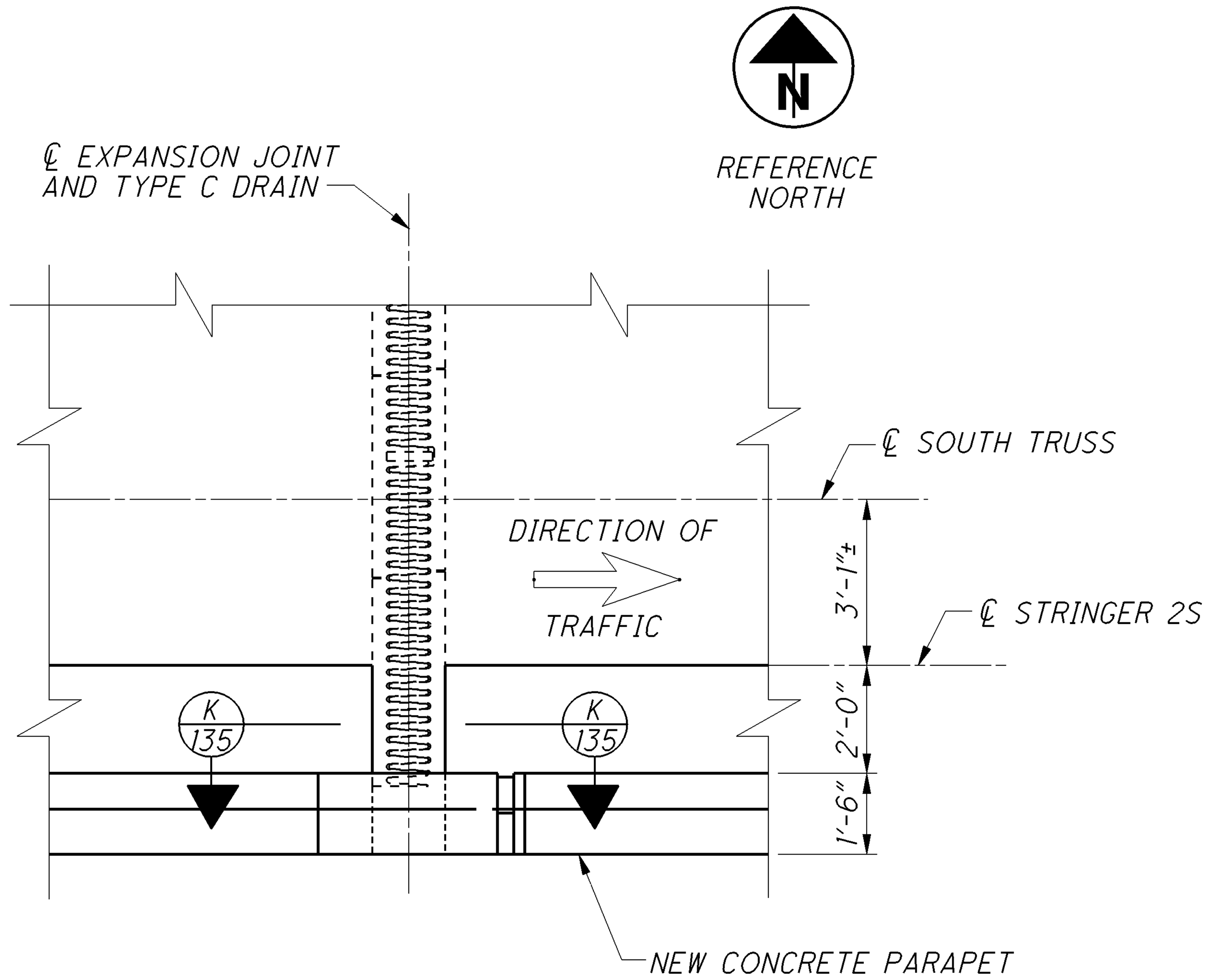
ALP		1809393	

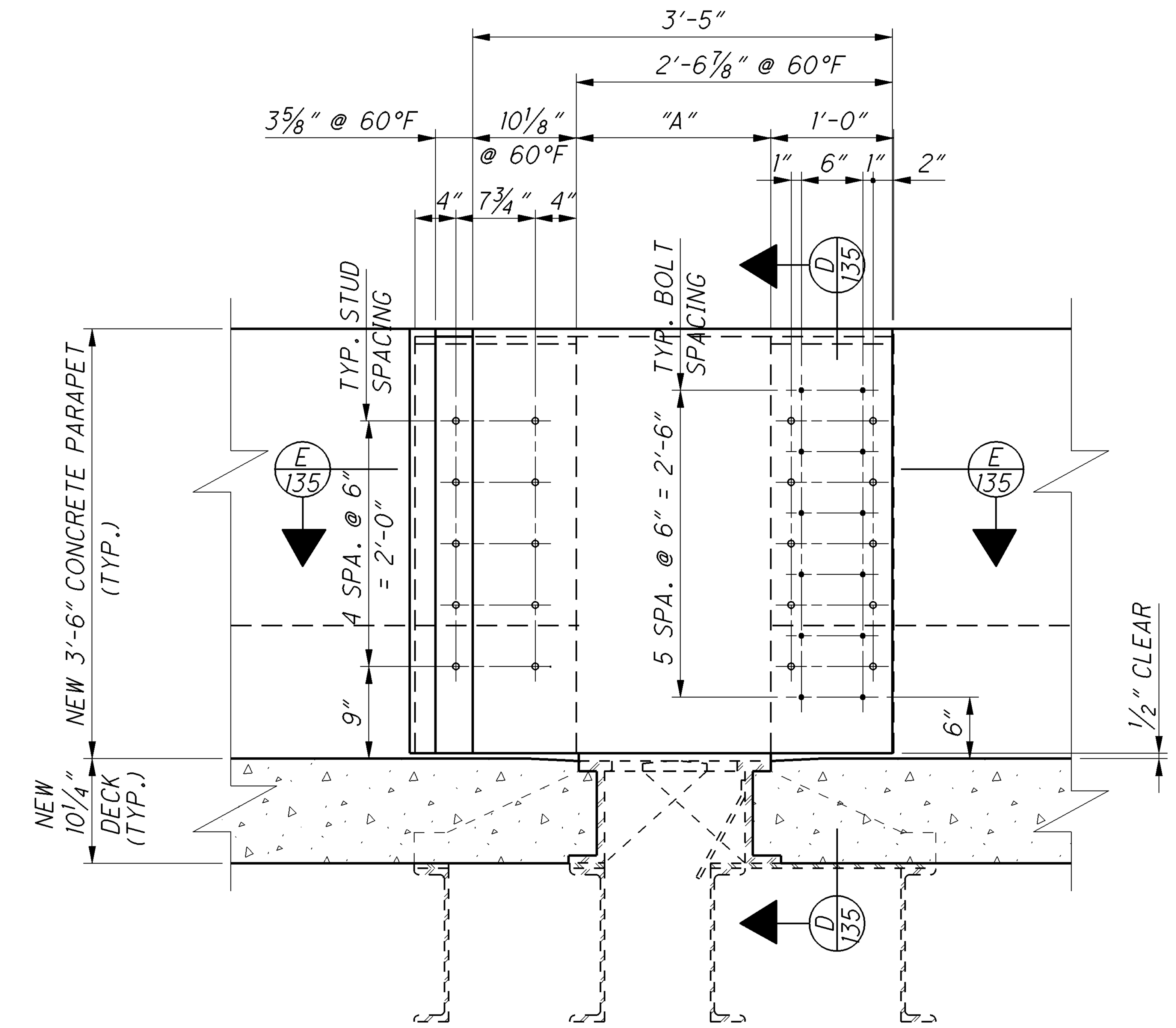
SLAB PLAN DETAILS AT JOINTS AND DRAINS - 3
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

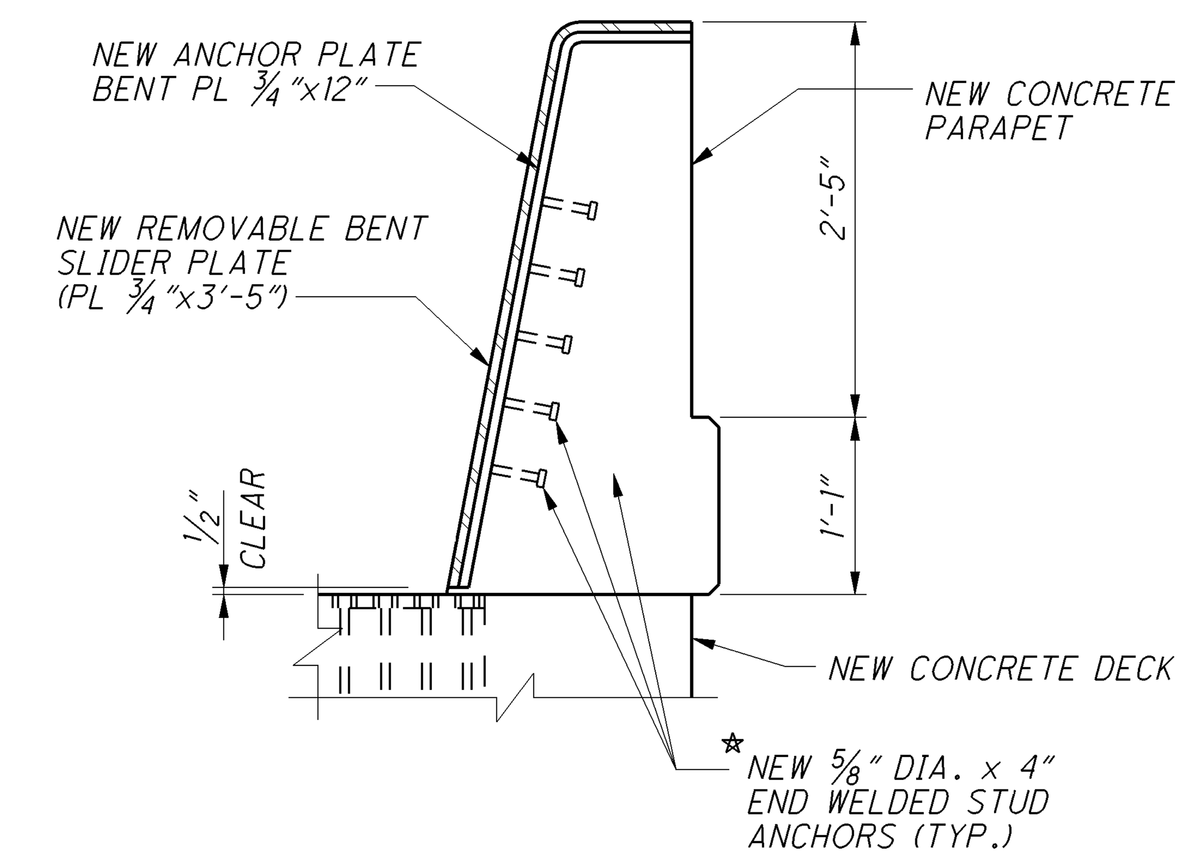
090_1524CDP004.DGN 8/04/09 SCB,KH,JLS



PLAN

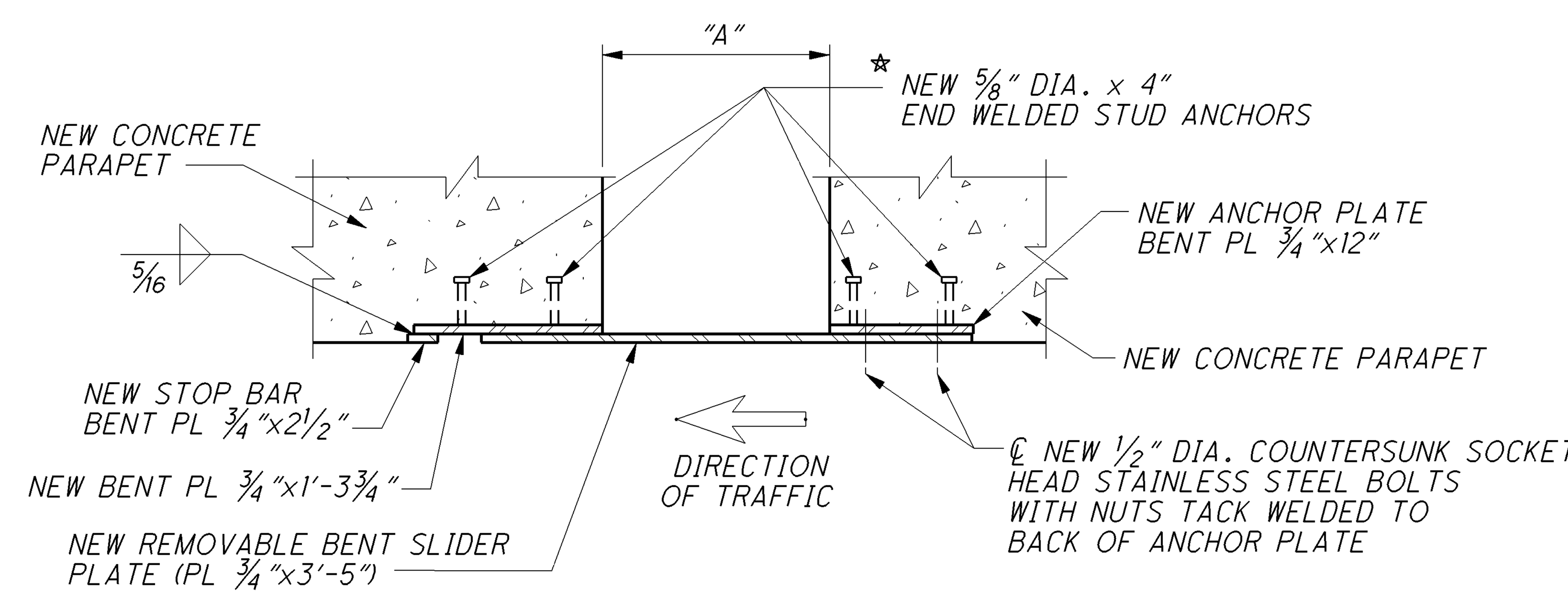


SECTION K-K



SECTION D-D

★ WELDED WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT OR 5/16" MINIMUM FILLET WELD ALL AROUND.



SECTION E-E

TYPE C JOINT

SPAN 2 - FLOORBEAM 12

JOINT SETTING TABLE

TEMPERATURE (°F)	DIMENSION "A" (INCHES) SPAN 2 FLOORBEAM 12
30°F	20½"
40°F	20"
50°F	19½"
60°F	19"
70°F	18½"
80°F	18"
90°F	17½"

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

PARAPET PLATES SHALL BE GALVANIZED PER 711.02 AFTER FABRICATION.

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE ALL EXPANSION JOINT ARMOR WORK SHALL BE INCLUDED IN THE UNIT PRICE BID, PER EACH JOINT LOCATION, FOR ITEM 516 - STRUCTURAL JOINT OR JOINT SEAL, MISC.: 42" PARAPET JOINT ARMOR.

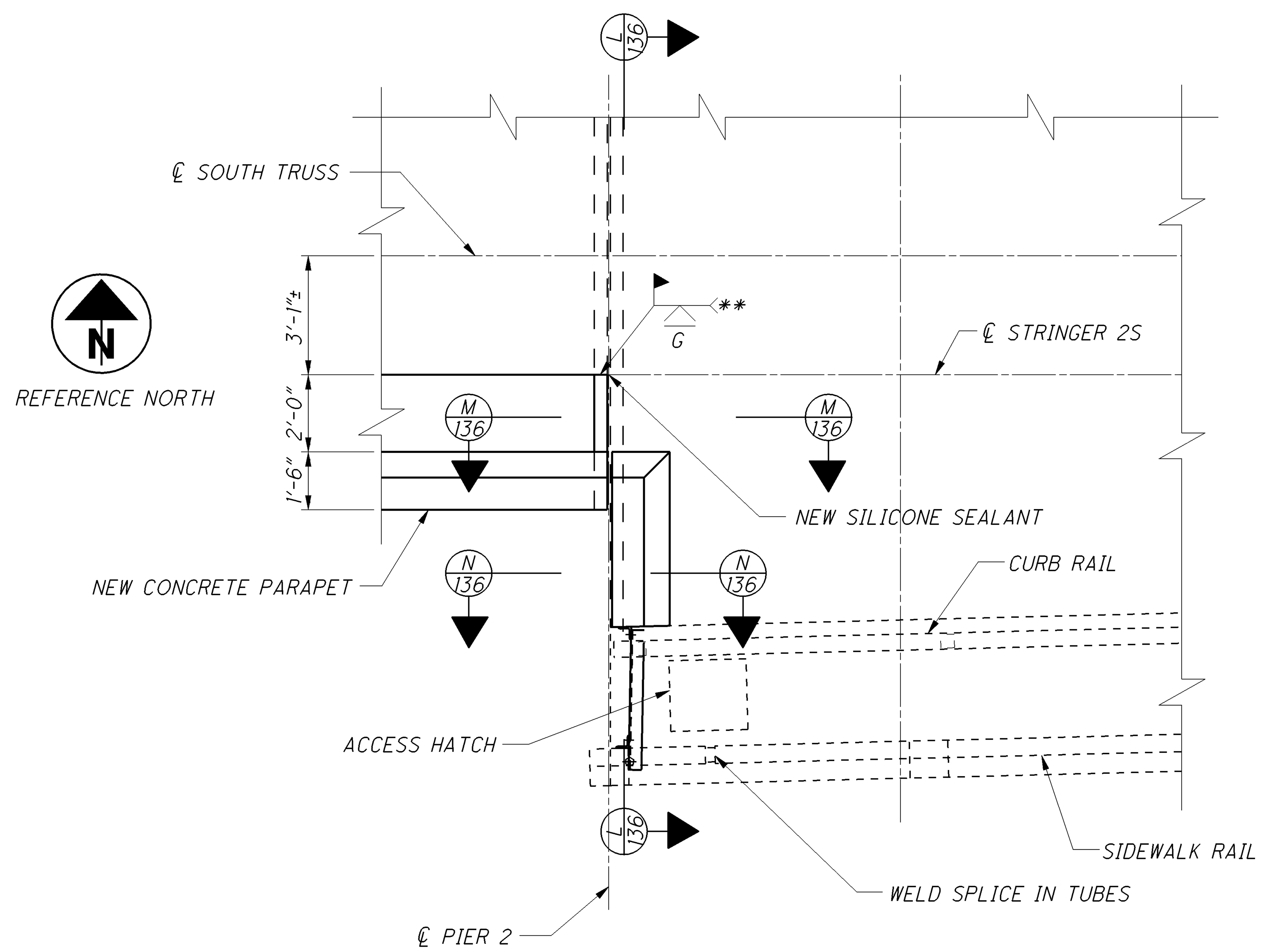
REINFORCING STEEL SHALL BE ADJUSTED AS NECESSARY TO CLEAR THE ¾" PARAPET PLATES.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | CHECKED ALP | DRAWN JLS | REVISED | REVIEWED DAP | DATE 7/31/09 | STRUCTURE FILE NUMBER 1809393

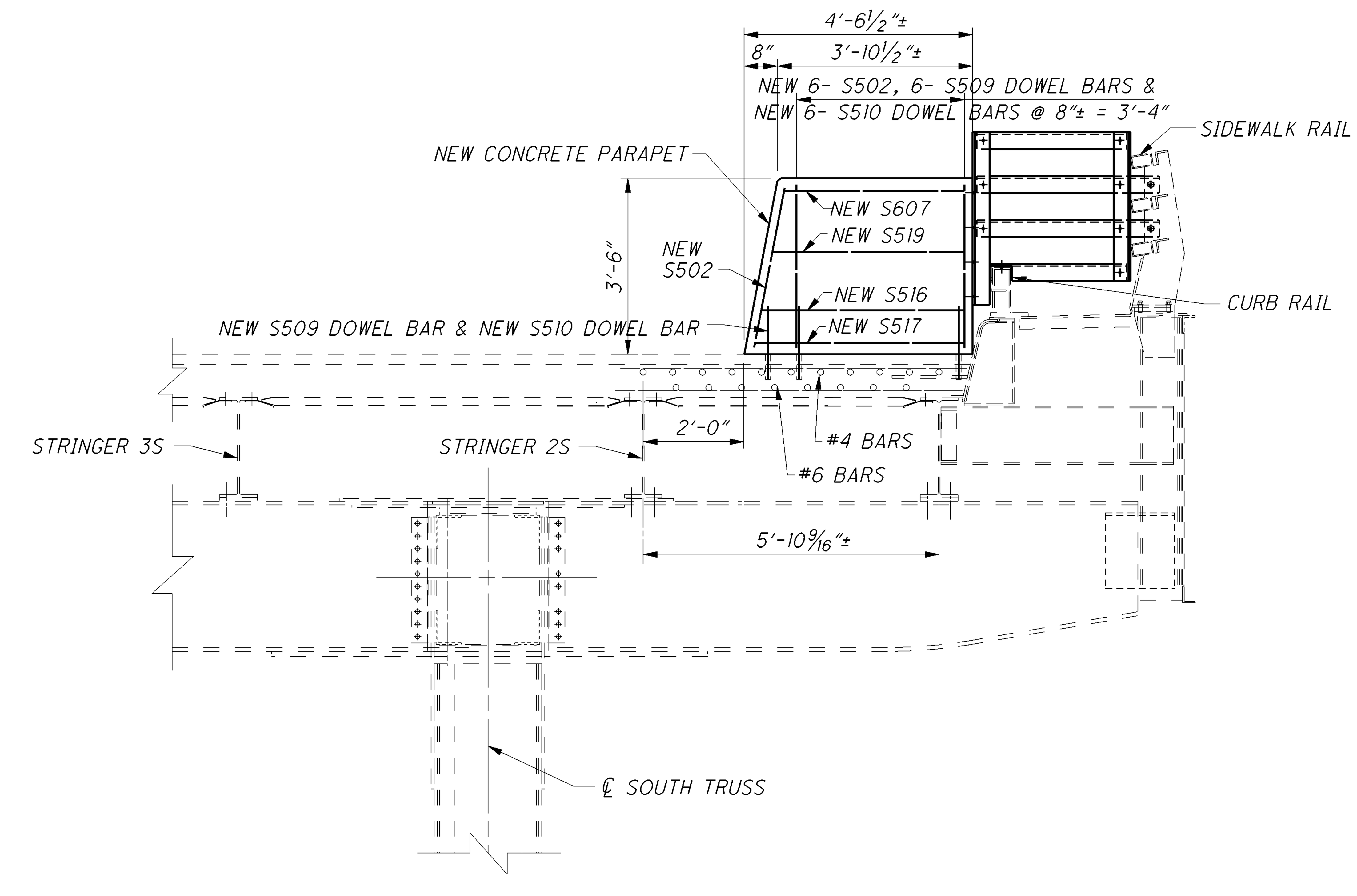
SLAB PLAN DETAILS AT JOINTS AND DRAINS - 4
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

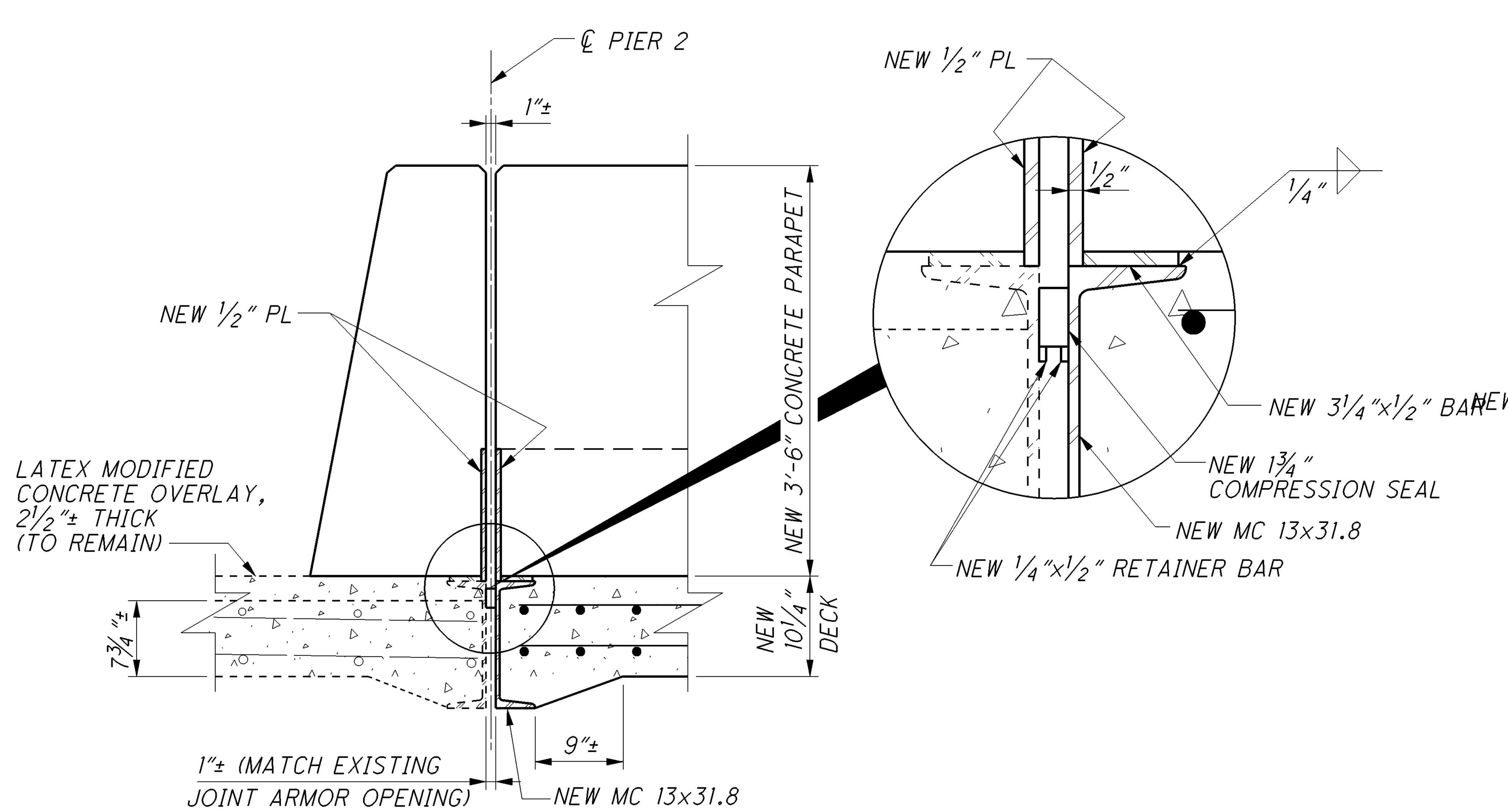


PLAN

DEFLECTION JOINT AT PIER 2

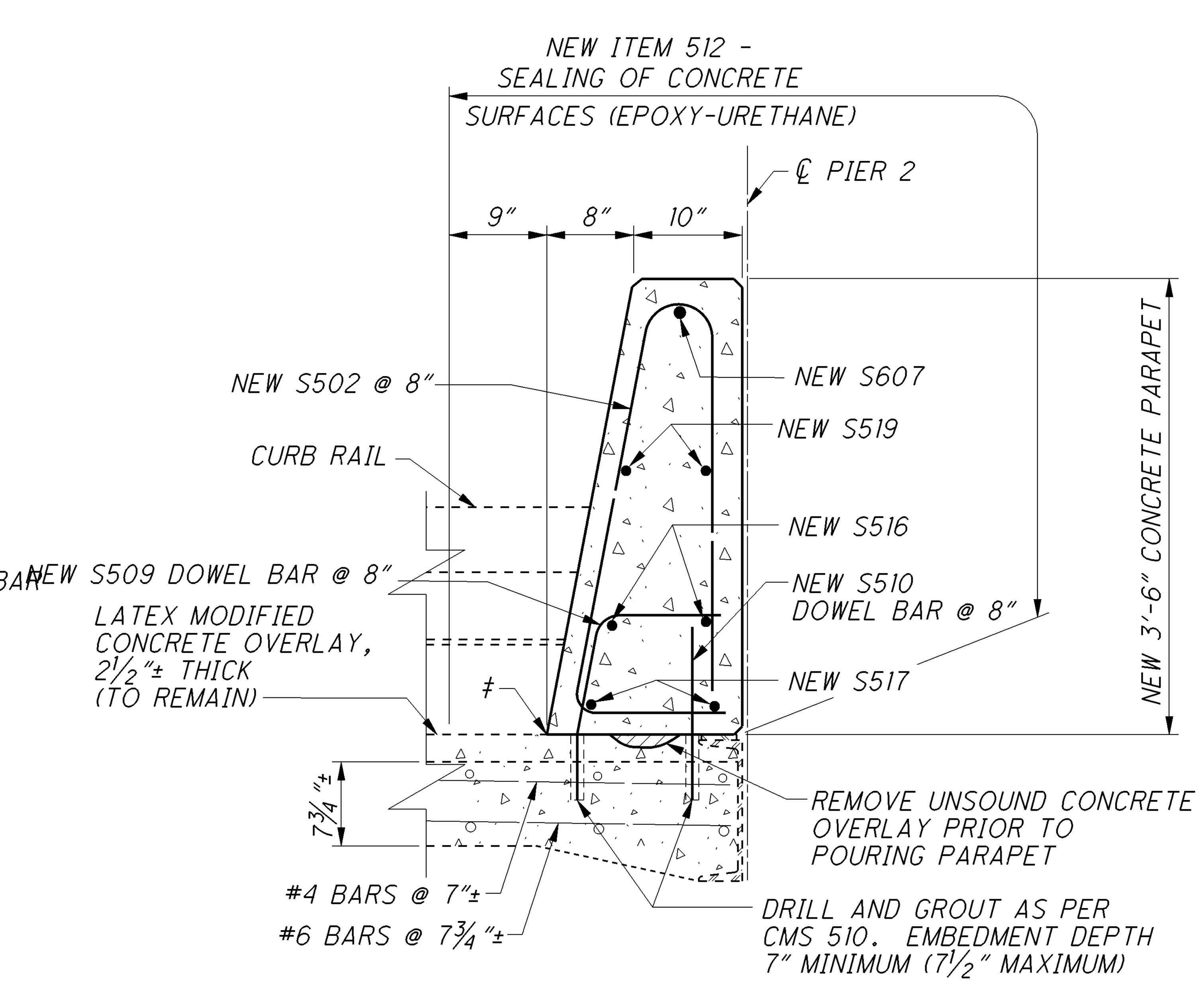


SECTION L-L



SECTION M-M

TYPE D JOINT AT PIER 2



SECTION N-N

LEGEND

‡ CAULK JOINTS BETWEEN NEW AND EXISTING CONCRETE. CAULKING COMPOUND SHALL MEET FEDERAL SPECIFICATION TT-S-00227E. CAULKING SHALL BE CONSIDERED INCIDENTAL TO NEW ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN.

** THE NEW CHANNELS SHALL BE CAREFULLY ALIGNED WITH THE EXISTING CHANNELS PRIOR TO WELDING. THE ALIGNMENT SHALL BE MAINTAINED DURING THE WELDING. THE JOINT OPENING SHALL BE CLEANED AFTER WELDING TO ENSURE PROPER SEATING OF THE NEW COMPRESSION SEAL.

REMOVAL OF UNSOUND EXISTING OVERLAY INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ALL REBAR SHALL MAINTAIN 2" COVER.

REMOVE EXISTING CONCRETE AS REQUIRED TO INSTALL NEW DEFLECTION JOINT EXTENSIONS. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING REINFORCING STEEL TO REMAIN. INCLUDE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT. REPLACE REMOVED CONCRETE WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

COMPRESSION SEAL GLAND SHALL BE 1¾" FOR ALL DEFLECTION JOINT EXTENSIONS.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN: SEE GENERAL NOTES SHEET 14/140.

ADDITIONAL NOTES AND DETAILS: SEE STANDARD DRAWING EXJ-2-81.

090_1524CDP005.DGN 8/04/09 KH,TWH,JLS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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ALP		1809393	

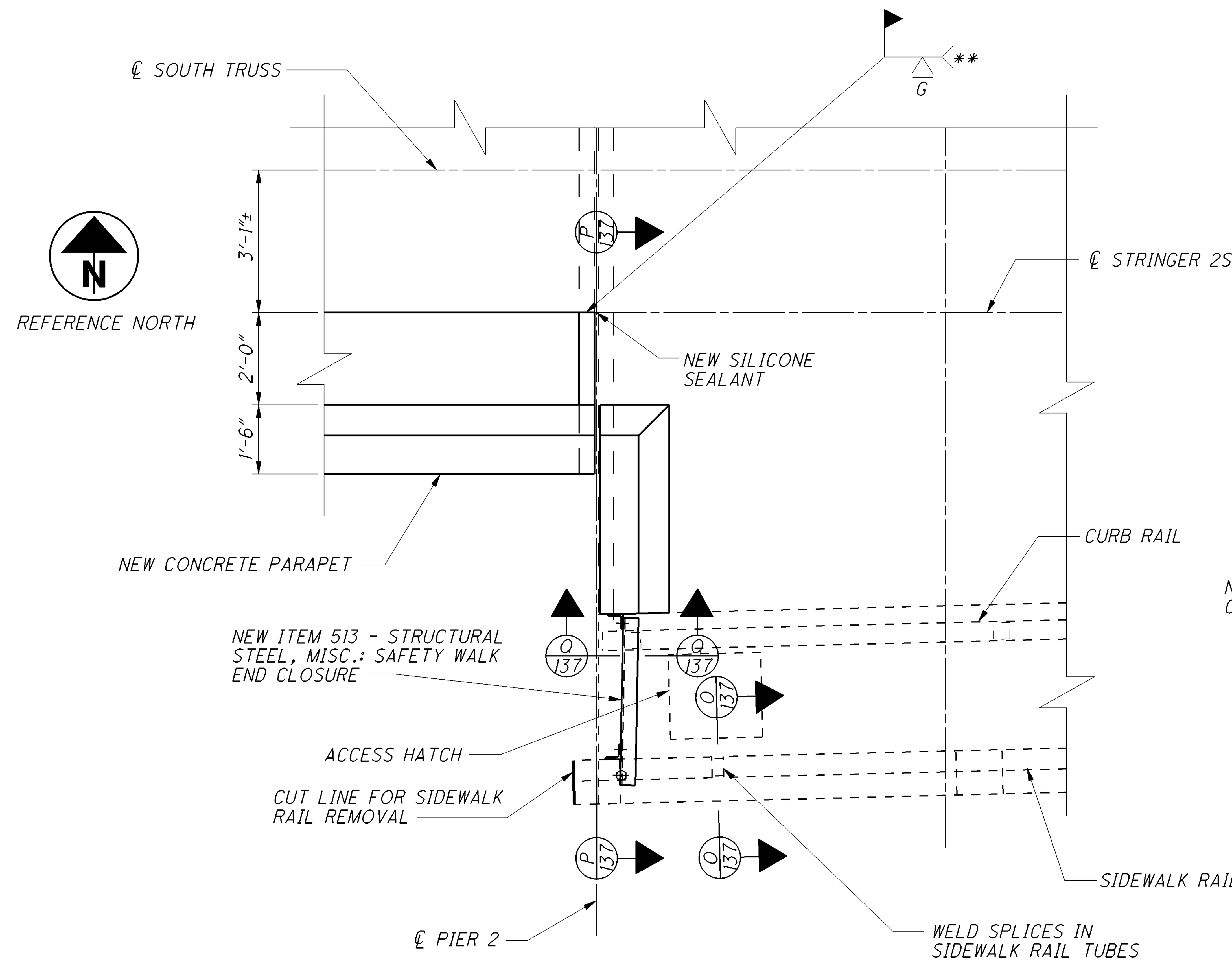
SLAB PLAN DETAILS AT JOINTS AND DRAINS - 5

BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

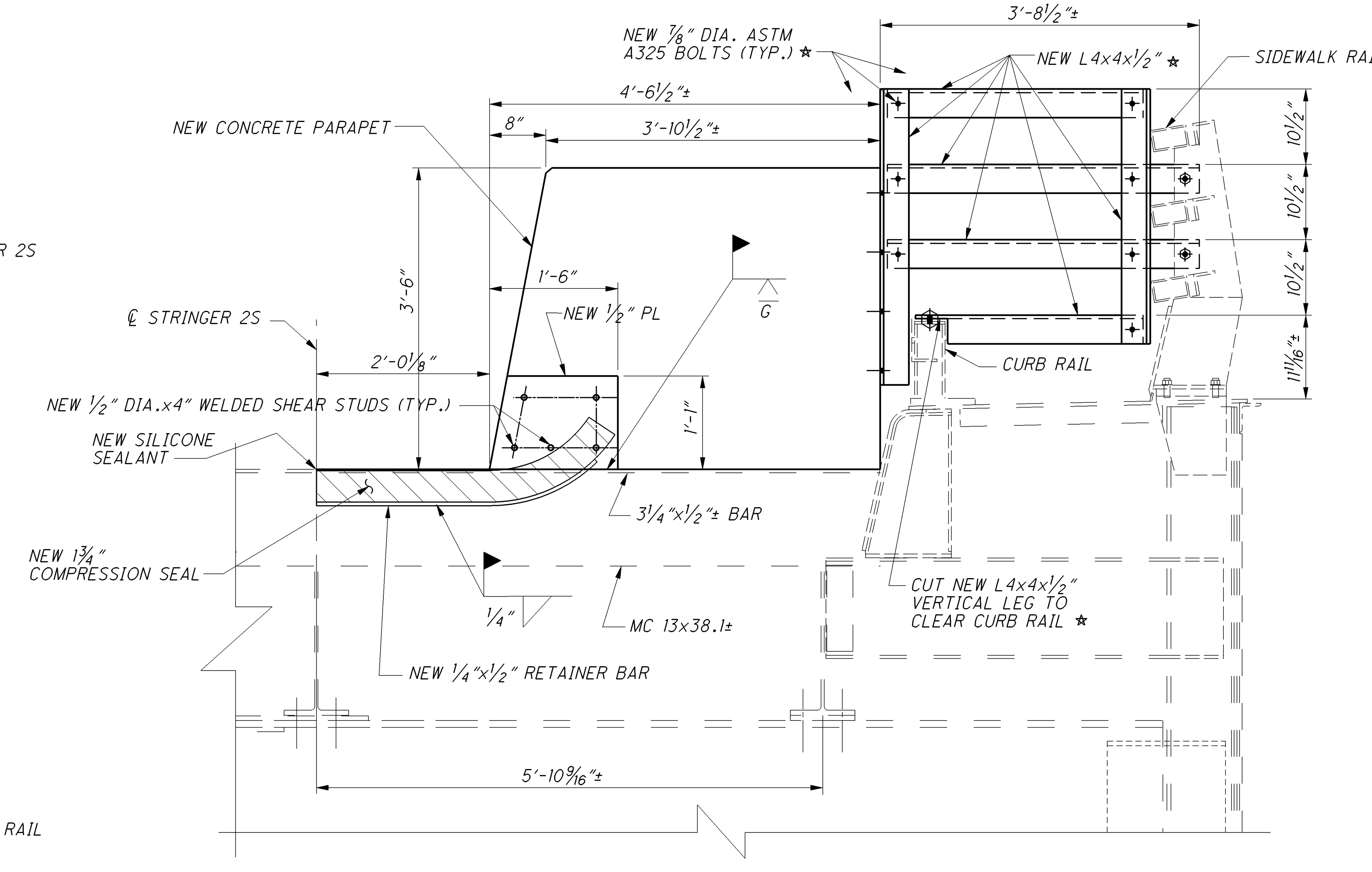
136/140

171/175

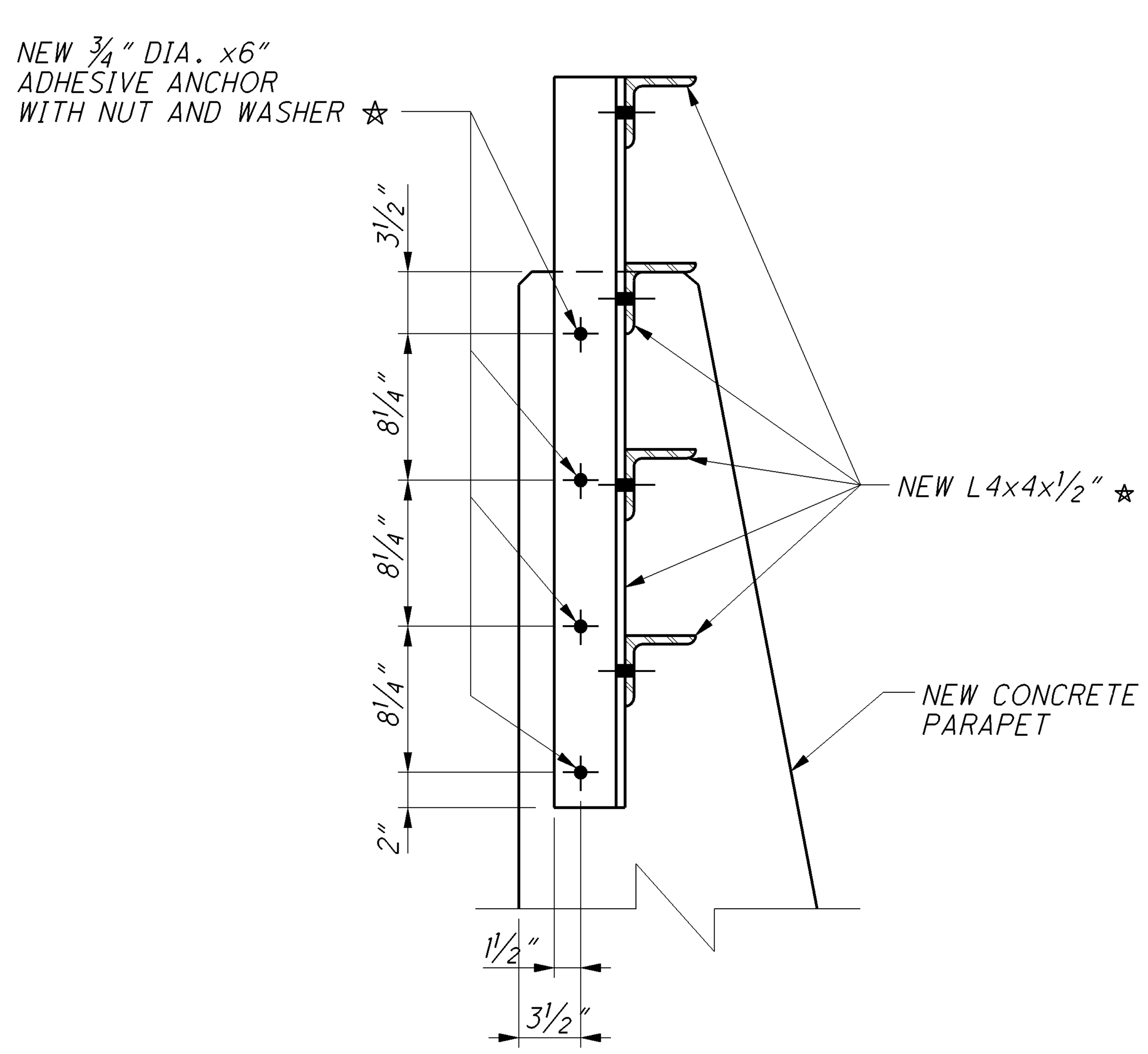


PLAN

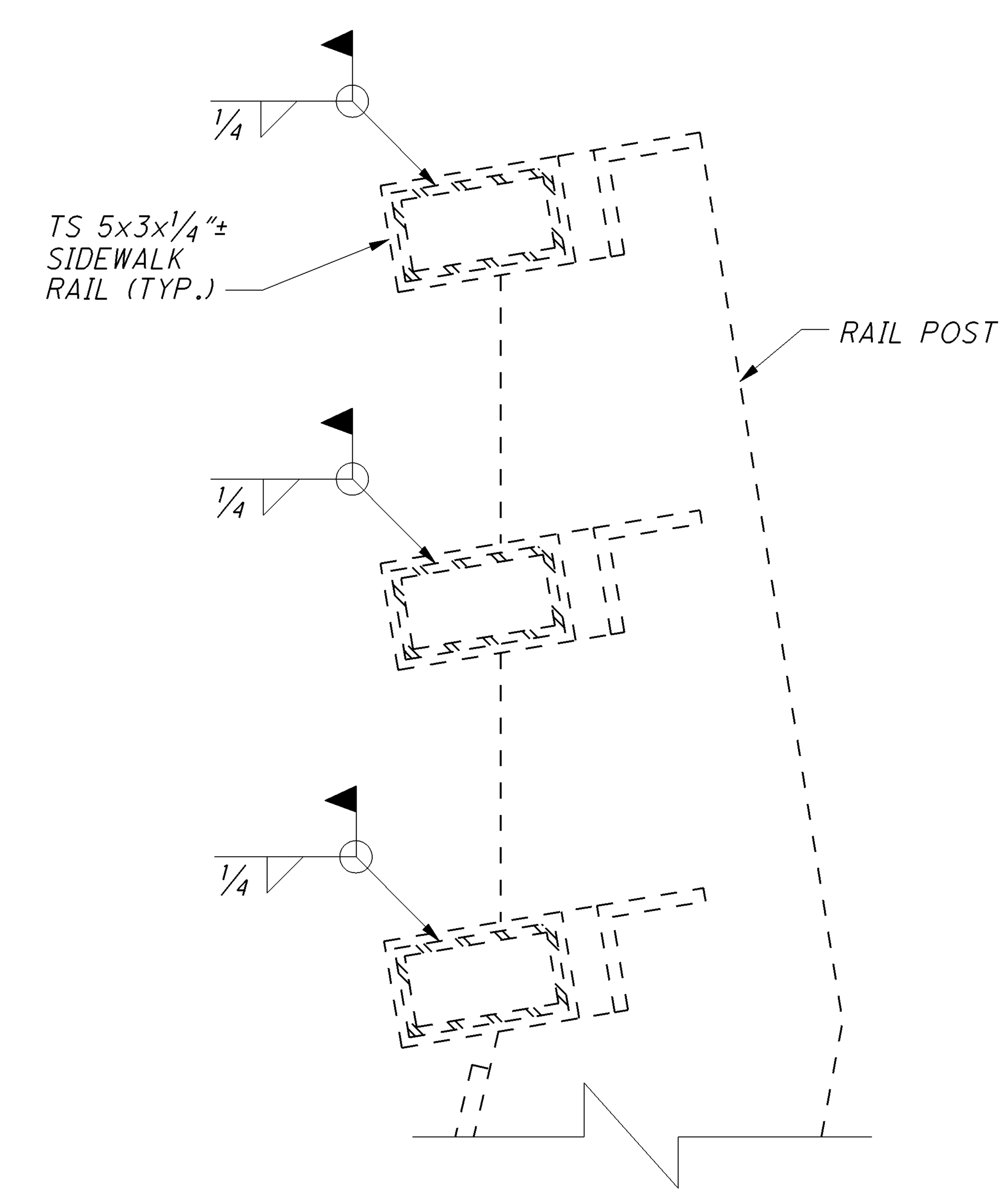
DEFLECTION JOINT AT PIER 2



SECTION P-P



SECTION Q-Q



SECTION O-O

LEGEND

** THE NEW CHANNELS SHALL BE CAREFULLY ALIGNED WITH THE EXISTING CHANNELS PRIOR TO WELDING. THE ALIGNMENT SHALL BE MAINTAINED DURING THE WELDING. THE JOINT OPENING SHALL BE CLEANED AFTER WELDING TO ENSURE PROPER SEATING OF THE NEW COMPRESSION SEAL.

☆ INCLUDED WITH NEW ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK END CLOSURE FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

ITEM 513 - STRUCTURAL STEEL, MISC.: SAFETY WALK END CLOSURE: SEE GENERAL NOTES SHEET 13/140.

COMPRESSION SEAL GLAND SHALL BE 1 3/4" FOR ALL DEFLECTION JOINT EXTENSIONS.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN: SEE GENERAL NOTES SHEET 14/140.

ADDITIONAL NOTES AND DETAILS: SEE STANDARD DRAWING EXJ-2-81.

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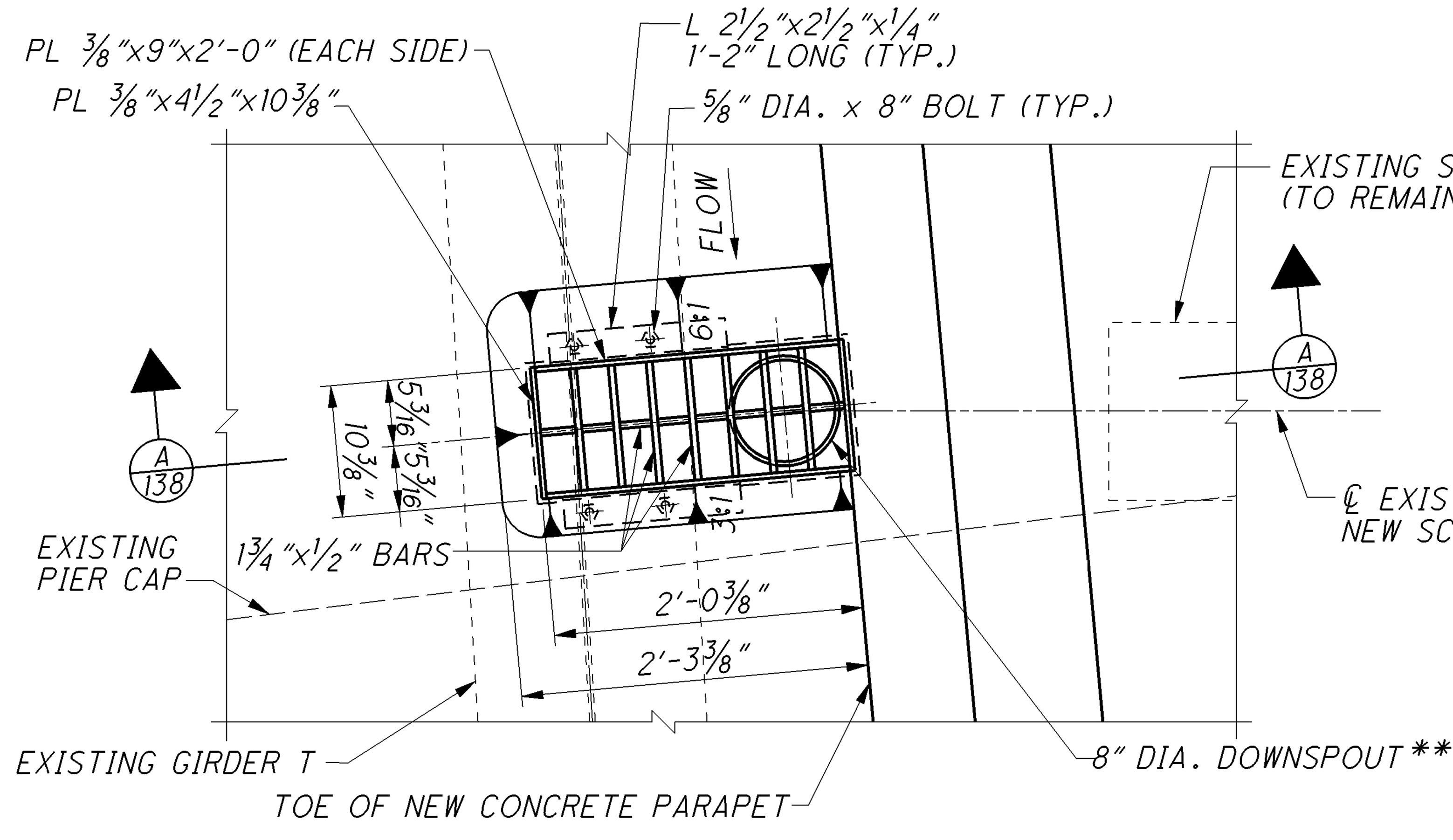
SLAB PLAN DETAILS AT JOINTS AND DRAINS - 6

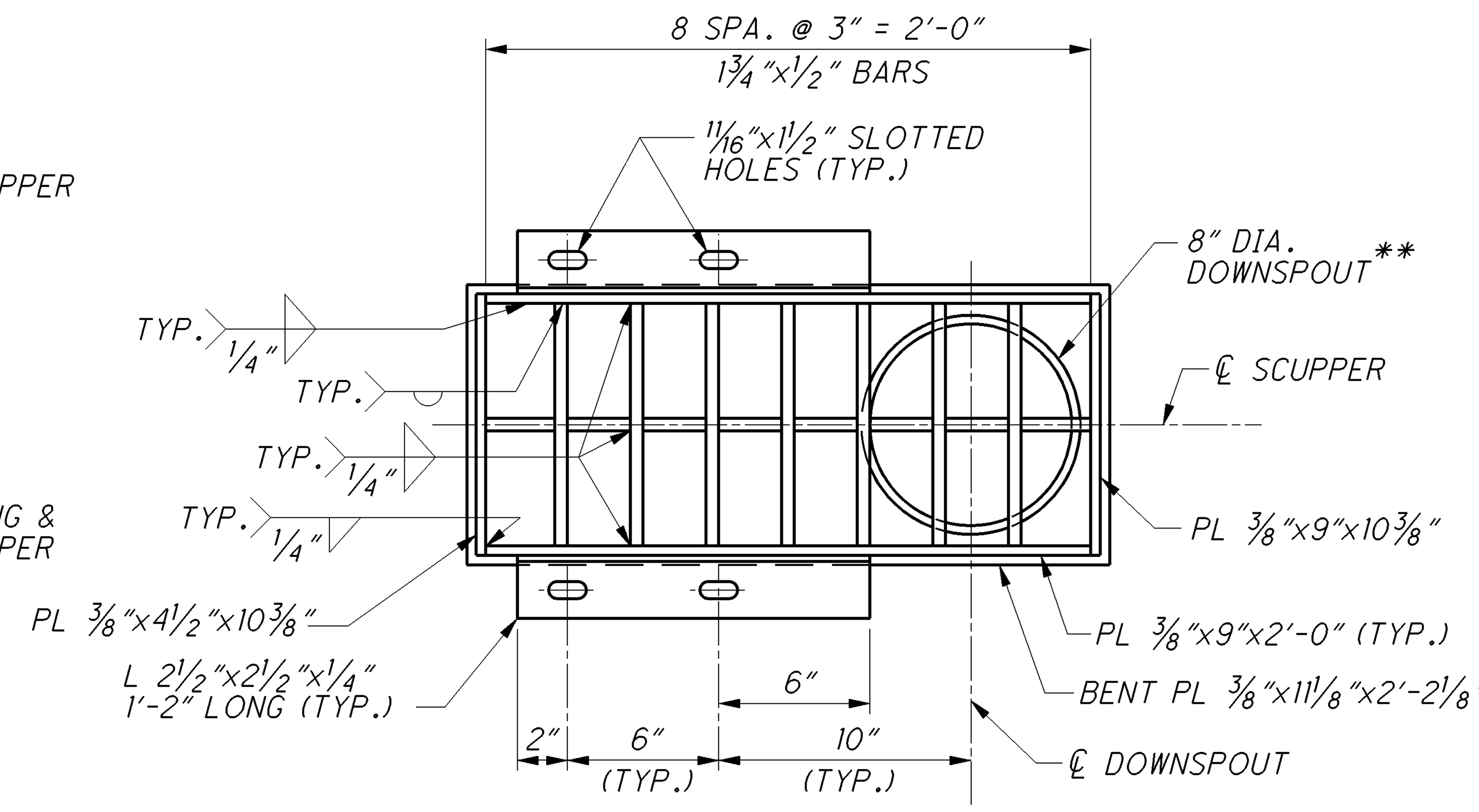
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

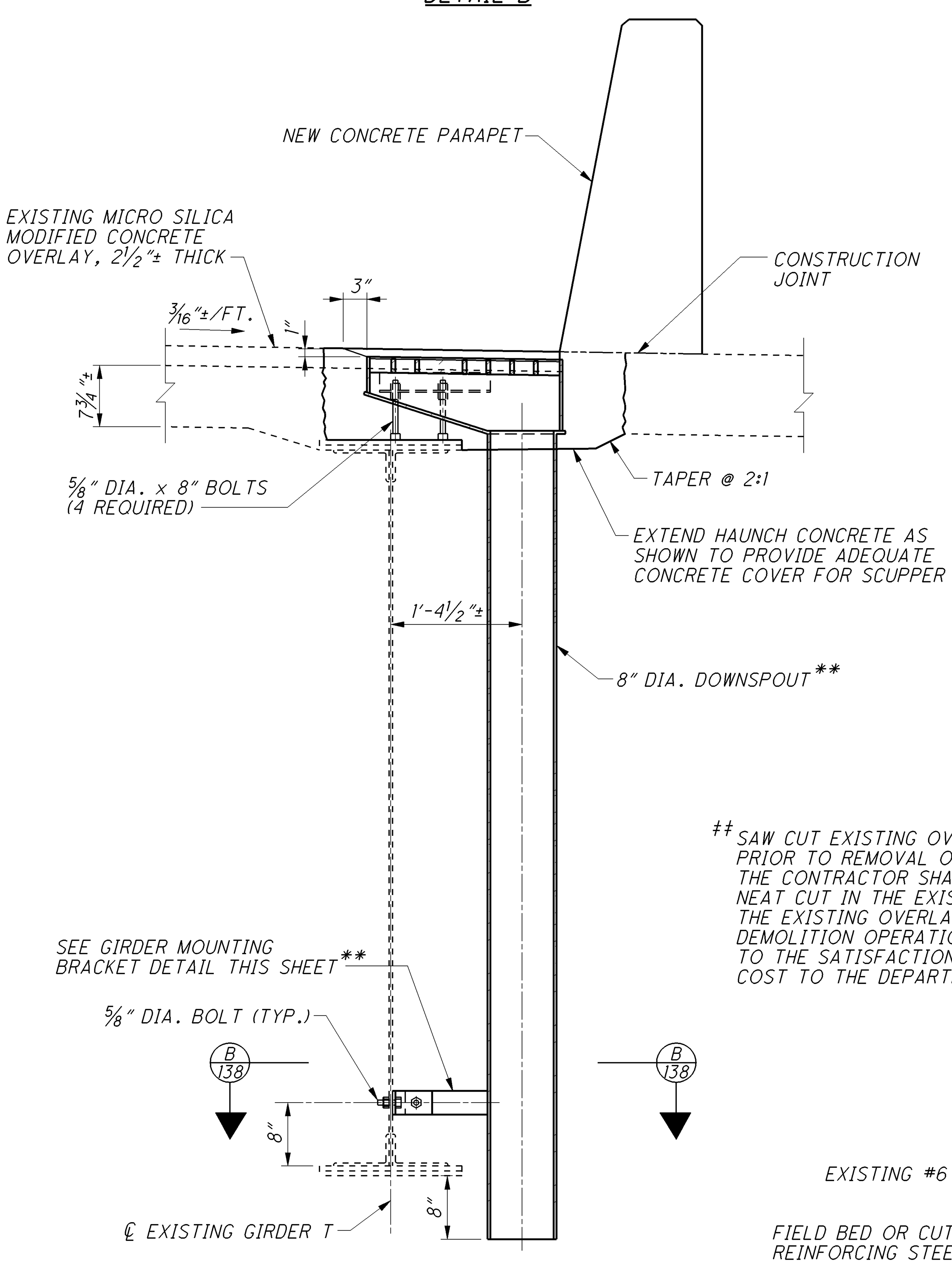
090_1524CDP007.DGN 7/30/09 SCB,TWH,KH,JLS



DETAIL B

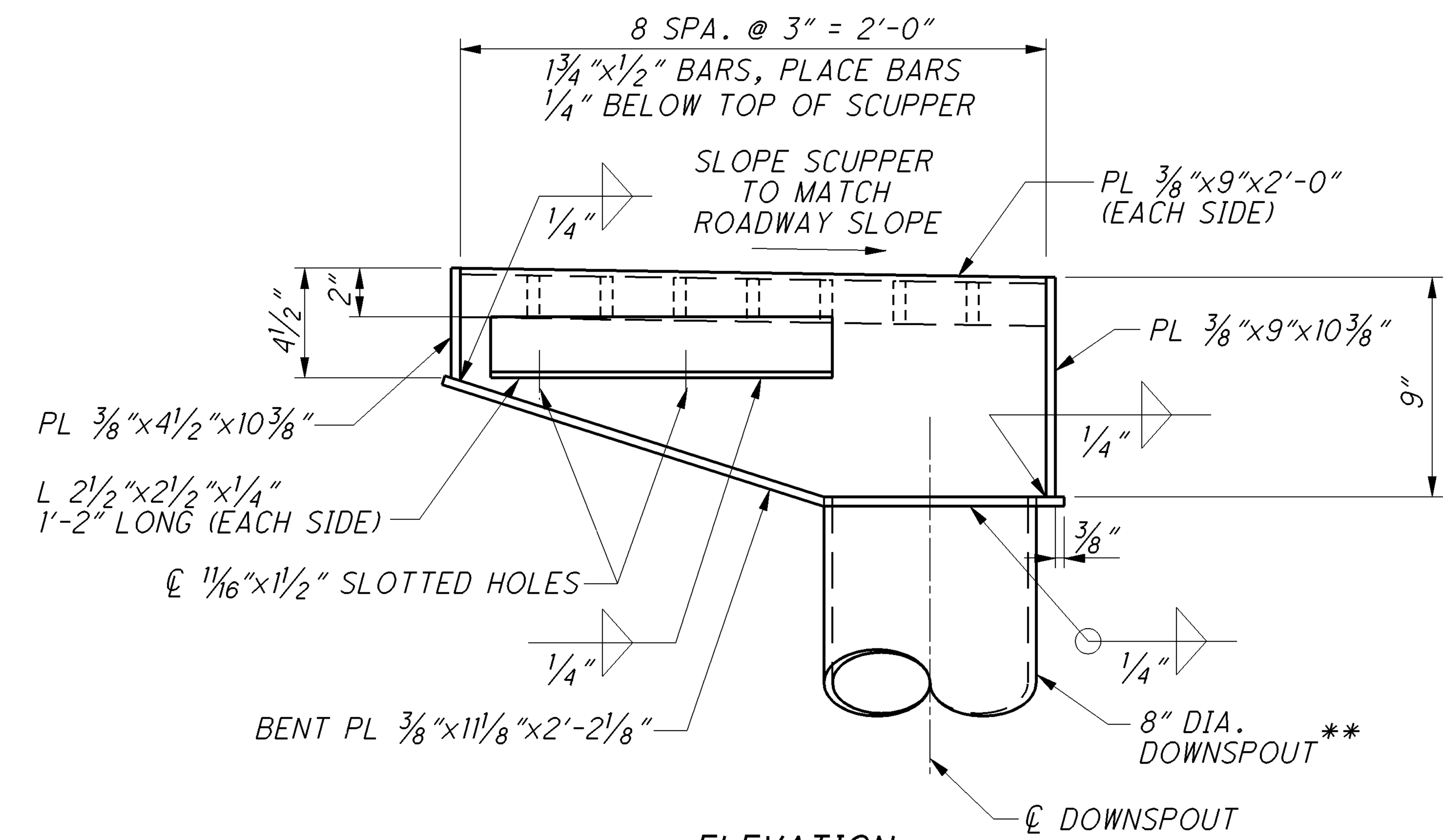


PLAN



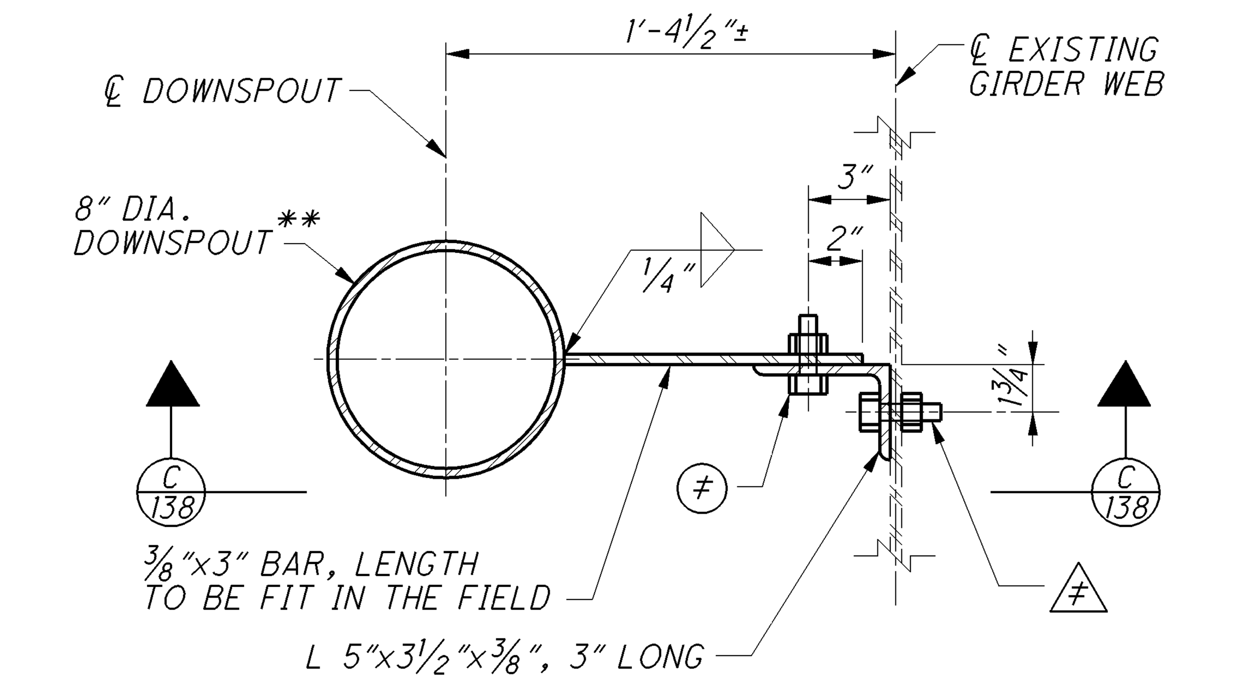
SECTION A-A

SCUPPER LAYOUT

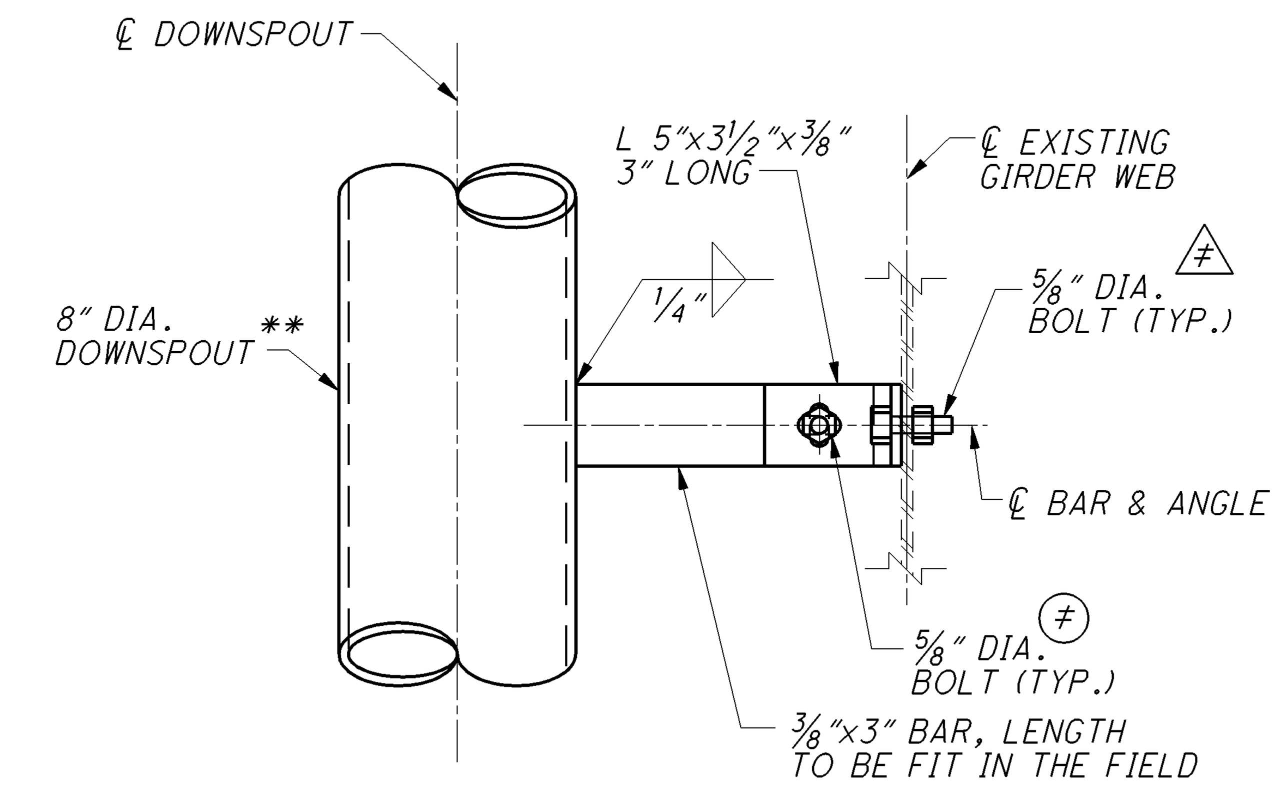


ELEVATION

SCUPPER DETAILS**



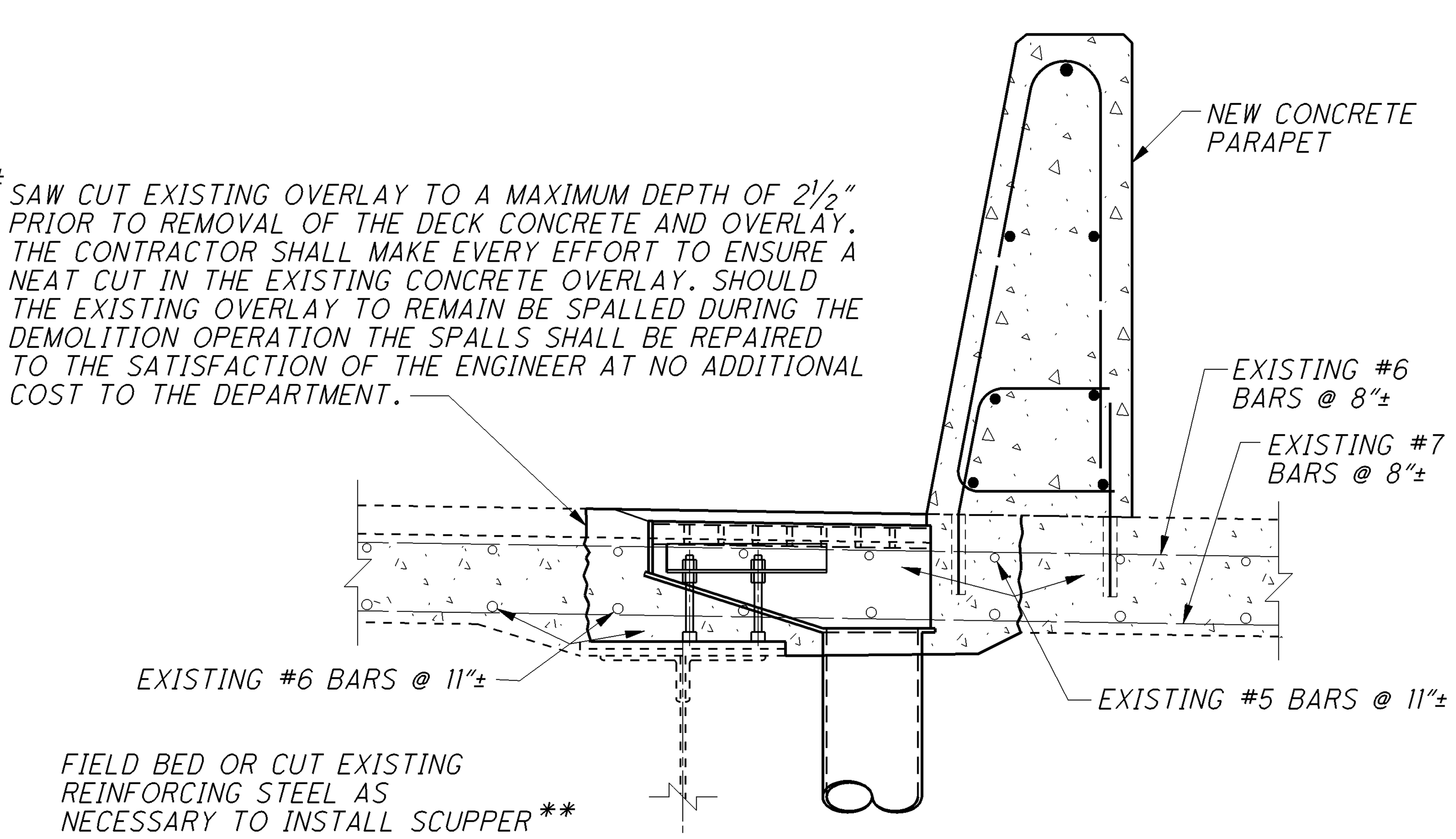
SECTION B-B



VIEW C-C

GIRDER MOUNTING BRACKET DETAILS**

‡‡ SAW CUT EXISTING OVERLAY TO A MAXIMUM DEPTH OF 2 1/2" PRIOR TO REMOVAL OF THE DECK CONCRETE AND OVERLAY. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO ENSURE A NEAT CUT IN THE EXISTING CONCRETE OVERLAY. SHOULD THE EXISTING OVERLAY TO REMAIN BE SPALLED DURING THE DEMOLITION OPERATION THE SPALLS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.



DECK REINFORCING AT SCUPPER

LEGEND

(‡) THE SIZE OF THE SLOTTED HOLES SHALL BE 11/16" x 1 9/16". THE SLOT SHALL BE HORIZONTAL IN THE 3/8"x3" BAR AND VERTICAL IN THE ANGLE. THE SLOTTED HOLE IN THE 3/8"x3" BAR SHALL BE DRILLED AFTER FIELD VERIFYING THE LENGTH OF THIS BAR. BOLTS SHALL BE 5/8" DIA. A325 TYPE 1, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513.

(△‡) THE BOLTS SHALL BE 5/8" DIA. A325 TYPE 1, GALVANIZED. EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO WASHERS.

** INCLUDED WITH ITEM 518 - SCUPPER, MISC.: NEW SCUPPER THROUGH EXISTING DECK FOR PAYMENT.

‡‡ INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT.

☆ NEW CONCRETE DECK INCLUDED WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN FOR PAYMENT.

NOTES

DETAIL B: FOR LOCATION SEE SHEET 129/140.

ITEM 518 - SCUPPER, MISC.: NEW SCUPPER THROUGH EXISTING DECK:
SEE GENERAL NOTES SHEET 14/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
JDB	KH	DAP	7/31/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ALP		1809393	

WEST APPROACH SCUPPER DETAILS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

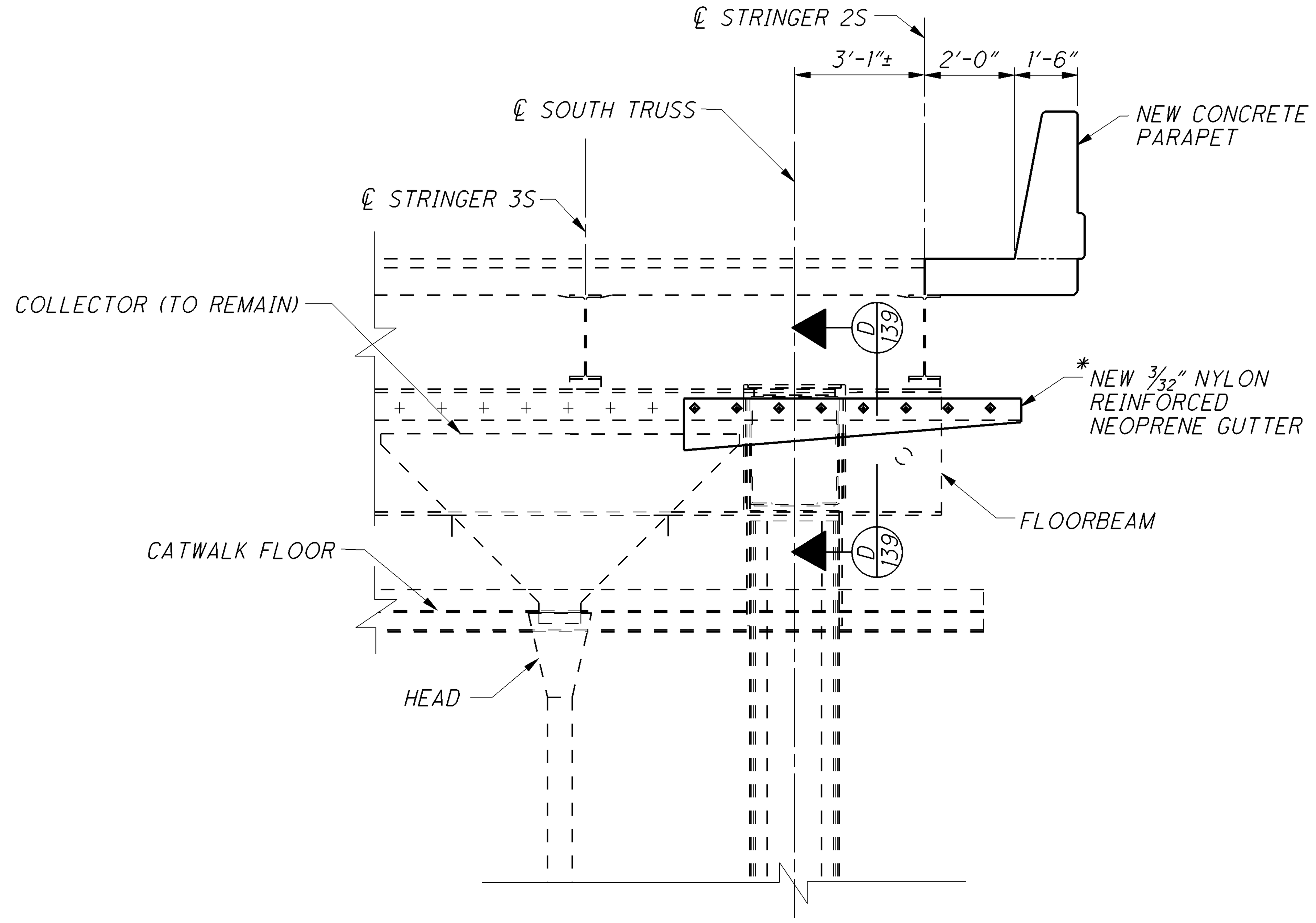
138/140

173/175

090_1524CMD001.DGN 8/03/09 TWH,KH,JLS

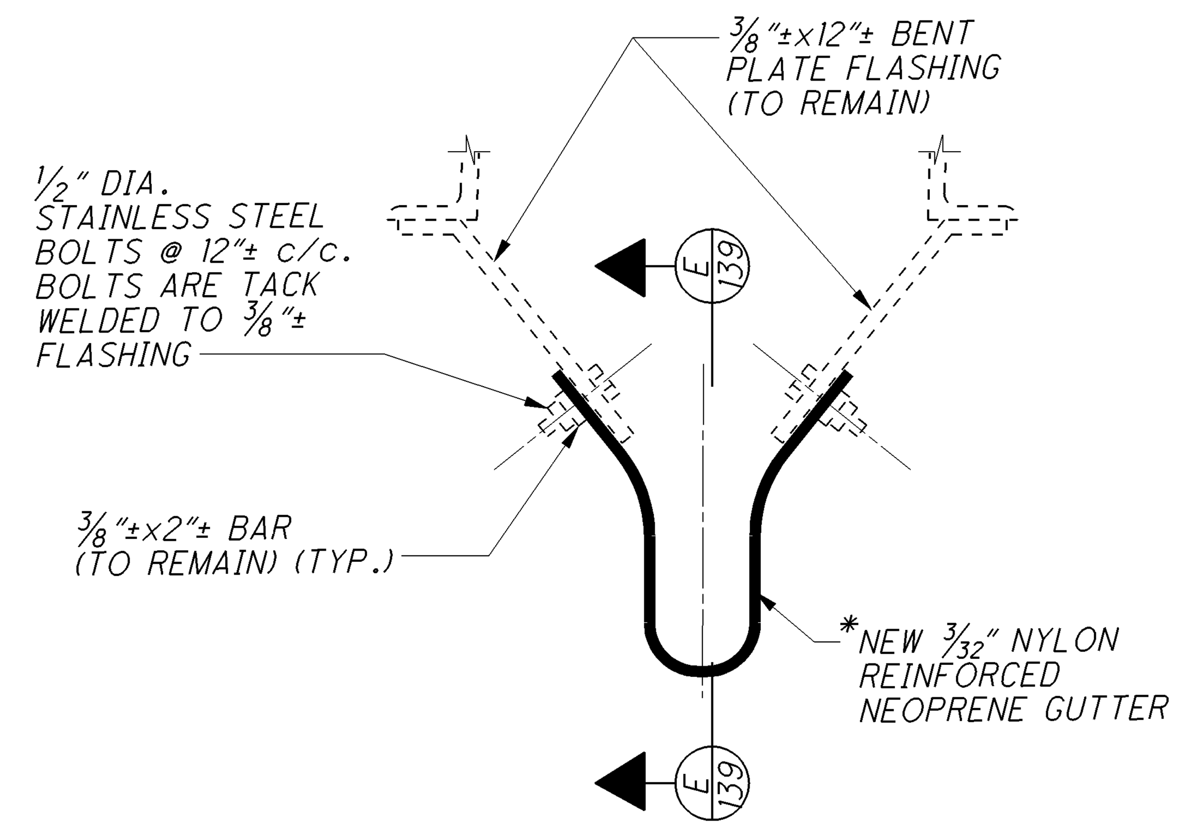
* PROVIDE ENOUGH NEOPRENE SHEETING TO ALLOW FOR UNIMPEDED EXPANSION AND CONTRACTION OF THE BRIDGE. NEW NYLON REINFORCED NEOPRENE SHEETING SHALL BE PLACED INSIDE EXISTING NEOPRENE SHEETING AT ALL LOCATIONS.

STEEL TEMPERATURE ° F	CHANGE IN JOINT OPENING FROM 60° F	
	SPAN 1 FLOORBEAM 0	SPAN 2 FLOORBEAM 12
120° F	-2 3/16"	-3 1/16"
90° F	-1 1/8"	-1 1/2"
80° F	-3/4"	-1"
70° F	-3/8"	-1/2"
60° F	-	-
50° F	3/8"	1/2"
40° F	3/4"	1"
30° F	1 1/8"	1 1/2"
20° F	1 7/16"	2"
-30° F	3 5/16"	4 9/16"

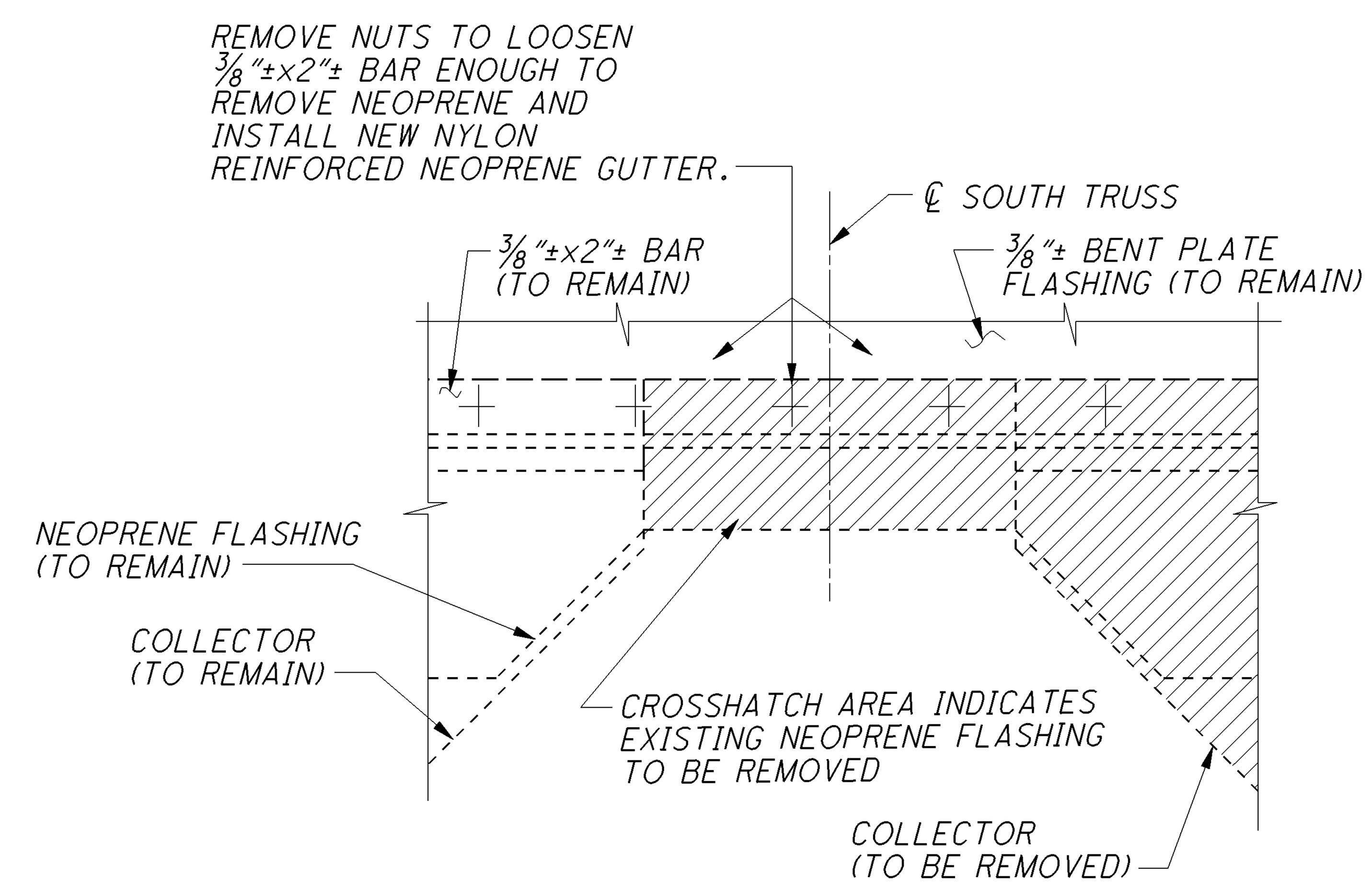


TYPE C DRAIN

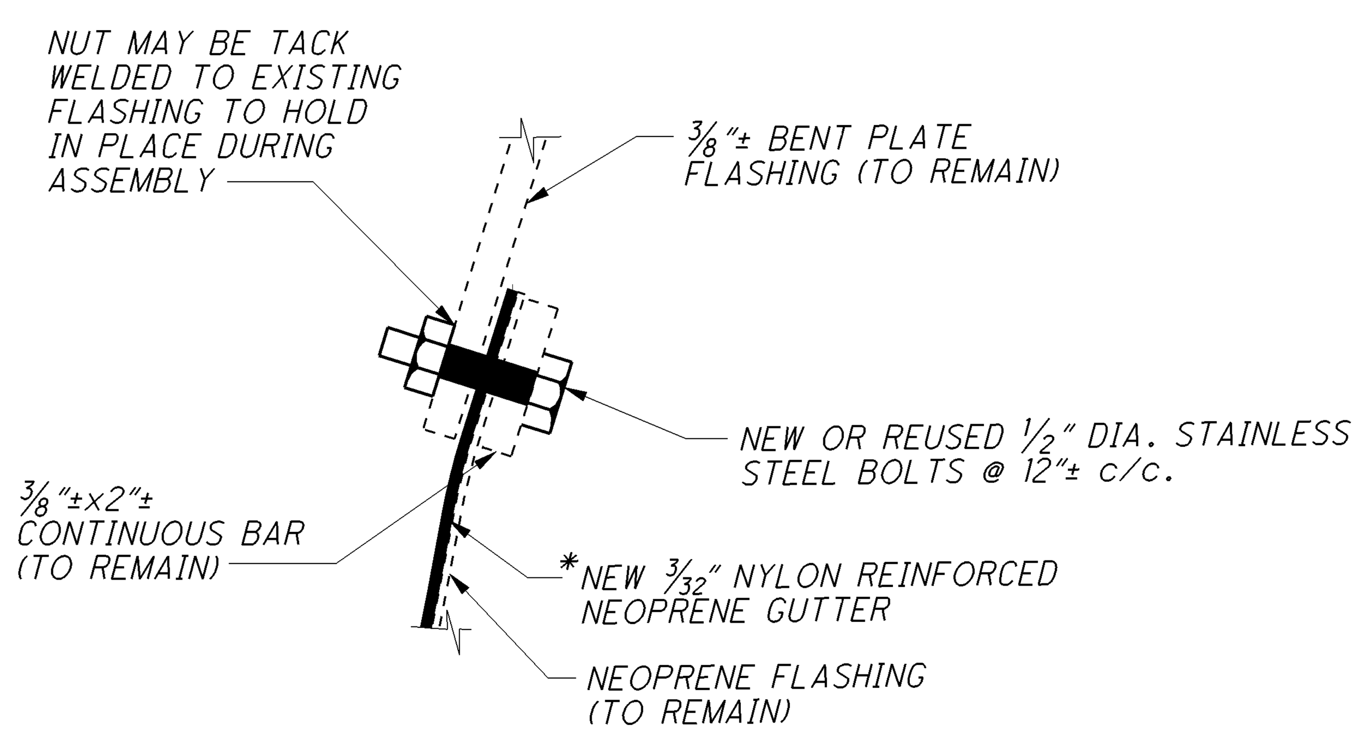
SPAN 1 - FLOORBEAM 0
SPAN 2 - FLOORBEAM 12



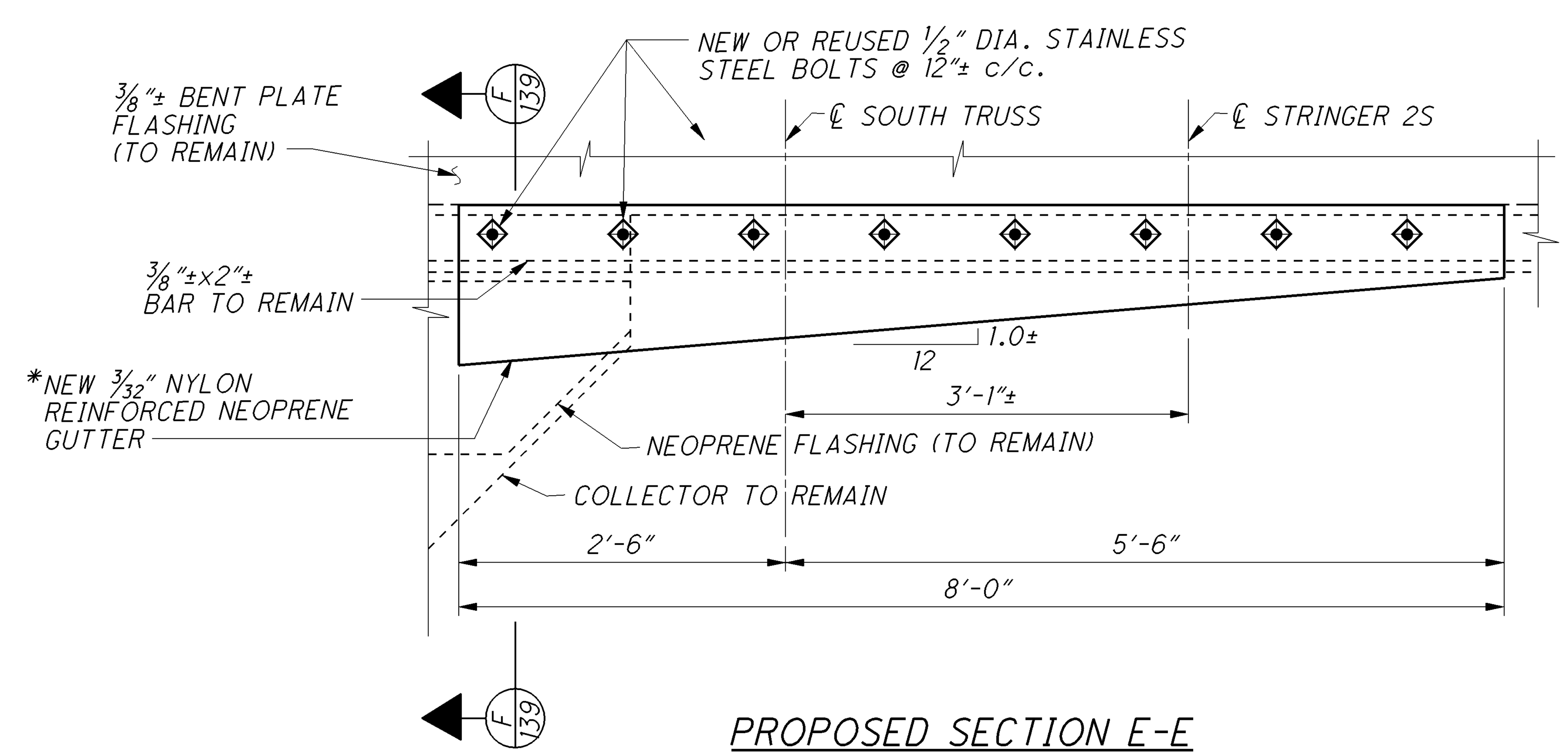
SECTION D-D



EXISTING SECTION E-E



SECTION F-F



PROPOSED SECTION E-E

LEGEND

REMOVAL INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 518 - STRUCTURE DRAINAGE, MISC.: NYLON REINFORCED NEOPRENE GUTTER

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND: SEE SHEET 15/140.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB | DRAWN JLS | REVIEWED DAP | DATE 7/31/09
CHECKED ALP | REVISED | STRUCTURE FILE NUMBER 1809393

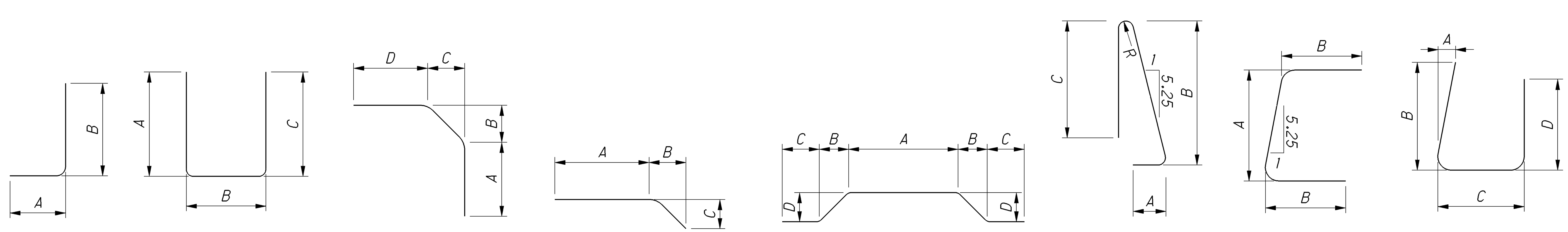
TYPE C DRAINAGE DETAILS
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

SUPERSTRUCTURE

CALCULATED TWH,KH DATE 7/09
CHECKED JDB DATE 7/09

MARK	NUMBER: WEST APPROACH	NUMBER: TRUSS SPANS	NUMBER: TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS: A	B	C	D	E	R	INC
S401		84	84	32'-11"	1847	STR							
S402		6	6	35'-6"	142	STR							
S403		18	18	37'-8"	453	STR							
S404		6	6	38'-6"	154	STR							
S405		656	656	3'-11"	1716	STR							
S501	40		40	2'-6"	104	13	0'-7"	1'-1"	0'-2½"	0'-11½"			
S502	470	663	1133	7'-5"	8764	23	1'-1"	3'-2"	3'-0"			0'-2 ¾"	
S503		168	168	33'-3"	5826	STR							
S504	40		40	2'-1"	87	STR							
S505		36	36	38'-0"	1427	STR							
S506		12	12	38'-10"	486	STR							
S507		12	12	35'-10"	448	STR							
S508	5	2612	2617	3'-2"	8644	STR							
S509	470	7	477	2'-4"	1161	13	0'-7"	0'-11"	0'-2"	1'-0"			
S510	470	7	477	1'-8"	829	STR							
S511	54		54	39'-5"	2220	STR							
S512	6		6	7'-4"	46	19	4'-10"	2'-6"	0'-2¾"				
S513		24	24	3'-6"	88	2	0'-10"	2'-1"	0'-10"				
S514		24	24	10'-3"	257	30	0'-5"	4'-0"	2'-6"	4'-0"			
S515		36	36	8'-1"	304	21	1'-4"	2'-1"	0'-6"	2'-1"			
S516		26	26	4'-0"	108	STR							
S517		2	2	4'-2"	9	STR							
S518	40		40	5'-10"	243	23	1'-0"	2'-5"	2'-3"			0'-2 ¾"	
S519		2	2	3'-9"	8	STR							
S601		656	656	3'-5"	3366	28	1'-7"	1'-1"					
S602		656	656	2'-6"	2463	1	1'-1"	1'-7"					
S603		14	14	33'-8"	708	STR							
S604		1	1	36'-0"	54	STR							
S605		3	3	38'-2"	172	STR							
S606		1	1	39'-0"	59	STR							
S607		1	1	3'-6"	5	STR							
S608	9		9	39'-10"	538	STR							
S609	1		1	7'-10"	12	19	4'-10"	3'-0"	0'-3¼"				
				TOTAL	42,748								



TYPE-1 TYPE-2 TYPE-13 TYPE-19 TYPE-21 TYPE-23 TYPE 28 TYPE 30

NOTES:

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER INDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION, THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A511
A = LOCATION OF THE BAR IN STRUCTURE (ABUTMENT)
5 = BAR SIZE DESIGNATION
11 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED PER CMS 709.00.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 7/31/09
STRUCTURE FILE NUMBER 1809393
DRAWN TWH REVISED
DESIGNED JDB CHECKED ALP

REINFORCING STEEL LIST
BRIDGE NO. CUY-90-1524
OVER CUYAHOGA RIVER

CUY-90-15.24
PID No. 82069

SPECIAL PROVISIONS

Ohio EPA Notification of Demolition & Renovation

FOR

CUY-90-15.24
PID: 82069

DATE: 8-10-09

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. **Type of Notification** (check one): ☒ Original ☐ Revised ☐ Canceled

II. **Facility Description** (include building name, number and floor or room number)

Building Name: *CUY-90-15.24 I-90 Interbelt Bridge over Cuyahoga River (SFN 1809393)*
Address: *CUY-90-15.24 I-90 Interbelt Bridge over Cuyahoga River*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-15.24 I-90 Interbelt Bridge over Cuyahoga River*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. **Type of Operation** (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. **Is Asbestos Present?** (check one): ☒ Yes ☐ No

V. **Facility Information**

Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. **Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:**

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. **Approximate Amount of Asbestos Materials:**

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	1240				
Surface Area (square feet)		80			
Facility Components (cubic feet)					

VIII. **Scheduled Dates Demolition or Renovation:** Start: Complete:

IX. **Dates for Asbestos Removal (MM/DD/YY)** Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces. Except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name: ______
Address: ______
City: ______ State: ______ Zip code: ______
Contact Person: ______ Telephone: ______ Fax: ______

Waste Transporter #2
Name: ______
Address: ______
City: ______ State: ______ Zip code: ______
Contact Person: ______ Telephone: ______ Fax: ______

XIII. Waste Disposal
Name: ______
Address: ______
City: ______ State: ______ Zip code: ______
Contact Person: ______ Telephone: ______ Fax: ______

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: ______ Title: ______
3. Authority of Order (Citation of Code): ______
4. Date of Order (MM/DD/YY): ______ Date Ordered to Begin: ______

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Bonita G. Teeuwen, P.E. (MAC) | August 10, 2009 | BONITA G. TEEUWEN, DEPUTY DIRECTOR
Signature of Owner/Operator | Date | Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Bonita G. Teeuwen, P.E. (MAC) | August 10, 2009 | BONITA G. TEEUWEN, DEPUTY DIRECTOR
Signature of Owner/Operator | Date | Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

SPECIAL PROVISIONS

Asbestos Survey

CO-RT-SEC

CUY-90-15.24
PID: 82069

DATE: 6-15-09

FINDINGS FROM AN ASBESTOS SURVEY

Eleven (11) Bridges Associated with the CUY-Innerbelt CCGI Design ODOT PID 77332

JUNE 2009

Prepared for:

Ohio Department of Transportation
District 12
5500 Transportation Boulevard
Garfield Heights, OH 44125

Prepared by:

HzW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road ♦ Mentor, Ohio 44060
440-357-1260 ♦ Fax 440-357-1510

H09004-07

HzW ENVIRONMENTAL
CONSULTANTS, LLC

June 15, 2009

Mr. Mark Alan Carpenter
Ohio Department of Transportation, District 12
5500 Transportation Boulevard
Garfield Heights, Ohio 44125

Subject: ***Findings From an Asbestos Survey Conducted at Eleven (11) Bridges Associated with the CUY – Innerbelt CCGI Design for the Ohio Department of Transportation (ODOT) District 12 (HzW Project No. H09004-07)***

Dear Mr. Carpenter:

In accordance with our letter agreement dated November 26, 2007, HzW Environmental Consultants, LLC (HzW) conducted an asbestos survey at eleven (11) bridges associated with the CUY – Innerbelt CCGI Design for the Ohio Department of Transportation District 12. The eleven (11) bridges consisted of the following:

1. CUY–90-1463R (SFN 1809148) Ramp WN under I-71 Mainline Bridge
2. CUY-90-1490L (SFN 1809342) Over Starkweather Avenue
3. CUY-90-1490R (SFN 1807625) Over Starkweather Avenue
4. CUY-90-1506 (SFN 1807684) Over Kenilworth Avenue
5. CUY-90-15.24 (SFN 1809393) Innerbelt Bridge over Cuyahoga River
6. CUY-90-1628EW (SFN 1807852) Center Bridge over East 9th Street
7. CUY-90-1628L (SFN 1807498) Northern most Bridge over East 9th Street
8. CUY-90-1628R (SFN 1807714) Southern most Bridge over East 9th Street
9. CUY-90-1640 (SFN 1807773) Over Ramps E-10 and E-8
10. CUY-90-1651L (SFN 1807900) Over East 14th Street
11. CUY-90-1651R (SFN 1807803) Over East 14th Street

Discussions of the methods of investigation, the findings and applicable recommendations are provided separately below.

METHODS OF INVESTIGATION

As part of the survey, HzW requested the original construction plans for the bridges from the Ohio Department of Transportation (ODOT) District 12 to assist in identifying asbestos-containing materials (ACMs) and suspect containing ACMs used during construction. The original construction plans for all of the bridges were located by a representative of ODOT and, therefore, were reviewed by HzW. Representatives of HzW, certified by the Ohio Department of Health (ODH) as Asbestos Hazard Evaluation Specialists, subsequently conducted a physical inspection of the subject bridges during May and June 2009 to visually identify and sample accessible suspect ACMs. A photographic log depicting the subject bridges was compiled during the physical inspection and is included as **Attachment 1.**

Based on the physical inspection conducted at the subject bridges, subsequent bulk samples were collected of any accessible building materials suspected of containing asbestos. The bulk samples were submitted to EMSL Analytical, Inc. of Westmont, New Jersey, for analysis of asbestos content by Polarized Light Microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116.

FINDINGS

The findings of the asbestos survey are presented below. These findings are based on HzW's review of the available construction plans, physical inspection of each bridge and the analytical results for any samples collected. A copy of the laboratory analytical reports for the bulk samples collected is included as Attachment 2.

It should be noted that all suspect building materials identified during the construction plan review are assumed to contain asbestos until they can be accessed and physically touched and inspected and rendered nonsuspect building materials and/or sampled and subsequently analyzed by polarized light microscopy and found not to contain greater than one (1) percent asbestos.

CUY-90-1463R (SFN 1809148) Ramp WN under I-71 Mainline Bridge

Based on a review of the construction plans dated April 8, 1965 (Pages 1 thru 504) for this bridge, ten (10) suspect ACMs were noted as being used during construction of the bridge. These suspect ACMs consisted of the following:

1. ¼-inch by 4-inch Expansion Joint Material – located on superstructure. Quantity of this suspect material located on the bridge structure is unknown.
2. ½-inch Preformed Expansion Joint Filler – where pull box is in contact with other concrete. Quantity of this suspect material located on the bridge structure is unknown.
3. Type I Fiber Ducts or Galvanized Steel Conduit for Foundation Conduit Bends – associated with Lighting. Quantity of this suspect material located on the bridge structure is unknown.
4. ½-inch Preforated Expansion Joint Filler – located in abutments. Quantity of this suspect material located on the bridge structure is 81 square feet.
5. 6-inch Perforated Helical Corrugated Metal Pipe (CMP) – located in abutments. Quantity of this suspect material located on the bridge structure is 164 linear feet.
6. 6-inch Non-Perforated Helical CMP – located in abutments. Quantity of this suspect material located on the bridge structure is 119 square feet.
7. 12-inch by ½-inch Premolded Sealing Strip – located at top of footing to bottom of approach slab or to 6-inches below median of the bridge. Quantity of this suspect material located on the bridge structure is 31 linear feet.
8. Construction Joints – located in abutments, wing walls, piers and deck. Quantity of this suspect material located on the bridge structure is unknown.
9. 1/8-inch Sheet Asbestos Packing – located in abutments. Quantity of this suspect material located on the bridge structure is unknown.
10. Tar Paper – located in abutments. Quantity of this suspect material located on the bridge structure is unknown.

During the physical inspection of the bridge, HzW could not locate Items 1 – 3 and 5 - 10, above. Three (3) additional suspect ACMs were identified during the physical inspection. These suspect materials consisted of the following:

1. Expansion Material – located in parapet walls. HzW sampled this suspect material (Sample Nos. 01 and 02) and no asbestos was identified in the samples collected.
2. Expansion Material – located where abutment meets parapet walls. HzW sampled this suspect material (Sample Nos. 03 and 04) and no asbestos was identified in the samples collected. This material is similar to Item No. 4 listed above.
3. Expansion Material – located at base of pier columns. HzW sampled this suspect material (Sample Nos. 05 and 06) and no asbestos was identified in the samples collected.

CUY-90-1490L (SFN 1809342) Over Starkweather Avenue and CUY-90-1490R (SFN 1807625) Over Starkweather Avenue

Based on a review of the construction plans dated April 8, 1965 (Pages 1 thru 504) for these bridges, ten (10) suspect ACMs were noted as being used during construction of these bridges. These suspect ACMs consisted of the following:

1. ¼-inch by 4-inch Expansion Joint Material – located on both superstructures. Quantity of this suspect material located on the bridge structures is unknown.
2. ½-inch Preformed Expansion Joint Filler – where pull box is in contact with other concrete for both bridges. Quantity of this suspect material located on the bridge structures is unknown.
3. Type I Fiber Ducts or Galvanized Steel Conduit for Foundation Conduit Bends – associated with Lighting for both bridges. Quantity of this suspect material located on the bridge structures is unknown.
4. 1-inch Preformed Expansion Joint Filler – located around each pier column for both bridges. Quantity of this suspect material located on the bridge structures is unknown.
5. 1-inch Preformed Expansion Joint Filler – located in abutments of the CUY-90-1490R bridge only. Quantity of this suspect material located on this bridge structure is 48 square feet.
6. ½-inch Preformed Expansion Joint Filler – located in abutments of both bridges. Quantity of this suspect material located on each bridge structure is 162 square feet for the CUY-90-1490R bridge and 48 square feet for the CUY-90-1490L bridge.
7. 6-inch Performed Helical Corrugated Metal Pipe (CMP) – located in abutments of both bridges. Quantity of this suspect material located on each bridge structure is 167 linear feet on the CUY-90-1490R bridge and 56 linear feet on the CUY-90-1490L bridge.
8. 6-inch Non Performed Helical Corrugated Metal Pipe (CMP) – located in abutments of both bridges. Quantity of this suspect material located on each bridge structure is 275 linear feet on the CUY-90-1490R bridge and 70 linear feet on the CUY-90-1490L bridge.
9. 12-inch by ½-inch Premolded Sealing Strip – located at top of footing to bottom of approach slab or to 6-inches below median on the CUY-90-1490R bridge. Quantity of this suspect material located on this bridge structure is 62 linear feet.
10. Construction Joints – located in abutments, wing walls, piers and deck on both bridges. Quantity of this suspect material located on the bridge structures is unknown.

During the physical inspection of the bridge, HzW could not locate Items 1 - 5 and 7 - 10, above. Three (3) additional suspect ACMs were identified during the physical inspection. These suspect materials consisted of the following:

1. Expansion Material – located in abutment meets parapet walls of both bridges. HzW sampled this suspect material (Sample Nos. 01 and 02) and no asbestos was identified in the samples collected. This material is similar to Item No. 6 listed above.
2. Expansion Material – located in parapet walls of both bridges. HzW sampled this suspect material (Sample Nos. 03 and 04) and no asbestos was identified in the samples collected.
3. Expansion Material – located where the abutment meets the underside sloped concrete wall of both bridges. HzW sampled this suspect material (Sample Nos. 05 and 06) and no asbestos was identified in the samples collected.

CUY-90-1506 (SFN 1807684) Over Kenilworth Avenue

Based on a review of the construction plans dated April 8, 1965 (Pages 1 thru 504) for this bridge, ten (10) suspect ACMs were noted as being used during construction of the bridge. These suspect ACMs consisted of the following:

1. ¼-inch by 4-inch Expansion Joint Material – located on superstructure. Quantity of this suspect material located on the bridge structure is unknown.
2. ½-inch Preformed Expansion Joint Filler – where pull box is in contact with other concrete. Quantity of this suspect material located on the bridge structure is unknown.
3. Type I Fiber Ducts or Galvanized Steel Conduit for Foundation Conduit Bends – associated with Lighting. Quantity of this suspect material located on the bridge structure is unknown.
4. 1-inch Preformed Expansion Joint Filler – located around each pier column. Quantity of this suspect material located on the bridge structure is unknown.
5. 1-inch Preformed Expansion Joint Filler – located in abutments. Quantity of this suspect material located on the bridge structure is 47 square feet.
6. ½-inch Preformed Expansion Joint Filler – located in abutments. Quantity of this suspect material located on the bridge structure is 165 square feet.
7. 6-inch Performed Helical Corrugated Metal Pipe (CMP) – located in abutments. Quantity of this suspect material located on the bridge structure is 281 linear feet.
8. 6-inch Non Performed Helical Corrugated Metal Pipe (CMP) – located in abutments. Quantity of this suspect material located on the bridge structure is 165 linear feet.
9. 12-inch by ½-inch Premolded Sealing Strip – located at top of footing to bottom of approach slab or to 6-inches below median. Quantity of this suspect material located on the bridge structure is unknown.
10. Construction Joints – located in abutments, wing walls, piers and deck. Quantity of this suspect material located on the bridge structure is unknown.

During the physical inspection of the bridge, HzW could not locate Items 1 - 10, above. One (1) additional suspect ACM was identified during the physical inspection. This suspect material consisted of the following:

1. Expansion Gasket Material – located in parapet walls. HzW sampled this suspect material (Sample Nos. 01 and 02) and no asbestos was identified in the samples collected.

CUY-90-15.24 (SFN 1809393) Innerbelt Bridge over Cuyahoga River

Based on a review of the construction plans dated April 8, 1965 (Pages 1 thru 504) for this bridge, thirty-one (31) suspect ACMs were noted as being used during construction of the bridges. These suspect ACMs consisted of the following:

West Approach

1. 3-inch Fiber or Asbestos Cement Conduit for Lighting Cables – located in parapet. Quantity of this suspect material located on the bridge structure is unknown.
2. 3-inch Transite conduit or equal for Lighting Cables – located in concrete foundation from transformer pole base box. Quantity of this suspect material located on the bridge structure is unknown.
3. 3-inch Transite Conduit for lighting – located in concrete pull box. Quantity of this suspect material located on the bridge structure is unknown.
4. 12-inch by ½-inch Premolded Sealing Strip – located at top of footing to 9-inches below top of curb. Quantity of this suspect material located on the bridge structure is unknown.
5. Construction Joints – located in abutments, retaining walls and piers. Quantity of this suspect material located on the bridge structure is unknown.
6. 1-inch Gray Rubber Preformed Expansion Joint Filler – located in abutments. Quantity of this suspect material located on the bridge structure is 170 square feet.
7. 3-inch Johns Manville Transite or Equal Conduit – running under pavement. Quantity of this suspect material located on the bridge structure is unknown.

Central Viaduct

8. Construction Joints – located in slab and piers. Quantity of this suspect material located on the bridge structure is unknown.
9. 1-inch Preformed Gray Rubber Expansion Joint Filler – located in abutments. Quantity of this suspect material located on the bridge structure is 73.2 square feet.
10. 3-inch conduit – located under each sidewalk. Quantity of this suspect material located on the bridge structure is unknown.
11. 4 2-inch conduits – located transversely in Span 1 and Span 9. Quantity of this suspect material located on the bridge structure is unknown.
12. Expansion Joint – located in piers. Quantity of this suspect material located on the bridge structure is unknown.
13. ½-inch Poured Mastic Joints – associated with roadway drainage. Quantity of this suspect material located on the bridge structure is unknown.
14. ½-inch Filler – located at floor beams. Quantity of this suspect material located on the bridge structure is unknown.
15. 1-inch Hot Poured Joint Sealer – associated with drainage. Quantity of this suspect material located on the bridge structure is unknown.
16. ½-inch Sponge Rubber Expansion Joint Material – located on superstructure. Quantity of this suspect material located on the bridge structure is 716 square feet.

East Approach

17. 2-inch or 3-inch Fiber or Asbestos Cement Conduit for Lighting Cables – located in parapet. Quantity of these suspect materials located on the bridge structure is 3,550 linear feet.
18. Asbestos Wire for Lighting – installed between the bracket end at luminaire and lamp socket. Insulation shall be asbestos applied to conductor to form a continuous tube of asbestos fibers at least 40 mils thick tightly compressed and impregnated with a flame heat & moisture proof compound and an outer asbestos braid at least 45 mils thick. Quantity of this suspect material located on the bridge structure is unknown.
19. 2-Way Duct Bank for Lighting Containing 2-inch Nonmetallic Conduit. Quantity of these suspect materials located on the bridge structure is unknown.
20. 12-inch by ½-inch Premolded Sealing Strip – located from bottom of footing to bottom of approach slab in abutments and from top of footing to 9-inches below top of curb in wing wall. Quantity of this suspect material located on the bridge structure is 60 linear feet.
21. ½-inch Bituminous Premoulded Joint Filler – associated with Riprap expansion joints. Quantity of this suspect material located on the bridge structure is unknown.
22. Construction Joints – located in abutments and piers. Quantity of this suspect material located on the bridge structure is unknown.
23. ½-inch Premoulded Gray Rubber Expansion Joint Material – located in approach slabs. Quantity of this suspect material located on the bridge structure is unknown.
24. 2-inch Duct – located in concrete foundation from transformer pole base box. Quantity of this suspect material located on the bridge structure is unknown.
25. 4-inch Duct – location unknown. Quantity of this suspect material located on the bridge structure is 350 linear feet.
26. 1 Layer of Tar Paper – located in abutments, footings, and piers. Quantity of this suspect material located on the bridge structure is unknown.
27. Handrail Caulking Compound – located on parapet sidewalk. Quantity of this suspect material located on the bridge structure is unknown.
28. 1-inch Hot Poured Joint Filler – located in construction joints on wearing surface. Quantity of this suspect material located on the bridge structure is unknown.
29. ¼-inch Gray Rubber Deflection Joint Material – location unknown. Quantity of this suspect material located on the bridge structure is unknown.
30. Transverse Conduit – located under roadway. Quantity of this suspect material located on the bridge structure is unknown.
31. ½-inch Gray Rubber Preformed Expansion Joint Filler – located in piers and abutments. Quantity of this suspect material located on the bridge structure is 330 square feet.

During the physical inspection of the bridge, HzW could not locate Items 1-24 and 26-31, above. Five (5) additional suspect ACMs were identified during the physical inspection. These suspect materials consisted of the following:

1. Epoxy Material underneath Fence Post Brackets – located on parapet walls. HzW sampled this suspect material (Sample Nos. 01 through 04) and no asbestos was identified in the samples collected.
2. Gasket Material – located in parapet walls. HzW sampled this suspect material (Sample Nos. 05 and 06) and no asbestos was identified in the samples collected.

3. 4-inch fiber conduit – located in abutment walls. HzW sampled this suspect material (Sample Nos. 07 and 08 and 11 and 12) and from 32.5 to 43.1 percent asbestos was identified in the samples collected. This material is similar to Item No. 25, above located in the East Approach of this bridge. It should be noted that this same asbestos-containing material was also identified in the West Approach; however, it was not documented in the construction plans. HzW estimated that approximately 350 linear feet of this material is located in the West Approach of this bridge.
4. 3-inch Tar-Coated Cellulose Duct – located in parapet walls. HzW sampled this suspect material (Sample Nos. 09 and 10) and no asbestos was identified in the samples collected.
5. Expansion Gasket Material – located in abutments. HzW sampled this suspect material (Sample Nos. 13 and 14) and no asbestos was identified in the samples collected.

CUY-90-1628EW (SFN 1807552) Center Bridge, CUY-90-1628L (SFN 1807498) Northern most Bridge and CUY-90-1628R (SFN 1807714) Southern most Bridge over East 9th Street

Based on a review of the construction plans dated March 9, 1960 (Pages 1 thru 148) for these bridges, twelve (12) suspect ACMs were noted as being used during construction of the bridges. These suspect ACMs consisted of the following:

1. 2-inch and 4-inch Fiber or Asbestos Cement Conduit for Lighting cables – located in parapet, retaining walls and superstructure of all bridges. Quantity of these suspect materials located on the bridge structures is 740 and 65 linear feet, respectively.
2. Asbestos Wire for Lighting – installed between the bracket end at luminaire and lamp socket of all bridges. Insulation shall be asbestos applied to conductor to form a continuous tube of asbestos fibers at least 40 mils thick tightly compressed and impregnated with a flame heat & moisture proof compound and an outer asbestos braid at least 45 mils thick. Quantity of this material located on the bridge structures is unknown.
3. 2-Way Duct Bank for Lighting Containing 2 2-inch Fiber or Asbestos Conduit – located in all bridges. Quantity of this suspect material located on the bridge structures is 350 linear feet.
4. 3-Way Duct Bank for Lighting Containing 3 4-inch Fiber or Asbestos Conduit – located in all bridges. Quantity of this suspect material located on the bridge structures is 150 linear feet.
5. 4-Way Duct Bank for Lighting Containing 2 2-inch and 2-4-inch Fiber or Asbestos Conduit – located in all bridges. Quantity of this suspect material located on the bridge structures is 175 linear feet.
6. Conduit for Lighting – located in concrete pull boxes of all bridges. Quantity of this suspect material located on the bridge structures is unknown.
7. 12-inch by ½-inch Premolded Sealing Strip – located in abutments in recess from top of footing to bottom of approach slab and to 6-inch below top of median of all bridges. Quantity of this suspect material located on the bridge structures is 60 linear feet.
8. ¾-inch Premoulded Expansion Joint Material – located in front of bumper block to within 2-inches of the surface of all bridges. Quantity of this suspect material located on the bridge structures is unknown.
9. Bituminous filler – located in front of bumper block to within 2-inches of the surface of all bridges. Quantity of this suspect material located on the bridge structures is unknown.
10. Construction Joints – located in abutments and piers of all bridges. Quantity of this suspect material located on the bridge structures is unknown.
11. 1-inch Preformed Expansion Joint Filler – located in piers of all bridges. Quantity of this suspect material located on the bridge structures is unknown.
12. 1-inch Preformed Gray Sponge Rubber Expansion Joint Filler – located in abutments of all bridges. Quantity of this suspect material located on the bridge structures is 80 square feet.

During the physical inspection of the three (3) bridges, HzW could not locate Items 1 - 12, above. Five (5) additional suspect ACMs were identified during the physical inspection. These suspect materials consisted of the following:

1. Epoxy Material underneath New Guard Rail Mounts – located on parapet walls of all three (3) bridges. HzW sampled this suspect material on each bridge (Sample Nos. 01 and 02 for each bridge) and no asbestos was identified in the samples collected.
2. 3-inch Tar-Coated Cellulose Duct – located in parapet walls of all three (3) bridges. HzW sampled this suspect material on each bridge (Sample Nos. 03 and 04 for each bridge) and no asbestos was identified in the samples collected.
3. Gasket Material underneath Old Guard Rail Mounts – located on parapet walls of all three (3) bridges. HzW sampled this suspect material on each bridge (Sample Nos. 05 and 06 for the Central bridge and Sample Nos. 07 and 08 for the Northern-most and Southern-most bridges) and from 2.1 to 2.5 percent asbestos was identified in the samples collected. The quantity of this asbestos-containing material identified on all three (3) bridges is 30 square feet (6 square feet on the Central bridge, 15 square feet on the Northern most bridge and 9 square feet on the Southern most bridge).
4. Gasket Material – located in parapet walls of all three (3) bridges. HzW sampled this suspect material on each bridge (Sample Nos. 07 and 08 for the Central bridge and Sample Nos. 05 and 06 for the Northern-most and Southern-most bridges) and no asbestos was identified in the samples collected.
5. Thick Gasket Material – located where the bridge deck meets the abutment of the Northern-most bridge. HzW sampled this suspect material (Sample Nos. 09 and 10) and no asbestos was identified in the samples collected.

CUY-90-1640 (SFN 1807773) Over Ramps E-10 and E-8

Based on a review of the construction plans dated March 9, 1960 (Pages 101 thru 113) for this bridge, sixteen (16) suspect ACMs were noted as being used during construction of the bridge. These suspect ACMs consisted of the following:

1. 2-inch and 4-inch Fiber or Asbestos Cement Conduit for Lighting cables– in parapet, retaining walls and superstructure. Quantity of these suspect materials located on the bridge structure is estimated at 715 and 20 linear feet, respectively.
2. 2-inch Fiber Conduit for Lighting Cables – in concrete foundation from transformer pole base box. Quantity of this suspect material located on the bridge structure is unknown.
3. Asbestos Wire for Lighting – installed between the bracket end at luminaire and lamp socket. Insulation shall be asbestos applied to conductor to form a continuous tube of asbestos fibers at least 40 mils thick tightly compressed and impregnated with a flame heat & moisture proof compound and an outer asbestos braid at least 45 mils thick. Quantity of this suspect material located on the bridge structure is unknown
4. 2-Way Duct Bank for Lighting Containing 2 2-inch and 1 4-inch Fiber or Asbestos Conduit. Quantity of these suspect materials located on the bridge structure is 583 and 35 linear feet, respectively.
5. 3-Way Duct Bank for Lighting Containing 3 2-inch Fiber or Asbestos Conduit. Quantity of this suspect material located on the bridge structure is 130 linear feet.
6. 4-Way Duct Bank for Lighting Containing 2 2-inch Fiber or Asbestos Conduit. Quantity of these suspect materials located on the bridge structure is 287 linear feet.
7. Transite Conduit for Lighting – located in concrete pull box. Quantity of this suspect material located on the bridge structure is unknown.

8. 12-inch by ½-inch Premolded Sealing Strip – located in abutments and retaining walls in recess from top of footing to bottom of approach slab and to 6-inch below top of median. Quantity of this suspect material located on the bridge structure is 80 linear feet.
9. ¾-inch Premoulded Expansion Joint Material – located in front of bumper block to within 2-inches of the surface. Quantity of this suspect material located on the bridge structure is unknown.
10. Bituminous Filler – located in front of bumper block to within 2-inches of the surface. Quantity of this suspect material located on the bridge structure is unknown.
11. Construction Joints – located in abutments, retaining walls, nose and piers. Quantity of this suspect material located on the bridge structure is unknown.
12. ½-inch Bituminous Preformed Joint Filler – located in abutments for drainage. Quantity of this suspect material located on the bridge structure is unknown.
13. 1-inch Expansion Joint – located in abutments and end dam. Quantity of this suspect material located on the bridge structure is unknown.
14. Poured Joint Sealer – associated with junction boxes at median. Quantity of this suspect material located on the bridge structure is unknown.
15. 1-inch Preformed Expansion Joint Filler – located in piers. Quantity of this suspect material located on the bridge structure is unknown.
16. ¼-inch Preformed Gray Sponge Rubber Expansion Joint Filler – located in parapet joints. Quantity of this suspect material located on the bridge structure is unknown.

During the physical inspection of the bridge, HzW could not locate Items 1 - 15, above. Four (4) additional suspect ACMs were identified during the physical inspection. These suspect materials consisted of the following:

1. Epoxy Material underneath New Guard Rail Mounts – located on parapet walls. HzW sampled this suspect material (Sample Nos. 01 and 02) and no asbestos was identified in the samples collected.
2. 3-inch Tar-Coated Cellulose Duct – located in parapet walls. HzW samples this suspect material (Sample Nos. 03 and 04) and no asbestos was identified in the samples collected.
3. Expansion Material – located in parapet walls. HzW sampled this suspect material (Sample Nos. 05 and 06) and no asbestos was identified in the samples collected. This material is similar to Item No. 16, above.
4. Gasket Material underneath Old Guard Rail Mounts – located on parapet walls of both bridges. HzW sampled this suspect material (Sample Nos. 07 and 08) and from 3.7 to 3.9 percent asbestos was identified in the samples collected. Approximately 15 square feet of this asbestos-containing material is located on the bridge structure.

CUY-90-1651L (SFN 1807900) and CUY-90-1651R (SFN 1807803) Over East 14th Street

Based on a review of the construction plans dated March 9, 1960 (Pages 1 thru 181) for these bridges, sixteen (16) suspect ACMs were noted as being used during construction of the bridges. These suspect ACMs consisted of the following:

1. 2-inch and 4-inch Fiber or Asbestos Cement Conduit for Lighting cables – in parapet, retaining walls and superstructure of both bridges. Quantity of these suspect materials located on the bridge structures is 1,350 and 690 linear feet, respectively.
2. 2-inch fiber conduit for lighting cables – in concrete foundation from transfer pole base box of both bridges. Quantity of this suspect material located on the bridge structures is unknown.

3. Asbestos wire for lighting – installed between the bracket end at luminaire and lamp socket of both bridges. Insulation shall be asbestos applied to conductor to form a continuous tube of asbestos fibers at least 40 mils thick tightly compressed and impregnated with a flame heat & moisture proof compound and an outer asbestos braid at least 45 mils thick. Quantity of this suspect material located on the bridge structures is unknown.
4. 2-Way Duct Bank for Lighting Containing 2 2-inch and 1 4-inch Fiber or Asbestos Conduit– located in both bridges. Quantity of these suspect located on the bridge structures is 583 and 35 linear feet, respectively.
5. 3-Way Duct Bank for lighting containing 3 2-inch fiber or asbestos conduit– located in both bridges. Quantity of this suspect material located on the bridge structures is 130 linear feet.
6. 4-Way Duct Bank for lighting containing 2 2-inch fiber or asbestos conduit– located in both bridges. Quantity of these suspect materials located on the bridge structures is 287 linear feet.
7. Transite Conduit for lighting – located in concrete pull box of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
8. 12-inch by ½-inch Premolded Sealing Strip – located in abutments and retaining walls in recess from top of footing to bottom of approach slab and to 6-inch below top of median of both bridges. Quantity of this suspect material located on the bridge structures is 144 linear feet.
9. ¾-inch Premoulded Expansion Joint Material – located in front of bumper block to within 2-inches of the surface of both bridges. Quantity of this suspect material located on the bridge structures is unknown
10. Bituminous filler – located in front of bumper block to within 2-inches of the surface of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
11. Construction Joints – located in abutments, retaining walls, nose and piers of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
12. ½-inch Bituminous Preformed Joint Filler – located in abutments for drainage of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
13. 1-inch Expansion Joint – located in abutments and end dam of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
14. Poured Joint Sealer – associated with junction boxes at median of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
15. 1-inch Preformed Expansion Joint Filler – located in piers of both bridges. Quantity of this suspect material located on the bridge structures is unknown.
16. ¼-inch Preformed Gray Sponge Rubber Expansion Joint Filler – located in parapet joints of both bridges. Quantity of this suspect material located on the bridge structures is unknown.

During the physical inspection of the two (2) bridges, HzW could not locate Items 1 - 15, above. Four (4) additional suspect ACMs were identified during the physical inspection. These suspect materials consisted of the following:

1. Epoxy Material underneath New Guard Rail Mounts – located on parapet walls of both bridges. HzW sampled this suspect material (Sample Nos. 01 and 02) and no asbestos was identified in the samples collected.
2. 3-inch Tar-Coated Cellulose Duct – located in parapet walls of both bridges. HzW samples this suspect material (Sample Nos. 03 and 04 and 07 and 08) and no asbestos was identified in the samples collected.
3. Expansion Material – located in parapet walls of both bridges. HzW sampled this suspect material (Sample Nos. 05 and 06) and no asbestos was identified in the samples collected. This material is similar to Item No. 16, above.

4. Gasket Material underneath Old Guard Rail Mounts – located on parapet walls of both bridges. HzW sampled this suspect material (Sample Nos. 09 and 10) and from 3.1 to 3.4 percent asbestos was identified in the samples collected. Approximately 15 square feet of this asbestos-containing material was identified on the bridge structures.

The building materials identified during the construction plan review were considered suspect materials, based on the assumption that these materials are typically coated or comprised of an asbestos-containing material, physically contain an asbestos-containing material(s), or are identified by their description as an "asbestos" material.

RECOMMENDATIONS

Based on the findings from the asbestos survey of the subject bridges, the following recommendations are presented for consideration:

1. Notify any outside contractor(s), prior to them working on the subject bridges, of the presence of any building materials identified as containing asbestos or assumed to contain asbestos.

2. If renovation activities have the potential to disturb the identified ACMs or assumed ACMs, then a licensed asbestos abatement contractor should be contracted to remove these materials prior to them being disturbed.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" form to the OEPA ten (10) days prior to any renovations activities which will involve the disturbance of 160 square feet or 260 linear feet of regulated asbestos-containing material (RACM) and ten (10) days prior to any demolition activities. Demolition is defined as the wrecking or taking out of any load-supporting structural member at a bridge. HzW has completed a copy of the OEPA's "Notification of Demolition and Renovation" form for each of the subject bridges. A copy of each of the completed forms is included as **Attachment 3**.

   It should be noted for the purpose of completing the notification, the 9th Street Bridge's and the East 14th Street Bridge's suspect material quantities were divided among the three (3) bridges comprising the 9th Street Bridges or the two (2) bridges comprising the East 14th Street Bridges, due to the construction plans not indicating the specific locations for these materials.

   In addition, it should be noted that the construction plans indicated linear feet for building materials entitled joint filler, joint material, corrugated metal pipe, and sealing strip. EPA's Notification of Demolition and Renovation form only permits asbestos-containing pipe to be quantified in linear feet. Therefore, in order to report the quantities of joint filler, joint material, corrugated metal pipe and sealing strip properly on the notification form, HzW converted each quantity of these materials to a square footage quantity. This was performed by assuming a width of one (1) foot for each material. As a result, these square footage quantities could vary depending of the actual width of the materials on the bridge structures.

4. If renovation and/or demolition activities are to occur at the subject bridges, submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty linear feet or fifty square feet.

5. As indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of the National Emissions Standard for Hazardous Air Pollutants (NESHAP) is on site during any renovation or demolition activities performed at the subject bridges. This individual should be certified by the Ohio Department of Health as an Asbestos Hazard Evaluation Specialist.

6. If the building materials identified as containing asbestos or assumed to contain asbestos are to remain in place, implement an operations and maintenance (O&M) program whereby these materials are continually evaluated and maintained by trained personnel.

HzW appreciates the opportunity you have given us to provide professional services to the Ohio Department of Transportation, District 12. Should you have any questions regarding the information presented in this letter report, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Matthew P. Fergus (cs)

Matthew P. Fergus
Certified Asbestos Hazard Evaluation Specialist (ODH Licensed No. ES33228)

Joan A. Sablar (cs)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\js\H09004-07
Attachments
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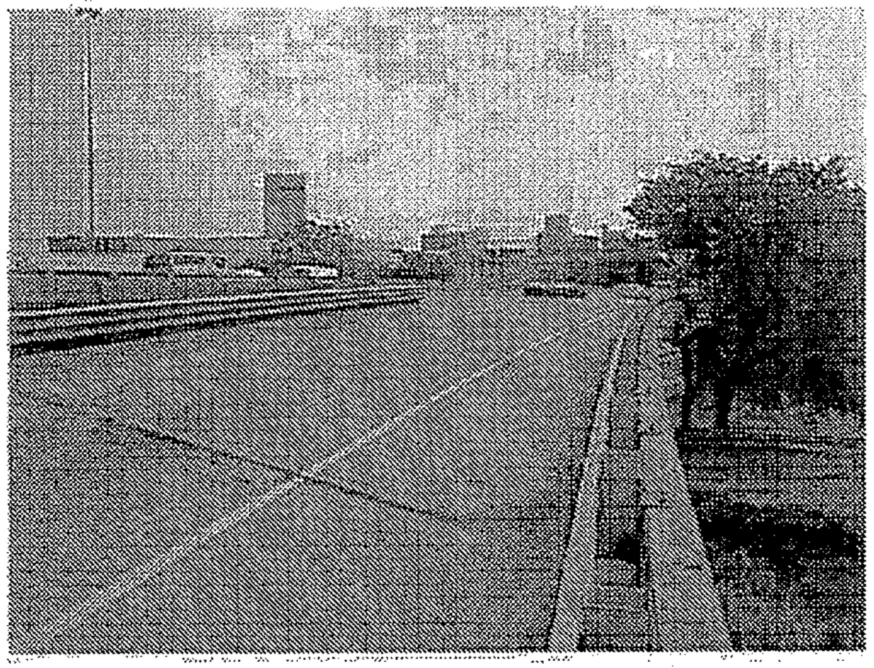
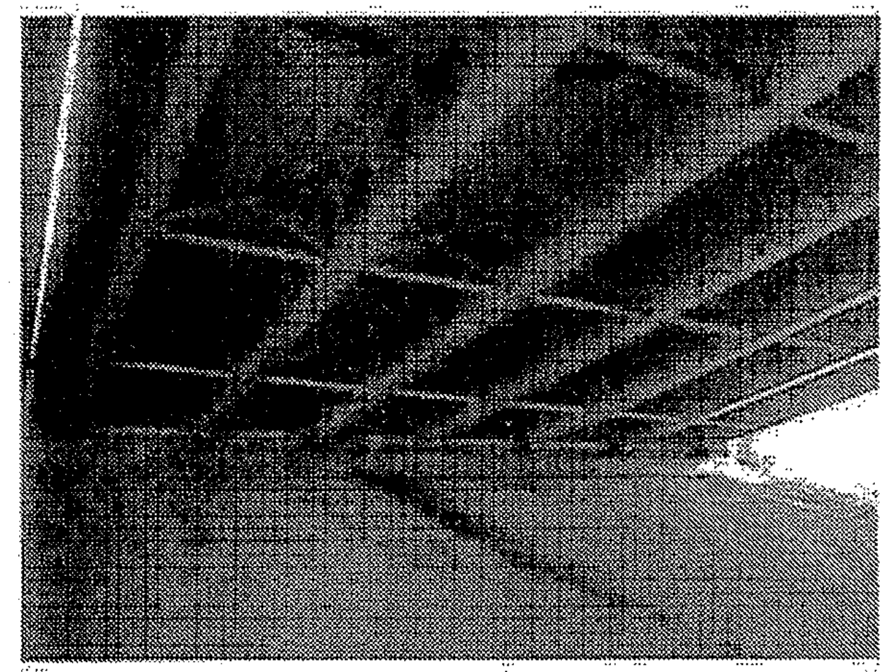
ATTACHMENT 1

PHOTOGRAPHIC LOG

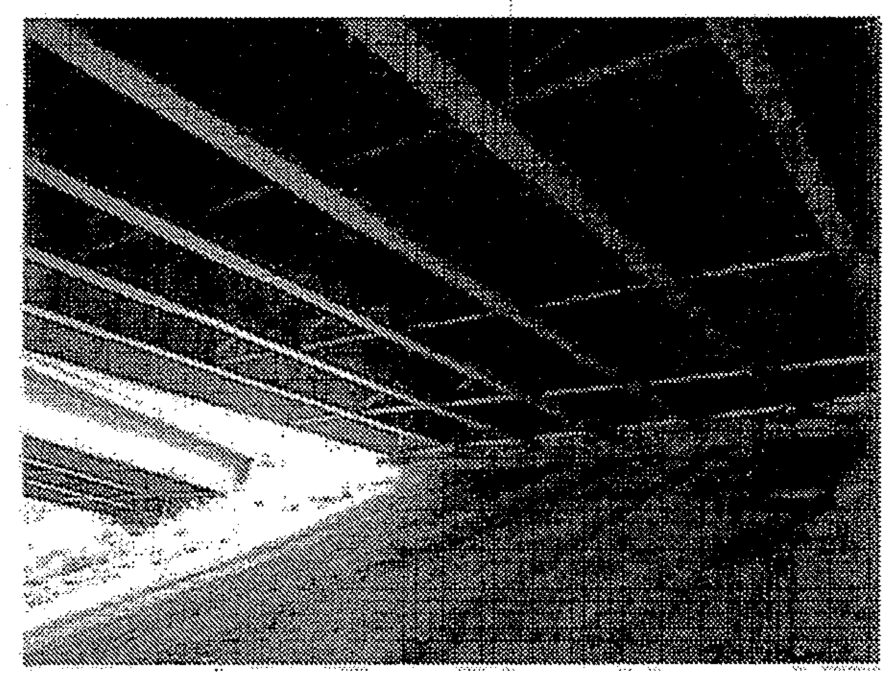


Photograph 01
View Looking East at the Top of the East Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651R)

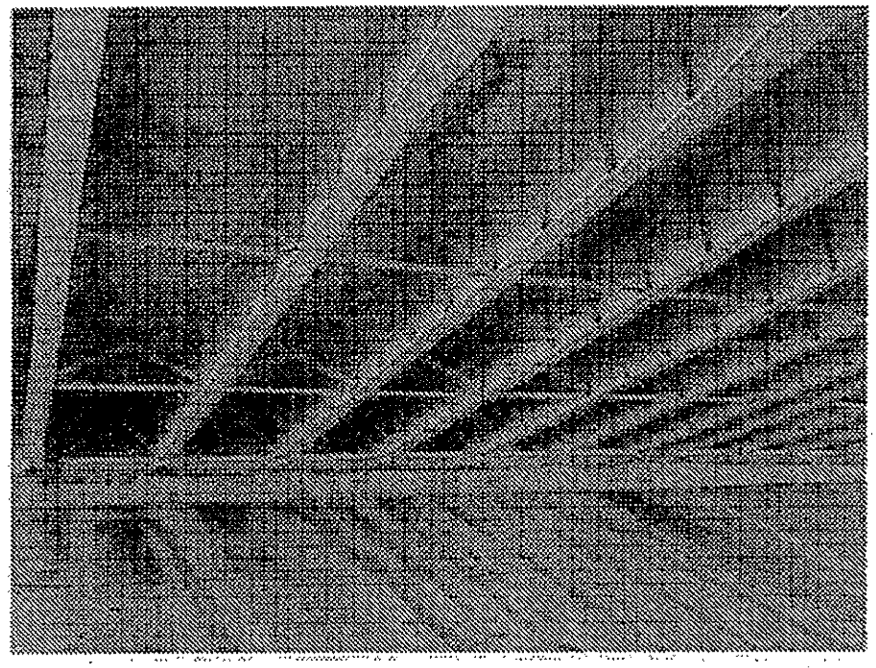
Photograph 02
View Looking East at the Top of the West Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651L)



Photograph 03
View Looking West at the Underside of the West Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651L)

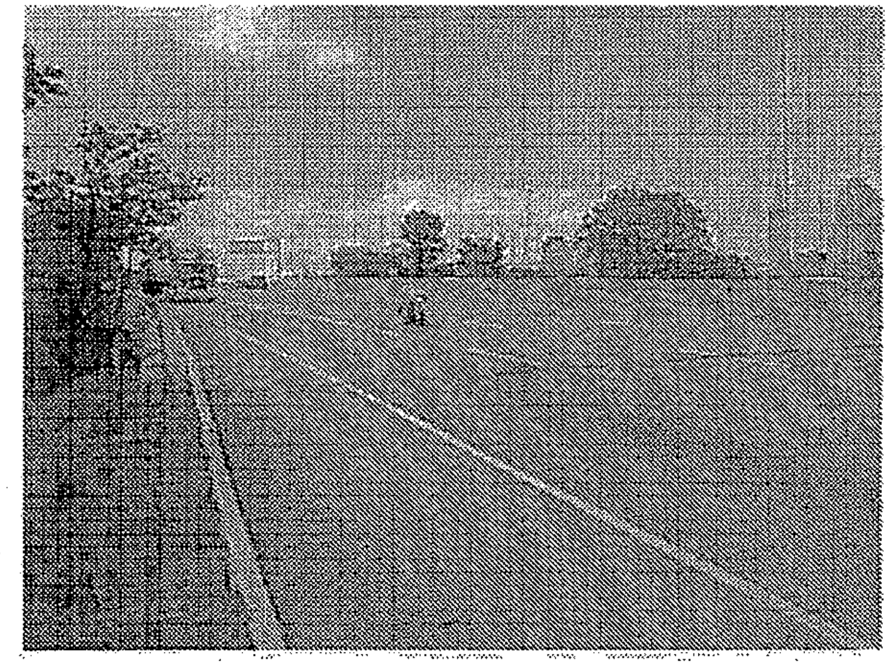


Photograph 04
View Looking West at the Underside of the East Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651R)



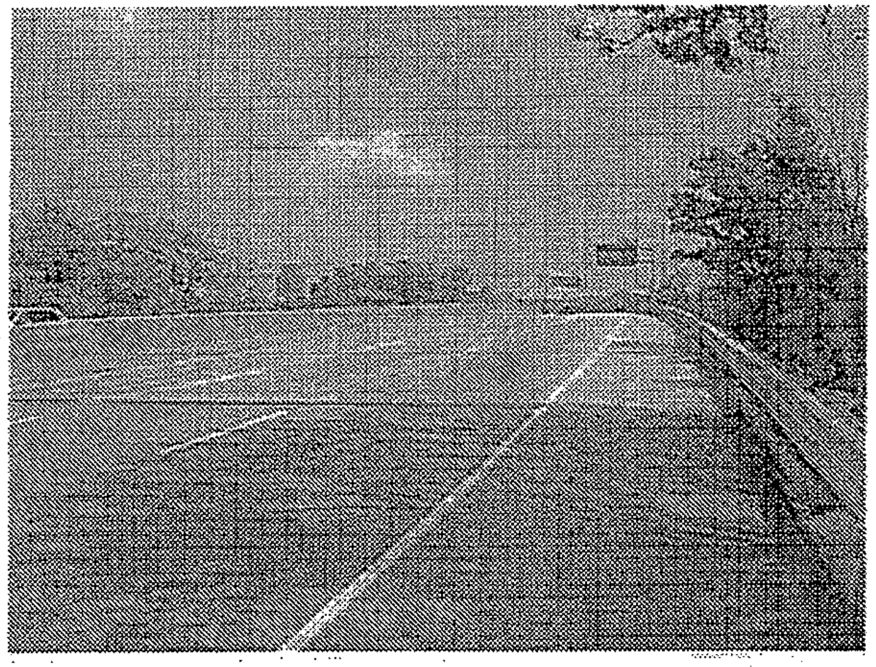
Photograph 05
View Looking East at the Underside of the West Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651L)

Photograph 06
View Looking East at the Underside of the East Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651R)



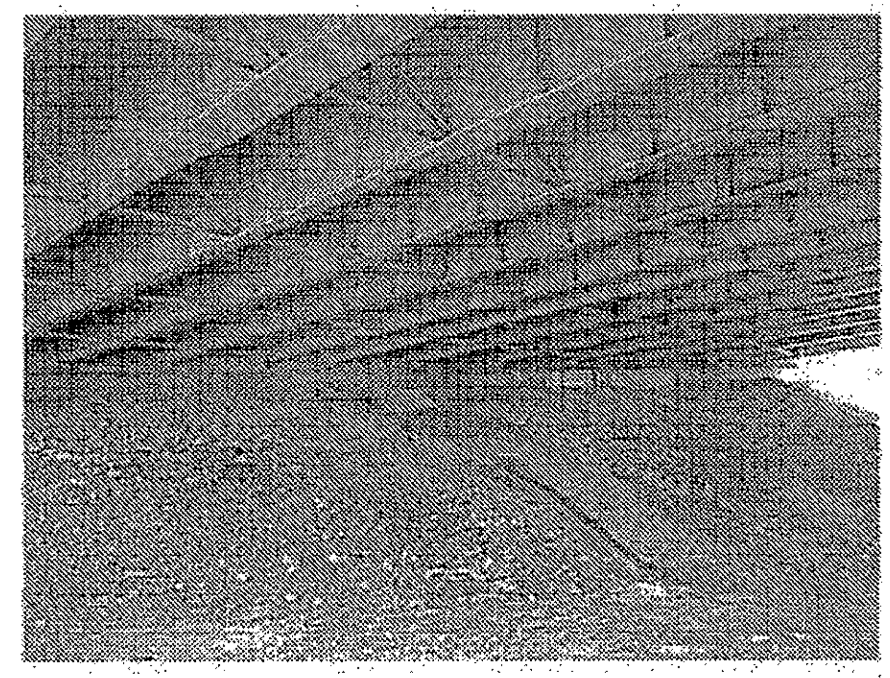
Photograph 07
View Looking West at the Top of the East Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651R)

Photograph 08
View Looking West at the Top of the West Bound Lanes of the Interstate 90 Bridge over East 14th Street (CUY-90-1651L)



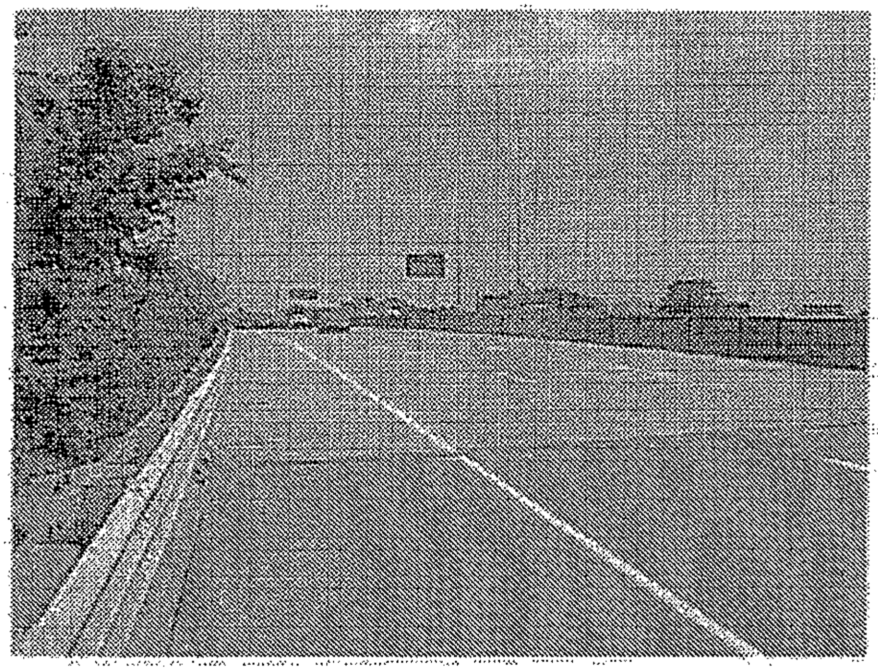
Photograph 09
View Looking East at the Top of the East Bound Lanes of the
Interstate 90 Bridge over Ramps E-10 and E-8 (CUY-90-1640)

Photograph 10
View Looking West at the Top of the East Bound Lanes of the
Interstate 90 Bridge over Ramps E-10 and E-8 (CUY-90-1640)

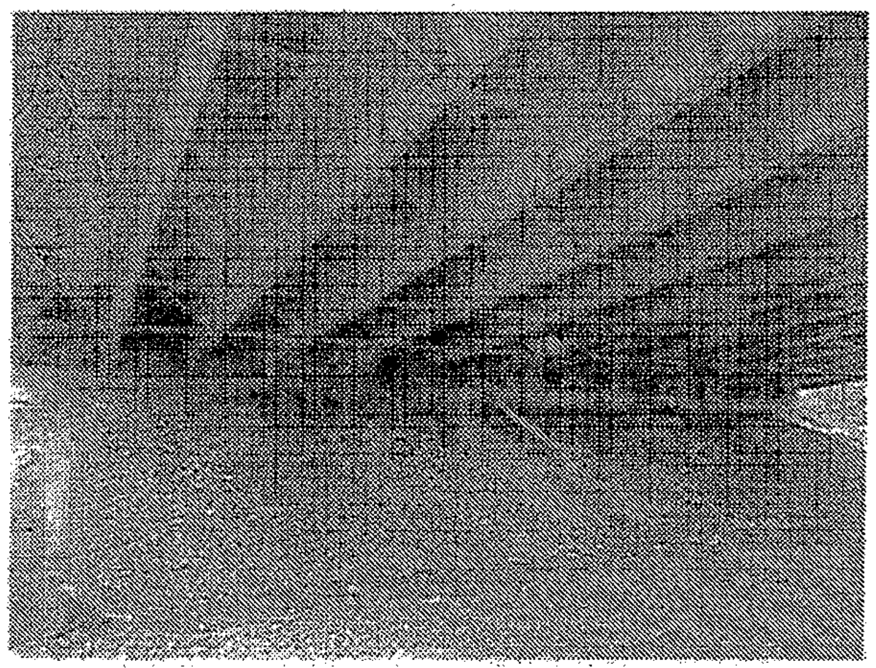


Photograph 11
View Looking East at the Underside of the East and West Bound Lanes of the
Interstate 90 Bridge over Ramps E-10 and E-8 (CUY-90-1640)

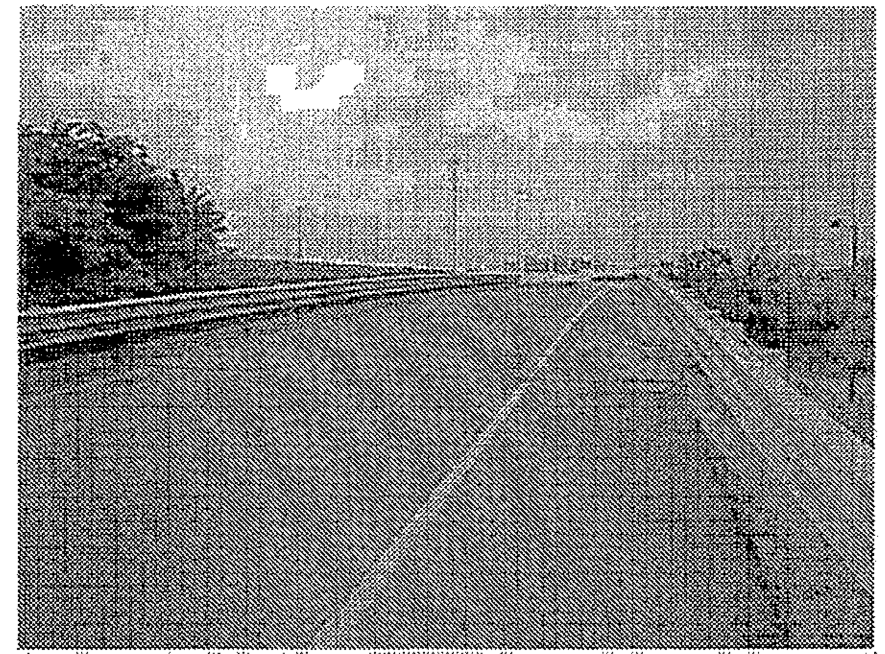
Photograph 12
View Looking West at the Top of the West Bound Lanes of the
Interstate 90 Bridge over Ramps E-10 and E-8 (CUY-90-1640)



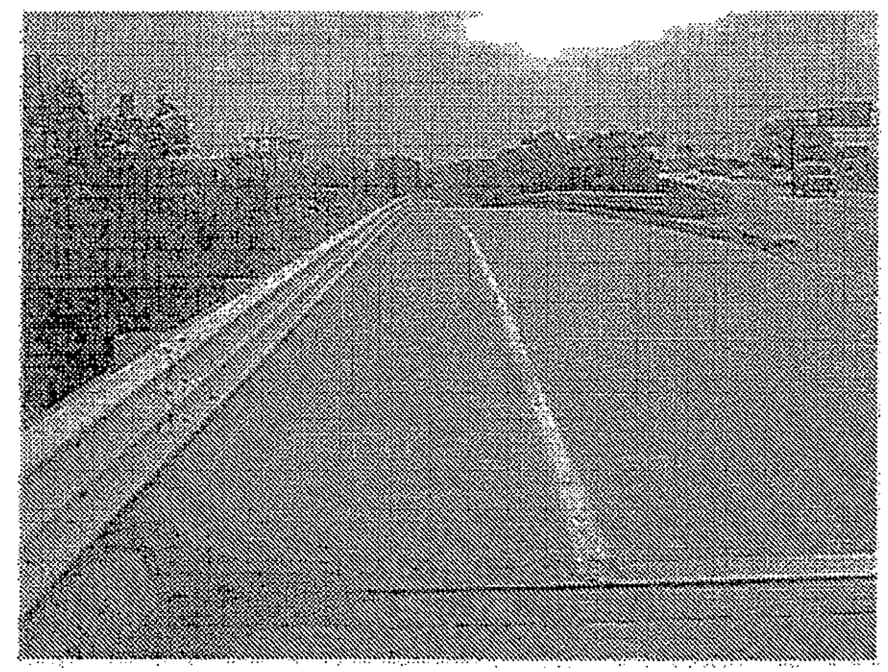
Photograph 13
View Looking East at the Top of the West Bound Lanes of the Interstate 90 Bridge over Ramps E-10 and E-8 (CUY-90-1640)



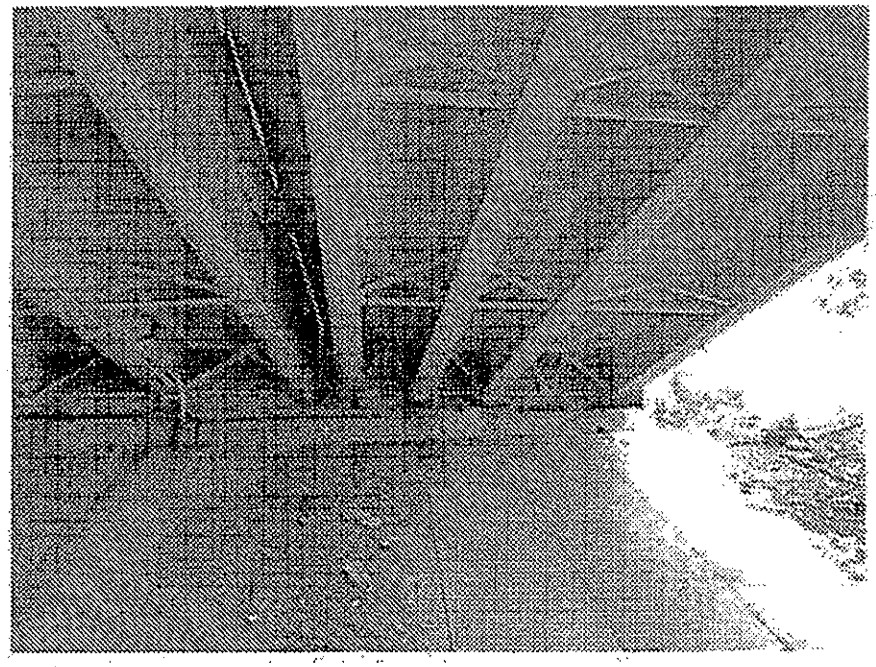
Photograph 14
View Looking West at the Underside of the East and West Bound Lanes of the Interstate 90 Bridge over Ramps E-10 and E-8 (CUY-90-1640)



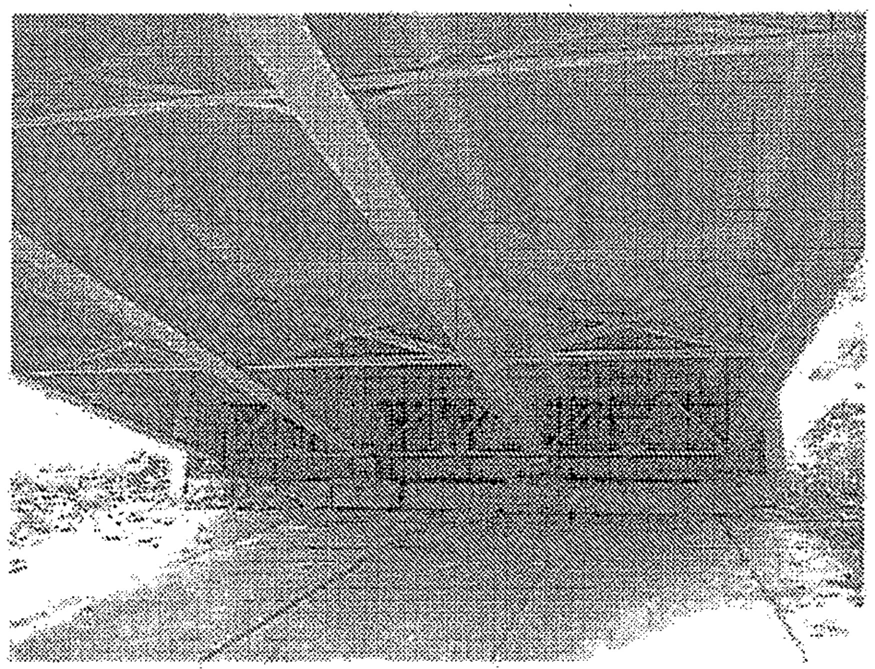
Photograph 15
View Looking West at the Top of the West Bound On Ramp of the Interstate 90 Bridge over East 9th Street (CUY-90-1628EW)



Photograph 16
View Looking East at the Top of the West Bound On Ramp of the Interstate 90 Bridge over East 9th Street (CUY-90-1628EW)

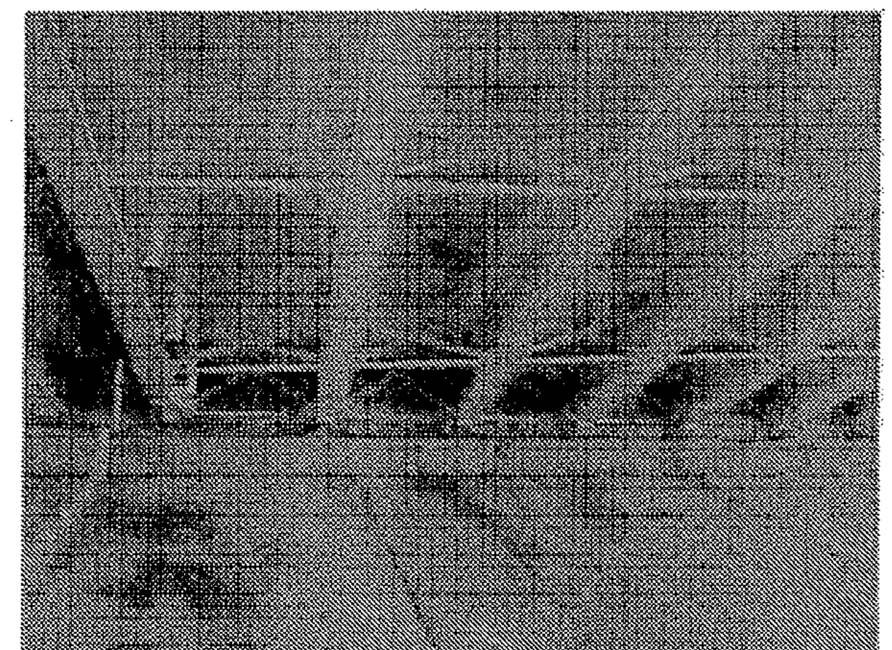


Photograph 17
View Looking West at the Underside of the West Bound On Ramp of the Interstate 90 Bridge over East 9th Street (CUY-90-1628EW)

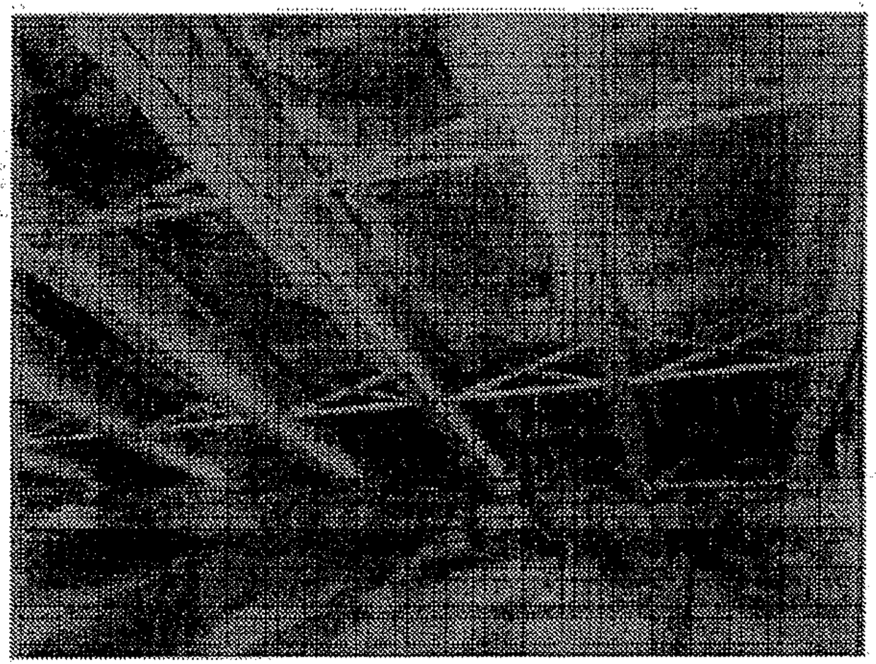


Photograph 18
View Looking East at the Underside of the West Bound On Ramp of the Interstate 90 Bridge over East 9th Street (CUY-90-1628EW)

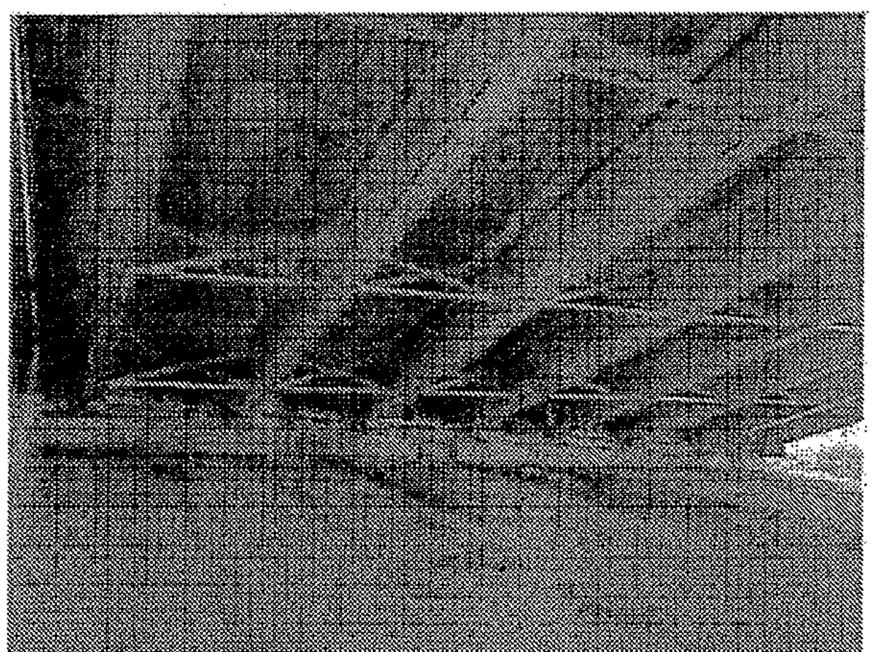
Photograph 19
View Looking West at the Top of the West Bound Lanes of the Interstate 90 Bridge over East 9th Street (CUY-90-1628L)



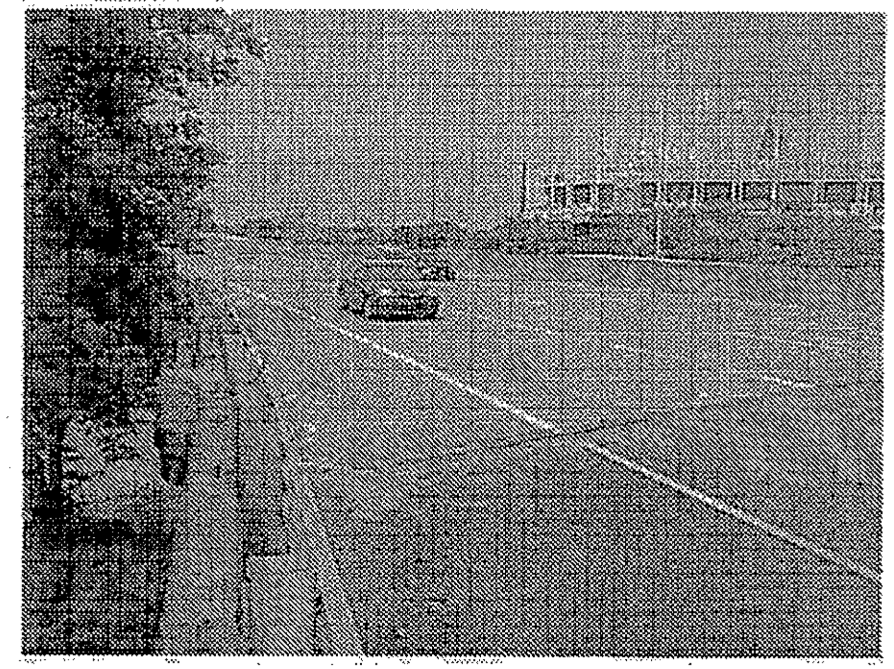
Photograph 20
View Looking West at the Underside of the West Bound Lanes of the Interstate 90 Bridge over East 9th Street (CUY-90-1628L)



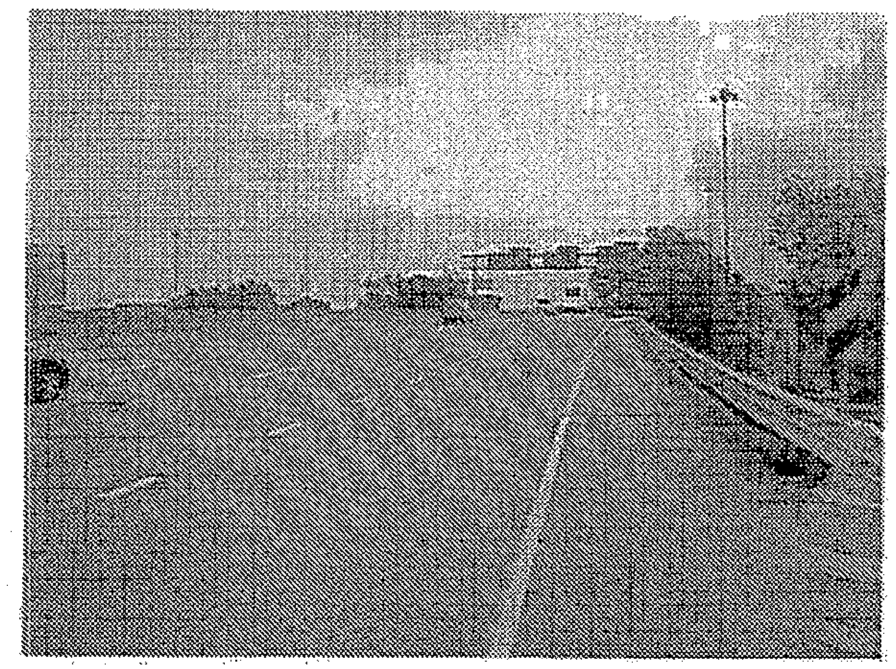
Photograph 21
View Looking East at the Underside of the West Bound Lanes of the Interstate 90 Bridge over East 9th Street (CUY-90-1628L)



Photograph 22
View Looking East at the Underside of the East Bound Lanes of the Interstate 90 Bridge over East 9th Street (CUY-90-1628R)

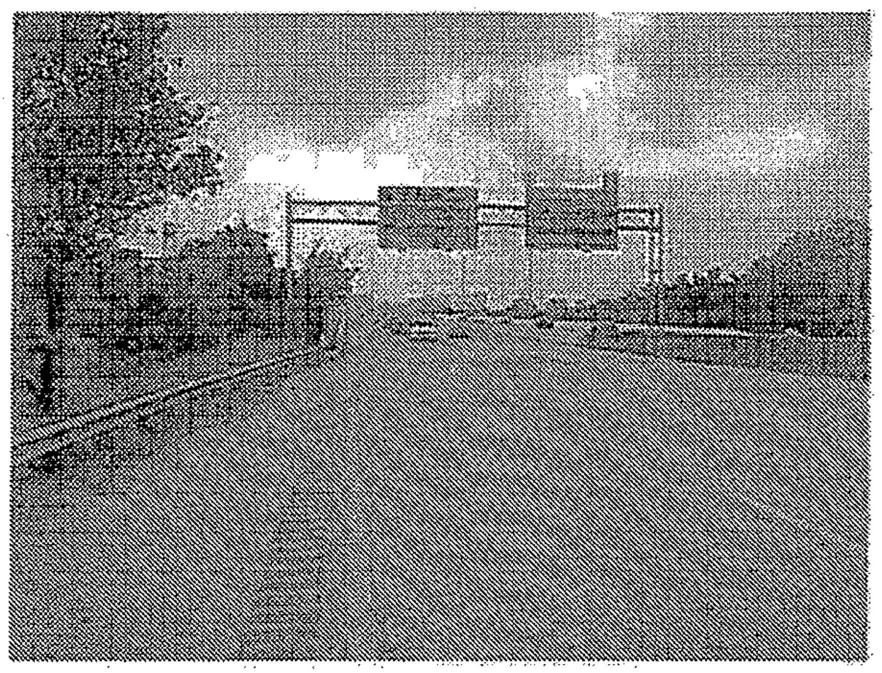


Photograph 23
View Looking West at the Top of the East Bound Lanes of the Interstate 90 Bridge over East 9th Street (CUY-90-1628R)

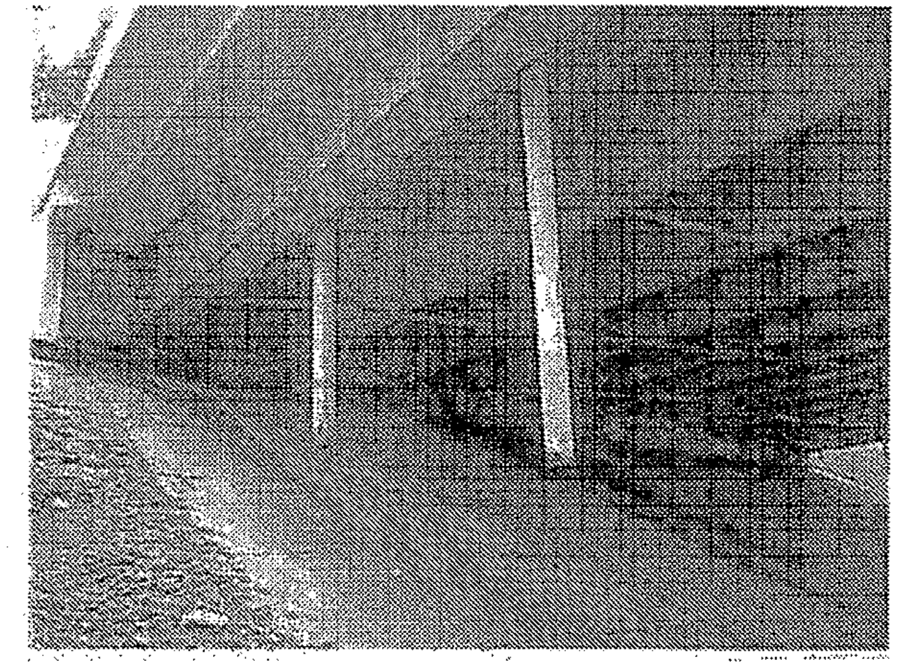


Photograph 24
View Looking East at the Top of the East Bound Lanes of the Interstate 90 Bridge over East 9th Street (CUY-90-1628R)

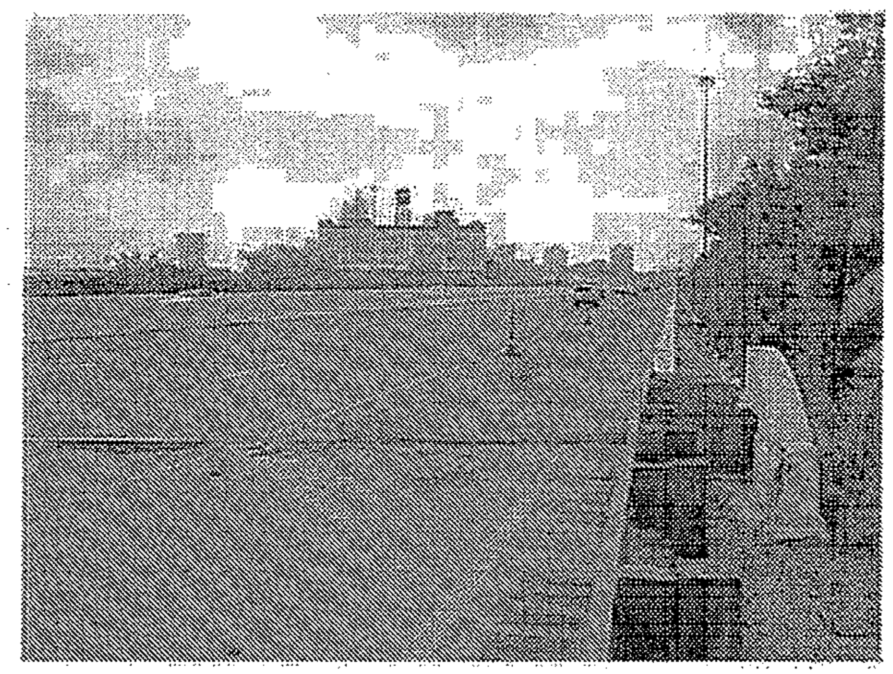
Photograph 25
View Looking West at the Underside of the East Bound Lanes of the
Interstate 90 Bridge over East 9th Street (CUY-90-1628R)



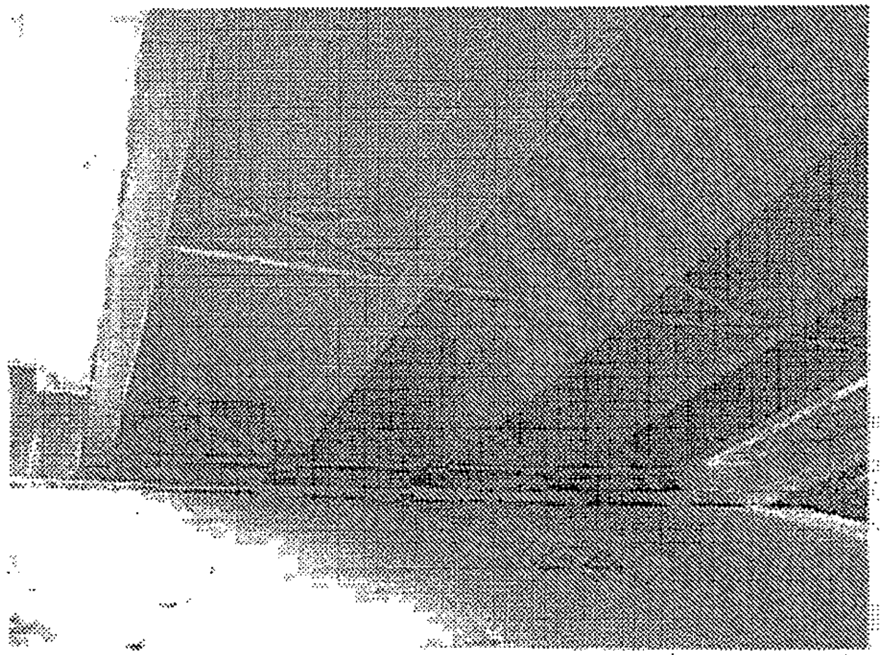
Photograph 26
View Looking North at the Top of the West Bound Lanes of the
Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)



Photograph 27
View Looking South at the Underside of the East and West Bound Lanes of the
Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)



Photograph 28
View Looking North at the Top of the East Bound Lanes of the
Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)



Photograph 29
View Looking South at the Underside of the East Bound On Ramp Lane of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)

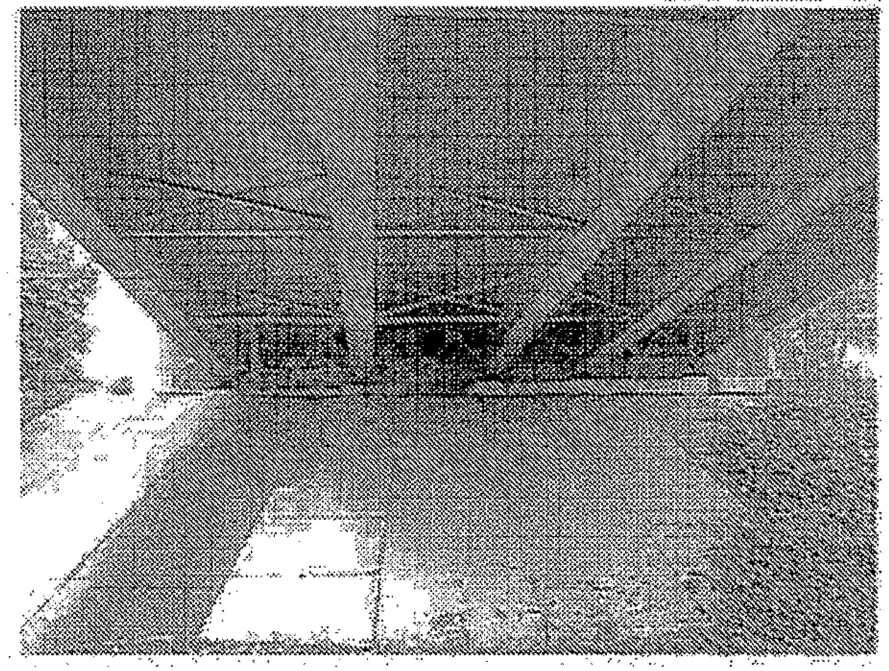
Photograph 30
View Looking West at the Underside of the East Bound Off Ramp Lane of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)

Photograph 31
View Looking West at the Underside of the East and West Bound Lanes of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)

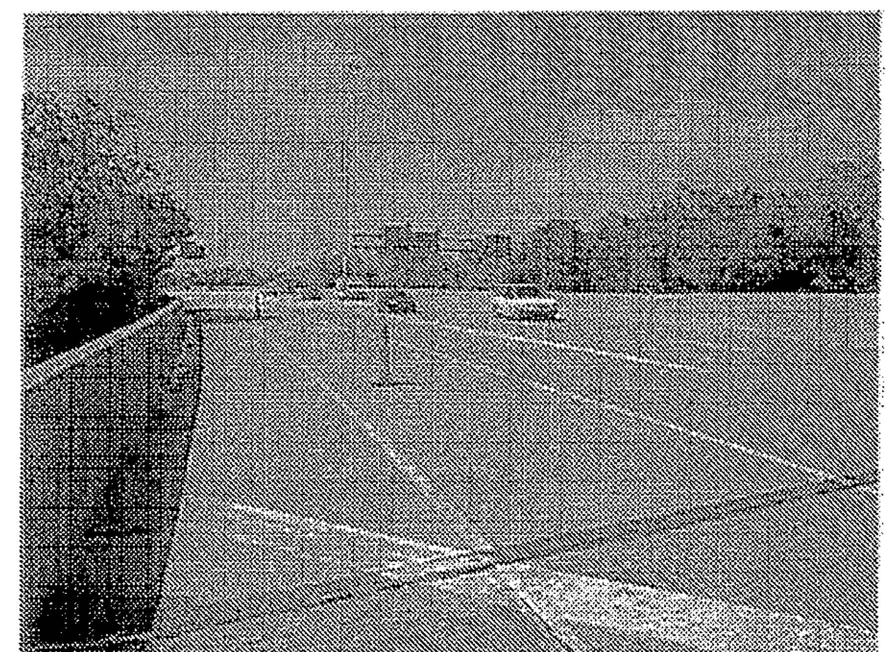
Photograph 32
View Looking West at the Top of the East Bound Lanes of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)

Photograph 33
View Looking West at the Top of the West Bound Lanes of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)

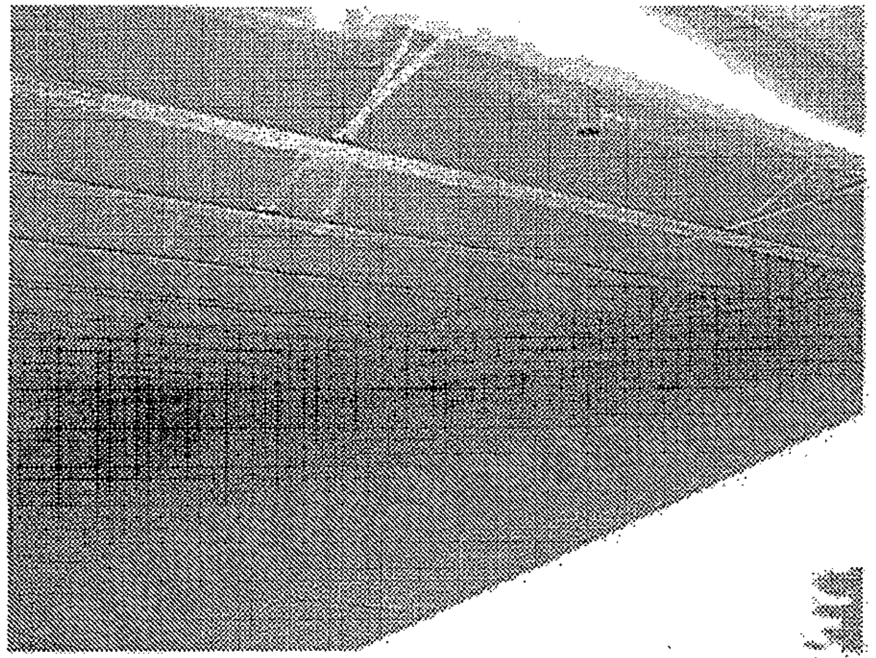
Photograph 34
View Looking North at the Underside of the West Bound On Ramp Lane of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)



Photograph 35
View Looking South at the Underside of the West Bound Off Ramp Lane of the Interstate 90 Innerbelt Bridge over the Cuyahoga River (CUY-90-15.24)

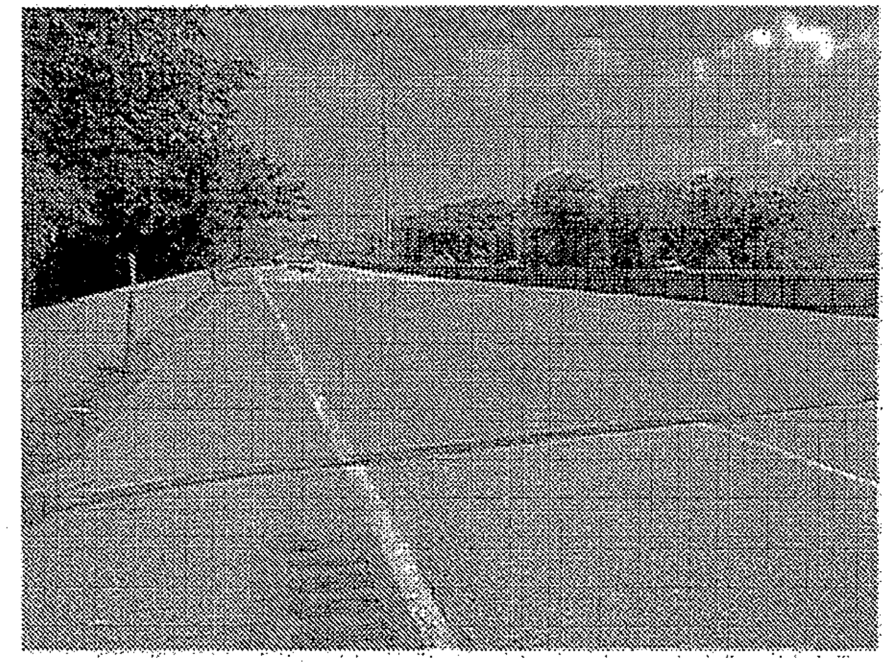


Photograph 36
View Looking South at the Top of the East Bound Lanes of the Interstate 90 Bridge over Kenilworth Avenue (CUY-90-1506)

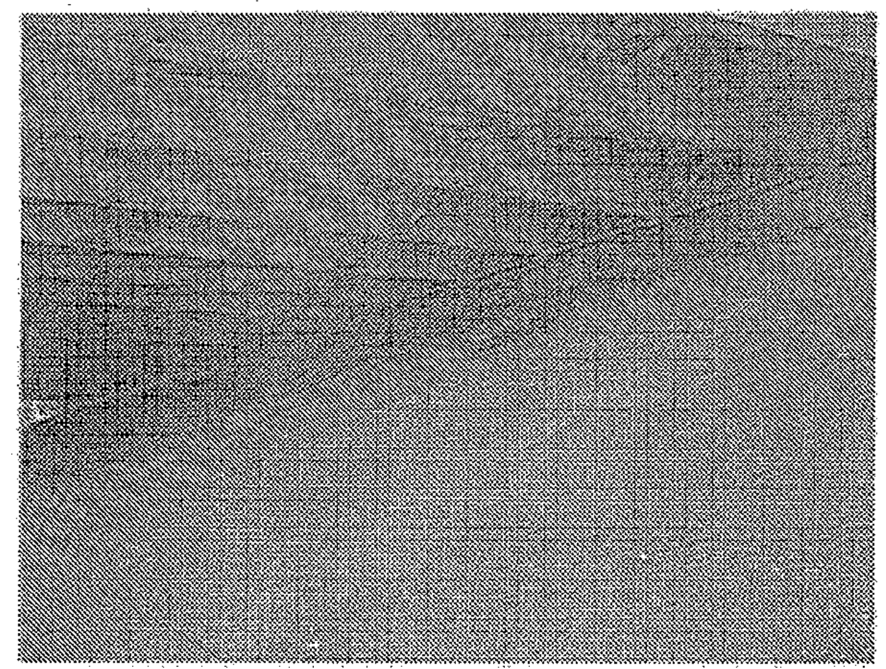


Photograph 37
View Looking North at the Underside of the East and West Bound Lanes of the Interstate 90 Bridge over Kenilworth Avenue (CUY-90-1506)

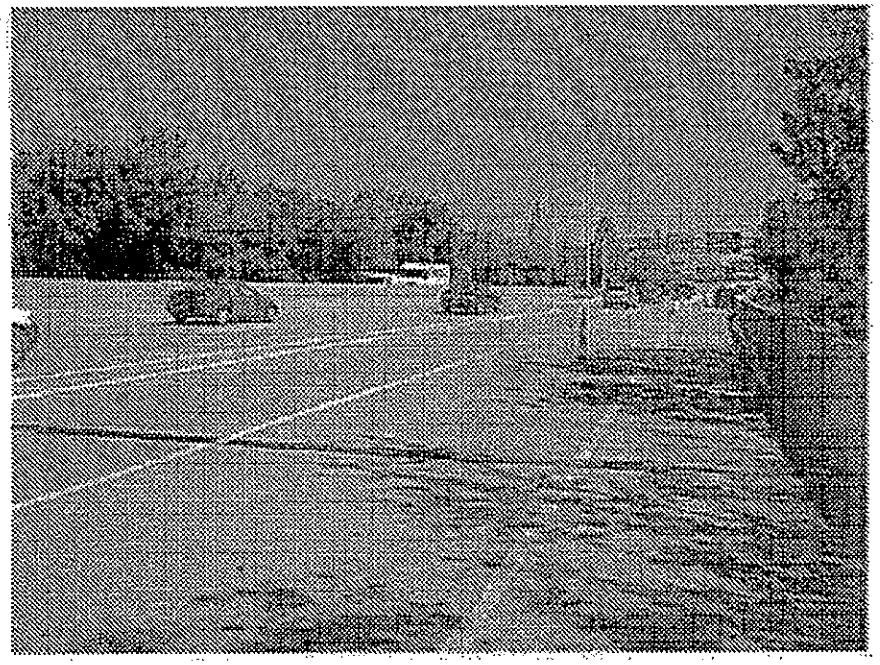
Photograph 38
View Looking South at the Top of the West Bound Lanes of the Interstate 90 Bridge over Kenilworth Avenue (CUY-90-1506)



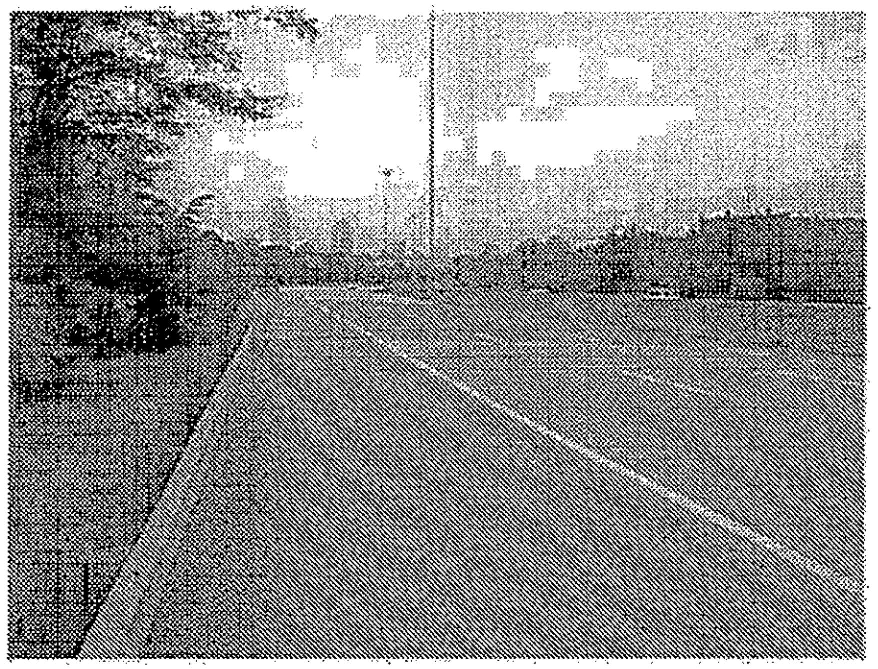
Photograph 39
View Looking North at the Top of the West Bound Lanes of the Interstate 90 Bridge over Kenilworth Avenue (CUY-90-1506)



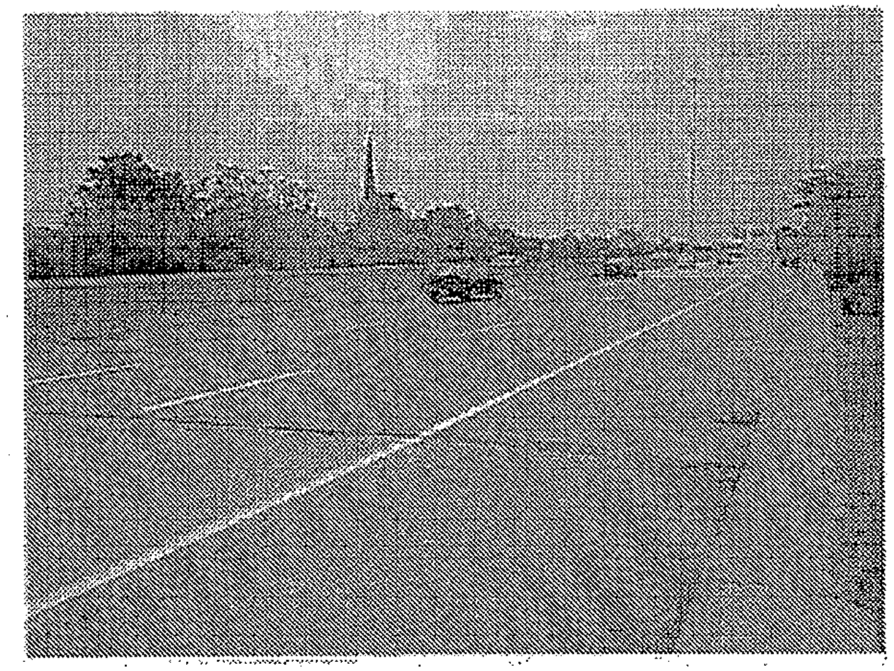
Photograph 40
View Looking South at the Underside of the East and West Bound Lanes of the Interstate 90 Bridge over Kenilworth Avenue (CUY-90-1506)



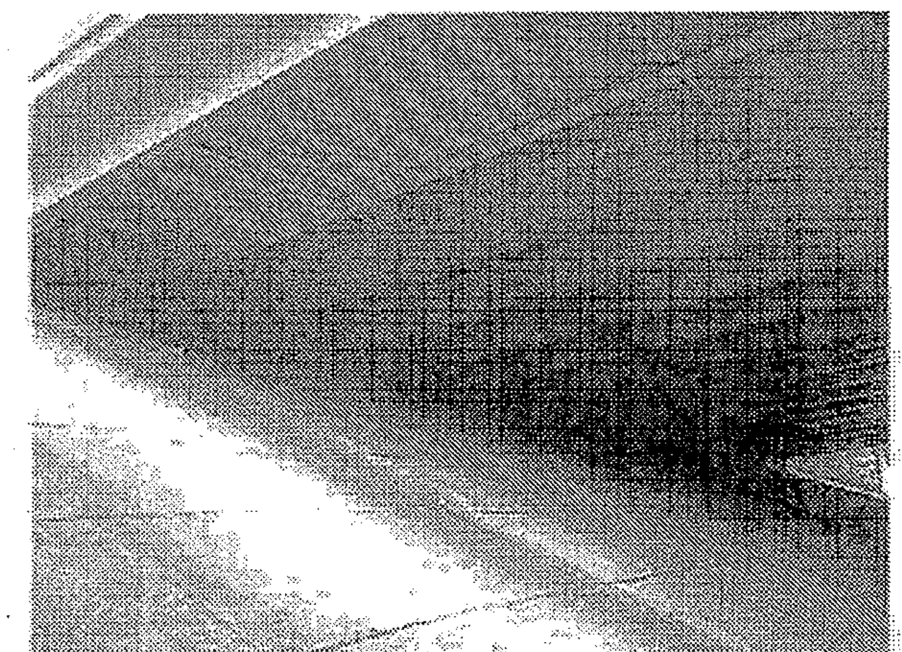
Photograph 41
View Looking North at the Top of the East Bound Lanes of the Interstate 90 Bridge over Kenilworth Avenue (CUY-90-1506)



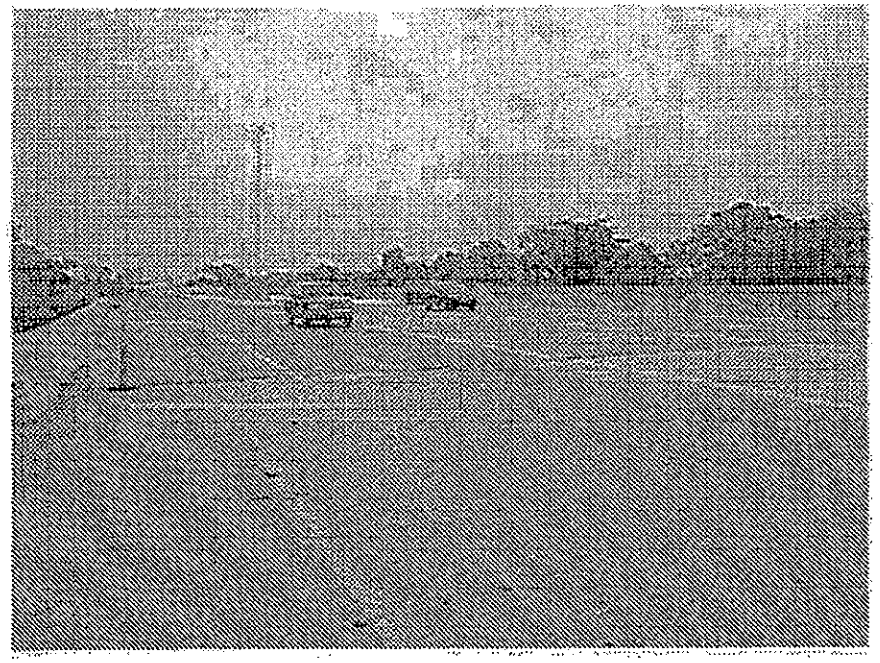
Photograph 42
View Looking North at the Top of the West Bound Lanes of the Interstate 90 Bridge over Starkweather Avenue (CUY-90-1490L)



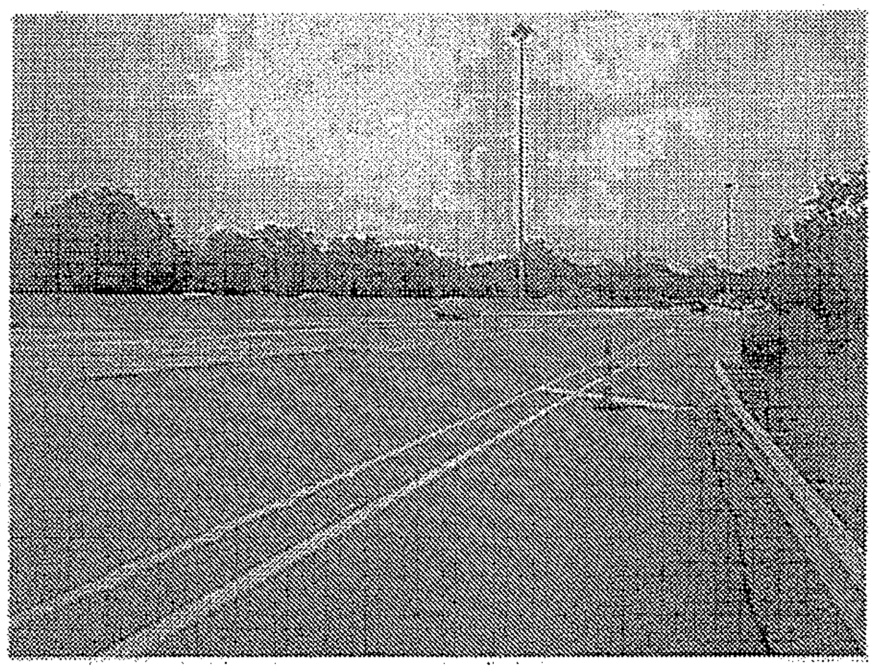
Photograph 43
View Looking South at the Top of the West Bound Lanes of the Interstate 90 Bridge over Starkweather Avenue (CUY-90-1490L)



Photograph 44
View Looking North at the Underside of the East and West Bound Lanes of the Interstate 90 Bridge over Starkweather Avenue (CUY-90-1490L)

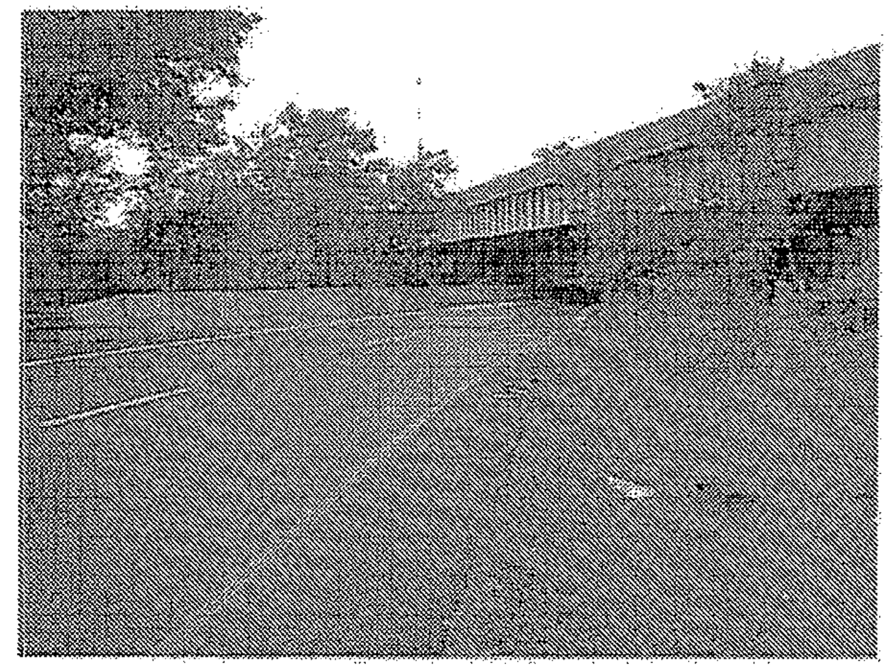


Photograph 45
View Looking South at the Top of the East Bound Lanes of the Interstate 90 Bridge over Starkweather Avenue (CUY-90-1490R)

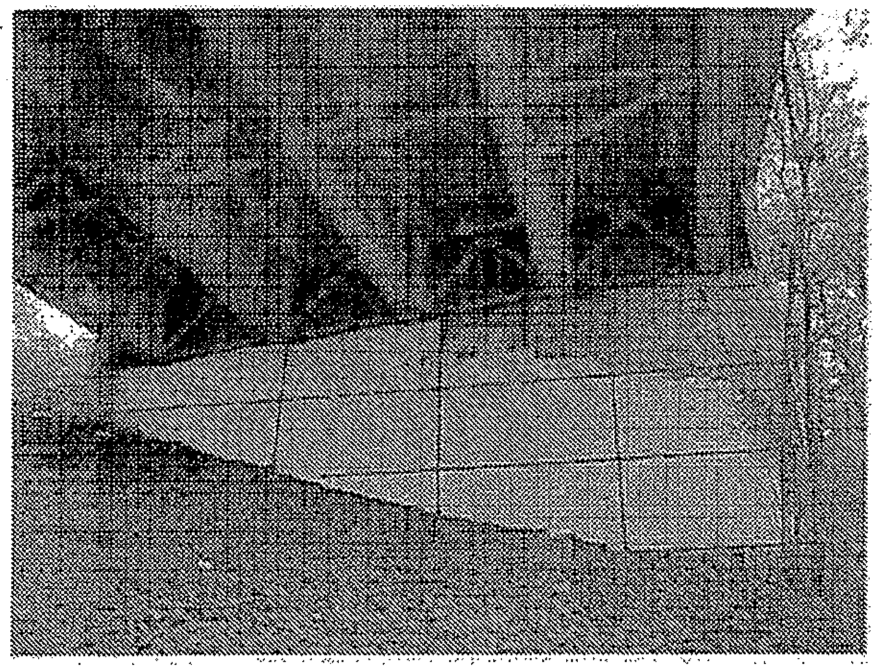


Photograph 46
View Looking North at the Top of the East Bound Lanes of the Interstate 90 Bridge over Starkweather Avenue (CUY-90-1490R)

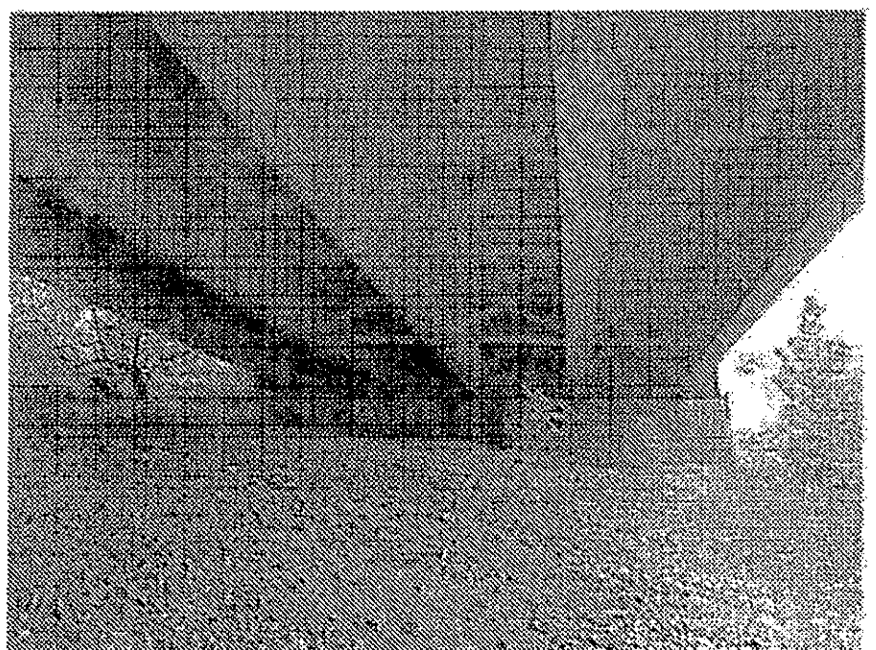
Photograph 47
View Looking South at the Underside of the East and West Bound Lanes of the Interstate 90 Bridge over Starkweather Avenue (CUY-90-1490R)



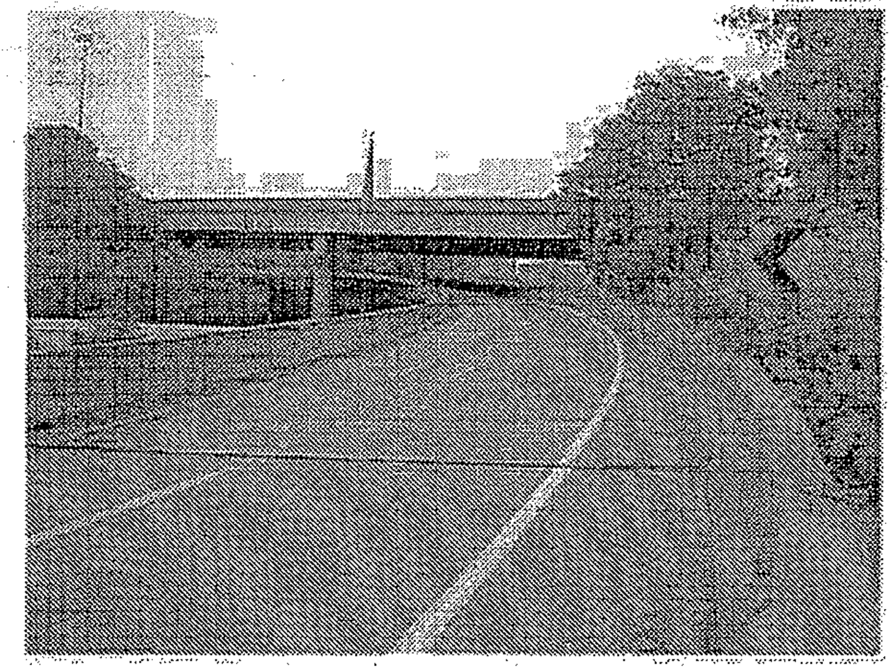
Photograph 48
View Looking South at the Top of the East Bound Lanes of the Interstate 90 Bridge Ramp WN under I-71 Mainline Bridge (CUY-90-1463R)



Photograph 49
View Looking North at the Underside of the East Bound Lanes of the
Interstate 90 Bridge Ramp WN under I-71 Mainline Bridge (CUY-90-1463R)



Photograph 50
View Looking West at the Underside of the East Bound Lanes of the
Interstate 90 Bridge Ramp WN under I-71 Mainline Bridge (CUY-90-1463R)



Photograph 51
View Looking Northwest at the Top of the East Bound Lanes of the
Interstate 90 Bridge Ramp WN under I-71 Mainline Bridge (CUY-90-1463R)

ATTACHMENT 2

LABORATORY ANALYTICAL REPORTS

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/12/2009
Project: CUY-90-1463R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3640995 **Client No.:** 01
Description / Location: Grey Rubber Non Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3640996 **Client No.:** 02
Description / Location: Grey Rubber Non Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3640997 **Client No.:** 03
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	99	Cellulose	1

Lab No.: 3640998 **Client No.:** 04
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	99	Cellulose	1

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC–Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 6/12/2009

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	HZW Environmental Consultants	Report Date:	6/12/2009
	6105 Heisley Rd.	Project:	CUY-90-1463R
	Mentor OH 44060	Project No.:	H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3640999
Client No.: 05
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	100	Cellulose	None Detected

Lab No.: 3641000
Client No.: 06
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	100	Cellulose	None Detected

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 6/12/2009

International Asbestos Testing Laboratories
[illegible] 9000 Commerce Pkwy. Suite B
Mt. Laurel, New Jersey 08054

Tel. 856 231-9449
Fax 856 231-9818

Chain of Custody

Client: HzW Environmental Consultants
6105 Heisley Rd.
Mentor, oh. 44060

Project Name: CUY-90-1463R
Project No.: H0 9004-07

Phone: 440-357-1260
FAX: 440-357-1510

Contact: Joan Sablar
Pager:

Special Instructions: PO# 5162-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM: NIOSH 7400	[X] PLM: Bulk Asbestos EPA 600	[ ] TEM: AHERA
[ ] PCM: OSHA	[ ] PLM: Point Counting 198.1	[ ] TEM: NIOSH 7402
[ ] PCM: Other	[ ] PLM: NOB via 198.1 (PLM only)	[ ] TEM: EPA Level II
	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements **	[ ] TEM: Microvac/Wipe
[ ] AAS: NIOSH 7082 (Air)	(**call to confirm TAT!)	[ ] TEM: Asbestos in Water
[ ] AAS: Lead in Drinking Water		[ ] TEM: Bulk Analysis
[ ] AAS: Lead in Paint ASTM D3335-85		[ ] TEM: NOB 198.4
[ ] AAS: Lead Dust/Wipe		[ ] TEM: Other
[ ] AAS: Other Metals / Soil		[ ] Total Dust: NIOSH 0500

Turnaround Time: FAX: date / time Verbals: date / time

[ ] 10 Day [ ] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [X] RUSH

Preliminary FAX/Verbal Results Requested by:

Sample Numbers: Client #(s): 07 (start) - 06 (end) IATL#(s): (start) - (end) Total:

Chain of Custody:

		Date	Time
Relinquished:	JW	6/11/09	4pm
Received:			
Sample Log-in:	[illegible]		
Sample Prep:			
Analyzed:	B Smith	6/12/09	
QA/QC Review:			

RECEIVED JUN 1 2009 IATL

Archived/Released: QA/QC InterLAB Use: Date: Time:

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International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: HzW Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060

Project Name: CUY-90-1463R
Project No.: H09004-07

Phone: 440-357-1810
FAX: 440-357-1510

Contact: Jon Sablar
Analysis: Bulk PLM

Special Instructions:

Client Sample	Lab Sample	Color	Type	Description		Notes
01	3640995			Expansion Material – Rubber		
02	3640996			"		
03	3640997			Expansion Material – Fibrous		
04	3640998			"		
05	3640999			Expansion Material – Fibrous		
06	3641000			"		

Relinquished: jw	Date: 6/11/09	Time: 4pm
Received:	Date:	Time:
Sample Log-in:	Date:	Time:
Sample Prep:	Date:	Time:
Analyzed:	Date:	Time:
QA/QC Review:	Date:	Time:

Page 2 of 2

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/12/2009
Project: CUY-90-1490 L+R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3640989
Client No.: 01
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	95	Cellulose	5

Lab No.: 3640990
Client No.: 02
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	95	Cellulose	5

Lab No.: 3640991
Client No.: 03
Description / Location: Lt. Grey Rubber Non Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3640992
Client No.: 04
Description / Location: Lt. Grey Rubber Non Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith
Date: 6/12/2009

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	HZW Environmental Consultants	**Report Date:**	6/12/2009
	6105 Heisley Rd.	**Project:**	CUY-90-1490 L+R
	Mentor OH 44060	**Project No.:**	H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3640993
Client No.: 05
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	95	Cellulose	5

Lab No.: 3640994
Client No.: 06
Description / Location: Brown Fibrous Expansion Material

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	95	Cellulose	5

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method, (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 6/12/2009

International Asbestos Testing Laboratories
~~1600 Horizon Way Suite 120~~ 9000 Commerce Pkwy. Suite B
Mt. Laurel, New Jersey 08054

Tel. 856 231-9449
Fax 856 231-9818

Chain of Custody

Client: HzW Environmental Consultants, 6105 Heisley Rd., Mentor, oh 44060
Project Name: CUY-90-1490 L+R
Project No.: H0 9004-07
Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Pager:
Special Instructions: PO# 5162-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM: NIOSH 7400	[X] PLM: Bulk Asbestos EPA 600	[ ] TEM: AHERA
[ ] PCM: OSHA	[ ] PLM: Point Counting 198.1	[ ] TEM: NIOSH 7402
[ ] PCM: Other	[ ] PLM: NOB via 198.1 (PLM only)	[ ] TEM: EPA Level II
	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements**	[ ] TEM: Microvac/Wipe
[ ] AAS: NIOSH 7082 (Air)	(**call to confirm TAT!)	[ ] TEM: Asbestos in Water
[ ] AAS: Lead in Drinking Water		[ ] TEM: Bulk Analysis
[ ] AAS: Lead in Paint ASTM D3335-85a		[ ] TEM: NOB 198.4
[ ] AAS: Lead Dust/Wipe		[ ] TEM: Other
[ ] AAS: Other Metals / Soil		[ ] Total Dust: NIOSH 0500

Turnaround Time: **FAX:** ______ (date / time) **Verbals:** ______ (date / time)

[ ] 10 Day [ ] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [X] RUSH

Preliminary FAX/Verbal Results Requested by:

Sample Numbers: Client #(s): 01 (start) - 06 (end) IATL #(s): (start) - (end) Total:

Chain of Custody:

Relinquished:	[signature]	Date: 6-11-09	Time:
Received:		Date: JUN 12 2009	Time:
Sample Log-in:	[initials] 6/12/09	Date:	Time:
Sample Prep:		Date:	Time:
Analyzed:	E. Smith	Date: 6/12/09	Time:
QA/QC Review:		Date:	Time:

Archived/Released: QA/QC InterLAB Use: Date: Time:

1 of 2

JUN. 12. 2009 3:36PM NO. 7590 P. 5

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: HzW Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1510

Project Name: CUY-90-1490 L/R
Project No.: H0 9004-07
Contact: Jim Sablar
Analysis: Bulk PLM

Special Instructions:

Consultant Sample	[illegible] Sample	Color	Type	Location	[illegible]	Notes
01	3640989			Expansion Material - Fibrous		
02	3640990			"		
03	3640991			Expansion Material - Rubbery		
04	3640992			"		
05	3640993			Expansion Material - Fibrous		
06	3640994			"		

Relinquished: jw	Date: 6-11-09	Time: 4 pm
Received:	Date:	Time:
Sample Log-in:	Date:	Time:
Sample Prep:	Date:	Time:
Analyzed:	Date:	Time:
QA/QC Review:	Date:	Time:

JUN. 4. 2009 11:08AM NO. 6932 P. 2

IATL

International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1506
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628392 Description / Location: Grey Gasket
Client No.: 01

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628393 Description / Location: Grey Gasket
Client No.: 02

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Faulseit

Date: 6/3/2009

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

JUN. 4. 2009 11:09AM NO. 6933 P. 1/22

International Asbestos Testing Laboratories
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Mt. Laurel, New Jersey 08054

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: H&W Environmental Consultants, 6105 Heisley Rd., Mentor, oh 44060
Project Name: CUY-90-1506
Project No.: H09004-07
Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Pager:
Special Instructions: PO# 5149-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM: NIOSH 7400	[X] PLM: Bulk Asbestos EPA 600	[ ] TEM: AHERA
[ ] PCM: OSHA	[ ] PLM: Point Counting 198.1	[ ] TEM: NIOSH 7402
[ ] PCM: Other____	[ ] PLM: NOB via 198.1 (PLM only)	[ ] TEM: EPA Level II
	[ ] If <1% by PLM, to TEM via 198.4	[ ] TEM: Microvac / Wipe
[ ] AAS: NIOSH 7082 (Air)	to meet NYSDOH requirements**	[ ] TEM: Asbestos in Water
[ ] AAS: Lead in Drinking Water	(**call to confirm TAT!)	[ ] TEM: Bulk Analysis
[ ] AAS: Lead in Paint ASTM D3335-85a		[ ] TEM: NOB 198.4
[ ] AAS: Lead Dust/Wipe		[ ] TEM: Other____
[ ] AAS: Other Metals / Soil____		[ ] Total Dust: NIOSH 0500

Turnaround Time: FAX: ______ (date / time) Verbals: ______ (date / time)

[ ] 10 Day [ ] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH

Preliminary FAX/Verbal Results Requested by: ______

Sample Numbers: Client #(s): 01 (start) - 02 (end) IATL#(s): ______ (start) - ______ (end) Total: ______

Chain of Custody: B 6/3/9

Relinquished:	JW	Date: 5-29-09	Time: 4pm
Received:		Date:	Time:
Sample Log-in:	AB 6/1	Date:	Time:
Sample Prep:		Date:	Time:
Analyzed:		Date:	Time:
QA/QC Review:		Date:	Time:

JUN - 1 2009 IATL

Archived/Released:______ QA/QC InterLAB Use:______ Date:______ Time:______

1 of 2

JUN. 4. 2009 11:10AM NO. 6933 P. 2/22

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H&W Environmental Consultants LLC, 6105 Heisley Rd, Mentor, OH 44060
Project Name: CUY-90-1506
Project No.: H09004-07
Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Analysis: Bulk PLM
Special Instructions:

Consultant Sample #	IATL Sample #	Cat.	Sys.	Description / Location	Friab.	Notes
01	3628392			Gasket Material		
02	3628393			"		

B 6/3/9

Relinquished:	JW	Date: 5-29-09	Time: 4pm
Received:		Date:	Time:
Sample Log-in:		Date:	Time:
Sample Prep:		Date:	Time:
Analyzed:		Date:	Time:
QA/QC Review:		Date:	Time:

Page 2 of 2

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1524
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628455 **Description / Location:** Grey Caulk
Client No.: 01

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628456 **Description / Location:** Grey Caulk
Client No.: 02

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628457 **Description / Location:** Grey Caulk
Client No.: 03

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628458 **Description / Location:** Grey Caulk
Client No.: 04

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit **Approved By:**

Date: 6/3/2009

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1524
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628459 **Description / Location:** White/Brown Non Fibrous
Client No.: 05

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628460 **Description / Location:** White/Brown Non Fibrous
Client No.: 06

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628461 **Description / Location:** Brown Transite
Client No.: 07

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
30	Chrysotile	None Detected	None Detected	PC 67.5
2.5	Crocidolite			

Lab No.: 3628462 **Description / Location:** Brown Transite
Client No.: 08

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	None Detected	None Detected	PC 58.5
1.5	Crocidolite			

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit

Date: 6/3/2009

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1524
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628463 **Client No.:** 09 **Description / Location:** Brown Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

Lab No.: 3628464 **Client No.:** 10 **Description / Location:** Brown Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

Lab No.: 3628465 **Client No.:** 11 **Description / Location:** Tan Transite

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	None Detected	None Detected	PC 56.9
3.1	Crocidolite			

Lab No.: 3628466 **Client No.:** 12 **Description / Location:** Tan Transite

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	None Detected	None Detected	PC 57.5
2.5	Crocidolite			

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit

Date: 6/3/2009

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1524
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628467 **Client No.:** 13 **Description / Location:** Brown Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

Lab No.: 3628468 **Client No.:** 14 **Description / Location:** Brown Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit

Date: 6/3/2009

International Asbestos Testing Laboratories
[struck out] 9000 Commerce Pkwy, Suite B
Mt. Laurel, New Jersey 08054

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: H&W Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Project Name: CUY-90-1524
Project No.: H09004-07

Phone: 440-357-1260
FAX: 440-357-1510

Contact: Joan Sablar
Pager:

Special Instructions: PO# 5149-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

- [ ] PCM: NIOSH 7400
- [ ] PCM: OSHA
- [ ] PCM: Other
- [ ] AAS: NIOSH 7082 (Air)
- [ ] AAS: Lead in Drinking Water
- [ ] AAS: Lead in Paint ASTM D3335-85a
- [ ] AAS: Lead Dust/Wipe
- [ ] AAS: Other Metals / Soil
- [X] PLM: Bulk Asbestos EPA 600
- [ ] PLM: Point Counting 198.1
- [ ] PLM: NOB via 198.1 (PLM only)
- [ ] If<1% by PLM, to TEM via 198.4 to meet NYSDOH requirements** (**call to confirm TAT!)
- [ ] TEM: AHERA
- [ ] TEM: NIOSH 7402
- [ ] TEM: EPA Level II
- [ ] TEM: Microvac / Wipe
- [ ] TEM: Asbestos in Water
- [ ] TEM: Bulk Analysis
- [ ] TEM: NOB 198.4
- [ ] TEM: Other
- [ ] Total Dust: NIOSH 0500

Turnaround Time: FAX: ______ (date / time) Verbals: ______ (date / time)

[ ] 10 Day [ ] 5 Day [X] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH

Preliminary FAX/Verbal Results Requested by:

Sample Numbers: Client #(s): 01 (start) - 14 (end) IATL#(s): (start) - (end) Total:

B 6/2/9

Chain of Custody:

		Date	Time
Relinquished:	[signature]	5-29-09	
Received:			
Sample Log-in:	6/1		
Sample Prep:			
Analyzed:			
QA/QC Review:			

RECEIVED JUN 1 2009 IATL

Archived/Released: QA/QC InterLAB Use: Date: Time:

1 of 3

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H&W Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1510

Project Name: CUY-90-1524
Project No.: H09004-07
Contact: Joan Sablar
Analysis: Bulk PLM

Special Instructions:

[illegible] Sample	[illegible] Sample	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
01	3628455			Epoxy Material		
02	3628456			"		
03	3628457			Epoxy material		
04	3628458			"		
05	3628459			Gasket Material		
06	3628460			"		
07	3628461			Conduit material		
08	3628462			"		
09	3628463			Tar Cellulose Material		
10	3628464			"		

		Date	Time
Relinquished:	[signature]	5-29-09	4pm
Received:			
Sample Log-in:			
Sample Prep:			
Analyzed:			
QA/QC Review:			

Page 2 of 3

B 6/3/9

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: HzW Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1910

Project Name: CUY-90-1524
Project No.: H09004-07
Contact: Joan Sabler
Analysis: Bulk PLM

Special Instructions:

[illegible] Sample #	[illegible]	Color	Type	[illegible]	[illegible]	[illegible]
11	3628465			Conduit Material		
12	3628466			"		
13	3628467			Gasket Material		
14	3628468			"		

6/3/10

Relinquished: JN Date: 5-29-09 Time: 4pm
Received: Date: Time:
Sample Log-in: Date: Time:
Sample Prep: Date: Time:
Analyzed: Date: Time:
QA/QC Review: Date: Time:

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628EW
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628432 Description / Location: Tan Caulk
Client No.: 01

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628433 Description / Location: Tan Caulk
Client No.: 02

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628434 Description / Location: Brown Tar Paper
Client No.: 03

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	40	Cellulose	60

Lab No.: 3628435 Description / Location: Brown Tar Paper
Client No.: 04

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	40	Cellulose	60

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC--Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit
Date: 6/3/2009

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories
9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628EW
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628436 **Description / Location:** Tan Gasket
Client No.: 05

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628437 **Description / Location:** Tan Gasket
Client No.: 06

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628438 **Description / Location:** Grey Gasket
Client No.: 07

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 2.1	Chrysotile	3	Other	PC 94.9

Lab No.: 3628439 **Description / Location:** Grey Gasket
Client No.: 08

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 2.5	Chrysotile	3	Other	PC 94.5

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC–Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit

Date: 6/3/2009

IATL International Asbestos Testing Laboratories
9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628EW
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628440 **Description / Location:** Tan Gasket
Client No.: 08

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628441 **Description / Location:** Tan Gasket
Client No.: 10

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC–Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit

Date: 6/3/2009

International Asbestos Testing Laboratories
~~16000 Horizon Way, Unit 100~~ 9000 Commerce Pkwy, Suite B
Mt. Laurel, New Jersey 08054
Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: H&W Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Project Name: CUY-90-1628EW
Project No.: H0 9004-07

Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Pager:

Special Instructions: PO# 5149-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM: NIOSH 7400	[X] PLM: Bulk Asbestos EPA 600	[ ] TEM: AHERA
[ ] PCM: OSHA	[ ] PLM: Point Counting 198.1	[ ] TEM: NIOSH 7402
[ ] PCM: Other	[ ] PLM: NOB via 198.1 (PLM only)	[ ] TEM: EPA Level II
	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements ** (**call to confirm TAT!)	[ ] TEM: Microvac / Wipe
[ ] AAS: NIOSH 7082 (Air)		[ ] TEM: Asbestos in Water
[ ] AAS: Lead in Drinking Water		[ ] TEM: Bulk Analysis
[ ] AAS: Lead in Paint ASTM D3335-85a		[ ] TEM: NOB 198.4
[ ] AAS: Lead Dust/Wipe		[ ] TEM: Other
[ ] AAS: Other Metals / Soil		[ ] Total Dust: NIOSH 0500

Turnaround Time: FAX: ______ (date / time) Verbals: ______ (date / time)

[ ] 10 Day [ ] 5 Day [X] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH 6/3/09

Preliminary FAX/Verbal Results Requested by:

Sample Numbers: Client #(s): 01 (start) 10 (end) IATL#(s): (start) (end) Total:

Chain of Custody:

		Date	Time
Relinquished:	JW	5-29-09	4pm
Received:			
Sample Log-in:	~~02~~ 6/1		
Sample Prep:			
Analyzed:			
QA/QC Review:			

RECEIVED JUN - 1 2009 IATL By:

Archived/Released: ______ QA/QC InterLAB Use: ______ Date: ______ Time: ______

1 of 2

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054
Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H&W Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1510
Project Name: CUY-90-1628EW
Project No.: H0 9004-07
Contact: Joan Sablar
Analysis: Bulk PLM

Special Instructions:

Consultant Sample #	Lab Sample #			Description		
01	3628432			Epoxy Material		
02	3628433			"		
03	3628434			Tar-Cellulose material		
04	3628435			"		
05	3628436			Gasket Material		
06	3628437			"		
07	3628438			Gasket Material		
08	3628439			"		
09	3628440			Thick Gasket material		
10	3628441					

		Date	Time
Relinquished:	JW	5-29-09	4 pm
Received:			
Sample Log-in:			
Sample Prep:			
Analyzed:			
QA/QC Review:			

Page ____ of ____

2 of 2

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628L
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628415 **Client No.:** 01 **Description / Location:** Tan Non Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628416 **Client No.:** 02 **Description / Location:** Tan Non Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628417 **Client No.:** 03 **Description / Location:** Black Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

Lab No.: 3628418 **Client No.:** 04 **Description / Location:** Black Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit
Date: 6/3/2009

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628L
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628419 **Client No.:** 05 **Description / Location:** Tan Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 2.1	Chrysotile	2	Other	PC 95.9

Lab No.: 3628420 **Client No.:** 06 **Description / Location:** Tan Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628421 **Client No.:** 07 **Description / Location:** Tan Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628422 **Client No.:** 08 **Description / Location:** Tan Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit
Date: 6/3/2009

International Asbestos Testing Laboratories
~~16000 Horizon Way, Unit 100~~ 9000 Commerce Pkwy. Suite B
Mt. Laurel, New Jersey 08054

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: H+W Environmental Consultants
6105 Heisley Rd.
Mentor, oh 44060

Project Name: CUY90-1628 L
Project No.: H09004-07

Phone: 440-357-1260
FAX: 440-357-1510

Contact: Joan Sablar
Pager:

Special Instructions: PO# 5149-09

Type:

Asbestos
- [ ] Air
- [X] Bulk
- [ ] Water
- [ ] Soil
- [ ] Dust
- [ ] Other

Lead
- [ ] Air
- [ ] Bulk
- [ ] Water
- [ ] Soil
- [ ] Paint
- [ ] Other

Other

Analysis Method:

- [ ] PCM: NIOSH 7400
- [ ] PCM: OSHA
- [ ] PCM: Other
- [ ] AAS: NIOSH 7082 (Air)
- [ ] AAS: Lead in Drinking Water
- [ ] AAS: Lead in Paint ASTM D3335-85a
- [ ] AAS: Lead Dust/Wipe
- [ ] AAS: Other Metals / Soil
- [X] PLM: Bulk Asbestos EPA 600
- [ ] PLM: Point Counting 198.1
- [ ] PLM: NOB via 198.1 (PLM only)
- [ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements** (**call to confirm TAT!)
- [ ] TEM: AHERA
- [ ] TEM: NIOSH 7402
- [ ] TEM: EPA Level II
- [ ] TEM: Microvac / Wipe
- [ ] TEM: Asbestos in Water
- [ ] TEM: Bulk Analysis
- [ ] TEM: NOB 198.4
- [ ] TEM: Other
- [ ] Total Dust: NIOSH 0500

Turnaround Time:

FAX: ________ (date / time) Verbals: ________ (date / time)

[ ] 10 Day [ ] 5 Day [X] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH

Preliminary FAX/Verbal Results Requested by:

Sample Numbers:

Client #(s): 01 (start) - 08 (end) IATL#(s): (start) (end) Total: 8

6/2/09

Chain of Custody:

Relinquished:	jw	Date:	5-28-09	Time:	4
Received:		Date:		Time:	
Sample Log-in:	AB 6/1	Date:		Time:	
Sample Prep:		Date:		Time:	
Analyzed:		Date:		Time:	
QA/QC Review:		Date:		Time:	

Archived/Released: ______ QA/QC InterLAB Use: ______ Date: ______ Time: ______

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International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H+W Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060

Project Name: CUY-90-1628L
Project No.: H09004-07

Phone: 440-357-1260
FAX: 440-357-1510

Contact: Joan Sablar
Analysis: Bulk PLM

Special Instructions:

Consultant Sample #	IATL # Sample	Color	Type	[illegible]	[illegible]	[illegible]	Notes
01	3628415			Epoxy Material			
02	3628416			〃			
03	3628417			Tar cellulose material			
04	3628418			〃			
05	3628419			Gasket Material			
06	3628420			〃			
07	3628421			Gasket Material			
08	3628422			〃			

6/2/09

Relinquished:	jw	Date:	5-29-09	Time:	4pm
Received:		Date:		Time:	
Sample Log-in:		Date:		Time:	
Sample Prep:		Date:		Time:	
Analyzed:		Date:		Time:	
QA/QC Review:		Date:		Time:	

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628407 **Client No.:** 01 **Description / Location:** Tan Non Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628408 **Client No.:** 02 **Description / Location:** Tan Non Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628409 **Client No.:** 03 **Description / Location:** Brown Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

Lab No.: 3628410 **Client No.:** 04 **Description / Location:** Brown Tar Paper

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	50

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Faulseit

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

Date: 6/3/2009

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/4/2009
Project: CUY-90-1628R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3628411 **Client No.:** 05 **Description / Location:** Brown Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628412 **Client No.:** 06 **Description / Location:** Brown Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3628413 **Client No.:** 07 **Description / Location:** Grey Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 2.5	Chrysotile	3	Other	PC 94.5

Lab No.: 3628414 **Client No.:** 08 **Description / Location:** Grey Gasket

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 2.1	Chrysotile	3	Other	PC 94.9

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

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Analysis Performed By: B. Faulseit

Date: 6/3/2009

International Asbestos Testing Laboratories
9000 Commerce Pkwy, Suite B
Mt. Laurel, New Jersey 08054
Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: H&W Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Project Name: CUY-90-1628 R
Project No.: H09004-07

Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Pager:

Special Instructions: PO# 5149-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM : NIOSH 7400	[X] PLM : Bulk Asbestos EPA 600	[ ] TEM : AHERA
[ ] PCM : OSHA	[ ] PLM : Point Counting 198.1	[ ] TEM : NIOSH 7402
[ ] PCM : Other ______	[ ] PLM : NOB via 198.1 (PLM only)	[ ] TEM : EPA Level II
[ ] AAS : NIOSH 7082 (Air)	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements **	[ ] TEM : Microvac / Wipe
[ ] AAS : Lead in Drinking Water	(**call to confirm TAT!)	[ ] TEM : Asbestos in Water
[ ] AAS : Lead in Paint ASTM D3335-85a		[ ] TEM : Bulk Analysis
[ ] AAS : Lead Dust/Wipe		[ ] TEM : NOB 198.4
[ ] AAS : Other Metals / Soil ______		[ ] TEM : Other ______
		[ ] Total Dust : NIOSH 0500

Turnaround Time: FAX: ______ (date / time) Verbals: ______ (date / time)

[ ] 10 Day [ ] 5 Day [X] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH

Preliminary FAX/Verbal Results Requested by: ______

Sample Numbers: Client #(s): 01 (start) - 08 (end) IATL #(s): ______ (start) - ______ (end) Total: 6/3/09

Chain of Custody:

Relinquished:	[illegible signature]	Date:	5-29-09	Time:	4pm
Received:		Date:		Time:	
Sample Log-in:	AB 6/1	Date:		Time:	
Sample Prep:		Date:		Time:	
Analyzed:		Date:		Time:	
QA/QC Review:		Date:		Time:	

Archived/Released: ______ QA/QC InterLAB Use: ______ Date: ______ Time: ______

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International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054
Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H&W Environmental Consultants LLC
6105 Heisley Rd
Mentor OH 44060
Phone: 440-357-1260
FAX: 440-357-1510

Project Name: CUY-90-1628 R
Project No.: H09004-07
Contact: Joan Sablar
Analysis: Bulk PLM

Special Instructions:

Consultant Sample	IATL Sample	Color	[illegible]	[illegible]	[illegible]	Photo	[illegible]
01	3628407			Epoxy Material			
02	3628408			"			
03	3628409			Tar Cellulose Material			
04	3628410			"			
05	3628411			Gasket Material			
06	3628412			"			
07	3628413			Gasket Material			
08	3628414			"			

6/3/09

Relinquished:	[illegible signature]	Date:	5-29-09	Time:	4pm
Received:		Date:		Time:	
Sample Log-in:		Date:		Time:	
Sample Prep:		Date:		Time:	
Analyzed:		Date:		Time:	
QA/QC Review:		Date:		Time:	

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/2/2009
Project: CUY-90-1640
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3625285 **Client No.:** 01 **Description / Location:** Tan Non Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625286 **Client No.:** 02 **Description / Location:** Tan Non Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625287 **Client No.:** 03 **Description / Location:** Black/Grey Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	30	Cellulose	70

Lab No.: 3625288 **Client No.:** 04 **Description / Location:** Black/Grey Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	30	Cellulose	70

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Performed By: E. Smith

Approved By:

Date: 6/2/2009

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/2/2009
Project: CUY-90-1640
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3625289 **Client No.:** 05 **Description / Location:** Tan Non Fibrous Expansion Joint

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625290 **Client No.:** 06 **Description / Location:** Tan Non Fibrous Expansion Joint

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 6/2/2009

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	HZW Environmental Consultants 6105 Heisley Rd. Mentor OH 44060	**Report Date:** **Project:** **Project No.:**	6/12/2009 CUY-90-1640 H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3641001
Client No.: 07
Description / Location: Grey Gasket Under Old Railings

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 3.9	Chrysotile	None Detected	None Detected	PC 96.1

Lab No.: 3641002
Client No.: 08
Description / Location: Grey Gasket Under Old Railings

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 3.7	Chrysotile	None Detected	None Detected	PC 96.3

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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This report shall not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC–Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello **Approved By:** ____________

Frank E. Ehrenfeld, III
Laboratory Director

Date: 6/12/2009

International Asbestos Testing Laboratories
9000 Commerce Pkwy. Suite B
Mt. Laurel, New Jersey 08054
Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060
Project Name: CUY-90-1640
Project No.: H09004-07
Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Pager:
Special Instructions: PO# 5149-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	______
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	______
[ ] Water	[ ] Other	[ ] Water	[ ] Other	______

Analysis Method:

[ ] PCM: NIOSH 7400	[X] PLM: Bulk Asbestos EPA 600	[ ] TEM: AHERA
[ ] PCM: OSHA	[ ] PLM: Point Counting 198.1	[ ] TEM: NIOSH 7402
[ ] PCM: Other______	[ ] PLM: NOB via 198.1 (PLM only)	[ ] TEM: EPA Level II
	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements**	[ ] TEM: Microvac/Wipe
[ ] AAS: NIOSH 7082 (Air)	(**call to confirm TAT!)	[ ] TEM: Asbestos in Water
[ ] AAS: Lead in Drinking Water		[ ] TEM: Bulk Analysis
[ ] AAS: Lead in Paint ASTM D3335-85a		[ ] TEM: NOB 198.4
[ ] AAS: Lead Dust/Wipe		[ ] TEM: Other______
[ ] AAS: Other Metals / Soil______		[ ] Total Dust: NIOSH 0500

Turnaround Time: **FAX:** ______ (date / time) **Verbals:** ______ (date / time)

[ ] 10 Day [ ] 5 Day [X] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH
Preliminary FAX/Verbal Results Requested by: ______

Sample Numbers: Client #(s): 01 (start) - 06 (end) IATL #(s): ______ (start) - ______ (end) Total: ______

Chain of Custody:

Relinquished:		Date: 5-27-09	Time:
Received:		Date:	Time:
Sample Log-in:		Date:	Time:
Sample Prep:		Date:	Time:
Analyzed:		Date: 7/28/9	Time:
QA/QC Review:		Date:	Time:

RECEIVED MAY 28 2009

Archived/Released: ______ QA/QC InterLAB Use: ______ Date: ______ Time: ______

1 of 2

JUN. 2. 2009 11:53AM NO. 6616 P. 9

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054
Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H&W Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1510
Project Name: CUY-90-1640
Project No.: H09004-07
Contact: Joan Sablar
Analysis: Bulk PLM
Special Instructions:

Consultant Sample	IATL Sample	Color	Friable	Location	Type	Notes
01	3625285			Epoxy Material		
02	3625286			"		
03	3625287			Tar Cellulose Material		
04	3625288			"		
05	3625289			Expansion joint material		
06	3625290			"		

Relinquished:	JW	Date:	5-27-09	Time:	4pm
Received:		Date:		Time:	
Sample Log-in:		Date:		Time:	
Sample Prep:		Date:		Time:	
Analyzed:		Date:		Time:	
QA/QC Review:		Date:		Time:	

Page 2 of 2

JUN. 12. 2009 3:37PM NO. 7990 P. 11

International Asbestos Testing Laboratories
~~16000 Horizon Way, Unit 100~~ 9000 Commerce Pkwy, Suite B
Mt. Laurel, New Jersey 08054
Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: H&W Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1510
Special Instructions: PO# 5162-09
Project Name: CUY-90-1640
Project No.: H09004-07
Contact: Joan Sablar
Pager:

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM: NIOSH 7400	[X] PLM: Bulk Asbestos EPA 600	[ ] TEM: AHERA
[ ] PCM: OSHA	[ ] PLM: Point Counting 198.1	[ ] TEM: NIOSH 7402
[ ] PCM: Other	[ ] PLM: NOB via 198.1 (PLM only)	[ ] TEM: EPA Level II
	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements ** (**call to confirm TAT!)	[ ] TEM: Microvac/Wipe
[ ] AAS: NIOSH 7082 (Air)		[ ] TEM: Asbestos in Water
[ ] AAS: Lead in Drinking Water		[ ] TEM: Bulk Analysis
[ ] AAS: Lead in Paint ASTM D3335-85a		[ ] TEM: NOB 198.4
[ ] AAS: Lead Dust/Wipe		[ ] TEM: Other
[ ] AAS: Other Metals / Soil		[ ] Total Dust: NIOSH 0500

Turnaround Time: FAX: (date / time) Verbals: (date / time)

[ ] 10 Day [ ] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [X] RUSH
Preliminary FAX/Verbal Results Requested by:

Sample Numbers: Client #(s): 07 (start) - 08 (end) IATL#(s): (start) - (end) Total:

Chain of Custody:

Relinquished:	JW	Date:	6-11-09	Time:	4pm
Received:		Date:		Time:	
Sample Log-in:	[illegible]	Date:		Time:	
Sample Prep:		Date:		Time:	
Analyzed:	LS	Date:	6/12/09	Time:	
QA/QC Review:		Date:		Time:	

Archived/Released: QA/QC InterLAB Use: Date: Time:

RECEIVED JUN 12 2009 IATL - BY

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt Laurel, NJ 08054

Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: HzW Environmental Consultants LLC
6105 Heisley Rd
Mentor, OH 44060
Phone: 440-357-1260
FAX: 440-357-1910

Project Name: CUY-90-1640
Project No.: H09004-07
Contact: Jim Sablar
Analysis: Bulk PLM

Special Instructions:

[illegible] Sample #	[illegible] Sample #	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
07	3641001			Gasket Material under old railings		
08	3641002			"		

Relinquished: [illegible] Date: 6-11-09 Time: 4 pm
Received: Date: Time:
Sample Log-in: Date: Time:
Sample Prep: Date: Time:
Analyzed: CS Date: 6/12/09 Time:
QA/QC Review: Date: Time:

IATL International Asbestos Testing Laboratories
9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/2/2009
Project: CUY-90-1651L & R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3625250 Description / Location: Tan Non Fibrous
Client No.: 01

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625251 Description / Location: Tan Non Fibrous
Client No.: 02

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625252 Description / Location: Black Fibrous
Client No.: 03

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	45	Cellulose	55

Lab No.: 3625253 Description / Location: Black Fibrous
Client No.: 04

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	45	Cellulose	55

NIST-NVLAP No. 101165-0 NY-DOH No. 11021 AIHA Lab No. 100188

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 6/2/2009

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories
9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/2/2009
Project: CUY-90-1651L & R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3625254 **Client No.:** 05
Description / Location: Tan Non Fibrous Expansion Joint

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625255 **Client No.:** 06
Description / Location: Tan Non Fibrous Expansion Joint

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3625256 **Client No.:** 07
Description / Location: Black Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	45	Cellulose	35

Lab No.: 3625257 **Client No.:** 08
Description / Location: Black Fibrous

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	45	Cellulose	35

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 6/2/2009

IATL International Asbestos Testing Laboratories
9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: HZW Environmental Consultants
6105 Heisley Rd.
Mentor OH 44060

Report Date: 6/12/2009
Project: CUY-90-1651 L+R
Project No.: H09004-07

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3641003 **Client No.:** 09
Description / Location: Tan/Grey Gasket Under Old Railings

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 3.1	Chrysotile	None Detected	None Detected	PC 96.9

Lab No.: 3641004 **Client No.:** 10
Description / Location: Grey Gasket Under Old Railings

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 3.4	Chrysotile	None Detected	None Detected	PC 96.6

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

Date: 6/12/2009

International Asbestos Testing Laboratories
~~16000 Horizon Way, Unit 100~~ 9000 Commerce Pkwy. Suite B
Mt. Laurel, New Jersey 08054
Tel. 856 231-9449
Fax 856 231-9818

Chain of Custody

Client: H2W Environmental Consultants
6105 Heisley Rd.
Mentor, oh 44060

Project Name: CUY-90-1651 L+R
Project No.: H09004-07

Phone: 440-357-1260
FAX: 440-357-1510

Contact: Joan Sablar
Pager:

Special Instructions: PO# 5149-09

Type:

Asbestos		Lead		Other
[ ] Air	[ ] Soil	[ ] Air	[ ] Soil	
[X] Bulk	[ ] Dust	[ ] Bulk	[ ] Paint	
[ ] Water	[ ] Other	[ ] Water	[ ] Other	

Analysis Method:

[ ] PCM : NIOSH 7400	[X] PLM : Bulk Asbestos EPA 600	[ ] TEM : AHERA
[ ] PCM : OSHA	[ ] PLM : Point Counting 198.1	[ ] TEM : NIOSH 7402
[ ] PCM : Other	[ ] PLM : NOB via 198.1 (PLM only)	[ ] TEM : EPA Level II
[ ] AAS : NIOSH 7082 (Air)	[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements ** (**call to confirm TAT!)	[ ] TEM : Microvac / Wipe
[ ] AAS : Lead in Drinking Water		[ ] TEM : Asbestos in Water
[ ] AAS : Lead in Paint ASTM D3335-85a		[ ] TEM : Bulk Analysis
[ ] AAS : Lead Dust/Wipe		[ ] TEM : NOB 198.4
[ ] AAS : Other Metals / Soil		[ ] TEM : Other
		[ ] Total Dust : NIOSH 0500

Turnaround Time: FAX: ________ (date / time) Verbals: ________ (date / time)

[ ] 10 Day [ ] 5 Day [X] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [ ] RUSH
Preliminary FAX/Verbal Results Requested by:

Sample Numbers: Client #(s): 01 (start) - 08 (end) IATL#(s): ____ (start) - ____ (end) Total:

Chain of Custody:

		Date:		Time:
Relinquished:	jw	Date:	5-27-09	Time:
Received:		Date:		Time:
Sample Log-in:	5/28/09	Date:		Time:
Sample Prep:		Date:		Time:
Analyzed:	E. Smith	Date:	6/1/09	Time:
QA/QC Review:		Date:		Time:

RECEIVED MAY 28 2009

Archived/Released: ________ QA/QC InterLAB Use: ________ Date: ____ Time: ____

1 of 2

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054
Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: H2W Environmental Consultants LLC
6105 Heisley Rd
Mentor OH 44060

Project Name: CUY-90-1651 L+R
Project No.: H09004-07

Phone: 440-357-1260
FAX: 440-357-1510

Contact: Joan Sablar
Analysis: Bulk PLM

Special Instructions:

Consultant Sample #	IATL Sample #	Color	Type	Location	Date	Notes
01	3625250			Epoxy Material		
02	3625251			"		
03	3625252			~~Tar Cellulose Material~~		
04	3625253			"		
05	3625254			Expansion joint Material		
06	3625255			"		
07	3625256			Tar Cellulose Material		
08	3625257			"		

		Date:	Time:
Relinquished:	jw	Date:	Time:
Received:		Date:	Time:
Sample Log-in:		Date:	Time:
Sample Prep:		Date:	Time:
Analyzed:		Date:	Time:
QA/QC Review:		Date:	Time:

Page 2 of 2

International Asbestos Testing Laboratories
9000 Commerce Pkwy. Suite B
Mt. Laurel, New Jersey 08054
Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: HzW Environmental Consultants, 6105 Heisley Rd., Mentor, oh. 44060
Project Name: CUY-90-1651 L+R
Project No.: H09004-07
Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Pager:
Special Instructions: PO# 5162-09

Type:

Asbestos: [ ] Air [X] Bulk [ ] Water [ ] Soil [ ] Dust [ ] Other
Lead: [ ] Air [ ] Bulk [ ] Water [ ] Soil [ ] Paint [ ] Other
Other: ______

Analysis Method:

[ ] PCM: NIOSH 7400
[ ] PCM: OSHA
[ ] PCM: Other ______
[ ] AAS: NIOSH 7082 (Air)
[ ] AAS: Lead in Drinking Water
[ ] AAS: Lead in Paint ASTM D3335-85a
[ ] AAS: Lead Dust/Wipe
[ ] AAS: Other Metals / Soil ______
[X] PLM: Bulk Asbestos EPA 600
[ ] PLM: Point Counting 198.1
[ ] PLM: NOB via 198.1 (PLM only)
[ ] If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements ** (**call to confirm TAT!)
[ ] TEM: AHERA
[ ] TEM: NIOSH 7402
[ ] TEM: EPA Level II
[ ] TEM: Microvac/Wipe
[ ] TEM: Asbestos in Water
[ ] TEM: Bulk Analysis
[ ] TEM: NOB 198.4
[ ] TEM: Other ______
[ ] Total Dust: NIOSH 0500

Turnaround Time:

FAX: ______ (date / time) Verbals: ______ (date / time)

[ ] 10 Day [ ] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] 6 hour [X] RUSH

Preliminary FAX/Verbal Results Requested by: ______

Sample Numbers:

Client #(s): 09 (start) - 10 (end) IATL#(s): ______ (start) - ______ (end) Total: ___

Chain of Custody:

		Date	Time
Relinquished:	[signature]	6-11-09	4pm
Received:			
Sample Log-in:	[signature]		
Sample Prep:			
Analyzed:	[initials]	6/12/09	
QA/QC Review:			

JUN 12 2009

Archived/Released: ______ QA/QC InterLAB Use: ______ Date: ______ Time: ______

International Asbestos Testing Laboratories
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054
Tel 856 231-9449
Fax 856 231-9818
info@iatl.com

Bulk Material Sampling Log

Client: HzW Environmental Consultants LLC, 6105 Heisley Rd, Mentor, OH 44060
Project Name: CUY-90-1651 L+R
Project No.: H09004-07
Phone: 440-357-1260
FAX: 440-357-1510
Contact: Joan Sablar
Analysis: Bulk PLM
Special Instructions:

Consultant Sample #	IATL Sample #	Color	Layer	Description		
09	3641003			Gasket Material under old railings		
10	3641004			"		

		Date	Time
Relinquished:	[signature]	6-11-09	4pm
Received:			
Sample Log-in:			
Sample Prep:			
Analyzed:	[initials]	6/12/09	
QA/QC Review:			

ATTACHMENT 3

OHIO ENVIRONMENTAL PROTECTION AGENCY'S "NOTIFICATION OF DEMOLITION AND RENOVATION" FORMS

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)

Building Name: *CUY-90-1463R I-90 Ramp WN Bridge under I-71 Mainline Bridge (SFN 1809148)*

Address: *CUY-90-1463R I-90 Ramp WN Bridge under I-71 Mainline Bridge*

City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*

Site Location (specific): *CUY-90-1463R I-90 Ramp WN Bridge under I-71 Mainline Bridge*

Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*

Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: *Ohio Department of Transportation*

Address: *5500 Transportation Boulevard*

City: *Garfield Heights* State: *Ohio* Zip Code: *44125*

Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:

Removal Contractor Name: License #

Address:

City: State: Zip Code:

Contact: Telephone: Fax:

Other Operator (demolition/general): License #

Address:

City: State: Zip Code:

Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)					
Surface Area (square feet)		*314*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1490L I-90 West Bound Bridge over Starkweather Avenue (SFN 1809342)*
Address: *CUY-90-1490L I-90 West Bound Bridge over Starkweather Avenue*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1490L I-90 West Bound Bridge over Starkweather Avenue*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)					
Surface Area (square feet)		*118*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1490R I-90 East Bound Bridge over Starkweather Avenue (SFN 1807625)*
Address: *CUY-90-1490R I-90 East Bound Bridge over Starkweather Avenue*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1490R I-90 East Bound Bridge over Starkweather Avenue*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthwe Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)					
Surface Area (square feet)		*547*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1

Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2

Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal

Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)

1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)

1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.

Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)

Building Name: *CUY-90-1506 I-90 East and West Bound Bridge over Kenilworth Avenue (SFN 1807684)*
Address: *CUY-90-1506 I-90 East and West Bound Bridge over Kenilworth Avenue*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1506 I-90 East and West Bound Bridge over Kenilworth Avenue*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:

Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* *33228*
Name Certification #

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)					
Surface Area (square feet)		*658*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-15.24 I-90 Interbelt Bridge over Cuyahoga River (SFN 1809393)*
Address: *CUY-90-15.24 I-90 Interbelt Bridge over Cuyahoga River*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-15.24 I-90 Interbelt Bridge over Cuyahoga River*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*4250*				
Surface Area (square feet)		*1350*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator | Date | Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator | Date | Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1628EW I-90 Center Bridge over East 9th Street (SFN 1807552)*
Address: *CUY-90-1628EW I-90 Center Bridge over East 9th Street*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1628EW I-90 Center Bridge over East 9th Street*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-581-2333* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*494*				
Surface Area (square feet)		*53*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1628EW I-90 Center Bridge over East 9th Street (SFN 1807552)*
Address: *CUY-90-1628EW I-90 Center Bridge over East 9th Street*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1628EW I-90 Center Bridge over East 9th Street*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-581-2333* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	494				
Surface Area (square feet)		53			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator — Date — Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator — Date — Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90- 1628L I-90 Northern Most Bridge over East 9th Street (SFN 1807498)*
Address: *CUY-90- 1628L I-90 Northern Most Bridge over East 9th Street*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90- 1628L I-90 Northern Most Bridge over East 9th Street*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-581-2333* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*494*				
Surface Area (square feet)		*62*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1628R I-90 Southern Most Bridge over East 9th Street (SFN 1807714)*
Address: *CUY-90-1628R I-90 Southern Most Bridge over East 9th Street*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1628R I-90 Southern Most Bridge over East 9th Street*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*494*				
Surface Area (square feet)		*56*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1640 I-90 Bridge over Ramp E-10 and Ramp E-8 (SFN 1807773)*
Address: *CUY-90-1640 I-90 Bridge over Ramp E-10 and Ramp E-8*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1640 I-90 Bridge over Ramp E-10 and Ramp E-8*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* *33228*
Name Certification #

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*1770*				
Surface Area (square feet)		*95*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

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Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1651L I-90 West Bound Bridge over East 14th Street (SFN 1807900)*
Address: *CUY-90-1651L I-90 West Bound Bridge over East 14th Street*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1651L I-90 West Bound Bridge over East 14th Street*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*1538*				
Surface Area (square feet)		*80*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except, demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

Waste Transporter #2
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIII. Waste Disposal
Name:
Address:
City: State: Zip code:
Contact Person: Telephone: Fax:

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)
1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin:

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)
1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.
Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number and floor or room number)
Building Name: *CUY-90-1651R I-90 East Bound Bridge over East 14th Street (SFN 1807803)*
Address: *CUY-90-1651R I-90 East Bound Bridge over East 14th Street*
City: *Independence* State: *OHIO* Zip Code: County: *Cuyahoga*
Site Location (specific): *CUY-90-1651R I-90 East Bound Bridge over East 14th Street*
Building Size (square feet): *NA* # of Floors: *NA* Age in Years: *40*
Present Use: *Bridge* Prior Use: *Bridge*

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☒ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information
Owner Name: *Ohio Department of Transportation*
Address: *5500 Transportation Boulevard*
City: *Garfield Heights* State: *Ohio* Zip Code: *44125*
Contact: *Mr. Mark Alan Carpenter* Telephone: *216-584-2089* Fax:
Removal Contractor Name: License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:
Other Operator (demolition/general): License #
Address:
City: State: Zip Code:
Contact: Telephone: Fax:

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:

NESHAP Inspection Procedure

Ohio Asbestos Hazard Evaluation Specialist: *Matthew Fergus* (Name) *33228* (Certification #)

VII. Approximate Amount of Asbestos Materials:

	RACM to Be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	*1538*				
Surface Area (square feet)		*80*			
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: Complete:

IX. Dates for Asbestos Removal (MM/DD/YY) Start: Complete:

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except: demolitions which involve less than 260 linear feet, 160 square feet or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolitions or Emergency Renovations must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1

Name: ____________________
Address: ____________________
City: ____________ State: ________ Zip code: ____________
Contact Person: ____________ Telephone: ____________ Fax: ____________

Waste Transporter #2

Name: ____________________
Address: ____________________
City: ____________ State: ________ Zip code: ____________
Contact Person: ____________ Telephone: ____________ Fax: ____________

XIII. Waste Disposal

Name: ____________________
Address: ____________________
City: ____________ State: ________ Zip code: ____________
Contact Person: ____________ Telephone: ____________ Fax: ____________

XIV. Emergency Demolition: (complete Item XIV and all other sections, only if this project is an Emergency Demolition)

1. Attach a copy of the Order to this notice.
2. Name of the Authority Issuing Order: ____________ Title: ____________
3. Authority of Order (Citation of Code): ____________
4. Date of Order (MM/DD/YY): ____________ Date Ordered to Begin: ____________

XV. Emergency Renovation: (Attach separate sheet with the following information if project is Emergency Renovation)

1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event.
3. Explanation of how event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.

Determine if it is regulated under NESHAP, make proper notification if required, and take the appropriate actions. Contain the material and saturate with surfactant then take the appropriate actions.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

____________________ ________ ____________________
Signature of Owner/Operator Date Type or Print Name and Title

XVIII. I acknowledge the existance of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate and complete.

____________________ ________ ____________________
Signature of Owner/Operator Date Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 11/12/97)

INFORMATION FOR EXCEPTION TO THE MINIMUM DESIGN STANDARDS
(To provide for the safe and efficient management of I-90 traffic across the existing Innerbelt Bridge until completion of the new I-90 westbound bridge, expected in September 2013)

PROJECT: CUY-90-15.24

PID No. 82069 [also reference PID 83680, 77510]

FEDERAL PROJECT NUMBER: E080(255) [also reference E080(170)]

FUNCTIONAL CLASSIFICATION: INTERSTATE (URBAN)

EXISTING FACILITY (Project Background)

Included in the long term plan for the Cleveland Innerbelt is the replacement of the existing Innerbelt Bridge, also known as the Central Viaduct, with two separate structures (one in the eastbound direction and one westbound). Please reference the Final Environmental Impact Statement (FEIS), as approved by Federal Highway Administration (FHWA) on July 22, 2009, for details on the Innerbelt Corridor Plan (signature page included as Attachment A). In the interim, the Ohio Department Of Transportation (ODOT) intends to perform the necessary maintenance and repairs to keep the existing Innerbelt Bridge in service until the completion of the new I-90 westbound bridge expected in September of 2013, at which time the existing bridge will be removed from service. The Inter-Office Communication (IOC) from Tim Keller to Bonita G. Teeuwen dated July 8, 2009, is included as Attachment B and provides an overview of ODOT's current plan for keeping the existing I-90 Innerbelt Bridge in service until completion of the new westbound bridge. The project for which this design exception is prepared, (CUY-90-15.24, pid 82069) is one of the interim projects referenced in attachment B. Please note that further analysis and design in the development of project 82069 completed after the issuance of attachment B, resulted in modifications to the stated course of action. In particular, the bridge will still be subjected to truck restrictions in the eastbound direction as further described in this document.

After detailed analysis of the members and connections of the Innerbelt Bridge's main structure, it was determined that the widening segment near the West 14th Street on ramp to I-90 east had to be removed in order to optimize the traffic carrying capacity of the bridge (see IOC from Michael J. Kubek to Bonita G. Teeuwen dated June 16, 2009, Attachment C). Removal of the widening segment will result in reduced bridge width for that section of I-90 eastbound. The design team evaluated several alternatives to best maintain traffic from the time the widening segment is removed (expected in November 2009) until the bridge is removed from service (expected in the year 2013). The selection of alternative 1 as the preferred alternative is detailed in the IOC from Michael J. Kubek to Bonita G. Teeuwen, dated July 29, 2009 (Attachment D). The design of the preferred alternative is an interim condition intended to mitigate the effects of the structural need for keeping the existing bridge in service for a limited time period. This design exception has been prepared in order to formally document the engineering decisions used to develop the plan for best serving the public's need for traffic and access in this section of I-90 under the current conditions. This document addresses the design criteria that will be modified from the condition that existed prior to the lane restrictions put in place in October 2008 (aka pre-lane reduction).

EXISTING FACILITY

Bridge CUY-90-15.24 carries Interstate Route 90 over the Cuyahoga River valley in the City of Cleveland, Cuyahoga County, Ohio. The existing legal speed is 50 mph.

Interstate Route 90 is an Urban Interstate. The current Average Daily Traffic (ADT) is 132,090 (2007) with 8% trucks.

Within the project limits IR 90 consists of four eastbound and four westbound lanes, 12ft. in width. The exiting median shoulder width is 2'-9" and the right shoulder width is 2'0". However, several restrictions were implemented in October 2008 to address structural capacity concerns. Currently only three lanes in each direction are open to traffic, truck traffic across the bridge is prohibited, and the eastbound entrance ramp from W. 14th St. is closed to all traffic.

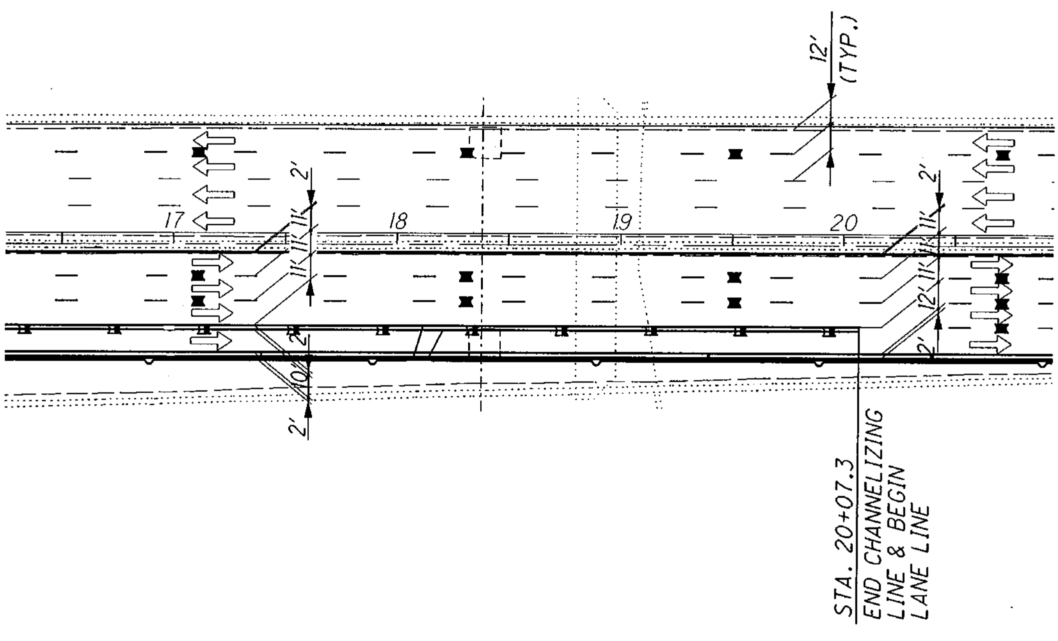
PROPOSED FACILITY

The proposed project will remove the widening segment that was added in the early 1980's for the West 14th St. entrance ramp to IR 90 eastbound and will include structural steel repairs to bridge members that would allow all lanes of traffic to be to be opened on the bridge.

On I-90 westbound, four lanes of traffic will be permitted across the bridge. Truck traffic will again be permitted in the westbound direction once steel repairs are complete and analysis confirms adequate structural capacity. The traffic will return to the lane configuration that existed prior to the lane closure restriction. This configuration will consist of 4-12 ft. lanes, a 2'-9" median shoulder and a 2'-0" right shoulder.

Alternative 1 was selected for the eastbound direction, as defined in Attachment D. Approaching the bridge eastbound, IR 90 will be reduced from four lanes to three lanes, with one lane of the two lane IR 90 eastbound ramp in the IR 90/IR 71/IR 490 interchange being closed. The open lane will join the two existing lanes from northbound IR 71 providing the three lanes for approximately 2075 ft. until the West 14th St. entrance ramp enters as an add lane on the bridge, resulting in four lanes permitted across the bridge.

To improve traffic operations eastbound, truck traffic across the bridge and from the West 14th St. ramp will still be prohibited, regardless of structural capacity (see attachment D). In order to best manage safety and traffic operations within the 49ft remaining in the eastbound direction, alternate 1B from attachment D was selected, with minor modifications to the ramp width and channel width. The lane configuration where the ramp from West 14th St. is added from Sta. 16+13 to Sta. 23+15 will consist of a 2'-0" median shoulder, 3-11 ft. thru lanes, a 2 ft. channelizing strip separating the through lanes from the ramp, a 10 ft. ramp lane, and a 2'-0" right shoulder. Preference was given to the channel width between the through lane and on ramp add lane by increasing the distance from 1' (as defined in alternate 1B) to 2' in order to better define the lane assignments using 8" channel lines separated by raised pavement markers. The on ramp lane width was reduced from 11ft (as defined in alternate B) to 10ft. The benefit of the wider, more defined channel between the lanes exceeds the effect of the narrower lane width for the on ramp. The lane and shoulder configuration will return to the configuration outlined in the Existing Facility after Sta. 23+15 and continue at these widths across the remainder of the bridge.



CONTROLLING CRITERIA

Lane Width __X_ (Mainline & Ramp)	Grades _____
Shoulder Width __X___	Stopping Sight Distance _____
Bridge Width __X___	Cross Slopes _____
Structural Capacity _____	Superelevation _____
Horizontal Alignment _____ (Degree of Curve)	Horizontal Clearance _____
Vertical Alignment _____	Vertical Clearance _____

DETAILED ANALYSIS

A. Description of Deviation

According to the ODOT Location and Design Manual, Volume One, Figure 301-4, Urban Roadway Criteria Lane & Shoulder Widths, the minimum width of an Interstate lane is 12 ft. The 3-11 ft. lanes on IR 90 will deviate from the normal design criteria. In addition, Figure 303-1, Interchange Elements – Pavements, Shoulders and Medians, the minimum width of a ramp lane is 16 ft. The 10 ft. lane on the West 14th St. entrance ramp will deviate from the normal design criteria.

Within the widening segment removal section the width of both the median shoulder and right shoulder will be 2 ft. The 2 ft. wide shoulders will deviate from the normal design criteria. The normal design criteria, from the ODOT Location and Design Manual, Volume One, Figure 302-2, Criteria for Existing Interstate and Other Freeway Bridges to Remain, for a bridge on an Urban Interstate and greater than 200 ft. in length is 3.5 ft.

The proposed width of the bridge from toe/toe of the parapets, within the widening segment removal, is 49 ft. This does not meet the normal design criteria as shown in the ODOT Location and Design Manual, Volume One, Figure 302-2, Criteria for Existing Interstate and Other Freeway Bridges to Remain. The minimum lateral clearance for an Urban Interstate is 3.5 ft. for both left and right sides. The minimum bridge width required to meet the normal design criteria would be 55 ft., toe/toe of parapets.

B. Accident Data

Accident data was generated and reviewed from January 1, 2006, through July 16, 2009, for SLM 13.00 through SLM 14.90. This section encompasses IR 90 eastbound approaching the lane reduction, through the lane reduction and within the three lane section approaching the bridge. The time frame incorporates the changing of the traffic pattern to the current condition with 3 lanes in each direction with no trucks (Restrictions on lanes and trucks were implemented in October 2008). There were 421 accidents from SLM 13.00 to 14.90 in the eastbound direction within the time period reviewed and the majority are rear-end accidents (54.2%) followed by sideswipe-passing (25%) which can be expected in this heavily congested urban area.

There are 3 hours during the day (7-8 AM, 8-9 AM and 5-6 PM) that 49% of the accidents occur (20.2%, 18.1%, and 10.5% respectively) which is as expected as well. These accidents occur during the peak in traffic volume.

The amount of crashes has been relatively consistent throughout the period as shown in the following chart:

Year	Number
2006	116
2007	125
2008	120
2009 (1/2 year)	60
2009 (projected)	120

Projecting the 2009 accidents for the entire year shows that the totals are very similar for all 4 years at approximately 120. This shows that the accident rate hasn't varied significantly between the original lane configurations (4 through lanes) and the current configuration (3 through lanes, since October 2008). Implementing the 3 lane configuration did not cause the accident rate to increase, so projecting forward would indicate that the accident rate would be similar for this proposed improvement as well until the bridge is completely replaced.

C. Future Traffic Safety

By limiting IR 90 to three lanes approaching the bridge, the West 14th St. eastbound entrance ramp now will enter as an add lane on the bridge. This will provide enough length for vehicles to accelerate to normal highway speeds without having to merge into traffic. The merge of traffic entering from West 14th as an add lane is an expected improvement over the pre-lane reduction merge condition. The future traffic safety is not expected to degrade as a result of this project.

The add lane from the re-opened West 14th St. ramp will end more than 2500 ft. in advance of the Broadway Ave. exit ramp. The Highway Capacity manual recommends analysis of the effects of a weave condition if the distance between the on ramp and exit ramp is less than 2500 feet. Therefore, the change in condition from the West 14th street on ramp as a merge to the proposed condition of an add lane is not expected to create a weave condition that would reduce the capacity of the basic freeway segment across the bridge.

D. Impact on Adjacent Property

ODOT has developed a plan to meet current design standards for the I-90 Innerbelt Bridge as detailed in the FEIS referenced in attachment A. This particular section of I-90 that encompasses the Innerbelt Bridge will be addressed by two projects. The first is construction of a westbound bridge expected from 2010-2013 for approximately $450M, followed by a new eastbound bridge from 2013-2015 for approximately $400M. In the interim, ODOT will take the appropriate action to meet the public need in a safe and efficient manner until the above mentioned projects address the ultimate need of the corridor.

As outlined in the "Maintenance of Traffic – Widening Girder Removal" IOC, dated 07/29/09 (Attachment D), by closing one lane of IR-90 "The additional volume generated by either the West 14th Street on ramp or the additional lane on I-90 during the peak hour would be essentially the same (approximately 700vph) in either mutually exclusive scenario. Therefore, the advantage in terms of peak hour traffic volume for both Alternatives is the same.

Allowing the West 14th St. eastbound entrance ramp to reopen provides a vital link for the residents and businesses of the Tremont neighborhood. With the ramp currently closed, no direct eastbound access to IR 90 exists. Drivers expect entrance and exit ramps to be provided in pairs, thus re-opening the entrance ramp restores an ingress/egress pattern that is consistent with the drivers expectations. Finally, an eastbound entrance ramp from West 14th St. to IR 90 is included in the final Access Modification documentation for the Innerbelt project.

Although the implementation of Alternate 1 from Attachment D will have some impact to I-90 eastbound traffic as well as other surrounding Interstates, the impacts will not exceed those caused by the closure of West 14th street in Alternate 2. Based on information gathered by the District Traffic Work Zone Engineer, the travel time for motorists on I-90 eastbound in the segment between West 73rd and East 9th have experienced an increase in travel time of approximately 4.5 minutes from the Pre-Lane Reduction to the Current Lane Reduction (as defined in Table 1 of Attachment D). Traffic counts on I-490 Eastbound [ATR585 near West 7th] for the same scenario show an increase in the peak hour volume. However, the peak hour volume of 4800vph is still less than the peak hour capacity of 9200vph. Likewise, the peak hour volume increase from 4300vph to 4800vph on I-77 north [ATR570 north of I490] is less than the peak hour capacity of 6900vph

E. Proposed Mitigation

Although IR 90 will be reduced from 4 through lanes to 3 through lanes and the lane widths reduced from 12 ft. to 11 ft., trucks will still be prohibited from traveling eastbound over the bridge for operational mitigations, regardless of structure capacity. By eliminating trucks, the lane width reduction should not be as critical to vehicle operations. As defined in attachments C & D, it is expected that the increase in lane capacity efficiency on I-90 eastbound from 1300vph to 1900vph (pre-lane reduction verse 3 lane condition) will be perpetuated with the continuance of the truck restriction.

The existing signing prohibiting truck traffic eastbound on IR 90 across the bridge will remain in place. Truck traffic will be directed to use the IR 490/IR 77 route that is currently in operation.

To aid in delineation, the concrete barrier on each side of the 2 ft. shoulders will receive barrier reflectors.

New lane lines and raised pavement markers will be placed at the new 11 ft. lane widths. Next year, as part of the district's annual pavement marking plan, all pavement markings throughout the IR 90 corridor, including the bridge, will be restriped. As part of this restriping, the lane lines will be placed at a 6" width (a District wide initiative), instead of the 4" width, which will further help delineate the 11 ft. lanes.

By reducing IR 90 from 4 lanes to 3 lanes the West 14th St. eastbound entrance ramp will now be an add lane, thus eliminating the ramp merge condition. The ramp will be delineated from the three through lanes with a 2 ft. wide channelizing strip that will consist of two 8" wide channelizing lines on either side of raised pavement markers, ensuring a parallel pacing area for vehicles to safely reach the posted speed limit.

The reduction of IR 90 from 4 lanes to 3 lanes will occur within the 2 lane IR 90 eastbound ramp in the IR 90/IR 71/IR 490 interchange. The ramp closure taper, 600 ft. in length, will begin in a nearly tangent section of the ramp as it approaches the two lanes from IR 71 northbound. The closed right lane and shoulder will be further delineated with transverse/diagonal lines at 48 ft. c/c from the beginning of the lane closure taper to the West 14th St. ramp.

F. Support for Deviation

After developing and evaluating several maintenance of traffic alternatives, it was determined that the best way to maximize the pavement width remaining after the widening segment removal, minimize impacts to traffic and to optimize access and safety, is to maintain 3 through lanes of IR 90 eastbound traffic with the West 14th St. ramp to IR 90 eastbound open and entering as an add lane. These measures will be performed to minimize costs to maintain the structure that has come near the end of its useful life. Current design standards will be met when the full Innerbelt Project is implemented.

Currently, only 3 of the 4 lanes in each direction across the Innerbelt Bridge are open to traffic, truck traffic is prohibited, and the West 14th St. entrance ramp to IR 90 eastbound is closed. After the necessary structural work is completed as a part of this project, the current condition will be improved by opening all four 12' wide lanes in the westbound direction with trucks. The eastbound direction will also improve over the current condition by opening the West 14th Street on ramp and including four lanes across the remainder of the bridge.

SUMMARY

ODOT has developed a plan to address safety, congestion and condition of the Interstate 90 Innerbelt Corridor, as defined in the Final Environmental Impact Statement (FEIS). The first of these projects will include construction of a new westbound bridge expected from 2010-2013 for approximately $450M, followed by a new eastbound bridge from 2013-2015 for approximately $400M. In the interim, ODOT is taking the appropriate action to meet the public need for transportation across the Cuyahoga River Valley via the existing I-90 Innerbelt Bridge in a safe, efficient, and cost effective manner. After detailed analysis of the members and connections of the Innerbelt Bridge's main structure, it was determined that the widening segment near the West 14th Street on ramp to I-90 east had to be removed. The design team evaluated several alternatives to best maintain traffic and maximize access in the eastbound direction with the 49ft of available deck width remaining after removal of the widening segment. The proposed facility of three 11ft wide through lanes, one 10' wide on ramp, and truck restrictions is the optimal method for balancing the need for traffic capacity, access, safety, and cost while minimizing the effects on the surrounding system until the ultimate build of the Innerbelt Bridge can be constructed.

ATTACHMENT A

FHWA-OH-EIS-09-01-F

Cleveland Innerbelt Project
CUY – IR 71/IR90 -16.79/14.90, PID 77510
City of Cleveland, Cuyahoga County, Ohio

Final
Environmental Impact Statement

Submitted Pursuant to 42 U.S.C. 4332 (2) (c) and 49 U.S.C. 303 by the

U.S. Department of Transportation – Federal Highway Administration – Ohio Federal aid Division, and the Ohio Department of Transportation, as Joint Lead Agencies pursuant to 23 U.S.C. 139(c)

In cooperation with the

U.S. Department of Homeland Security - U.S. Coast Guard, and the Department of the Army – Corps of Engineers

And with the participation of the

U.S. Department of the Interior - Fish and Wildlife Service,
U.S. Department of the Interior - National Park Service,
U.S. Environmental Protection Agency, and
U.S. Department of Transportation, Federal Aviation Administration

7-10-09 Jolene M. Molitoris
Date of Approval — Jolene M. Molitoris, Director, Ohio Department of Transportation

7-22-09 Patrick A. Bauer
Date of Approval — Patrick A. Bauer, Acting Division Administrator, Federal Highway Administration, Ohio Federal aid Division

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Abstract

The Federal Highway Administration (FHWA) and the Ohio Department of Transportation (ODOT) as joint lead agencies are proposing the major rehabilitation and reconstruction of the Cleveland Innerbelt Freeway system infrastructure to address operational, design, safety, and access shortcomings that severely impact the Freeway's ability to function in an acceptable manner. The Innerbelt Freeway system provides for the collection and distribution of traffic between the radial freeway system (I-71, I-90, I-77, SR 2, I-490, and SR 176) and the local street system and it also moves traffic between each of the radial freeways, within the City of Cleveland Central Business District (CBD) area.

The Cleveland Innerbelt Project termini are located approximately at the merge/diverge point of State Route 176, (the Jennings Freeway) and Interstate 71 southwest of downtown, south of the existing Interstate 90/Interstate 77 Central Interchange on Interstate 77 south to the Pershing Avenue local partial interchange south of downtown, and east of the Interstate 90/State Route 2 system interchange east of downtown along the shore of Lake Erie and adjacent to the Burke Lakefront Airport. Within the project limits Interstate 90 crosses the expansive Cuyahoga River Valley.

The Draft Environmental Impact Statement (DEIS) for the project was approved on March 3, 2009. A public hearing was held on April 21, 2009. The public comment period ended May 21, 2009. Comments on the DEIS focused upon the following issues: stormwater management, access changes and economic effects, bicycle and pedestrian access, aesthetics, the Project Development Process, air quality and climate change, Transportation System Management, marine transportation, and impacts to Burke Lakefront Airport. None of the issues during the comment period require substantive changes to the information provided in the DEIS. However, some issues required the presentation of additional discussion and information to supplement information contained within the DEIS.

This Final Environmental Impact Statement (FEIS), which incorporates the DEIS by reference, constitutes a full disclosure document, under the National Environmental Policy Act (NEPA) and related regulations, for the proposed Cleveland Innerbelt Project in Cleveland, Ohio. This document contains an errata for minor changes to the DEIS, updated information that was developed subsequent to publication of the DEIS, additional information to supplement information in the DEIS to address comments received during the DEIS commenting period, the public hearing transcripts, and copies of all written statements from the public.

Based upon the information presented within the DEIS and this FEIS, the FHWA and ODOT have determined that Alternative A satisfies the project's purpose and need, and that it causes the least impact to the natural and human environment in comparison to Alternative B. In addition FHWA and ODOT have determined that the No Build alternative would not fully address the project's needs and does not enable the Innerbelt Freeway system to function acceptably. Compared to the No Build and other alternatives considered, Alternative A best provides for the balanced consideration of the purpose and need for the action and justifies the impacts and costs. Alternative A is identified as the Preferred Alternative within this FEIS. The current estimated project costs is $2.7 to $3.5 billion, based upon expected year of expenditure, with implementation expected to occur in phases over the period from 2010 to 2033.

The public is advised that FHWA and ODOT, as joint lead agencies, intend to publish a notice pursuant 23 USC §139(l), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for this transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

ATTACHMENT B

Ohio Department of Transportation

Inter-Office Communication

Central Office
Office of Structural Engineering

Date: July 8, 2009

~~**To:** Bonita G. Teeuwen, P.E., District 12 Deputy Director~~

From: Tim Keller, P.E., Administrator Office of Structural Engineering

Re: CUY-90-1524 Innerbelt Bridge

FHWA has requested an overview of ODOT's plan for the existing I-90 Innerbelt bridge CUY-90-1524. Below is a summary of the plan for this bridge. This document is not intended to address all of the details of each project. The level of detail below is to give the intent of the plan and many of the details and sub phases have been omitted.

Currently a Type A emergency contract is underway to repair the gusset plates at Panel Point L112 on South Truss and Panel Point L501 on the South Truss; replace rivets with high strength bolts at Panel Points L109 South Truss, L110 South Truss, and U302 South Truss; and stiffen members L500-L501North and South Truss, L517-L518 North and South Truss, L717-L718 North and South Truss, and L900-L901 North and South Truss. This work is being performed by Ruhlin Construction Company and will be completed approximately July 17, 2009. The bridge is currently restricted to all trucks and has one lane in each direction closed. The ramp from W. 14th Street onto east bound I-90 is currently closed.

Plans are currently being developed by Richland Engineering Limited (REL) to remove the concrete deck and structural steel supporting the ramp from W. 14th. Street onto I-90 east bound. This work will also include the critical steel repairs in the truss spans. This project will be sold under a Type B emergency approximately September 9, 2009, with an interim completion date of November, 2009, and final completion approximately September, 2010. The interim completion date of November, 2009 is to open the bridge to eight lanes of traffic without any limitations to trucks. The ramp from W. 14th Street will come onto east bound I-90 as an add lane leaving three through lanes. An alternative is to close the ramp from W. 14th onto east bound I-90 during all or portions of the day to provide the fourth through lane on east bound I-90. ODOT District 12 is currently reviewing the options at this ramp.

Plans will be developed by REL to perform other maintenance repairs to the bridge. The goal of these repairs is to maintain the bridge operational for five years. This work will be sold using normal contracting process approximately November, 2010 and completed approximately August, 2011. These repairs will encompass only the necessary repairs to maintain the bridge in service for the short term.

ATTACHMENT B

Contract documents are currently being developed to build a new west bound bridge on a new alignment north of the existing bridge. This project will be sold under a value based design/build contracting method. The current schedule is to award this contract approximately November, 2010. The schedule for completion of this project is currently estimated to be approximately September, 2013. While the new west bound bridge is being built, the existing bridge will continue to accommodate eight lanes of traffic without any limitations to trucks. The ramp from ~~W. 14th Street will come onto east bound I-90 as an add lane leaving three through lanes. An~~ alternative is to close the ramp from W. 14th onto east bound I-90 during all or portions of the day to provide the fourth through lane on east bound I-90. ODOT District 12 is currently reviewing the options at this ramp. The new bridge will open to bi-directional I-90 traffic. The new bridge will have four westbound lanes and two eastbound lanes. An additional lane is currently being added to the ramp bridge on I-77 which will accommodate an additional lane from east bound I-90 to I-490 to I-77 back to east bound I-90 when completed. After the new west bound bridge is open to bi-directional traffic, the existing bridge will be closed to all traffic. The ramp from W. 14th Street on to east bound I-90 will be closed. The I-90 east bound off ramp to Broadway Street and the I-90 east bound off ramp to Ontario Street will both be closed. Two additional ramps will also be closed, the off ramp from east bound I-90 onto E. 22nd Street and Ramp EN from west bound I-490 to north bound I-77.

At any time after the new west bound I-90 bridge type and configuration is determined, plans for the new east bound I-90 bridge may be developed. A scope of service for this work has not yet been developed in order to select a consultant to perform this work. It is proposed to sell this contract using conventional design-bid-build contracting.

After completion of the new west bound I-90 bridge, a contract will be sold to remove the existing I-90 bridge.

After the existing I-90 bridge is removed, a contract will be sold to build a new five lane east bound I-90 bridge on approximately the same alignment as the existing bridge. Once the new east bound bridge is completed, east bound traffic will be moved to the new bridge and the first new bridge will be configured for five west bound lanes. The ramp from W. 14th Street on to I-90 east bound will be opened, the east bound I-90 off ramps onto Broadway Street, Ontario Street, and E. 22nd Street will all be opened, and Ramp EN from west bound I-490 to north bound I-77 will be opened.

cc: Keith Swearingen, Assistant Director, Chief Engineer

ATTACHMENT D

Interoffice Communication

TO:	Bonita G. Teeuwen, P.E. District 12 Deputy Director	**DATE:**	07/29/2009
FROM:	Michael J. Kubek, P.E. District 12 Production Administrator	**BY:**	
PROJECT:	Existing Innerbelt Bridge (CUY-90-15.24)	**PID:**	82069
SUBJECT:	**Maintenance of Traffic – Widening Segment Removal**		

Project Issue and Course of Action

The project design team continues to work toward our goal to re-open all eight lanes of unrestricted traffic* across the Innerbelt Bridge (CUY-90-15.24, Central Viaduct) and the West 14th street on ramp to I-90 eastbound. In my previous Interoffice Communication (IOC) to you dated June 16, 2009, it was determined that the best way to ensure the safety of the users of this bridge while optimizing the traffic carrying capacity of the structure is to remove the West 14th street widening segment. After developing and evaluating several maintenance of traffic alternatives, the design team has determined the best way to maximize the pavement width remaining after widening segment removal, minimize impacts to traffic ,and optimize access, is to maintain 3 through lanes of I-90 eastbound traffic with the West 14th ramp to I-90 eastbound open and entering as an add lane. The result is 4 lanes of traffic across the Innerbelt Bridge after the West 14th street ramp enters the interstate. (see Alternative 1 in the attached "MOT Alternatives Matrix for the Innerbelt Bridge After Removal of the Widening Girder"). We also recommend continuing the detour of I-90 eastbound truck traffic to best manage traffic in this area. The widening segment removal does not affect I-90 westbound traffic. Four lanes of traffic with trucks can be opened in the westbound direction if the analysis shows enough structural capacity for the anticipated load after completion of the proposed repairs.

Supporting Information for Alternative 1

The Automatic Traffic Recorder (ATR) counts were studied from stations as indicated in the table below. It has been concluded that during the peak hour, volumes on I-71 and I-90 reflect the maximum capacity of the sections at the ATR's. The analysis represents a comparison among pre-lane reduction, current lane reduction, and proposed lane configurations at I-90 EB made under this assumption.

**Note:* unrestricted traffic = open to Ohio legal loads for operating condition.*

ATTACHMENT D

CUY-90-15.24, (PIDs 83680 & 82069), Maintenance of Traffic - Widening Segment Removal
IOC July 29, 2009; Page 2

Table 1: Summary of Peak Hour Volumes

	Pre-Lane Reduction	Current Lane Reduction
I-71 North at ATR 615	4000 vph (2 lanes)	4000 vph (2 lanes)
I-90 East at ATR 573	2600 vph (2 lanes)	1900 vph (1 lane)
West 14th Entrance Station 53118	680 vph	0 (Ramp Closed)
Total Volume Across Innerbelt Bridge	7280 vph	5900 vph

Table 1 suggests that the net gain of increasing the current 3 through lanes ("Current Lane Reduction") of I-90/I-71 traffic to 4 lanes ("Pre-Lane Reduction") will accommodate an additional 700 vehicles (2600vph-1900vph) from I-90 onto the Innerbelt Bridge during the peak hour. Please note this is significantly less than a full lane loss of capacity that may have been expected from this concept. Nearly all three lanes from I-90 and I-71 are delivering very close to their theoretical capacities under the Current Lane Reduction scheme.

It appears that a fourth lane on the Innerbelt Bridge can be safely re-opened to traffic once the dead-load of the former widening segment is removed in conjunction with PID 82069. Within the remaining physical constraints, it may be possible to re-open the West 14th entrance ramp as an add-lane (Alternative 1). As an alternate to making this improvement, the West 14th on ramp may remain closed and the through lanes on I-90 EB be restored from 3 lanes to 4 lanes (Alternative 2).

As stated previously from analysis of Table 1, the existing lane reduction at I-90 EB degrades the operation of the interstate system by approximately 700 vph during the peak hour. However, it should also be noted that data from ATR 573 suggest that a single lane is adequate to meet traffic demand during the remaining 21 hours of the day, when the demand is less than 1900 vph.

When open and functioning normally, the entrance ramp from West 14th carried a peak hour volume of approximately 680 vehicles. The additional volume generated by either the West 14th Street on ramp or the additional lane on I-90 during the peak hour would be essentially the same (approximately 700vph) in either mutually exclusive scenario. Therefore, the advantage in terms of peak hour traffic volume for both Alternatives is the same. However, complete closure of the West 14th ramp would affect approximately 5200 vehicles per day (Average Daily Traffic, ADT) while reduction in I-90 through lanes would affect 2100 vehicles per day (700vph over capacity for 3 hours = 2100 vehicles).

In addition to higher net gain in vehicles per day for Alternative 1 compared to Alternative 2, opening of the West 14th street on ramp provides additional advantages to the Tremont Neighborhood. Specifically, it restores convenient access to I-90 eastbound and eliminates a circuitous detour route that requires drivers to use Abbey Ave., West 20th St., Lorain Ave., Carnegie Ave., East 18th St. and Prospect Ave., to reach I-90 eastbound. In addition, drivers expect entrance and exit ramps to be

ATTACHMENT D

provided in pairs, thus, re-opening the entrance ramp restores an ingress/egress pattern that is consistent with driver expectations.

Although the implementation of Alternate 1 will have some impact to I-90 eastbound traffic as well as other surrounding Interstates, we conclude that the impacts will not exceed those caused by the closure of West 14th street in Alternate 2. Based on information gathered by the District Traffic Work Zone Engineer, the travel time for motorists on I-90 eastbound in the segment between West 73rd and East 9th have experienced an increase in travel time of approximately 4.5 minutes from the Pre-Lane Reduction to the Current Lane Reduction (as defined in Table 1). Traffic counts on I-490 Eastbound [ATR585 near West 7th] for the same scenario show an increase in the peak hour volume (see Graph 1). However, the peak hour volume of 4800vph is still less than the peak hour capacity of 9200vph. Likewise, the peak hour volume increase from 4300vph to 4800vph on I-77 north [ATR570 north of I490, see Graph 2] is less than the peak hour capacity of 6900vph.

A third option (Alternative 3) was considered to help balance freeway peak hour volumes and access via the West 14th street ramp to I-90 eastbound. Alternative 3 included keeping the West 14th street ramp open and closing one lane on I-90 (maintaining 3 through lanes) for approximately 21 hours per day, outside of the a.m. peak. During the a.m. peak, the West 14th street ramp would be closed and 4 through lanes of I-90 eastbound traffic would be open. Since the traffic volume gain of either the West 14th street ramp or the additional through lane on I-90 was essentially equal during the a.m. peak (700vph), the disadvantage of an unfamiliar lane closing on the interstate as well as change in driver expectation throughout the day made alternative 3 less desirable than alternative 1.

Based on the above information and attached alternatives matrix, the design team will pursue Alternative 1 as the preferred maintenance of traffic configuration for I-90 eastbound. The configuration is expected to remain in place until the completion of the new I-90 Westbound Bridge, also known as Innerbelt Construction Contract Group 1 (CCG1). We also recommend that the truck detour be continued for the I-90 eastbound direction based on traffic maintenance considerations, even if the structural analysis shows adequate capacity after completion of the planned repairs. We conclude that the efficiencies gained in the traffic carrying capacity of the I-90 eastbound lane near ATR 573 (1900vph with one lane open verse 1300vph with two lanes open) are due in part to the removal of trucks from the merge as a result of the truck detour. Also, removal of trucks from I-90 eastbound will help mitigate the reduction in lane and shoulder width required on I-90 within the section where the widening segment has been removed.

c: Michael Armstrong, FHWA
Rob Mavec, City of Cleveland
Dean Palmer, Richland Engineering Limited
File (pid 83680 & 82069)

ATTACHMENT D

CUY-90-15.24, (PIDs 83680 & 82069), Maintenance of Traffic - Widening Segment Removal
IOC July 29, 2009; Page 4

e: George Soos, ODOT District 12
Dave Holstein, ODOT Central Office
Dirk Gross, ODOT Central Office
Dennis Albrecht, ODOT District 12
Dale Schiavoni, ODOT District 12
Dennis Oneil, ODOT District 12
Naureen Dar, ODOT District 12
Dave Lastovka, ODOT District 12
Craig Hebebrand, ODOT District 12

pid82069_2009-07-29_GirderRemoval-MOT.doc

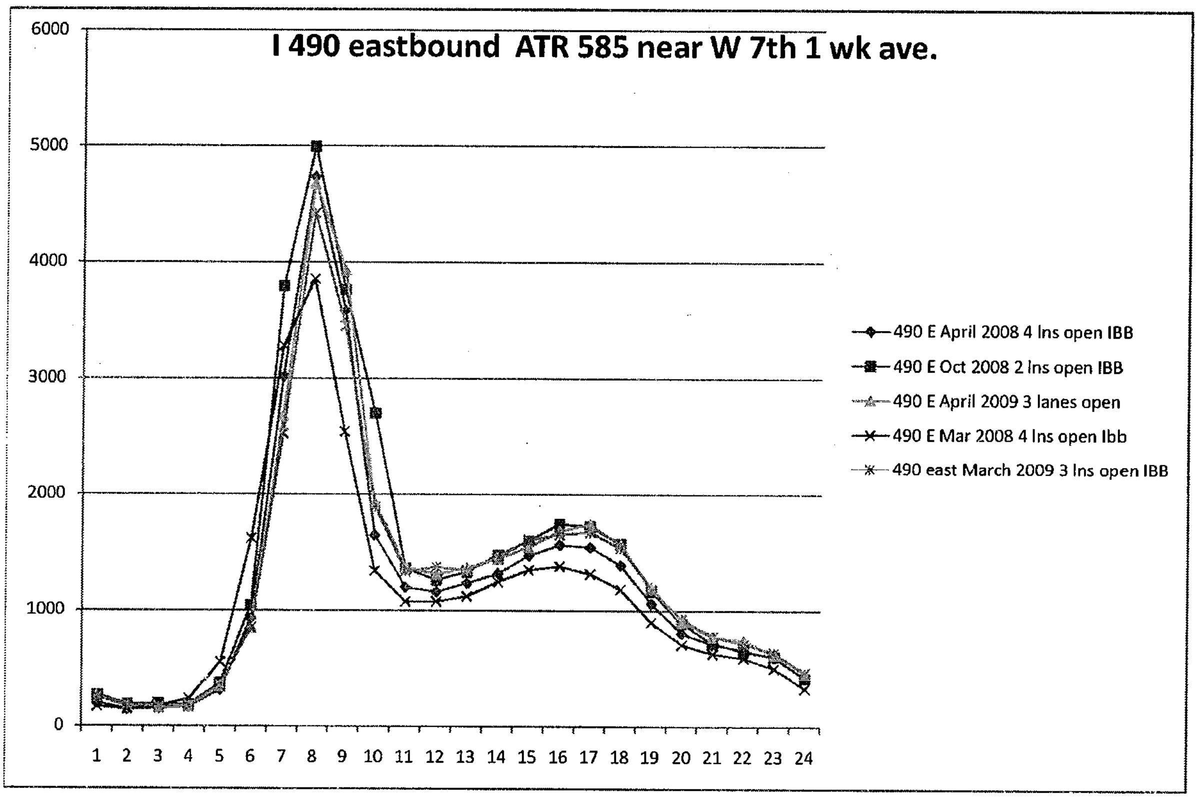
ATTACHMENT D

ODOT District 12: Maintenance of Traffic (MOT) Alternatives Matrix for the Innerbelt Bridge After Removal of the Widening Girder

Alt.	I-90 West	I-90 East	Trucks on Bridge	W. 14th on ramp (East)	490/77	Advantages	Disadvantages	Notes	Left Shoulder	Lane 1 (ft)	Lane 2 (ft)	Lane 3 (ft)	Lane 4 (ft)	Channel (ft)	Ramp (ft)	Right Shoulder	Total (ft)
Alternative 1: 4 lanes westbound, 3 through lanes eastbound, West 14th street on ramp as add lane																	
1	4 lanes	3 lanes	WB only	Open-add	1 lane	* Access from West 14th to I-90 east (Tremont) Allows approx. 5200 vehicles to enter the highway daily * Re-opening the entrance ramp restores an ingress/egress pattern that is consistent with driver expectations.	* Continued loss of one through lane on I-90 eastbound. * Over capacity by 700 cars in the peak AM hours. Capacity loss of approx. 2100 vehicles per day	The horizontal ramp geometry was revised to provide two reverse 3 degree curves which can accommodate a speed of at least 45 mph on the ramp.									
1A	4 lanes	3 lanes	WB only	Open-add	1 lane	Full lane width	Reduced shoulder width and shy distance to barrier.		1	12	12	12	N/A	0	11	1	49
1B	4 lanes	3 lanes	WB only	Open-add	1 lane	Same shoulder width as existing	Reduced lane width.		2	11	11	11	N/A	1	11	2	49
1C	4 lanes	3 lanes	WB only	Open-add	2 lanes	* adds one additional lane of capacity to I-77	* Requires the closure of 4 ramps: Ramp E-N(E.55th west to I-77 north); Ramp E-11(I-90 east to E 22nd Street), Ramp F-4 (Woodland to I-90 east); Ramp E-8 (I-77 north to I-90 west);	Uses additional lane of capacity on I-490E to 77N ramp and on I77 north to help accommodate loss of capacity on I-90E.	2	11	11	11	N/A	1	11	2	49
1D	4 lanes	3 lanes	WB only	open-add	1 lane		* Cost * Time required to analyze, design, and construct improvements.	Improve W. 25th Street to provide an alternate route to relieve congestion on I-90.									
Alternative 2: 4 lanes westbound, 4 through lanes eastbound, West 14th street on ramp closed																	
2	4 lanes	4 lanes	Y	Closed	1 lane	* meets the existing capacity of 4 through lanes on I-90E over the bridge. LOS E	* No access from West 14th to I-90 east (Tremont) * Different ingress/egress movements to the neighborhood.	Reduced lane and or shoulder widths occur for a distance of approximately 1600'.									
2A	4 lanes	4 lanes	Y	Closed	1 lane	Full lane width	Reduced shoulder width and shy distance to barrier.		0.5	12	12	12	12	N/A	N/A	0.5	49
2B	4 lanes	4 lanes	Y	Closed	1 lane	Greater shoulder width than existing.	Reduced lane width.		2.5	11	11	11	11	N/A	N/A	2.5	49
2C	4 lanes	4 lanes	Y	Closed	1 lane		* Varying lane widths, some reduced * Reduced shoulder width.		1.5	11	12	12	11	N/A	N/A	1.5	49
Alternate 3: 4 lanes westbound, 3 lanes eastbound, 4 lanes eastbound during am peak , West 14th Street closed during AM peak opened all other times																	
3	4 lanes	3 lanes for 21 hrs, 4 lanes for 3 hrs during AM peak	Y	open for 21 hours, closed for 3 hours during AM peak		Allows the opening of an additional lane during the heavy peak hours when the highway is over capacity	* Loss of access from W14th to I-90E during the AM peak (approx. 700vph, 2100vpd) * Risk of driver confusion * Difficult to implement traffic control devices * Very costly, over $500,000 * Never been done in Ohio										
Current Condition																	
Cur.	3 lanes	3 lanes	N	Closed	1 lane			* Trucks are routed to the 490/77 corridor. 490/77 ramp is one lane.	2	12	12	12	N/A	N/A	N/A	2	40
Pre-Existing Condition																	
P Ex.	4 lanes	4 lanes	Y	Open	1 lane			* West 14th street on ramp is a merge condition.	2	12	12	12	12	N/A	16	2	68

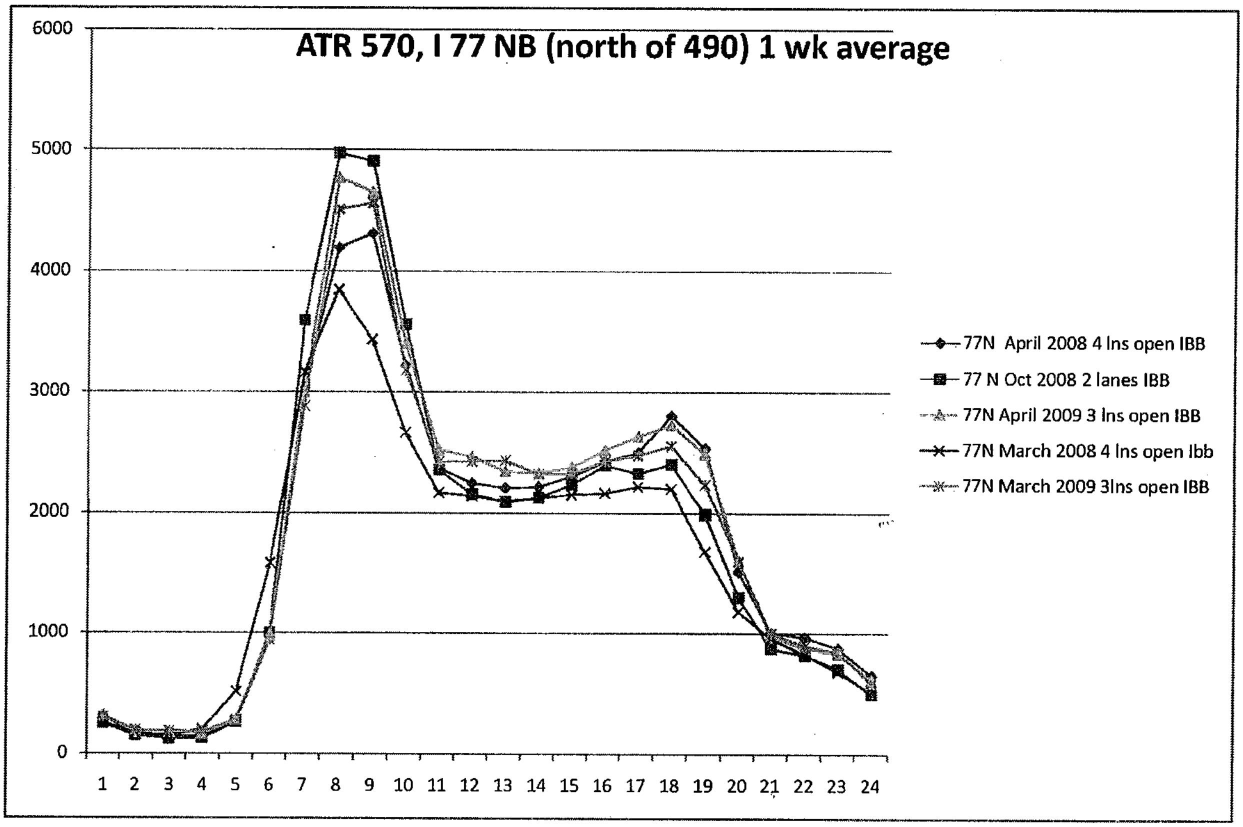
ATTACHMENT D

CUY-90-15.24, (PIDs 83680 & 82069), Maintenance of Traffic - Widening Segment Removal
IOC July 29, 2009; Chart 1



ATTACHMENT D

CUY-90-15.24, (PIDs 83680 & 82069), Maintenance of Traffic - Widening Segment Removal
IOC July 29, 2009; Chart 2



J. Threat/D12

NORFOLK SOUTHERN

LETTER OF TRANSMITTAL

FORM 11542—1 (8/92

FROM:

Norfolk Southern Corporation
Bridges and Structures
1200 Peachtree St, Box 142
Atlanta, GA 30309

TO: Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

ATTN: Mr. Richard Behrendt

RE: Various Projects' Letter Agreements

DATE: 3/4/08

In reply, please refer to
FILE NO. 117-18709 (BR0016041)
117-34105 (BR0028920)
120-1-OH (CX0039833)

Received
MAR 10 2008
Ohio Dept of Transportation
Office of Real Estate

GENTLEMEN:

We are sending you ☑ Herewith ☐ Delivered by hand

The following items:

☐ Prints ☐ Specifications ☐ Shop Drawings ☐ Estimate

☐ Copy of Letter ☑ Other Letter Agreements

COPIES	DATE OR NUMBER	DESCRIPTION
1	21894	Pavement repair/maintenance on SR 155, MP RR-59.82
1	PID 82069	Emergency bridge repair on IR 90, MP B-184.25
1	PID 21874	Proposed bridge painting on SR 7, MP RO-47.70

These are transmitted as indicated below:

☑ For your use ☐ For Review & Comments ☐ Approved as Noted

☐ For Approval ☐ For Your Handling ☐ Approved for Construction

☐ As Requested by ______ ☐ Returned for Corrections

☐ Other ______

REMARKS: Attached for the Department's use, you will find the railway executed counterparts to the letter agreements for the above projects. The train information has also been filled in on page two. At the appropriate time following the sale of the projects, please provide us with authorization to proceed with our portion of the projects. Thank you.

Cy: ______

Signed: Rhonda D. Moore

IF ENCLOSURES ARE NOT AS INDICATED, PLEASE NOTIFY US AT ONCE

February 20, 2008

Mr. J.N. Carter, Jr.
Chief Engineer
Bridges and Structures
Norfolk Southern Corporation
1200 Peachtree Street, NW
Atlanta, Georgia 30309

SUBJECT: **Cleveland, Cuyahoga County, Ohio**
Central Viaduct (I.R. 90) Emergency Bridge Repair over NS
Agency Reference: CUY-I.R. 90-15.24 Steel Repair #2
PID No. 82069
Structure No. CUY-90-1524

NS Reference: Lake Erie District - Dearborn Division
MP B184.25

Dear Mr. Carter:

The proposed work for this project is detailed on plans to be forwarded under separate cover from ODOT District 12, and includes emergency repairs to the existing gusset plates, cantilever brackets, floorbeam connections, stringers, bracing and selective rivet replacement on the above-referenced bridge over NS in Cleveland, Cuyahoga County, OH.

1) No work will commence until the Railway has approved the State's final plans for the project. All work will be performed in accordance with the approved plans, specifications and the attached Special Clauses in the Proposal.

2) During the performance of the work, temporary construction clearances of 22'-0" vertically above the top of rail and 13'-0" horizontally from the centerline of a track shall be maintained to any form work, false work or other temporary obstruction.

3) The State's Contractor will not be allowed to commence work on or over Railway property until the following conditions have been met:

a) The State has received notice from the Railway that the required insurance is satisfactory.

b) The State has received written authorization from the Railway to begin work on Railway property. The written authorization will include the name and telephone number of the local representative who must be contacted to arrange for flag protection.

4) The State shall reimburse the Railway for all necessary force account work to accommodate the project, including but not limited to preliminary engineering, flagging, and construction engineering.

5) All obligations of the State provided for in this agreement which require the expenditure of funds by the State shall terminate at the end of the present biennium, being June 30, 2009. If construction covered under said agreement is not completed by June 30, 2009, it is the expressed intention of the parties to renew said obligations for one successive biennium period; with the renewal period beginning July 1, 2009 and ending no later than June 30, 2011; until such time as construction covered under said agreement is complete. Said renewal is conditioned upon the State determining future appropriations will permit the State to renew said obligations.

6) Contingent upon meeting requirements indicated above, railroad shall permit the State and/or its contractor to enter upon lands owned or operated by the company to permit construction and/or maintenance referenced herein.

7) The State shall reimburse the railroad for applicable construction and engineering costs, based upon project billings rendered from the railroad in accordance with Federal Aid Policy Guide 140(1) of the Federal Highway Administration. The railroad shall render its billings to the State within 90 days in accordance with said rules and regulations, and further agrees to provide and furnish such itemized records and substantiating data for such costs as may be necessary.

If you agree with the terms of this letter, please indicate your concurrence by signing in the space below and return one copy of this letter to Rich Behrendt, State Rail Coordinator.

Thank you for your assistance in this matter. Should you have any other questions or concerns about this project, please contact Mr. Behrendt at (614) 387-3097, or by email at richard.behrendt@dot.state.oh.us.

Sincerely,

James Beasley TSM

James G. Beasley, P.E., P.S.
Director

Accepted by Norfolk Southern Corporation:

By: ______________________

Title: Chief Engineer Bridges & Structures

Date: 03-03-08

CUYAHOGA COUNTY
CUY-I.R. 90-15.24 Steel Repairs #2, PID 82069
NS Lake Erie District – Dearborn Division
MP B-184.25

SPECIAL CLAUSES IN THE PROPOSAL

The bidder, if awarded the contract for this improvement agrees:

1. To cooperate at all times with the local officials of the railroad company.

2. To use all reasonable care and diligence in the work in order to avoid accidents, damage or unnecessary delay to, or interference with the trains and other property of the railroad company.

3. To conduct his work in a manner satisfactory to the Chief Engineer of the railroad company or his authorized representative, to perform his work in such manner and at such time as not to unnecessarily interfere with the movements of trains or railroad traffic, and to hold his work at all times open to inspection of railroad company inspectors.

4. To cooperate with a public utility, railroad or other organizations having occasion to do work on or in connection with the improvement.

5. To avoid unnecessary use of railroad property without written permission of the railroad company and to leave railroad roadbed and property in a condition acceptable to the Chief Engineer of the railroad company.

6. To execute a bond conditioned according to Section 5525.16 of the Revised Code of Ohio, in favor of the State of Ohio, and further to carry insurance of the following kinds and amounts:

   a) <u>Railroad Protective Liability Insurance.</u>

   Railroad Protective Liability Insurance having a combined single limit of not less than $5,000,000 each occurrence and $10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

   The above railroad protective policy of insurance shall conform to the Railroad Liability requirements prescribed by the Federal Highway Administration in Federal-Aid Policy Guide 23 CFR 646A as amended.
   The standards for the Railroad Protective Liability Insurance are as follows:
   The insurer must be rated A- or better by A.M. Best Company, Inc.
   The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:

CG 00 35 01 96 and CG 28 31 10 93; or CG 00 35 07 98 and CG 28 31 07 98.

The named insured shall read:

Norfolk Southern Railway Company
Three Commercial Place
Norfolk, Virginia 23510-2191
Attn: D. W. Fries, Director Risk Management

The description of operations must appear on the Declarations, must match the project description in this agreement and must include the appropriate Department project and contract identification numbers.

The job location must appear on the Declarations and must include the city, state and appropriate highway name/number.

The name and address of the prime contractor must appear on the Declarations.

The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

Other endorsements/forms that will be accepted are:
Broad Form Nuclear Exclusion – Form IL 00 21
30-day Advance Notice of Non-renewal or cancellation
Required State Cancellation Endorsement
Quick Reference or Index Form CL/IL 240

Endorsements/forms that are NOT acceptable are:
Any Pollution Exclusion Endorsement except CG 28 31
Any Punitive or Exemplary Damages Exclusion
Known injury or Damage Exclusion form CG 00 59
Any Common Policy Conditions form
Any other endorsement/form not specifically authorized above.

The number of trains operating over this crossing is estimated to be:

_0_ Passenger trains per day @ a maximum authorized operating speed of _0_ miles per hour.

_14_ Freight trains per day @ a maximum authorized operating speed of _30_ miles per hour.

(b) **Commercial General Liability Insurance**

Commercial General Liability Insurance having a combined single limit of not less than $2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include "explosion, collapse, and underground hazard" ("XCU") coverage, shall be endorsed to name Railroad specified in subsection (a) above as an additional insured, and shall include a severability of interests provision.

(c) **General Insurance Requirements**

The insurance hereinbefore specified shall be with an acceptable insurance company authorized to do business in the State of Ohio, and shall be taken out before execution of the Contract by the Director and kept in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State. Such policies shall include thirty (30) days canceling notice. The cost of insurance hereinbefore specified in subsection (a) will be a specific bid item.

Notwithstanding the Department's Construction and Material Specification No.107.12 "Evidence" as above set forth shall consist of furnishing the Director of Transportation three (3) certified copies of the railroad policy.

7. The Railroad company will assign, at the sole cost and expense of the Department, railroad flaggers or other protective services and devices as necessary to insure the safety and continuity of the work to be performed as a part of this contract. Said services and devices will be provided when necessary, as determined by the railroad company, because of any of the Contractor's operations over, under or adjacent to tracks over which trains are operating. The provision of such protective personnel and devices does not relieve the Contractor from the liability of payment for damage caused by his operations.

The Contractor shall notify the following named individual for each railroad company at least 30 days, or as directed by the authorized representative of the Railroad, in advance of starting any work which might require protection:

J.N. Carter, Jr., Chief Engineer
Bridges and Structures
Norfolk Southern Corporation
1200 Peachtree Street, N.E.
Atlanta, GA 30309
Attn: Rhonda Moore
Telephone: (404) 529-1436

The Contractor shall notify the railroad at least 5 working days in advance of suspending or ceasing operations that require a flagger.

The Contractor will be responsible for protective services provided at his request and not utilized due, in the opinion of the Engineer, to a change in the Contractor's construction schedule or if it is determined by the Engineer that the requested services were not necessary. The actual costs for such protective services so assessed to the Contractor will be deducted from the Contract.

The decision of the Director of Transportation shall be final in the event of controversy as to the necessity for any protection services provided and not utilized by the Contractor as described in the preceding paragraph.

8. To pay the railroad or owning company for any changes, requested for his convenience, to railroad property, facilities, wire, fiber optic and/or pipe lines other than shown on the plans for the project.

9. If at any time the contractor desires a temporary crossing of the railroad's tracks, he shall make a request for a temporary crossing from the railroad. If approved, he shall arrange with the railroad company, execute its regular form of private grade crossing agreement covering the crossing desired, paying all construction, maintenance, removal, protection and other costs.

10. Methods and procedures for performing work on property of Norfolk Southern Railway Company must be approved by: J.N. Carter, Jr. / Rhonda Moore

AUTHORITY OF RAILROAD ENGINEER AND STATE ENGINEER

The authorized representative of the Railroad company, hereinafter referred to as the Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of railroad traffic of his company including the adequacy of the foundations and structures supporting the railroad tracks.

NOTICE OF STARTING WORK

A. The Contractor shall not commence any work on Railroad right of way until he has complied with the following conditions:

   1. Give the Railroad Engineer at least ten working day advance written notice, with copy to the Engineer, of the date he proposes to begin work on railroad right of way. Said notice shall be sent to Mr. J.N. Carter, Jr., Chief Engineer, Bridges and Structures, Norfolk Southern Corporation, 1200 Peachtree Street, N.E., Atlanta, Georgia 30309.

   2. Obtained written authorization from the Railroad Engineer to begin work on Railroad right of way.

3. Obtained written approval from the Railroad of the Railroad Protective Liability Policy of Insurance.

B. The Railroad Engineer's written authorization to proceed shall include the names, addresses, and telephone numbers of the railroad's local representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility shall be specified.

FLAGGING SERVICE

A. WHEN REQUIRED

Under the terms of the Agreement between the Department and the Railroad, the Railroad has the sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such flagging services will be whenever the Contractor's men or equipment are, or are likely to be, working on the Railroad's right of way and is across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad track structure, railroad roadbed or the track surface and alignment of any track to such an extent that the movement of trains must be controlled. Normally the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary. However, if the contractor works within distances that violate instructions given by the Railroad's local representative, or performs work that has not been scheduled with the Railroad's local representative, flaggers may be required full time until the project has been completed.

B: SCHEDULING AND NOTIFICATION

The Contractor shall furnish to the Railroad's local representative and the Engineer a schedule for all work required to complete the portion of the project within the Railroad right of way and arrange for a job site meeting between the Contractor, Engineer and the Railroad's local representative. Flagging services may not be provided until such meeting has been conducted and the contractor's work scheduled.

The Contractor shall give the Railroad's local representative, copy to the Engineer, at least 10 working days of advance written notice of work to be performed within railroad right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad's local representative to determine if flagging will be required. If flagging is required no work shall be undertaken until the flaggers are present at the job site. Railroad labor agreements usually require flaggers to be assigned to a project on a continual basis and therefore cannot be called for on a spot basis. If flagging service becomes unnecessary and is suspended it may take up to thirty days to again obtain service from the Railroad. The Contractor shall give five working days notice to cease flagging service.

C: EMERGENCIES

If emergencies arise which require the flagger's presence elsewhere, the Contractor shall delay his work until such time as the flaggers are again available.

D: SUSPENSION OF WORK

If work is suspended the Contractor shall give the Railroad's local representative at least three working days notice before resumption of said work.

End of Special Clauses

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701

ESTIMATE SUBJECT TO REVISION AFTER: **11/04/2008** **DOT NO.:** 143 019M
CITY: Cleveland **COUNTY:** Cuyahoga **STATE:** OH
DESCRIPTION: Proposed Bridge Repairs – I-90 (Innerbelt) over Cuyahoga River, Norfolk Southern, Greater Cleveland Regional Transit Authority and CSXT Willow Industrial Track.
DIVISION: Western Division **SUB-DIV:** Cleveland **MILE POST:** BJB-74.02
AGENCY PROJECT NUMBER: PID 82069

	PRELIMINARY ENGINEERING:			
200	Labor (Non Contract)		$	1,350
200	Additive	42.41%	$	573
230	Expenses		$	235
212	Contracted & Administrative Engineering Services		$	5,500
	Subtotal		$	7,658
	CONSTRUCTION ENGINEERING/INSPECTION:			
200	Labor (Non Contract)		$	1,350
200	Additive	42.41%	$	573
230	Expenses		$	235
212	Contracted & Administrative Engineering Services		$	8,200
	Subtotal		$	10,358
	FLAGGING SERVICE: (Contract Labor)			
070	Labor (Conductor-Flagman)		$	1,450
050	Labor (Foreman/Inspector)		$	-
070	Additive	76.28% (Transportation Department)	$	1,106
050	Additive	77.52% (Engineering Department)	$	-
230	Per Diem	(Engineering Department)	$	-
230	Expenses		$	225
	Subtotal		$	2,781
	SIGNAL & COMMUNICATIONS WORK:	(Details Attached)	$	-
	TRACK WORK: (Details Attached)		$	-
	ACCOUNTING & BILLING:			
040	Labor		$	300
040	Additive	65.54%	$	197
	Subtotal		$	497
	PROJECT SUBTOTAL		$	21,293
900	**CONTINGENCIES:**	10.00%	$	2,129
	GRAND TOTAL	***	$	23,422
	DIVISION OF COST:			
	Agency	100.00%	$	23,422
	Railroad		$	-
	TOTAL	***	$	23,422

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Assistant Chief Engineer Public Projects--Jacksonville, Florida

Estimate prepared by: Terry Bump-URS Corporation Approved by: Mel R. McNichols CSXT Public Projects Group
DATE: 05/08/2008 REVISED: DATE: 05/14/2008

Form Last Revised: December 19, 2006 HAG Project Summary Sheet

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - **OH** EB3 (OH)

ESTIMATE SUBJECT TO REVISION AFTER: **11/04/2008** **DOT NO.:** 143 019M
CITY: Cleveland **COUNTY:** Cuyahoga **STATE:** OH
DESCRIPTION: Proposed Bridge Repairs – I-90 (Innerbelt) over Cuyahoga River, Norfolk Southern, Greater Cleveland Regional Transit Authority and CSXT Willow Industrial Track.
DIVISION: Western Division **SUB-DIV:** Cleveland **MILEPOST:** BJB-74.02
DRAWING NO.: __ **DRAWING DATE:** __ **REGION:** Western
AGENCY PROJECT NUMBER: PID 82069

	PRELIMINARY ENGINEERING:						
200	Labor (Non Contract)		5	Days @	$ 270.00	$	1,350
200	Additive	42.41%				$	573
230	Expenses					$	235
212	Contracted & Administrative Engineering Services					$	5,500
	Subtotal					$	7,658
	CONSTRUCTION ENGINEERING/INSPECTION:						
200	Labor (Non Contract)		5	Days @	$ 270.00	$	1,350
200	Additive	42.41%				$	573
230	Expenses					$	235
212	Contracted & Administrative Engineering Services					$	8,200
	Subtotal					$	10,358
	FLAGGING SERVICE: (Contract Labor)						
70	Labor (Conductor-Flagman)		5	Days @	$ 290.00	$	1,450
50	Labor (Foreman/Inspector)		0	Days @	$ 235.00	$	-
70	Additive	76.28% (Transportation Department)				$	1,106
50	Additive	77.52% (Engineering Department)				$	-
230	Expenses	(Engineering Department)	0	Days @	$ 75.00	$	-
230	Expenses		5	Days @	$ 45.00	$	225
	Subtotal					$	2,781
	COMMUNICATIONS WORK:						
	Temporary (Details Attached)					$	-
	Permanent (Details Attached)					$	-
	Subtotal					$	-

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - **OH** EB3 (OH)

	TRACK: LABOR				
50	Traffic Control	0	MAN-HRS	$ 21.00	$ -
50	Remove Existing Crossing	0	MAN-HRS	$ 21.00	$ -
50	Renew Cross Ties	0	MAN-HRS	$ 21.00	$ -
50	Renew Rail	0	MAN-HRS	$ 21.00	$ -
50	Install OTM	0	MAN-HRS	$ 21.00	$ -
50	Install Field Welds	0	MAN-HRS	$ 21.00	$ -
50	Install Geo-Textile Fabric	0	MAN-HRS	$ 21.00	$ -
50	Install Sub-Drains	0	MAN-HRS	$ 21.00	$ -
50	Install Ballast	0	MAN-HRS	$ 21.00	$ -
50	Line and Surface	0	MAN-HRS	$ 21.00	$ -
50	Install Crossing Materials	0	MAN-HRS	$ 21.00	$ -
50	Install Bituminous Pavement	0	MAN-HRS	$ 21.00	$ -
50		0	MAN-HRS	$ 21.00	$ -
50		0	MAN-HRS	$ 21.00	$ -
50		0	MAN-HRS	$ 21.00	$ -
50	Clean-Up	0	MAN-HRS	$ 21.00	$ -
50	Additive 77.52%				$ -
230	Per Diem	0	MAN-DAY	$ 90.00	$ -
	Subtotal				$ -
	TRACK: MATERIAL				
220	Cross Ties, Main Line	0	EA	$ 31.00	$ -
220	Rail, 136RE, New	0	LF	$ 17.00	$ -
220	Misc. OTM	1	LOT	$ -	$ -
210	Geo-Textile Fabric	0	RL	$ 250.00	$ -
210	Sub-Drains	0	LF	$ 6.00	$ -
220	Ballast	0	NT	$ 5.75	$ -
220	Field Welds	0	EA	$ 100.00	$ -
		0		$ -	$ -
		0		$ -	$ -
210	Concrete Full Width	0	TF	$ 225.00	$ -
210	Concrete/Rubber Xing (CSX)	0	TF	$ 135.00	$ -
210	Rubber Crossing, Full Depth	0	TF	$ 280.00	$ -
210	Timber/Asphalt Crossing (CSX Standard)	0	TF	$ 42.00	$ -
220	Crossties, 10' Length	0	EA	$ 39.00	$ -
210	Bituminous Material	0	NT	$ 80.00	$ -
210	Sales Tax on Material 0.00%				$ -
210	Material Handling 5.00%				$ -
	Subtotal				$ -
	CONTRACT:				
215	Asphalt Paving (In Place)	0	NT	$ 120.00	$ -
241	Disposal of Waste Materials	0	TF	$ 10.00	$ -
215	Maintenance of Traffic	0	DAY	$ 300.00	$ -
	Subtotal				$ -

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - **OH** EB3 (OH)

241	**EQUIPMENT RENTAL:**					
	Subtotal					$ -
50	**WORK TRAIN:**		0	DAY	$ 2,100.00	$ -
	Subtotal					$ -
	SALVAGE:					
228	Rail		0	NT	$ 65.00	$ -
228	OTM		0	NT	$ 75.00	$ -
	Subtotal					$ -
	SIGNAL WORK:					
210	Material - Field & Consumables					$ -
210	Material - Sales Tax					$ -
220	Material - Shop					$ -
60	Construction Labor					$ -
65	Shop Labor					$ -
230	Per Diem					$ -
200	RR Engineering,Preliminary					$ -
200	RR Engineering,Construction					$ -
60	Additives to Construction Labor					$ -
65	Additives to Shop Labor					$ -
200	Additives to Engineering					$ -
241	Equipment Expense					$ -
241	Waste Management					$ -
212	Contract Engineering					$ -
211	Freight					$ -
216	AC Power Service					$ -
228	Salvage					$ -
900	Other					$ -
	Subtotal					$ -
	ACCOUNTING & BILLING:					
40	Labor		1.5	Days @	$ 200.00	$ 300
40	Additive	65.54%				$ 197
	Subtotal					$ 497
	PROJECT SUBTOTAL:					$ 21,293
900	**CONTINGENCIES:**	10.00%				$ 2,129
	GRAND TOTAL	**				$ 23,422

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - **OH** EB3 (OH)

DIVISION OF COST:

Agency	100.00%	$	23,422
Railroad	0.00%	$	-
TOTAL	**	$	23,422

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Assistant Chief Engineer Public Projects--Jacksonville, Florida

Estimate prepared by: Terry Bump-URS Corporation   Approved by: CSXT Public Projects Group

DATE: 05/08/2008   REVISED: DATE:

ACCT. CODE : 709 - OH0701

Pub EB - OH EB3 (OH)

ESTIMATE SUBJECT TO REVISION AFTER: 11/04/2008 **DOT NO.:** 143 019M

CITY: Cleveland **COUNTY:** Cuyahoga **STATE:** OH

DESCRIPTION: Proposed Bridge Repairs – I-90 (Innerbelt) over Cuyahoga River, Norfolk Southern, Greater Cleveland Regional Transit Authority and CSXT Willow Industrial Track.

DIVISION: Western Division **SUB-DIV:** Cleveland **MILEPOST:** BJB-74.02

DRAWING NO.: __ **DRAWING DATE:** __ **REGION:** Western

AGENCY PROJECT NUMBER: PID 82069

Amount		
Task	Task Desc	Total
40	Labor General Office	$497
50	Labor Roadway	
60	Labor Signal	
65	Labor Signal1	
70	Labor Transportation	$2,556
200	Labor NonContract	$3,845
210	Invoice Material Material - Field & Consu	
211	Invoice Freight	
212	Invoice Contract Eng	$13,700
215	Invoice Misc	
216	Invoice Utilities	
220	Material New Material - Shop	
228	Scrap Credit	
230	ExpenseRpts	$695
241	Invoice Rental	
900	Other	
900	Contingencies	$2,129
	Material New	
Grand Total		$23,422

Oracle Input

February 20, 2008

Agreement No. 21893

Mr. Mel McNichols
CSX Transportation
Principal Engineer Public Projects
500 Water Street – J301
Jacksonville, FL. 32202

SUBJECT: **Cleveland, Cuyahoga County, Ohio**
Central Viaduct (I.R. 90) Emergency Bridge repair over CSX
Agency Reference: CUY-I.R.90-15.24 Steel Repair #2
PID No. 82069
CSX Reference: AARDOT # 143019M
Willow Industrial Track MP BJB-74.02

Dear Mr. McNichols:

The proposed work for this project is detailed on plans to be forwarded under separate cover from ODOT District 12, and includes emergency repairs to existing gusset plates, cantilever brackets, floorbeam connections, stringers, bracing and selective rivet replacement on the above-referenced bridge over CSX in the City of Cleveland, Cuyahoga County, OH.

1) No work will commence until the Railway has approved the State's final plans for the project. All work will be performed in accordance with the approved plans, specifications and the attached Special Clauses in the Proposal.

2) During the performance of the work, temporary construction clearances of 22'-0" vertically above the top of rail and 13'-0" horizontally from the centerline of a track shall be maintained to any form work, false work or other temporary obstruction.

3) The State's Contractor will not be allowed to commence work on or over Railway property until the following conditions have been met:

a) The State has received notice from the Railway that the required insurance is satisfactory.

b) The State has received written authorization from the Railway to begin work on Railway property. The written authorization will include the name and telephone number of the local representative who must be contacted to arrange for flag protection.

c) The State shall reimburse the Railway for all necessary force account work to accommodate the project, including but not limited to preliminary engineering, flagging, and construction engineering.

d) All obligations of the State provided for in this agreement which require the expenditure of funds by the State shall terminate at the end of the present biennium, being June 30, 2009. If construction covered under said agreement is not completed by June 30, 2009, it is the expressed intention of the parties to renew said obligations for one successive biennium period; with the renewal period beginning July 1, 2009 and ending no later than June 30, 2011; until such time as construction covered under said agreement is complete. Said renewal is conditioned upon the State determining future appropriations will permit the State to renew said obligations.

e) Contingent upon meeting requirements indicated above, railroad shall permit the State and/or its contractor to enter upon lands owned or operated by the company to permit construction and/or maintenance referenced herein.

(4) The State shall reimburse the railroad for applicable construction and engineering costs, based upon project billings rendered from the railroad in accordance with Federal Aid Policy Guide 140(1) of the Federal Highway Administration. The railroad shall render its billings to the State within 90 days in accordance with said rules and regulations, and further agrees to provide and furnish such itemized records and substantiating data for such costs as may be necessary.

If you agree with the terms of this letter, please indicate your concurrence by signing in the space below and return one copy of this letter to me. Please contact Rich Behrendt, Program Mgr./ State Rail Coordinator at (614) 387-3097 if you have any questions or concerns, or wish to discuss this project further.

Sincerely,

James Beasley

James G. Beasley, P.E., P.S.
Director of Transportation

Accepted by CSX Transportation:

By: Charles E. Gullakson

Title: Charles E. Gullakson, Assistant Chief Engineer

Date: 5/24/08

CUYAHOGA COUNTY
CUY-I.R.90-15.24 Steel Repair #2; PID 82069
CSX TRANSPORTATION INC.

CSX Willow Industrial Track
Milepost BJB-74.02

SPECIAL CLAUSES IN THE PROPOSAL

The bidder, if awarded the contract for this improvement agrees:

1. To cooperate at all times with the local officials of the railroad company.

2. To use all reasonable care and diligence in the work in order to avoid accidents, damage or unnecessary delay to, or interference with the trains and other property of the railroad company.

3. To conduct his work in a manner satisfactory to the Chief Engineer of the railroad company or his authorized representative, to perform his work in such manner and at such time as not to unnecessarily interfere with the movements of trains or railroad traffic, and to hold his work at all times open to inspection of railroad company inspectors.

4. To cooperate with a public utility, railroad or other organizations having occasion to do work on or in connection with the improvement.

5. To avoid unnecessary use of railroad property without written permission of the railroad company and to leave railroad roadbed and property in a condition acceptable to the Chief Engineer of the railroad company.

6. To execute a bond conditioned according to Section 5525.16 of the Revised Code of Ohio, in favor of the State of Ohio and further to carry insurance of the following kinds and amounts:

   a) **<u>Railroad Protective Liability Insurance.</u>**

   In addition to the above, he shall furnish evidence to the highway department that, with respect to the operations he or any of his sub-contractors perform, he has provided for and in behalf of CSX Transportation Inc. in the amount of $5,000,000 per occurrence and subject to that limit per occurrence, an aggregate limit in the amount of $10,000,000 for each annual period.

   The above railroad protective policy of insurance shall conform to the Railroad Liability requirements prescribed by the Federal Highway Administration in Federal-Aid Policy Guide 23 CFR 646A as amended. The insurer must be rated B+ or better by A.M. Best Company, Inc.

   The corporate name and address of the "Named Insured" as listed on the policy shall be as follows:

   CSX Transportation, Inc.
   500 Water Street, C-907
   Jacksonville, FL 32202

The description of operations must appear on the Declarations, must match the project description in this agreement and must include the appropriate MP and/or OP number as identified at the top of pg. 1

The job location must appear on the Declarations page and must include the city, state and appropriate highway name/number.

The name and address of the prime contractor must appear on the Declarations.

The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

Endorsements that **must** be included:
- Pollution Exclusion Amendment – CG 28 31 (not required with CG 00 35 01 96 and newer versions)
- Delete Common Policy Conditions – Section E. Premiums

Other endorsements/forms that will be accepted are:
- Broad Form Nuclear Exclusion – Form IL 00 21
- 30-day Advance Notice of Non-renewal or cancellation
- Required State Cancellation Endorsement
- Quick Reference or Index Form CL/IL 240

Endorsements/forms that are NOT acceptable are:
- Any Pollution Exclusion Endorsement except CG 28 31
- Any Punitive or Exemplary Damages Exclusion
- Any other endorsement/form not specifically authorized above.
- Any type of deductible policy

The number of trains operating through the improvement is estimated to be:

__0__ Passenger trains per day @ _N/A_ miles per hour.

_0-2_ Freight trains per day @ _10_ miles per hour.

Additional Terms

1. Contractor must submit its original insurance policies and two (2) copies and all notices and correspondence regarding the insurance policies to:

   Donna Melton
   CSX Corporation
   500 Water Street – C907
   Jacksonville, FL. 32202
   Phone: 904-359-1247
   FAX: 904-245-2833
   Email: donna_melton@csx.com

2 Neither Agency nor Contractor may begin work on the Project until it has received CSXT's written approval of the required insurance policies.

Certificate must be provided which evidences the following coverages and lists the Certificate Holder as:

CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202

Commercial General Liability: as required by the Department's Construction and Material Specification, Section 107.12, and lists CSX Transportation, Inc. as additional insured.

Automobile Liability: Limits of minimum of $1,000,000 per occurrence, and lists CSX Transportation, Inc. as additional insured.

(b) General Insurance Requirements

The insurance hereinbefore specified shall be with an acceptable insurance company authorized to do business in the State of Ohio, and shall be taken out before execution of the Contract by the Director and kept in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State. Such policies shall include thirty (30) days canceling notice. The cost of insurance hereinbefore specified in subsection (a) will be a specific bid item.

Notwithstanding the Department's Construction and Material Specification No. 107.12 "Evidence" as above set forth shall consist of furnishing the Director of Transportation three (3) certified copies of the railroad policy.

7. To indemnify, defend, and hold CSXT and its affiliates harmless from and against all claims, demands, payments, suits, actions, judgments, settlements, and damages of every nature, degree, and kind (including direct, indirect, consequential, incidental, and punitive damages), for any injury to or death to any person(s) (including, but not limited to the employees of CSXT, its affiliates, the State or the Contractor), for the loss of or damage to any property whatsoever (including but not limited to property owned by or in the care, custody, or control of CSXT, its affiliates, the State or the Contractor, and environmental damages and any related remediation brought or recovered against CSXT and its affiliates), arising directly or indirectly from the negligence, recklessness or intentional wrongful misconduct of the Contractor, the State, and their respective agents, employees, invitees, contractors, or its contractor's agents, employees or invitees in the performance of work in connection with the project or activities incidental thereto, or from their presence on or about CSXT's property. The foregoing indemnification obligation shall not be limited to the insurance coverage required in paragraph 6 above

8. The Railroad company will assign, at the sole cost and expense of the Department, railroad flaggers or other protective services and devices as necessary to insure the safety and continuity of the work to be performed as a part of this contract. Said services and devices will be provided when necessary, as determined by the railroad company, because of any of the Contractor's operations over, under or adjacent to tracks over which trains are operating. The provision of such protective personnel and devices does not relieve the Contractor from the liability of payment for damage caused by his operations.

Such protection will be required when men or equipment are working within clearances limits of 25 feet of a rail or when work being performed adjacent to operating tracks may present hazards to tracks, train operation, or when equipment does or may infringe upon such limits.

The Contractor will not be permitted to operate any of his own equipment on railroad tracks except under an acceptable arrangement with the railroad company. Such equipment and the operation of such equipment, or equipment rented from the railroad company, shall be arranged for by the Contractor with the railroad and the cost for its use, including protection or railroad traffic, shall be borne by the Contractor.

The Contractor shall notify the following named individual for each railroad company at least 30 days, or as directed by the authorized representative of the Railroad, in advance of starting any work which might require protection:

Mr. Dave Fette, Regional Director R/W Construction
CSX Transportation, Inc.
1717 Dixie Highway, Suite 400
Fort Wright, KY 41011 - 2785
Telephone: (859) 344- 8137

The Contractor shall notify the railroad at least 5 working days in advance of suspending or ceasing operations that require a flagger.

Railroad protective personnel assigned to the project will be responsible for notifying the Engineer upon arrival at the job site on the first working day that protective services begin and on the last day that he performs such services. This will be required for each separate period that such services are provided. The Engineer will document such notification in the project diary.

The Contractor will be responsible for protective services provided at his request and not utilized due, in the opinion of the Engineer, to a change in the Contractor's construction schedule or if it is determined by the Engineer that the requested services were not necessary. The actual costs for such protective services so assessed to the Contractor will be deducted from the Contract.

The decision of the Director of Transportation shall be final in the event of controversy as to the necessity for any protection services provided and not utilized by the Contractor as described in the preceding paragraph.

9. To pay the railroad or owning company for any changes, requested for his convenience, to railroad property, facilities, wire, fiber optic and/or pipe lines other than shown on the plans for the project.

10. If at any time the contractor desires a temporary crossing of the railroad's tracks, he shall make a request for a temporary crossing from the railroad. If approved, he shall arrange with the railroad company, execute its regular form of private grade crossing agreement covering the crossing desired, paying all construction, maintenance, removal, protection and other costs.

11. Methods and procedures for performing work on property of **CSX Transportation, Inc.** must be approved by:

David J. Fette, Regional Director Right of Way Construction
CSX Transportation, Inc.
1717 Dixie Highway, Suite 400
Fort Wright, KY 41011-2785
Phone: (859) 344-8137

End of Special Clauses

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701

ESTIMATE SUBJECT TO REVISION AFTER: **11/04/2008** **DOT NO.:** 143 019M
CITY: Cleveland **COUNTY:** Cuyahoga **STATE:** OH
DESCRIPTION: Proposed Bridge Repairs – I-90 (Innerbelt) over Cuyahoga River, Norfolk Southern, Greater Cleveland Regional Transit Authority and CSXT Willow Industrial Track.
DIVISION: Western Division **SUB-DIV:** Cleveland **MILE POST:** BJB-74.02
AGENCY PROJECT NUMBER: PID 82069

PRELIMINARY ENGINEERING:				
200 Labor (Non Contract)			$	1,350
200 Additive	42.41%		$	573
230 Expenses			$	235
212 Contracted & Administrative Engineering Services			$	5,500
Subtotal			$	7,658
CONSTRUCTION ENGINEERING/INSPECTION:				
200 Labor (Non Contract)			$	1,350
200 Additive	42.41%		$	573
230 Expenses			$	235
212 Contracted & Administrative Engineering Services			$	8,200
Subtotal			$	10,358
FLAGGING SERVICE: (Contract Labor)				
070 Labor (Conductor-Flagman)			$	1,450
050 Labor (Foreman/Inspector)			$	-
070 Additive	76.28%	(Transportation Department)	$	1,106
050 Additive	77.52%	(Engineering Department)	$	-
230 Per Diem	(Engineering Department)		$	-
230 Expenses			$	225
Subtotal			$	2,781
SIGNAL & COMMUNICATIONS WORK:	(Details Attached)		$	-
TRACK WORK: (Details Attached)			$	-
ACCOUNTING & BILLING:				
040 Labor			$	300
040 Additive	65.54%		$	197
Subtotal			$	497
PROJECT SUBTOTAL			$	21,293
900 **CONTINGENCIES:**	10.00%		$	2,129
GRAND TOTAL		**	$	23,422
DIVISION OF COST:				
Agency	100.00%		$	23,422
Railroad			$	-
TOTAL		**	$	23,422

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Assistant Chief Engineer Public Projects–Jacksonville, Florida

Estimate prepared by: Terry Bump-URS Corporation Approved by: Mel R. McNichols CSXT Public Projects Group
DATE: 05/08/2008 REVISED: DATE: 05/14/2008

Form Last Revised: December 19, 2006 HAG Project Summary Sheet

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - **OH** EB3 (OH)

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DIVISION: Western Division **SUB-DIV:** Cleveland **MILEPOST:** BJB-74.02
DRAWING NO.: __ **DRAWING DATE:** __ **REGION:** Western
AGENCY PROJECT NUMBER: PID 82069

	PRELIMINARY ENGINEERING:							
200	Labor (Non Contract)		5	Days @	$	270.00	$	1,350
200	Additive	42.41%					$	573
230	Expenses						$	235
212	Contracted & Administrative Engineering Services						$	5,500
	Subtotal						$	7,658
	CONSTRUCTION ENGINEERING/INSPECTION:							
200	Labor (Non Contract)		5	Days @	$	270.00	$	1,350
200	Additive	42.41%					$	573
230	Expenses						$	235
212	Contracted & Administrative Engineering Services						$	8,200
	Subtotal						$	10,358
	FLAGGING SERVICE: (Contract Labor)							
70	Labor (Conductor-Flagman)		5	Days @	$	290.00	$	1,450
50	Labor (Foreman/Inspector)		0	Days @	$	235.00	$	-
70	Additive	76.28% (Transportation Department)					$	1,106
50	Additive	77.52% (Engineering Department)					$	-
230	Expenses	(Engineering Department)	0	Days @	$	75.00	$	-
230	Expenses		5	Days @	$	45.00	$	225
	Subtotal						$	2,781
	COMMUNICATIONS WORK:							
	Temporary (Details Attached)						$	-
	Permanent (Details Attached)						$	-
	Subtotal						$	-

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - **OH** EB3 (OH)

	TRACK: LABOR					
50	Traffic Control		0	MAN-HRS	$ 21.00	$ -
50	Remove Existing Crossing		0	MAN-HRS	$ 21.00	$ -
50	Renew Cross Ties		0	MAN-HRS	$ 21.00	$ -
50	Renew Rail		0	MAN-HRS	$ 21.00	$ -
50	Install OTM		0	MAN-HRS	$ 21.00	$ -
50	Install Field Welds		0	MAN-HRS	$ 21.00	$ -
50	Install Geo-Textile Fabric		0	MAN-HRS	$ 21.00	$ -
50	Install Sub-Drains		0	MAN-HRS	$ 21.00	$ -
50	Install Ballast		0	MAN-HRS	$ 21.00	$ -
50	Line and Surface		0	MAN-HRS	$ 21.00	$ -
50	Install Crossing Materials		0	MAN-HRS	$ 21.00	$ -
50	Install Bituminous Pavement		0	MAN-HRS	$ 21.00	$ -
50	________		0	MAN-HRS	$ 21.00	$ -
50	________		0	MAN-HRS	$ 21.00	$ -
50	________		0	MAN-HRS	$ 21.00	$ -
50	Clean-Up		0	MAN-HRS	$ 21.00	$ -
50	Additive	77.52%				$ -
230	Per Diem		0	MAN-DAY	$ 90.00	$ -
	Subtotal					$ -
	TRACK: MATERIAL					
220	Cross Ties, Main Line		0	EA	$ 31.00	$ -
220	Rail, 136RE, New		0	LF	$ 17.00	$ -
220	Misc. OTM		1	LOT	$ -	$ -
210	Geo-Textile Fabric		0	RL	$ 250.00	$ -
210	Sub-Drains		0	LF	$ 6.00	$ -
220	Ballast		0	NT	$ 5.75	$ -
220	Field Welds		0	EA	$ 100.00	$ -
	________		0	___	$ -	$ -
	________		0	___	$ -	$ -
210	Concrete Full Width		0	TF	$ 225.00	$ -
210	Concrete/Rubber Xing (CSX)		0	TF	$ 135.00	$ -
210	Rubber Crossing, Full Depth		0	TF	$ 280.00	$ -
210	Timber/Asphalt Crossing (CSX Standard)		0	TF	$ 42.00	$ -
220	Crossties, 10' Length		0	EA	$ 39.00	$ -
210	Bituminous Material		0	NT	$ 80.00	$ -
210	Sales Tax on Material	0.00%				$ -
210	Material Handling	5.00%				$ -
	Subtotal					$ -
	CONTRACT:					
215	Asphalt Paving (In Place)		0	NT	$ 120.00	$ -
241	Disposal of Waste Materials		0	TF	$ 10.00	$ -
215	Maintenance of Traffic		0	DAY	$ 300.00	$ -
	Subtotal					$ -

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - OH0701
Pub EB - OH EB3 (OH)

241	**EQUIPMENT RENTAL:**						
	Subtotal					$	-
50	**WORK TRAIN:**		0	DAY	$ 2,100.00	$	-
	Subtotal					$	-
	SALVAGE:						
228	Rail		0	NT	$ 65.00	$	-
228	OTM		0	NT	$ 75.00	$	-
	Subtotal					$	-
	SIGNAL WORK:						
210	Material - Field & Consumables					$	-
210	Material - Sales Tax					$	-
220	Material - Shop					$	-
60	Construction Labor					$	-
65	Shop Labor					$	-
230	Per Diem					$	-
200	RR Engineering,Preliminary					$	-
200	RR Engineering,Construction					$	-
60	Additives to Construction Labor					$	-
65	Additives to Shop Labor					$	-
200	Additives to Engineering					$	-
241	Equipment Expense					$	-
241	Waste Management					$	-
212	Contract Engineering					$	-
211	Freight					$	-
216	AC Power Service					$	-
228	Salvage					$	-
900	Other					$	-
	Subtotal					$	-
	ACCOUNTING & BILLING:						
40	Labor		1.5	Days @	$ 200.00	$	300
40	Additive	65.54%				$	197
	Subtotal					$	497
	PROJECT SUBTOTAL:					$	21,293
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Agency	100.00%		$	23,422
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Office of Assistant Chief Engineer Public Projects–Jacksonville, Florida

Estimate prepared by: Terry Bump-URS Corporation Approved by: CSXT Public Projects Group

DATE: 05/08/2008 REVISED: DATE:

ACCT. CODE : 709 - OH0701
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ESTIMATE SUBJECT TO REVISION AFTER: 11/04/2008 **DOT NO.:** 143 019M
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220	Material New Material - Shop	
228	Scrap Credit	
230	ExpenseRpts	$695
241	Invoice Rental	
900	Other	
900	Contingencies	$2,129
	Material New	
Grand Total		$23,422

Oracle Input

CLEVELAND, CUYAHOGA COUNTY, OHIO
CUY-I.R.90-15.24 Steel Repair #2; PID 82069
CSX TRANSPORTATION, INC.
MILEPOST BJB-74.02
CSXT OP# OH0701

SCHEDULE I

CONTRACTOR'S ACCEPTANCE

To and for the benefit of CSX Transportation, Inc. ("CSXT") and to induce CSXT to permit Contractor on or about CSXT's property for the purposes of performing work in accordance with the Agreement dated February 20, 2008 (accepted May 24, 2008 by CSXT), between the Ohio Department of Transportation and CSXT, Contractor hereby agrees to abide by and perform all applicable terms of the Agreement, including the Special Clauses In The Proposal.

Contractor: ____________________

By: ____________________
Name: ____________________
Title: ____________________
Date: ____________________

\\COR\130459.7