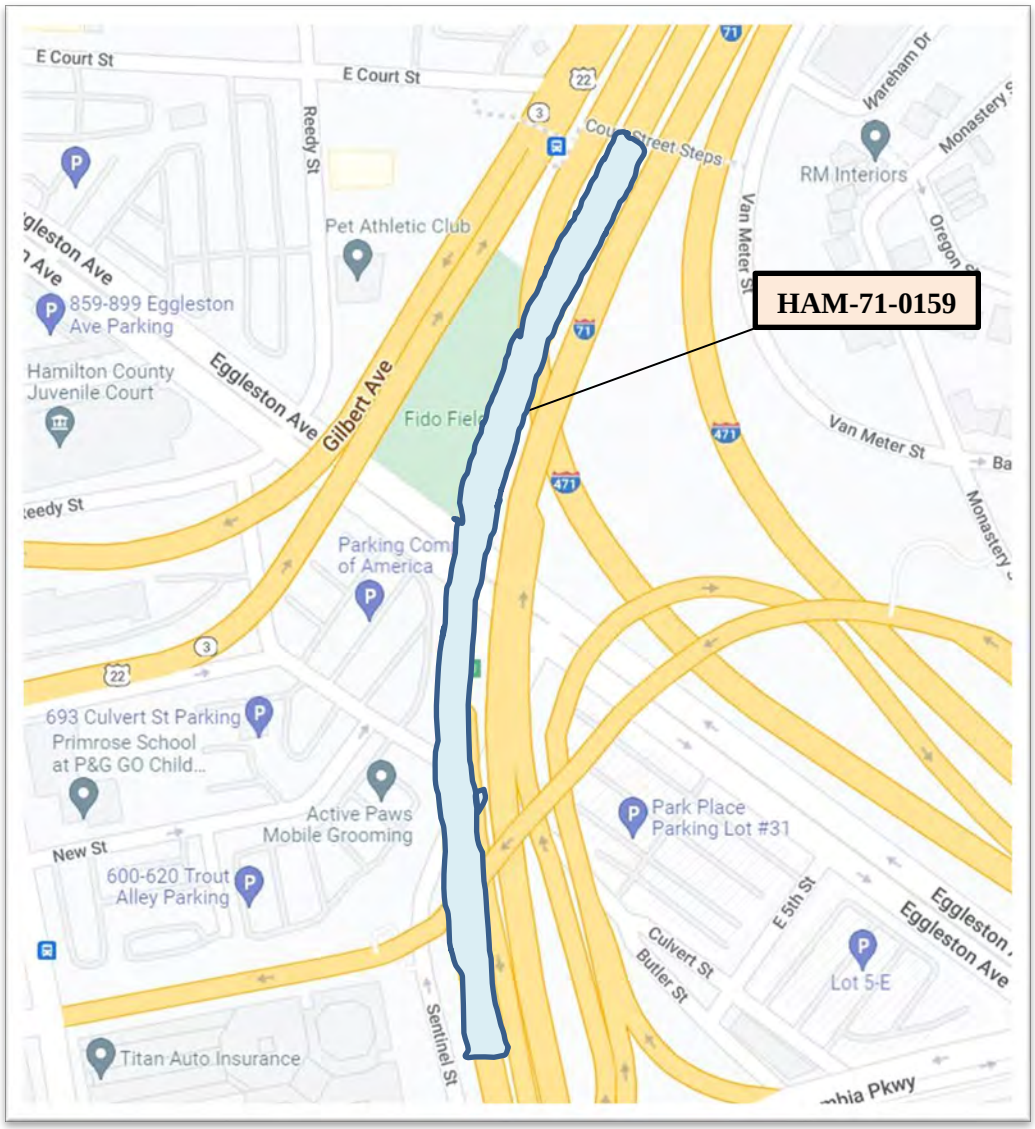
COLLINS ENGINEERS INC.

April 4, 2023

PRE-INSPECTION REPORT

BRIDGE NO HAM-71-0159
PID No. 105476



I-71 OVER EGGLESTON AVENUE, SENTINEL STREET,
CULVERT STREET AND I-471 RAMP SB

124 Venture Court • Suite 10 • Lexington, KY 40511 • 859.367.0097 • Fax 859.367.0140 • www.collinsengr.com

INSPECTION DETAILS:

Bridge Nos.:	HAM-71-0159
Features intersected:	Eggleston Avenue, I-471 SB Ramp, Local Parking Lots, Sentinel Street, Culvert Street
Locations to Inspect:	HAM-71-0159: 8 steel pier caps (Piers 1W, 2E, 2W, 3W, 4W, 7E, 8W, 9W)
No. of Inspection Days:	Anticipated 3-4 days and 1 night
No. of Caps to Inspect:	8
Anticipated Inspection Dates:	Week of June 26 (tentative, subject to approval)
Inspection Hours:	9:00 AM to 3:00 PM Weekdays and 10:00 PM to 5:00 AM (I-471 Ramp)
Inspection Access Equipment:	Bucket Truck, Ladders

FRACTURE CRITICAL INSPECTION REQUIREMENTS:

The inspection will consist of an In-Depth "Arms-Reach" inspection, performed in accordance with the guidelines of the current FHWA National Bridge Inspection Standards for Fracture Critical Members. To perform an effective Fracture Critical Inspection, the following tasks must be performed:

1. Determine Resource Requirements.
   (Identify qualified inspection staff, use appropriate inspection access and inspection equipment).
2. Identify the Fracture Critical Members.
3. Develop the Inspection Procedure.
   (Contained in this document)
4. Prepare Follow-up Procedure.
   (Recommendations will be made as part of this current project)
5. Provide Quality Control/Quality Assurance for the inspection and report.
   (Procedures outlined in this document)
6. Develop a Periodic Inspection Plan
   (Already in place with the Ohio Department of Transportation, District 8)

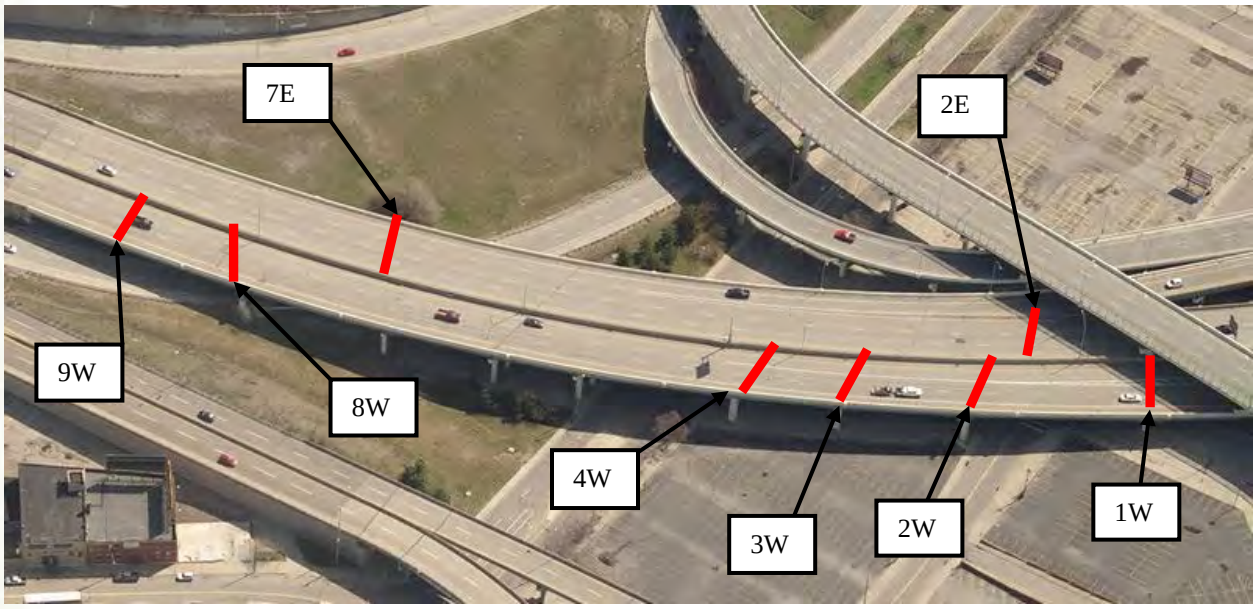
BRIDGE DESCRIPTION:

This ten-span welded steel plate girder bridge carries northbound and southbound Interstate I-71 over Eggleston Avenue, I-471 southbound, and other local streets. It was built in 1970 and has a reinforced concrete deck which varies in width. The supported roadway has both a vertical and horizontal curve. The overall length of the bridge is approximately 1,034 feet. The bridge numbering system follows the convention set in the design plans (from south to north). The bridge is divided into West and East units with the West structure carrying the southbound lanes and the East structure carrying the northbound lanes. Access to the structure will be from ladders and a bucket truck.

FRACTURE CRITICAL MEMBER LOCATIONS:

This structure has eight fracture critical steel pier caps supported by concrete columns at Piers 1W, 2E, 2W, 3W, 4W, 7E, 8W, and 9W. The caps are simply supported welded box members with cantilevered ends ranging from 2'-9" to 15'-10 7/8". Six to eight welded plate girders frame into the box section.

The girder webs are bolted by vertical double angles to the cap web. The girder top flange splice plate is bolted to the top flange of the cap. The girder bottom flange at Piers 1W, 2W, 7E, and 8W passes through the cap and is welded to the cap webs. The girder bottom flange splice plate at Piers 2E, 3W, 4W, and 9W is bolted to the bottom flange. Select fatigue prone details for the pier caps on this structure were retrofitted in 2010 (See Appendix C for the fatigue prone details).



INSPECTION METHODS & PLAN:

The Collins Team will perform inspections of eight fracture critical pier caps on HAM-71-0159, as defined by the Scope of Services. The caps span local streets, local parking lots and I-471 ramp. The work will be performed during 1 night and 3-4 days. The inspection will adhere to the Confined Space Entry Procedures defined herein and in the company safety procedures. Traffic control will be provided by A&A Safety according to the standards shown in Appendix B.

FIELD COORDINATION - The following staff will be involved in coordinating and performing all field work associated with the inspection of these structures.

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COLLINS – Field Team Contacts:

Michael Seal, P.E., CBI: Team Leader, Project Manager (614) 849-2277 (C)
mseal@collinsengr.com

Matt Rogers, P.E., CBI: Team Leader (859) 630-2238 (C)
mrogers@collinsengr.com

Kevin Mitchell, CBI, Asst. Team Leader, (606) 344-3000 (C)
kmitchell@collinsengr.com

ODOT (Project and Permitting Contacts) – A right of entry permit is necessary through ODOT District 8. See Appendix C. The following ODOT personnel will be contacts.

Brandon Collett: Project Manager (513) 933-6643
Brandon.Collett@dot.state.oh.us

Jeff Meyer: Assistant Structures Engineer (513) 933-6630

Scott Kraus: District Work Zone Traffic Manager (513) 933-6519
Scott.Kraus@dot.state.oh.us

Chris Bass: Right-of-Way Use Permits (513) 933-6575
Christopher.Bass@dot.state.oh.us

CITY OF CINCINNATI (Permitting) – A right of entry permit is required through the City of Cincinnati. This permit will stipulate lane closure limitations and approve any proposed traffic control. Inspection of the piers will require access to the parking lots at Sentinel St. and Culvert St. intersection beneath I-71. The various parking lot management companies and building owners will be notified of the upcoming fieldwork.

DOTE Permit and License Center (513) 352-3463

Anthony Bennett: ROW Permitting (513) 352-3405
Anthony.bennett@cincinnati-oh.gov

Tom Klumb: Real Estate (513) 352-1571
Tom.klumb@cincinnati-oh.gov

A&A Safety – A&A Safety will be the traffic control subcontractor for this inspection. Refer to Appendix A for proposed maintenance of traffic schemes. Contacts are:

Don Beagle/Keith Gilbert: A&A Safety (513) 276-2153
donb@aasafetyinc.com

Approved right of entry permits from ODOT and City of Cincinnati will be kept on the job site throughout the inspection period.

TRAFFIC CONTROL – A&A Safety will be responsible for installation of traffic control devices to close lanes of Sentinel Street, Culvert Street, local parking lots and the I-471 ramp. A brief description of the anticipated closures is as follows.

Sentinel Street – The interior lanes and median of Sentinel Street will be closed between Eggleston Ave and Culvert St. The lanes will be closed from 8:30 am to 4:30 pm for allowable day activities and 10pm-5am for night work activities.

Procter & Gamble Parking Lot – Parking spots in the Procter & Gamble parking lot will have to be closed off to reach Piers 2W, 3W, & 4W. The daytime work will be from 8:30 am to 4:30 pm.

I-471 Ramp from East Liberty Street – Single lane closures will be anticipated on this ramp during the nighttime hours for access to Piers 7E, 8W and 9W underneath bridge HAM-71-0159. The lanes will be closed from 10:00 pm to 5:00 am.

PARKING LOT INFORMATION: Inspection of multiple pier caps will take place from parking lots at the Sentinel St. and Culvert St. intersection beneath I-71. During the inspection at least four spaces will be occupied and closed off with cones and we will coordinate with the Lessee's for access. To ensure allowance of closure within the lot, Tom Klumb (contact for City of Cincinnati Real Estate Services) will be contacted at least one week prior to inspection to coordinate.

CONFINED SPACE ENTRY PROCEDURE: See below.

INSPECTION PLAN:

The condition inspection of the steel box girder pier caps on HAM-71-0159 will involve a 3-4 day, 1-night field effort to completely inspect both the interior and exterior. The exterior will be inspected from a bucket truck and ladders for access and the interiors will be inspected by entering the box girder per the procedures outlined below. A 3-man inspection team will perform the confined space inspection.

Collins will open the pier caps 1 hour prior to entering to ventilate the piers. Prior to the start of the inspection, the inspection team shall meet at the site for a safety meeting and review the details of this inspection plan.

Entry will be performed in accordance with permit-required confined space entry procedures. This includes the use of an entry permit system, pre-entry and continuous air monitoring, and designating qualified entrants, attendants, and supervisor(s). The Project Work Plan will outline safety procedures for confined space work and contain contact information for local EMS services and for the local Hospital.

Prior to the inspection, initial air monitoring for O2, %LEL, CO, and H2S will be performed by one designated certified entrant climbing the length of the steel box girder pier caps and the certified attendant documenting the readings every 25 feet. Radios will be used for team communications during the inspection. At the conclusion of the initial entry and air monitoring, the confined space air readings will be evaluated and if no hazards exist, the space will be designated a non-permit required confined space. Members of the inspection team entering the confined space will continuously monitor the air,

and the attendant will document readings in the box every 30 minutes for the duration of the work inside of the confined space.

If the monitor alarms go off during the initial entrance indicating that unsafe atmospheric conditions exist, the entrant will immediately exit the steel box girder (using a 10-minute escape pack if needed). If unsafe atmospheric conditions continue to exist, further ventilation will continue and the initial air monitoring performed again at a later time after proper ventilation. A blower and generator will be used to provide proper ventilation to the box girder, if necessary. If the atmospheric hazards cannot be removed from the confined space, the box girder will NOT be entered and the District's Project Manager will be contacted to notify and to receive further instructions.

FOLLOW-UP PROCEDURES FOR INSPECTION FINDINGS:

Fracture critical inspection findings shall be documented in the final inspection report.

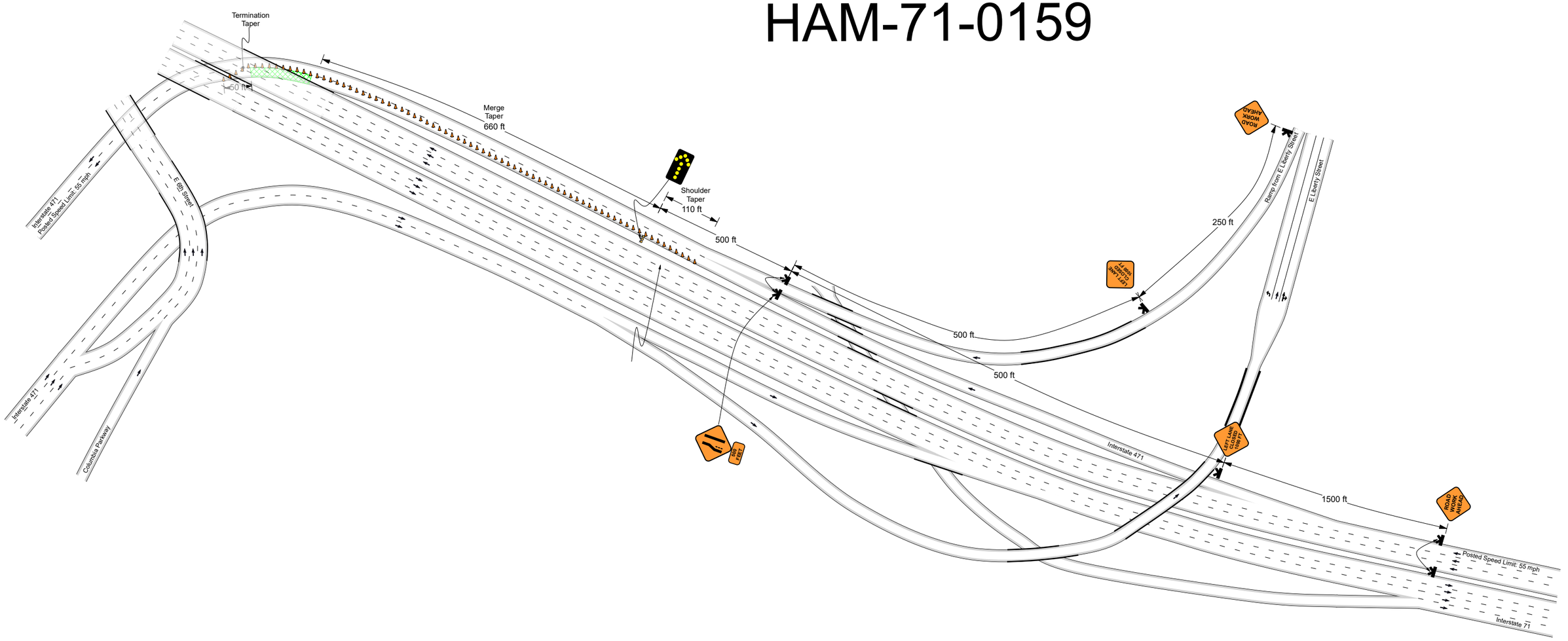
Quality Control/Quality Assurance

The standard Collins Quality Control Plan will be utilized. Such steps include: completion of field task checklist prior to leaving site, team leader review of all field notes and photographs before leaving the site, either the report originator or checker will be part of the field team, the report checker will be an NBI Team Leader, the report corrector cannot be the checker, the backchecker cannot be the corrector, and the field team leader will be involved for at least one phase of the reporting process.

APPENDIX A – RIGHT OF ENTRY PERMIT APPLICATIONS

APPENDIX B – TRAFFIC CONTROL DETAILS

HAM-71-0159



Notes:
- Sign spacing and buffer space may be adjusted to fit field conditions.
- "Road Work Ahead" signs shall be placed on all cross streets intersecting within the work area. The signs should be placed a minimum of 100 feet in advance of the intersection.

Date: 1/20/2023 **Author:** P. McCarty **Project:** D8 Steel Pier Caps - Cincinnati, OH
Customer: *Collins Engr* **Reviewer:** J. McCarty **BridgeONumber:** HAM-71-0159

Comments:

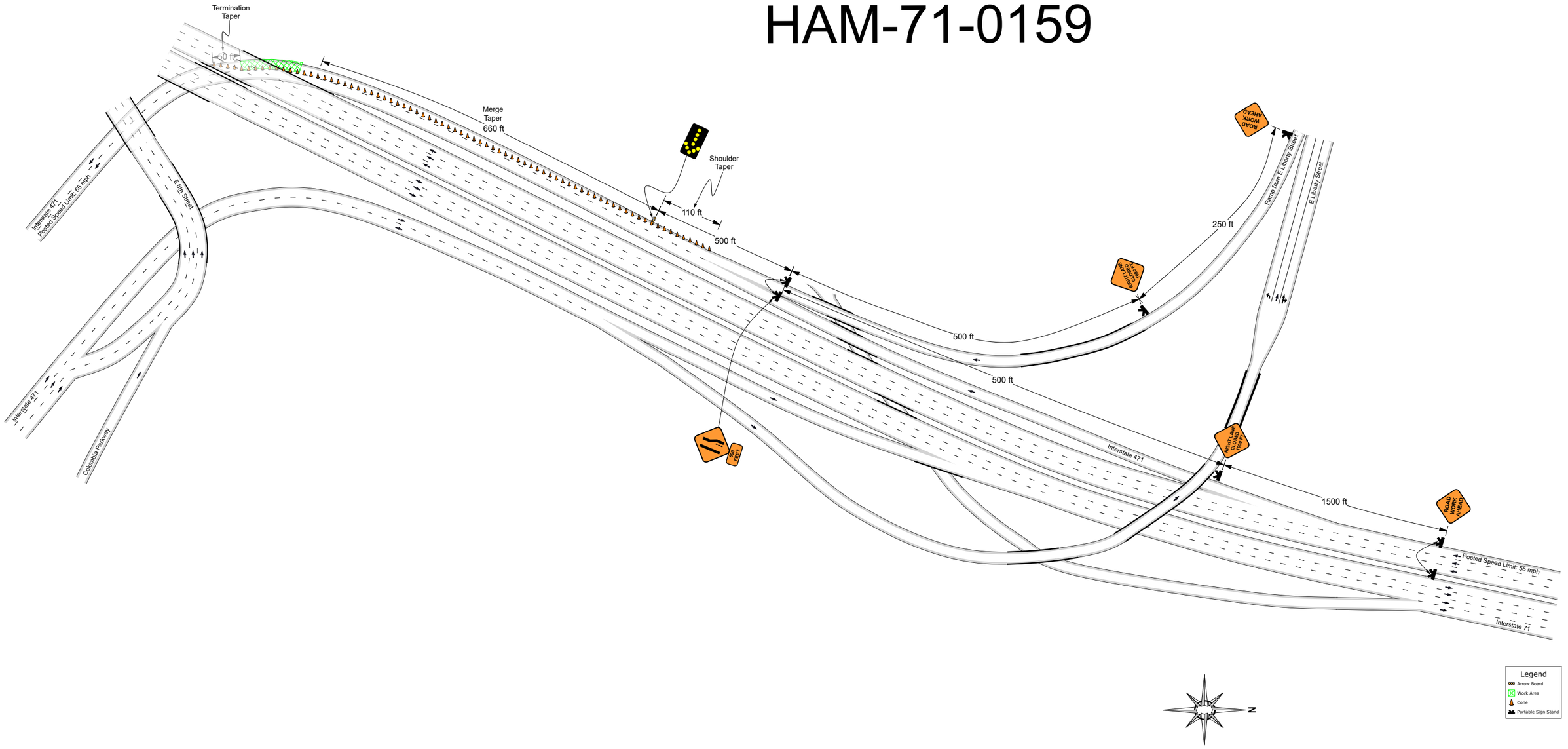
Type of Road: Urban Interstates, Ramps, and Commercial Routes
Traffic Volume: Moderate to Heavy

All signs & devices shall be placed in accordance with the latest provisions of Ohio Manual for Uniform Traffic Control Devices (OMUTCD) with respect to any applicable provisions from the City of Cincinnati.

Access to residential and commercial driveways to be maintained at all times.
Flaggers shall be trained in safe temporary traffic control practices.
Flaggers shall remain in constant communications, via two-way radio, at all times.
Parking ban shall be coordinated with the Cincinnati Police Department.

PLANS ARE NOT TO SCALE

HAM-71-0159



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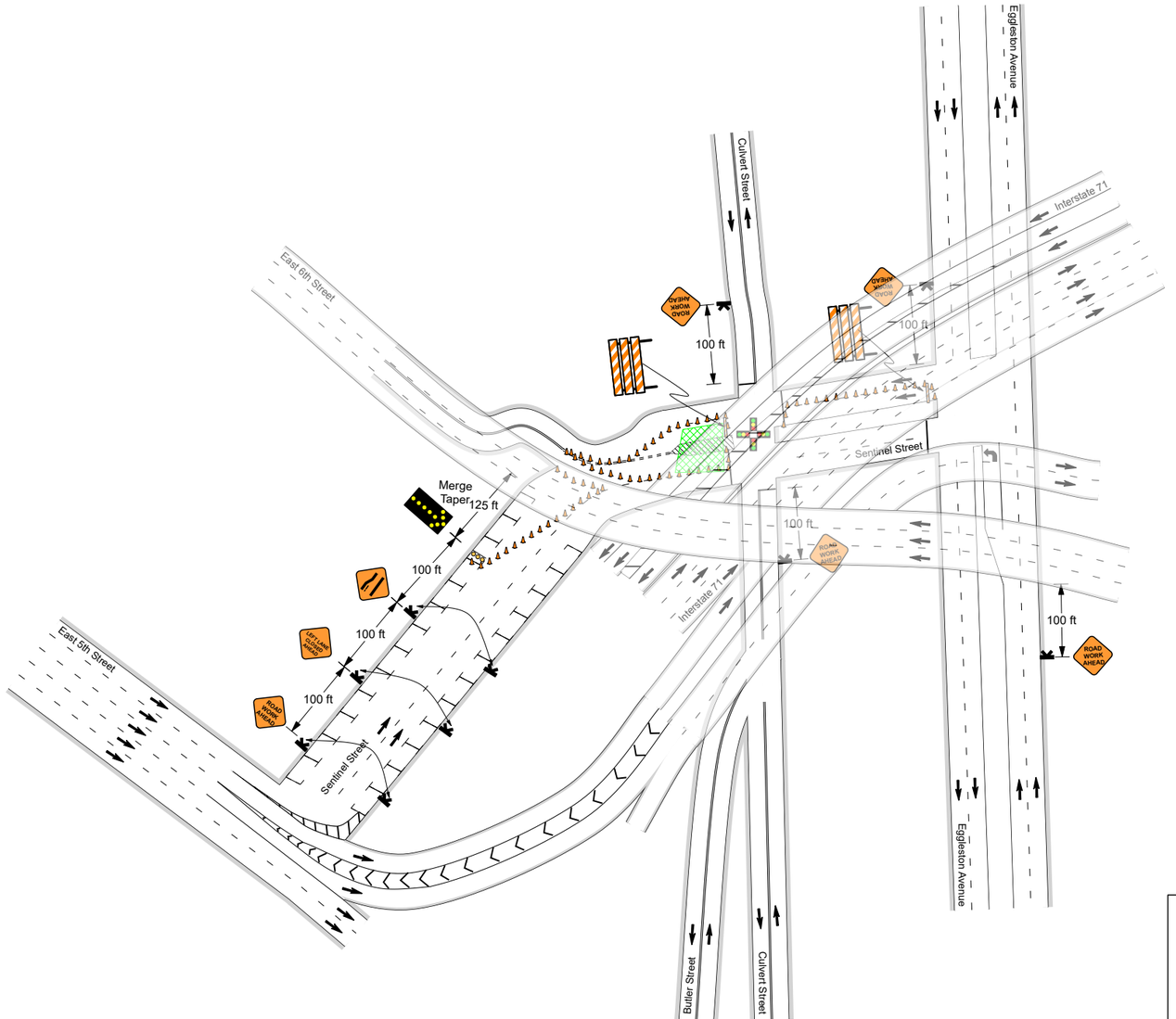

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Legend
- Work Area
- Cone
- Portable Sign Stand
- Type 3 Barricade

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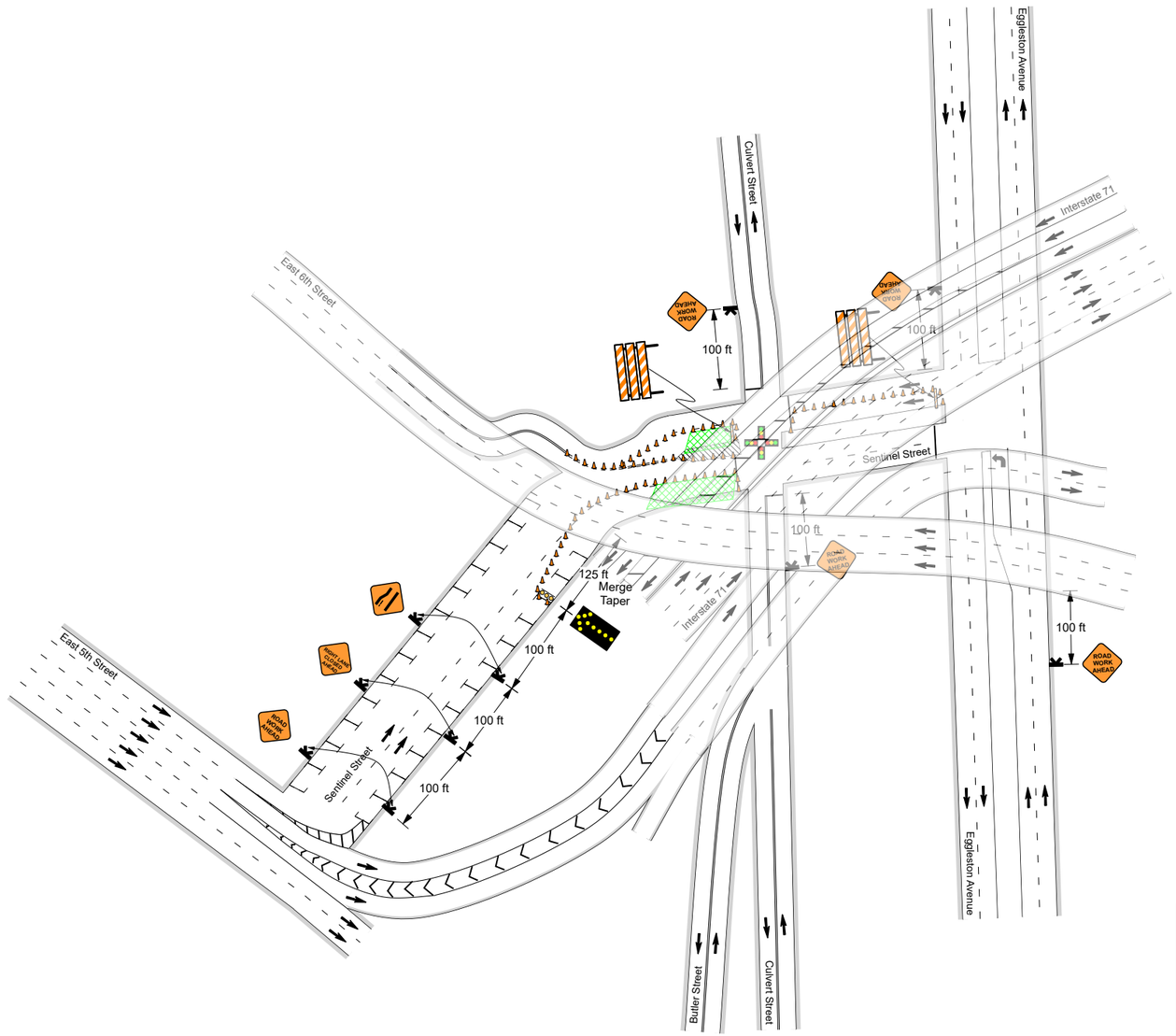

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Legend
- Arrow Board
- Work Area
- Cone
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- Type 3 Barricade

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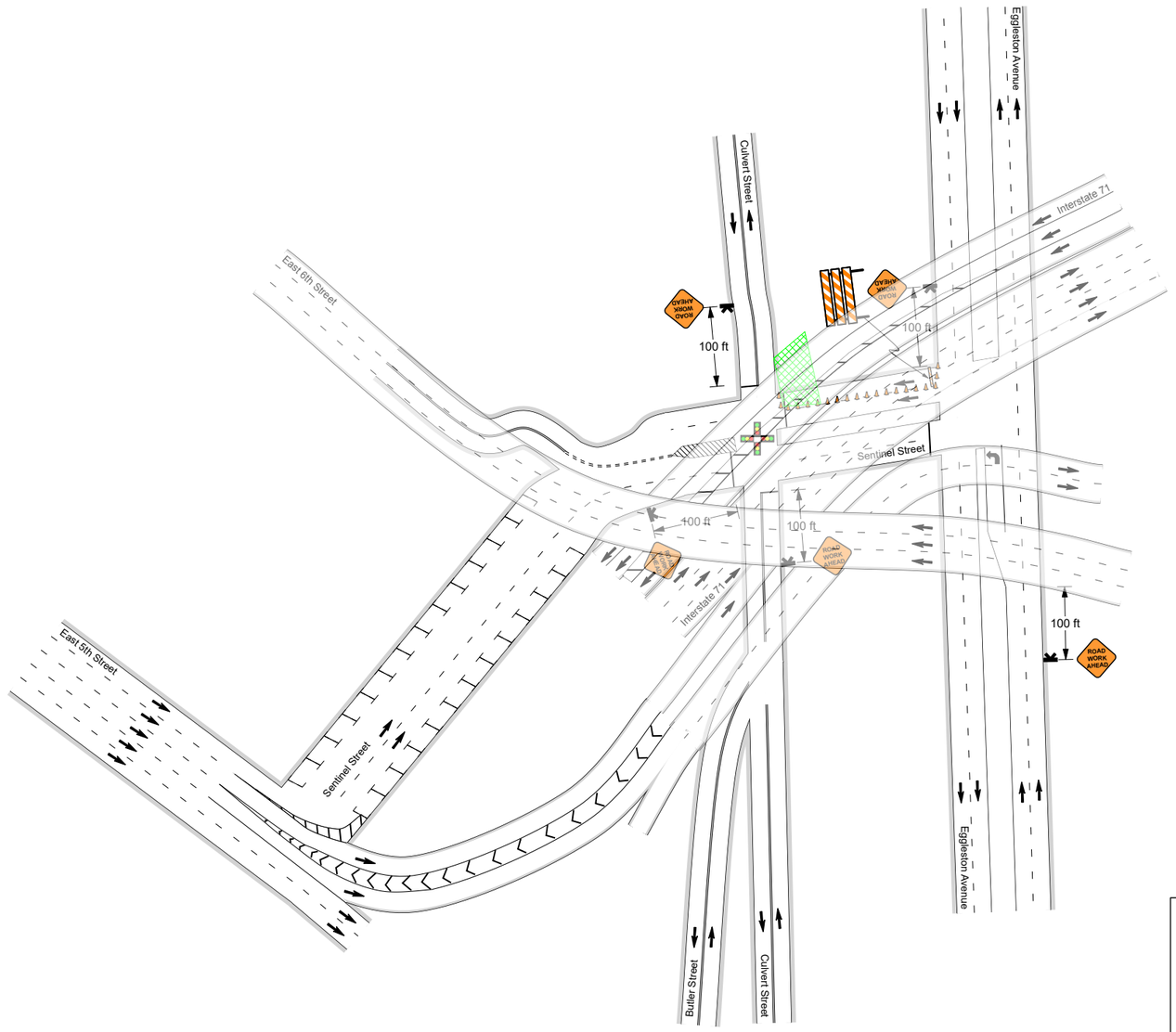

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- Work Area
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- Portable Sign Stand
- Type 3 Barricade

N

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PLANS ARE NOT TO SCALE

Notes for Figure 6H-23—Typical Application 23
Left Lane Closure on the Far Side of an Intersection

Guidance:

1. *If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure 6H-29.*

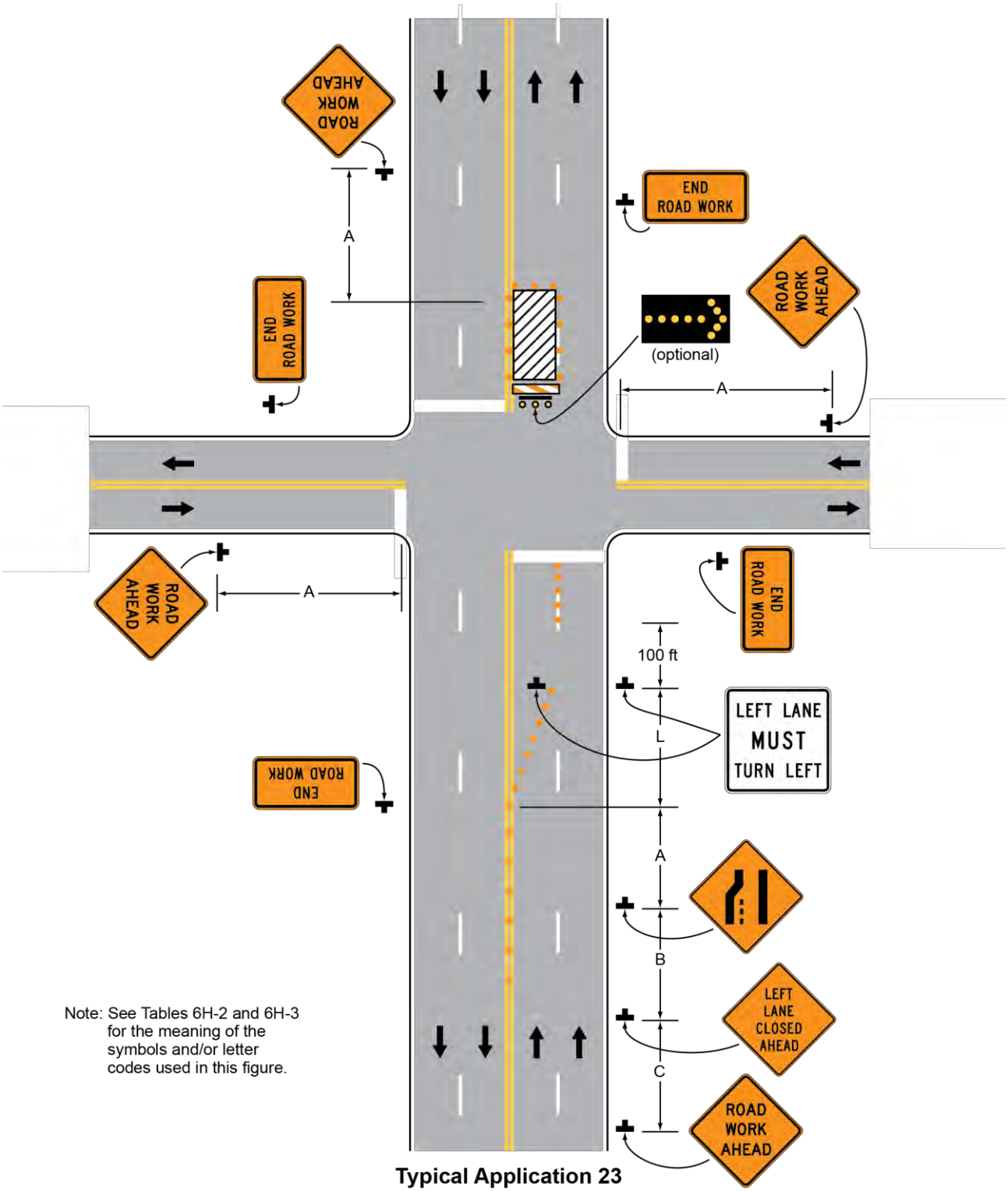
Option:

2. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
3. The normal procedure is to close on the near side of the intersection any lane that is not carried through the intersection. However, when this results in the closure of a left lane having significant left-turning movements, then the left lane may be reopened as a turn bay for left turns only, as shown.

Support:

4. By first closing off the left lane and then reopening it as a turn bay, the left-turn bay allows storage of turning vehicles so that the movement of through traffic is not impeded. A left-turn bay that is long enough to accommodate all turning vehicles during a traffic cycle will provide the maximum benefit for through traffic. Also, an island is created with channelizing devices that allows the LEFT LANE MUST TURN LEFT sign to be repeated on the left adjacent to the lane that it controls.

Figure 6H-23. Left Lane Closure on the Far Side of an Intersection (TA-23)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 23

Notes for Figure 6H-30—Typical Application 30
Interior Lane Closure on a Multi-lane Street

Guidance:

1. *This information applies to low-speed, low-volume urban streets. Where speed or volume is higher, additional signing such as Lane Ends (W4-2) should be used.*

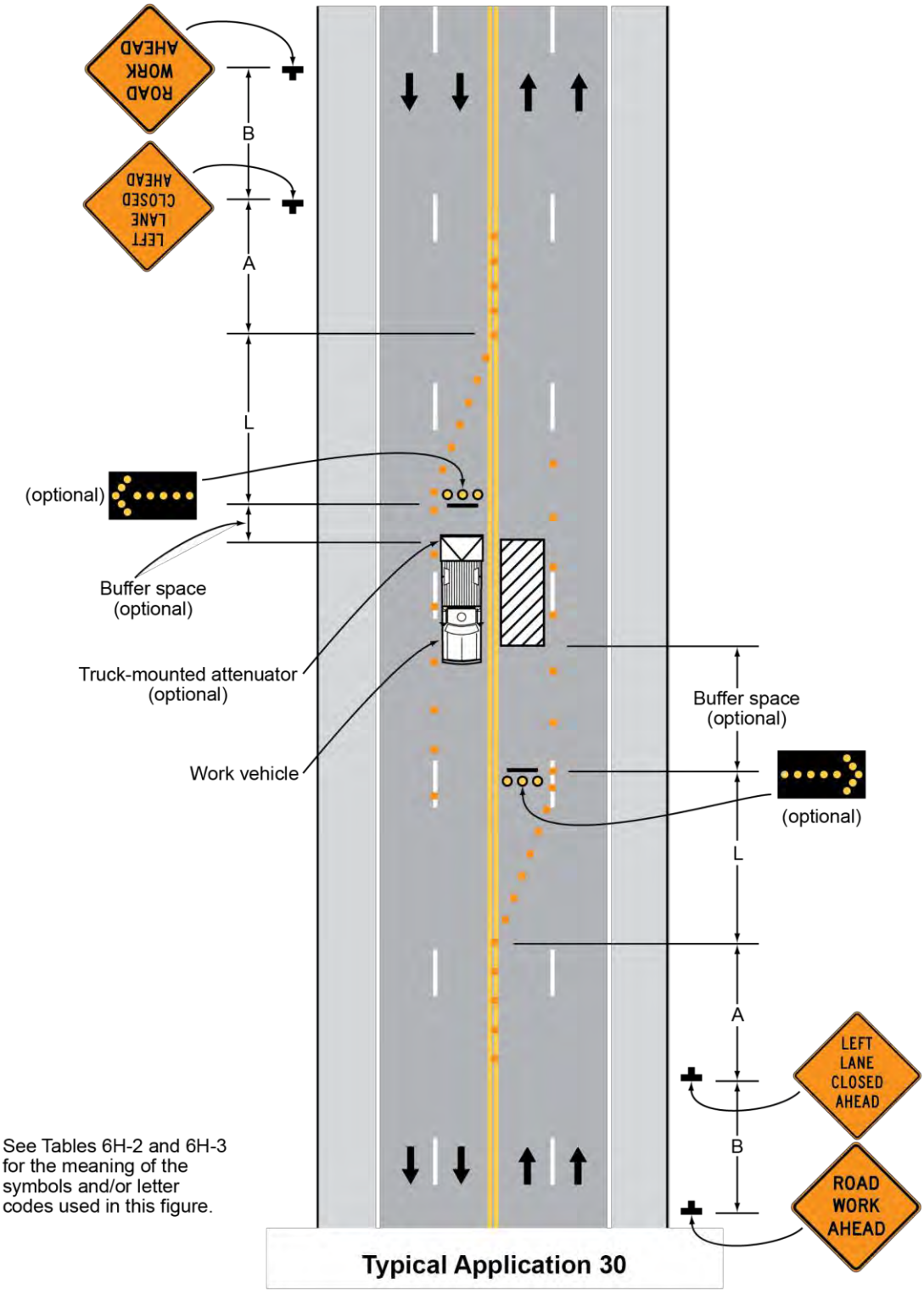
Option:

2. The closure of the adjacent interior lane in the opposing direction may not be necessary, depending upon the activity being performed and the work space needed for the operation.
3. Shadow vehicles with a truck-mounted attenuator may be used.

Standard:

4. When an additional sign is used (see Note 1), the signs shown shall be relocated to accommodate standard sign spacing for the added sign.

Figure 6H-30. Interior Lane Closure on a Multi-lane Street (TA-30)



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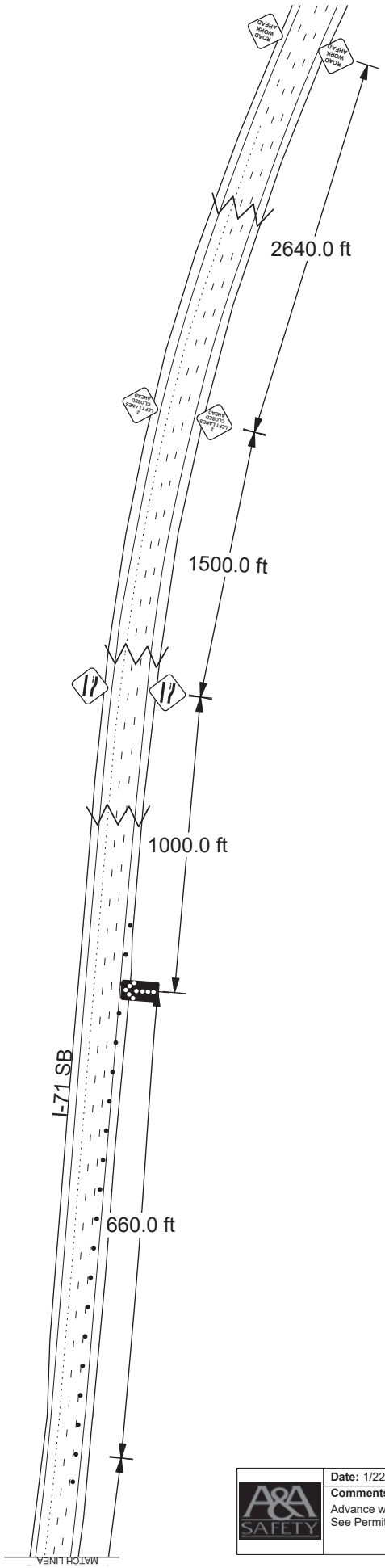
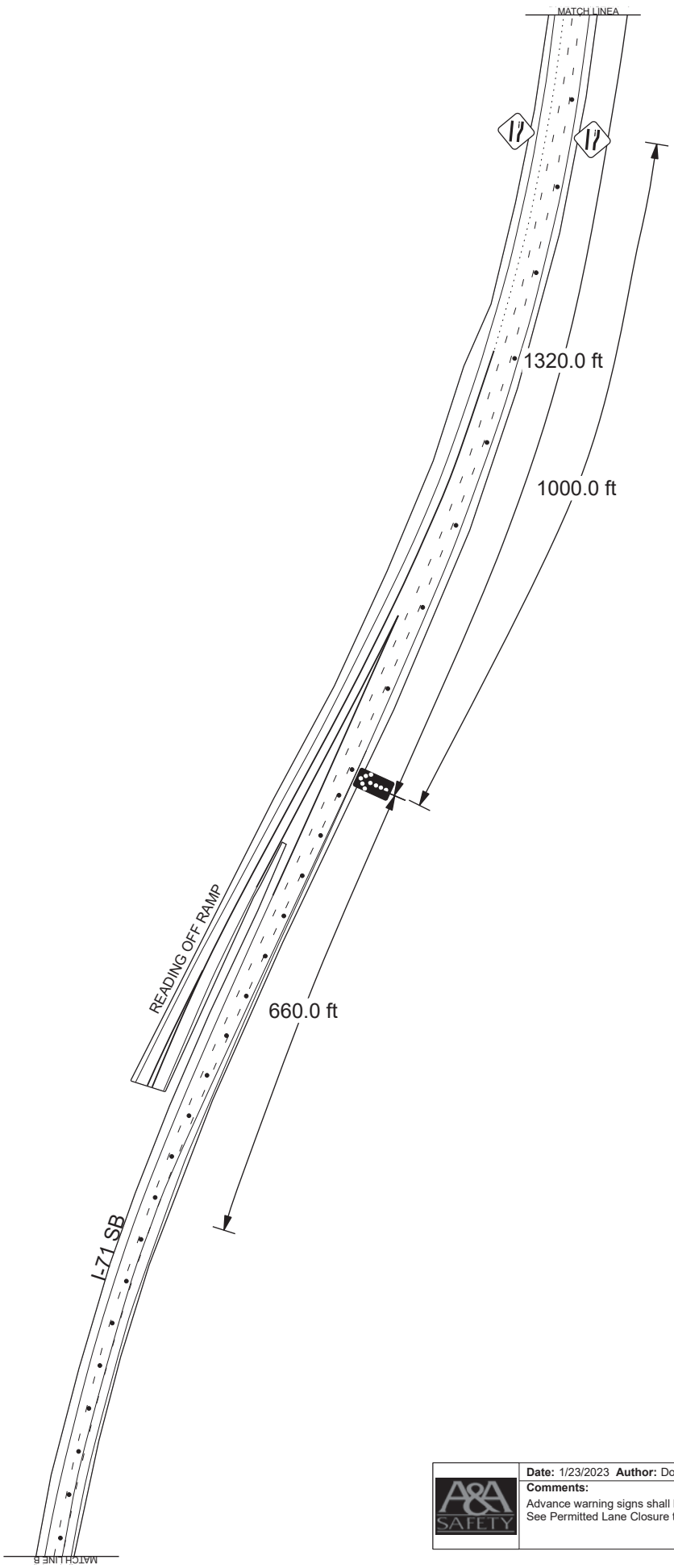


Date: 1/22/2023 **Author:** Don Beagle **Project:** Collins Engineers I-71 Bridge 0159

Comments:
Advance warning signs shall be 48" Diamond Grade
See Permitted Lane Closure table for allowable closure times

PHASE 1

PG 1



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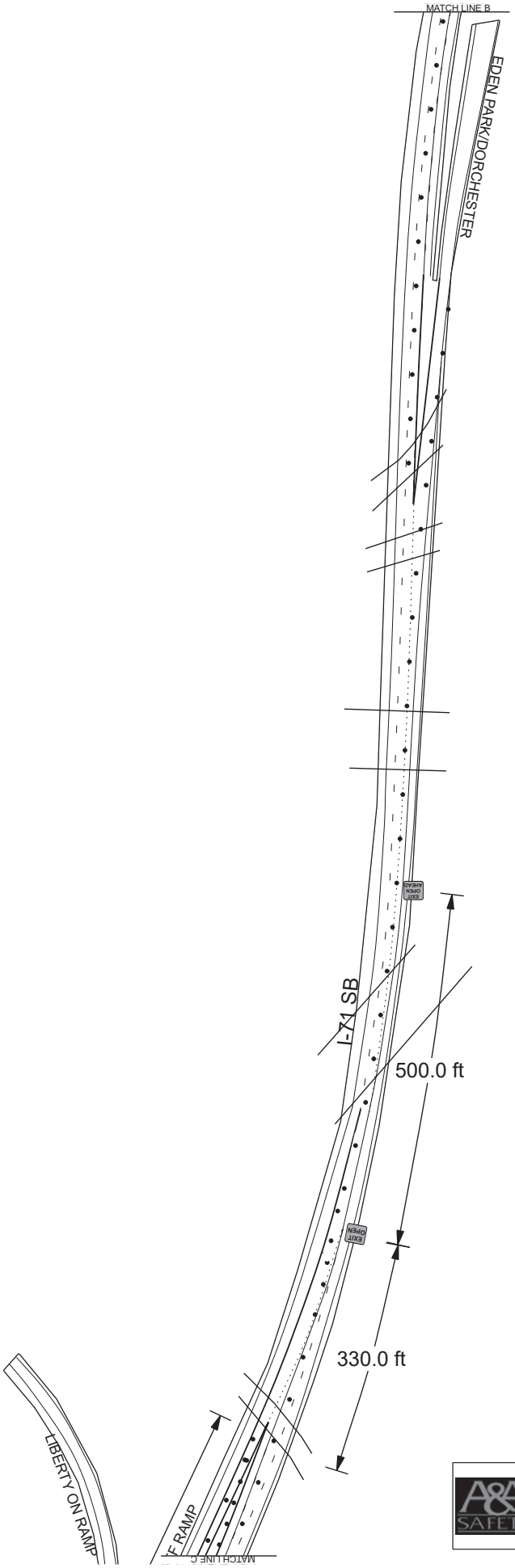

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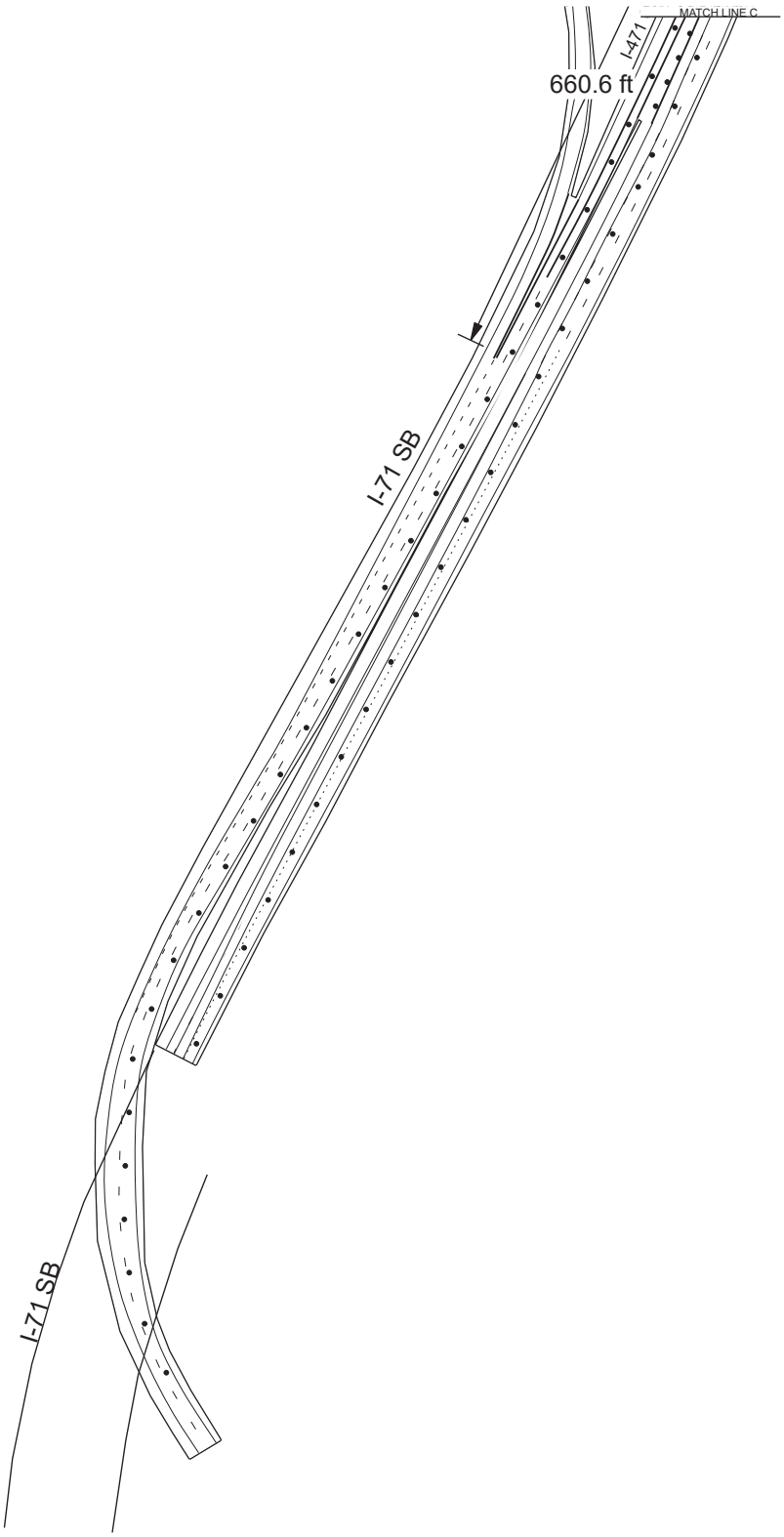
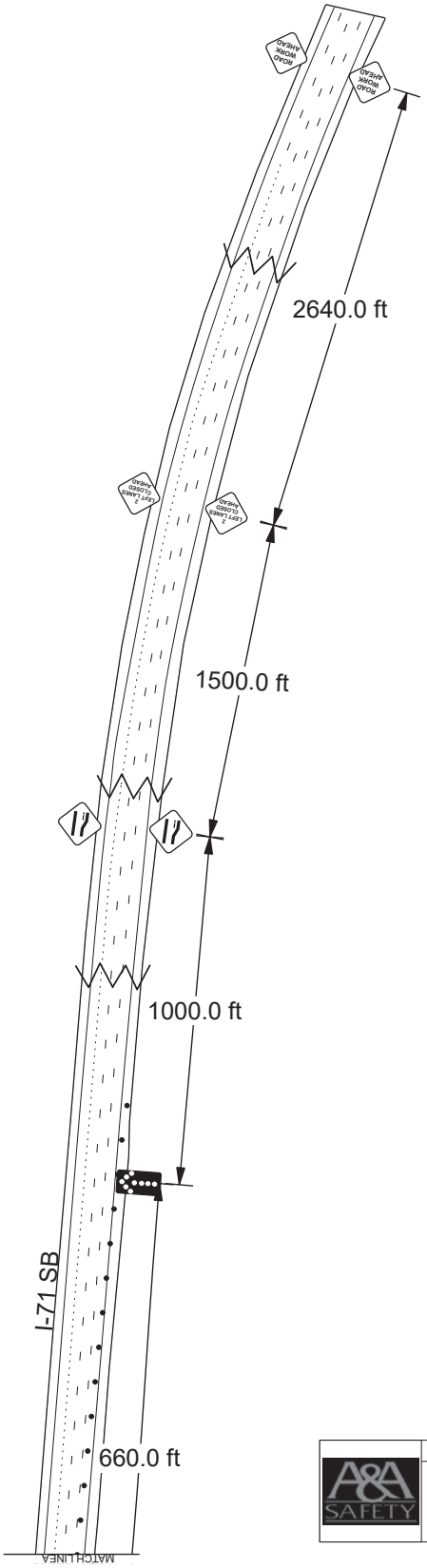
PHASE 1

PG 3



A&A SAFETY	**Date:** 1/23/2023 **Author:** Don Beagle **Project:** Collins Engineers I-71 Bridge 0159
	Comments: Advance warning signs shall be 48" Diamond Grade See Permitted Lane Closure table for allowable closure times
	PHASE 1
	PG 4



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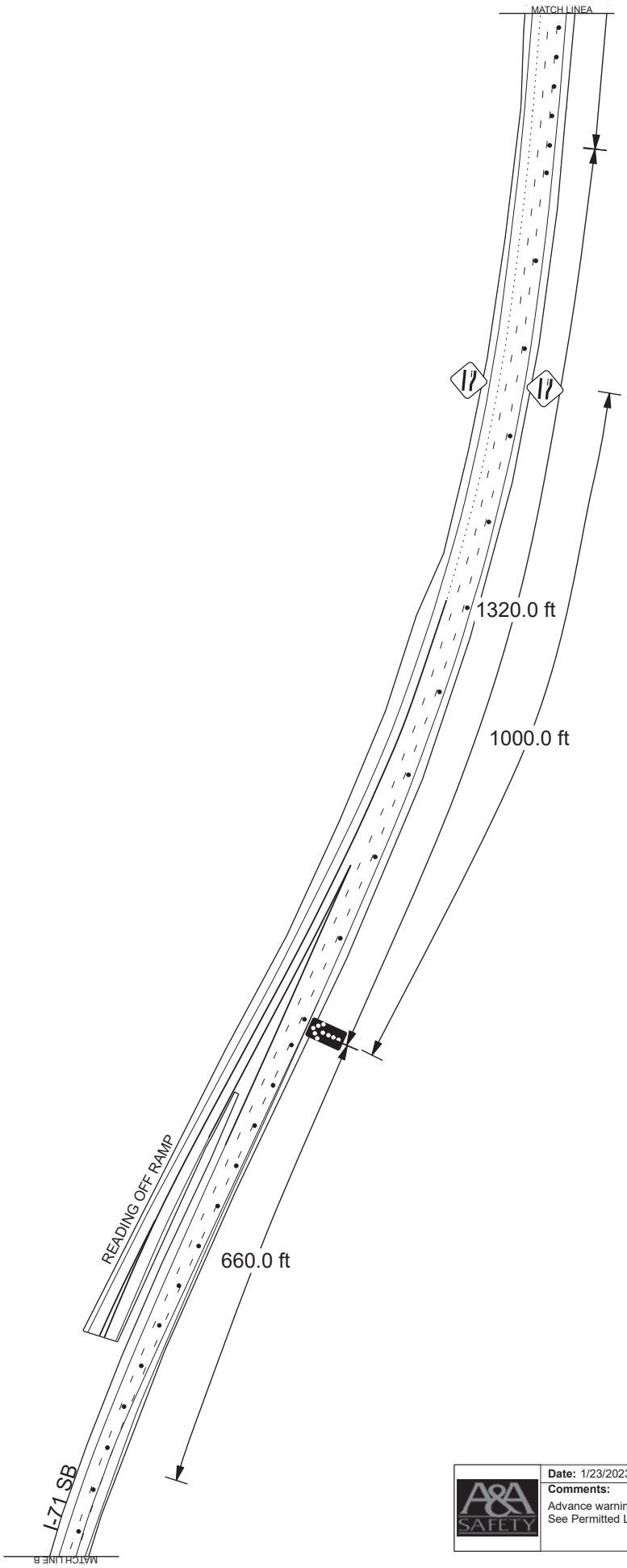
PHASE 2



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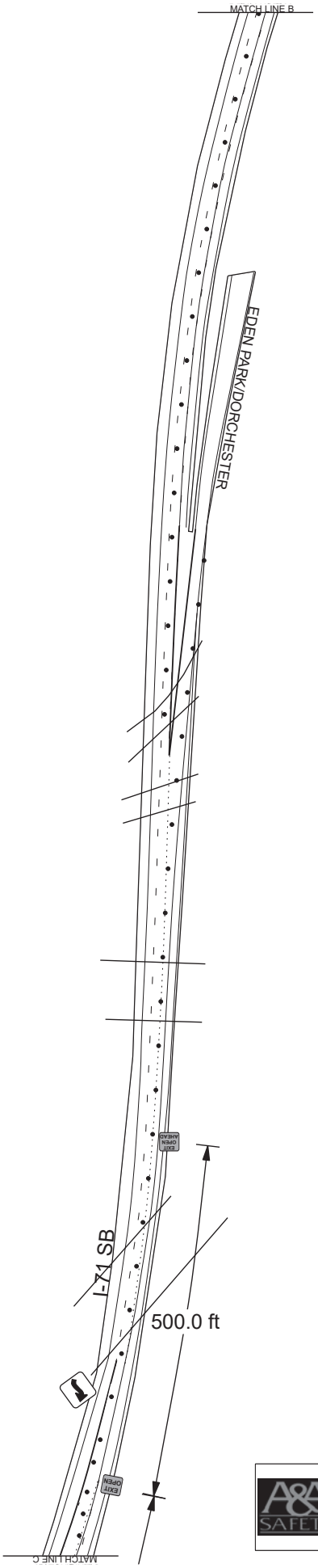

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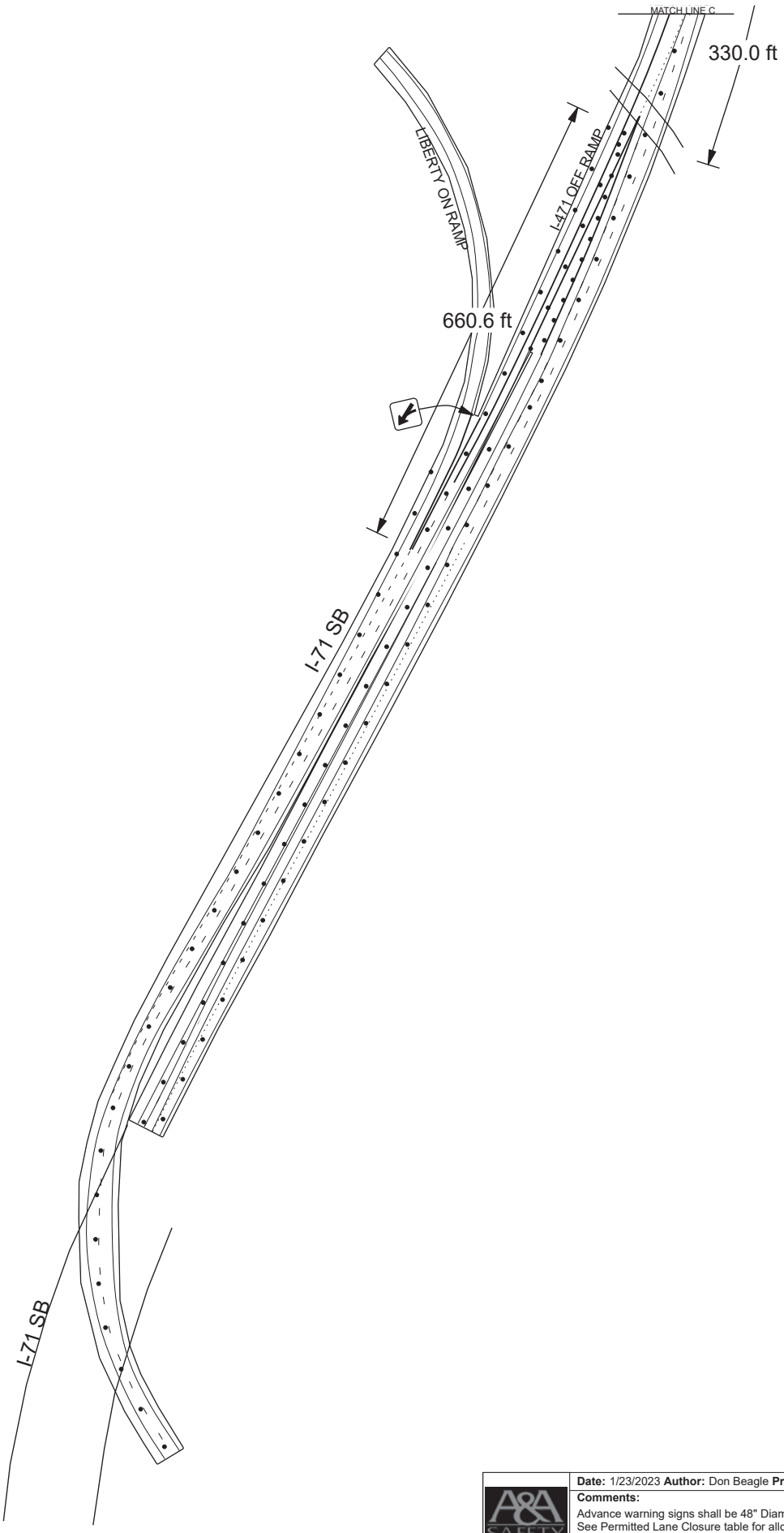

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Comments:
Advance warning signs shall be 48" Diamond Grade
See Permitted Lane Closure table for allowable closure times

PHASE 2

Notes for Figure 6H-22—Typical Application 22
Right-Hand Lane Closure on the Far Side of an Intersection

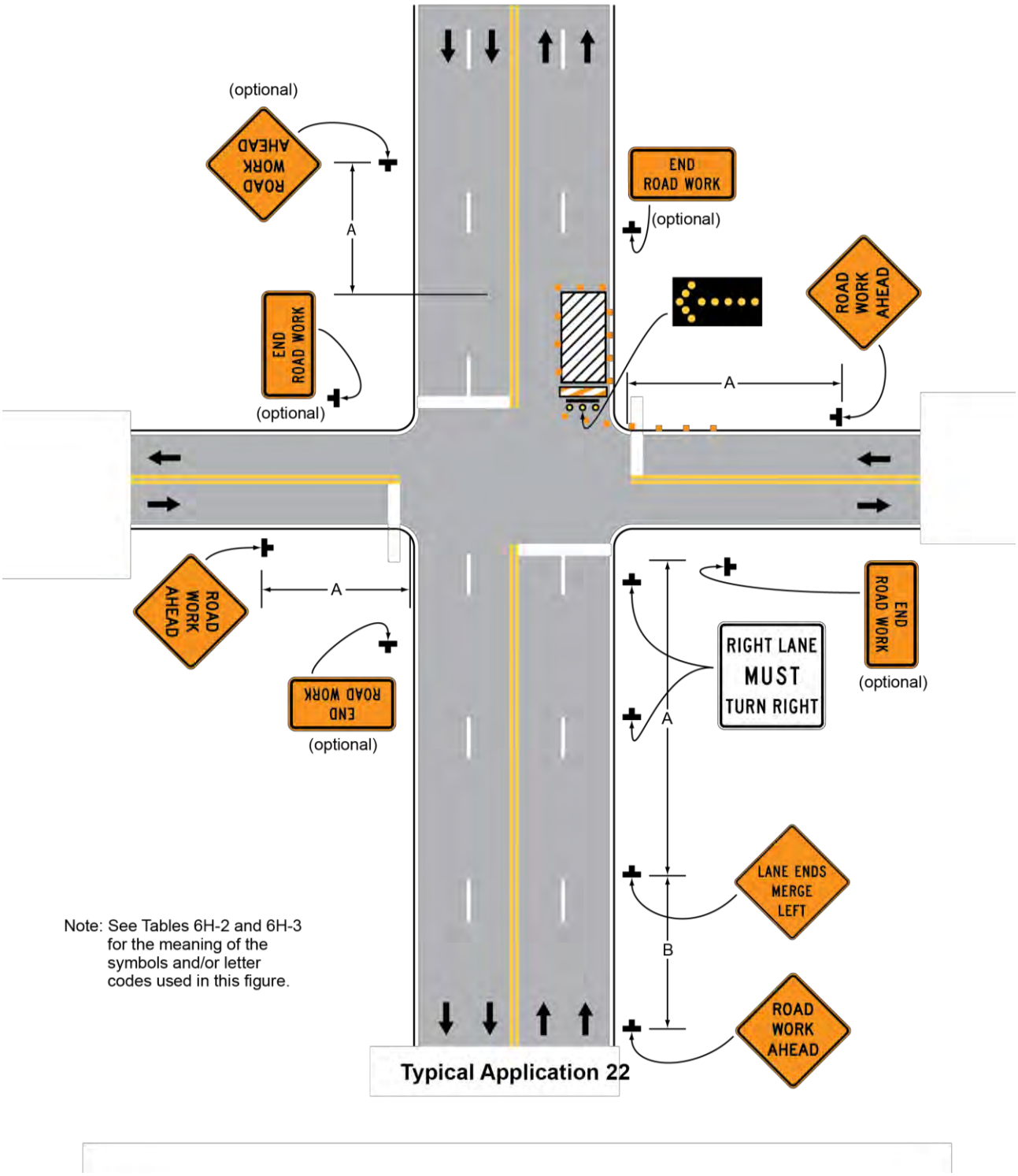
Guidance:

1. *If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure 6H-29.*

Option:

2. The normal procedure is to close on the near side of the intersection any lane that is not carried through the intersection. However, when this results in the closure of a right-hand lane having significant right turning movements, then the right-hand lane may be restricted to right turns only, as shown. This procedure increases the through capacity by eliminating right turns from the open through lane.
3. For intersection approaches reduced to a single lane, left-turning movements may be prohibited to maintain capacity for through vehicular traffic.
4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. Where the turning radius is large, it may be possible to create a right-turn island using channelizing devices or pavement markings.

Figure 6H-22. Right-Hand Lane Closure on the Far Side of an Intersection (TA-22)



Notes for Figure 6H-29—Typical Application 29
Crosswalk Closures and Pedestrian Detours

Standard:

1. **When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.**
2. **Curb parking shall be prohibited for at least 50 feet in advance of the midblock crosswalk.**

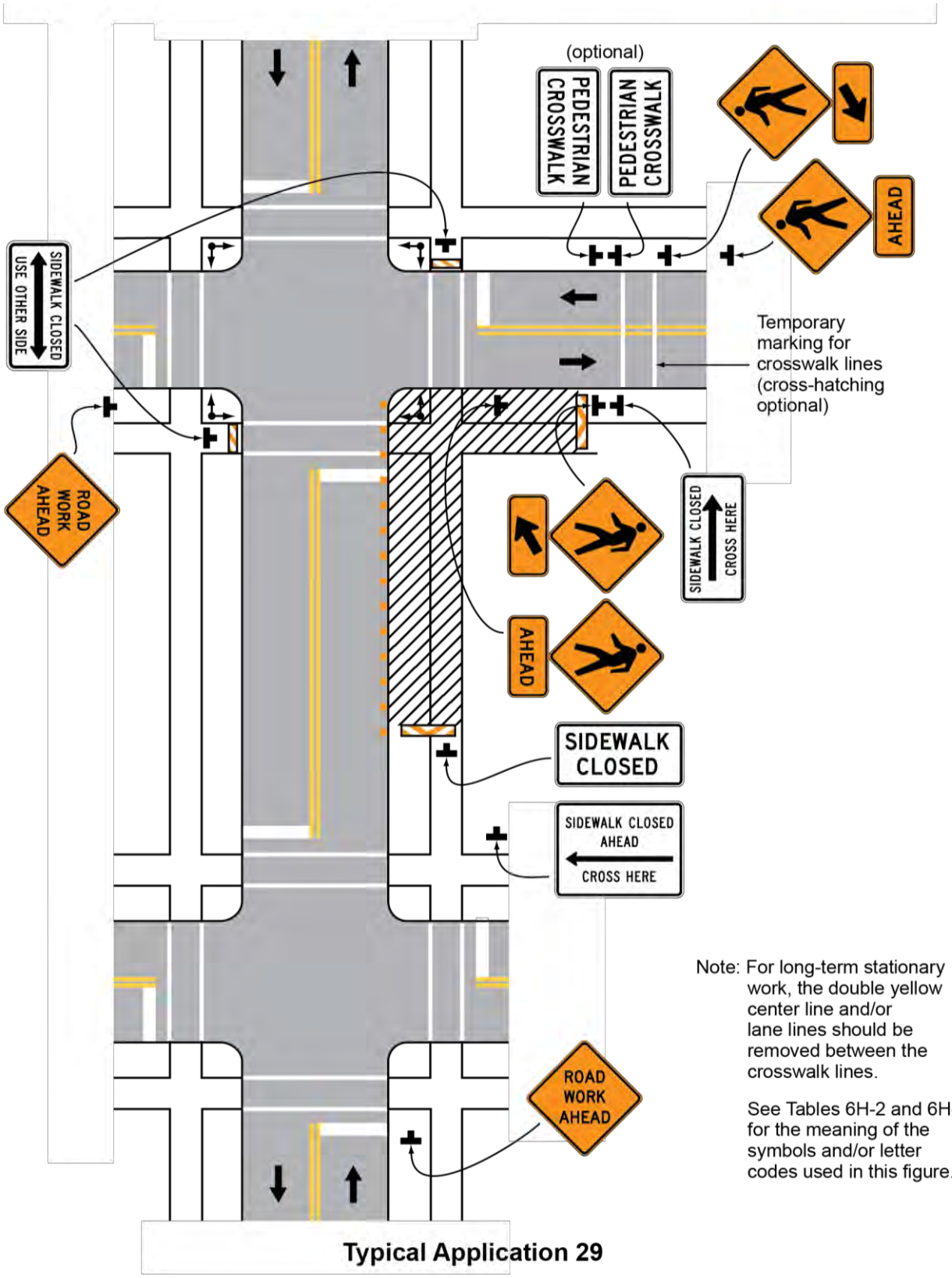
Guidance:

3. *Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.*
4. *Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.*

Option:

5. Street lighting may be considered.
6. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic.
7. For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and closing sidewalks.
8. Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights may be used on channelizing devices separating the work space from vehicular traffic.
9. In order to maintain the systematic use of the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs in a jurisdiction, the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs may be used in TTC zones.

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



APPENDIX C – FATIGUE PRONE DETAILS FOR HAM-71-0159

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

113
210

HAM-71-1.80

MICROFILMED
OCT 15 1982

PROPOSED STRUCTURE

Type: Continuous Steel Plate Girders with reinforced Concrete Deck and Substructure.
Spans: Lengths Vary; See tabulation, Sheet No. 115
Roadway: Northbound Varies 50'-0" min f/f curbs with 1'-0" curbs
Southbound Varies 50'-0" min f/f curbs with 1'-0" safety curb and 6'-0" median.
Loading Frequency: CF = 2000 (57) Adequate for AASHO alternate loading.
Wearing Surface: 1" Monolithic Concrete.
Approach Slabs: AS-1-54 (25'-0" long).
Alignment: Varies, see Plan.
Superelevation: Varies, see Plan.

GENERAL NOTES

South Abutment A, Pier 1W & Pier 1E are Parallel.
South Abutment B, Pier 1B & Pier 2B are Parallel.
For Curve Data and Table of Span Lengths see sheet No. 115.
For Profile of Ramp B see sheet No. 115.
● Symbol denotes drill hole.
For Test Boring Data, see sheets 121 thru 124.
For Bench Marks See sheet 35.

PROFILE
(Along ℄ N.B. Expressway)

= Fracture Critical Pier Cap

1984 Traffic Count: S.B. Rdwy. ADT = 25,800
DHV = 3,450
N.B. Rdwy. ADT = 31,200
DHV = 3,650

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

SITE PLAN

BRIDGE No. HAM-71-0135
OVER EGGLESTON AVE.
and PENNSYLVANIA R.R.

H & E BRIDGE No. 6R & L SHEET 1 of 3

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	WDK	M.DeC.	RAZ	JHO 3/22/65	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

114
210

PLAN

PROFILE
(Along ℄ N.B. Expressway)

Note:
Piers 4, 5 & 6 are parallel
℄ Piers 7W, 8E, 9 & ℄ Brg. North Abut. are radial lines
For General Notes see sheet No. 113
For Curve Data and Table of Span Lengths see sheet No. 115

BRIDGE LIMITS = 1038.40' (Measured along ℄ N.B. Expressway)

= Fracture Critical Pier Cap

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

SITE PLAN

BRIDGE No. HAM-71-0135
OVER EGGLESTON AVE.
and PENNSYLVANIA R.R.

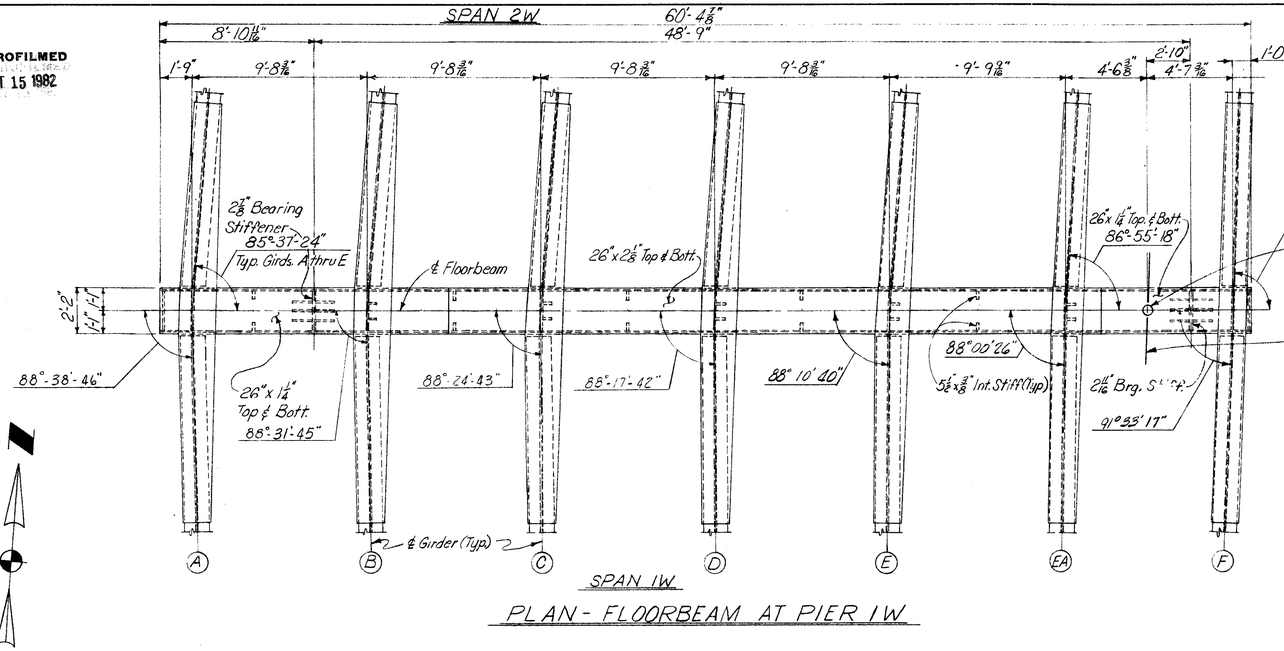
H & E BRIDGE No. 6R & L SHEET 2 of 3

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	WDK			3/22/65	

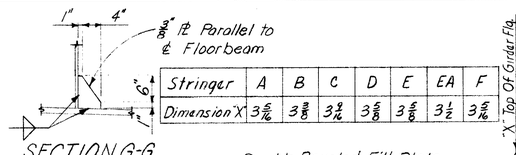
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

149/210

HAM-71-1.80

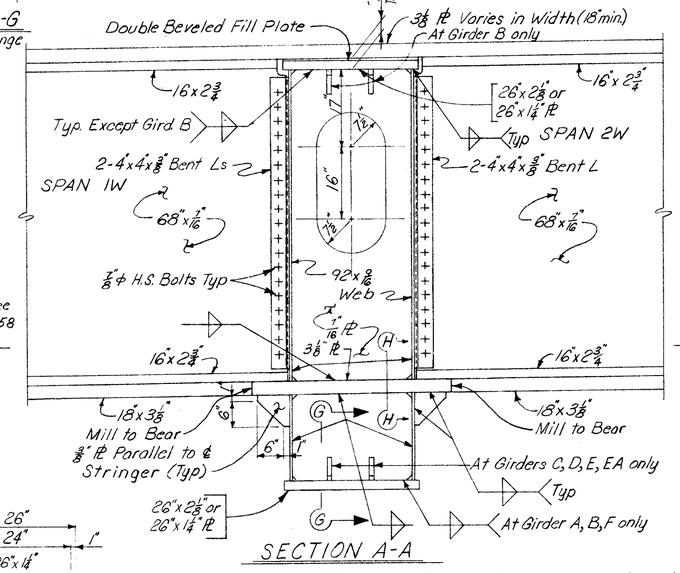


PLAN - FLOORBEAM AT PIER 1W

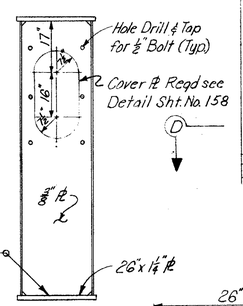


Stringer	A	B	C	D	E	EA	F
Dimension "X"	3 5/16	3 3/8	3 3/16	3 5/8	3 5/8	3 1/2	3 5/16

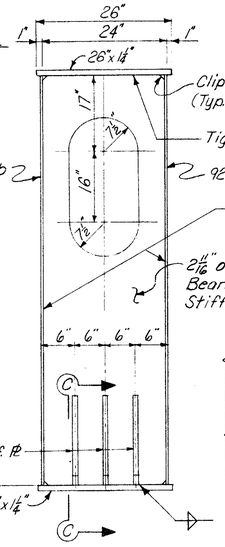
SECTION G-G
Typ - Top or Bott. Flange



SECTION A-A



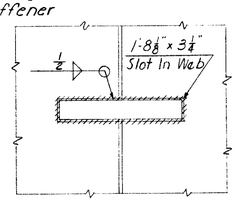
SECTION E-E
Typ. @ Ends of Floorbeam



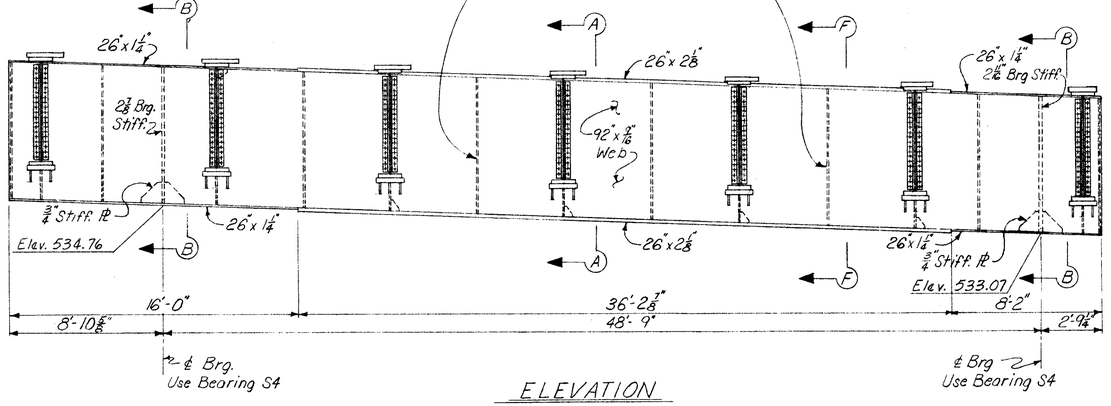
SECTION B-B

NOTE: Milled ends of compression splice plates on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened.

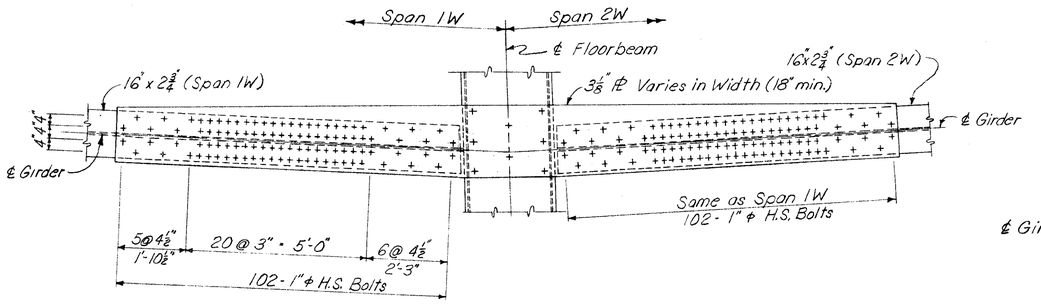
SECTION C-C



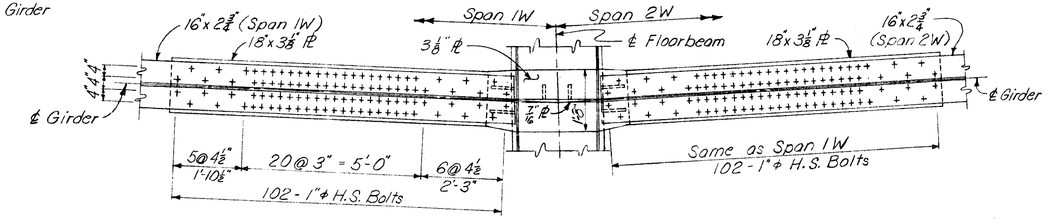
SECTION H-H



ELEVATION



PLAN OF TOP SPLICE PLATE



SECTION D-D

Note: For Cover Plate Details and Section FF See Floorbeam 2E, Sht. No. 158
For fillet weld sizes not shown, see "TABLE OF FILLET WELD SIZES" Sht. No. 164
For Bearing Details see sht No. 165

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DMB	W.R.T. 1-8-65		JHO 2-22-65	JHO 3/22/65	

MICROFILMED
OCT 15 1982

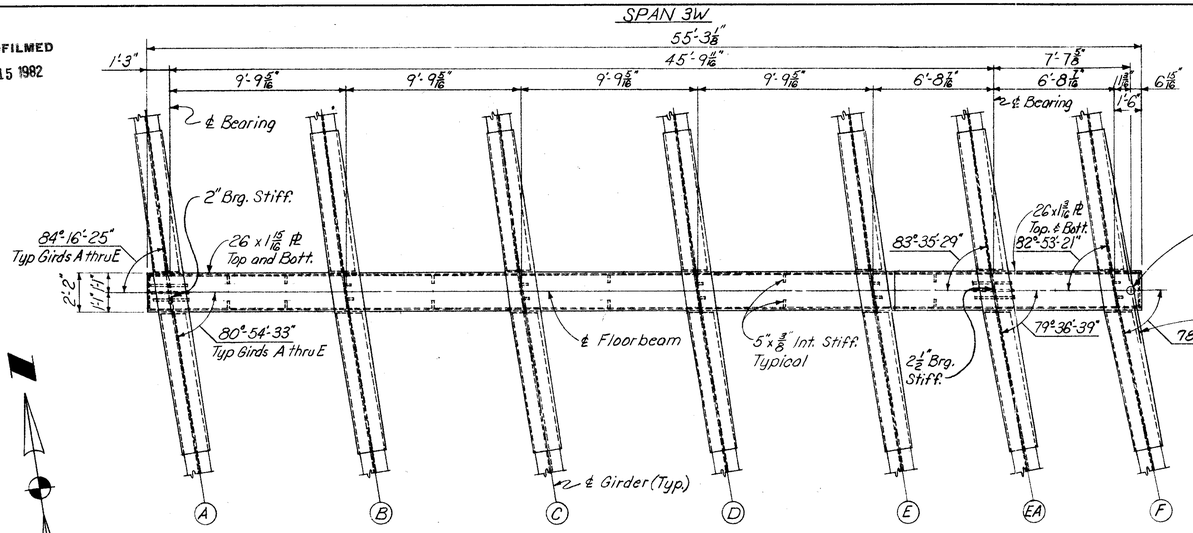
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

150
210

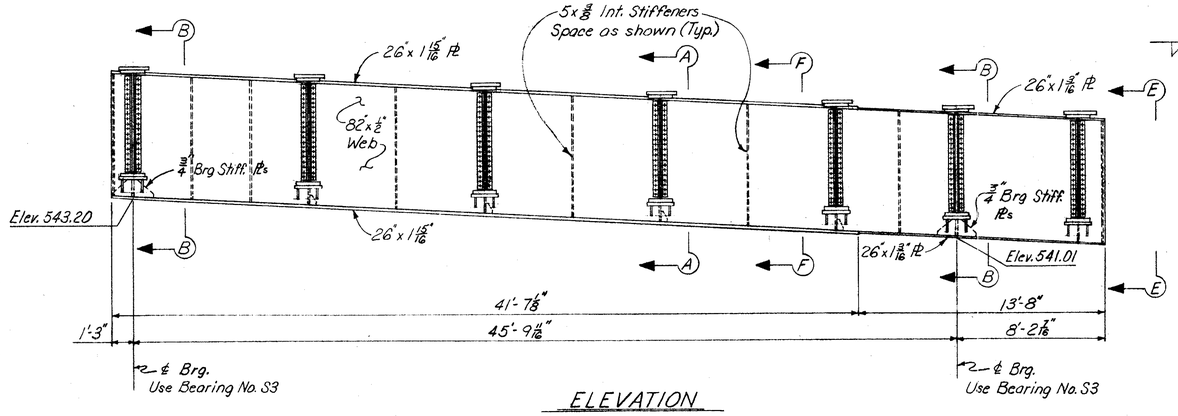
HAM-71-1.30

STRINGER	A	B	C	D	E	EA	F
DIMENSION X	3 3/16	3 5/16	3 3/8	3 3/8	3 3/16	3 3/16	3 5/8

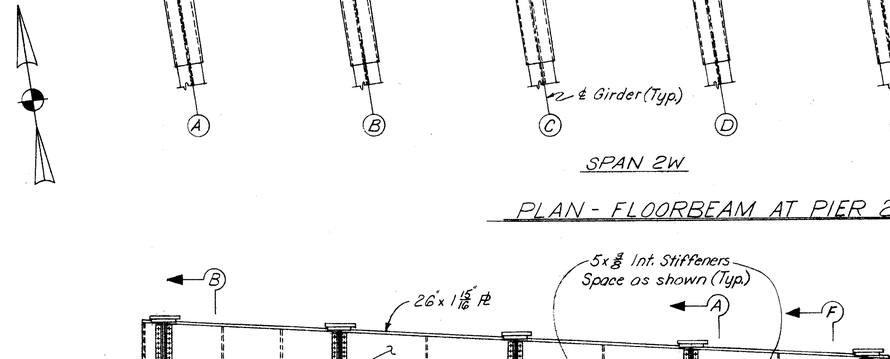
X Top of Girder Flg. to Top of Floorbeam Web



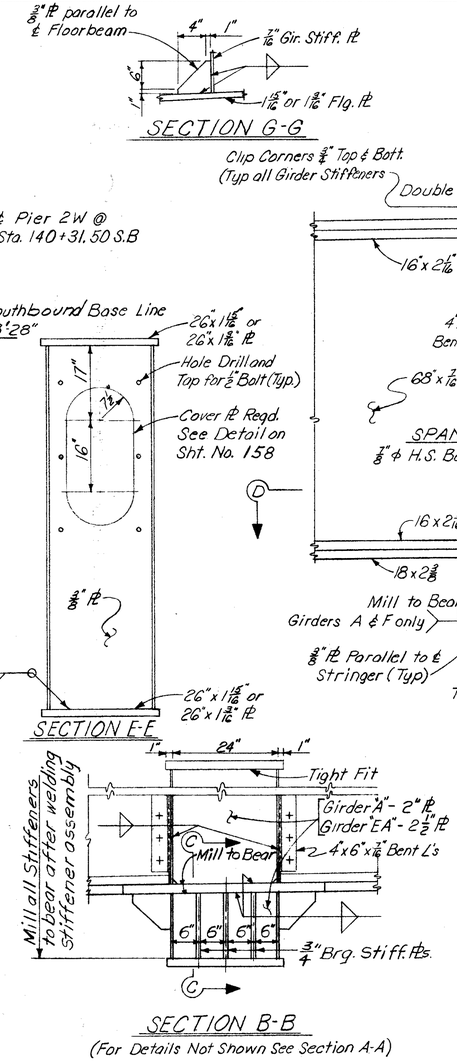
PLAN - FLOORBEAM AT PIER 2W



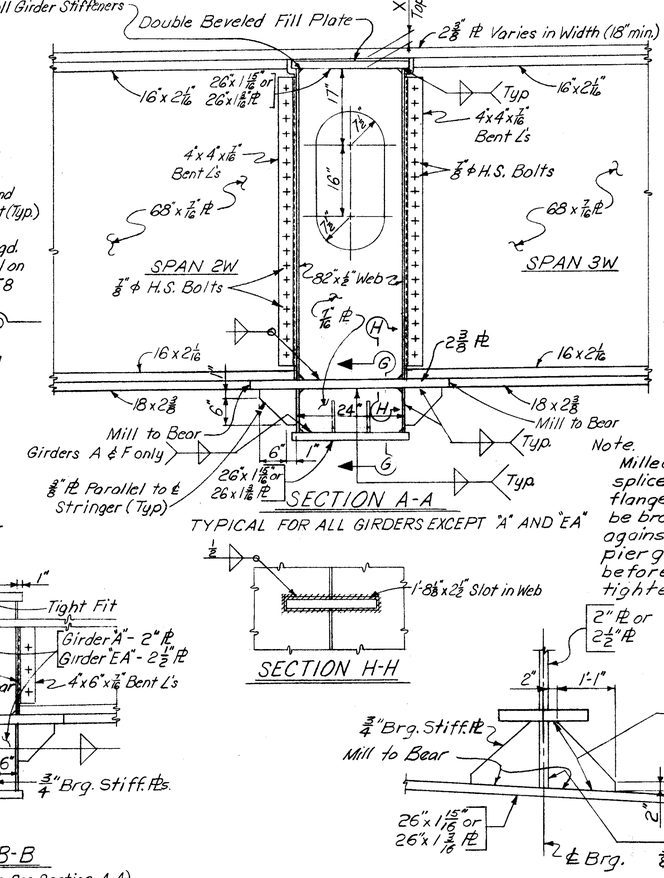
ELEVATION



PLAN OF TOP SPLICE PLATE



SECTION B-B
(For Details Not Shown See Section A-A)

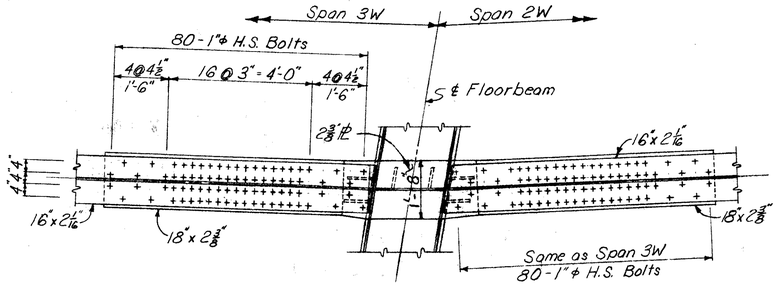


TYPICAL FOR ALL GIRDERS EXCEPT "A" AND "EA"

Note.
Milled ends of compression splice plates on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened.

SECTION H-H

SECTION C-C



SECTION D-D

Note:
For Cover Plate Details and Section F-F see Floorbeam 2E, Sht. No. 158
For fillet weld sizes not shown see "TABLE OF FILLET WELD SIZES" Sht. No. 164
For Bearing Details see Sht. No. 165

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.M.B.	W.R.T. 1-11-65		JGG 2-26-65	JHO 3/22/65	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAM-71-1.30

151/210

306 Red
151-210
Plan and profile

SPAN 4W
56'-1½"
9'-5 11/16" | 41'-9" | 6'-0¾"
1'-6" | 10'-3 15/16" | 10'-3 15/16" | 10'-3 15/16" | 10'-3 15/16" | 5'-10⅜" | 5'-10⅜" | 2'-8 3/16"
1'-6" 1'-2 3/16"
℄ Bearing ℄ Bearing
73°46'01" | 73°46'01" | 73°46'01" | 73°46'01" | 73°46'01" | 73°11'47" | 72°37'33"
26"x 11/16" ℍ Top & Bott.
26 x 1 7/16 ℍ Top & Bott.
26x 11/16 ℍ Top & Bott.
2'-2"
5"x 3/8" Int. Stiff. Typical
℄ Floorbeam
℄ Girder (Typ.)
70°22'30" | 70°22'30" | 70°22'30" | 70°22'30" | 69°41'35" | 68°59'26"
℄ Pier 3W @ Sta. 141+23.00 S.B.
Southbound Base Line
A B C D E EA F
SPAN 3W

PLAN - FLOORBEAM AT PIER 3W

4" 1"
⅜" ℍ Parallel to ℄ Floorbeam
6"
1"

SECTION D-D
Typ - Top or Bottom Flange

Min. Top of Girder Flange to Top of Floorbeam Web.
2 7/16 Strs. A,B,EA,F
2 5/8 Strs. C,D,E.
Double Beveled Fill ℍ Top & Bottom
1 3/16 ℍ Varies in Width (18" min.) Girders A,C,D,E & F only
ℍ 26"x 11/16" or 26"x 1 7/16"
16"x 15/16" ℍ Typ)
Typ. @ Girders B & EA only
7/16" Bent ℍ
16"x 1 5/16" ℍ
7/16" Bent ℍ
68"x 7/16"
68"x 7/16"
Span 3W
Span 4W
7/8" ℄ H.S. Bolts
7/8" ℄ H.S. Bolts
7/16" ℍ
64"x 7/16" Web
Typ. @ Girders C,D & E only
Girders A,B,EA & F only
16"x 15/16" ℍ
16"x 15/16" ℍ
ℍ 26"x 11/16" or 26"x 1 7/16"
1 3/16 ℍ Varies in Width (18" min.)

SECTION A-A

5"x 3/8" Int. Stiffners Space as Shown
26x 1 7/16 ℍ
26x 11/16 ℍ
9" 1 1/16 Brg. Stiff.
3/4" Stiff. ℍs
64"x 7/16" Web
7/16" Bent ℍ (Typ)
1 1/16 Brg. Stiff.
3/4" Stiff. ℍs
26x 11/16 ℍ
Elev. 549.31
26x 1 7/16 ℍ
26x 11/16 ℍ
Elev. 546.67
15'-10"
9'-5 11/16"
30'-10 1/4"
41'-9"
9'-5"
4'-10 9/16"
℄ Brg. Use Bearing No. S2
℄ Brg. Use Bearing No. S5

ELEVATION

Span 4W | Span 3W
44-1" ℄ H.S. Bolts
2@4½" 9" | 9@3" = 2'-3" | 2@4½" 9" | 2"
℄ Floorbeam
1 3/16 ℍ Varies in Width (18" min.)
℄ Girder
4'-4"
℄ Girder
16"x 15/16"
Same as Span 4W 44-1" ℄ H.S. Bolts
16"x 15/16"

SPLICE PLATE DETAIL

Clip Corners ¾" Top & Bottom (Typ. all Girder Stiffeners)
26"x 11/16" ℍ
17"
17½"
Hole - Drill and Tap for ⅝" Bolt (Typ.)
16"
Cover ℍ Req'd. See Detail on Sheet No. 158
64"x 7/16" Web
3/8" ℍ
64"x 7/16" Web
26"x 11/16" ℍ

SECTION E-E
(Typ. @ Ends of Floor Beam)

26"x 11/16" ℍ
17"
17½"
Tight Fit
16"
7½"
64"x 7/16" Web
3/4" Stiff. ℍs
64"x 7/16" Web
6" 6" 6" 6"
1 5/16 or 1 9/16 Brg. Stiff.
Mill Stiffeners to Bear after Welding Stiffener Assembly.
26"x 11/16" ℍ

SECTION B-B

1 5/16" or 1 9/16" Brg. Stiff.
2"
10"
3/4" Stiff. ℍs
½" Typ.
Typ
10"
26"x 11/16"
Mill to Bear
℄ Brg.

SECTION C-C

Note:
For Cover Plate Details and Section F-F See Floorbeam 2E Sht. No. 158
For Fillet Weld Sizes not shown, See "TABLE OF FILLET WELD SIZES" Sht No. 164
For Bearing Details see sht. No. 165

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

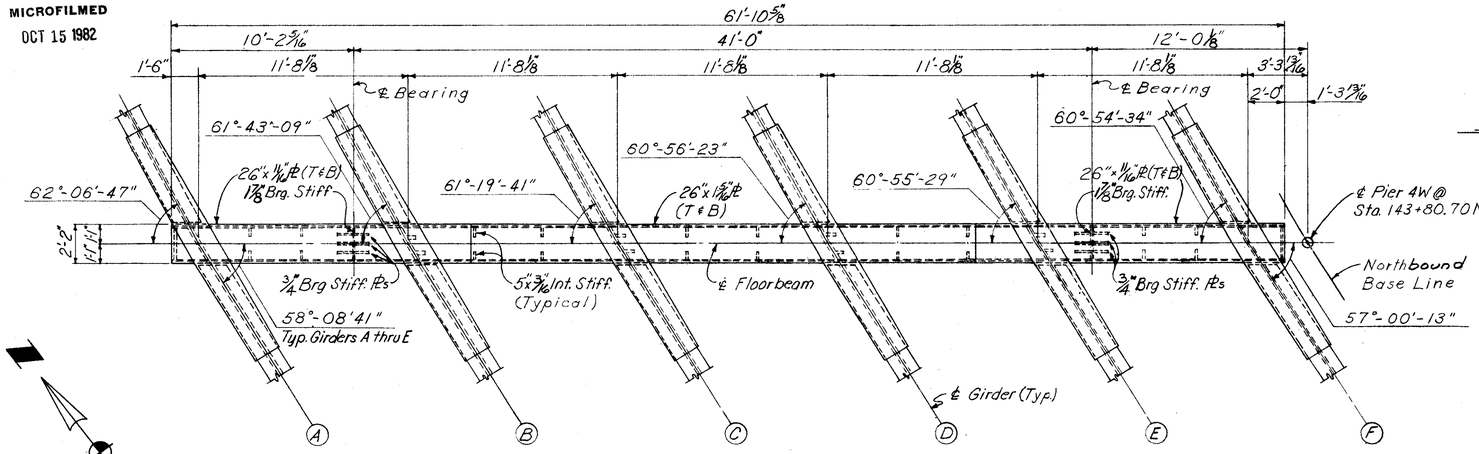
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
C.W.R.	W.R.T. 1-18-65		2-8-65	JHO 3/22/65	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAM-71-1.80

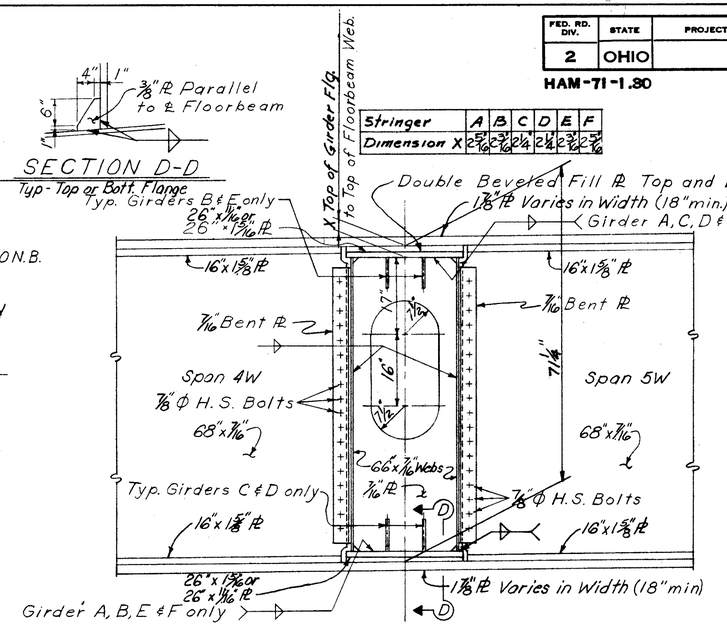
152
210

SPAN 5W



SPAN 4W

PLAN - FLOORBEAM AT PIER 4W

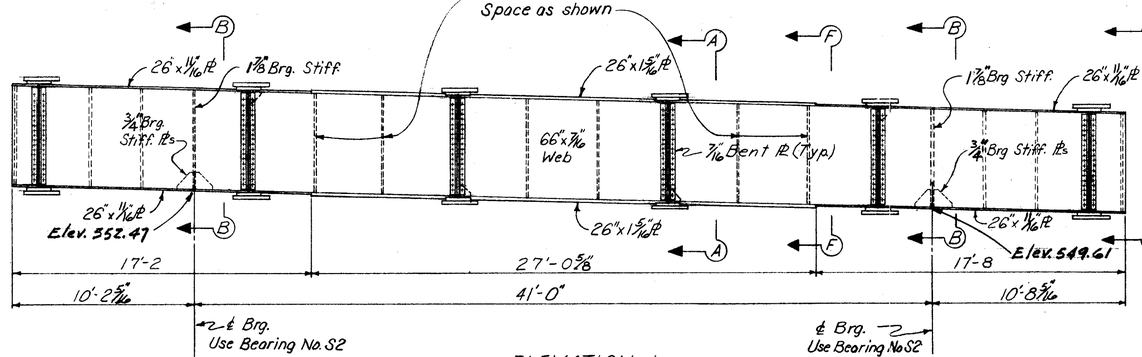


SECTION D-D

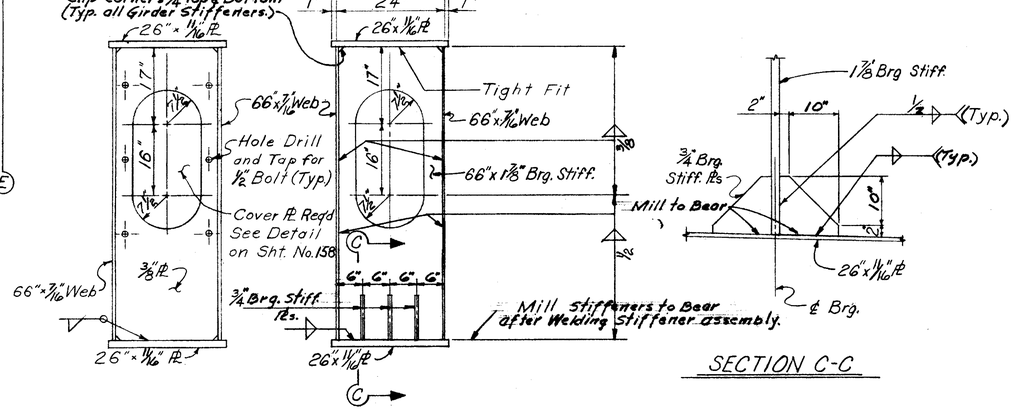
Typ - Top or Bott. Flange
Typ. Girders B & E only

Stringer	A	B	C	D	E	F
Dimension X	2'-5 1/16"	2'-3 1/16"	2'-1 1/16"	2'-1 1/16"	2'-3 1/16"	2'-5 1/16"

SECTION A-A (Typical @ all Girders)



ELEVATION

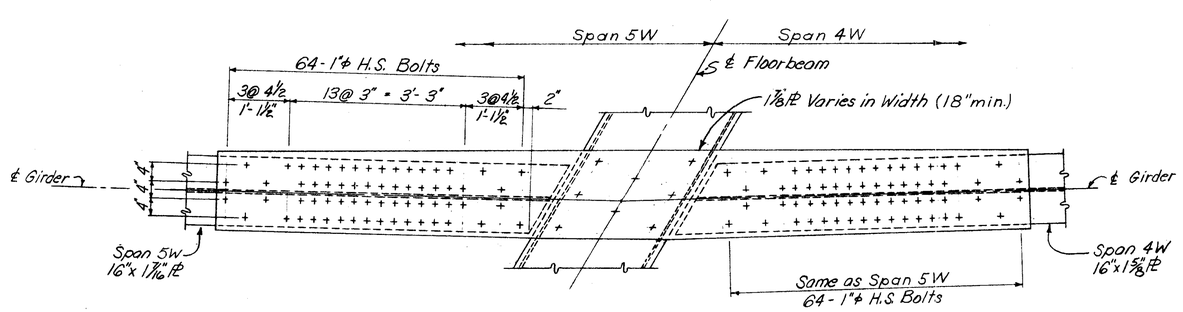


SECTION E-E

(Typ. @ Ends of Floorbeam)

SECTION B-B

SECTION C-C



SPLICE PLATE DETAIL

Note:
For Cover Plate Details and Section FF See Floor Beam 2E Sht. No. 158
For fillet Weld Sizes not shown, See TABLE OF FILLET WELD SIZES" Sht. No. 164
For Bearing Details see sht. no. 165

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

Designed	Drawn	Traced	Checked	Reviewed Date	Revised
D.M.B	W.R.T. 1-25-65		JHO 2-22-65	JHO 3/22/65	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAM-71-1.80

155/210

SPAN 9W

66'-1"

1'-6" | 9'-0 3/16" | 11'-0 9/16" | 11'-0 9/16" | 11'-0 9/16" | 11'-0 9/16" | 11'-0 9/16" | 2'-6 11/16" | 1'-10" | 8 11/16"

60'-0"

5'-3 11/16"

℄ Bearing — ℄ Bearing

65°-12'-35" Typical

1⅛" Brg. Stiff. — 36"x1½" Pl (Top & Bott.) — 36"x2" Pl (Top & Bott.) — ℄ Floorbeam — 36"x1½" Pl (Top & Bott.) — 1⅛" Brg. Stiff.

℄ Pier 8W @ Sta. 148+26.50 N.B.

Base Line N.B. & S.B.

3'-0" | 1'-6" | 1'-6"

8"x⅜" Int. Stiff. (Typical)

68°-14'-59" Typ. Girders A thru E

67°-38'-00"

A B C D E F

℄ Girder (Typ.)

SPAN 8W

PLAN- FLOORBEAM AT PIER 8W

4" | 1" | 6" | 1"

⅜" Pl Parallel to ℄ Floorbeam

SECTION G-G

"X" min top of Girder Fig. to top of Floor-beam Web

Double Beveled Fill Pl

2⅜" Pl Varies in Width (18" min.)

Stringer	A	B	C	D	E	F
Dimension X	3 15/16"	3 1/16"	3 5/8"	3 9/16"	3 3/8"	3 3/4"

16"x1⅞" — 36"x2" Pl or 36"x1½" Pl — 16"x1⅞" Pl

2/16" Bent Pls — Typ — 2/16" Bent Pls

SPAN 8W — SPAN 9W

68'x3/16" — 68"x7/16"

17" | 16" | 7½"

7/8" ϕ H.S. Bolts (Typ.) — 1/16" Pl — 7/8" ϕ H.S. Bolts (Typ.)

D — D

92"x3/16" Web

16"x1⅞" — 16"x1⅞"

H — 2⅜" Pl

18"x2⅜" Pl — 18"x2⅜" Pl

Mill to Bear — Mill to Bear

G — G

3" — 2'-6" — 3"

⅜" Pl Parallel to ℄ Stringer (Typ.)

Girders A,B,C,D,E only

36"x2" Pl or 36"x1½" Pl — Girder F only

SECTION A-A

36"x1½" Pl

Hole Drill and Tap for ½" Bolt (Typ.)

Cover Pl Req'd. See Detail on Sht. No. 158

92"x3/16" Web

⅜" Pl

SECTION E-E

(Typ. @ Ends of Floorbeam)

1'-8⅝"x2½" Slot in Web

SECTION H-H

2" | 1'-1"

1⅛" Brg. Stiff. — ½ Typ.

¾" Stiff. Pls — 1'-4"

Mill to Bear — Typ.

36"x1½" Pl — ℄ Brg.

SECTION C-C

Mill Stiffeners to Bear After Welding Stiffener Assembly

36"x1½" Pl

Clip Corners ¾" Top & Bottom (Typ. all Girder Stiffeners)

Tight Fit

17" | 16" | 7½"

92"x⅜" Web

C — C

7" — 7"

92"x1⅞" Brg. Stiff.

¾" Stiff. Pls

36"x1½" Pl

SECTION B-B

Note: Milled ends of compression splice plates on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened.

A — F — B — E

36"x1½" Pl — 36"x2" Pl — 36"x1½" Pl

1⅞" Brg. Stiff. — 92"x3/16" Web — 1⅞" Brg. Stiff. — ¾" Stiff. Pl

Elev. 556.35 — Elev. 554.19

¾" Stiff. Pl — 36"x1½" Pl — 8"x½" Int. Stiff. (Typ.) Space as shown — 36"x2" Pl — 36"x1½" Pl

14'-3" | 37'-5" | 14'-5"

1'-6" | 60'-0" | 4'-7"

℄ Bearing Use Bearing No. S2 — ℄ Bearing Use Bearing No. S3

ELEVATION

Span 9W — Span 8W

2⅜" Plate Varies in Width (18" min.) Same as Span 9W

80-1" ϕ H.S. Bolts

16"x1 7/8" — ℄ Girder — 16"x1⅞"

4'-4" | 4'-4"

℄ Girder

3@4½" 1'-1½" | 16@3"=4'-0" | 5@4½" 1'-10½"

80-1" ϕ H.S. Bolts

℄ Floorbeam

PLAN OF TOP SPLICE PLATE

Span 8W — Span 9W

2⅜" Pl — 7/16" Pl — 18"

Same as Span 8W 80-1" ϕ H.S. Bolts

16"x1 7/8" — ℄ Girder

18"x2⅜" Pl (Typ.)

3@4½" 1'-1½" | 16@3"=4'-0" | 5@4½" 1'-10½"

80-1" ϕ H.S. Bolts

℄ Floorbeam

SECTION D-D

Note:
For Cover Plate Details and Section FF See Floorbeam 2E Sht. No. 158
For fillet Weld Sizes not shown see "TABLE OF FILLET WELD SIZES" Sht. No. 164
For Bearing Details see sht. 165

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

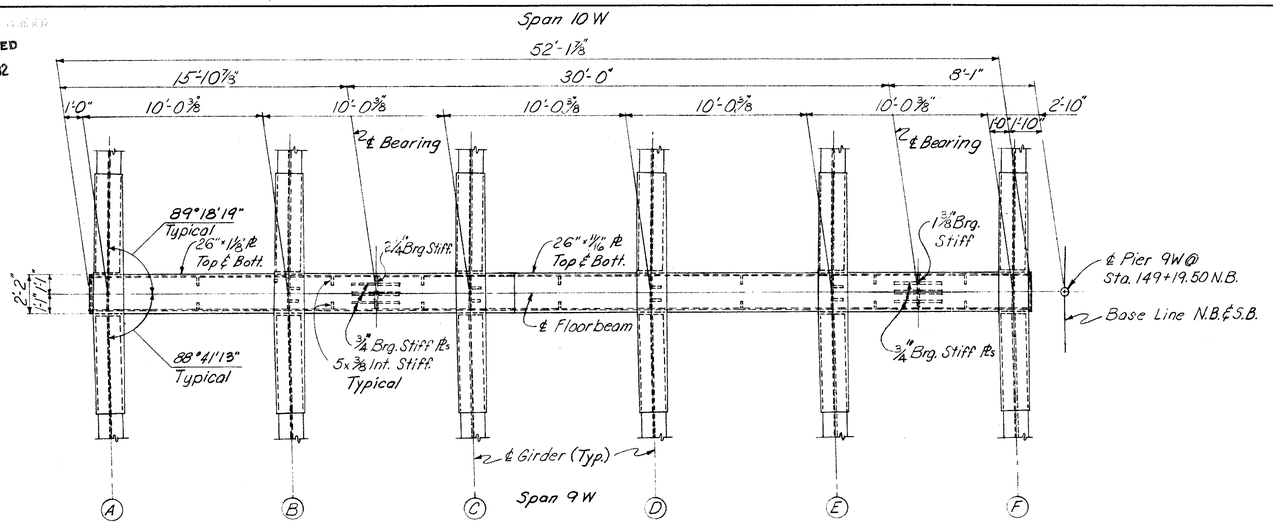
STRUCTURAL STEEL DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
Jag	W.R.T. 12-18-64		Jag 2-8-65	JHO 3/22/65	

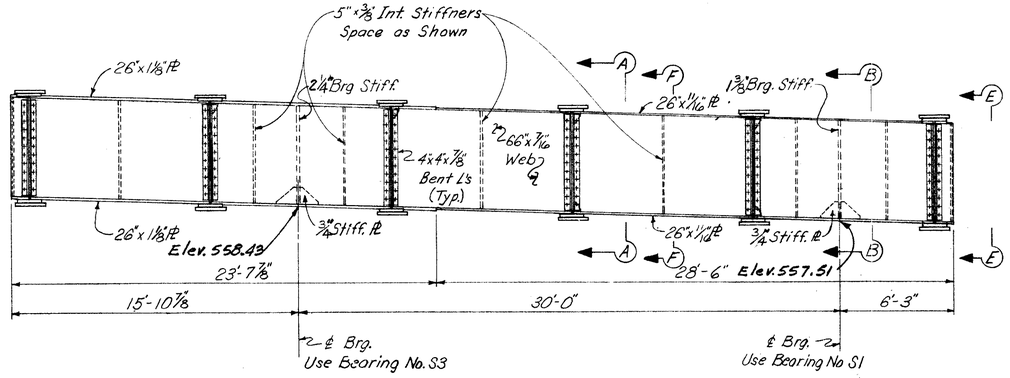
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

156
210

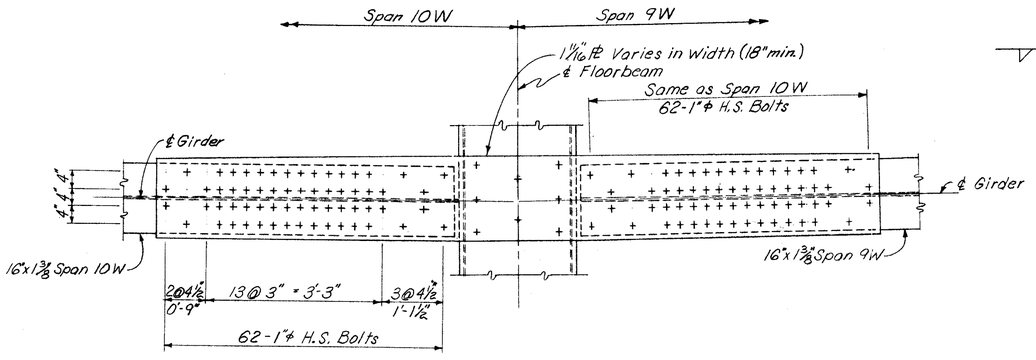
HAM-71-1.80



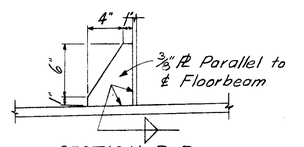
PLAN - FLOORBEAM AT PIER 9W



ELEVATION

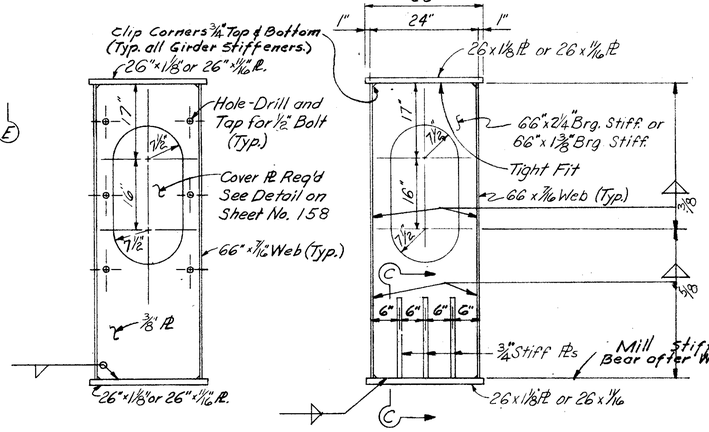


SPLICE PLATE DETAIL



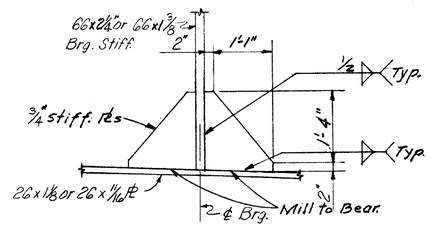
SECTION D-D
Typ- Top or Bott. Flg.

SECTION A-A



SECTION E-E

SECTION B-B



SECTION C-C

Note:
For Cover Plate Details and Section F-F see Floorbeam 2E Sht. No. 158
For Fillet Weld Sizes not shown, See "TABLE OF FILLET WELD SIZES" Sht. No. 164
For Bearing Details see sht. No. 165

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

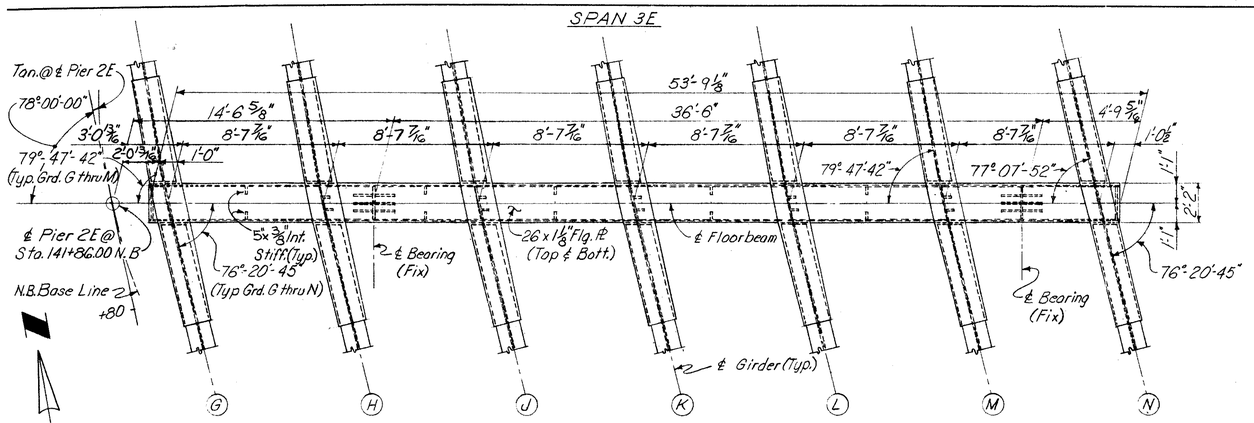
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
E.L.W.	W.R.T. 12-11-64		J.a.a. 2-8-65	J.H.b. 3/22/65	

Stringer	G	H	J	K	L	M	N
Dimension X	3 3/16"	3"	2 7/8"	2 7/8"	2 13/16"	2 3/4"	3 1/8"

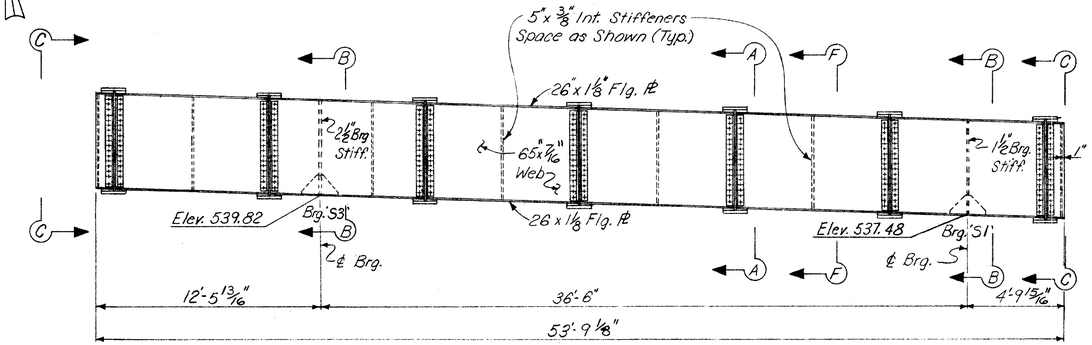
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

158/210

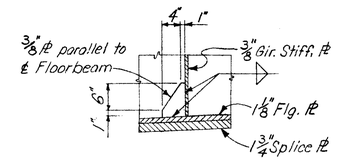
HAM-71-1.80



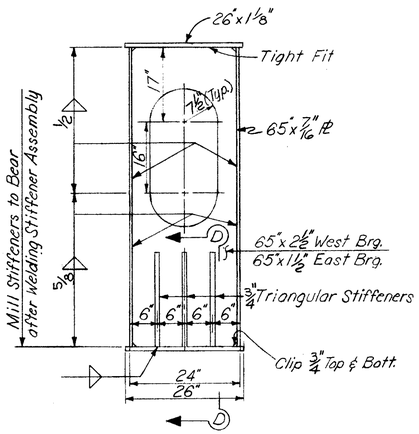
PLAN - FLOORBEAM AT PIER 2E



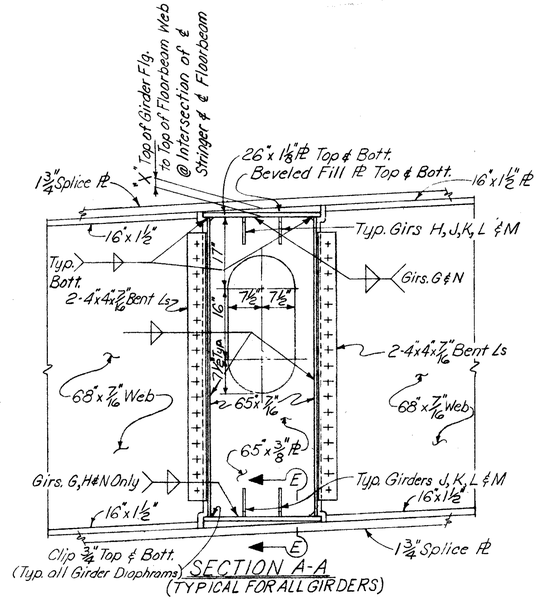
ELEVATION



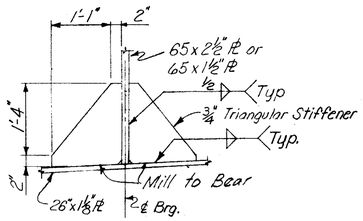
SECTION E-E
(Typ. Top and Bottom)



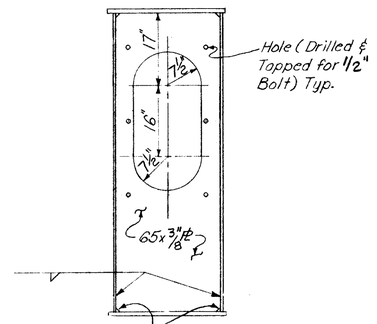
SECTION B-B
SHOWING BEARING STIFFENER



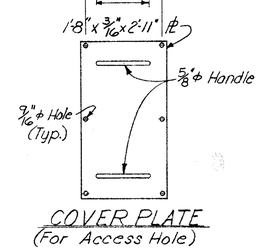
SECTION A-A
(TYPICAL FOR ALL GIRDERS)



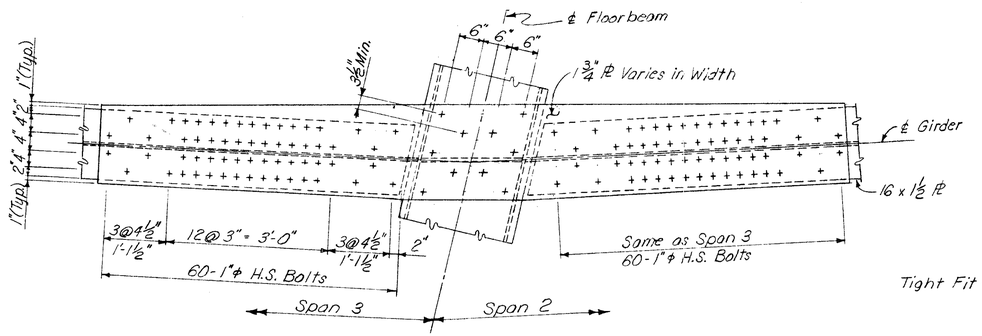
SECTION D-D



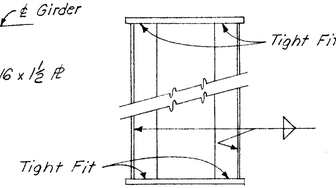
SECTION C-C



COVER PLATE
(For Access Hole)



SPLICE PLATE DETAIL
SHOWING TOP SPLICE
(Typ. Bottom)



SECTION F-F
TYP. ALL INTERMEDIATE STIFFENERS

NOTE:
For fillet weld sizes not shown see "TABLE OF FILLET WELD SIZES" sht no. 164

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

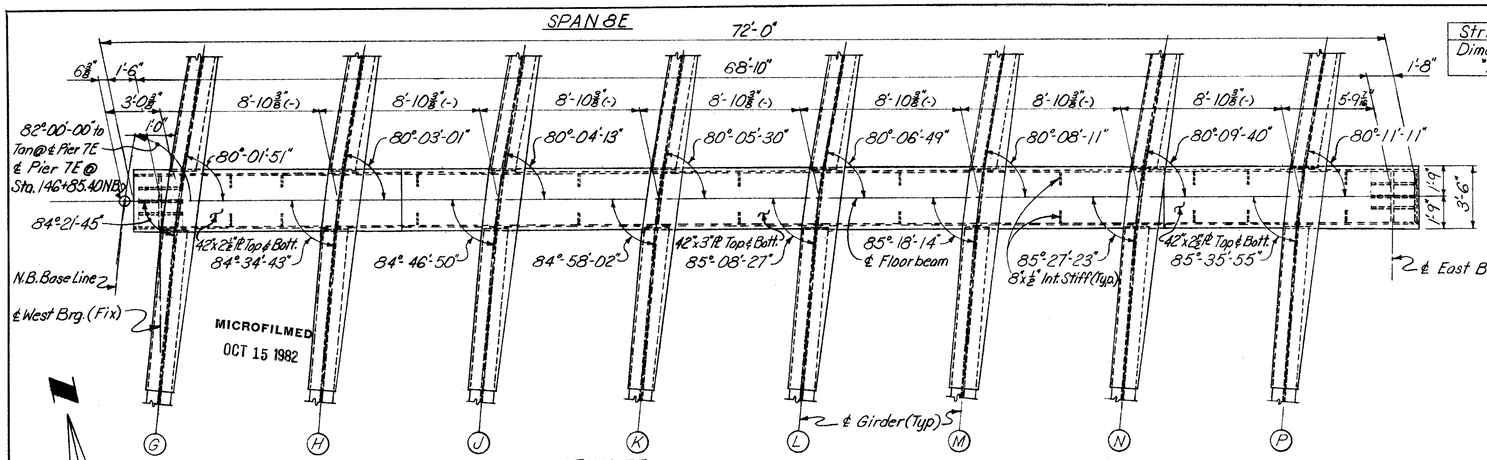
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PME	W.R.T. 10-4-64		CHH 2-3-65	JHD 3/22/65	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

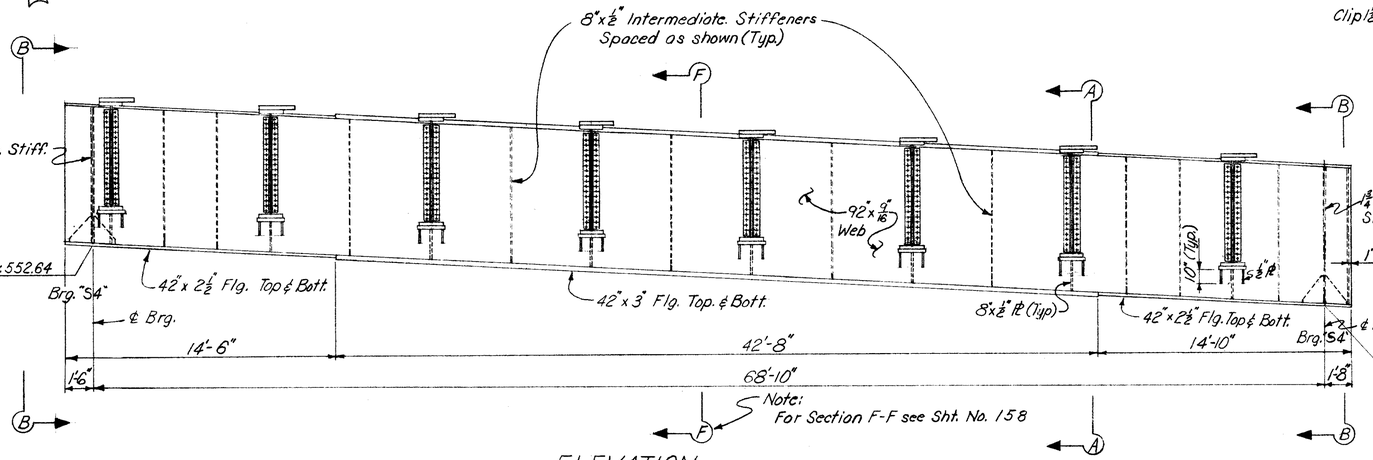
HAM-71-1.30

162
210

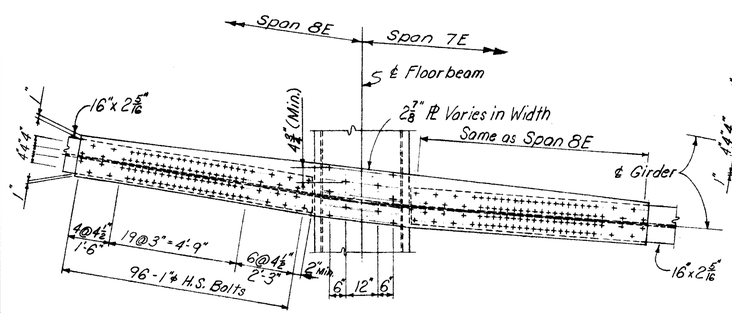
Stringer Dimension "X"	G	H	J	K	L	M	N	P
	4 7/16"	4 3/16"	4 3/4"	4 5/8"	4 7/8"	4 5/8"	4 3/4"	4 5/8"



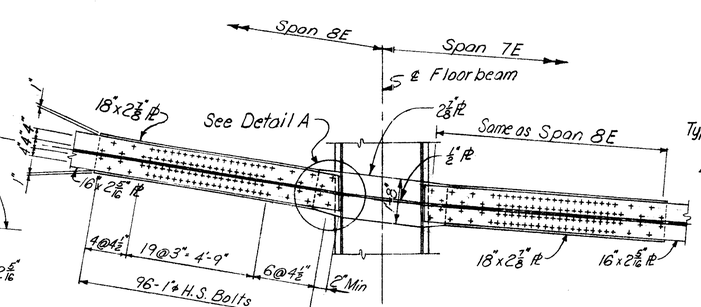
PLAN - FLOORBEAM AT PIER 7E



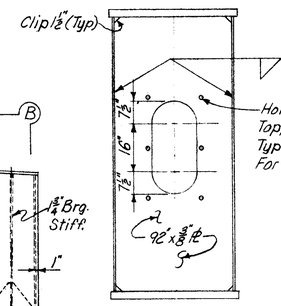
ELEVATION



PLAN OF TOP SPLICE PLATE

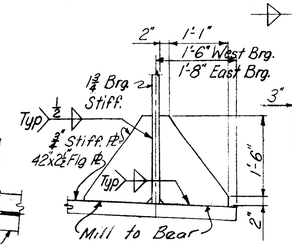


SECTION D-D



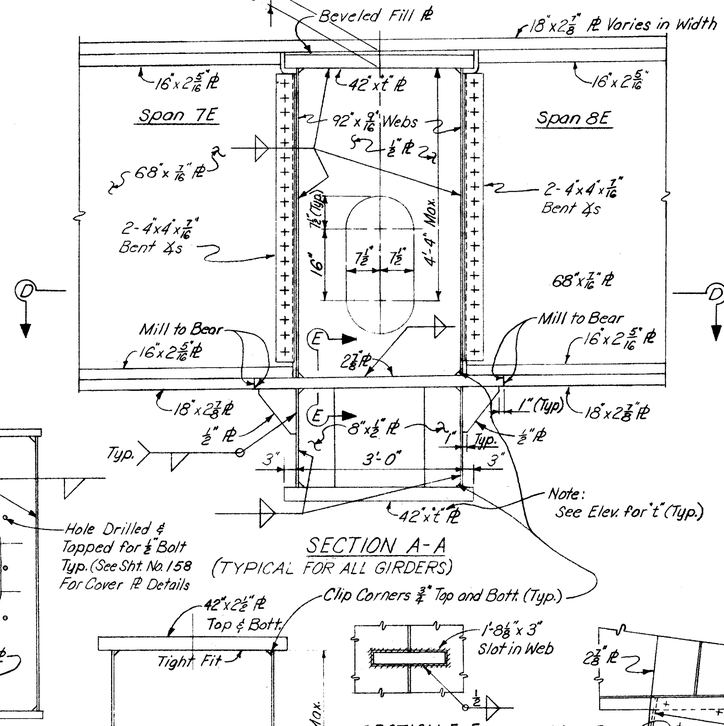
EAST END ELEVATION

Elev. 548.96



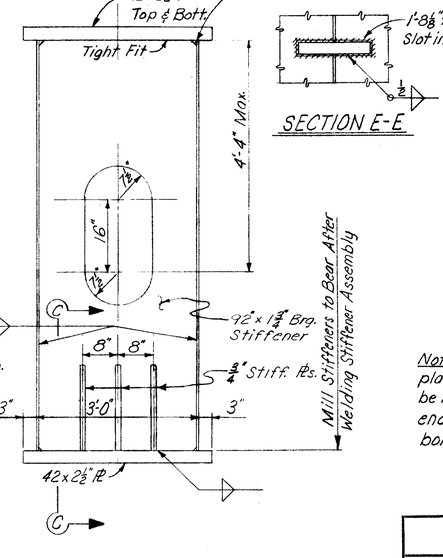
SECTION C-C

East Bearing Shown
(West Bearing Identical Except 42"x2 5/8" Flange Plate Slope Opposite)



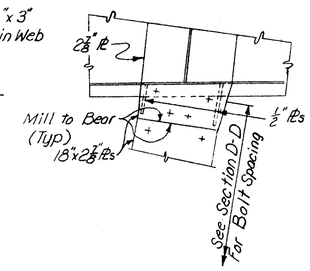
SECTION A-A

(TYPICAL FOR ALL GIRDERS)



SECTION B-B

SECTION E-E



DETAIL A

With Bott. Flg. of Girder Removed

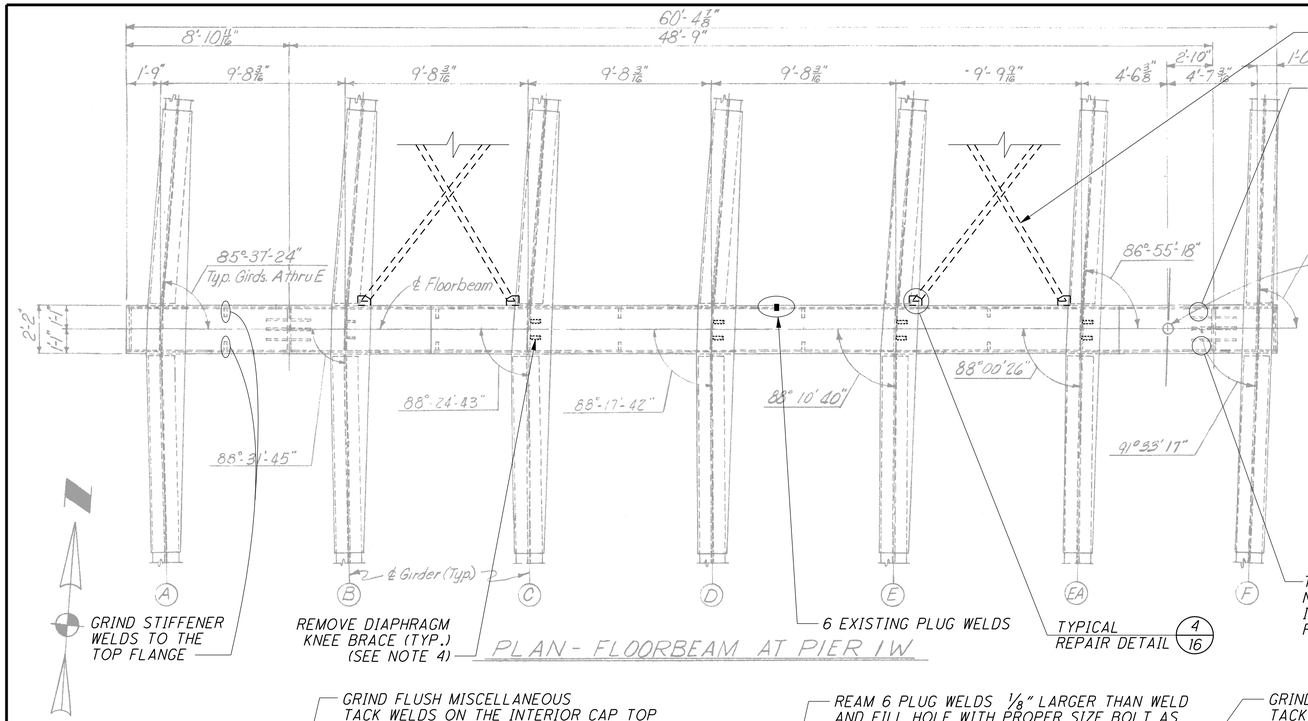
Note: Milled ends of compression splice plates on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened.

Note:
For Cover Plate Details and Section F-F See Floorbeam 2E, Sht. No. 158
For fillet weld sizes not shown, see "TABLE OF FILLET WELD SIZES, Sht. No. 164
For Bearing Details see Sht. No. 165

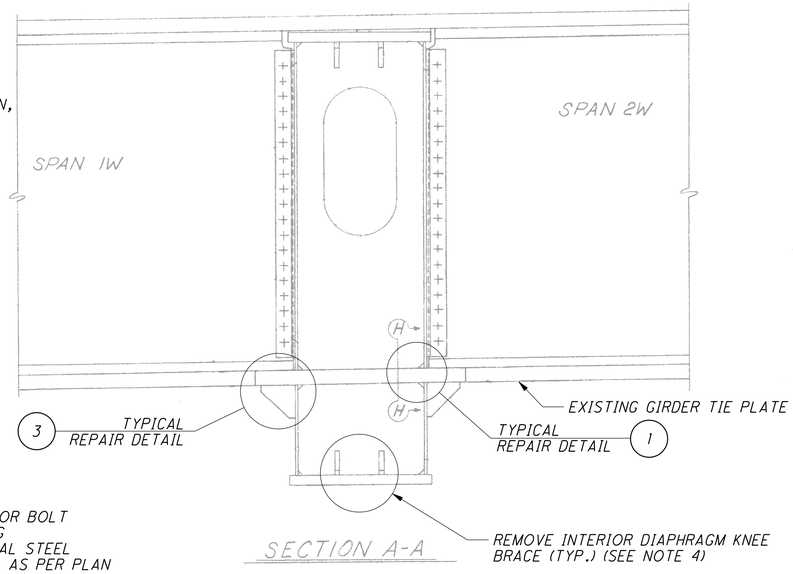
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

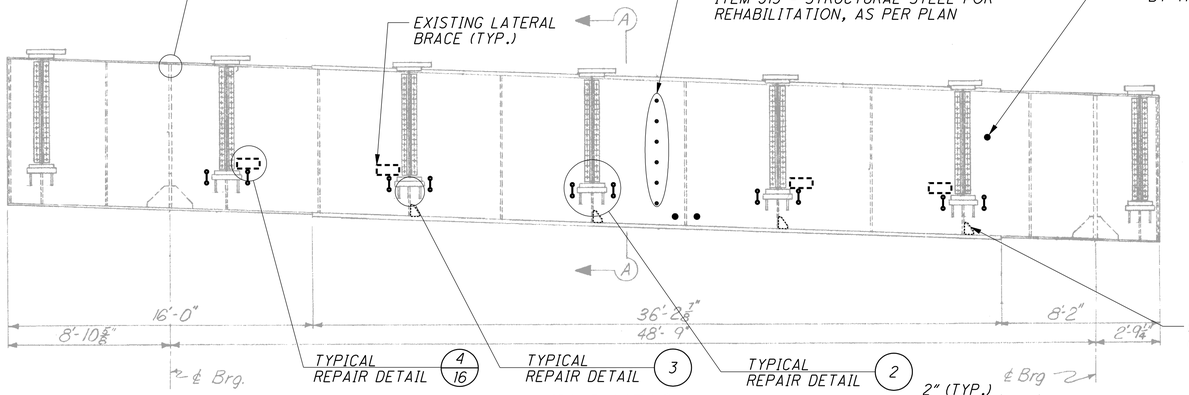
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
TIG	WRT 10-11-65		CHH 2-9-65	JHO 3/22/65	



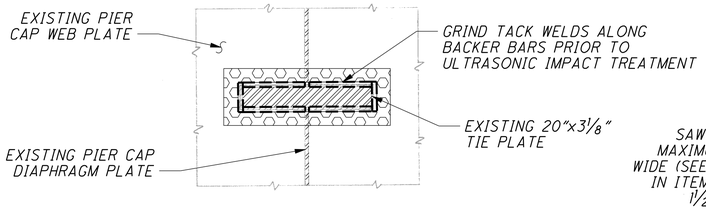
PLAN - FLOORBEAM AT PIER 1W



SECTION A-A



ELEVATION



SECTION H-H

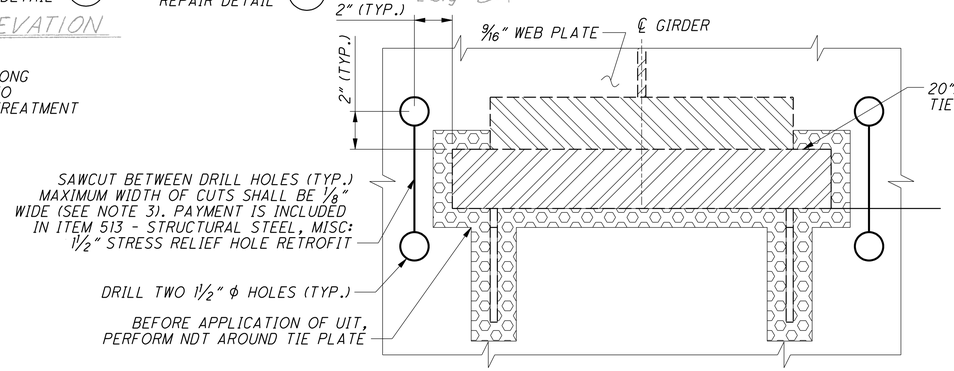
REPAIR DETAIL 1
INTERIOR TIE PLATE RETROFIT

- LIMITS OF ½" WIDE ULTRASONIC IMPACT TREATMENT (UIT)
- LIMITS OF STEEL REMOVAL ON EXTERNAL KNEE BRACES BY GRINDING

GRIND FLUSH MISCELLANEOUS TACK WELDS ON THE INTERIOR CAP NORTH WEB AS DIRECTED BY THE ENGINEER (TYP.)

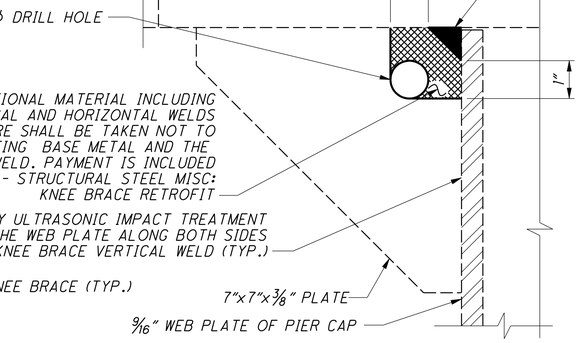
REAM 6 PLUG WELDS 1/8" LARGER THAN WELD AND FILL HOLE WITH PROPER SIZE BOLT AS DIRECTED BY ENGINEER ITEM 513 - STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN

REMOVE INTERIOR DIAPHRAGM KNEE BRACE (TYP.) (SEE NOTE 4)



REPAIR DETAIL 2
STRESS RELIEF HOLES

(FOR GIRDERS B, C, D, E AND EA AT NORTH AND SOUTH WEB PLATES)



REPAIR DETAIL 3
EXTERIOR KNEE BRACE RETROFIT

NOTES:

1. PIER PLAN, ELEVATION AND SECTIONS A-A AND H-H ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON INTERIOR AND EXTERIOR OF PIER CAP.
3. CARE SHALL BE TAKEN NOT TO OVER CUT SAWCUT BEYOND DRILLED HOLES. FLAME CUTTING IS NOT PERMITTED.
4. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON BOTTOM FLANGE AT GIRDERS C, D, E AND EA. APPLY ULTRASONIC IMPACT TREATMENT TO THE BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

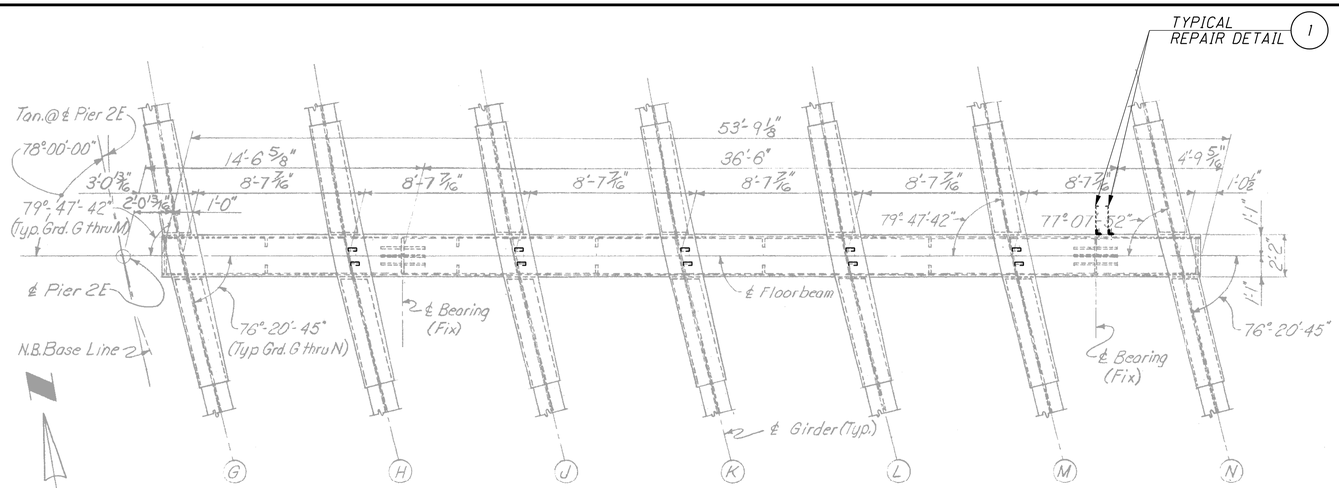
DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	WRW	11-27-07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BKC		3106608	

PIER 1W CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST., AND EGGLESTON AVE.

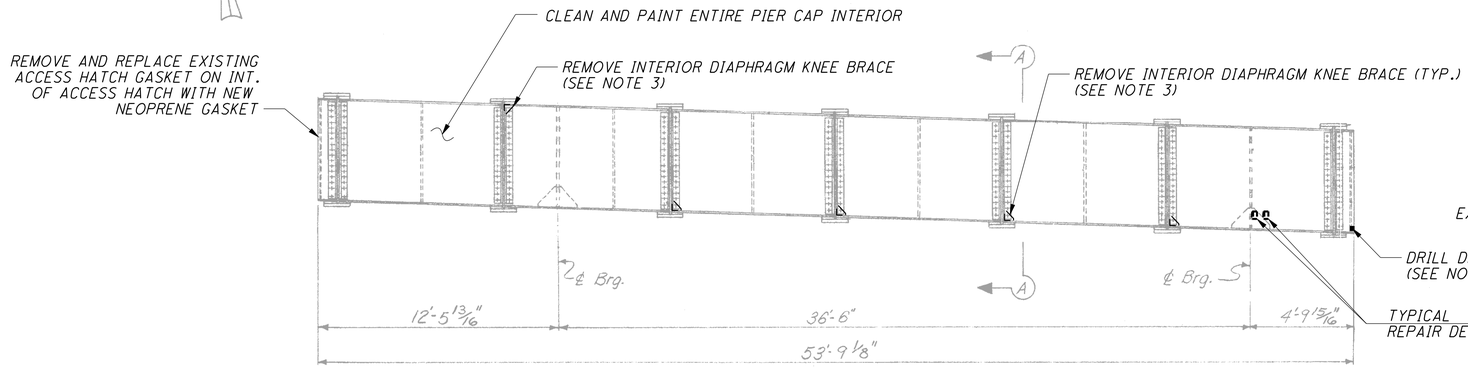
HAM-BH-VAR
PID No. 25374

17
38

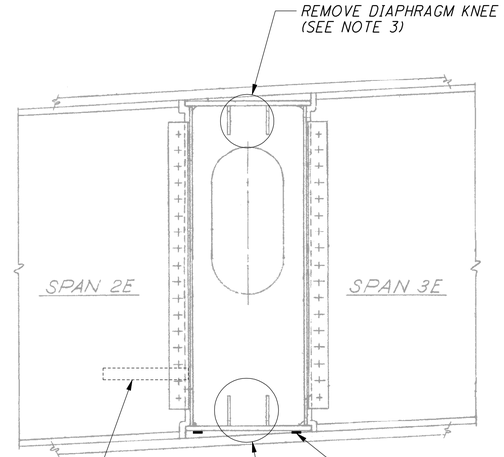
4/17/2008
P:\2426.03-ODOT 8 Pier Cap\2007 PID25374 DRAWINGS\(#2) HAM-71-0159\HAM-71-0159 P1W.dgn

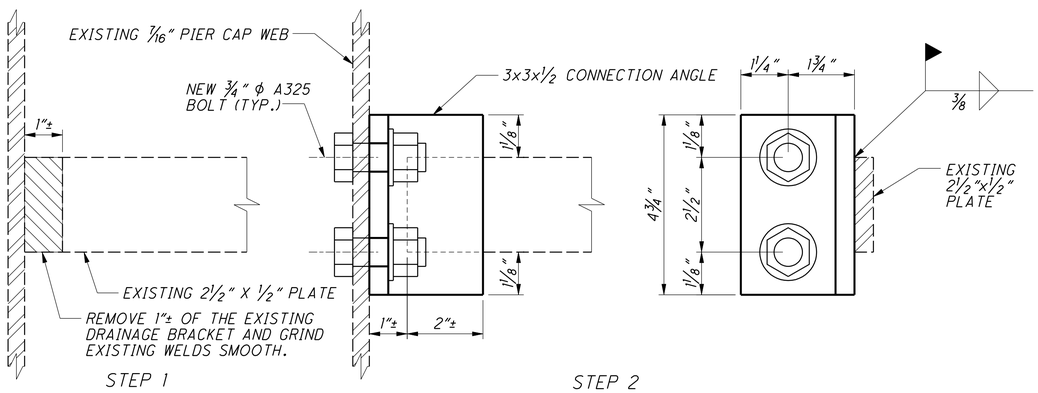


PLAN - FLOORBEAM AT PIER 2E



ELEVATION





REPAIR DETAIL
DRAIN BRACKET RETROFIT 1

NOTES:

1. PIER PLAN, ELEVATION AND SECTION A-A ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON EXTERIOR OF PIER CAP.
3. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON BOTTOM FLANGE AT GIRDERS J, K, L AND M. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON TOP FLANGE AT GIRDER H ONLY. APPLY ULTRASONIC IMPACT TREATMENT TO THE TOP OR BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.
4. DRILL TWO 1/2" ϕ HOLES THROUGH THE EAST END PLATE. THE BOTTOM OF THE HOLES SHALL BE FLUSH WITH THE PIER CAP BOTTOM FLANGE. HOLES SHALL NOT PENETRATE OR GOUGE PIER CAP WEB PLATES OR FLANGE PLATE. ALL COSTS SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL, MISC.: 1/2" DRAINAGE HOLES, AS PER PLAN.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

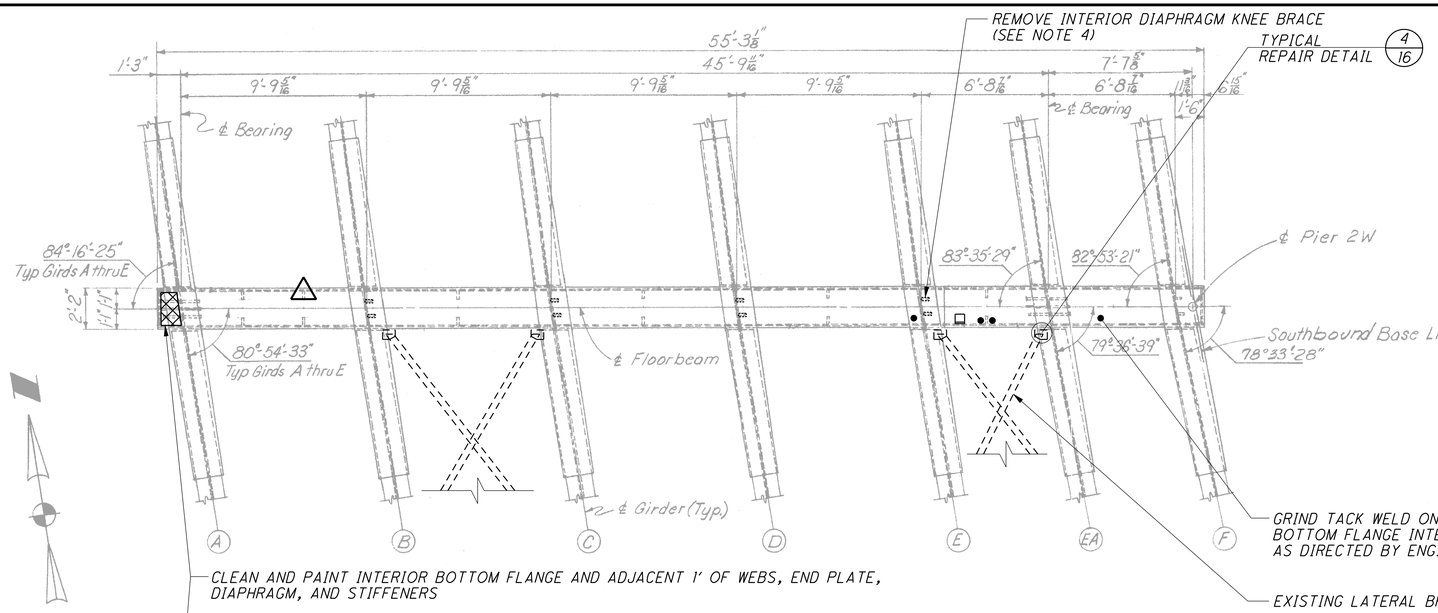
DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	WRW	11-30-07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BKC		3106608	

PIER 2E CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST. AND EGGLESTON AVE.

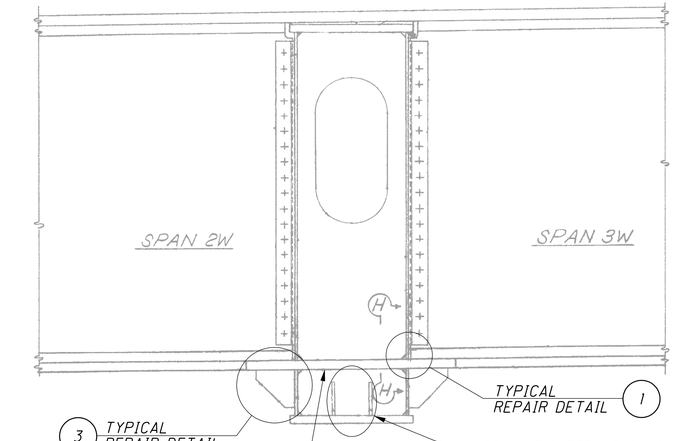
HAM-BH-VAR
PID No. 25374

18
38

4/17/2008
P:\2426 03-ODOT 8 Pier Cap\2007 PID25374 DRAWINGS\(#2) HAM-71-0159\HAM-71-0159 P2E.dgn

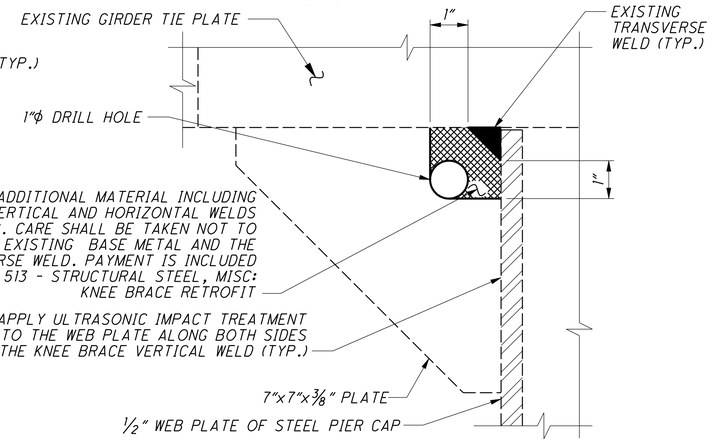


PLAN - FLOORBEAM AT PIER 2W

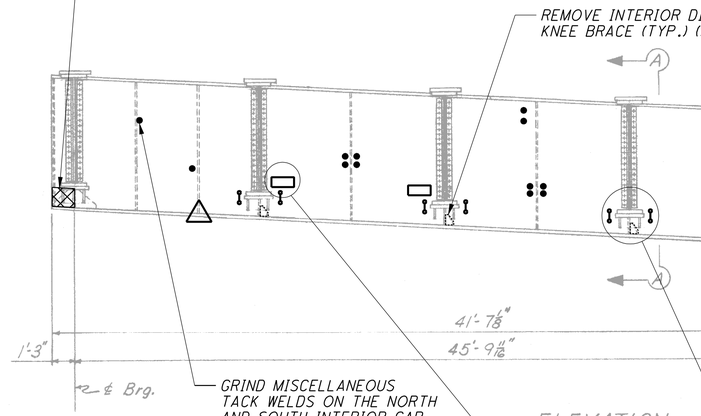


SECTION A-A

TYPICAL FOR ALL GIRDERS EXCEPT "A" AND "EA"



REPAIR DETAIL
EXTERIOR KNEE BRACE RETROFIT 3

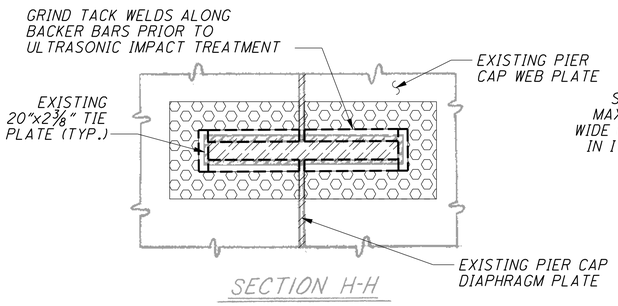


ELEVATION

NOTES:

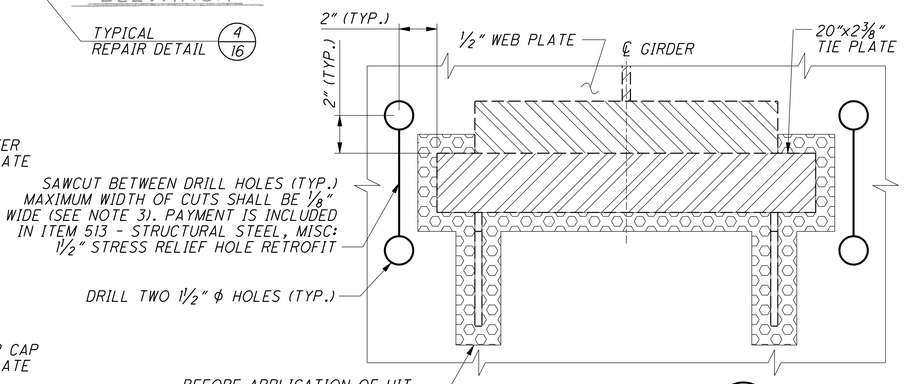
1. PIER PLAN, ELEVATION AND SECTION A-A AND H-H ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON INTERIOR AND EXTERIOR OF PIER CAP.
3. CARE SHALL BE TAKEN NOT TO OVERCUT SAWCUT BEYOND DRILLED HOLES. FLAME CUTTING IS NOT PERMITTED.
4. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON BOTTOM FLANGE AT GIRDERS B, C, D AND E. APPLY ULTRASONIC IMPACT TREATMENT TO THE BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.
5. DRILL TWO ½" ϕ HOLES THROUGH THE EAST END PLATE. THE BOTTOM OF THE HOLES SHALL BE FLUSH WITH THE PIER CAP BOTTOM FLANGE. HOLES SHALL NOT PENETRATE OR GOUGE PIER CAP WEB PLATES, FLANGE PLATE, OR BEARING STIFFENERS. ALL COSTS SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL, MISC.: ½" DRAINAGE HOLES, AS PER PLAN.

- LIMITS OF ½" WIDE ULTRASONIC IMPACT TREATMENT (UIT)
- LIMITS OF PAINTING OF INTERIOR OF PIER CAP
- LIMITS OF STEEL REMOVAL ON EXTERNAL KNEE BRACES BY GRINDING
- △ LOCATION OF INTERSECTING WELD BETWEEN PIER CAP WEB STIFFENER WELD AND PIER CAP FLANGE WELD TO BE REMOVED BY GRINDING



SECTION H-H

REPAIR DETAIL
INTERIOR TIE PLATE RETROFIT 1



REPAIR DETAIL
STRESS RELIEF HOLES 2

(FOR GIRDERS B, C, D, E AND EA AT NORTH AND SOUTH WEB PLATES)

4/17/2008
P:\2426.03-ODOT 8 Pier Cap\2007 PID25374 DRAWINGS\(#2) HAM-71-0159\HAM-71-0159 P2W.dgn

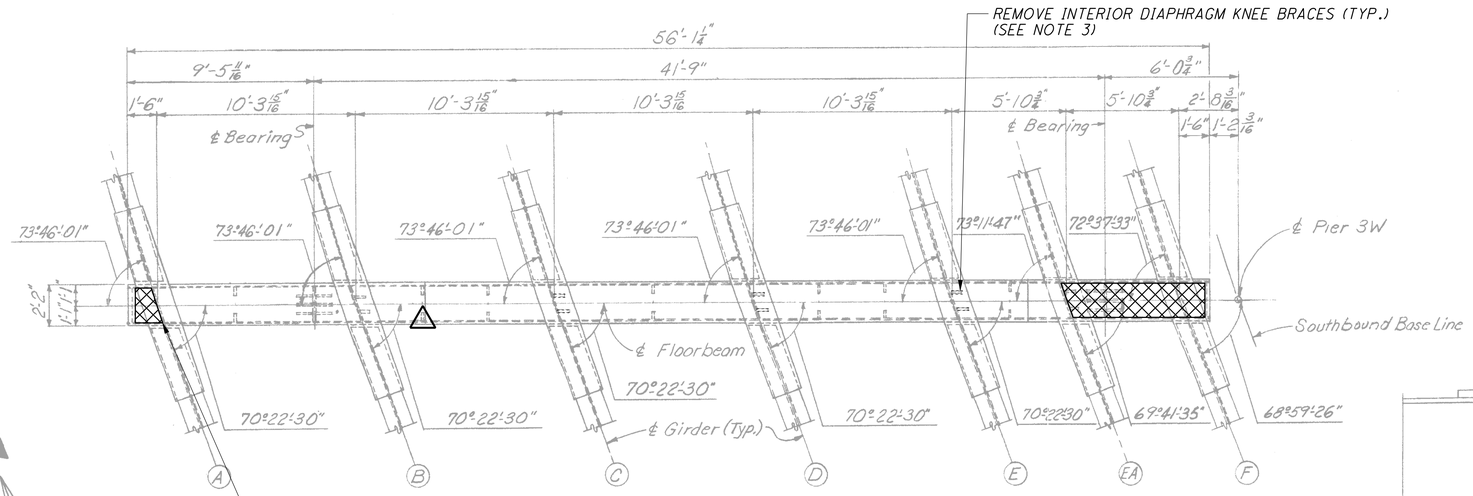
DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED NBR | DRAWN NBR | REVIEWED WRW | DATE 11-30-07
CHECKED BKC | REVISED | STRUCTURE FILE NUMBER 3106608

PIER 2W CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST. AND EGGLESTON AVE.

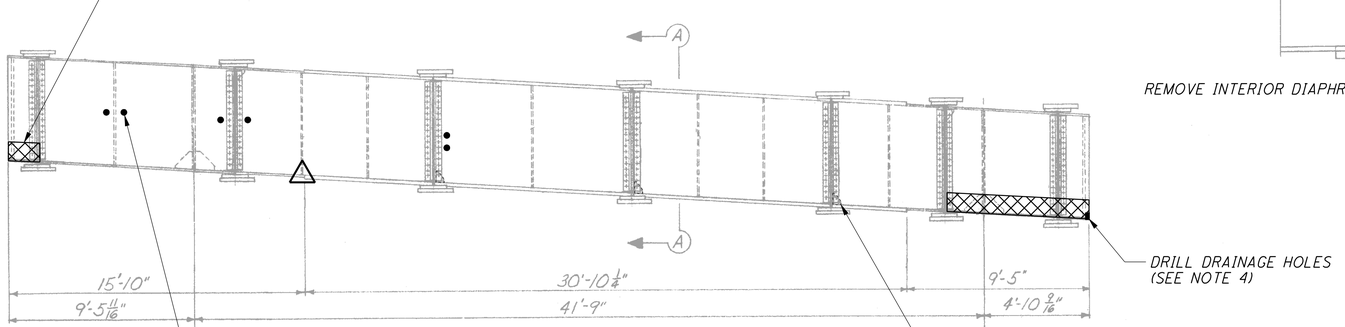
HAM-BH-VAR
PID No. 25374

19
38



PLAN- FLOORBEAM AT PIER 3W

CLEAN AND PAINT INTERIOR BOTTOM FLANGE AND ADJACENT 1' OF WEBS, END PLATES, DIAPHRAGMS, AND STIFFENER PLATES

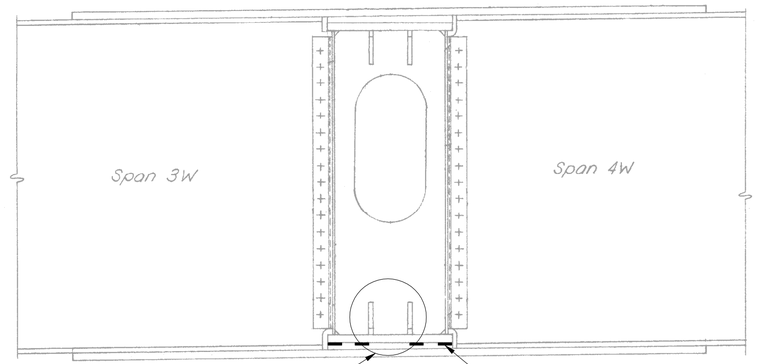


GRIND MISCELLANEOUS TACK WELDS ON THE INTERIOR CAP WEB PLATES (TYP.) AS DIRECTED BY THE ENGINEER.

ELEVATION

DRILL DRAINAGE HOLES (SEE NOTE 4)

REMOVE INTERIOR DIAPHRAGM KNEE BRACES (TYP.) (SEE NOTE 3)



REMOVE INTERIOR DIAPHRAGM KNEE BRACE (TYP.) (SEE NOTE 3)

SECTION A-A

GRIND TACK WELDS FROM THE EXTERIOR CAP BOTTOM FLANGE AT THE GIRDER FLANGE FILL PLATES (TYP.) AS DIRECTED BY THE ENGINEER.

- LIMITS OF PAINTING OF INTERIOR OF PIER CAP

△ - LOCATION OF INTERSECTING WELD BETWEEN PIER CAP WEB STIFFENER WELD AND PIER CAP FLANGE WELD TO BE REMOVED BY GRINDING

NOTES:

1. PIER PLAN, ELEVATION AND SECTION A-A ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON INTERIOR AND EXTERIOR OF PIER CAP.
3. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON BOTTOM FLANGE AT GIRDERS C, D, AND E. APPLY ULTRASONIC IMPACT TREATMENT TO THE BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.
4. DRILL TWO ½" ϕ HOLES THROUGH THE EAST END PLATE. THE BOTTOM OF THE HOLES SHALL BE FLUSH WITH THE PIER CAP BOTTOM FLANGE. HOLES SHALL NOT PENETRATE OR GOUGE PIER CAP WEB PLATES OR FLANGE PLATE. ALL COSTS SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL, MISC.: ½" DRAINAGE HOLES, AS PER PLAN.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	WRW	12-20-07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BKC		3106608	

PIER 3W CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST. AND EGGLESTON AVE.

HAM-BH-VAR
PID No. 25374

20
38

4/17/2008
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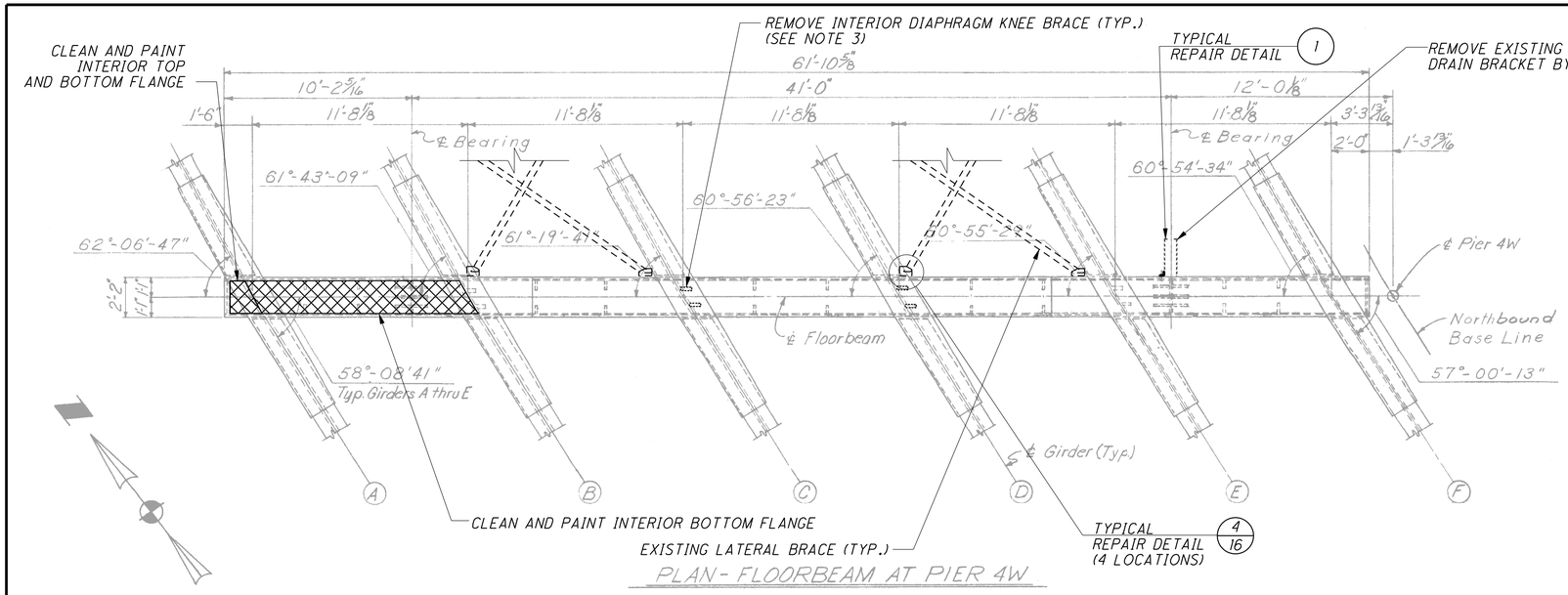
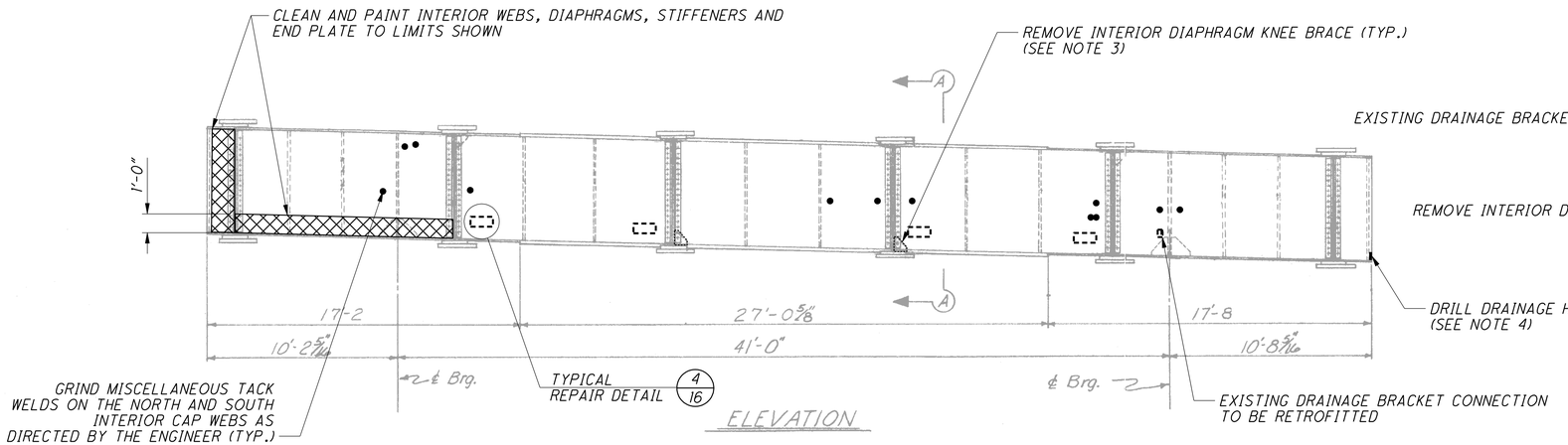
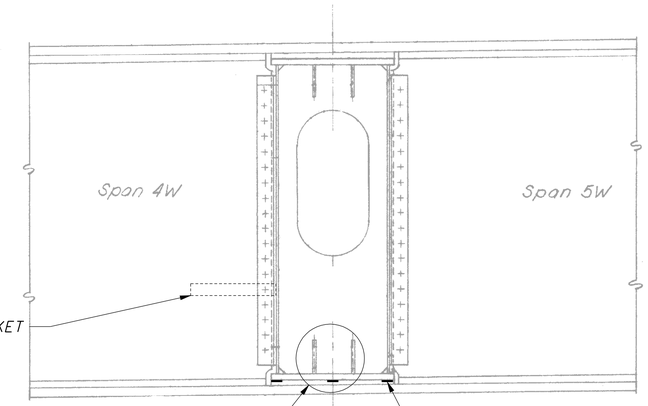


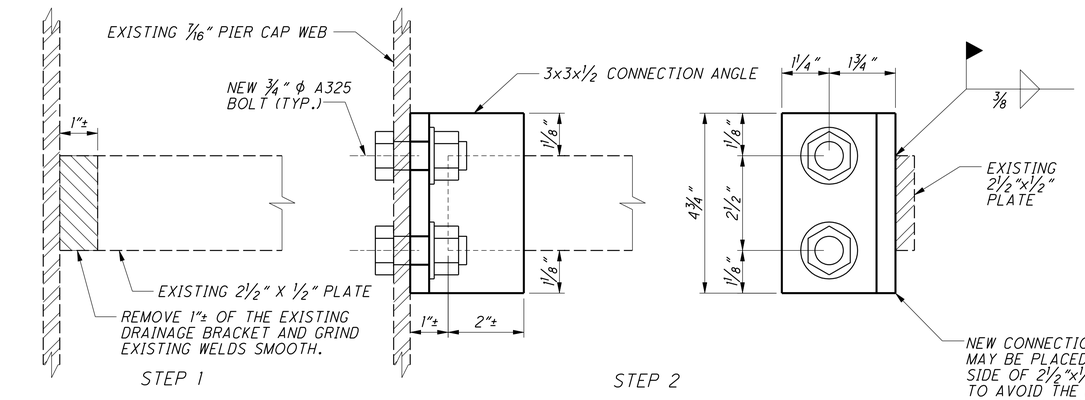
PLAN - FLOORBEAM AT PIER 4W



ELEVATION



SECTION A-A



REPAIR DETAIL
DRAIN BRACKET RETROFIT 1

NOTES:

1. PIER PLAN, ELEVATION AND SECTION A-A ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON INTERIOR AND EXTERIOR OF PIER CAP.
3. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON BOTTOM FLANGE AT GIRDERS C AND D. APPLY ULTRASONIC IMPACT TREATMENT TO THE BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.
4. DRILL TWO ½" ϕ HOLES THROUGH THE EAST END PLATE. THE BOTTOM OF THE HOLES SHALL BE FLUSH WITH THE PIER CAP BOTTOM FLANGE. HOLES SHALL NOT PENETRATE OR GOUGE PIER CAP WEB PLATES OR FLANGE PLATE. ALL COSTS SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL, MISC.: ½" DRAINAGE HOLES, AS PER PLAN.

- LIMITS OF PAINTING OF INTERIOR OF PIER CAP

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED NBR
DRAWN NBR
REVIEWED WRW
DATE 12-03-07
CHECKED BKC
REVISED
STRUCTURE FILE NUMBER 3106608

PIER 4W CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST. AND EGGLESTON AVE.

HAM-BH-VAR
PID No. 25374

21
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4/17/2008
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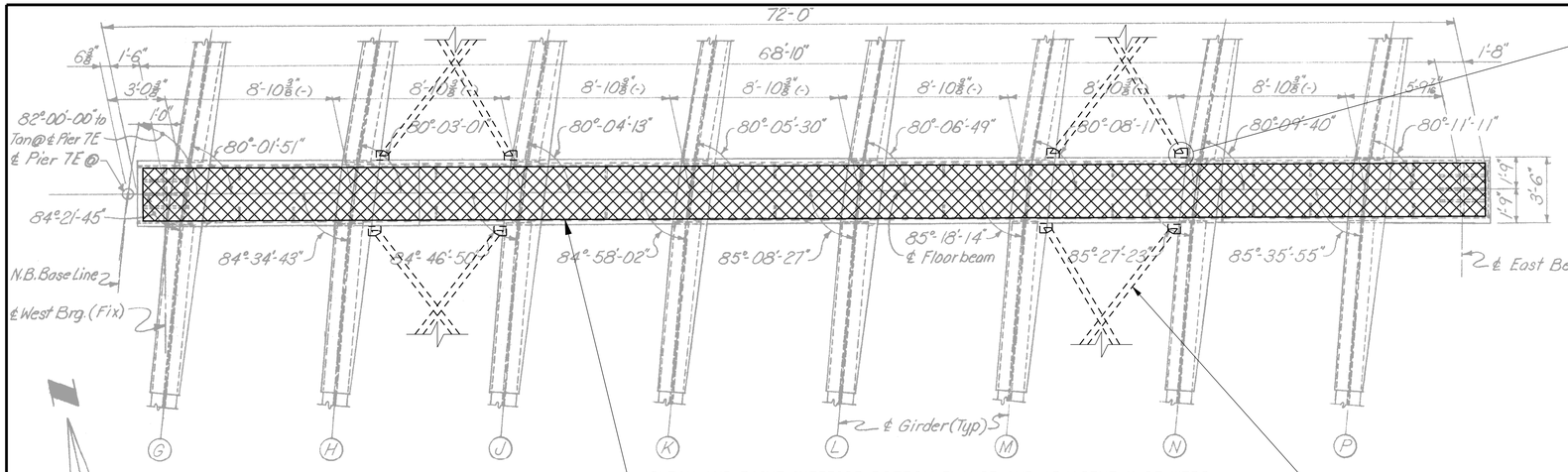
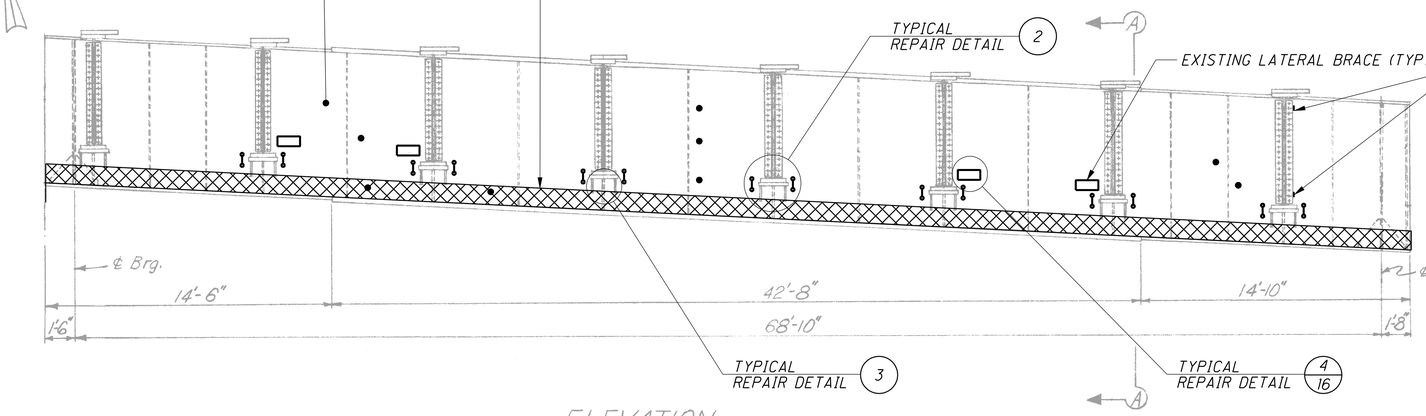
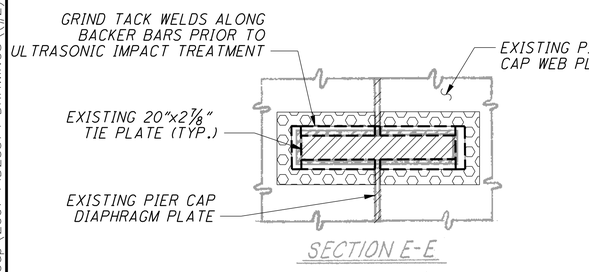


PLAN - FLOORBEAM AT PIER 7E

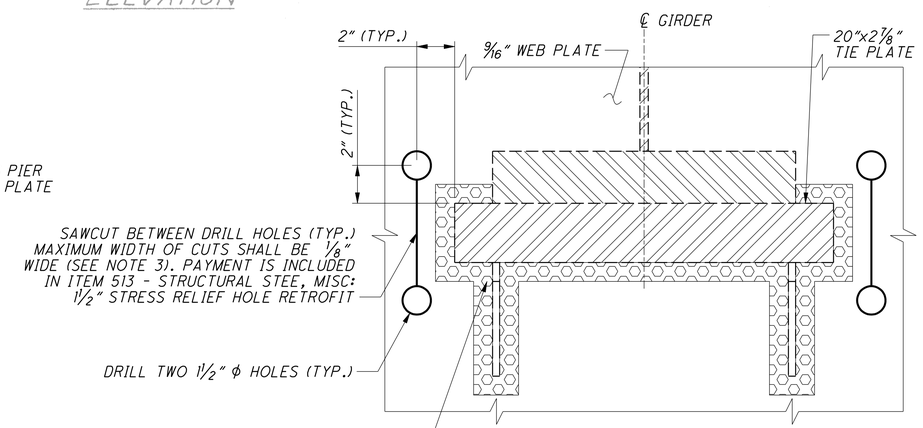


ELEVATION



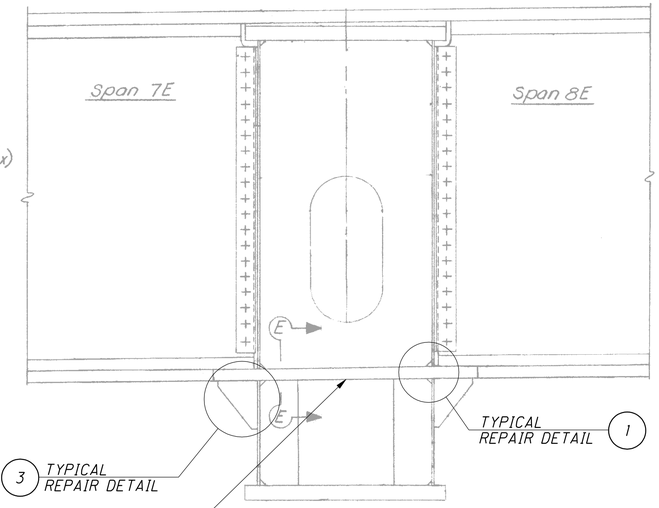
SECTION E-E

REPAIR DETAIL
INTERIOR TIE PLATE RETROFIT 1

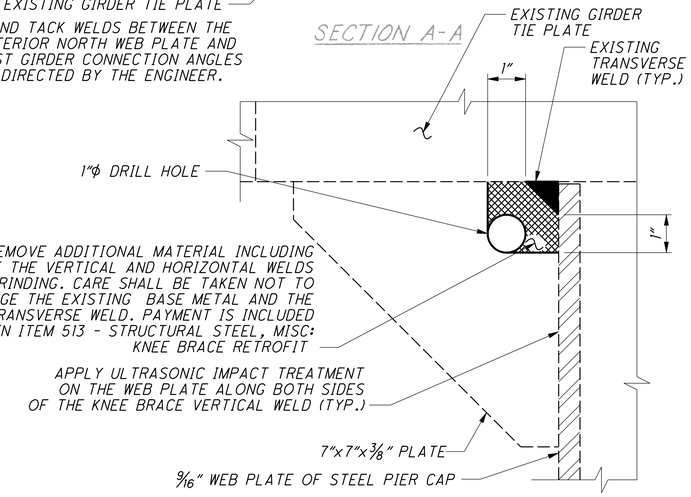


REPAIR DETAIL
STRESS RELIEF HOLES 2

(FOR GIRDERS H, J, K, L, M, N, AND P NORTH AND SOUTH WEB PLATES)



SECTION A-A



REPAIR DETAIL
EXTERIOR KNEE BRACE RETROFIT 3

NOTES:

1. PIER PLAN, ELEVATION, SECTION A-A, AND SECTION E-E ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON THE INTERIOR AND EXTERIOR OF THE PIER CAP.
3. CARE SHALL BE TAKEN NOT TO OVERCUT SAWCUT BEYOND DRILL HOLES. FLAME CUTTING IS NOT PERMITTED.

- LIMITS OF ½" WIDE ULTRASONIC IMPACT TREATMENT (UIT)
- LIMITS OF PAINTING OF INTERIOR OF PIER CAP
- LIMITS OF STEEL REMOVAL ON EXTERNAL KNEE BRACES BY GRINDING

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	WRW	12-03-07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BKC		3106608	

PIER 7E CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159 EB & WB
I-71 OVER CULVERT ST., SENTINEL ST. AND EGGLESTON AVE.

HAM-BH-VAR
PID No. 25374

22
38

4/17/2008
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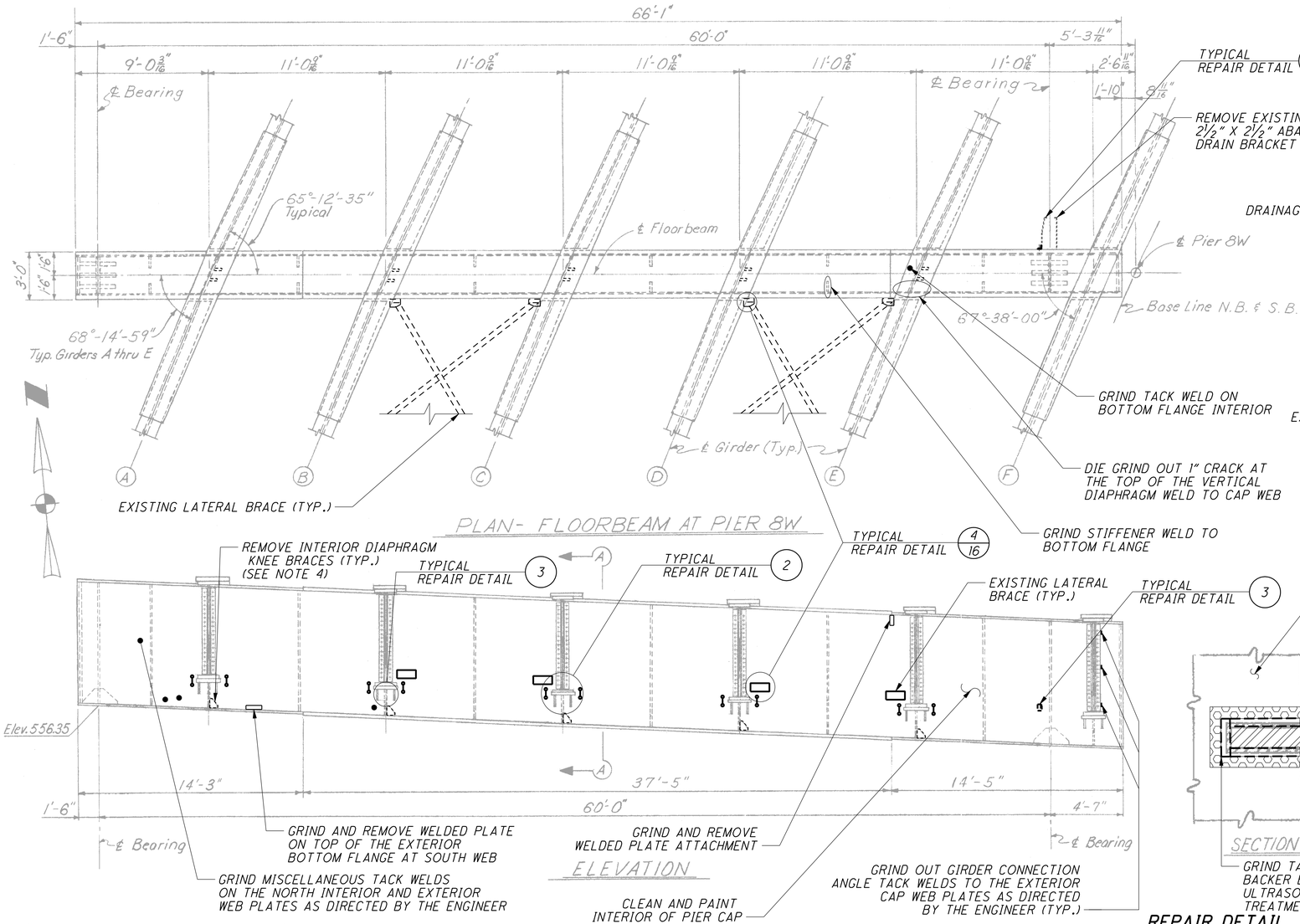
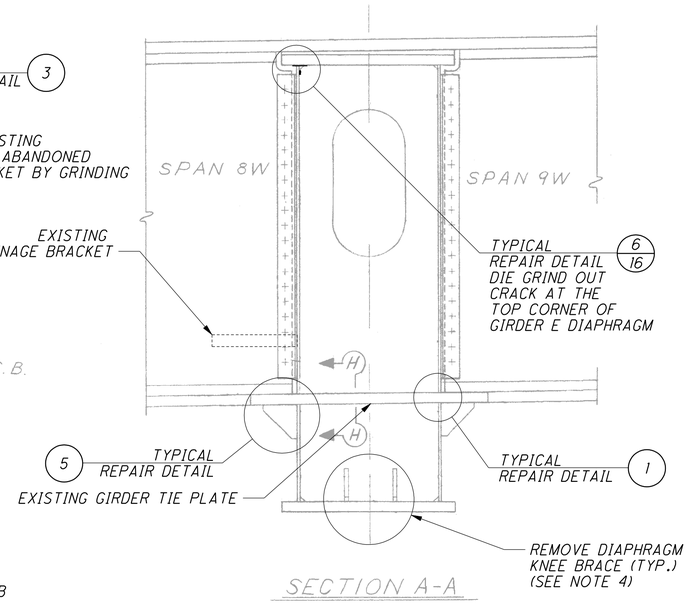
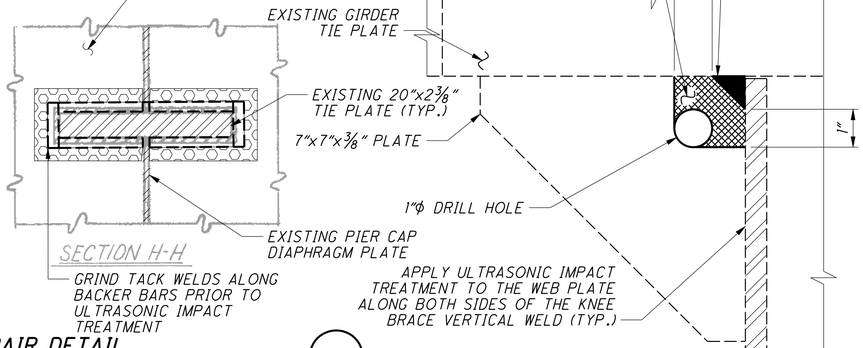


PLAN- FLOORBEAM AT PIER 8W



SECTION A-A

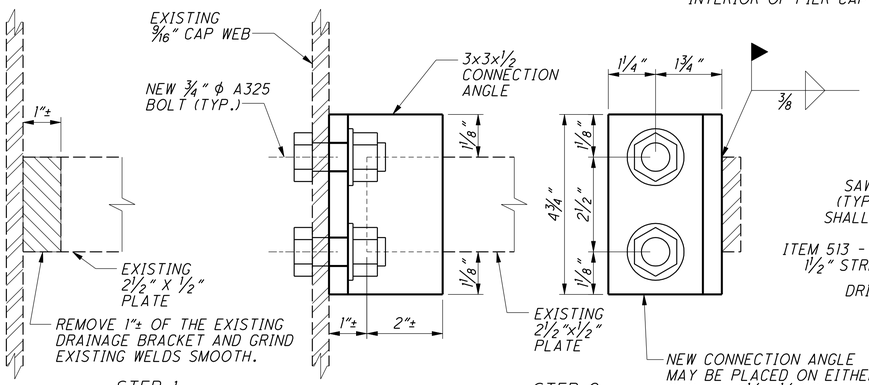
ELEVATION



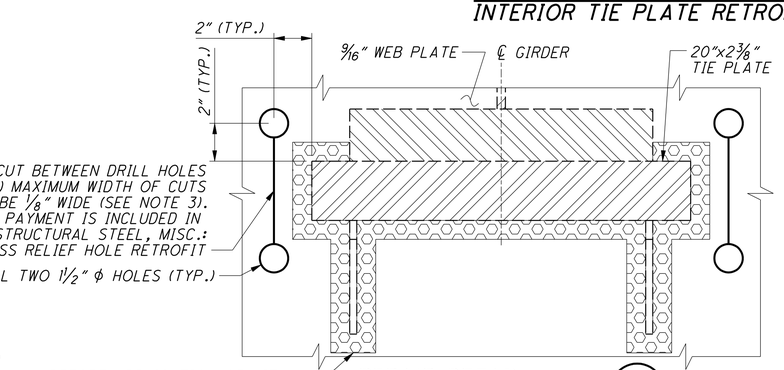
SECTION H-H

REPAIR DETAIL
INTERIOR TIE PLATE RETROFIT 1

REPAIR DETAIL
EXTERIOR KNEE BRACE RETROFIT 5



REPAIR DETAIL
DRAIN BRACKET RETROFIT 3



REPAIR DETAIL
STRESS RELIEF HOLES 2
(FOR GIRDERS A, B, C, D, AND E TYPICAL EACH SIDE OF WEB)

NOTES:

1. PIER PLAN, ELEVATION, SECTION A-A, AND SECTION H-H ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON EXTERIOR OF PIER CAP.
3. CARE SHALL BE TAKEN NOT TO OVERCUT SAWCUT BEYOND DRILLED HOLES. FLAME CUTTING IS NOT PERMITTED.
4. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH ON BOTTOM FLANGE AT GIRDERS A, B, C, D, AND E. APPLY ULTRASONIC IMPACT TREATMENT TO THE BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.

- LIMITS OF STEEL REMOVAL ON EXTERNALKNEE BRACES BY GRINDING
- LIMITS OF ½" WIDE ULTRASONIC IMPACT TREATMENT (UIT)

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

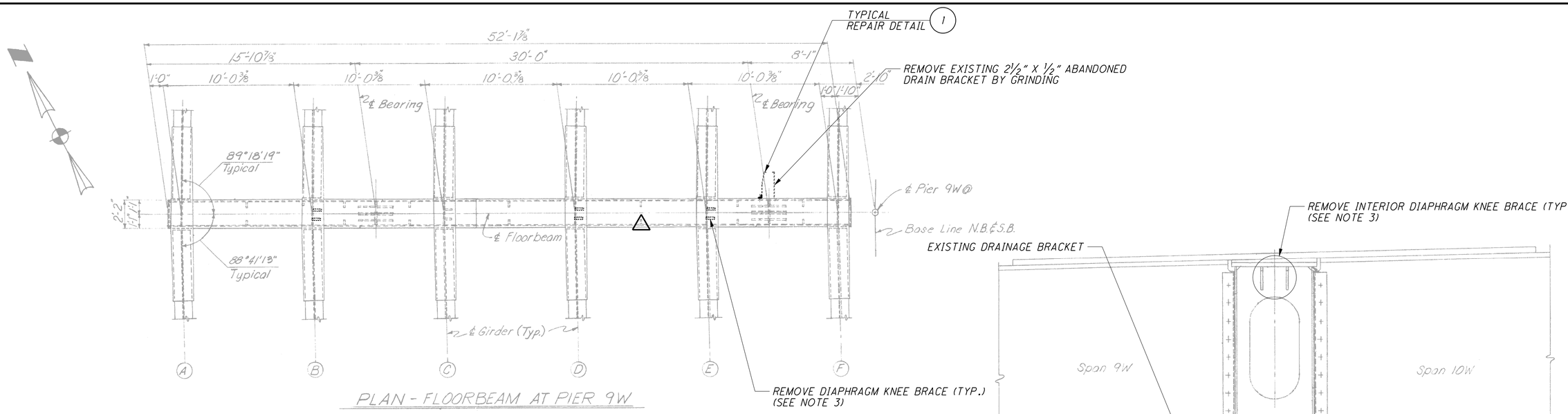
DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	WRW	12-20-07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BKC		3106608	

PIER 8W CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST., AND EGGLESTON AVE.

HAM-BH-VAR
PID No. 25374

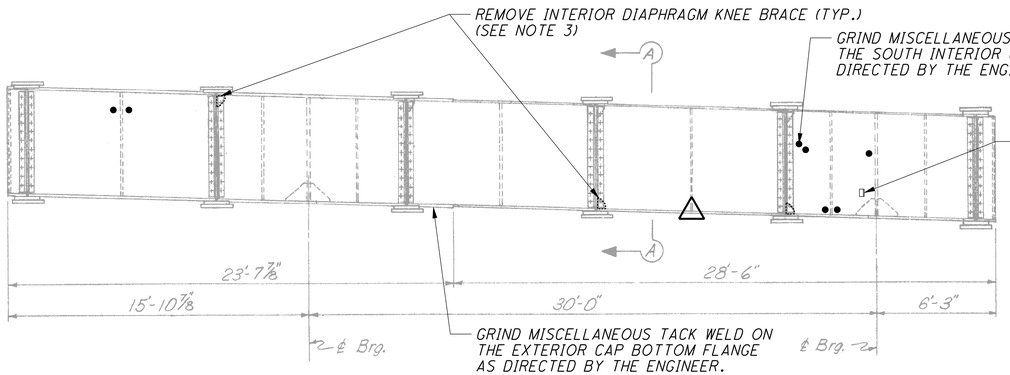
23
38

4/17/2008
P:\2426.03-ODOT 8 Pier Cap\2007 PID25374 DRAWINGS\(#2) HAM-71-0159\HAM-71-0159 P8W.dgn

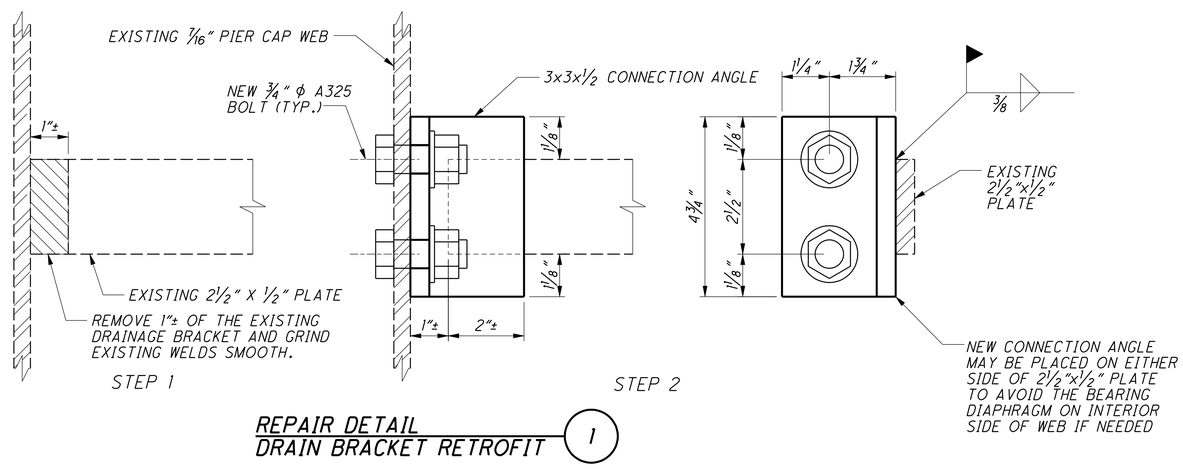


PLAN - FLOORBEAM AT PIER 9W

SECTION A-A



ELEVATION



REPAIR DETAIL
DRAIN BRACKET RETROFIT 1

NOTE:

1. PIER PLAN, ELEVATION AND SECTION A-A ARE TAKEN FROM THE ORIGINAL PLANS.
2. CLEAN AND PAINT REPAIR AREAS ON INTERIOR AND EXTERIOR OF PIER CAP.
3. REMOVE INTERIOR DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON BOTTOM FLANGE AT GIRDERS D AND E. REMOVE DIAPHRAGM KNEE BRACE AND GRIND SMOOTH WELD ON TOP FLANGE AT GIRDER B ONLY. APPLY ULTRASONIC IMPACT TREATMENT TO THE TOP OR BOTTOM FLANGE ALONG PREVIOUS KNEE BRACE WELDS.

△ - LOCATION OF INTERSECTING WELD BETWEEN PIER CAP WEB STIFFENER WELD AND PIER CAP FLANGE WELD TO BE REMOVED BY GRINDING

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	WRW	12-20-07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BKC		3106608	

PIER 9W CAP RETROFIT DETAILS
BRIDGE NO. HAM-71-0159
I-71 OVER CULVERT ST., SENTINEL ST. AND EGGLESTON AVE.

HAM-BH-VAR
PID No. 25374

24
38

4/17/2008
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