

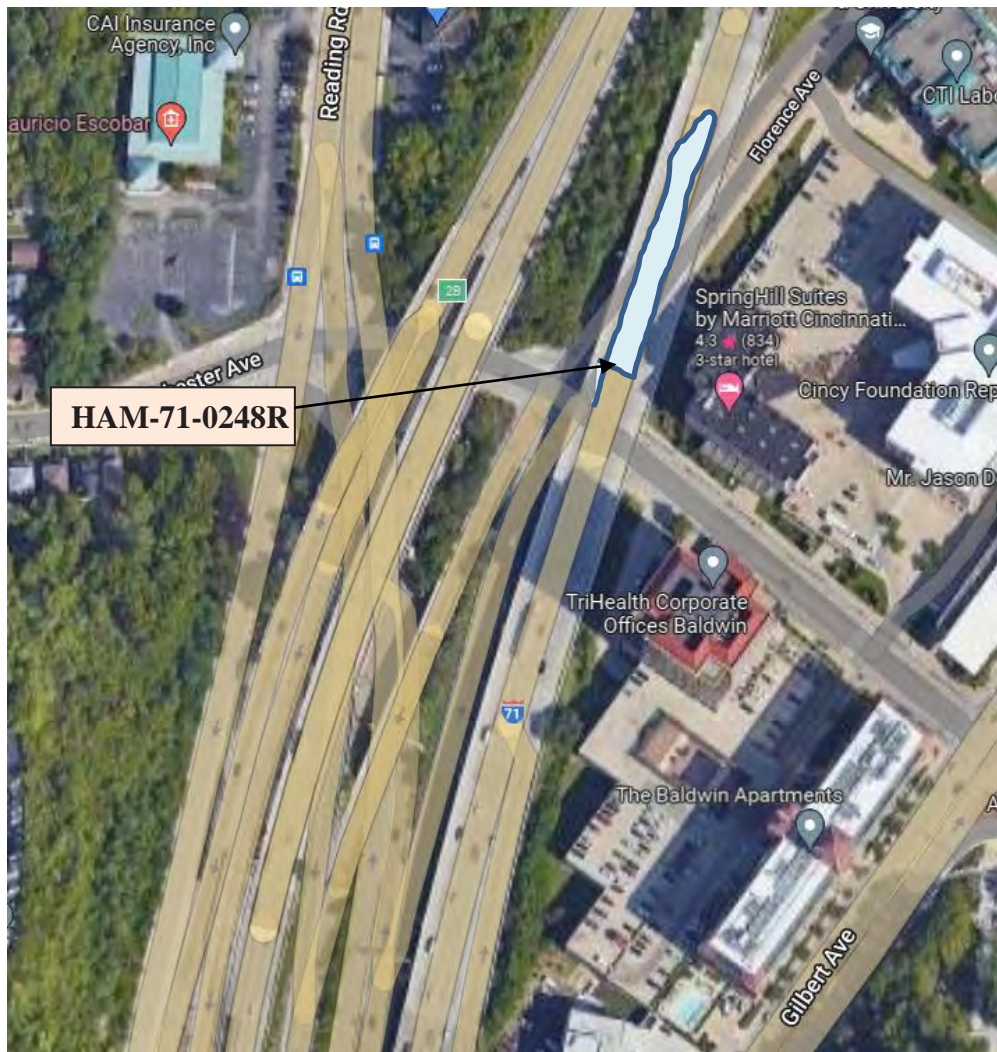
April 17, 2023

PRE-INSPECTION REPORT

BRIDGE NO HAM-71-0248R

(IR 71 NB OVER EDEN PARK DRIVE AND FLORENCE AVENUE)

PID No. 105476



FRACTURE CRITICAL PIER CAP INSPECTION OF 4 CAPS

INSPECTION DETAILS:

Bridge No.:	HAM-71-0248R
Features Intersected:	Eden Park Drive and Florence Avenue
Locations to Inspect:	4 Steel Pier Caps (Piers 9, 10, 11 and 12)
No. of Inspection Days:	Anticipated 3 days
No. of Caps to Inspect:	4
Anticipated Inspection Dates:	Tentatively week of June 26, 2023
Inspection Hours:	8:00 AM to 4:00 PM on Florence Avenue and Eden Park
Drive Inspection 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: Bridge HAM-71-0248R is a thirteen-span bridge built in 1966. In spans 1 through 8 the superstructure is comprised of rolled steel stringers. Spans 9 through 13 carry welded steel plate girders that frame directly into the steel pier caps. The overall length of the bridge is 1158.21’.

FRACTURE CRITICAL MEMBER LOCATIONS:

Four fracture critical pier caps are each supported by three concrete columns at Piers 9, 10, 11 and 12. The caps are continuous welded box members with cantilever ends up to 13’-7 ½” in length. Nine welded plate girders frame into the box sections. The girder webs are bolted by vertical double angles to the cap webs. The top flange splice plates are bolted to the top flanges of the pier caps and of the girders on each side of the cap. The bottom flange splice plates pass through the web plates of the pier caps and are bolted to the bottom flanges of the girders on each side of the caps. Refer to Appendix A for existing pier cap plans.

A 2012 rehabilitation project performed the following repairs on this structure:

- Cleaning and painting the interior and exterior surfaces of all caps
- Removal of interior diaphragm knee braces on the caps
- Bolted retrofit of welded drainage bracket and lateral bracing gusset connections to the web plates of all pier caps
- Coping of intersecting fillet welds on the knee braces attached to the pier cap webs and girder bottom flanges
- Grinding of miscellaneous tack welds on the caps
- Drilling and sawcutting of pressure relief holes in the web plates of the caps
- Replacement of the center bearing below the cap of Pier 12



INSPECTION METHODS & PLAN:

The Collins Team will perform inspections of four fracture critical pier caps on HAM-71-0248R, as defined by the Scope of Services. The caps span Eden Park Drive and Florence Ave. The work will be performed over 3 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.

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 A. 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 Eden Park Dr. and Florence Ave.

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@asafetyinc.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 and direct traffic around the work zones on Florence Avenue. A brief description of the closures is as follows. Refer to Appendix B for sketches.

Florence Ave. – Only one of the four lanes on Florence Avenue will be closed during any duration from 8:00 AM to 4:00 PM to inspect the caps at Piers 10, 11 and 12. We expect the closures on this road to last three days starting Tuesday, June 30th. See the MOT sketches in Appendix B.

Eden Park Dr. – Only one lane of Eden Park will be closed during any duration from 8:00 AM to 4:00PM, if required, to inspect the caps at Pier 9. We expect the closures on this road to last four days starting in late June, 2023. See the MOT sketches in Appendix B.

CONFINED SPACE ENTRY PROCEDURE: See below.

INSPECTION PLAN:

The condition inspection of the steel box girder pier caps on HAM-71-0248R will involve a 3-day field effort to completely inspect both the interior and exterior. The exterior will be inspected from a 46' bucket truck and ladders for access and the interiors will be inspected by entering the box girder per the procedures outlined below. A 2 to 3-person inspection team will perform the confined space inspection.

Collins will open the pier caps 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.

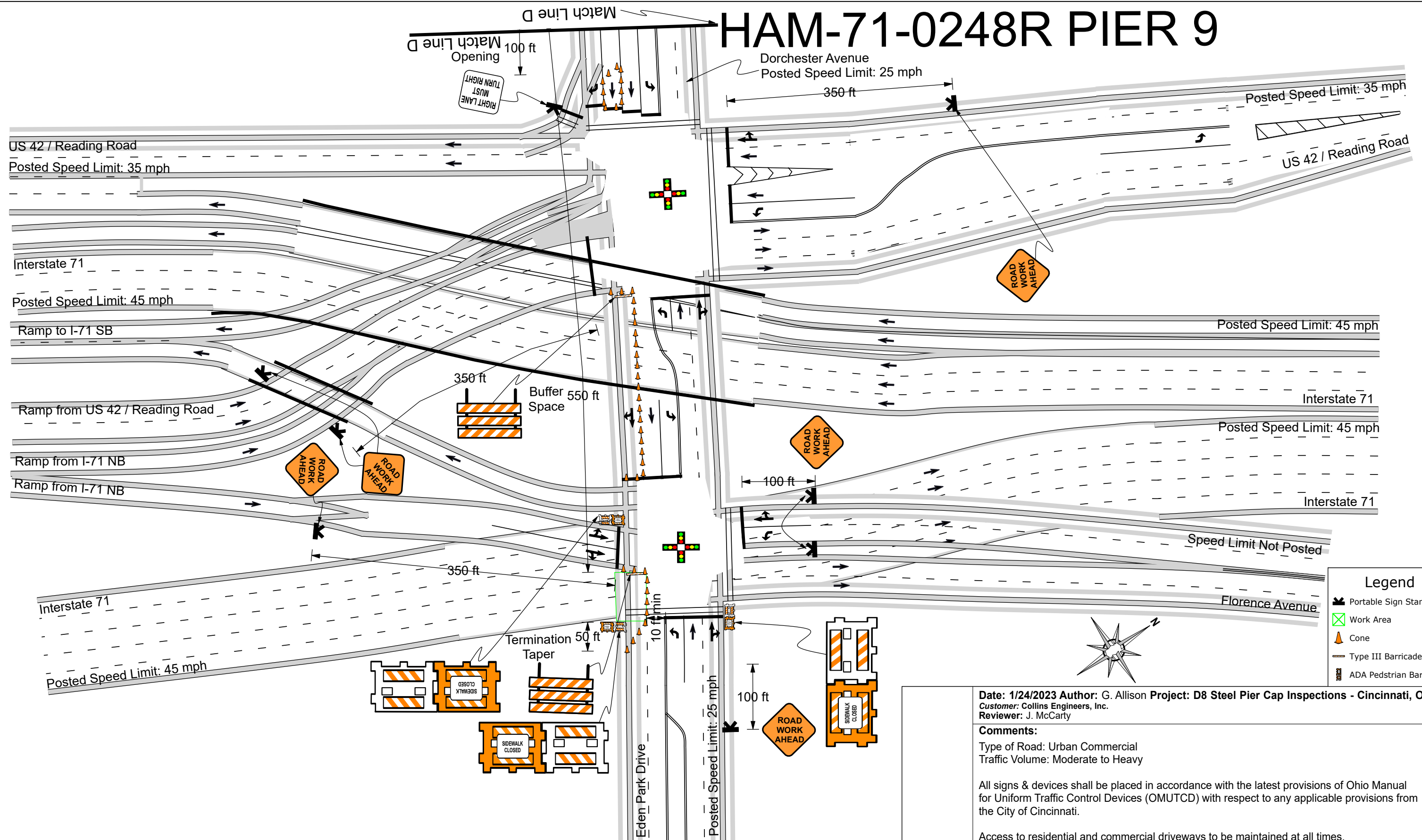
Quality Control/Quality Assurance

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-71-0248R PIER 9



Notes:

- Buffer space modified to fit field conditions.
- Sign spacing 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.

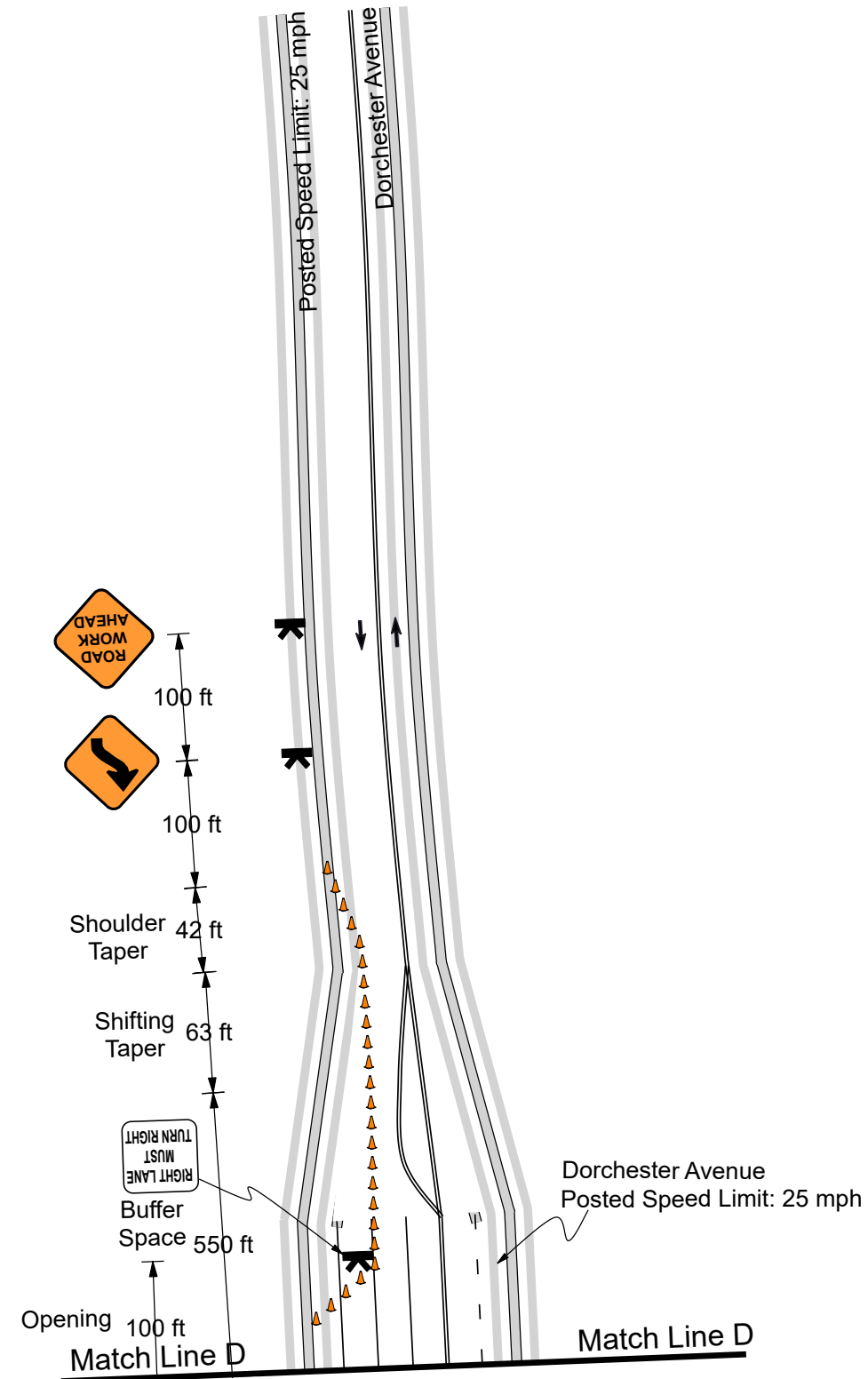
Date: 1/24/2023 **Author:** G. Allison **Project:** D8 Steel Pier Cap Inspections - Cincinnati, OH
Customer: Collins Engineers, Inc.
Reviewer: J. McCarty

Comments:
 Type of Road: Urban Commercial
 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.

HAM-71-0248R PIER 9



Notes:

- Buffer space modified to fit field conditions.
- Sign spacing 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: 1/24/2023 **Author:** G. Allison **Project:** D8 Steel Pier Cap Inspections - Cincinnati, OH
Customer: Collins Engineers, Inc.
Reviewer: J. McCarty

Comments:

Type of Road: Urban Commercial
 Traffic Volume: Moderate to Heavy

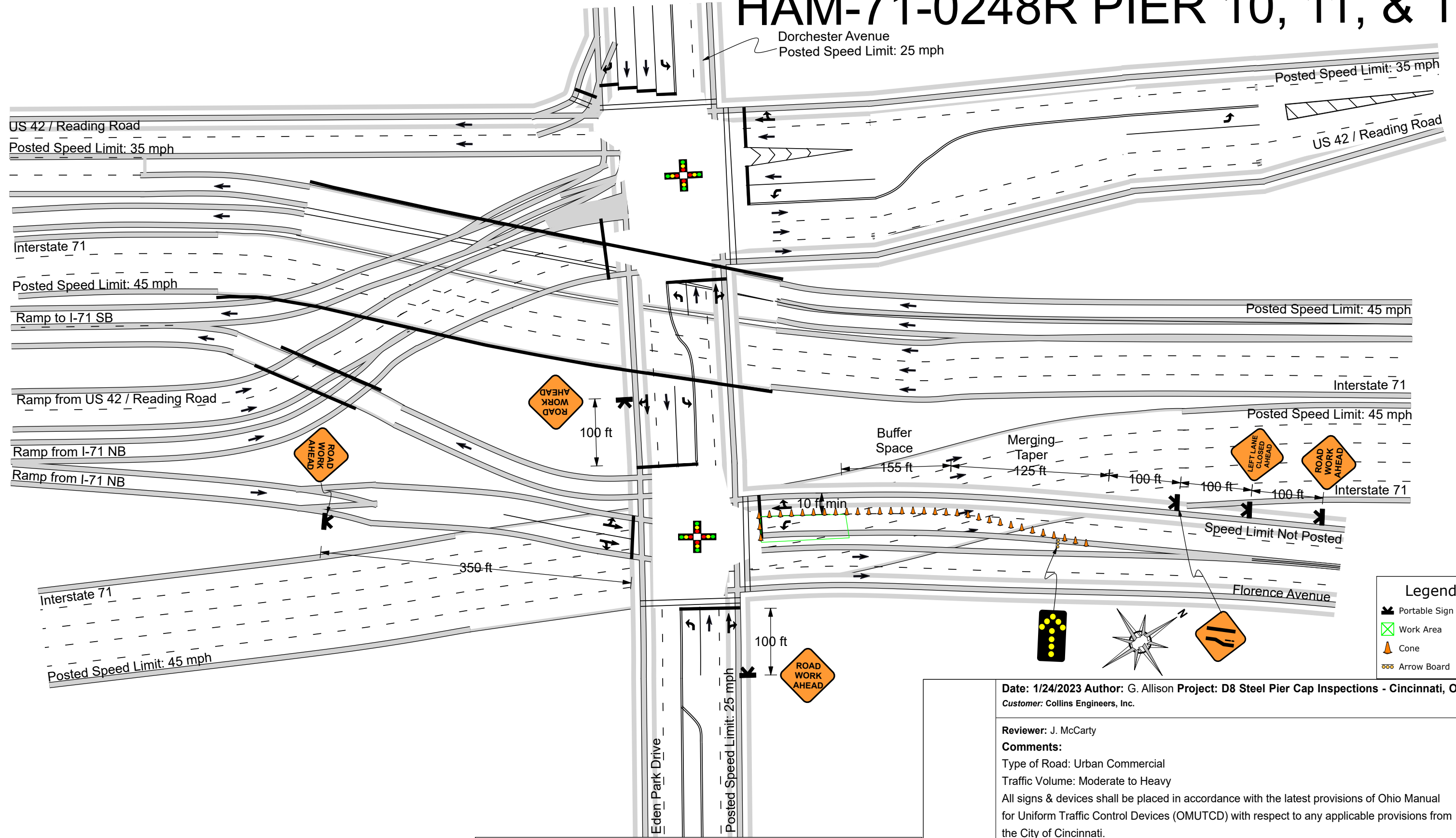
All signs & devices shall be placed in accordance with the latest provisions of Ohio Manual for Uniform Traffic Control Devices (OMUTCD) with respect to any applicable provisions from the City of Cincinnati.

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

Sheet 11 of 12

HAM-71-0248R PIER 10, 11, & 12



Notes:

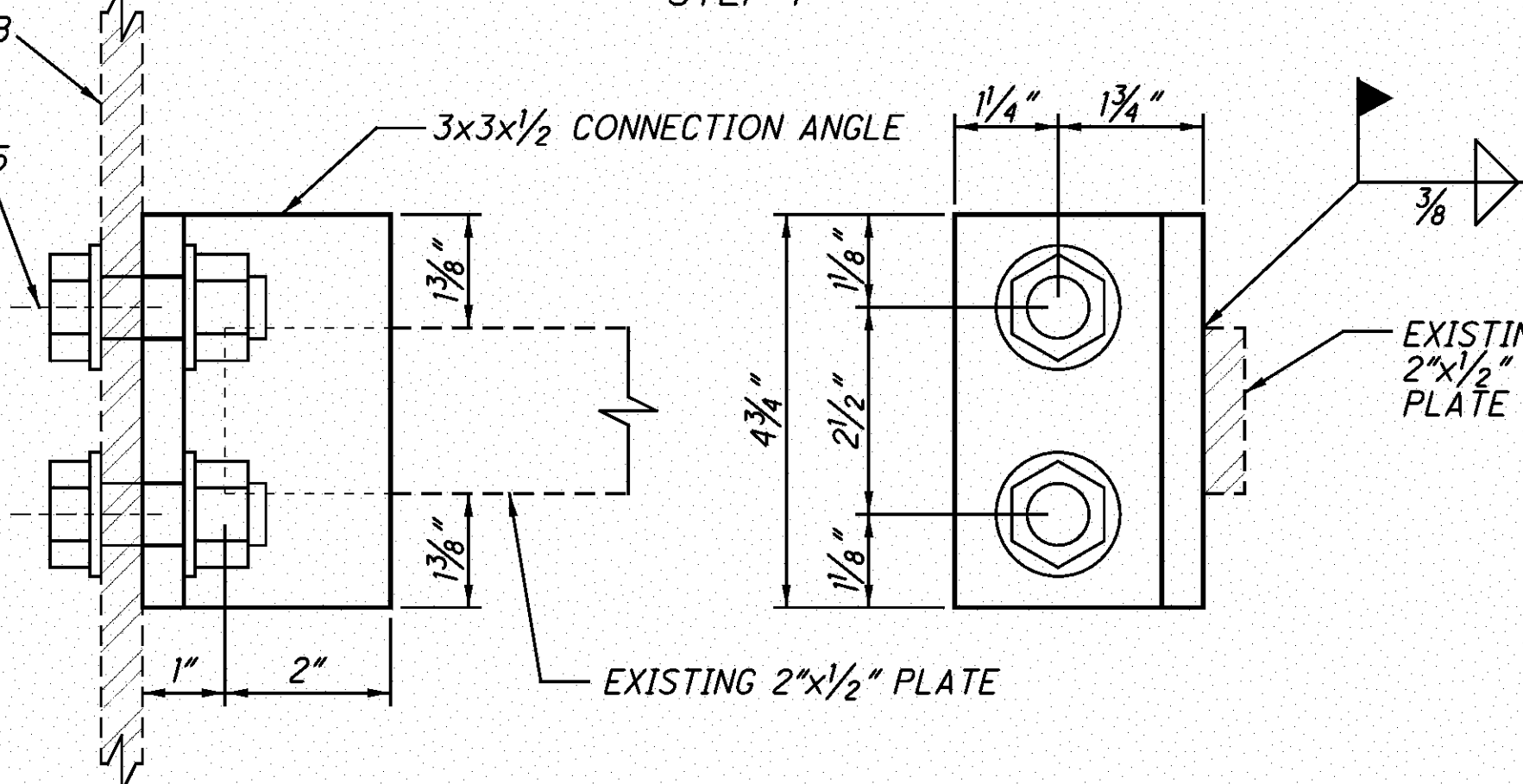
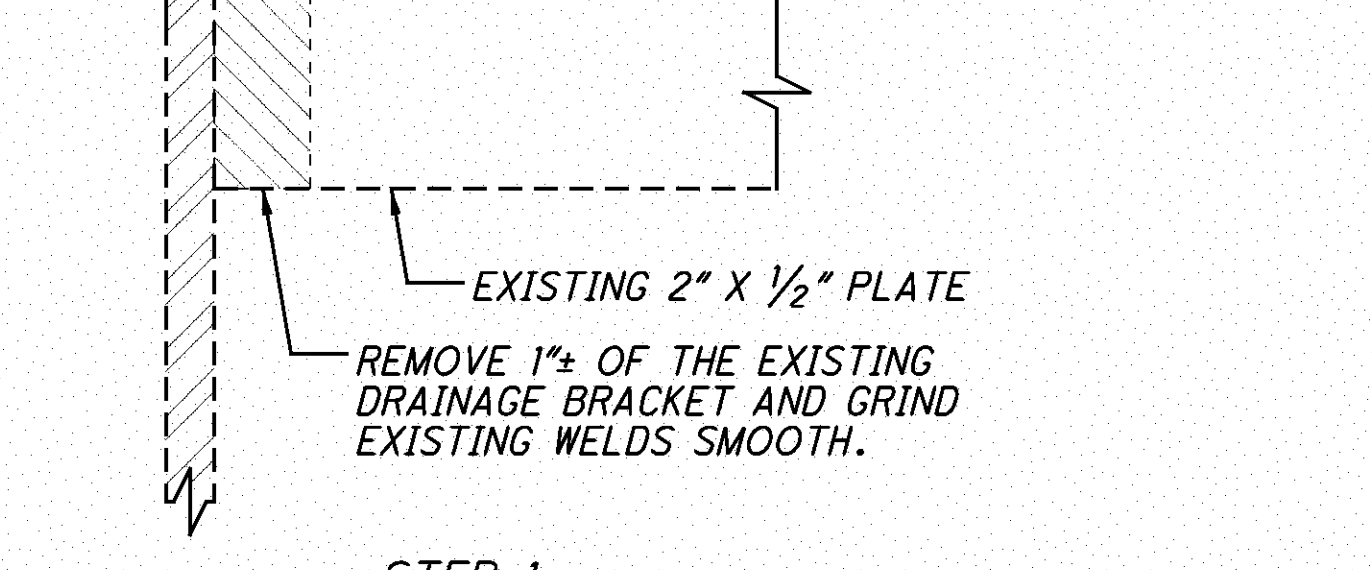
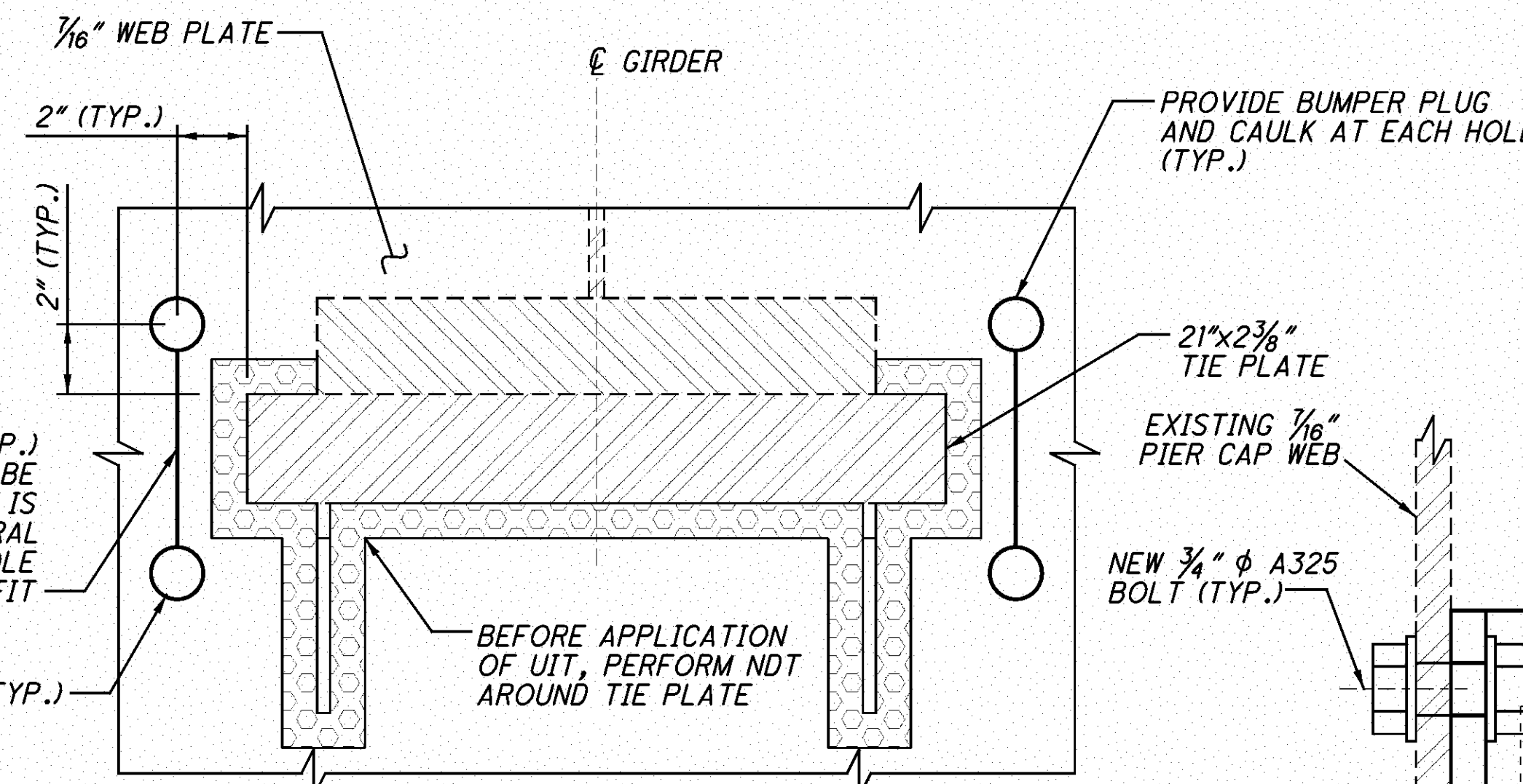
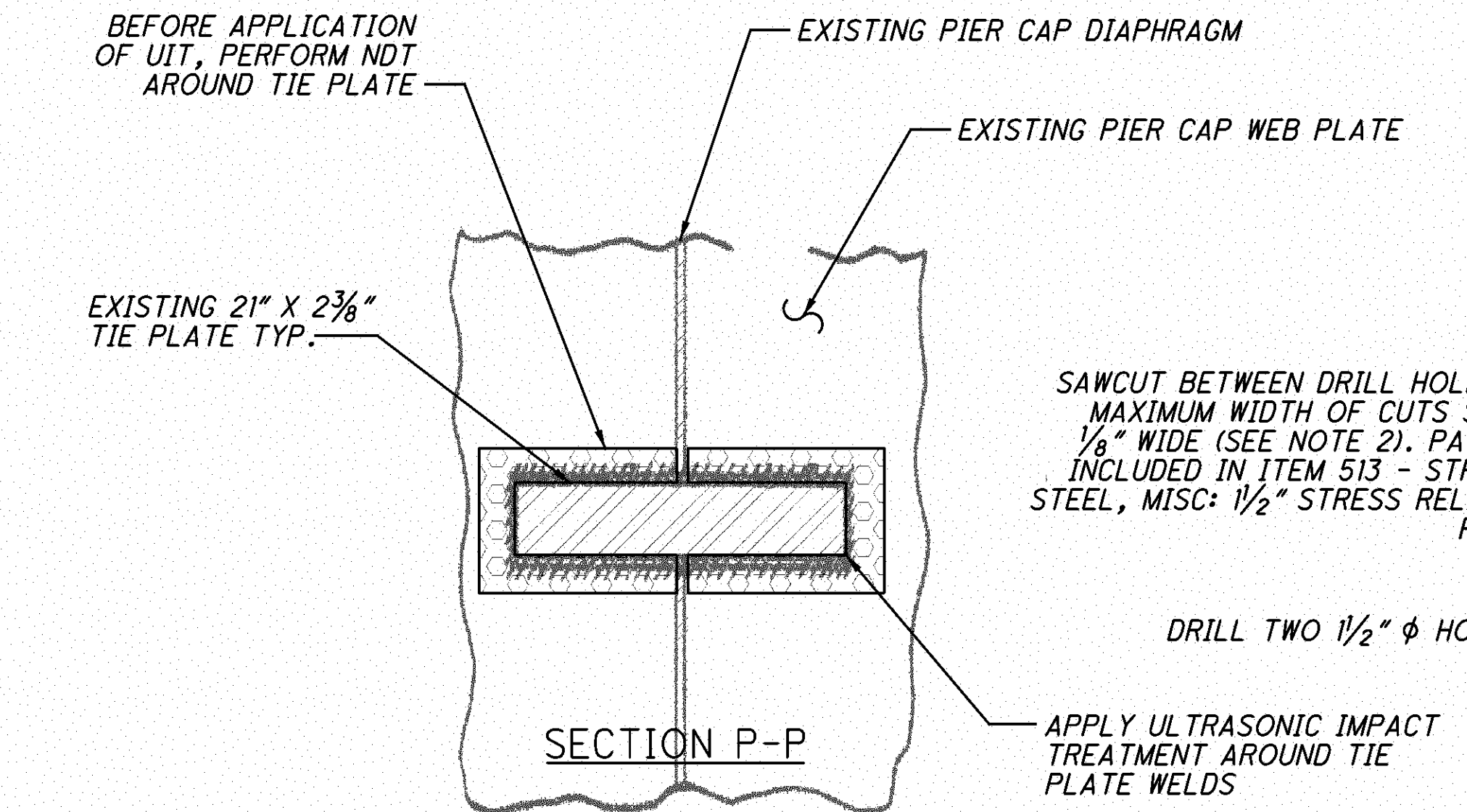
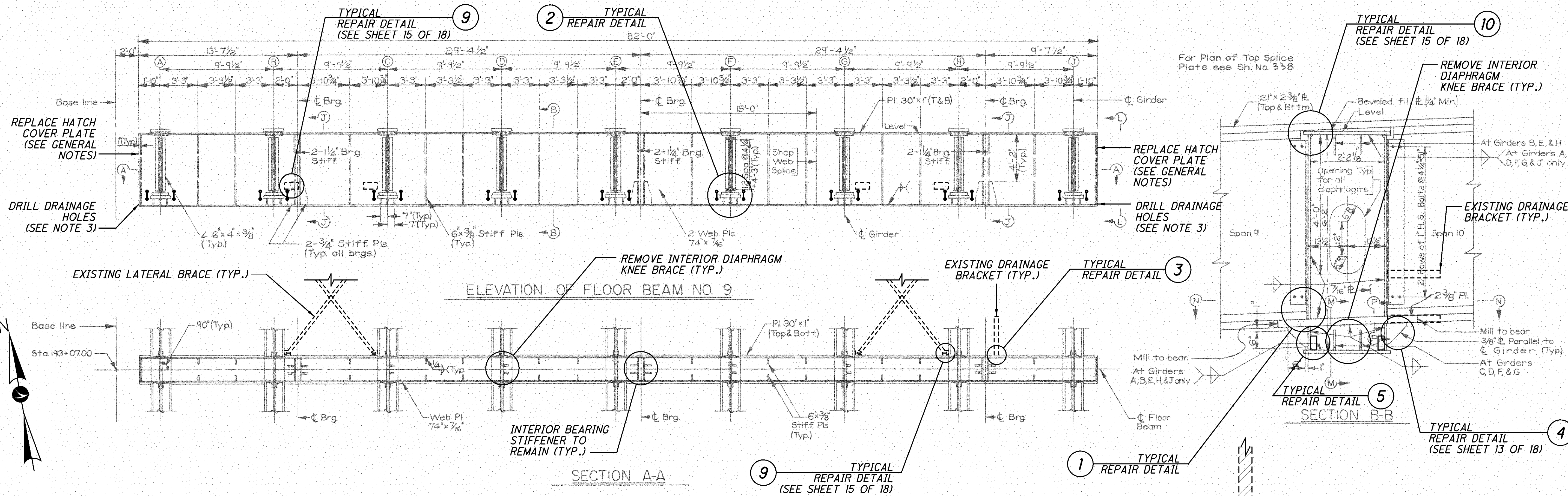
- Plan to be applied to opposing side of road.
- Sign spacing and buffer space may be adjusted to fit field conditions.
- "Road Work Ahead" signs shall be placed on all cross streets intersecting within the work area. The signs should be placed a minimum of 100 feet in advance of the intersection.

Date: 1/24/2023 **Author:** G. Allison **Project:** D8 Steel Pier Cap Inspections - Cincinnati, OH
Customer: Collins Engineers, Inc.

Reviewer: J. McCarty
Comments:
 Type of Road: Urban Commercial
 Traffic Volume: Moderate to Heavy
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 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
 Sheet 12 of 12

**APPENDIX C – FATIGUE PRONE DETAILS FOR
HAM-71-0248R**

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REPAIR DETAIL 1
INTERIOR TIE PLATE TREATMENT

REPAIR DETAIL 2
1/2\"/>

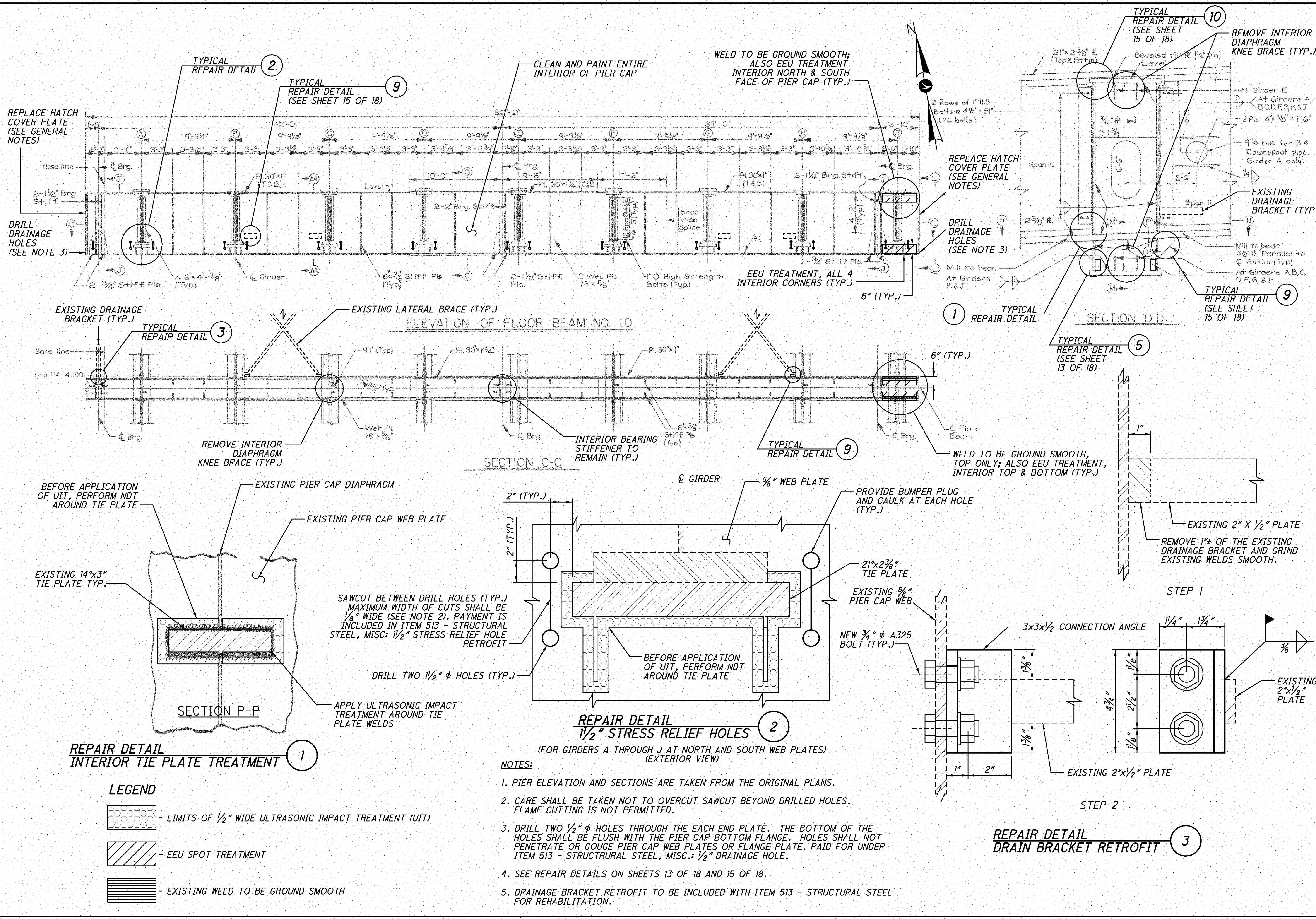
REPAIR DETAIL 3
DRAIN BRACKET RETROFIT

LEGEND
 LIMITS OF 1/2" WIDE ULTRASONIC IMPACT TREATMENT (UIT)

- NOTES:**
1. PIER ELEVATION AND SECTIONS ARE TAKEN FROM THE ORIGINAL PLANS.
 2. CARE SHALL BE TAKEN NOT TO OVERCUT SAWCUT BEYOND DRILLED HOLES. FLAME CUTTING IS NOT PERMITTED.
 3. DRILL TWO 1/2" φ HOLES THROUGH THE EACH 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. PAID FOR UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: 1/2" DRAINAGE HOLE.
 4. SEE REPAIR DETAILS ON SHEETS 13 OF 18 AND 15 OF 18.
 5. DRAINAGE BRACKET RETROFIT TO BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL FOR REHABILITATION.

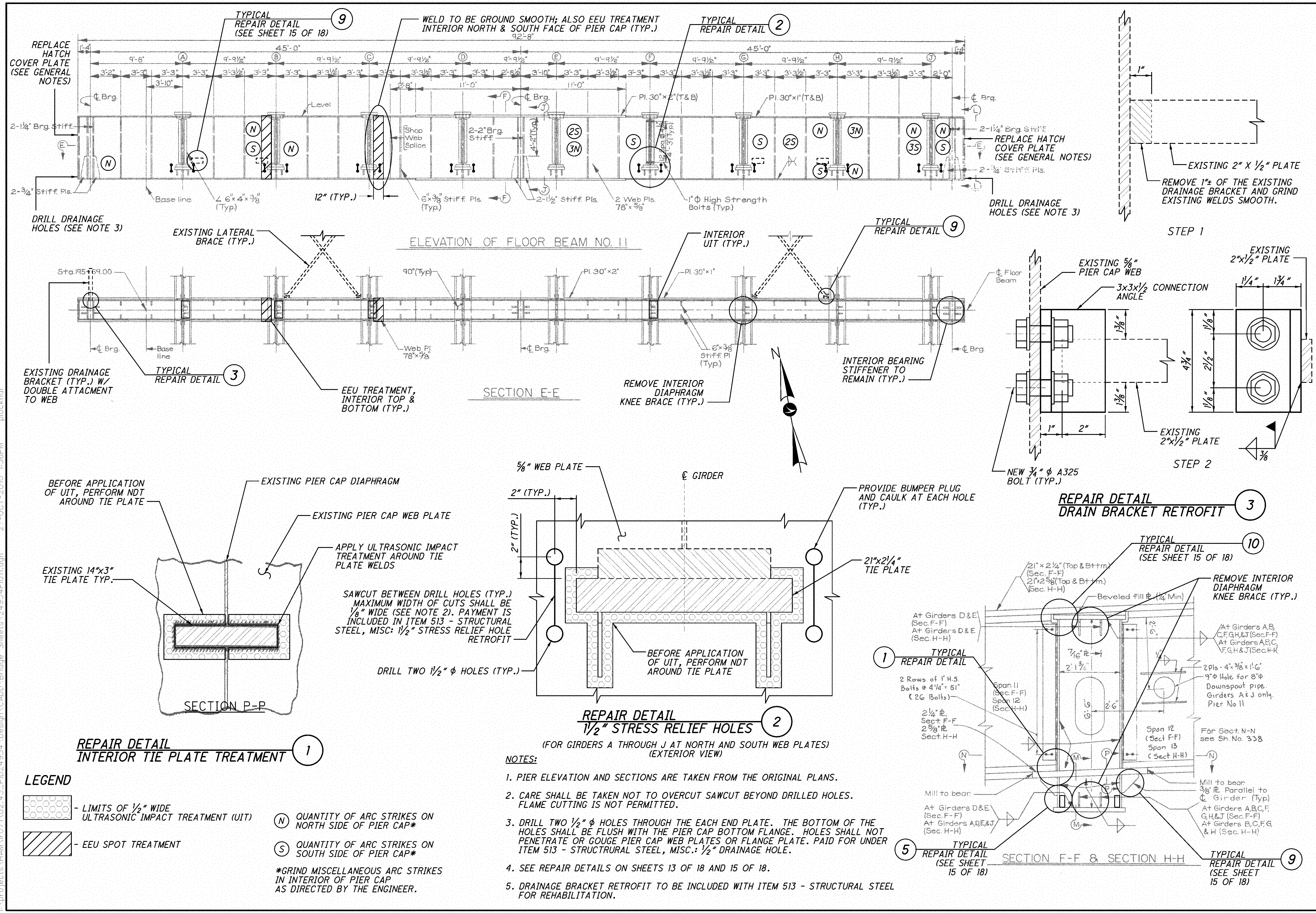
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		SCS 3106802	STRUCTURE FILE NUMBER
		P.J.L	
		CAH	
PIER 9 CAP RETROFIT DETAILS			
BRIDGE NO. HAM-71-0248R			
OVER EDEN PARK ENTRANCE AND FLORENCE DRIVE			
HAM-71-2.48			
PID No. 24954			
5 / 14			
9 / 18			

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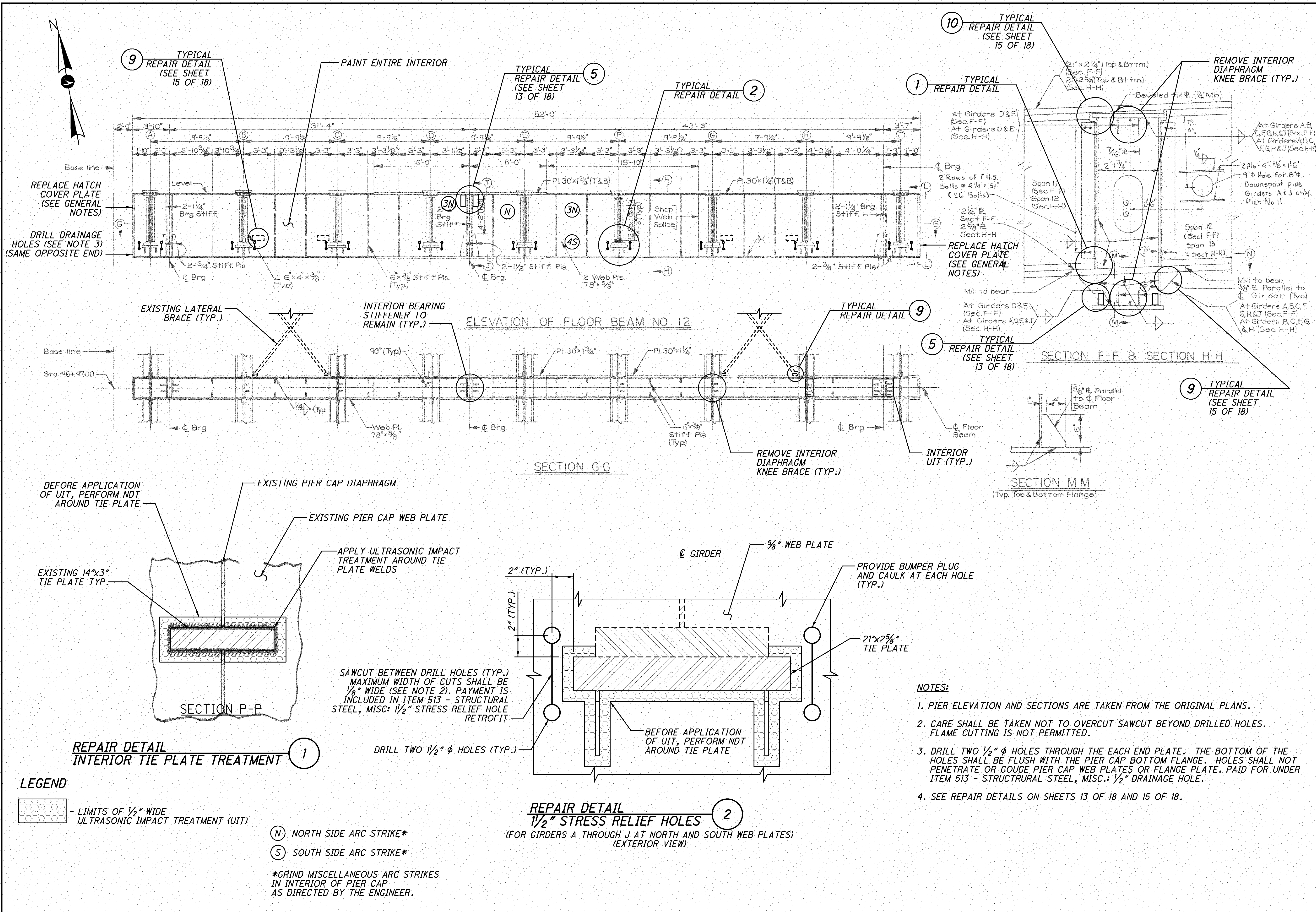
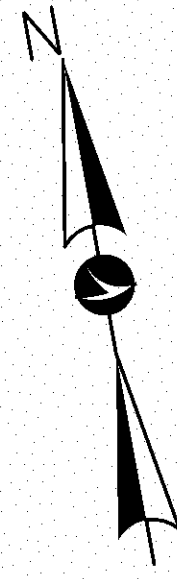
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DATE	06-08-10
REVISION	SCS
STRUCTURE FILE NUMBER	3106802
DESIGNED	P.J.L.
CHECKED	CAH
PROJECT	PIER 10 CAP RETROFIT DETAILS
BRIDGE NO.	HAM-71-0248R
LOCATION	OVER EDEN PARK ENTRANCE AND FLORENCE DRIVE
PROJECT NO.	HAM-71-2.48
PID NO.	24954
PAGE	6 / 14
NO.	10 / 18

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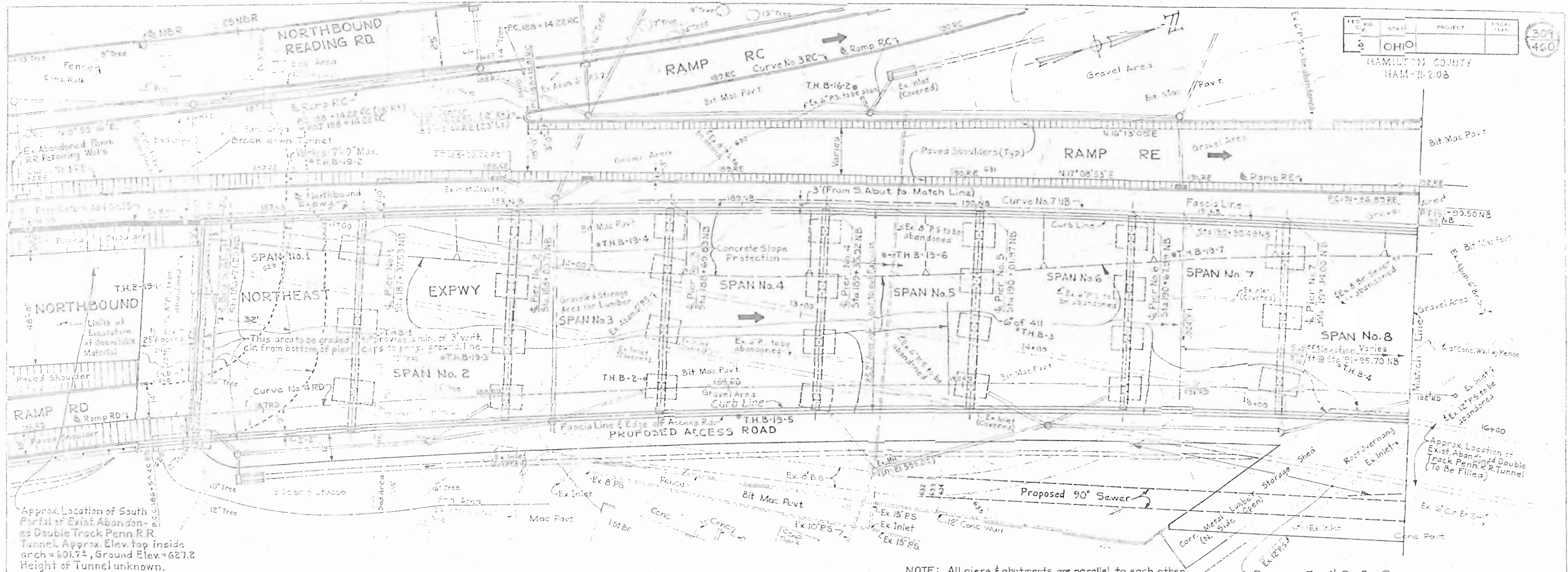
DESIGNED BY	DATE	REVIEWED BY	DATE	DESIGNED BY	DATE	REVIEWED BY	DATE
P.J.L.	06-08-10	P.J.L.	06-08-10	P.J.L.	06-08-10	P.J.L.	06-08-10
STRUCTURE FILE NUMBER	3106802	CHECKED	CAH	STRUCTURE FILE NUMBER	3106802	CHECKED	CAH
PIER 11 CAP RETROFIT DETAILS				PIER 11 CAP RETROFIT DETAILS			
BRIDGE NO. HAM-71-0248R				BRIDGE NO. HAM-71-0248R			
OVER EDEN PARK ENTRANCE AND FLORENCE DRIVE				OVER EDEN PARK ENTRANCE AND FLORENCE DRIVE			
HAM-71-2.48				HAM-71-2.48			
PID No. 24954				PID No. 24954			
7 / 14				7 / 14			
11				11			
18				18			

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.



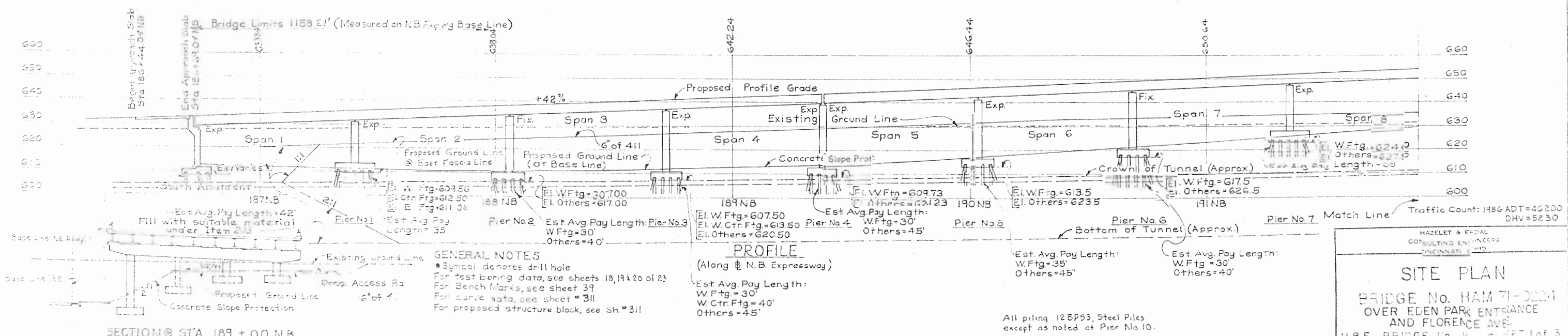
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DESIGN/ENGINEER	STATE OF OHIO DEPT. OF TRANSPORTATION DISTRICT 8 BRIDGE DEPT.
DATE	06-08-10
REVISION	SCS
STRUCTURE FILE NUMBER	3106802
DESIGNED	P.J.L.
CHECKED	CAH
PIER 12 CAP RETROFIT DETAILS	BRIDGE NO. HAM-71-0248R
HAM-71-2.48	OVER EDEN PARK ENTRANCE AND FLORENCE DRIVE
PID No. 24954	
8 / 14	
12 / 18	



Approx. Location of South Portal of Exist. Abandoned Double Track Penn. R.R. Tunnel. Approx. Elev. top inside arch = 601.7', Ground Elev. = 627.2. Height of Tunnel unknown.

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1978



SECTION @ STA. 189 + 00 NB
(Looking North)

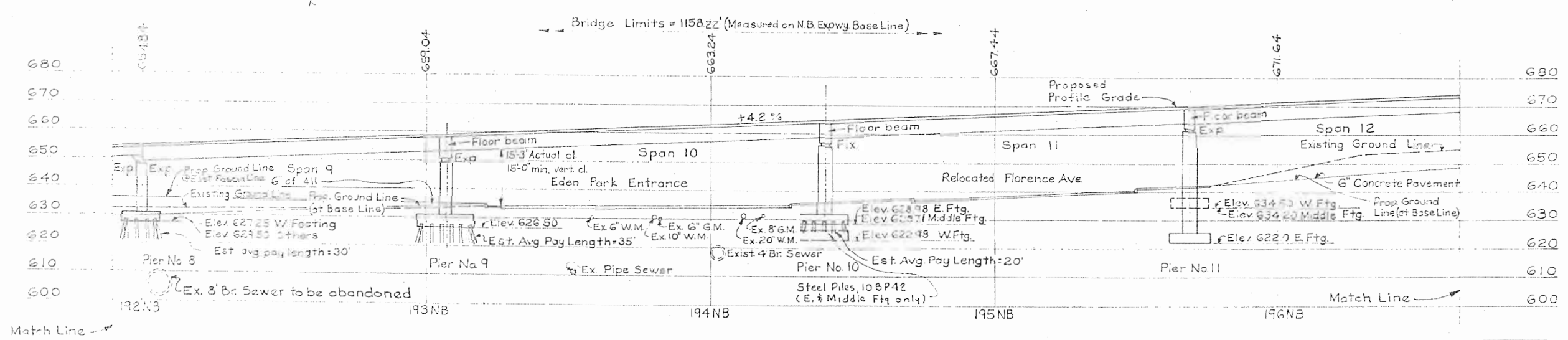
SITE PLAN

BRIDGE No. HAM 71-0224
OVER EDEN PARK ENTRANCE
AND FLORENCE AVE.

H&E BRIDGE No. 15 SHEET 1 of 3

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CTM			

SFN 3106802



HAZELET & FERRIS
CONSULTING ENGINEERS
CINCINNATI, OHIO

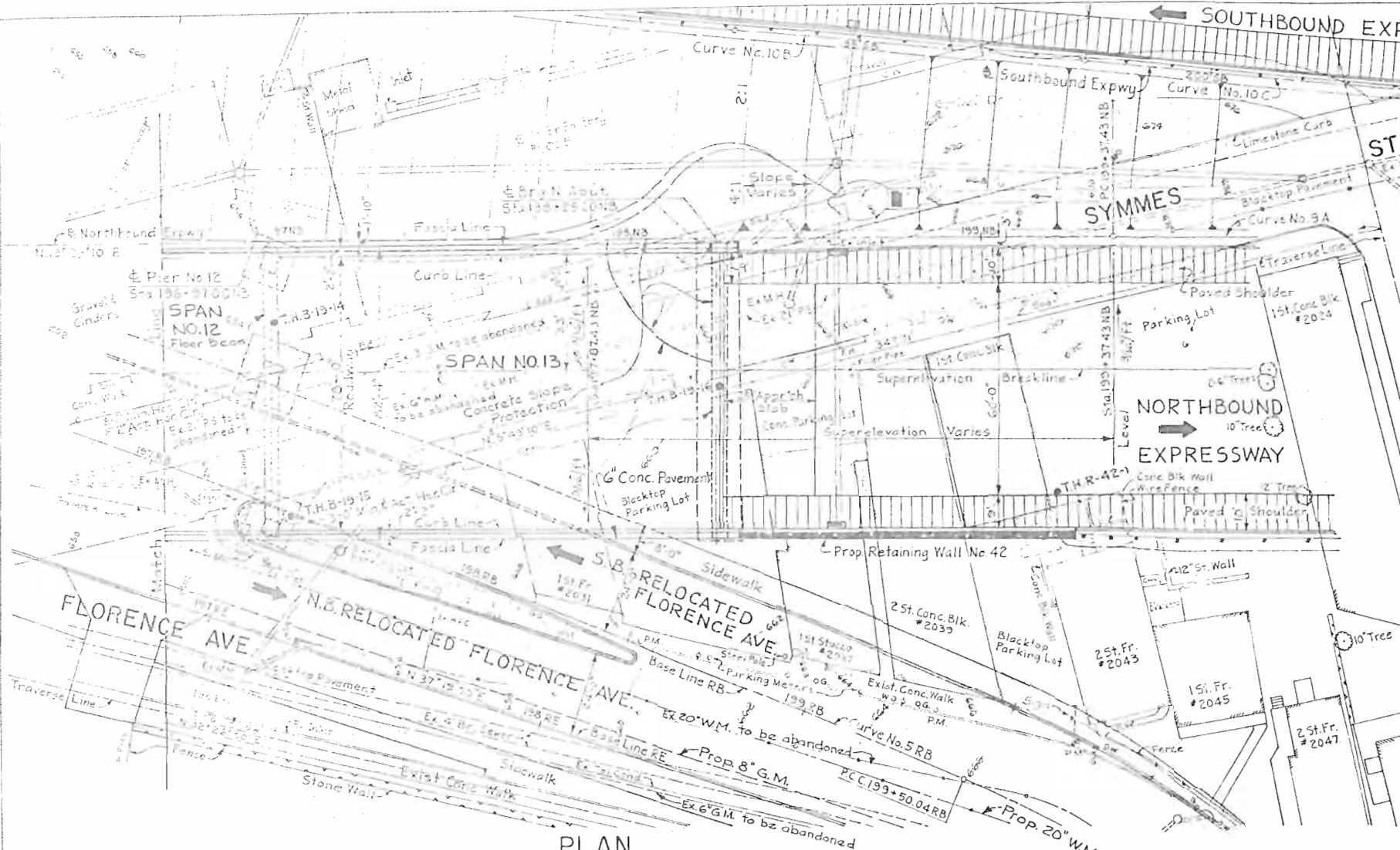
SITE PLAN

BRIDGE No. HAM-71-0224
OVER EDEN PARK ENTRANCE
AND FLORENCE AVE.

H&E BRIDGE No. 19 SHEET 2 of 3

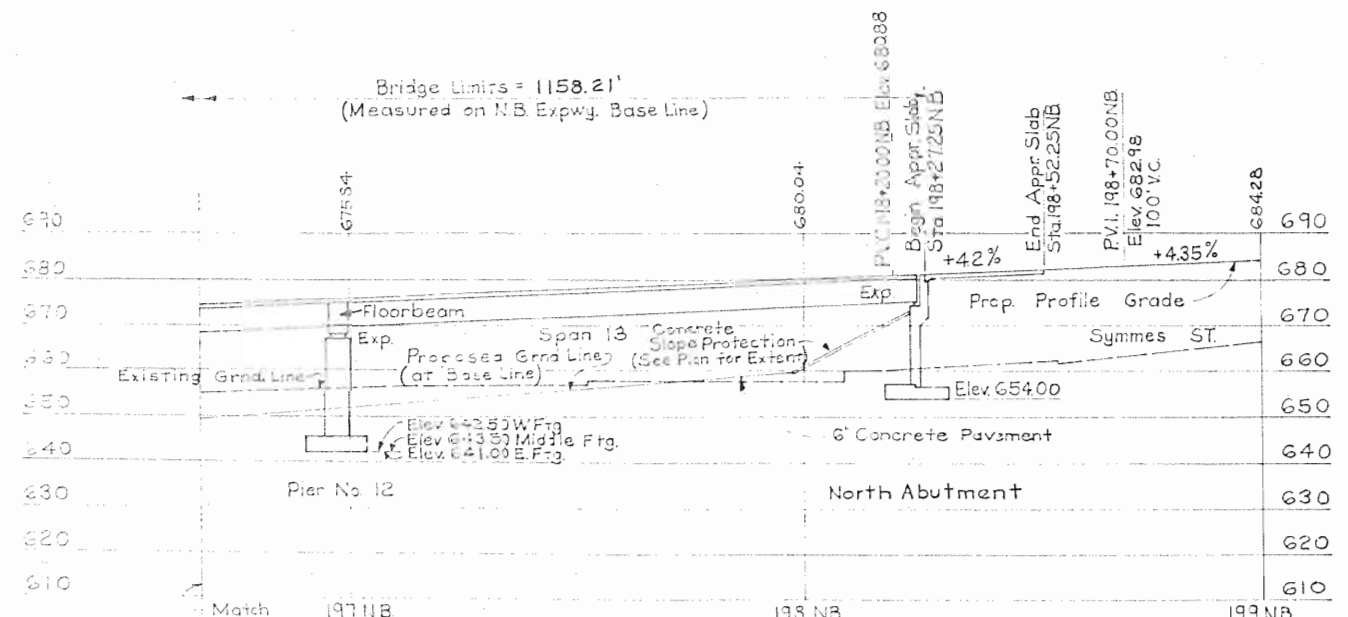
DESIGNED BY: CTM

SFN 3106802



PLAN

CURVE DATA	
<p>Curve No. 7NB PI Sta. = 187+35.63NB $\Delta = 9^{\circ}07'00''$ L=911.67' D = 1^{\circ}00'00'' T=456.80 R = 5729.56'</p>	<p>Curve No. 4RB PI Sta. = 193+36.59RB $\Delta = 13^{\circ}33'07''$ L=180.69' D = 7^{\circ}30'00'' T=90.77' R = 763.94'</p>
<p>Curve No. 5RB PI Sta. = 197+75.42RB $\Delta = 5^{\circ}14'32''$ L=349.48' D = 1^{\circ}30'00'' T=174.86' R = 3819.72'</p>	<p>Curve No. 3RC PI Sta. = 189+75.07RC $\Delta = 14^{\circ}45'46''$ L=310.80' D = 4^{\circ}45'00'' T=156.26' R = 1206.23'</p>
<p>Curve No. 4RD PI Sta. = 189+31.17RD $\Delta = 7^{\circ}56'28''$ L=560.55' D = 1^{\circ}25' T=280.72' R = 4044.41'</p>	<p>Curve No. 1RE PI Sta. = 185+99.85RE $\Delta = 7^{\circ}13'37''$ L=412.97' D = 1^{\circ}45'00'' T=206.76' R = 3274.05'</p>
<p>Curve No. 2RE PI Sta. = 192+88.79RE $\Delta = 20^{\circ}10'07''$ L=201.69' D = 10^{\circ}00'00'' T=101.90' R = 572.96'</p>	<p>Curve No. 2EP PI Sta. = 15+41.95EP $\Delta = 63^{\circ}24'22''$ L=456.63' D = 13^{\circ}40'00'' T=253.93' R = 419.24'</p>



PROFILE

(Along N.B. Expressway)

PROPOSED STRUCTURE

Type: Continuous steel beams (Spans 1 through 8) and continuous plate girders (Spans 9 through 13) with reinforced concrete deck and substructure.

Spans: 66'-0" (Spans 1 through 8) 107'-0" (Span 9) 134'-0" (Span 10) & 128'-0" (Spans 11 through 13)

Roadway: Varies, see plan; 80 min f/f parapet

Skew: 0° (measured from forward tangent)

Load Frequency: CF=2000(S7) Adequate for AASH.O. alternate loading.

Wearing Surface: 1" Monolithic Concrete

Approach Slab: AS-1-54 (25'-0" Long)

Alignment: See plan.

Superelevation: Varies, see plan.

SFN 3106802

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

SITE PLAN

BRIDGE No. HAM-71-0224
OVER EDEN PARK ENTRANCE
AND FLORENCE AVE.

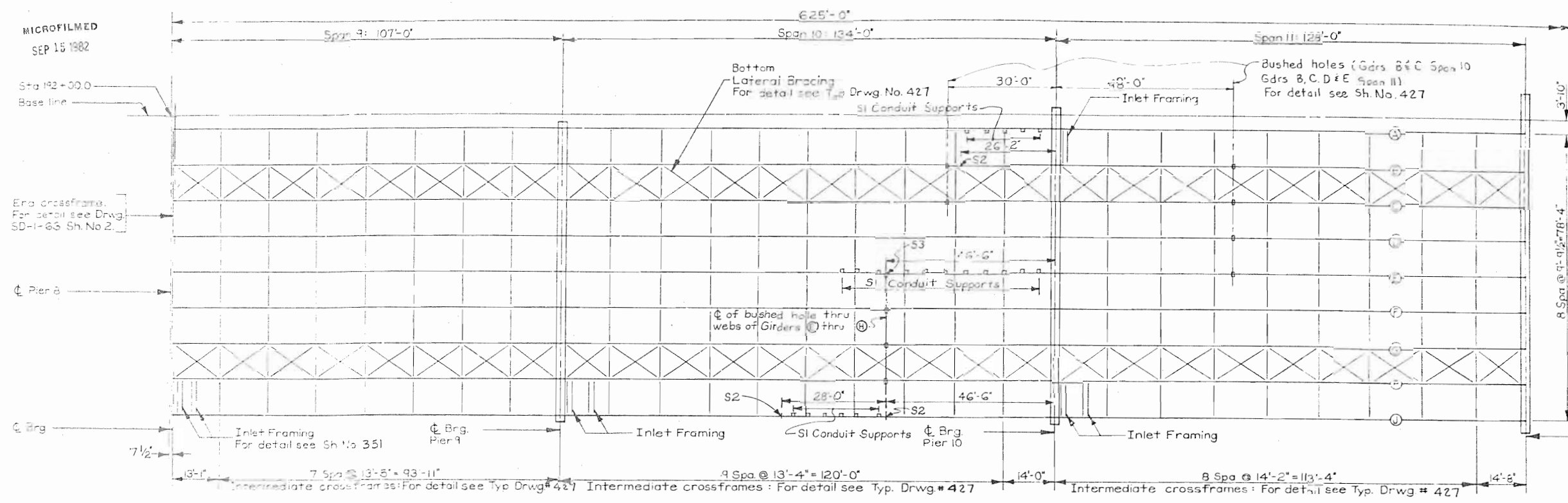
H & E BRIDGE No. 19 SHEET 3 of 3

DESIGNED BY	C.T.M.
CHECKED BY	
DATE	2-4-51

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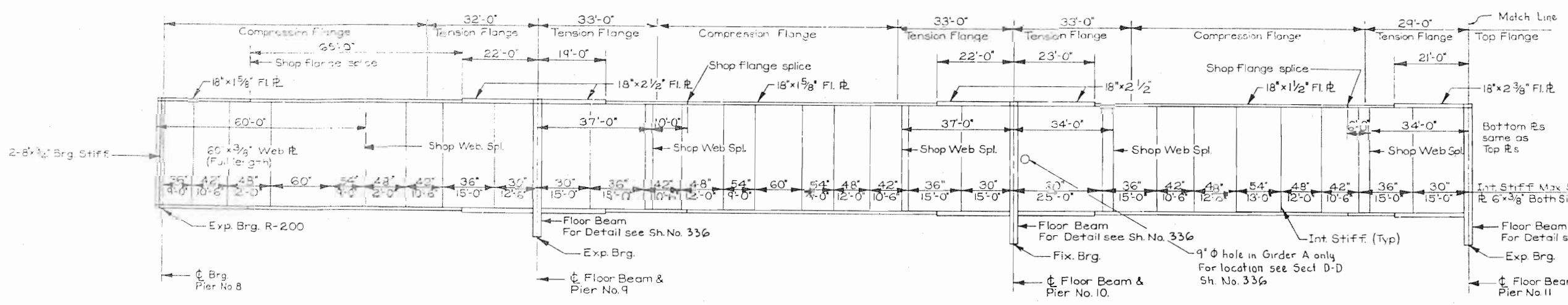
FED. RD. DIST.	STATE	PROJECT	NO.
2	OHIO		334 460

HAMILTON COUNTY
HAM-71-2.08



Notes:
For Beam Clamp Details see Sh. 220
For Details of Conduit and Junction Box Supports see Sh. 220
Conduit and junction box supports must be fastened to the stiffeners or web on the east side of Girder A and on the west side of Girders B, E, and J
Required: Conduit Support Type S1-22
Junction Box Support Type S2-3
Junction Box Support Type S3-1
Beam Clamp Type C1-4
See Sheet 220 for details of Detector Hanger Bars.

FRAMING PLAN

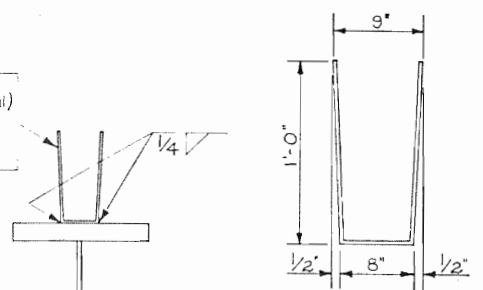


GIRDER ELEVATION

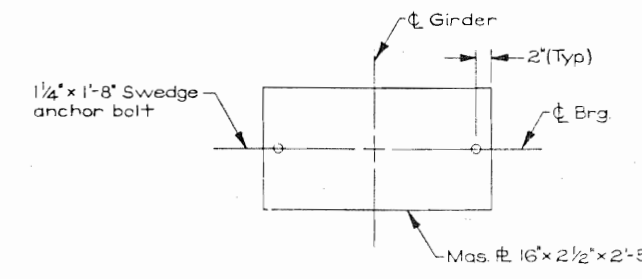
For bearing detail R-200 see Std. Drwg. RB-1-55 except masonry plates modified as shown on Detail A.
For detail of roadway end dam at Pier No. 8 see Sh. No. 339
For bearing details at piers 9, 10, & 11 see Sh. No. 335
For Deflection and Camber Diagram see Sh. No. 338

GIRDERS	NUMBER OF ANCHOR BARS REQUIRED				
	SPAN 9	SPAN 10	SPAN 11	SPAN 12	SPAN 13
A	18	22	0	0	0
B	8	22	21	21	21
C	8	22	21	21	21
D	8	22	21	21	21
E	8	22	21	21	21
F	18	22	21	21	21

1" x 1/4" Anchor Bars
Spa. @ 6'-0" (see detail)
(Included with Item 513 for payment)
(Total 555 See box.)



ANCHOR BAR DETAIL



DETAIL A

SFN 3106802

Work this Sheet with Typ. Drawing No. 427

HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS

UNIT 3

BRIDGE No. HAM-71-0224

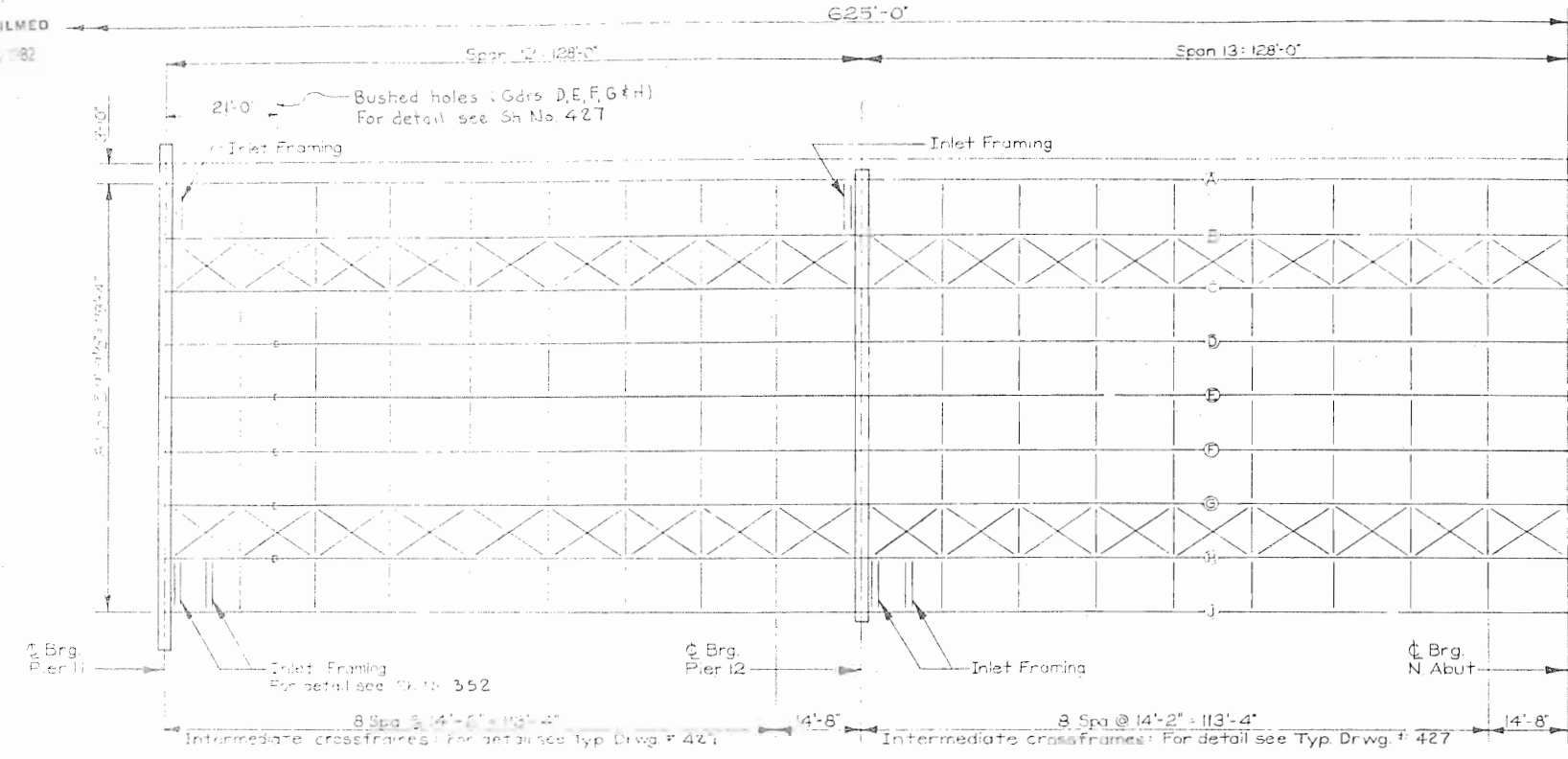
H&E BRIDGE NO. 19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	DATE
M.K.K.			J.H.D.	11/82	8-3-11-65

MICROFILMED
SEP 13 1982

FED. RD. DIST.	STATE	PROJECT	FISCAL YEAR
2	OHIO		335 460

HAMILTON COUNTY
HAM-71-2.08



Sta. 198+25.00
Base line

2-7' x 3/4" R.s.
Omit this bar (1"x1")
on exp. shores

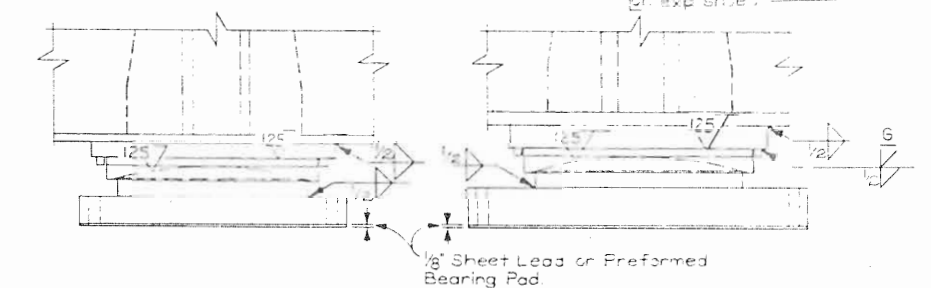
End crossframe
For detail see Drwg
SD-1-63 Sh.No.2.

2-2 1/2" x 1/2"
Brg Stiffeners

5/8" O Holes for
1/2" x 1 1/2" sledge
anchor bolts (1/2")

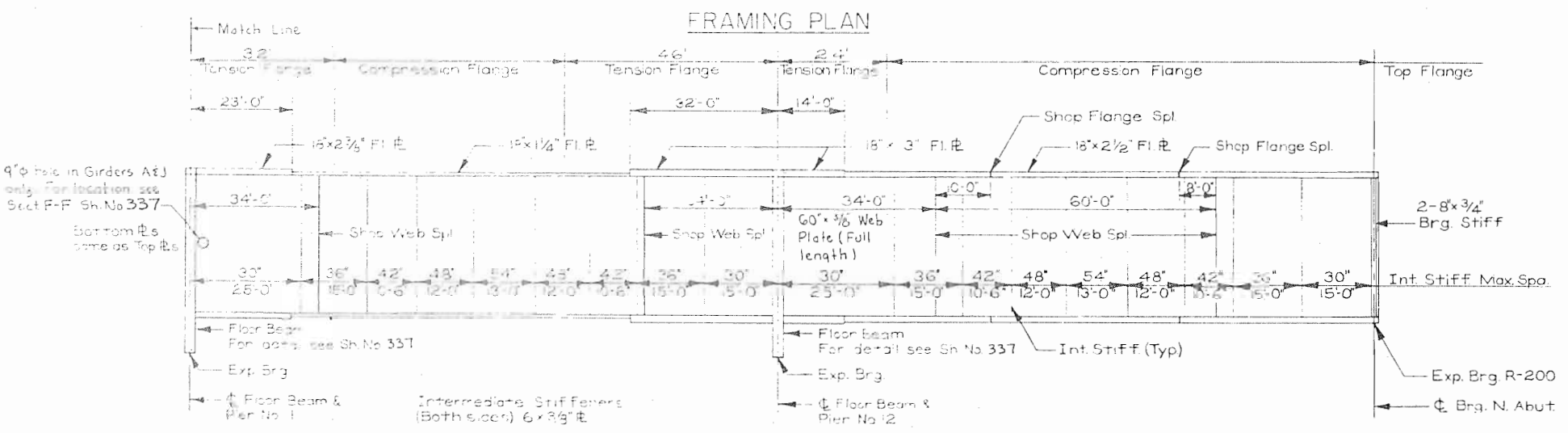
PLAN
BEARING DETAILS AT PIERS
9, 10E & 10W, 11E & 11W, AND 12E & 12W

PLAN
BEARING DETAILS AT PIERS
10C, 11C, & 12C



ELEVATION A-A

ELEVATION C-C



9" hole in Girders A&J
only. For location see
Sect F-F Sh.No.337

For bearing detail R-200 see Std Drwg RB-1-55 except masonry plates
modified as shown on Detail A, Sh No 334
For detail of roadway end beam at N Abut see Sh No 339
For treatment of end of bridge at N Abut see Std Drwg No SD-1-63 Sh
No 2, "Longitudinal Section"

GIRDER ELEVATION

Bar 1"x1"x2'-4"
(Typ. 4 Places)

Bronze PI
2'-8" Sq x 3/16"
(ASTM B-22
Alloy B)

Spherical PI
(25" dia x 3 7/8")

ELEVATION B-B

Bar 1"x1"x2'-6"
(Typ. 4 Places)

Bronze PI
2'-6" Sq x 3/16"
(ASTM B-22
Alloy B)

Spherical PI
(27" dia x 4")

ELEVATION D-D

Notes: For Specifications for Self
Lubricating Bronze Bearing
Plates see Standard Drawing
FSB-1-62.

Work this Sheet with Typ. Drwg No 427

HAZELET & ERICAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS
UNIT 3
BRIDGE No HAM 71-0224
H&E BRIDGE NO 19

DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	DATE
MMK	⊕		JWB	HAB	8-30-65

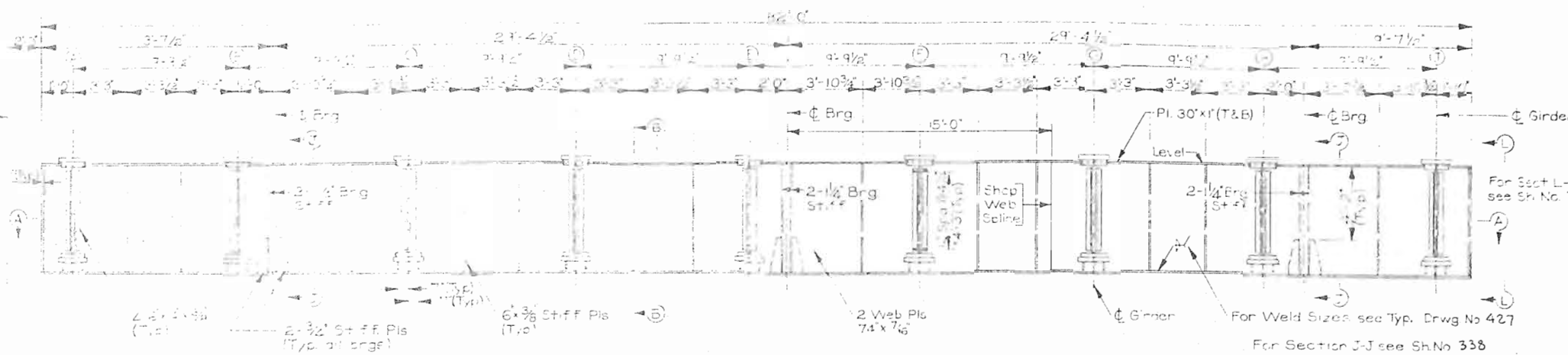
SFN 3106802

MICROFILMED
SEP 15 1982

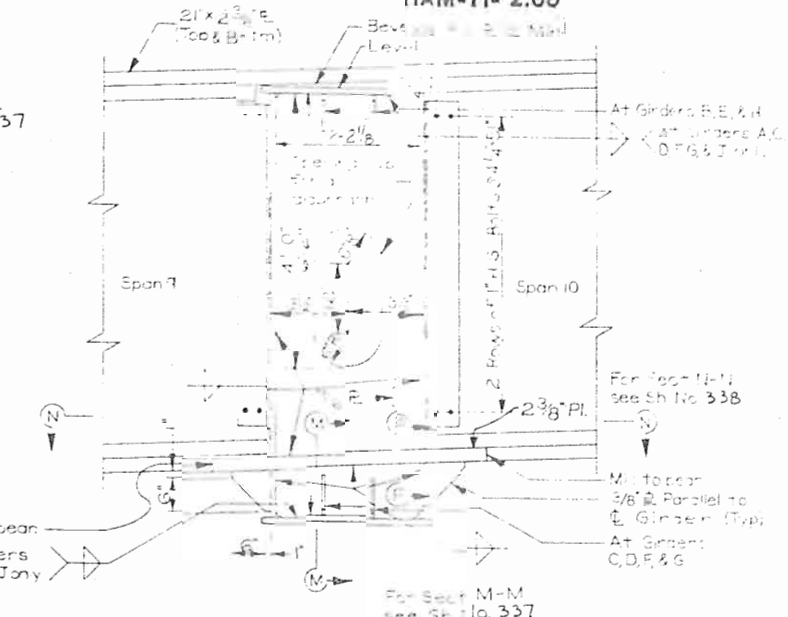
For Plan of Top Splice
Plate see Sh. No 338

FED. RD. DIST.	STATE	PROJECT	Sheet No.
2	OHIO		336/460

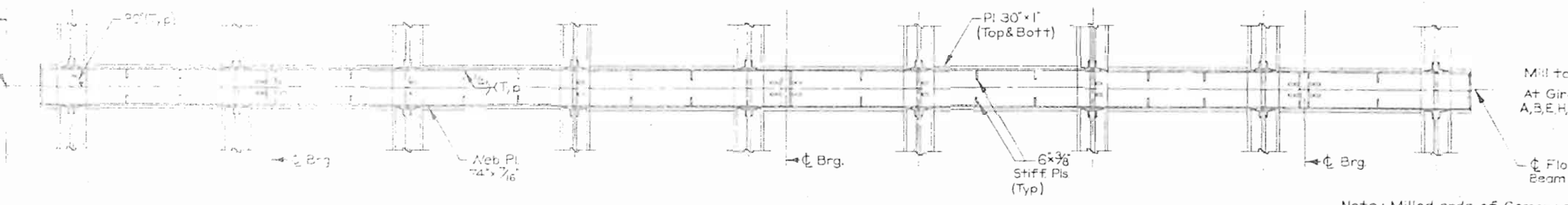
HAMILTON COUNTY
HAM-71-209



ELEVATION OF FLOOR BEAM NO. 9

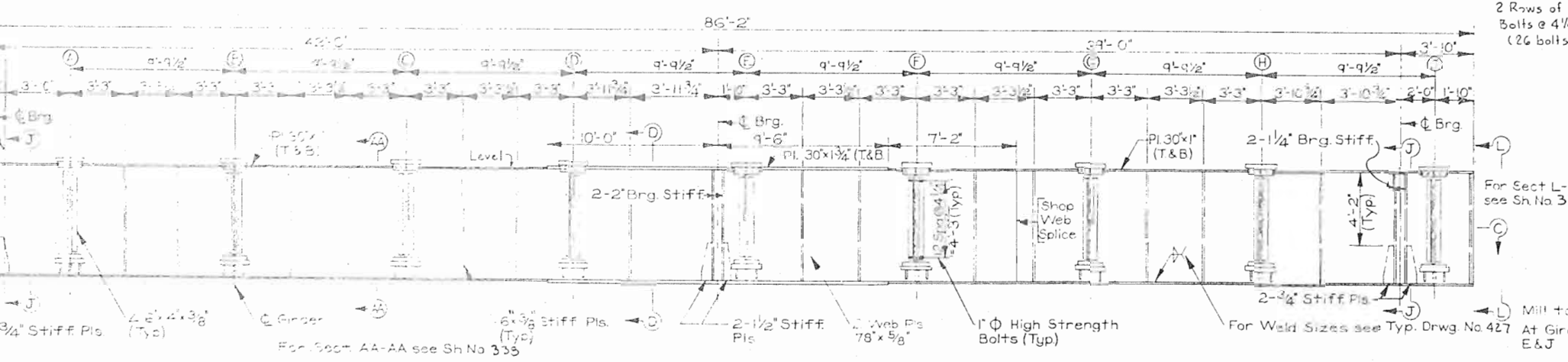


SECTION B-B

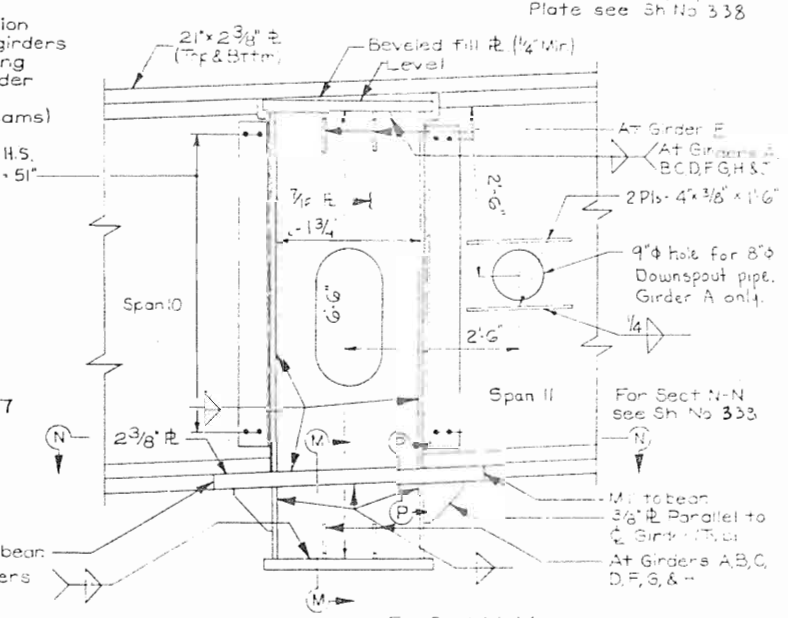


SECTION A-A

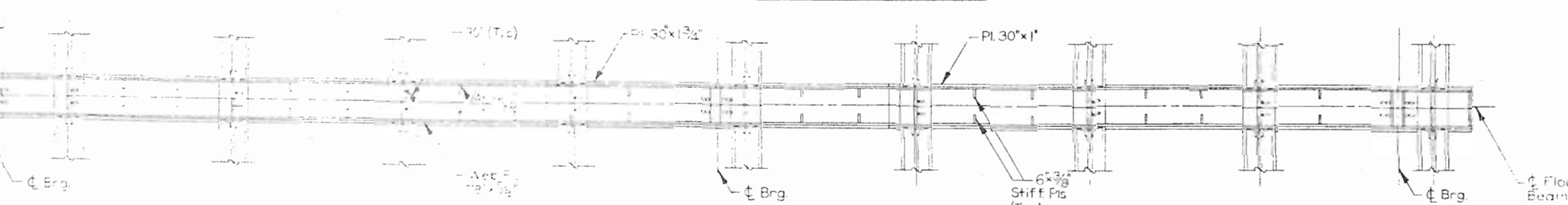
Note: Milled ends of Compression Splice on bottom flanges of girders shall be brought to full bearing against milled ends of pier girder brackets before bolts are tightened. (Typ. at all floor beams)



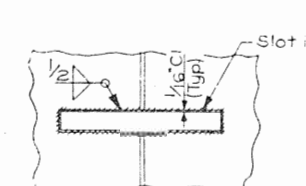
ELEVATION OF FLOOR BEAM NO. 10



SECTION D-D



SECTION C-C



SECTION P-P

Work this Sheet with Sheet 337

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS
UNIT 3
BRIDGE No. HAM-71-0224
H&E BRIDGE NO. 19

DESIGNED MKK	CHECKED H&E	TRACED G	REVISED 11/2/65
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Note: For fillet weld sizes not shown see "TABLE OF FILLET WELD SIZES," Sh. No. 427

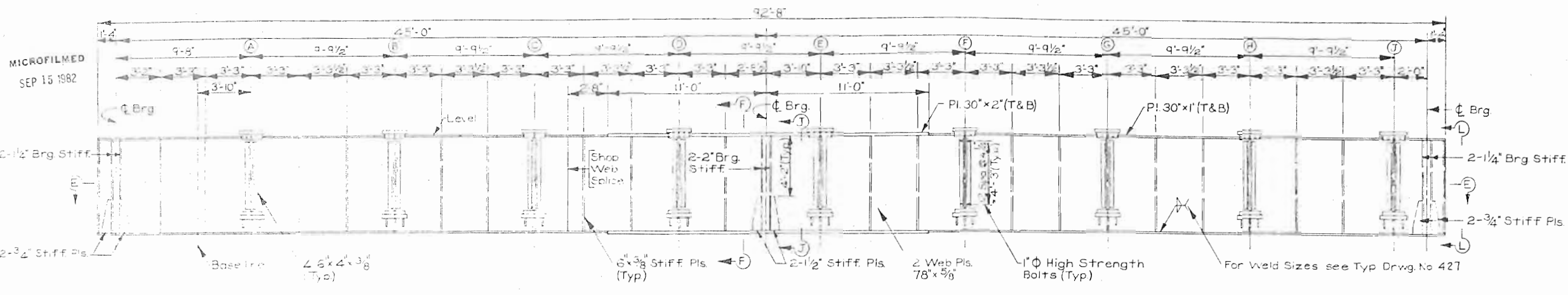
SFN 3106802

46
47
48
8.5
11
17
22

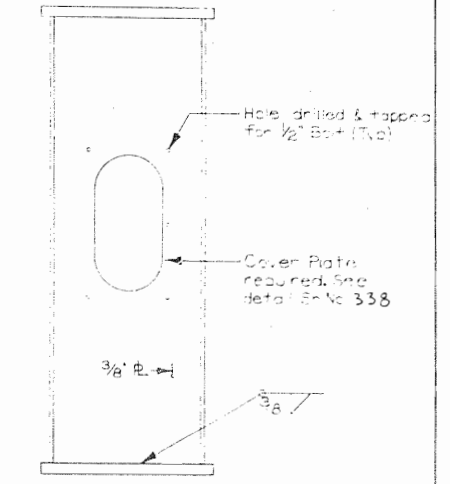
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

337
460

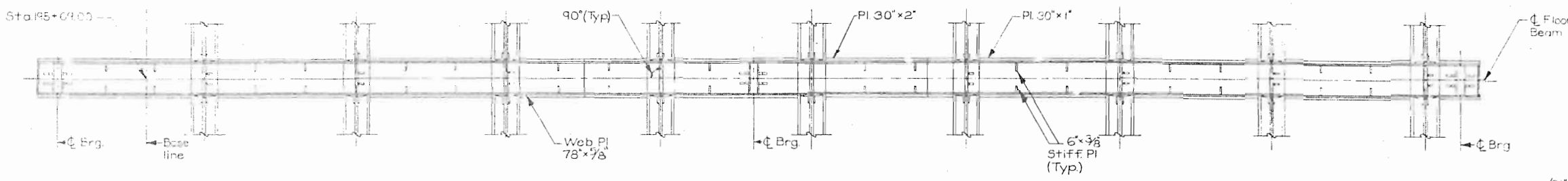
HAMILTON COUNTY
HAM-71-2.08



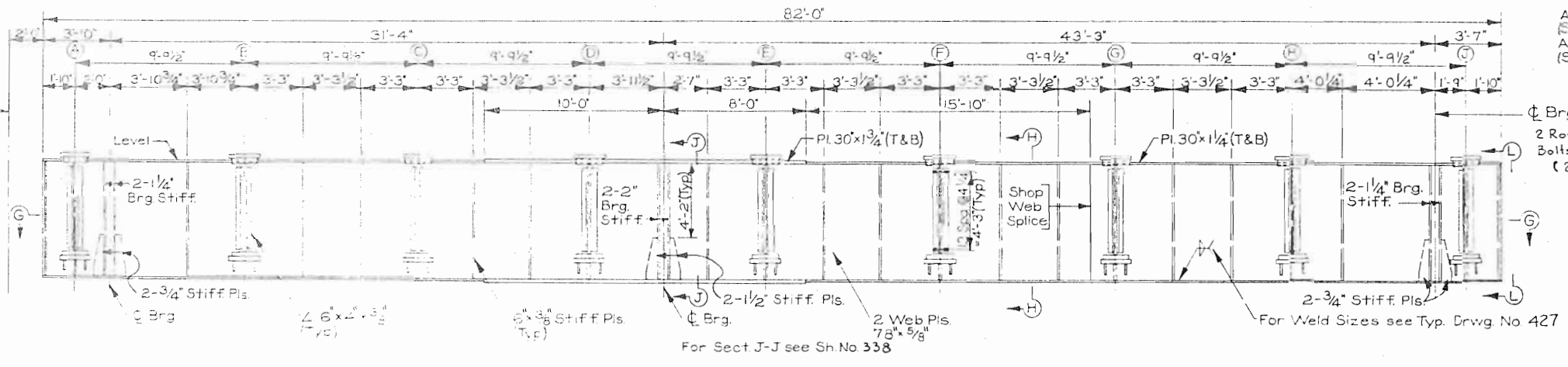
ELEVATION OF FLOOR BEAM NO. 11



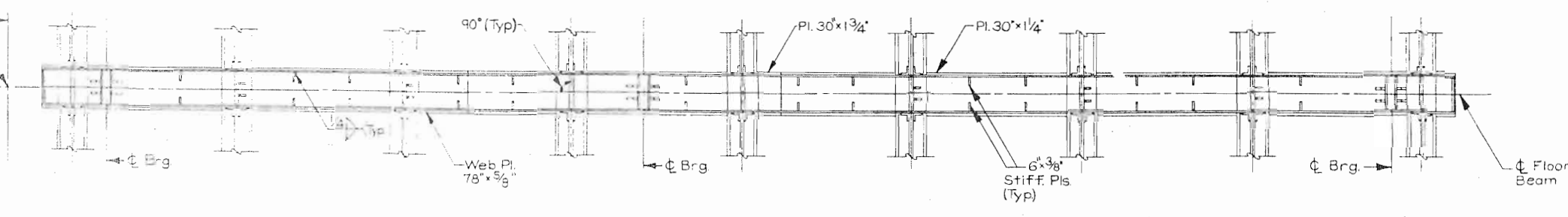
SECTION L-L
Typ @ ends of Floor Beams



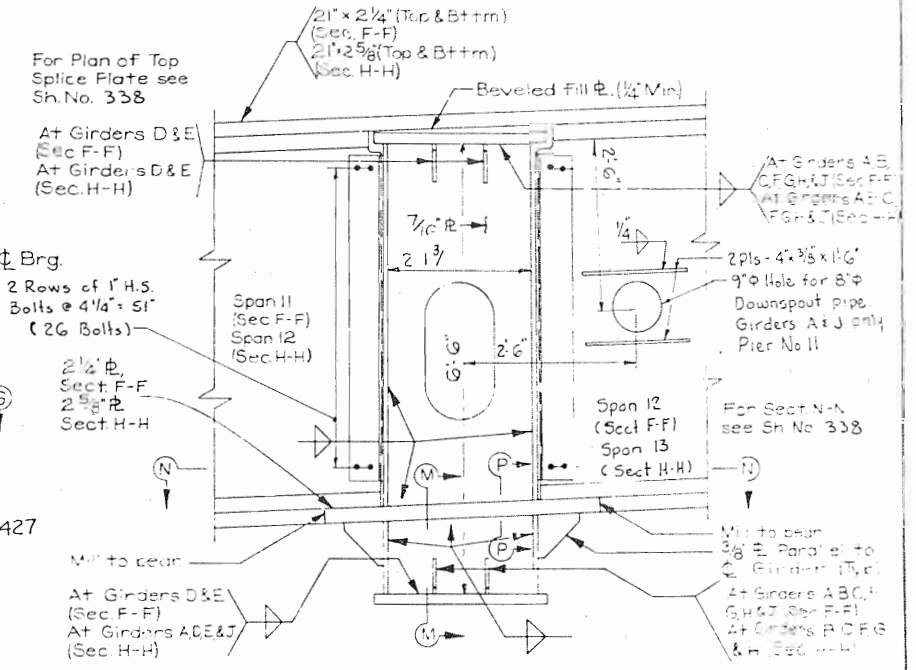
SECTION E-E



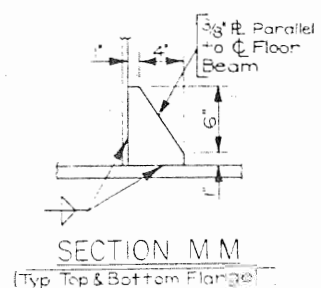
ELEVATION OF FLOOR BEAM NO. 12



SECTION G-G

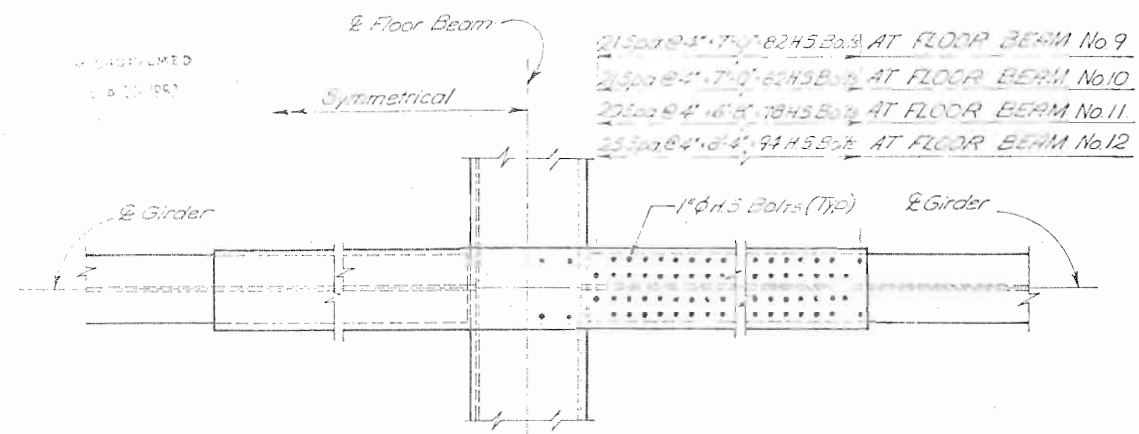


SECTION F-F & SECTION H-H

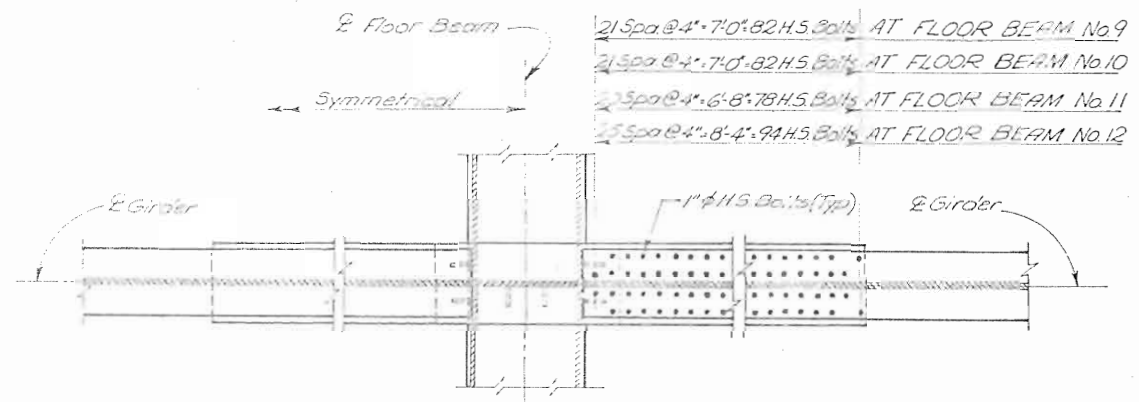


HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
STRUCTURAL STEEL DETAILS UNIT 3					
BRIDGE No. HAM-71-0224					
H&E BRIDGE NO. 19					
DESIGNED M.K.K.	DRAWN M.K.K.	TRACED M.K.K.	CHECKED M.K.K.	REVISED DATE 8-30-85	REVIEWED

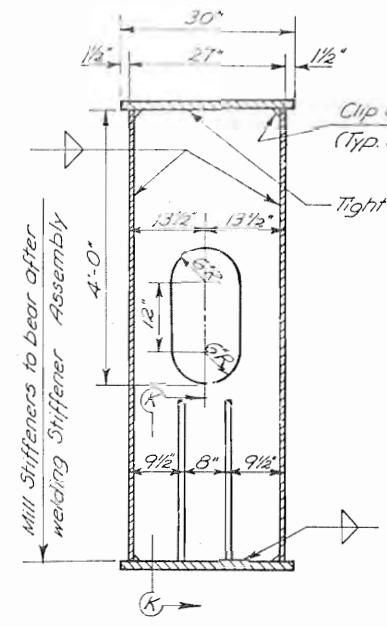
SFN 3106802



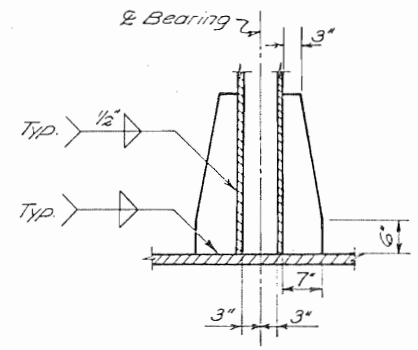
PLAN OF TOP SPLICE PLATE



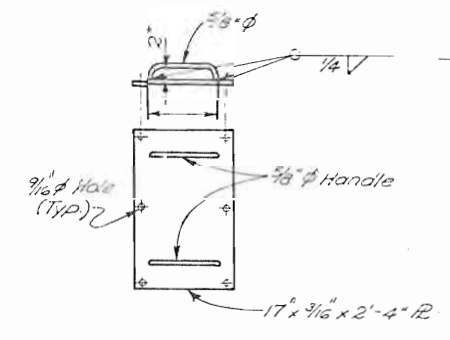
SECTION N-N
(Bottom Splice Plate)



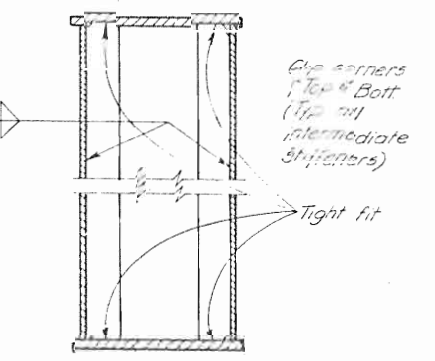
SECTION J-J



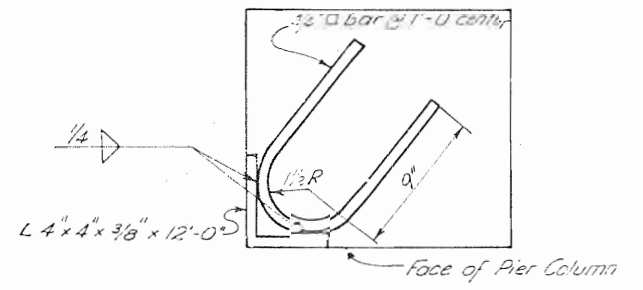
SECTION K-K



COVER PLATE
(For Access Hole)

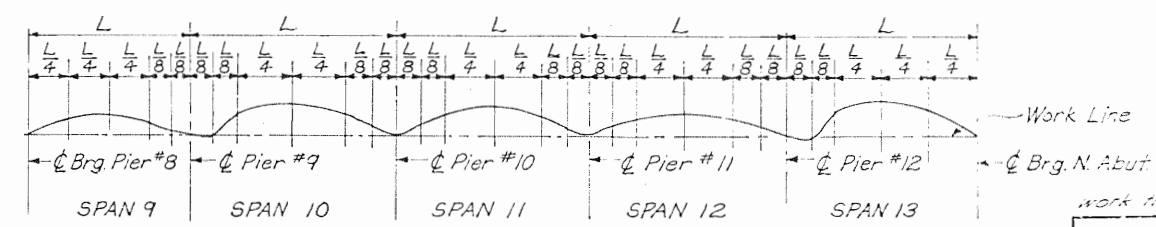


SECTION AA-AA
(Typ. all intermediate stiffeners)



DETAIL OF ARMOR ANGLES
FOR PIER NO. 9
(Included with Item 513 for pavement)
(As Required)

GIRDER		DEFLECTION AND CAMBER														
		Span 9			Span 10			Span 11			Span 12			Span 13		
		1/4	1/2	3/4	1/8	1/4	3/8	1/8	1/4	3/8	1/8	1/4	3/8	1/8	1/4	3/8
A & J	Deflection due to weight of steel	3/8	9/16	3/8	1	1 1/8	1	1 1/8	1 3/8	1 1/2	7/8	1 1/4	7/8	3/4	1	3/4
	Deflection due to remaining dead load	1/2	9/16	1/4	3/8	3/8	3/8	1/4	3/8	3/8	1/8	1/4	1/16	9/16	1 1/16	7/8
	Adjustment required for vertical curve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Required shop Camber	7/8	1 1/8	7/8	1 1/2	1 3/8	2	1 3/8	1 3/8	1 3/8	1 1/8	1 1/4	1 1/8	3/4	1	1 1/2
B thru H	Deflection due to weight of steel	3/8	9/16	3/8	1	1 1/8	1	1 1/8	1 3/8	1 1/2	7/8	1 1/4	7/8	3/4	1	3/4
	Deflection due to remaining dead load	1/16	1/16	5/16	3/8	1/16	3/8	3/8	1/16	3/8	1/8	5/16	1/16	1/16	1/4	1
	Adjustment required for vertical curve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Required shop Camber	1 1/16	1 1/4	1 1/8	1 1/2	1 3/8	2 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/4	1 1/8	3/4	1	1 1/2



CAMBER DIAGRAM

Camber girders by cutting webs to a smooth curve. (To ordinates indicated in box)

Minus sign in table indicates camber ordinates measured below chord. No sign indicates camber ordinates measured above chord.

SFN 3106802

work this sheet with sheet No 336 & 337

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-71-0224

H & E BRIDGE NO. 19

DESIGNED	DR. W. N.	TRACED	CHECKED	DATE	REVISED
	H. A. S.	B. Sch.	J.H.D.	8-26-65	

11
17
19