BRENT SPENCE APPROACH BRIDGE

North Bound/Lower Deck

HAM-71-0000R
SFN: 3105970
PID 109780
VAR-DISTRICT 8

2025 In-Depth Inspection Report

Inspection Date: September 22-26, 2025

Report Date: December 1, 2025

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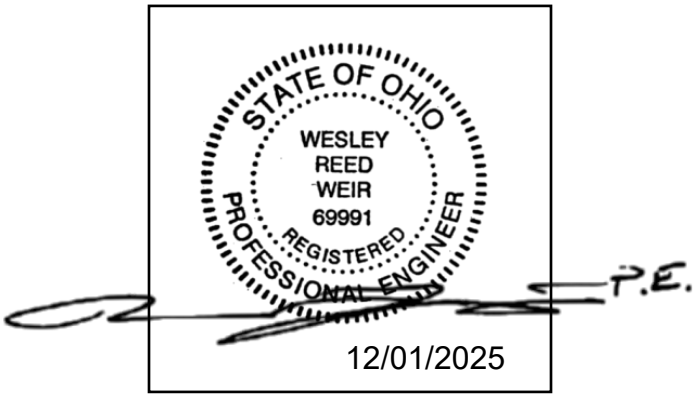

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1.0 Executive Summary

1.1 Inspection Summary

The HAM-71-0000R Bridge is in SATISFACTORY CONDITION [6-NBIS] overall, with no significant structural changes observed from the previous 2024 routine report. Based on our inspection, the bridge is safe to operate in its current condition at its current capacity with no restrictions.

1.1.1 Deck

The deck is in SATISFACTORY CONDITION [6-NBIS] overall. The deck condition is controlled by the underside, which exhibits multiple transverse hairline cracks with efflorescence, as well as an isolated area of spalling with exposed rebar. Both concrete bridge railings (parapets) exhibit moderate cracking, with some exhibiting efflorescence, spalls, and areas of delamination. The deck drains and the drainpipes are clogged with debris, causing ponding on the deck. The deck joints have debris accumulation throughout.

Deck Elements (Item 58)		
Element #	Element Name	NBIS CONDITION
12	Reinforced Concrete Deck	SATISFACTORY CONDITION [6-NBIS]
510	Wearing Surface	SATISFACTORY CONDITION [6-NBIS]
300	Strip Seal Expansion Joints	FAIR CONDITION [5-NBIS]
331	Reinforced Concrete Bridge Railing	SATISFACTORY CONDITION [6-NBIS]
815	Drainage	POOR CONDITION [4-NBIS]

1.1.2 Superstructure

The superstructure is in FAIR CONDITION [5-NBIS] overall. There are concentrated areas of moderate corrosion, both laminar and recently painted over, in Spans 1A to 12C, with up to 3/8" deep section loss to the top of the bottom flanges and bottoms of the webs, mainly found at the fascia girders. Girders as part of the original structure exhibit paint failure and active corrosion. More advanced paint failure and corrosion are found along the fascia girders. The rocker bearings typically exhibit minor section loss. There is pack rust between the rockers and masonry plates in the unpainted spans.

Superstructure Elements (Item 59)		
Element #	Element Name	NBIS CONDITION
107	Steel Beams/Girders	SATISFACTORY CONDITION [6-NBIS]
310	Elastomeric Bearing	GOOD CONDITION [7-NBIS]
311	Movable Bearing	POOR CONDITION [4-NBIS]
313	Fixed Bearing	SATISFACTORY CONDITION [6-NBIS]
314	Pot Bearing	SATISFACTORY CONDITION [6-NBIS]
515	Steel Protective Coating	FAIR CONDITION [5-NBIS]
-	Diaphragms and Cross Frames	GOOD CONDITION [7-NBIS]

1.1.3 Substructure

The substructure is in SATISFACTORY CONDITION [6-NBIS] overall. The concrete piers typically exhibit minor hairline vertical and horizontal cracking, with isolated areas of spalling with exposed rebar.

Substructure Elements (Item 60)		
Element #	Element Name	NBIS CONDITION
205	Reinforced Concrete Column	GOOD CONDITION [7-NBIS]
210	Reinforced Concrete Pier Wall	GOOD CONDITION [7-NBIS]
234	Reinforced Concrete Pier Cap	SATISFACTORY CONDITION [6-NBIS]

1.1.4 Other

Other Items		
Element #	Element Name	NBIS CONDITION
-	Signs and Supports	GOOD CONDITION [7-NBIS]
-	Utilities	GOOD CONDITION [7-NBIS]
Item 41	Operational Status	OPEN WITH NO RESTRICTIONS [A-NBIS]

1.2 Recommendations

The recommended structural, civil, and safety repairs are classified into the following six categories:

Critical Work: (Within 30 Day Period) - Work that should be performed as soon as possible to address deficiencies that affect the capacity of the structure or public safety.

- No Critical Work noted at time of inspection.

Priority Work: (Within 6 Month Period) - Work which should be performed to address deficiencies with primary structural, electrical, or mechanical components that do not affect the capacity of the structure or public safety. Repairs that take precedence over other scheduled work.

- Shim movable bearings that have gaps between rocker and sole plate.
- Remove debris/ clean clogged deck drains, scuppers, and clogged drainpipes.
- Repair broken/ missing/ disconnected/ drainpipes and bulging boots throughout.
- Repair broken weld on cross frame at Girder G in Span 9A over Pier 8A.

Routine Work: (Within 24 Month Period) - Recommendations that are minor in nature and can be easily repaired. This work can be undertaken as part of a scheduled maintenance program, a scheduled project, or routine facility maintenance.

- No Routine Work noted at time of inspection.

Rehabilitation/Evaluation: (Within 5 Year Period) - Recommendations for large-scale deficiencies that are extensive in nature and require engineering analysis.

- Repair spalls and seal cracks in the wearing surface.
- Repair spalls, delaminations, and seal cracks in concrete railings throughout the structure.
- Clean and apply protective coating to the girders and bearings on Spans 15C to 20D.
- Repair isolated spalls and delaminations on concrete substructure units throughout the structure.

Monitoring: (Varies) - Regular field observation of deficiencies that are not currently in need of repair but will require corrective action if deterioration continues.

- No additional monitoring required at time of inspection.

Inspection/Assessment: (Varies) - Evaluation work that should be completed by qualified personnel.

- Continue performing annual inspections per FHWA and ODOT standard practices.

2.0 Bridge Description

HAM-71-0000R (SFN: 3105970), also known as the northern approach to the lower deck of the Brent Spence Bridge, carries four northbound lanes of vehicular traffic from the Brent Spence Bridge to I-71, I-75, and the Second Street ramp. The bridge is approximately 2,160' long, with 25 spans, and consists of an elevated straight section and an elevated curve.

2.1 Structural Description

The bridge deck consists of seven reinforced concrete deck units separated by expansion joints. The deck width and the number of travel lanes vary as the different ramps converge towards the Brent Spence Main Span.

The bridge superstructure has 25 spans and typically consists of rolled beams or welded steel girders with cross-frame diaphragms, welded or bolted to the transverse stiffeners at varying spacing. Various types of bearings are used to support the superstructure, including elastomeric, pot, rocker, and fixed bearings.

The bridge substructure consists of various types of reinforced concrete cap-and-column and hammerhead piers. The bridge plans show that the substructure units were constructed on top of concrete pile foundations.

2.2 Bridge Stationing

The nomenclature/stationing for the bridge follows the original 1960 design plans and the 1999 reconfiguration plans. The original bridge consists of substructure and superstructure from the River Pier to Pier 20D. The reconfiguration consists of the substructure and superstructure from Pier 20D to Pier 5.

For components of the bridge deck across all spans, locations are based on the original bridge's south-to-north alignment.

Girders, bearings, and cross frames are arranged west to east, with the furthest west component being A and the furthest east being G, typically.

Pier columns will be identified by their cardinal directions and the name of the pier they are associated with. When a pier has three columns, any defects reported specifically for the middle column are called out as “middle column”. The other columns will be referred to based on their cardinal direction relative to the middle column.

Bridge Substructure Stationing		
Substructure Unit		Notes
Original Bridge	River Pier	Concrete Substructure & Closest Pier to the Ohio River and Brent Spence Bridge
	Pier 1A – 10A	Concrete Substructure
	11A	Concrete Substructure & Location I-71 Splits on to I-75
	Pier 12C – 15C	Concrete Substructure
	Pier 16D – 20D	Concrete Substructure
Reconfiguration	Pier 20D	Concrete Substructure
	Pier 1 - 4	Concrete Substructure
	Pier 5	Concrete Substructure & Location I-71 Splits onto 2nd Street off Ramp

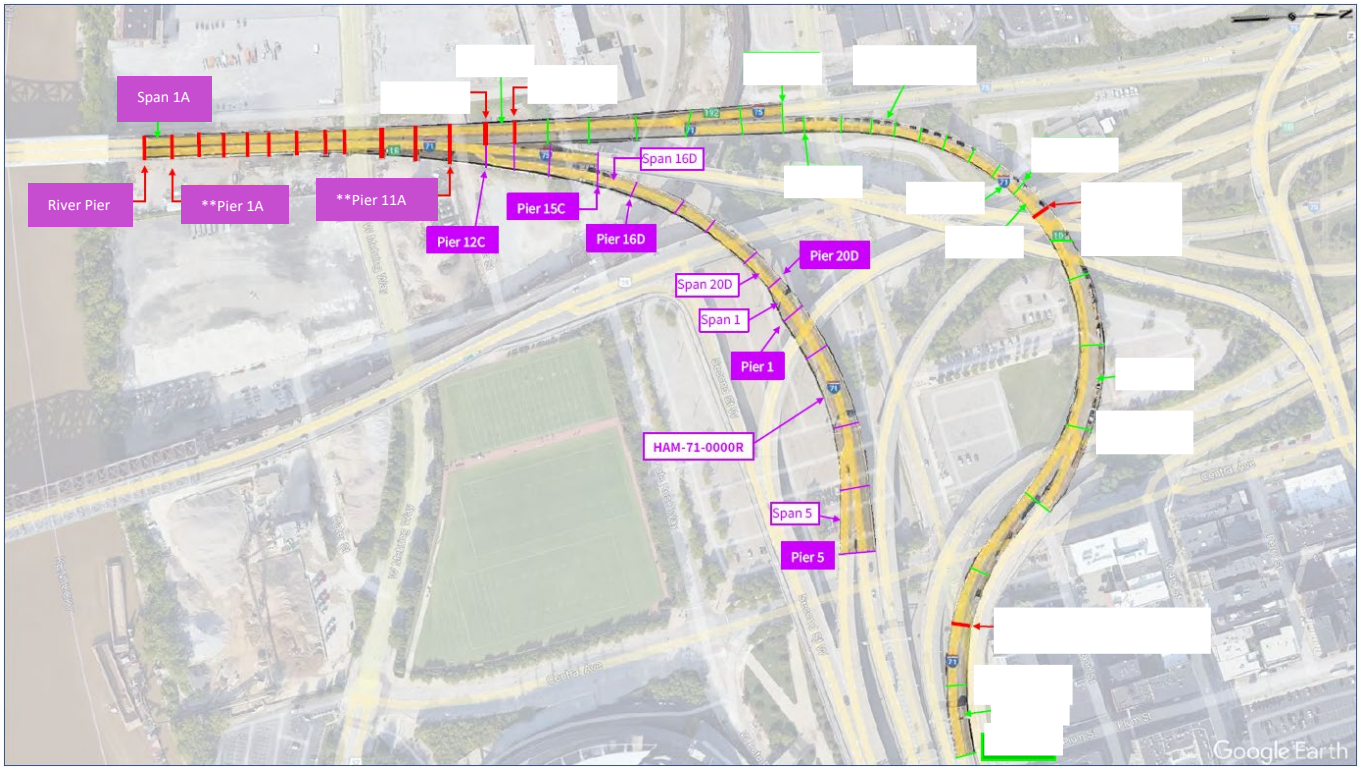


Figure 1 - Bridge nomenclature and orientation map of HAM-71-0000R.

2.3 Bridge details by SPAN and PIER

Both the original and the reconfiguration structures consist of welded steel plate girders and rolled beams for the superstructure.

Piers are reinforced concrete cap-and-column or hammerhead piers. These substructure units support the individual steel girders using various types of bearings.

2.4 Bridge History

The original structure was built in 1961 and 1962 by Peneker Construction and opened to traffic in 1963. In 1988, the parapets were replaced, and a super-plasticized dense concrete overlay was placed on the deck.

During the 1999 reconfiguration, the last seven spans after Pier 20D were removed. Five new piers were constructed, totaling twenty-five spans, to connect the new alignments of I-71 and Second Street. The wearing surface is a micro-silica concrete overlay. This reconfiguration also included minor deck repairs, and the piers below the deck expansion joints were sealed. In 2016, expansion joints were replaced, and fiber-reinforced polymer (FRP) wrap was applied to five piers.

2.5 Maintenance History

- 1988 Rehabilitation
  - Parapets refaced.
  - Super-plasticized dense concrete overlay placed on deck.

- 1999 Reconfiguration/ Rehabilitation
  - Reconfiguration of I-71 and Second Street Ramp.

- 2004 Rehabilitation
  - Repair expansion joints.
  - Replaced cross frames at Piers 4 and 8.
  - Cleaned and replaced portions of bridge drainage.
  - Installed drainage cleanouts.
  - Sealed concrete piers.
  - Zone painted structural steel.

- 2009 Rehabilitation
  - Placed micro-silica concrete overlay to non-composite portions of deck.
  - Minor deck repairs.
  - Sealed piers below deck expansion joints.
  - Cleaned out bridge drainage.

- 2016 Rehabilitation
  - Replaced expansion joints at Piers 4, 8, 12C, 15C, and 20D.
  - Installed FRP wrap to the River Piers, Piers 4A, 12C, 15C, 17C, and 20D.
  - Zone painted structural steel ends at expansion joints.

- 2021 Paint Contract with Brent Spence Bridge
  - Spans 1A-12A, 13C, and 14C were sand-blasted, primed, and painted.

3.0 Inspection Summary

3.1 Scope

In December of 2024, WSP was engaged, as a subconsultant to AECOM, to perform the 2025 in-depth element-level NBIS inspection of HAM-71-0000R as a part of a two-structure inspection alongside HAM-71-0000L for ODOT.

WSP performed the inspection in accordance with FHWA National Bridge Inspection Standards (NBIS), ODOT Bridge Manual, and the Consultant Bridge Inspection Scope of Services. The inspection findings were recorded on bridge-specific field inspection forms, created to document specific conditions.

The inspection took place on September 22, 2025, through September 26, 2025, and utilized both daytime and nighttime inspection hours.

3.2 Inspection Team

The structural inspection team members were as follows:

Wesley Weir, PE, NBIS, & NSTM – WSP Project Manager/ SPRAT
Stephen Mayo, NBIS – WSP NBIS Team Lead/ SPRAT
Blake Fink, PE, NBIS, & NSTM – WSP NSTM Team Lead
Alex Thellman, PE – WSP Assistant Team Lead
Jim Henry – WSP Inspector
Chris Stonehocker, PE, NBIS, & NSTM – WSP Inspector
Kyle Compton-Troesch, PE, NBIS, & NSTM – AECOM Team Lead
Prateek Nepal, EIT & NBIS – AECOM Inspector
Matt Kish, EIT – AECOM Inspector

3.3 Inspection Methodology and Limitations

An in-depth inspection of the bridge was conducted. The inspection findings of the various bridge elements were recorded on bridge-specific field inspection forms. Field sketches were prepared to detail specific conditions. Digital color photographs were taken to document areas of deterioration and typical structural details. In order to achieve the hands-on access required for this type of inspection, ladders and a 140' boom lift were used.

Inspection equipment utilized during the inspection included: safety harnesses and lanyards, drones, calipers, chipping hammers, wire brushes, carpenter rulers, straight edges, dye penetrant, levels, flashlights, and multi-gas air monitors. The superstructure and elevated substructure associated with Spans 1A to 16D were inspected utilizing the boom lift.

Traffic Control was used to inspect the top of the deck, wearing surface, and concrete bridge railings in Spans 1A to 12C. Access was provided by night lane closures of HAM-71-0000R. On the first night, the west (right) two lanes of I-75 NB were closed for inspection, and the east (left) two lanes of I-75 NB were closed on a second night.

Traffic control was provided by AECOM through Intech Contracting LLC, and all signs/devices were placed in accordance with the latest Ohio Manual on Uniform Traffic Control Devices.

The remaining structure was inspected from the ground using an extension ladder and a DSLR camera with a 75-300mm zoom lens. Locations of photos and specific conditions are noted and identified by the location on the structure and cardinal directions associated with each photograph.

3.4 NBIS Condition Rating

State and federal guidelines for evaluating bridge conditions have been developed to promote uniformity in inspections conducted by different teams and at different times. Condition ratings are used to describe the existing, in-place bridge as compared to the as-built condition. The following table was used as a guide for evaluating the condition of the various bridge members.

NBIS Code	Condition	Description
N	**NOT APPLICABLE**	
9	**EXCELLENT**	New Construction
8	**VERY GOOD**	No problems noted
7	**GOOD**	Some minor problems
6	**SATISFACTORY**	Minor deterioration in structural elements
5	**FAIR**	Sound structural elements with minor section loss
4	**POOR**	Advanced section loss
3	**SERIOUS**	Affected structural elements from section loss
2	**CRITICAL**	Advanced deterioration of structural elements
1	**IMMINENT FAILURE**	Obvious movement affecting structure stability
0	**FAILED**	Out of service; beyond corrective action

The inspection of this bridge was performed in accordance with the following documents:

1. Manual of Bridge Inspection, Ohio Department of Transportation (ODOT, 2025).
2. Manual for Bridge Element Inspection, 2nd Edition, AASHTO, (2019; Interim Revisions 2022, 2024, 2025).
3. Manual for Condition Evaluation of Bridges, 3nd Edition, AASHTO, (2018; Interim Revisions 2019, 2020, 2022, 2024).
4. Bridge Inspector's Reference Manual, U. S. Department of Transportation, 2022 (rev 2023).
5. NSTM Guide for Fracture Critical Bridge Inspections, FHWA, (2022)
6. Inspection of Fracture Critical Bridge Members, FHWA (1986; current guidance integrated into NBIS Final Rule 2022 and SNBI specifications).
7. Manual for Bridge Evaluation, AASHTO, 2018 (3rd edition 2018; Interim Revisions 2019, 2020, 2022, and 2024).
8. Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, Federal Highway Administration, (1995; Errata 2012, 2018; SNBI guidance now supplements coding requirements).
9. Ohio Manual of Uniform Traffic Control Devices (OMUTCD, ODOT, 2012 (11th Edition MUTCD 2023).

4.0 Inspection Findings

4.1 Deck [Item 58]

The deck is in SATISFACTORY CONDITION [6-NBIS] overall; the condition is controlled by the deck underside, which exhibits multiple transverse hairline cracks, isolated areas of efflorescence, and spalling throughout (some with exposed rebar). Both concrete bridge railings exhibit moderate cracking, with efflorescence, isolated spalls, and areas of delamination. The deck drains and the drainpipes are clogged with debris, causing ponding on the deck. The deck joints are filled with debris.

4.1.1 Reinforced Concrete Deck [Element 12]

The reinforced concrete deck is in SATISFACTORY CONDITION [6-NBIS] overall, due to transverse hairline-to-moderate cracks present throughout the deck underside and isolated areas of delaminated concrete with spalls and exposed reinforcing.

Access to Span 17D was limited due to the railroad tracks below. This span typically exhibits a dark layer of soot throughout framing members and the underside of the deck (Photo 1). Transverse hairline to moderate cracks were observed throughout the deck underside for the full width of the bays between girders. Majority of cracks exhibit evidence of water seepage and efflorescence. Individual cracks are typically spaced 2' to 4' apart within each bay.

There are isolated areas of delaminated concrete with spalls and exposed reinforcing in various spans. Full-depth concrete patches 4' x 4' are typical at replaced expansion joints, some have become unsound or have adjacent cracking and spalling (Photo 2).

Deck Defects	
Location	Defect
Span 10A	2' long x 1' wide deep spall with exposed rebar in Bay 6 at midspan (Photo 3).
	4 minor spalls with exposed rebar in Bay 7 (Photo 4).
Span 11A	2' x 2' spall with exposed rebar (Photo 5).
Span 12A	4' long x full bay width delaminated and cracked area with efflorescence (Photo 6).
Span 13C	32" long x 20" wide x 1" Deep spall in Bay 1.
Span 14C	42" x 24" x 3". Spall with exposed rebar in Bay 1.
Span 16D	24" x 24" spall with exposed rebar in Bay 4 near Pier 15C.
Span 17D	32" x 20" x 2 1/2" spall with exposed rebar in Bay 4.
	36" x 20" x 2 1/2" spall with exposed rebar in Bay 4.
Span 18D	36" x 48" x 2 1/2" spall with exposed rebar in Bay 2 (Photo 7).
	24" x 72" x 2" spall with exposed rebar in Bay 1.
Span 20D	64" x 52" x 2 1/2" with exposed rebars in Bay 3 (Photo 8).

The edge of the floor/slab (overhangs) exhibits hairline to moderate transverse cracking with efflorescence throughout. There are multiple locations of spalling with exposed rebar throughout (Photo 9). The largest spall is in Span 14C on the West overhang: 8' x 7" x 6" with exposed rebar.

There is a concrete spall 10' x 3' x 3" with exposed rebar on the East overhang over the full-depth concrete repair at Pier 12C expansion joint, West overhang has a 4' long spall with exposed rebar in Span 12C (Photo 10).

Photo 1 - Soot staining the underside of Span 17D, looking north.

Photo 2 - Typical full bay width patch at Span 2A Bay 3.

Photo 3 – 2' long x 1' wide deep spall with exposed rebar in Bay 6 of Span 10A, looking south.

Photo 4 - Minor spalls with exposed rebar in Bay 7 of Span 10A, looking south.

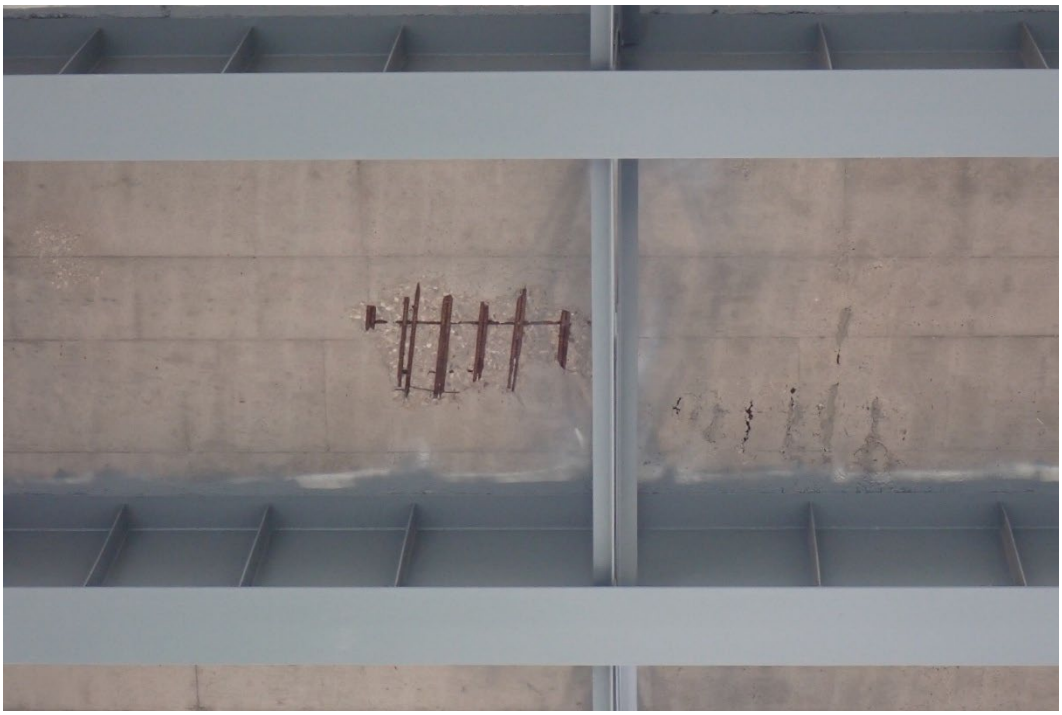


Photo 5 - Deck spall with exposed rebar at Span 11A in Bay 4.

Photo 6 - Delaminated and cracked area with efflorescence, at Span 12A, looking north.

Photo 7 – 36" x 48" x 2 1/2" spall with exposed rebar in Bay 2 of Span 18D.

Photo 8 – 64" x 52" x 2 1/2" with exposed rebars in Bay 3 of Span 20D, looking east.

Photo 9 - Spall with exposed rebar under parapet in Span 1A.

Photo 10 – 4' long spall with exposed rebar on west overhang in Span 12C.

4.1.2 Wearing Surface [Element 510]

The wearing surface is in SATISFACTORY CONDITION [6-NBIS] overall (Photo 11), hairline to moderate transverse, diagonal, and longitudinal cracks on the wearing surface (Photo 12 & Photo 13), with minor pop-out spalls present throughout (Photo 14).

The wearing surface was inspected visually using lane closures in Spans 1A to 13A, and visually from a vehicle for the remaining structure. Isolated hairline to moderate transverse, diagonal, and longitudinal cracks, and minor pop-out spalls were observed throughout the wearing surface.

The bridge deck was sounded by ODOT in December 2020, and multiple delaminated areas were found throughout the wearing surface.

Wearing Surface Defects	
Location	Defect
Span 1A	12" x 6" spall forming pothole at joint armor at River Pier (Photo 15).
Span 9A	10' long x 4' wide x 2" deep asphalt filled pothole near Pier 8A (Photo 16).
Span 10A	3' long x up to 3"wide crack in deck near Pier 10A (Photo 17).
Span 11A	24" long x 12" wide spall forming pothole near Pier 10A (Photo 18).

Photo 11 - Typical wearing surface with small spalls and gouges, in Span 6A.

Photo 12 - Typical isolated longitudinal cracking in wearing surface at Span 10A.

Photo 13 – Typical 1' to 3' longitudinal cracking in wearing surface in Span 1A midspan, looking south.

Photo 14 - Typical 6" diameter x 1/2" deep surface spall in Span 9A.

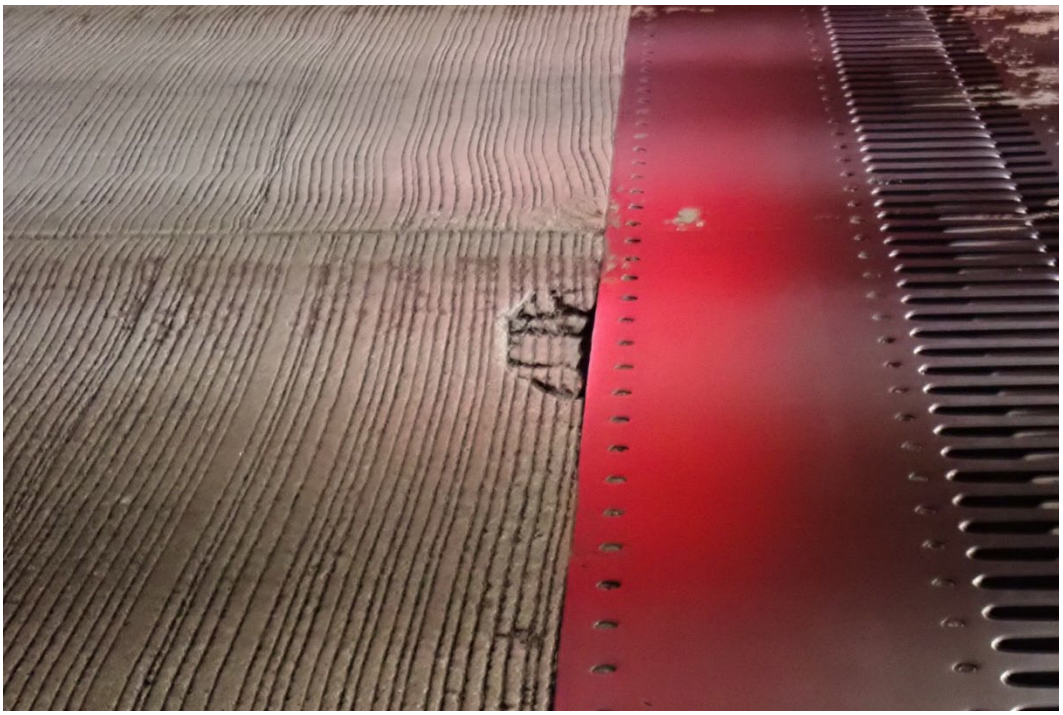


Photo 15 – 12" x 6" spall in wearing surface at joint with main span, at River Pier looking east.

Photo 16 - 10'x 4' asphalt filled pothole in Span 9A near Pier 8A.

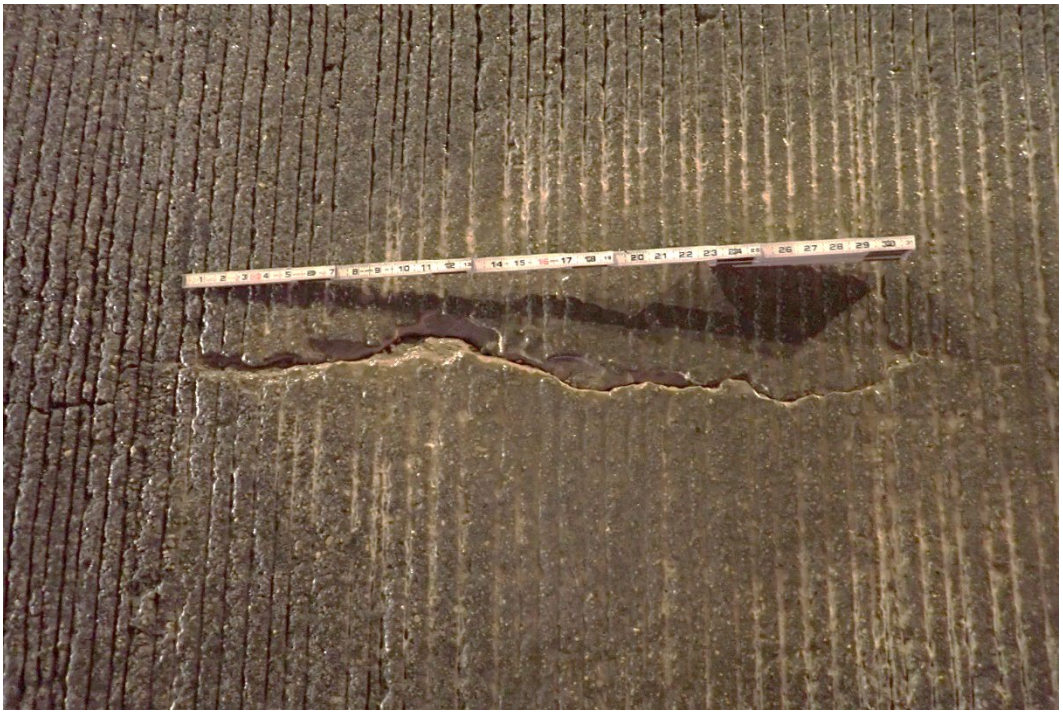


Photo 17 - Moderate crack to deck in Span 10A near Pier 10A.

Photo 18 - Pot hole in deck at Span 11A near Pier 10A.

4.1.3 Strip Seal Expansion Joint [Element 300]

The expansion joints are in FAIR CONDITION [NBIS-5] overall with minor to heavy debris accumulation, deterioration, and isolated areas of leakage. Expansion joints are located at Piers 4A, 8A, 12C, 15C, 17C, 20D, and 5 (Photo 19). There is loosely packed debris in expansion joints on the deck (Photo 20). There is a tear on Pier 5 allowing free-flow water through the joint. Leakage onto pier caps is evident, as well as active corrosion on the girders and bearings below these joints.

Photo 19 - Typical strip seal expansion joint at Pier 4, looking west.

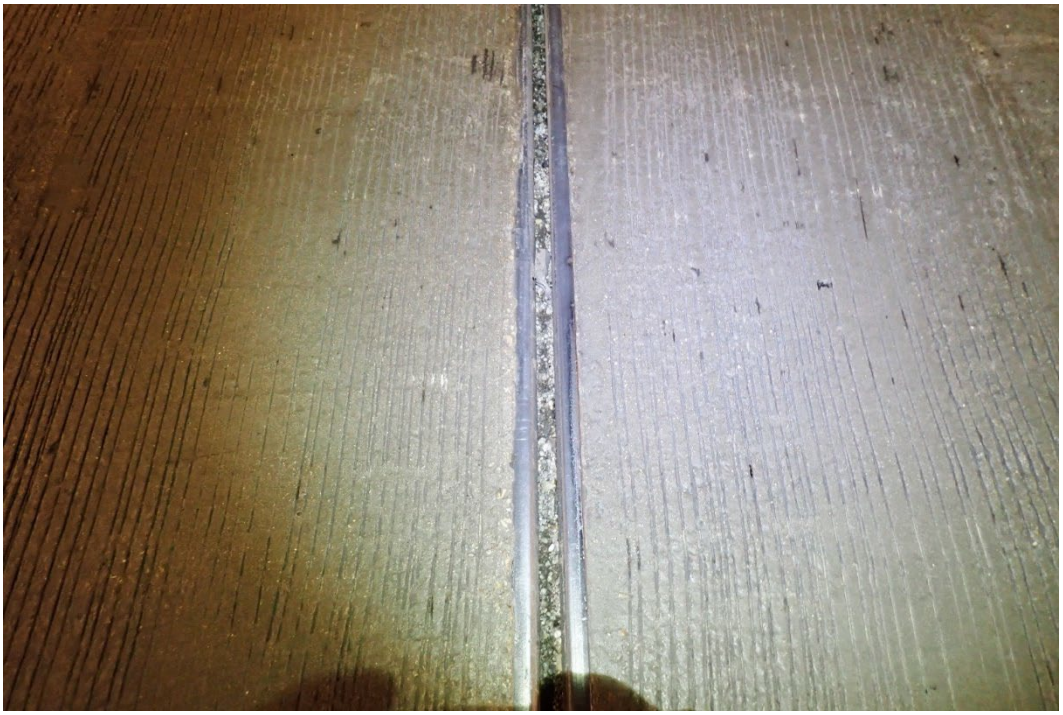


Photo 20 - Typical debris impaction at strip seal joint at Pier 4, looking east.

4.1.4 Reinforces Concrete Bridge Railing [Element 331]

The reinforced concrete bridge railings are in SATISFACTORY CONDITION [6-NBIS] overall, due to moderate to hairline transverse and vertical cracks with efflorescence on the interior and exterior faces of both bridge railings (Photo 21 & Photo 22). Cracks are spaced 1' to 3' apart with most exhibiting efflorescence, rust staining, or moisture staining throughout spans (Photo 23). Several isolated areas of concrete railing have been repaired with concrete patches.

There is a 6' long corner spall with delamination on top edge of concrete railing and longitudinal cracking, with delamination on outside at Span 11A (Photo 24 & Photo 25). There is a 24" x 3" x 1" spall in the inside corner of the west railing in Span 6 (Photo 26).

Minor damage to impact attenuators at the I-71 & I-75 split and the I-71 & Second Street split was observed, but did not appear to affect the operation of the unit (Photo 27).

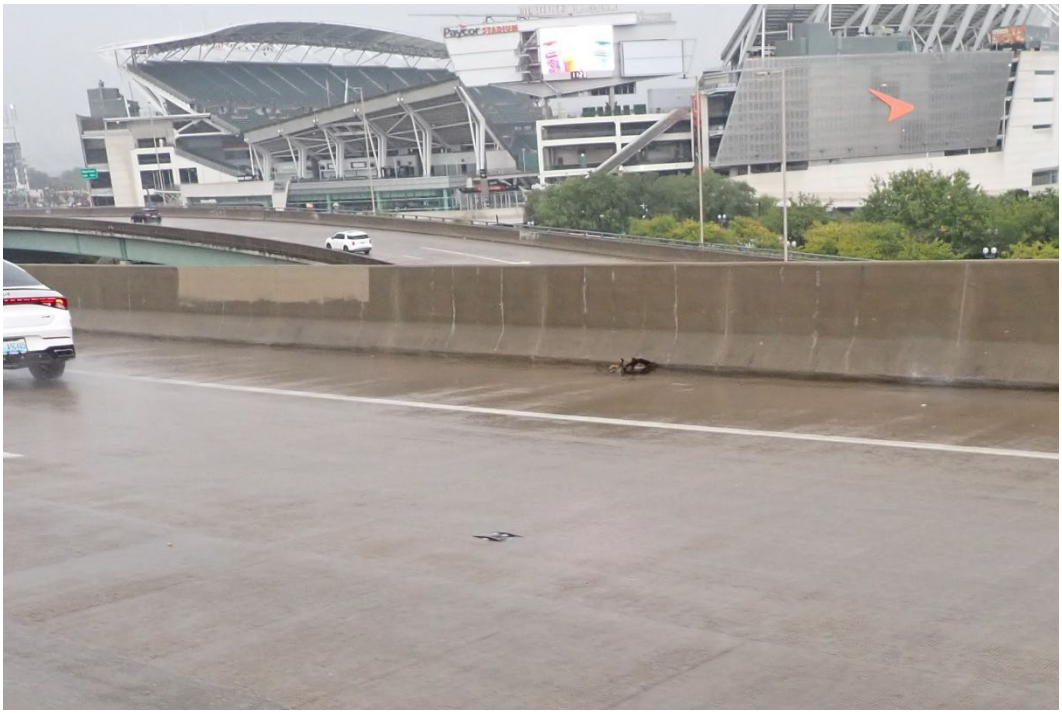


Photo 21 - Hairline vertical cracking with efflorescence spaced approximately 1' to 3' along concrete bridge railing. Note: concrete patch repair to top of railing, looking south.

Photo 22 - Hairline longitudinal cracks with efflorescence in concrete railing, looking east.

Photo 23 - Typical hairline vertical cracking on bridge railing at west railing at River Pier, looking west.

Photo 24 – 6' long corner spalling with delamination on top edge of concrete railing at Span 11A, looking east.

Photo 25 - Longitudinal cracking, with delamination on outside of concrete railing at Span 11A, looking north.

Photo 26 - Minor edge spall on top of west railing a Span 6 mid span looking west.

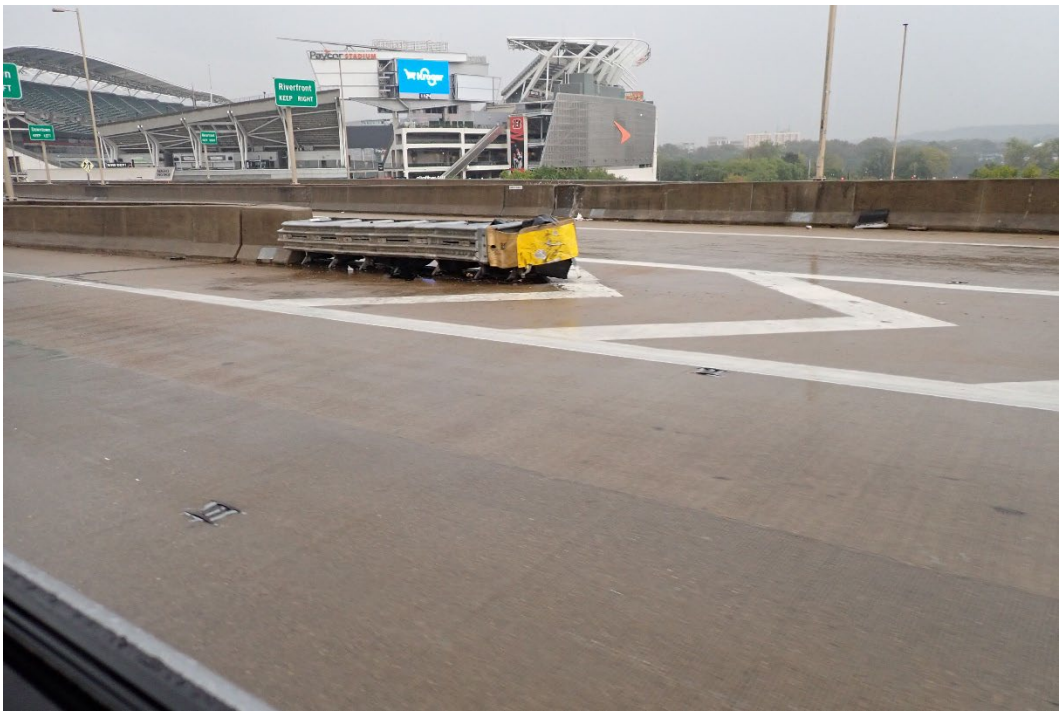


Photo 27 - Minor damage to impact attenuator at I-71 & 2nd street split, looking south.

4.1.5 Drainage [Element 815]

The drainage system is in POOR CONDITION [4-NBIS] due to multiple drainpipes being completely or partially clogged at the deck level scupper locations (Photo 28) and at the ground level (Photo 29), causing water ponding on the deck. The drain grate in Span 2A is missing (Photo 30). There are several disconnected and misaligned drain boots at column bases. The exposed drainage bells are typically fully clogged with debris (Photo 31 & Photo 32).

The drainpipe T-joint is disconnected on the north face of Column 1 at Pier 12A, and the pipe is cracked, but this condition has not changed from the 2024 inspection. Most downspouts are partially or completely disconnected at the ground termination of Column 2 at Pier 4A. Various locations throughout are also disconnected from the underground drainage termination, but do not show signs of erosion. Several drainpipes are cracked with corrosion holes through the pipe wall throughout the structure (Photo 33).

Photo 28 – Typical clogged deck drain at Pier 1, looking north.

Photo 29 - Drain pipe fully impacted with debris and disconnected at base at Pier 19D, looking west.

Photo 30 - Missing deck drain grate with debris accumulation, at Span 2A midspan, looking south.

Photo 31 - Typical clogged drainpipe at Pier 8A, looking east.

Photo 32 - Clogged and overflowing drainpipe at Pier 2A, looking south.

Photo 33 - Corroded drainpipe, with holes and disconnections at joints at River Pier west column, looking west.

4.2 Superstructure [Item 59]

The superstructure is in SATISFACTORY CONDITION [6-NBIS] overall. There are concentrated areas of moderate corrosion, both laminar and recently painted over, with up to 3/8" deep section loss to the top of the bottom flanges and bottoms of the webs, mainly found at the fascia girders. The girders as part of the original structure exhibit paint failure and active corrosion. More advanced paint failure and corrosion were found along the fascia girders. The rocker bearings typically exhibit minor section loss. There is pack rust between the rockers and masonry plates in the unpainted spans.

4.2.1 Steel Beams/Girders [Element 107]

The girders are in SATISFACTORY CONDITION [6-NBIS] overall, with isolated areas of rust laminations and section loss up to 3/8" deep.

Beams in Spans 15C to 20D typically exhibit minor surface corrosion and freckled rust where the paint system is in poor condition, with more moderate corrosion present on the fascia girders of the original structure (Photo 34). The fascia girders typically exhibit isolated areas of moderate laminar corrosion with pitting and section loss, mainly concentrated in the bottom flange and at stiffener locations.

Spans 1A to 14C exhibit moderate to heavy cleaned and painted pitting, and up to 3/8" section loss was evident on the top of the bottom flanges for the full length of Girders A and G, intermittent throughout. There is non-active section loss on the web of Girders A and G at the River Pier in Span 1 (Photo 35). The rehabilitated portion of Girder A at the River Pier is in good condition (Photo 36). There is a drilled-out hole in the bottom of the web at the welded retrofit, approximately 4' from the bearing. The Girder G bottom flange cover plate in Span 6A has been blasted clear of pack rust, revealing that the cover plate has separated from the bottom flange up to 3/8" with a 4 1/4" crack on the OB weld (Photo 37). There are two Fatigue Prone bottom flange welds on Girder D in Span 11A: 8' ahead of Pier 12A and 8' back from Pier 13A. There are flame-cut gouges in Span 16 on the bottom flange welded retrofit. A corrosion hole in the web of Girder B at Pier 8A, over top of a bearing, was observed (Photo 38).

The girders on the reconfigured spans are in good condition. No significant signs of corrosion or section loss were noted during the inspection (Photo 39).

Photo 34 - Typical girder condition for Spans 15C to 20D, at Span 18D, looking north.

Photo 35 - 34" x 23" x up to 5/16" section loss in web and bottom flange of Girder G at River Pier, looking east.

Photo 36 - Welded retrofit web and bottom flange replacement on Girder A over the River Pier, looking west.

Photo 37 - Cracked cover plate on Girder G in Span 6, looking south.

Photo 38 - Corrosion hole in beam web at Pier 8A Girder B, looking northeast.

Photo 39 - Typical reconfigured span in good condition at Span 5, looking east.

4.2.2 Elastomeric Bearing [Element 310]

The Elastomeric Bearings are in GOOD CONDITION [NBIS-7] overall (Photo 40 & Photo 41). There are elastomeric bearings at the River Pier, Piers 12C, 15C, and 17D. The bearings typically have minor surface corrosion and isolated paint failure. The bearings exhibited few signs of expansion and were in a neutral position.

Photo 40 - Typical elastomeric bearing at River Pier, looking west.

Photo 41 - Typical bearing pad at Girder D in Pier 12C, looking southwest.

4.2.3 Movable Bearing [Element 311]

The Moveable Bearings are in POOR CONDITION [NBIS-4] overall (Photo 42). The steel rocker bearings typically exhibit moderate section and minor corrosion of the sole plate (Photo 43). The movable bearings have typically had active corrosion and pack rust between the rocker and masonry plate cleaned away and painted. Resulting in intermittent areas of painted-over pitting.

A total of 11 rocker bearings were observed with gaps up to 1/4" wide with rust fretting and exposed pintles (Photo 44). With the most severe location at Pier 8A where four of the eight bearings supporting Span 9A and two of the seven bearings supporting Span 8A exhibit this condition. In addition, Bearing A for Span 9A on Pier 8A visibly deflects under live load. No signs of movement was observed on the other bearings which appears to indicate that the bearings could be resting on the pintles. A 1" corrosion hole in a keep plate is located on Bearing A for Span 9A on Pier 8A (Photo 45).

Rocker Bearings with Gaps	
Location	Defect
Pier 4A	Bearing C
Pier 7A	Bearing F
Pier 8A Span 8A	Barings E & F
Pier 8A Span 9A	Bearings A, D, F, & G
Pier 9A	Bearing G
Pier 14C	Bearing B & C

Photo 42 - Typical rocker bearing at Girder C at Pier 14C, looking northwest.

Photo 43 - Rocker bearing with minor surface corrosion at Girder G at Pier 1A, looking north. Note: gap between rocker and sole plate.

Photo 44 - Rocker bearing with gap up to 1/4" wide with rust fretting at Pier 8A Girder D, looking north.

Photo 45 - Hole in bearing keep plate at Girder A of Pier 8A, looking northeast. Corrosion hole in bearing keeper plate at Girder A of Pier 8A, looking northeast.

4.2.4 Fixed Bearing [Element 313]

The Fixed Bearings are in SATISFACTORY CONDITION [6-NBIS] overall and typically exhibit minor paint failure and minor surface corrosion (Photo 46 & Photo 47). The fixed bearings at Pier 13C for Girders C, D, and E have loose anchor nuts. Girder G, fixed bearing at Pier 6A in Span 7A, has pitting on the masonry plate, and Girder D has loose anchor nuts.

Photo 46 - Typical fixed bearing with minor freckled rust at base, Girder G of Pier 6A, looking north.

Photo 47 - Typical fixed bearing at Girder C of Pier 6A, looking southwest.

4.2.5 Pot Bearing [Element 314]

The Pot Bearings are in SATISFACTORY CONDITION [6-NBIS] overall. The reconfigured spans' pot bearings typically exhibit minor paint failure and moderate corrosion throughout. There is corrosion with minor section loss of the anchor plates on the pot bearings at Pier 20D.

4.2.6 Steel Protective Coating [Element 515]

The Steel protective coating is in FAIR CONDITION [NBIS-5] overall. Spans 15C to 20D typically exhibit coating failures on girders. Chalking, dulling, flaking, and peeling were observed throughout the superstructure steel members. Surface corrosion is active at locations where the paint is in poor condition, and rust staining is evident on the remaining protective system (Photo 48). The fascia girders exhibit the most severe paint condition, with complete paint failure to the bottom flanges and bottom portions of the web, with areas of moderate to severe corrosion and laminating rust.

Spans 1A to 14C are in good condition, having been recently recoated (Photo 49), along with members below the expansion joints at Piers 4A, 8A, 12C, 15C, and 20D were cleaned and painted (Photo 50).

The paint on the reconfigured spans, Spans 1 to 5, is in satisfactory condition with small areas of surface rust, and moderate corrosion concentrated to joint locations (Photo 51).

Photo 48 - Typical coating condition for Spans 15C to 20D, at Span 17D, looking east. Note: failed coating system with chalking, dulling, flaking, peeling, and surface corrosion.

Photo 49 - Typical paint condition for Spans 1A to 13A at fascia Girder G of Pier 6A, looking north.

Photo 50 - Typical deck joint location where the superstructure steel was recently painted, at Pier 20D, looking east.

Photo 51 - Typical coating condition for Spans 1 to 5 is in good condition at Span 5, looking east.

4.2.7 Diaphragms and Cross Frames [No Element]

The Steel cross-frames and diaphragms were in GOOD CONDITION [NBIS-7] during the inspection, and no significant changes to defects were noted (Photo 52). There was paint failure on the non-painted spans (Photo 53). Cross frame #5 on Span 14 is bent out of plane. A broken weld at end of cross frame of Girder G in Span 9A was observed (Photo 54).

Photo 52 - Typical cross frame and diaphragm layout on the underside of Span 5, looking west.

Photo 53 - Typical cross brace diaphragm at Span 15C, Bay 3, looking north.

Photo 54 - Broken weld at end of cross frame of Girder G in Span 9A, looking north.

4.2.8 Alignment [No Element]

Alignment is in good condition, with no problems in vertical or horizontal alignment noted during visual inspection.

4.2.9 Fatigue [No Element]

The superstructure fatigue-prone details are in good condition.

5.0 Substructure [Item 60]

The substructure is in SATISFACTORY CONDITION [6-NBIS] overall. The reinforced concrete substructure exhibits isolated areas of spalling with exposed reinforcing, as well as hairline vertical and horizontal cracking. The original bridge substructure consists of seventeen reinforced concrete multi-column pier bents and five hammerhead piers. The reconfigured spans consist of five reinforced multi-column pier bents. The piers typically exhibit minor to moderate vertical and horizontal cracking. There are isolated areas of spalling with exposed rebar. Concrete patches and FRP wrapping were present on the River Pier, Piers 4A, SA, 7A, 8A, 12C, 17D, and 20D.

5.1.1 Reinforced Concrete Column [Element 205]

The Pier Columns/bents are in GOOD CONDITION [NBIS-7] overall (Photo 55 & Photo 56), isolated small spalls, exposed rebar, and hairline cracking were observed on columns (Photo 57 & Photo 58). Typically, the round columns in the reconfiguration portion of the bridge are in better condition than the older rectangular columns (Photo 59).

Concrete patching was observed on several columns and FRP wrapping on the River Pier, Piers 4A, 5A, 7A, 8A, 12C, and 15C (Photo 60). Patches are typically sound, and the FRP wrapping is in good condition with only isolated areas of peeling/failing protective coating. There are isolated small spalls without any exposed reinforcing, mainly on the corners, including Piers River, 1A, 5A, 6A, and 19D (Photo 61).

Photo 55 - Typical three-column Pier at Pier 10A, looking north.

Photo 56 - Typical two-column pier at Pier 13C, looking north.

Photo 57 - Minor spalling and delamination on west column of Pier 1A, looking west.

Photo 58 - Minor spall with exposed rebar on middle column of Pier 9A, looking south.

Photo 59 - Typical concrete pier elevation at Pier 2, looking west.

Photo 60 - Typical FRP wrap on Pier 15C, looking north.

Photo 61 - Map cracking with delamination, efflorescence, and rust staining on west side of River Pier, looking east.

5.1.2 Reinforced Concrete Pier Wall [Element 210]

The Reinforced Concrete Pier Walls are in GOOD CONDITION [NBIS-7] overall (Photo 62) and are present at hammerhead Piers 16D, 17D, 19D, and 20D. These piers exhibit isolated hairline cracking. Spalls with exposed rebar were observed at the base of Piers 16D and 20D, where protective corner guards are (Photo 63). Pier 20D has been patched with FRP wrap, and there is rust staining coming through near the cap and alligator scaling of the FRP (Photo 64).

Photo 62 - Typical Elevation View of hammerhead pier at Pier 16D, looking north.

Photo 63 - Minor spalling at corner protection of pier wall at 16D, looking south.

Photo 64 - Typical FRP wrap on pier wall at Pier 17D, looking south.

5.1.3 Reinforced Concrete Pier Cap [Element 234]

The reinforced concrete pier caps are in SATISFACTORY CONDITION [6-NBIS] (Photo 65 & Photo 66). Hairline cracking and minor spalls were observed, along with isolated larger spalling with exposed rebar on the top and bottom of the pier caps.

Isolated areas have concrete patches (Photo 67), and FRP wrapping is applied to the River Pier and Piers 4A, 5A, 7A, 8A, 12C, 15C, 17D, and 20D. There are areas on both sides of Pier 12C where the FRP is delaminating from the concrete (Photo 68). There is moderate cracking on the north face of Pier 20D with minor cracking on the overhangs (Photo 69). There are small concrete spalls with exposed rebar on the caps of Piers 1A, 3A, 5A, 10A, and 11A.

Pier Cap Surface Defects	
Location	Defect
Pier 1	12" wide x 12" horizontal x 1" deep spall on east end.
Pier 3	Two minor spalls with exposed rebar
Pier 5	Debris and evidence of a leaking joint above (Photo 71).
Pier 5A	Large spall with exposed rebar, and delaminated concrete on underside of pier cap (Photo 70).
Pier 10A	Spall with exposed rebar between Girders G and H on the top of the cap (Photo 72).
Pier 11A	Two 12" x 6" x 1" spalls with exposed reinforcing on the north face and underside of pier cap.

Photo 65 - Pier 11A looking south.

Photo 66 - Pier 4 looking east.

Photo 67 – Steel plate embedded in patched concrete surface of the bottom flange pier cap underside at Pier 12C.

Photo 68 - Typical FRP wrap of pier cap and columns, at Pier 12C, looking north.

Photo 69 - Minor cracking on the pier cap overhangs on Pier 20D, looking east.

Photo 70 - Large spall with exposed rebar, and delaminated concrete on underside of pier cap at Pier 5A, looking north.

Photo 71 - Joint leaking onto pier cap with staining at Pier 5, looking west.

Photo 72 – Large spall with exposed rebar on pier cap Pier 10A, looking south.

6.0 Sign/Utility Items [No Item]

The signs and utilities are in GOOD CONDITION [NBIS-7] overall.

6.1.1 Signs and Supports [No Element]

The signs on the structure are in GOOD CONDITION [NBIS-7] with no significant problems notes. There are three overhead signs, eight light poles, one exit sign, and three-mile marker signs mounted to the bridge.

The sign supports on the structure are in GOOD CONDITION [NBIS-7] with no significant problems noted to the supports or connections to the structure.

6.1.2 Utilities [No Element]

The utilities on the structure are in GOOD CONDITION [NBIS-7]. The electrical conduit attached to Girder A from the River Pier to Pier 13C has been painted. A lighting conduit is attached to the girders in Span 16D. There are lighting conduits that extend from the ground to the superstructure on the outside columns of Pier 14C.

The steel conduit near Pier 12C and in Span 7A has a separated expansion joint exposing the cabling within (Photo 73). There is light surface rust on the electrical junction box and the bracket that is attached to Girder A at Pier 13C.

Photo 73 - Separated conduit expansion connection, at Span 7A, near Pier 6A, looking south.

7.0 Operational Status [Item 41]

The bridge remains OPEN WITH NO RESTRICTIONS [A-NBIS].

8.0 Conclusions & Recommendations

Based on the 2025 In-Depth Inspection, the HAM-71-0000R bridge is in SATISFACTORY CONDITION [6-NBIS] overall. The overall rating is based on the condition of both the superstructure and the substructure.

The recommended structural, civil, and safety repairs are classified into the following six categories:

Critical Work: (Within 30 Day Period) - Work that should be performed as soon as possible to address deficiencies that affect the capacity of the structure or public safety.

- No Critical Work noted at time of inspection.

Priority Work: (Within 6 Month Period) - Work which should be performed to address deficiencies with primary structural, electrical, or mechanical components that do not affect the capacity of the structure or public safety. Repairs that take precedence over other scheduled work.

- Shim movable bearings that have gaps between rocker and sole plate.
- Remove debris/ clean clogged deck drains, scuppers, and clogged drainpipes.
- Repair broken/ missing/ disconnected/ drainpipes and bulging boots throughout.
- Repair broken weld on cross frame at Girder G in Span 9A over Pier 8A.

Routine Work: (Within 24 Month Period) - Recommendations that are minor in nature and can be easily repaired. This work can be undertaken as part of a scheduled maintenance program, a scheduled project, or routine facility maintenance.

- No Routine Work noted at time of inspection.

Rehabilitation/Evaluation: (Within 5 Year Period) - Recommendations for large-scale deficiencies that are extensive in nature and require engineering analysis.

- Repair spalls and seal cracks in the wearing surface.
- Repair spalls, delaminations, and seal cracks in concrete railings throughout structure.
- Clean and apply protective coating on Spans 15C to 20D.
- Repair isolated spalls and delaminations on concrete substructure units throughout the structure.

Monitoring: (Varies) - Regular field observation of deficiencies that are not currently in need of repair but will require corrective action if deterioration continues.

- No additional monitoring required at time of inspection.

Inspection/Assessment: (Varies) - Evaluation work that should be completed by qualified personnel.

- Continue performing annual inspections per FHWA and ODOT standard practices.

APPENDIX

A

ASSETWISE BRIDGE INSPECTION REPORT

Inspector: Banaszak,Ken
Inspection Date: 09/26/2025
Structure Number: 3105970
Facility Carried: NB IR 71

Ohio Bridge Inspection Summary Report

HAM-00071-0000R_(3105970)

B.L.04: District	District 08 15000 - CINCINNATI (HAM county)	
B.CL.02: Major Maint	01 - State Highway Agency	/
225 Routine Main A/B	01 - State Highway Agency	/
221 Inspection A/B	01 - State Highway Agency	/

Condition

B.C.01: Deck	**6**
58.01: Wearing Surface	6
B.C.08: Joint	5
B.C.02: Superstructure	**6**
59.01: Paint & PCS	5
B.C.03: Substructure	**6**
B.C.09: Channel	**N**
B.C.11: Scour	**N**
B.C.10: Channel Prot.	**N**
B.C.05: Bridge Railing	**5**
B.C.06: Transitions	**N**
B.C.07: Bearings	**5**
B.C.04: Culverts	**N**
Ohio GA	**6**

Appraisal

B.AP.03: Scour Vul.	Not over Waterway

Geometric

48: Max Span Length (ft)	186.4
49: Structure Length (ft)	3042.8
52: Deck Width, Out-To-Out (ft)	47.8
424: Deck Area (sf)	145445.84
32: Appr Roadway Width (ft)	30.2
51: Road Width, Curb-Curb (ft)	39.6
50A: Curb/SW Width: Left (ft)	0
50A: Curb/SW Width: Right (ft)	0
34: Skew (deg)	0
33: Bridge Median	0 - No median
54B: Min Vert Underclearance (ft)	18
336A: Min Vert Clrnce IR Cardinal (ft)	14.917
336B: Min V Clr IR Non-Cardinal (ft)	0
578: Culvert Length (ft)	0

Load Posting

41: Op/Post/Closed	A - Open
70: Posting	5 - Equal to or above legal loads
70.01: Date	
70.02: Sign Type	
734: Percent Legal (%)	150
704: Analysis Date	07/01/2013
63: Analysis Method	7 - Allowable Stress (AS) rating reported by rating factor (RF) method using MS18 loading.

5A: Inventory Route	1	00071
7: Facility On	NB IR 71	
6: Feature Ints	3RR;USR 27;IR 75; USR 42	
9: Location	OH-KY STATE LINE	
Lat, Lon	39.093039	,-84.522519

Structure Type

43: Bridge Type	4 - Steel continuous 02 - Stringer/Multi-beam or Girder N- Not Applicable
45: Spans Main / Approach	35 / 0
107: Deck Type	1 - Concrete Cast-in-Place
408: Composite Deck	U - Unknown
414A Joint Type 1	2 - Sliding Metal Plate Angle
414B: Joint Type 2	8 - Elastomeric Strip Seal
108A: Wearing Surface	2 - Integral Concrete (separate non-modified layer of concrete added to structural deck) 3 - MicroSilica
422: WS Date	07/01/2007
423: WS Thick (in)	2.8
482: Protective Coating	4 - Paint System B
483: PCS Date	01/01/1978
453: Bearing Type 1	2 - Rockers & Bolsters
455: Bearing Type 2	C - Elastomeric (laminated)
528: Foundn: Abut Fwd	N - None (Such as most Culverts)
533: Foundn: Abut Rear	N - None (such as most Culverts)
536: Foundn: Pier 1	2 - Cast-in-Place Reinforced Concrete Piles (Other diameter)
539: Foundn: Pier 2	N - None (Such as most Culverts)

Age and Service

27: Year Built/ 106 Rehab	1963 / 0000
42A: Service On	1 - Highway
42B: Service Under	4 - Highway - railroad
28A: Lanes on	03
28B: Lanes Under	08
19: Bypass Length	0
29: ADT	67393
109: % Trucks (%)	15

Inspections

		Months
B.IE.03 Routine Insp.		12
B.IE.03: NSTM Insp.	N	12
B.IE.03: UW Insp.		0
B.IE.03: Special Insp.		
UBIT Insp.	N	0
Drone Insp.	N	0

Inspector Banaszak,Ken

Inspector:	Banaszak,Ken	**Structure Number:**	3105970
Inspection Date:	09/26/2025	**Facility Carried:**	NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12-Reinforced Concrete Deck	3 - Mod.	108784	sq. ft.	81275	27205	304	0
	CS2: -Transverse hairline to moderate width cracks with efflorescence are present throughout the deck underside for the full width of the bay between girders, typically at 4' on center. -Cracks and efflorescence are much more prevalent in the reconstructed spans, with cracks spaced at 1' or less in some areas. -The deck overhangs exhibit hairline to moderate width transverse cracking with efflorescence throughout. CS3: -In Span 10A, there is a 2' x 1' spall with exposed rebar at the midspan of Bay 6, and 4 spalls with exposed rebar totaling 6 square feet in Bay 7. -In Span 11, there is a 4 square foot spall with exposed rebar in Bay 4. -In Span 12, there is a 4' long spall with exposed rebar in the west overhang. -In Span 13C, Bay 1 there is a 32" L x 20" W x 1" D spall. -In Span 14C, Bay 1 there is a 42" x 24" x3 1/2" Spall with 4 exposed transverse bars and 1 longitudinal bar. -In Span 16D, near Pier 15C, Bay 4 there is a 24" x 24" spall with 2 exposed longitudinal reinforcing bars. -There are two large spalls with exposed reinforcement in Span 17D, Bay 4: 32" x 20" x 2 1/2" and 36" x 20" x 2 1/2". -There is a spall with exposed reinforcement in Span 18D, Bay 2: 36" x 48" x 2 1/2". There is also a 24" x 6' x 2" spall with 4 transverse and 4 longitudinal reinforcing bars exposed in Span 18D, Bay 1. -There is a spall with exposed reinforcing in Span 20D, Bay 3: 64" x 52" x 2 1/2" with 7 transverse and 3 longitudinal exposed reinforcing bars. -Full depth 4' x 4' concrete patches are typical at replaced expansion joints, and some have become unsound or have adjacent cracking and spalling. -There is 8' x 2' x 3" with 8 transverse reinforcing bars exposed in Span 14C west overhang. -There is a concrete spall 10' x 3' x 3" with exposed reinforcement on the East overhang over the full depth concrete repair at Pier 12C expansion joint. -A concrete spall of 6' x 2' x 4" with exposed reinforcement is present on the West overhang at Pier 11A. -There are spalls with exposed reinforcement in the East overhang of Span 5. -There is a 1 SF spall with exposed reinforcement in the east overhang of Span 7.						
510-Wearing Surfaces		108645	sq. ft.	96613	12011	21	0
	CS2: -There are isolated locations of hairline to moderate transverse, diagonal, and longitudinal cracks. Isolated locations of map cracking and minor pop-out spalls were exhibited throughout the wearing surface. -The wearing surface was sounded by ODOT in 2020, and multiple delaminated areas were found. CS3: -There is a small spall in Span 3 (reconstructed spans) due to a missing raised pavement marker. -There is a 10' x 4' asphalt patch with 3 SF of wearing surface breaking-up around patch in Span 9A. -There is heavy long cracking in the right lane of Span 10A.						
107-Steel Open Girder/Beam	3 - Mod.	14228	ft.	10515	3242	470	1

Inspector: Banaszak,Ken
Inspection Date: 09/26/2025

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	CS2: -Girders in Spans 15C- 20C typically exhibit minor surface corrosion and freckled rust where the paint system has failed, with moderate surface corrosion present on the fascia girders of the original structure. -There are grid marks approximately 20'L and 1/32" deep on Girder F in Span 6. -There are undercut welds and porosity in Span 12, Girder D between web and top flange. -There are flame-cut gouges in the retrofitted bottom flange weld of Span 16. CS3: -The fascia girders typically exhibit isolated areas of moderate laminar corrosion with section loss up to 3/8” deep, mainly concentrated to the bottom flange and at stiffener locations. -In Spans 1-14, painted-over section loss is present on the web and top of the bottom flanges of Girders A and G, intermittent throughout; this section loss is typically 1/8” deep, with isolated areas up to 3/8” deep. -In Span 1, there is inactive section loss up to 3/8” deep for the full web length of Girder A and for 9' on the web of Girder G near the River Pier. -There is painted-over pitting on the web, bottom flange, and stiffeners at the bearings in all Span 15C girders at Pier 15C. -There is 6” wide x 3/8” deep active section loss on the bottom flange of Girder A in Span 17D, approximately 1/4 span from Pier 16D (7% flange LOS). -There is 1' L x 3” W x 3/8” deep inactive section loss on the bottom exterior flange of Girder A in Span 1A, approximately 1/3 span from the River Pier. -There is a 3” diameter corrosion hole in the web of Girder B and a 1/2' diameter corrosion hole in web of Girder H in Span 9A; both holes are inactive and are located behind the bearings at Pier 8. CS4: -The Girder G bottom flange cover plate in Span 6A was blasted clean of pack rust in 2021, revealing the cover plate has separated from the bottom flange up to 3/8”. There is a 4-1/4" crack in the outboard weld.						
515-Steel Protective Coating		187414	sq. ft.	161669	8945	4765	12035
	CS2: -In Spans 15C-20D, paint failures are typical on all girders with chalking, dulling, flaking, and peeling throughout. CS3: -The paint on the reconstructed spans (Spans 1-14) has isolated areas of surface corrosion throughout. CS4: -Surface corrosion is active at all locations where the paint has failed, and rust staining is evident on the protective system remaining. -The fascia girders exhibit the most severe paint condition with complete paint failure to the bottom flanges and bottom portions of the web with areas of moderate to severe corrosion and laminating rust. -There are isolated areas of laminating corrosion near joints.						
205-Reinforced Concrete Column	3 - Mod.	49	each	18	28	3	0
	CS2: -At Pier 1, Column 1, there is a 53” high x 6” wide area of wide map cracking at the southeast corner. -There are various other small spalls with no exposed reinforcing, mainly on the corners, including at Piers 1A, 5A, 6A, and 19D. -There is also moderate cracking and exposed rebar due to lack of cover common throughout. CS3: -There are spalls at the corner armor of the Pier 15C columns. -Pier 2, Column 2 has vertical cracking extending from the cap into the column.						
210-Reinforced Concrete Pier Wall	3 - Mod.	46	ft.	32	12	2	0
	CS2: -There is isolated minor cracking up to 0.020" throughout. CS3: -There are spalls with exposed rebar at the base of Piers 16D and 20D around the corner armor. -Pier 20D has been patched with FRP wrap and there is rust staining coming through near the cap.						
234-Reinforced Concrete Pier Cap	3 - Mod.	1330	ft.	1064	194	72	0

Inspector: Banaszak,Ken
Inspection Date: 09/26/2025

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	CS2: -There is moderate width cracking above Column 2 of Pier 5. -There is a 3'x1' delamination on the North Face underside of Pier Cap 3. -There is typical vertical cracking throughout. CS3: -There are areas on both faces of Pier Cap 12C where the FRP is delaminating from the concrete. -There are wide horizontal cracks and a 12” tall x 18” wide x 1” deep spall with exposed rebar on the north face at east end of Pier Cap 1A. -There are two spalls on the north face at each end of Pier Cap 3A, totaling 8 square feet. -There is a 4’ long x 3’ wide x 2” deep spall on the underside of Pier Cap 5A near the east column that has expose longitudinal and transverse reinforcement with minor to moderate section loss. -There is 3'x2' cracking, 1/32" wide on the north face of Pier Cap 6 below Girder G. -There is a 4’ -6" long x 3’ wide x 2” deep spall with exposed longitudinal and transverse reinforcement with minor to moderate section loss on the top of Pier Cap 10A between Bearings G and H. -There is a 4'x2' delamination under Girder A on the North Face of Pier Cap 11A. -There are two reinforcing bars exposed due to shallow cover on the north face and underside of Pier Cap 11A. -There is map cracking on east end of Pier Cap 15C. -There is a 1’ x 1’ x 1” spall on Girder B pedestal of the Pier 5 (reconstructed spans) cap, as well as wide cracking in Girder A Pedestal (for the bridge just north of Span 5) and on the east nose of the cap. -There is a crack on the North Face of Pier 25.						
300-Strip Seal Joint	3 - Mod.	463	ft.	158	290	3	12
	CS2: -There is loosely packed debris in all expansion joints on the deck. CS3: -There are minor spalls along the Pier 20D joint armor header. CS4: -The expansion joints at Pier 20D are leaking with debris on the pier caps below due to tears in the joint failure. -The expansion joint at Pier 5 (reconstructed span) has a large tear in the joint, allowing free flow water through the joint.						
310-Elastomeric Bearing	3 - Mod.	36	each	24	12	0	0
	CS2: -There is isolated surface rust and paint failures.						
515-Steel Protective Coating		36	sq. ft.	30	6	0	0
311-Movable Bearing	3 - Mod.	97	each	61	11	14	11
	CS2: -Span 20D Bearing B at Pier 20D was rotated south 6°. All other bearings at these locations showed minimal rotation. CS3: -Intermittent areas of painted-over pitting exist on the rockers, masonry plates, and anchor rods, particularly under expansion joints. -There is painted-over pack rust between the rockers and masonry plates of Bearing G at Piers 5A, 6A, and 7A. -There is active pack rust between the rockers and masonry plates on the exterior bearings at Pier 19D. -Several of the bearings painted in 2021 have gaps up to 1/2” wide between the rocker and masonry plate with exposed pintles, likely due to pack rust being removed during blast cleaning; these bearings may be resting on the pintles. Affected bearings include Span 4A Bearing C at Pier 4A, Bearing F at Pier 7A, Span 9A Bearing G at Pier 8A, and Span 14C Bearings B and C at Pier 14C. -There is a 1” diameter corrosion hole in keeper plate to Bearing A, at Pier 8A; this bearing visibly deflects under live load.						
515-Steel Protective Coating		97	sq. ft.	41	20	36	0
	CS2: -Minor isolated surface rust to several bearings. CS3: -Bearings (North of Pier 14C) typically exhibit paint failure and surface corrosion throughout.						

Inspector: Banaszak,Ken
Inspection Date: 09/26/2025

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
313-Fixed Bearing	3 - Mod.	46	each	21	23	2	0
	CS2: -The fixed bearings north of Pier 14C typically exhibit paint failure and moderate surface corrosion throughout. -There are loose anchor rod nuts at Bearing D at Pier 6A and Bearings C-E at Pier 13C. CS3: -There is painted over pitting in the masonry plates of Bearing G at Pier 6 and Span 7A Bearing G at Pier 6A.						
515-Steel Protective Coating		46	sq. ft.	18	13	15	0
	CS2: -Minor isolated surface rust to several bearings. CS3: -Bearings (North of Pier 14C) typically exhibit paint failure and surface corrosion throughout.						
314-Pot Bearing	3 - Mod.	40	each	12	23	5	0
	CS2: -The reconstructed spans' pot bearings typically exhibit minor isolated paint failures and minor to moderate surface corrosion throughout. -There are several bearings that the elastomer is bulging or starting to walk out of the bearing pot. CS3: -There is also active laminating corrosion with section loss on Span 1 Bearings B-F at Pier 20D. -There is a missing anchor bolt at Bearing E, Span 1 at Pier 20D.						
515-Steel Protective Coating		40	sq. ft.	0	20	20	0
	CS2: -Minor isolated surface corrosion to most bearings. CS3: -Several pot bearings exhibit minor paint failure and moderate surface corrosion throughout.						
331-Reinforced Concrete Bridge Railing	3 - Mod.	4204	ft.	500	3579	125	0
	CS2: -There are moderate vertical cracks in both railings throughout, as well as horizontal cracks in the railings of the reconstructed spans. Cracks are spaced 1'-3' apart with most exhibiting efflorescence throughout all spans. CS3: -There is heavier cracking, including some wide horizontal cracks up to 23' long, as well as some exposed rebar in the west railing in Spans 1 and 2 (reconstructed spans). -There are spalls on the top portion of the railings at the expansion joint at the River Pier. -There is a 6" diameter x 1" spall in the top of the east railing near Pier 10A. -There is a 6' x 1' x 2" spall with exposed rebar on the top portion of the east rail in Span 12A near Pier 12. -There is a 24" x 3" x 1" spall in the inside corner of the west railing in Span 6A. -There is a 4' long spall due to impact in the west rail in Span 16D. -Some cracks exhibit rust staining. -There are wide vertical cracks throughout both railings.						

Inspector: Banaszak,Ken
Inspection Date: 09/26/2025

Structure Number: 3105970
Facility Carried: NB IR 71

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
815-Drainage	3 - Mod.	22	each	9	0	10	3
	CS3: -There are disconnected drainpipes at the base of Piers 6A and 8A. -The rubber boots connecting section of pipe at Piers 2A, Pier 3A, 16D, 19D, and Pier 25D, are bulged out and separated from pipe causing run off to leak. -The rubber boots at Piers 13C and 14C are offset. -There is a corrosion hole in the drainpipe at Pier 10A. -There is vegetation growing in the east drain near Pier 16D. CS4: -The drainpipe is disconnected at the base of Pier 4A, Column 2. the 8' Diameter erosion hole is still present at the base of the column, but run-off dirt and debris has filled 4' deep hole up to where erosion is only 3" deep at 2025 inspection. -There are several drainpipes that are fully clogged.						

Inspector:	Banaszak,Ken	**Structure Number:**	3105970
Inspection Date:	09/26/2025	**Facility Carried:**	NB IR 71

HAM-00071-0000R_(3105970)

ODOT District:	District 08					Date Built:	07/01/1963
Major Maint:	01 - State Highway Agency	Facility Carried:	NB IR 71	Traffic On:	1 - Highway	Rehab Date:	
Routine Maint:	01 - State Highway Agency	Feature Inters:	3RR;USR 27;IR 75; USR 42	Traffic Under:	4 - Highway - railroad	Insp. Resp A:	01 - State Highway Agency
FIPS Code:	15000 - CINCINNATI (HAM county)	Location:	DISTRICT 08	OH-KY STATE LINE		Insp Resp B:	

Inspector Banaszak,Ken Inspection Date 09/26/2025 Reviewer Not Approved

Inspector Comments - Deck and Approach

Deck, Wearing Surface, Joints, Railing

Reinforced Concrete Deck
The deck underside in Span 17D exhibits a dark layer of soot due to the railroad tracks below the span.

Bridge Wearing Surface
The wearing surface was inspected visually.

Expansion Joint
The expansion joints located at Piers 4A, 8A, 12C, 15C, and 17D were replaced in 2016. The expansion joints at Pier 20D and Pier 5 (Reconstructed Spans) were constructed during the 1999 reconstruction.

Bridge Railing
The bridge railing was inspected visually. The impact attenuator at the I-71/I-75 split near Pier 15C and at the I-71/2nd Street split exhibits minor impact damage.

Deck Drainage
As part of the 2016 rehabilitation project, drains at various locations were replaced and scuppers were cleaned.

Approach

Signs
The signs on the structure are in Good Condition with no significant problems noted. There are three overhead signs, eight light poles, one exit sign, and three mile-marker signs mounted to the bridge. Complete inspection of the overhead sign structures was outside the scope of this inspection.

Sign Supports
The sign supports on the structure are in Good condition with no significant problems noted for the supports or connections to the structure.

Utilities
All utilities are in Good condition. There is an electrical conduit that is attached to Girder A from the River Pier to Pier 13C that has been painted as a part of the 2021 paint contract. There is a lighting conduit attached to the girders in Span 16D. There are lighting conduits that extend from the ground to the superstructure on the outside columns of Pier 14C. The steel conduit near Pier 12C on the west overhang has an open joint.

Inspector Comments - General Appraisal

Inspector:	Banaszak,Ken	**Structure Number:**	3105970
Inspection Date:	09/26/2025	**Facility Carried:**	NB IR 71

Superstructure, Bearings

Steel Open Beams/Girders
There is a 4’ section of Girder A at the River Pier where the bottom flange and part of the web was replaced; this rehabilitated section is in good condition. There is a drilled-out hole in the bottom of the web at this welded retrofit, approximately 4’ from the bearing. There are two fatigue prone bottom flange welds on Girders C-H in Span 11A: 8’ ahead of Pier 11A and 8’ back from Pier 12.

Moveable Bearing
There is abrasion dust present on several of the bearings at Pier 8A.

Protective Coating System
The paint in Spans 1A- 12A, 13C AND 14C were painted in 2021 and the paints in these spans is in excellent condition. The end 5’-10’ of the girders near the expansion joints at Piers 15C, 17C,and 20D were cleaned and painted during the 2016 rehabilitation; the paint inthese areas is in good condition.

Diaphragm/ X-Frames
There was paint failure and surface corrosion on the cross-frames in the non-painted original spans. The lower member of the cross-frame between Girders A and B in Span 14C near Pier 14C is bent. At Pier 8A, there is 16” x 3.5” corrosion hole in the bottom member of the end cross-frame at Girder G of Span8A. Also at Pier 8A, there is a 2” diameter corrosion hole in the end cross-frame diagonal at Girder A, Span 8A. Some of the clip angles have been removed from the end cross-frames at Pier 8A during previous rehabilitations. Cross frame #5 in Span4, Bay 1, between Girder A and B, is bent on the lower angle.

Substructure

Reinforced Concrete Column
As part of the 2016 rehabilitation,concrete patches and FRP wrapping were applied to parts of the River Pier and Piers 4A, 5A,7A, 8A, 12C, and 15C. The protective coating on the FRP is beginning to peel in several areas.

Reinforced Concrete Pier Cap
As part of the 2016 rehabilitation, concrete patches and FRP wrapping were applied to parts of the River Pier and Piers 4A, 5A, 7A, 8A, 12C, 15C, 17D, and 20D. The protective coating on the FRP is beginning to peel at several piers.

Culvert

N/A

Inspector Comments - Waterway

Channel Protection

Inspector:	Banaszak,Ken	**Structure Number:**	3105970
Inspection Date:	09/26/2025	**Facility Carried:**	NB IR 71

N/A

Channel

N/A

Scour

N/A

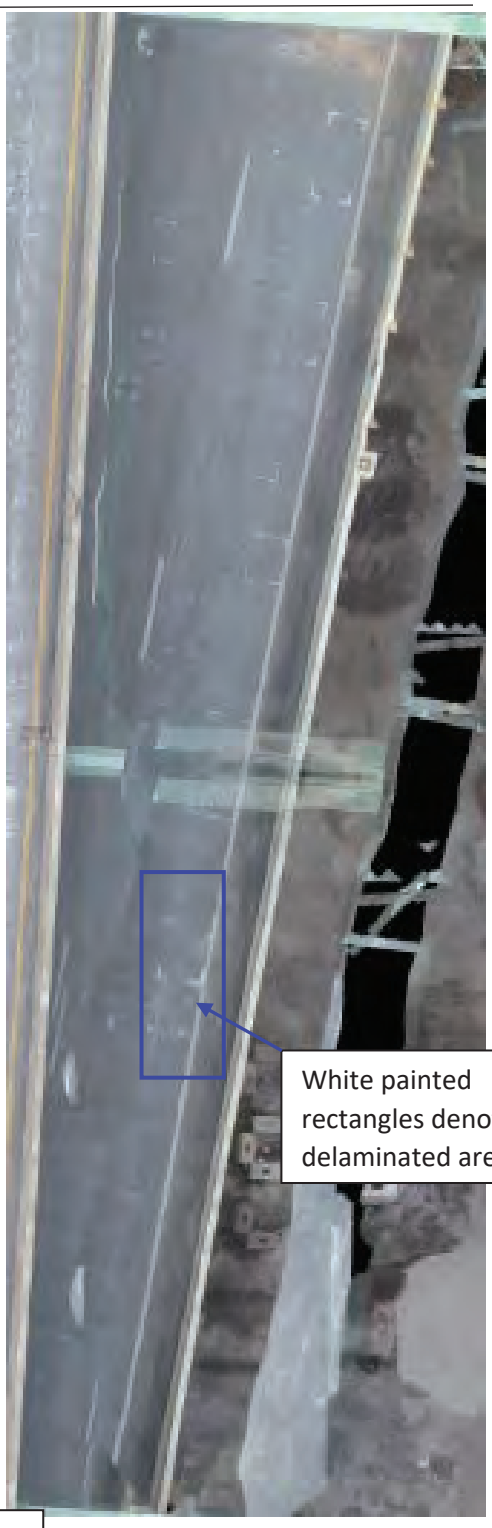
APPENDIX

B

ODOT CONCRETE WEARING SURFACE DELAMINATION IDENTIFICATION

WEARING SURFACE DELAMINATIONS, IDENTIFIED BY ODOT DECEMBER 2020

A MATCHLINE A



White painted rectangles denotes delaminated areas

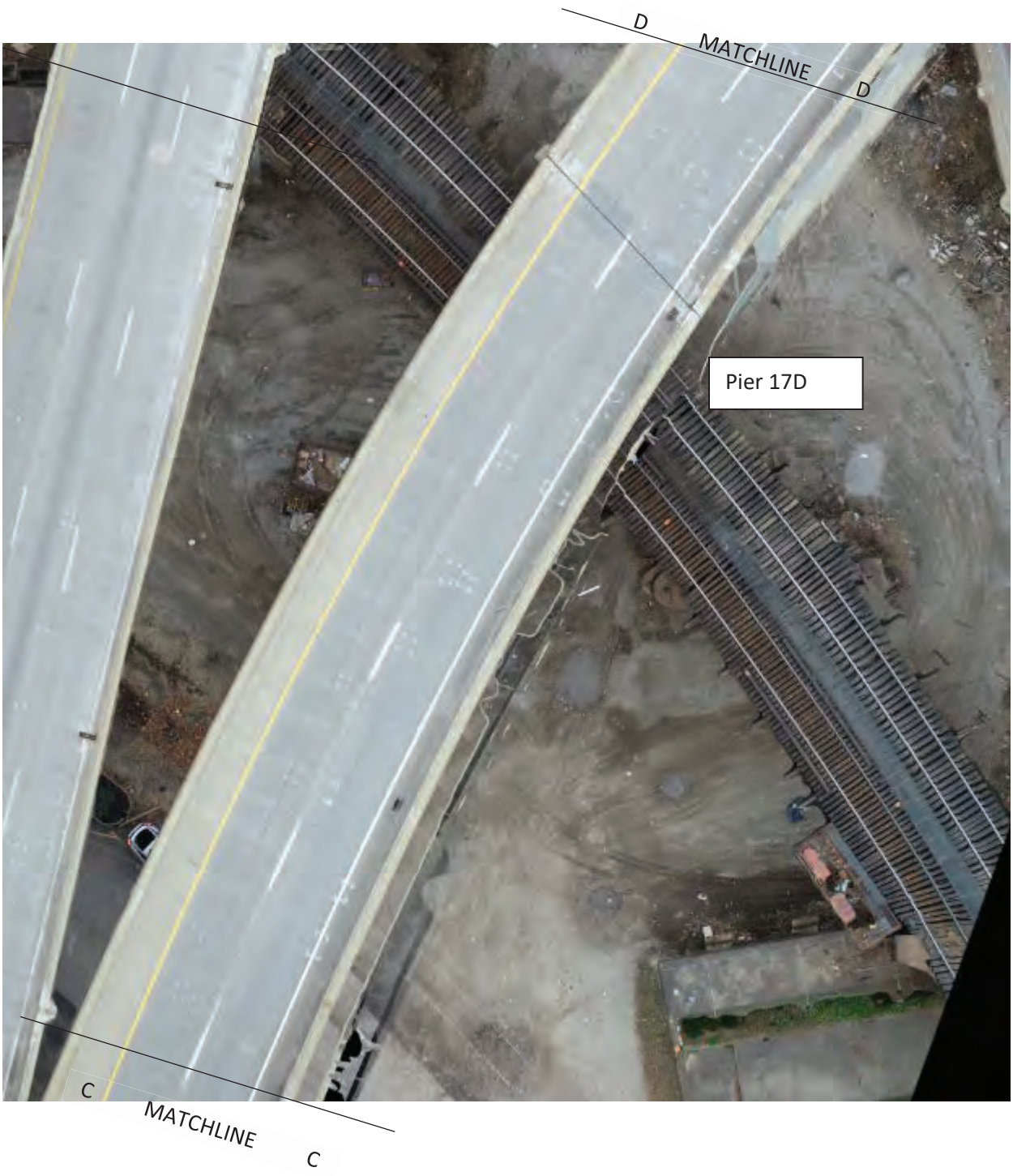
Pier 8A

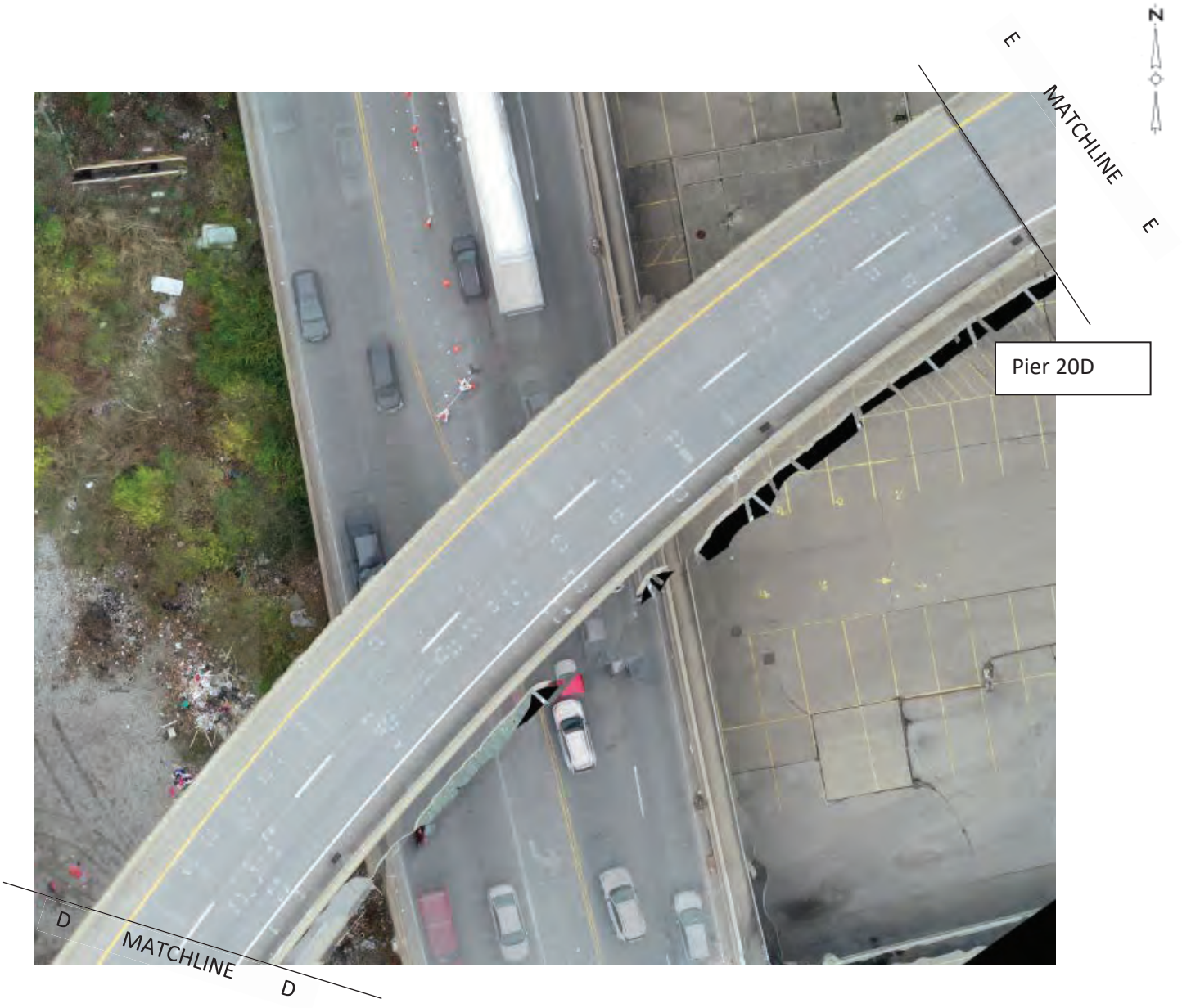
B MATCHLINE B

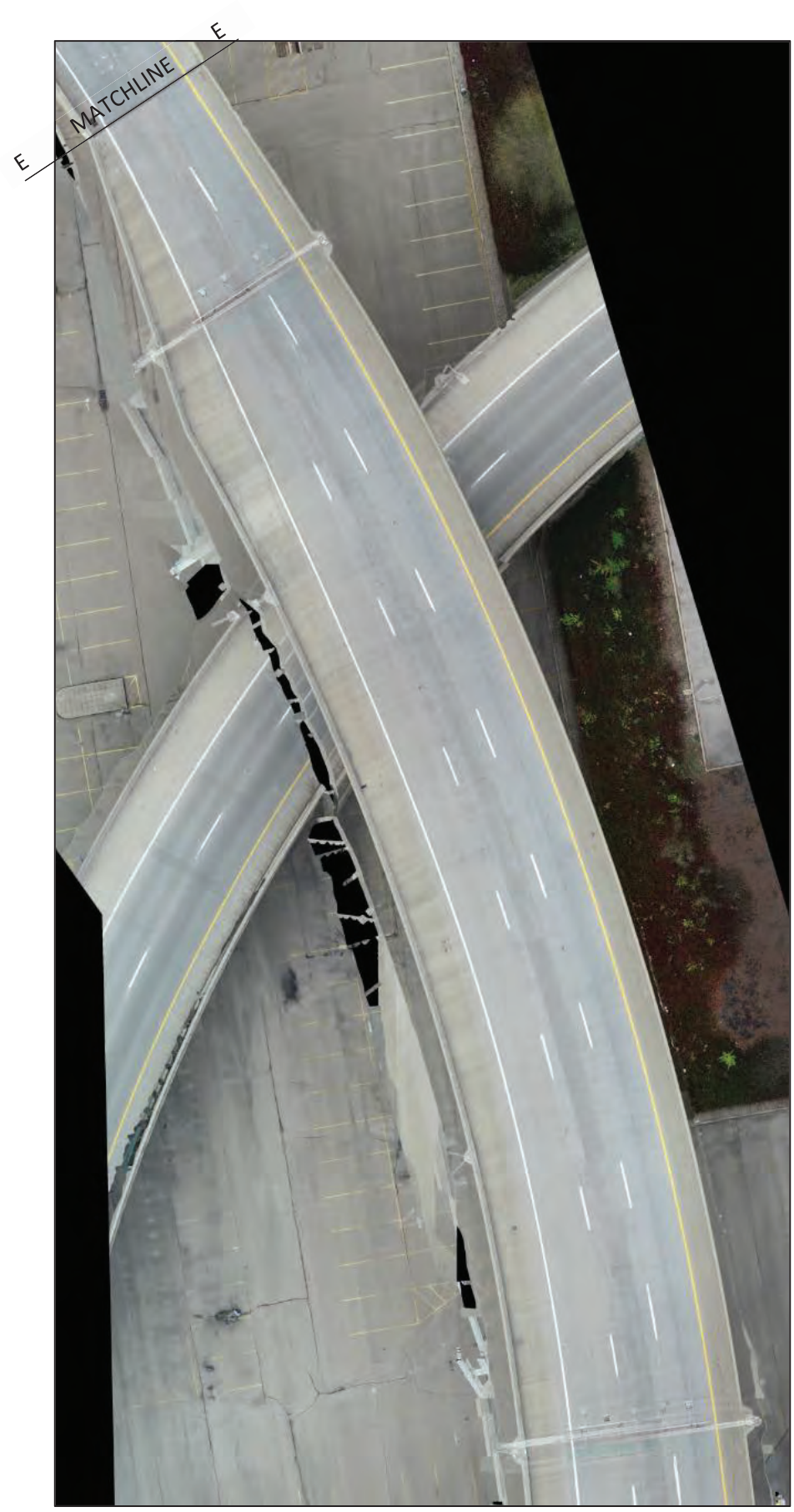
Pier 12C

A MATCHLINE A

B MATCHLINE B

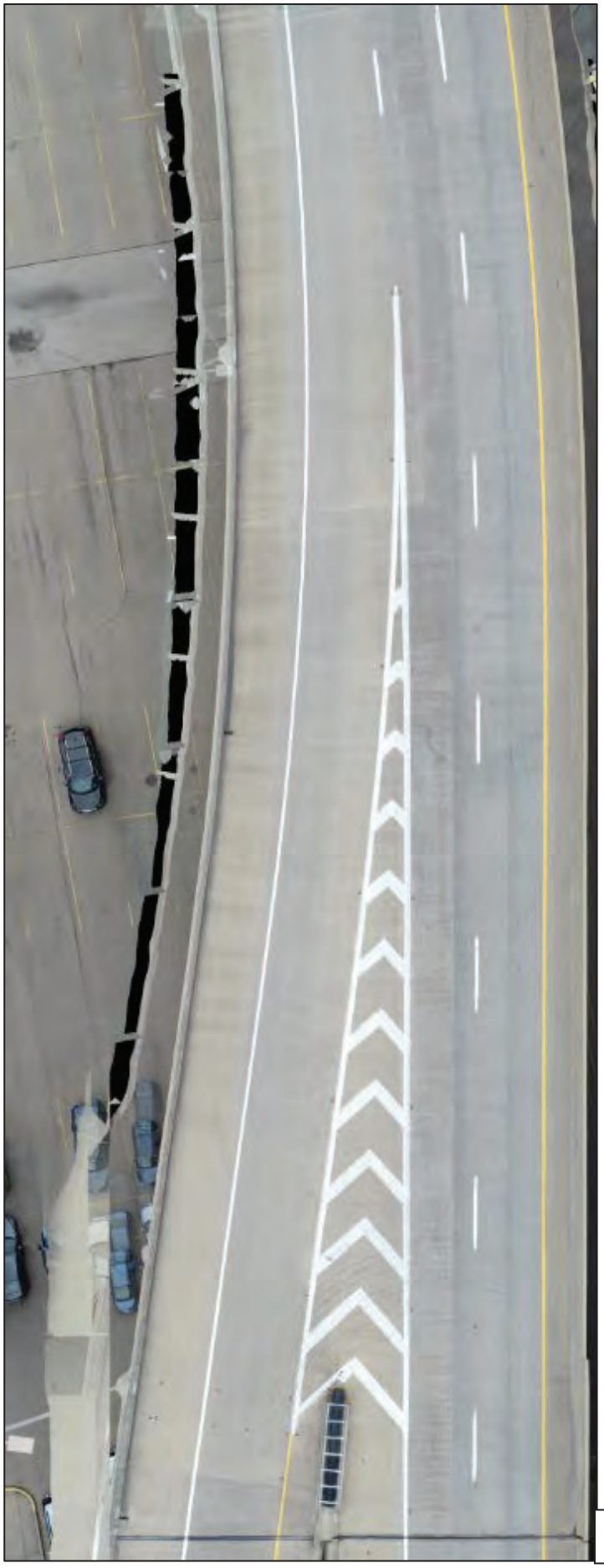

D
MATCHLINE
D
Pier 17D
C
MATCHLINE
C
N


N
E
MATCHLINE
E
Pier 20D
D
MATCHLINE
D



F MATCHLINE F

F MATCHLINE F



Pier 5

APPENDIX

C

SELECTED PLAN SHEETS

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

189

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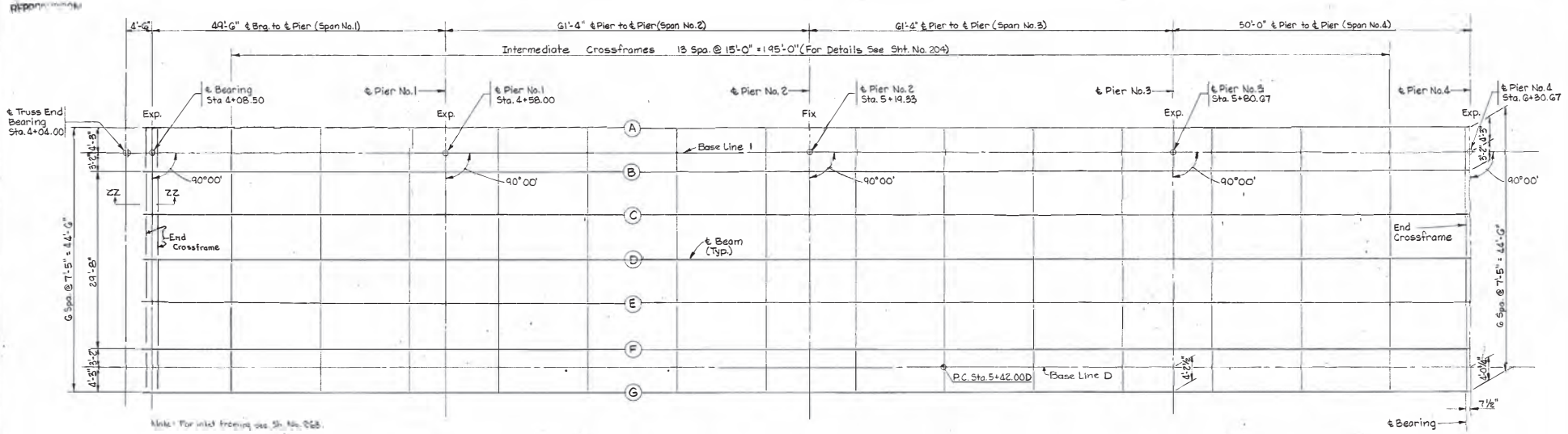
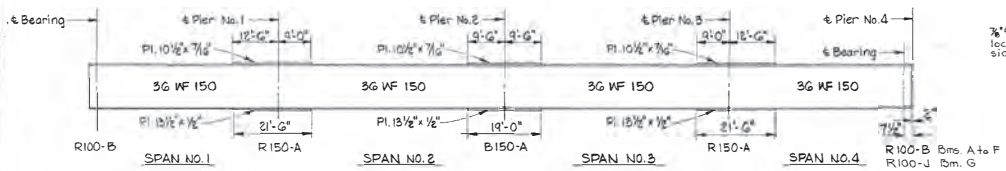
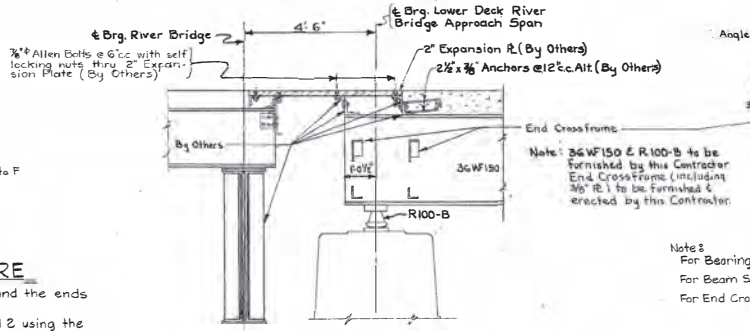
Milwaukee RED
OCT 25 1960
RECEIVED



FRAMING PLAN - LOWER DECK UNIT 1



SIZE OF BEAMS AND COVER PLATES



DEAD LOAD DEFLECTIONS

Location	Span No.1	Span No.2	Span No.3	Span No.4
Deflection Due To Weight Of Steel	0	1/16"	1/16"	0
Deflection Due To Remaining Dead Load	3/16"	3/16"	3/16"	3/16"

Note:
Where no camber is required, the beams shall be so fabricated that any curved beams will be placed with convex flange up.

No camber required for beams in Unit 1 (Lower Deck).

BEAM SPLICE WELDING PROCEDURE

1- Raise the ends of beams in Span No.1 at River Pier ¾", and the ends of beams in Span No.3 at Pier No.3 1 9/16".
2- Butt-weld the beam flanges and web at Piers Nos. 1 and 2 using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until welds are completed.
3- Weld the bottom and top moment plates at Piers Nos. 1 and 2.
4- Lower beams to their final position.
5- Raise the ends of beams in Span No.4 at Pier No.4 ½".
6- Repeat Step 2 at Pier No.3.
7- Weld the bottom and top moment plates at Pier No.3.
8- Lower beams to their final position.

Note:
For Bearing Details, See Sht. No. 206
For Beam Splice Details, See Sht. No. 204
For End Crossframe Details, See Sht. No. 215

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS
UNIT 1 (LOWER DECK)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
CPW	JVK		JHO 9/20/60	W.H.E. 10-14-60	
	T-26-60				

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

190

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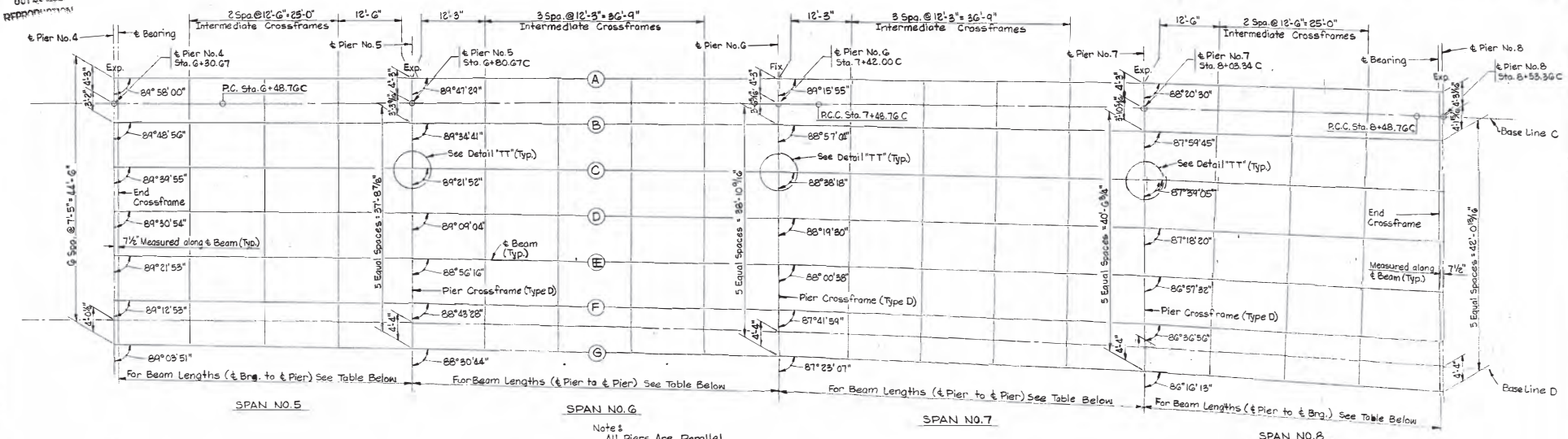
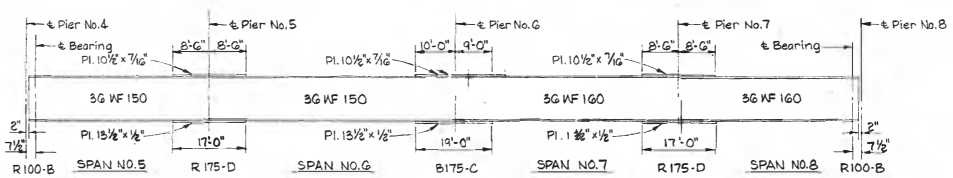


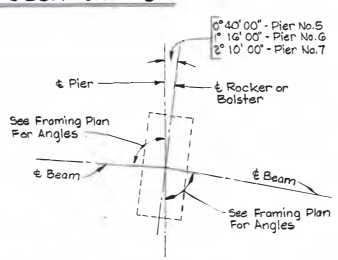
Note: For inlet framing see Sh. No. 208.

Note:
All Piers Are Parallel

FRAMING PLAN - LOWER DECK UNIT 2



SIZE OF BEAMS AND COVER PLATES



DETAIL TT

BEAM SPLICE WELDING PROCEDURE

1- Raise the ends of beams in Span No.5 at Pier No.4 1 1/16", and the ends of beams in Span No.7 at Pier No.7 1 9/16".
2- Butt-weld the beam flanges and web at Piers Nos. 5 and 6 using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until welds are completed.
3- Weld the bottom and top moment plates at Piers Nos. 5 and 6.
4- Weld all pier crossframes at Piers Nos. 5 and 6.
5- Lower beams to their final positions.
6- Raise the ends of beams in Span No.8 at Pier No.8 ½".
7- Repeat Step 2 at Pier No.7.
8- Weld the bottom and top moment plates at Pier No.7.
9- Weld all pier crossframes at Pier No.7.
10- Lower beams to their final positions.

TABLE OF BEAM LENGTHS

Beam	Span No.5	Span No.6	Span No.7	Span No.8
A	49'-4½"	61'-3 15/16"	61'-4 1/16"	49'-4 5/8"
B	do	61'-4"	61'-4 1/8"	49'-4 7/16"
C	do	do	61'-4 3/16"	49'-5"
D	do	61'-4 1/16"	61'-4 5/16"	49'-5 1/8"
E	49'-4 9/16"	do	61'-4 7/16"	49'-5 5/16"
F	do	61'-4 1/8"	61'-4 5/8"	49'-5 1/2"
G	do	61'-4 3/16"	61'-4 3/4"	49'-5 3/4"

DEAD LOAD DEFLECTIONS

Location	Span No.5	Span No.6	Span No.7	Span No.8
Deflection Due To Weight Of Steel	0	1/16"	1/16"	0
Deflection Due To Remaining Dead Load	1/4"	1/4"	1/4"	1/4"

Note:
Where no camber is required, the beams shall be so fabricated that any curved beams will be placed with convex flange up.

No camber required for beams in Unit 2 (Lower Deck).

Note:
For Bearing Details, See Sht. No. 206
For Beam Splice Details, See Sht. No. 204
For End Crossframe Details, See Sht. No. 215
For Intermediate Crossframe Details and Pier Crossframe (Type D) Details, See Sht. No. 204

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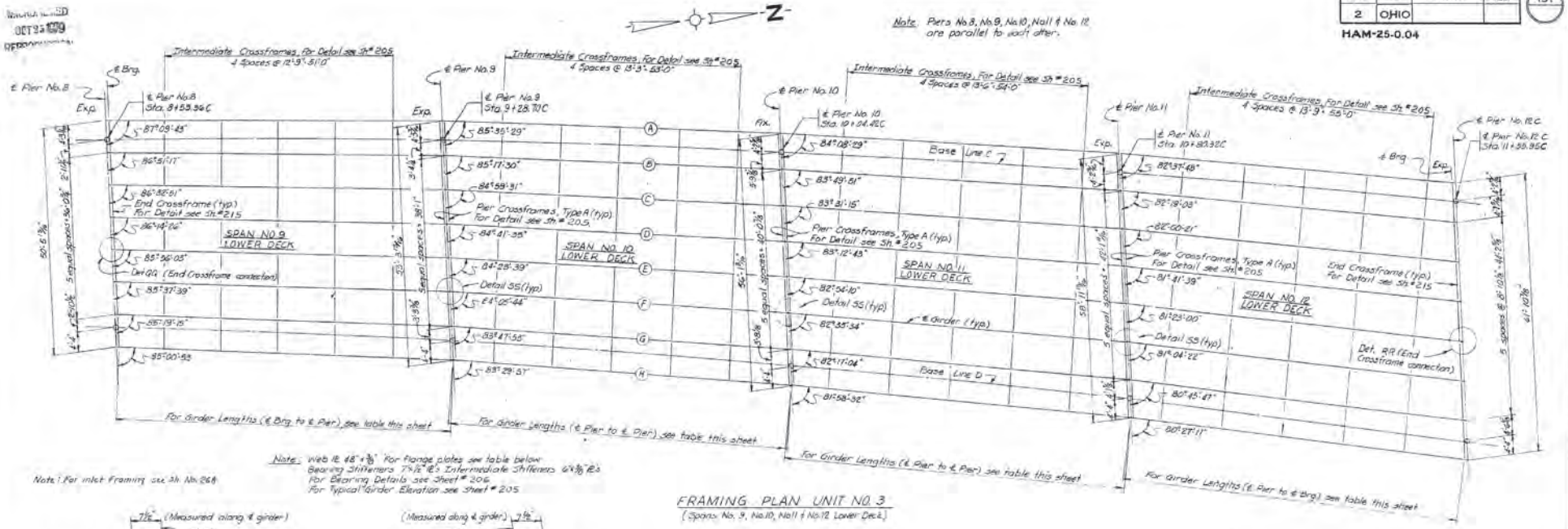
STRUCTURAL STEEL DETAILS
UNIT 2 (LOWER DECK)

DESIGNED	DRAWN	TRACED	CHECKED	REVISED DATE	REVISED
CPW	JVK		JHO	N.A.F.	
	7-26-60		9/26/60	10-14-60	

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

191

HAM-25-0.04

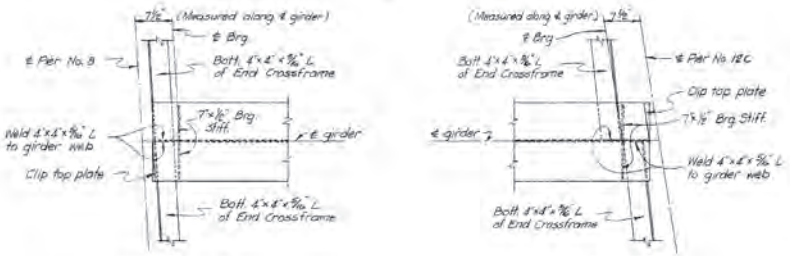


Note: Web ℄ 48"x 3/8" For flange plates see table below
Bearing Stiffeners 7"x 1/2" ℄'s Intermediate Stiffeners 6"x 3/8" ℄'s
For Bearing Details see Sheet # 206
For Typical Girder Elevation see Sheet # 205

Note: For inset Framing see Sh. No. 264

FRAMING PLAN UNIT NO. 3

(Spans No. 9, No.10, No11 & No.12 Lower Deck)



DETAIL QQ

(End Crossframe connection at) (Pier No.9, Span No.9)
Note: Work this detail with "Part Plan of Expansion Joint" Sheet No. 215.

DETAIL RR

(End Crossframe connection at) (Pier No.12C, Span No.12)
Note: Work this detail with "Part Plan of Expansion Joint" Sheet No. 215.

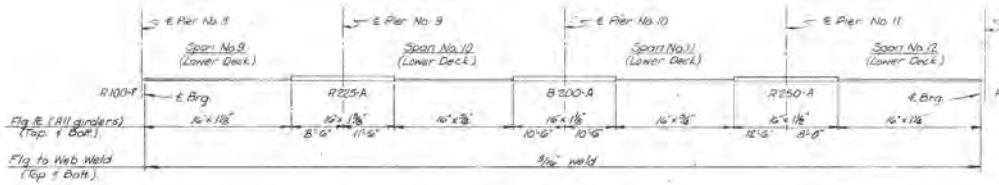


TABLE OF FLANGE PLATES AND WELD SIZE

TABLE OF GIRDER LENGTHS

Girder	A	B	C	D	E	F	G	H
Span No. 9	74'-8 5/8"	74'-8 7/8"	74'-9 1/16"	74'-9 3/16"	74'-9 5/16"	74'-10 1/16"	74'-10 1/16"	74'-10 1/8"
Span No. 10	75'-8 5/8"	75'-9 1/16"	75'-9 5/16"	75'-9 7/16"	75'-10 3/16"	75'-10 7/16"	75'-11 5/16"	75'-11 7/16"
Span No. 11	75'-10 3/16"	75'-11 1/16"	75'-11 9/16"	76'-0 1/16"	76'-1"	76'-1 5/16"	76'-2 1/16"	76'-2 1/16"
Span No. 12	75'-0"	75'-0 3/16"	75'-1 1/16"	75'-2 1/16"	75'-2 3/16"	75'-3 1/16"	75'-4 1/16"	75'-5 1/16"

Work this sheet with Sheet No. 192

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CONSULTING ENGINEERS
CINCINNATI, OHIO

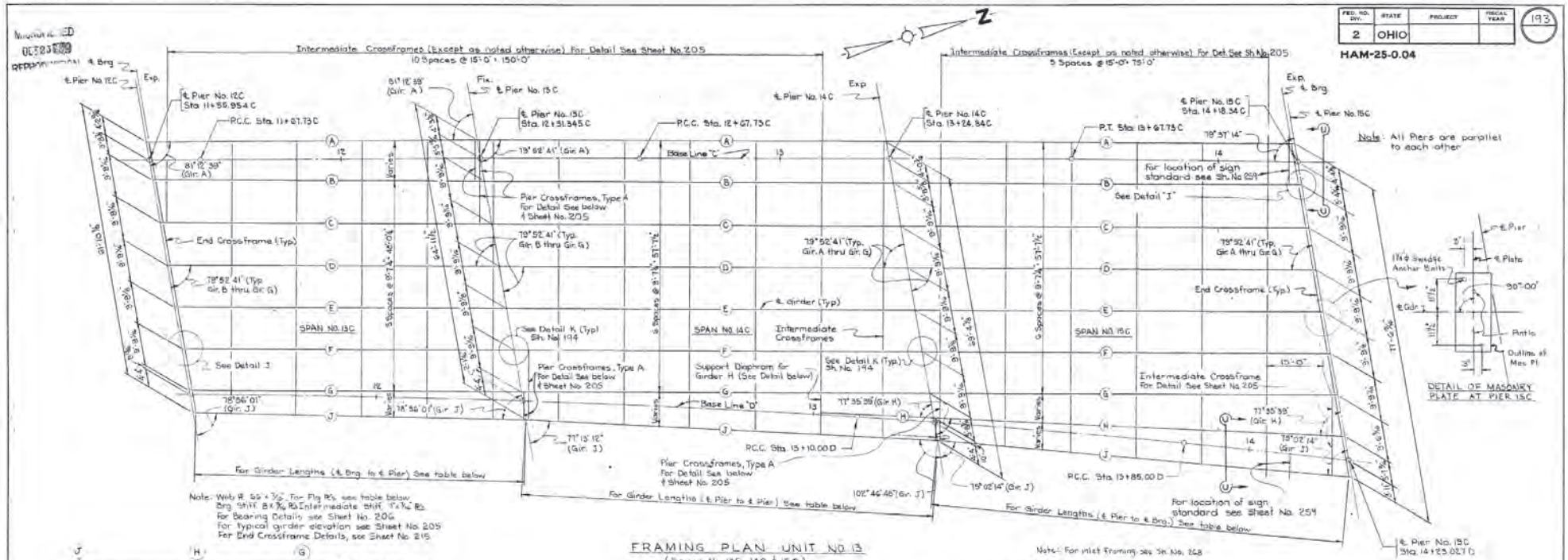
STRUCTURAL STEEL DETAILS UNIT 3 (LOWER DECK)

Designed	Drawn	Traced	Checked	Revised Date	Revised
C.P.W.	J.C. 7-21-60		J.H.O. 11-17-60	W.A.S. 10-14-60	

FED. NO. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

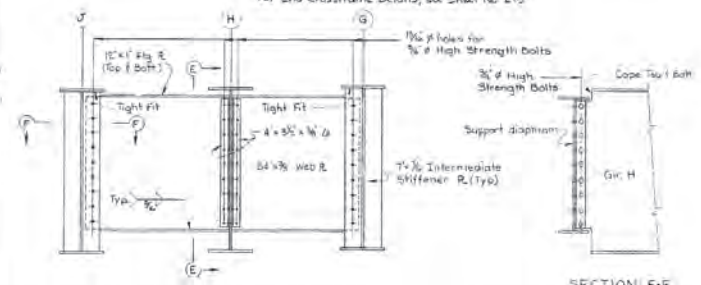
193

HAM-25-0.04



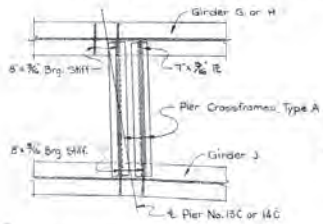
FRAMING PLAN UNIT NO. 13

(Spans No. 13C, 14C & 15C)

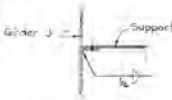


DETAIL OF SUPPORT DIAPHRAM FOR GIRDER "H"

SECTION E-E

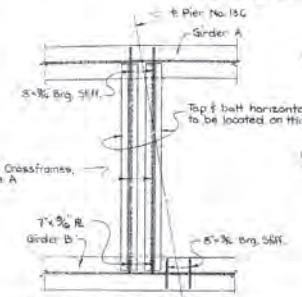


PIER CROSSFRAME CONNECTIONS BETWEEN GIRDERS "G & J" AT PIER NO. 13C BETWEEN GIRDERS "H & J" AT PIER NO. 14C

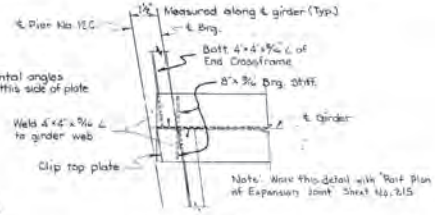


SECTION F-F

TABLE OF FLANGE PLATES AND WELD SIZES



PIER CROSSFRAME CONNECTION BETWEEN GIRDERS A & B AT PIER NO. 13C



DETAIL "J"

(End Crossframe connection @ Pier 12C, Span 13C)
(Rotate thru 180° for connection @ Pier 15C, Span 15C)

DETAIL OF MASONRY PLATE AT PIER 13C

TABLE OF GIRDER LENGTHS			
Girders	Span No. 13C	Span No. 14C	Span No. 15C
A	74'-8 1/8"	93'-6 3/16"	92'-9 7/16"
B thru G	75'-0 5/8"	93'-6 3/16"	93'-8 9/16"
H		*	93'-6 5/8"
J	75'-3 3/16"	94'-5 5/16"	94'-7"

* Girder lengths for girder shown by asterisk is from ℄ Pier to crossframe. For location, see Framing Plan.

Work this sheet with Sheet No. 194

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CONSULTING ENGINEERS
CINCINNATI, OHIO

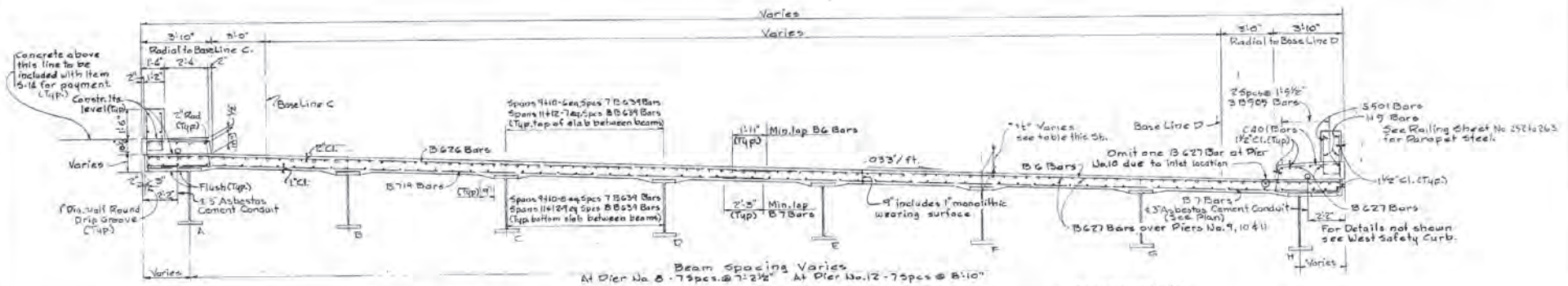
STRUCTURAL STEEL DETAILS UNIT NO. 13.

DESIGNED	DRAWN	TRACED	CHECKED	REVISED DATE	REVISED
CAF	J.C. & E.S.G.		JAS & M.W.H.	10-15-60	

FED. ROAD DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

222

HAM-25-0.04



Beam Spacing Varies
At Pier No. 8 - 7 Spcs. @ 7'-2½" At Pier No. 12 - 7 Spcs @ 8'-10"

• Indicates bars in section.
○ Indicates bars over piers.
+ See Sh. No 216 for note.

TRANSVERSE SECTION UNIT 3 LOWER DECK

CHORD OFFSETS

UNIT 3. (Low. Deck) SLAB THICKNESS 7"

Location	Beam	A	B thru G	H
Span 9	℄ Brg. - Pier 8	9 5/8"	9 7/8"	10 1/2"
	¼ Pt.	10 1/8"	10 1/4"	11"
	℄ Span	10 1/4"	10 1/4"	11"
	¾ Pt.	10"	10 1/8"	10 3/4"
	℄ Pier 9	9 5/8"	9 7/8"	10 1/2"
Span 10	℄ Pier 9	9 5/8"	9 7/8"	10 1/2"
	¼ Pt.	9 3/4"	10"	10 5/8"
	℄ Span	10"	10"	10 3/4"
	¾ Pt.	9 3/4"	10"	10 5/8"
	℄ Pier 10	9 5/8"	9 7/8"	10 1/2"
Span 11	℄ Pier 10	9 5/8"	9 7/8"	10 1/2"
	¼ Pt.	9 3/8"	10"	10 3/8"
	℄ Span	10"	10 1/8"	10 3/4"
	¾ Pt.	9 3/4"	10"	10 5/8"
	℄ Pier 11	9 7/8"	9 7/8"	10 1/2"
Span 12A	℄ Pier 11	9 7/8"	9 7/8"	10 1/2"
	¼ Pt.	10"	10 1/8"	10 3/4"
	℄ Span	10 1/4"	10 1/8"	11"
	¾ Pt.	10 1/8"	10 3/8"	10 7/8"
	℄ Brg. - Pier 12	9 7/8"	9 7/8"	10 1/2"

Note: "t" is measured from top of slab to bottom of flange plate @ ℄ Beam. See Note 1 sheet No. 216.

UNIT 2 LOWER DECK

SPAN 5

W. Fascia Dist. X	W. Fascia Offset Y	W. Curb Dist. X	W. Curb Offset Y	E. Curb Dist. X	E. Curb Offset Y	E. Fascia Dist. X	E. Fascia Offset Y
26'-0 3/4"	1/8"	26'-0 3/4"	1/8"	5'-7 3/8"	3/8"	5'-7 3/4"	3/8"
				11'-3 3/4"	5/8"	11'-3 7/8"	9/8"
				20'-11 3/4"	1"	20'-11 7/8"	1"
				30'-7 3/4"	1"	30'-7 3/4"	1"
				40'-4"	5/8"	40'-3 3/4"	3/8"

SPAN 6

W. Fascia Dist X	W. Fascia Offset Y	W. Curb Dist X	W. Curb Offset Y	E. Curb Dist X	E. Curb Offset Y	E. Fascia Dist X	E. Fascia Offset Y
10'-2 5/8"	1/8"	10'-2 3/8"	1/8"	10'-2 1/2"	1/8"	10'-2 1/8"	1/8"
20'-5 7/8"	1/4"	20'-5 7/8"	1/4"	20'-4 7/8"	1 1/2"	20'-4 3/8"	1 1/2"
30'-8"	3/8"	30'-8"	3/8"	30'-7 3/8"	1 5/8"	30'-6 1/4"	1 5/8"
40'-10 3/8"	1/2"	40'-10 3/8"	1/2"	40'-9 3/4"	1 1/2"	40'-8 3/4"	1 1/2"
51'-1 1/4"	1/8"	51'-1 1/8"	1/8"	51'-0 1/4"	7/8"	50'-10 7/8"	3/8"

SPAN 7

W. Fascia Dist. X	W. Fascia Offset Y	W. Curb Dist. X	W. Curb Offset Y	E. Curb Dist. X	E. Curb Offset Y	E. Fascia Dist. X	E. Fascia Offset Y
6'-9 7/8"	5/8"	6'-9 3/8"	5/8"	7'-8 1/8"	3/8"	7'-8 1/8"	7/8"
15'-10 3/8"	1/2"	15'-10 1/2"	1 1/4"	15'-4 1/4"	1 1/2"	15'-4 1/8"	1 1/2"
24'-11 3/4"	1 1/2"	24'-11 5/8"	1 1/2"	23'-0 1/4"	1 7/8"	23'-0 1/4"	1 1/8"
34'-0 1/8"	1 5/8"	34'-0 3/8"	1 5/8"	30'-8 3/8"	2"	30'-8 3/8"	2"
43'-1 3/8"	1 3/8"	43'-1 3/8"	1 3/8"	38'-4 1/2"	1 7/8"	38'-4 1/2"	1 3/4"
52'-3"	7/8"	52'-3"	7/8"	46'-0 5/8"	1 1/2"	46'-0 5/8"	1 1/2"
				53'-8 5/8"	7/8"	53'-8 5/8"	7/8"

SPAN 8

W. Fascia Dist. X	W. Fascia Offset Y	W. Curb Dist. X	W. Curb Offset Y	E. Curb Dist X	E. Curb Offset Y	E. Fascia Dist X	E. Fascia Offset Y
9'-1 3/8"	5/8"	9'-1 1/4"	5/8"	8'-4 1/2"	3/8"	8'-4 3/8"	3/4"
18'-3 1/8"	1"	18'-2 1/2"	1"	16'-8 3/8"	1 1/8"	16'-8 1/2"	1 1/8"
27'-4 3/4"	1 1/8"	27'-3 3/4"	1 1/8"	25'-0 7/8"	1 3/8"	25'-0 7/8"	1 3/8"
36'-6 3/8"	7/8"	36'-5"	7/8"	33'-4 7/8"	1 1/8"	33'-4 7/8"	1 1/8"
45'-7 7/8"	3/8"	45'-6 1/8"	3/8"	41'-9 1/8"	3/4"	41'-9 1/8"	3/4"

UNIT 3 LOWER DECK

SPAN 9

W. Fascia Dist. X	W. Fascia Offset Y	W. Curb Dist. X	W. Curb Offset Y	E. Curb Dist. X	E. Curb Offset Y	E. Fascia Dist. X	E. Fascia Offset Y
9'-5"	1¼"	9'-5"	1½"	9'-5¼"	1¼"	9'-5⅛"	1¼"
18'-10"	2¼"	18'-10"	2⅝"	18'-10⅜"	2¼"	18'-10⅜"	2¼"
28'-3"	2⅜"	28'-3"	2¾"	28'-3⅜"	2⅞"	28'-3⅜"	2⅞"
37'-8"	3"	37'-8"	3"	37'-9⅛"	3"	37'-9⅛"	3"
47'-1"	2¾"	47'-1"	2¾"	47'-2½"	2⅜"	47'-2½"	2⅜"
56'-6"	2¼"	56'-6"	2¼"	56'-7⅜"	2⅛"	56'-7⅜"	2⅛"
65'-11"	1⅛"	65'-11"	1⅛"	66'-1"	1⅛"	66'-1"	1⅛"

SPAN 10

W. Fascia Dist X	W. Fascia Offset Y	W. Curb Dist X	W. Curb Offset Y	E. Curb Dist X	E. Curb Offset Y	E. Fascia Dist X	E. Fascia Offset Y
9'-5 5/8"	1 1/4"	9'-5 7/8"	1 1/4"	9'-6"	1 1/8"	9'-6"	1 1/8"
18'-11 1/8"	2 1/4"	18'-11 1/8"	2 1/4"	19'-0"	2 1/4"	19'-0"	2 1/4"
28'-4 1/4"	2 3/8"	28'-4 3/8"	2 1/4"	28'-6"	2 3/8"	28'-6"	2 3/8"
37'-10 1/4"	3"	37'-10 1/8"	3"	38'-0"	3"	38'-0"	3"
47'-3 3/8"	2 3/4"	47'-3 3/8"	2 3/4"	47'-6"	2 3/8"	47'-6"	2 3/8"
56'-9 1/2"	2 1/4"	56'-9 1/2"	2 1/4"	57'-0"	2 1/4"	57'-0"	2 1/4"
66'-3"	1 1/4"	66'-3"	1 1/8"	66'-6"	1 3/8"	66'-6"	1 3/8"

SPAN 11

W. Fascia Dist X	W. Fascia Offset Y	W. Curb Dist. X	W. Curb Offset Y	E. Curb Dist X	E. Curb Offset Y	E. Fascia Dist X	E. Fascia Offset Y
9'-5 7/8"	1 3/8"	9'-5 7/8"	1 3/8"	9'-6 3/8"	1 1/2"	9'-6 3/8"	1 3/8"
18'-11 5/8"	2 1/4"	18'-11 5/8"	2 1/4"	19'-0 3/4"	2 1/4"	19'-0 3/4"	2 1/4"
28'-5 1/2"	2 3/8"	28'-5 1/2"	2 3/8"	28'-7 1/8"	2 3/8"	28'-7 1/8"	2 3/8"
37'-11 3/8"	3"	37'-11 3/8"	3"	38'-1 3/8"	3"	38'-1 1/2"	3"
47'-5 1/2"	2 3/8"	47'-5 1/2"	2 1/8"	47'-7 3/4"	2 3/8"	47'-7 3/4"	2 3/8"
56'-11"	2 1/4"	56'-11 1/8"	2 1/4"	57'-2 1/8"	2 1/4"	57'-2 1/8"	2 1/2"
66'-4 1/8"	1 3/8"	66'-4 1/8"	1 3/8"	66'-8 1/2"	1 3/8"	66'-8 1/2"	1 3/8"

SPAN 12

W. Fascia Dist X	W. Fascia Offset Y	W. Curb Dist. X	W. Curb Offset Y	E. Curb Dist. X	E. Curb Offset Y	E. Fascia Dist X	E. Fascia Offset Y
9'-5 3/8"	1 1/4"	9'-5 1/2"	1 1/2"	9'-6 1/8"	1 3/8"	9'-6 1/8"	1 3/8"
18'-10 7/8"	2 1/4"	18'-10 7/8"	2 1/8"	19'-0 1/8"	2 1/4"	19'-0 1/4"	2 1/4"
28'-4 1/4"	2 3/4"	28'-4 1/8"	2 1/4"	28'-6 1/4"	2 3/8"	28'-6 1/4"	2 1/8"
37'-9 3/4"	3"	37'-9 7/8"	3"	38'-0 3/8"	3"	38'-0 3/8"	3"
47'-3 1/8"	2 3/4"	47'-3 1/4"	2 3/4"	47'-6 1/2"	2 3/8"	47'-6 1/2"	2 3/8"
56'-8 3/8"	2 1/2"	56'-8 3/8"	2 1/8"	57'-0 1/2"	2 1/4"	57'-0 1/2"	2 1/4"
66'-2"	1 1/8"	66'-2 1/8"	1 1/4"	66'-6 5/8"	1 3/8"	66'-6 5/8"	1 3/8"

CHORD LENGTHS LOWER DECK

SPAN	W. Fascia	W. Curb	E. Curb	E. Fascia
5	50'-0"	50'-0"	50'-0"	50'-0"
6	61'-4"	61'-4"	61'-4 1/8"	61'-4 1/8"
7	61'-4 1/8"	61'-4 1/8"	61'-4 3/8"	61'-4 3/8"
8	50'-0 1/8"	50'-0 1/8"	50'-1 3/8"	50'-1 3/8"
9	75'-4"	75'-4"	75'-6 3/8"	75'-6 3/8"
10	75'-8 5/8"	75'-8 5/8"	76'-0"	76'-0"
11	75'-10 3/4"	75'-10 3/4"	76'-2 7/8"	76'-2 7/8"
12	75'-7 1/2"	75'-7 1/2"	76'-0 3/8"	76'-0 1/4"

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS UNIT NO. 3 (LOW. DECK).

Designed	Drawn	Traced	Checked	Approved Date	Revised
	J.C.D. 3-14-60		W.W.C. 9-15-60	W.A.S. 10-6-60	

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

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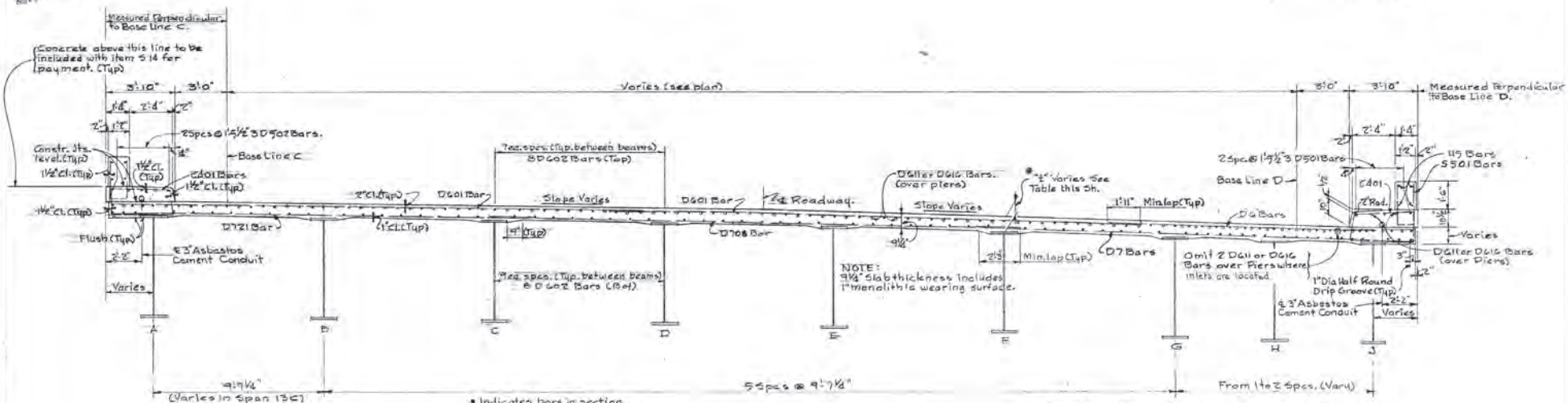

NOTE:
9½" Slab thickness includes 1" monolithic wearing surface.

• Indicates bars in section.
○ Indicates bars over piers.

* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

TRANSVERSE SECTION
(TYPICAL FOR UNIT 13)

UNIT 13
SLAB THICKNESS "t"

Location	Beam	A	B	C	D	E	F	G	H	J
Span 13C	℄ Brg. - Pier 12C	9⅞"	10¼"	10¼"	10⅛"	10¼"	10¼"	10¼"		10⅞"
	¼ Pt.	10⅛"	10⅞"	10½"	10⅛"	10⅝"	10⅝"	10⅝"	X	11⅜"
	℄ Span	10¼"	10⅝"	10⅝"	10⅛"	10¼"	10¼"	10¾"	X	11⅝"
	¾ Pt.	10⅛"	10½"	10⅛"	10⅛"	10¼"	10½"	10⅝"	X	11½"
	℄ Pier 13C	9⅞"	10¼"	10¼"	10¼"	10¼"	10¼"	10¼"		10⅞"
Span 14C	℄ Pier 13C	9⅞"	10¼"	10¼"	10¼"	10¼"	10¼"	10¼"		10⅞"
	¼ Pt.	10⅛"	10¼"	↑	↓	10⅛"	10"	10"	X	10⅛"
	℄ Span	10⅛"	10⅛"	↑	↓	10¼"	10¼"	10⅛"	X	11"
	¾ Pt.	9⅞"	10¼"	↑	↓	10⅛"	10¼"	10¼"	X	11"
	℄ Pier 14C	9⅞"	10¼"	10¼"	10¼"	10¼"	10¼"	10¼"	X	10⅞"
Span 15C	℄ Pier 14C	9⅞"	10¼"	10⅛"	10¼"	10⅛"	10¼"	10¼"	10¼"	10⅞"
	¼ Pt.	9⅝"	10"	10⅛"	10"	10⅛"	10⅛"	10⅛"	10"	10⅛"
	℄ Span	9⅞"	10⅛"	10¼"	10⅛"	10¼"	10¼"	10¼"	10¼"	10⅞"
	¾ Pt.	10"	10⅛"	10⅛"	10⅝"	10⅝"	10¼"	10¼"	10¼"	11"
	℄ Brg. - Pier 15C	9⅞"	10¼"	10¼"	10¼"	10¼"	10¼"	10¼"	10¼"	10⅞"

"t" is measured from top of slab to bottom of flange plate ℄ ℄ Beam.
See Note 1 Sh. No. 216

Note: Work this sheet with Sh No 233

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SUPERSTRUCTURE DETAILS
UNIT NO. 13.

Designed	Drawn	Traced	Checked	Revised Date	Revised
	J.C.D 5-1960		W.H.K. 9-16-60	W.H.K. 10-7-60	

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

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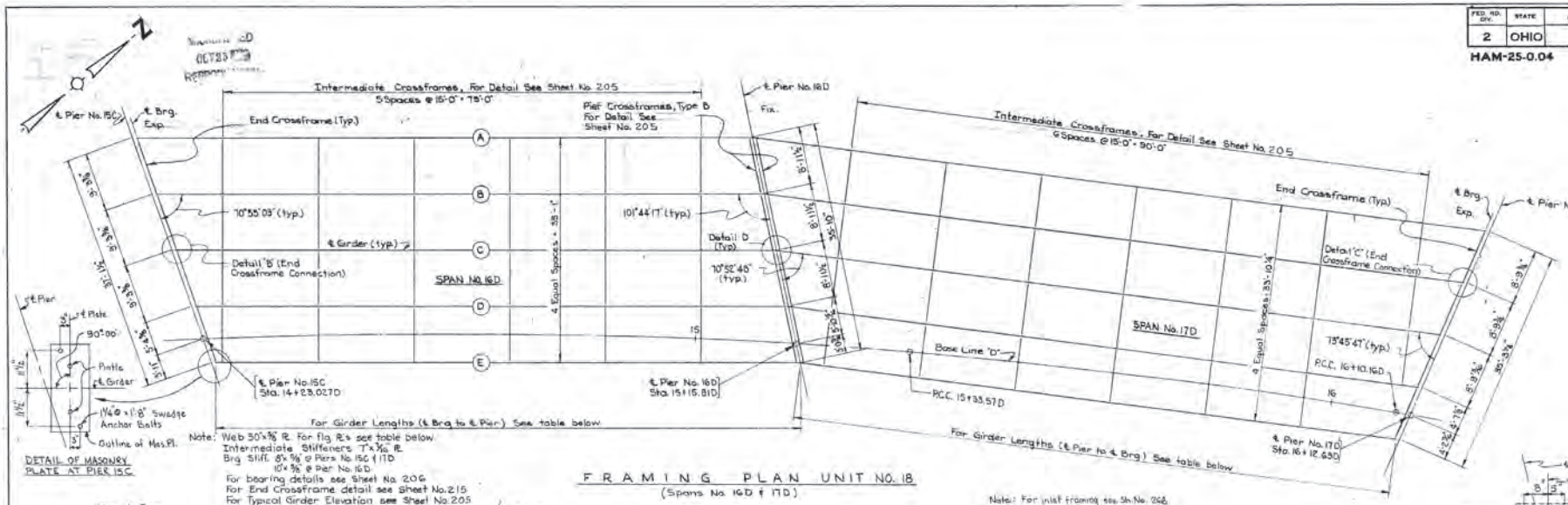
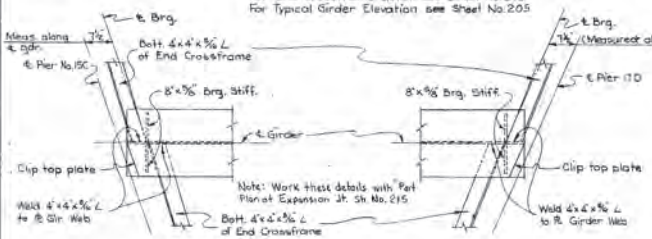


Note: Web 30"x⅜" R. For flg. R's see table below.
Intermediate Stiffeners 7"x⅜" R.
Brg. Stiff. 8"x⅝" @ Piers No. 15C & 17D
10"x⅝" @ Pier No. 16D.
For bearing details see Sheet No. 206
For End Crossframe detail see Sheet No. 215
For Typical Girder Elevation see Sheet No. 205

DETAIL OF MASONRY PLATE AT PIER 15C

FRAMING PLAN UNIT NO. 18
(Spans No. 16D & 17D)

Note: For inlet framing see Sh. No. 268.



DETAIL 'B'
(End Crossframe connection at Pier No. 15C, Span No. 16D)

DETAIL 'C'
(End Crossframe connection at Pier No. 17D, Span No. 17D)

GIRDER LENGTHS		
Girder	Span 16D	Span 17D
A	96'-3⅞"	115'-6⅝"
B	85'-1⅛"	110'-1⅜"
C	93'-10⅝"	104'-8⅜"
D	82'-8½"	99'-3⅞"
E	81'-5⅜"	95'-11⅝"

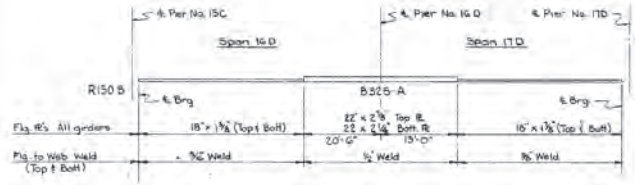
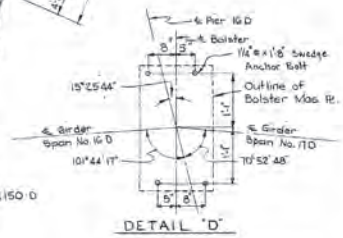


TABLE OF FLANGE PLATES AND WELD SIZES



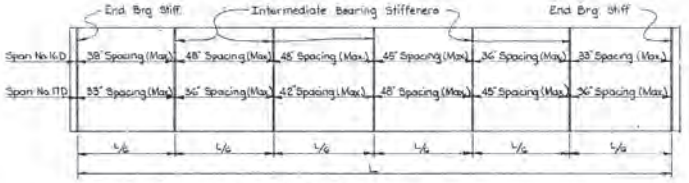
DETAIL "D"

GIRDER SPLICE WELDING PROCEDURE

With the girders of Span 16D in their final positions, raise the ends of the girders in Span 17D, at Pier 17D, the following amounts: Bm A - 4⅛", Bm B-4⅜", Bm C-5⅛", Bm D-5", & Bm E-5⅜".
Butt weld the girder flanges and webs at Pier 16D using the sequence outlined in Note A Sheet No. 181.
Weld all pier crossframes at Pier 16D into place.
Lower the girders into their final positions.

DEFLECTION AND CAMBER																					
Span	16D										17D										
Girder	A		B		C		D		E		A		B		C		D		E		
Location	⅛	½	⅜	¼	½	⅝	¼	½	¾	¼	½	¾	⅛	½	⅜	¼	½	¾	¼	½	⅝	¼	½	⅝
Deflection due to weight of steel	1/16"	1/16"	–	1/16"	1/16"	–	1/16"	1/16"	–	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"
Deflection due to remaining Dead Load	½"	9/16"	½"	7/16"	½"	9/16"	½"	½"	7/16"	9/16"	½"	9/16"	7/16"	15/16"	½"	½"	1"	15/16"	⅜"	⅜"	⅝"	⅝"	⅝"	½"	⅜"	½"	7/16"
Convexity (See note below.)	1⅛"	1⅜"	1⅛"	1⅜"	1⅜"	1⅛"	⅝"	1⅜"	1⅛"	⅝"	1⅜"	1⅛"	2⅛"	3⅛"	2⅜"	1⅜"	1⅜"	⅞"	⅜"	1⅜"	⅝"	½"	1⅜"	⅝"	1⅜"	2⅛"	1⅜"
Sum of deflection and convexity	1⅜"	2⅜"	1⅜"	1⅜"	2⅛"	1⅜"	1⅛"	2⅛"	1⅜"	1⅛"	2⅜"	1⅜"	3⅛"	5⅛"	4⅜"	1⅜"	3"	1⅜"	½"	2½"	1⅛"	⅝"	2⅜"	1⅛"	2⅜"	3⅛"	1⅜"
Required Camber	2⅜"		2⅜"		2⅜"		2⅜"		2⅜"		5¼"		5"		2⅜"		2⅜"		2⅜"		

Notes: Convexity includes variations due to vertical curvature, superelevation and horizontal curvature.
Girder web plates shall be cut to a parabolic crown



Note: Adjust intermediate stiffener spacing to conform to intermediate crossframe spacing

INTERMEDIATE STIFFENER SPACING

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CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS UNIT NO. 18

DESIGNED	DRAWN	TRACED	CHECKED	REVISION DATE	REVISED
C.A.F.	J.C. 4-15-60		JHO 8/1160	18 10-19-60	

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

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TABLE "W"		
Dimensions to raise girders for welding		
Girders	At Pier 17D	At Pier 20D
A & B	1⅜"	1⅜"
C thru E	1⅝"	1½"

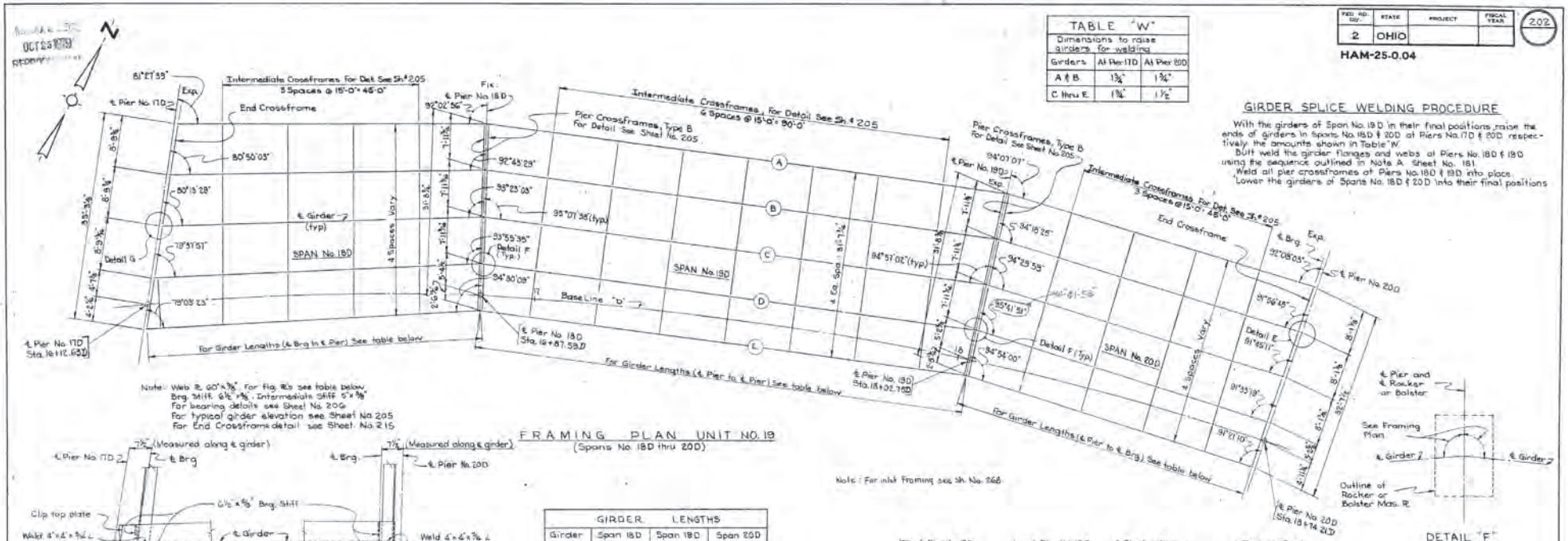
GIRDER SPLICE WELDING PROCEDURE

With the girders of Span No. 19D in their final positions, raise the ends of girders in Spans No. 18D & 20D at Piers No. 17D & 20D respectively the amounts shown in Table "W".

Butt weld the girder flanges and webs at Piers No. 18D & 19D using the sequence outlined in Note A, Sheet No. 181.

Weld all pier crossframes at Piers No. 18D & 19D into place.

Lower the girders of Spans No. 18D & 20D into their final positions.



Note: Web ℄ 60" x ⅜" for Fig. R's see table below
Brg. Stiff. 6½" x ⅝", Intermediate Stiff. 5" x ⅜"
For bearing details see Sheet No. 209
For typical girder elevation see Sheet No. 205
For End Crossframe detail see Sheet No. 215

FRAMING PLAN UNIT NO. 19

(Spans No. 18D thru 20D)

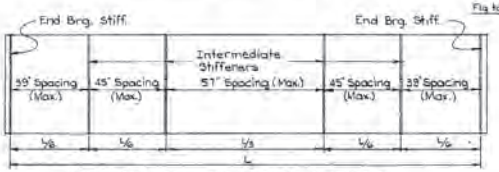
Note: For inlet framing see Sh. No. 268

GIRDER LENGTHS			
Girder	Span 18D	Span 19D	Span 20D
A	70'-8⅜"	120'-1⅞"	73'-10⅜"
B	71'-9⅛"	118'-8⅝"	73'-0⅛"
C	72'-9½"	117'-4"	72'-1⅝"
D	73'-10"	115'-11¼"	71'-3⅛"
E	74'-10⅝"	114'-6⅜"	70'-5"

Note: Work these details with Part Plan of Expansion Joint Sheet No. 215

DETAIL "G"
(End Crossframe Connection)
(at Pier 17D, Span 18D)

DETAIL "E"
(End Crossframe Connection)
(at Pier 20D, Span 20D)



INTERMEDIATE STIFFENER SPACING

(Span No. 18D)

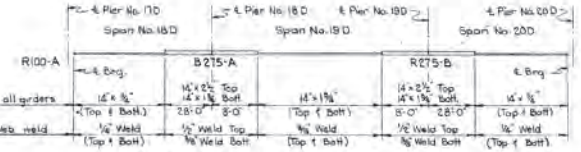


TABLE OF FLANGE PLATES AND WELD SIZES

INTERMEDIATE STIFFENER SPACING

(Spans No. 18D & 20D)

Note: Intermediate stiffener spacing shall be adjusted to conform to intermediate crossframe spacing.

Notes: Girder web plates shall be cut to a parabolic crown

Convexity includes variations due to vertical curvature, superelevation and horizontal curvature.

DEFLECTION AND CAMBER

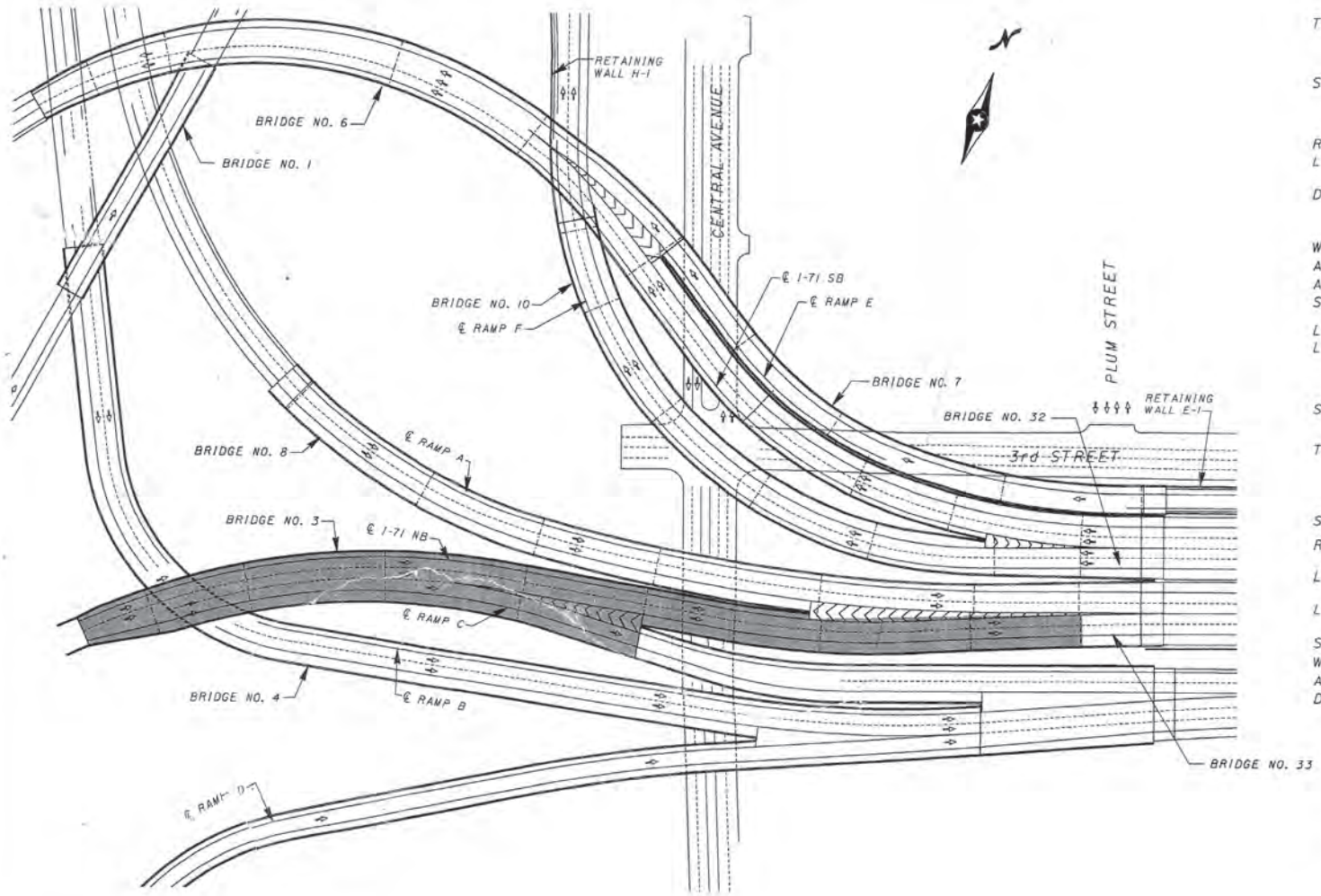
Span	18D																																							
Girder	A			B			C			D			E			A			B			C			D			E			A			B			C			D			E		
Location	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜	¼	½	⅜
Deflection due to weight of steel	0	-1/16	-1/16	0	-1/16	0	0	-1/16	0	0	-1/16	0	0	-1/16	1/16	3/16	3/16	1/16	3/16	3/16	1/16	3/16	1/4	1/16	3/16	1/4	1/16	3/16	1/4	-1/16	0	0	-1/16	0	0	-1/16	0	0	-1/16	0	0
Deflection due to remaining Dead Load	0	3/16	-1/8	1/16	1/16	-1/16	1/8	1/16	0	1/8	1/8	0	3/16	1/8	0	3/16	1/8	1/16	3/16	3/16	1/16	3/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	-1/8	0	1/8	-1/16	1/16	1/8	0	1/16	1/8	-1/16	1/16	1/8
Convexity (See note above)	1/16	1/16	1/16	3/16	1/16	-1/16	1/8	1/16	0	1/16	1/16	1/16	2/16	2/16	1/16	2/16	2/16	1/16	2/16	2/16	1/16	2/16	2/16	1/16	2/16	3/16	2/16	0	1/16	-1/16	-1/16	-3/16	-1/16	-1/16	-3/16	-1/16	-1/16	-3/16	-1/16	0	1/16	-1/16
Sum of deflection and convexity	1/16	1/16	1/16	1/16	1/16	-3/16	1/16	1/16	-1/16	3/16	1/16	0	1/16	1/16	1/16	3/16	4/16	1/16	3/16	2/16	1/16	2/16	3/16	1/16	1/16	2/16	1/16	2/16	3/16	2/16	-3/16	1/16	0	-3/16	-1/16	-1/16	-1/16	-3/16	-1/16	1/16	0
Required Camber	1⅛			0			0			0			1⅜			4⅛			2¼			2¼			2¼			4⅛			0			0			0			0		

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

STRUCTURAL STEEL DETAILS UNIT NO. 19

DESIGNED	DRAWN	TRACED	CHECKED	REVISED DATE	REVISED
J.C.	J.C. 4-1-60		JJH 8/1/60	M.J.T. 10-14-60	8/1/61

AS-BUILTS



PROPOSED STRUCTURE

TYPE: Continuous Steel Plate Girders (A572M GR345) with Reinforced Concrete Deck and Substructure

SPAN: 24.600, 34.100, 48.115, 48.119, 42.957, 56.812, 53.687 & 36.077 measured along ℄ I-71 NB. ℄ to ℄ Bearings

ROADWAY: Varies

LIVE LOADING: MS 18 Case 1 and Alternate Military

DEAD LOAD: Includes 2.88 KN/sq m allowance for future wearing course

WEARING COURSE: Monolithic Concrete

APPROACH SLABS: None

ALIGNMENT: Curved

SUPERELEVATION: See Superelevation Plan

LATITUDE: 39° 05' 50"

LONGITUDE: 84° 31' 13"

EXISTING STRUCTURE

STRUCTURE FILE NO.: HAM-25-0.04
HAM-50-20.81

TYPE: Continuous Plate Girders with a Reinforced Concrete Deck and Substructure Supported on C.I.P. Reinforced Concrete Piles.

SPAN: Varies

ROADWAY: Varies

LIVE LOADING: MS 18 Case 1 and Alternate Military

LOADING: CF 2000 (57) Adequate for AASHTO Alternate Loading

SKEW: Varies

WEARING COURSE: 114 SPD Concrete

APPROACH SLABS: None

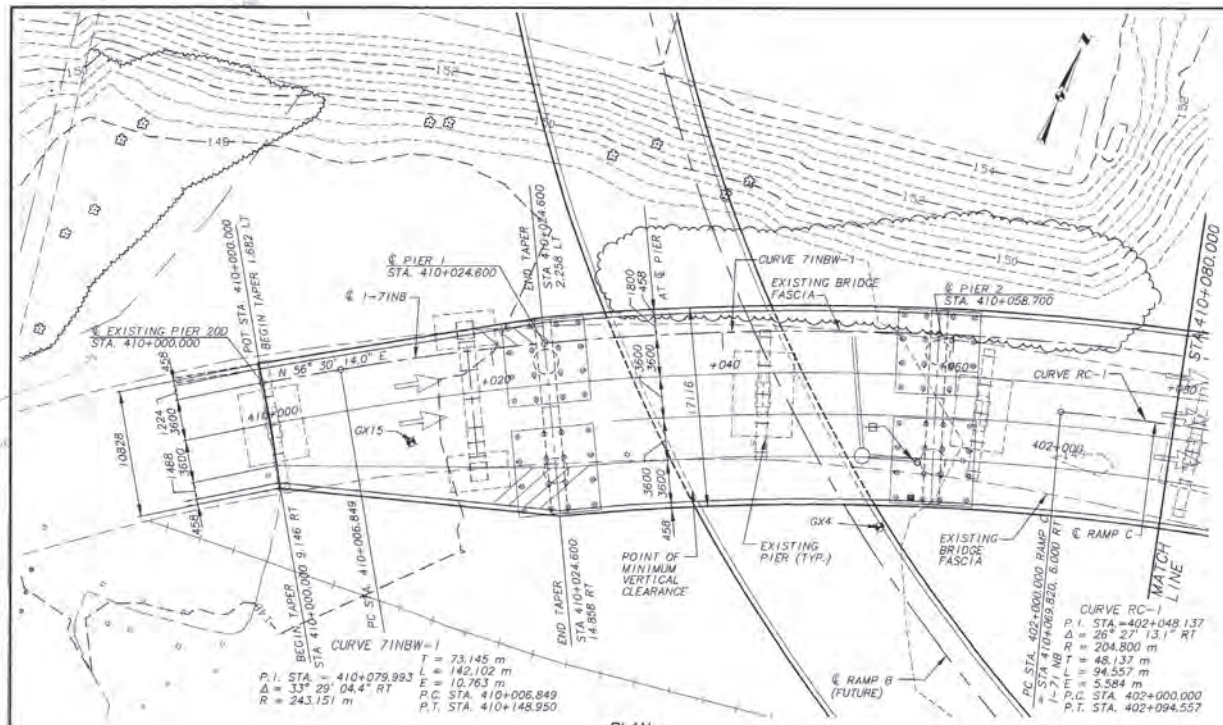
DATE OF CONSTRUCTION: 1961

FINAL FOR CONSTRUCTION

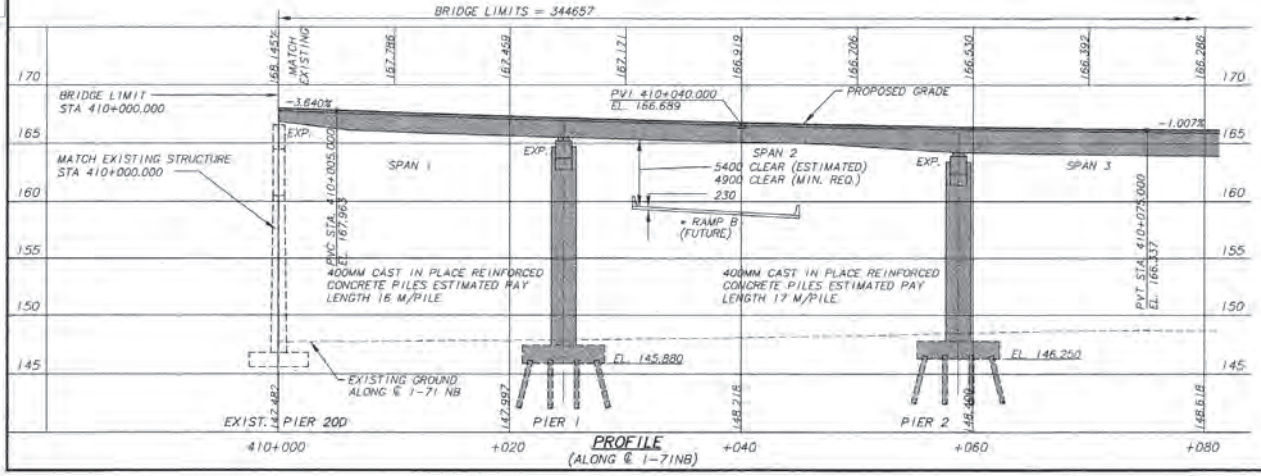
DCM GROUP — BRW HAZELET & ERDAL
A BRW COMPANY

TITLE SHEET
BRIDGE NO. 3

SEQ	DRAWN	CHECKED	REVIEWED	DATED	APPD
1	LHC	MKM		07-07-98	MK



PLAN



PROFILE
(ALONG ℄ I-71NB)

BENCH MARK 4300
E: 426108.061, N: 123772.053, ELEV. 161.508.
LOCATED ON THE PLAZA LEVEL AT CINERGY FIELD IN THE NORTHWEST CORNER, A BRASS DISC 0.77m EAST OF THE WEST PARAPET WALL AND 5.0m SOUTH OF THE NORTH PARAPET WALL.

BENCH MARK 4301
E: 426411.439, N: 123827.864, ELEV. 161.536.
LOCATED ON THE PLAZA LEVEL AT CINERGY FIELD IN THE NORTHEAST CORNER, A BRASS DISC 0.81m SOUTH OF THE NORTH PARAPET WALL AND 3.1m WEST OF THE EAST PARAPET WALL.

CURRENT ADT=23420
ADT (2020)=28105
CURRENT ADTT=1874
ADTT (2020)=2248

ADT (2020)
CARS: 25857
TRUCKS: 2248

LEGEND

- BORING LOCATION
- DOWNSPOUT
- SCUPPER

NOTES:

1. FOR SUPERELEVATIONS, SEE ROADWAY PLANS.
2. PILE DESIGN LOADS (SAFE BEARING CAPACITY): SEE SHEETS 23 THRU 26 OF 64.
3. FOR UTILITY INFORMATION, SEE ROADWAY PLANS.
4. SITE PLAN INFORMATION SHOWN FOR BRIDGE 3 IS BASED UPON PRELIMINARY ROADWAY ALIGNMENT & PROFILE DESIGN INFORMATION FOR FUTURE RAMPS B & C AVAILABLE AT THE TIME OF PLAN PREPARATION. THIS INFORMATION FOR RAMPS B & C SHALL BE CONFIRMED FOR CONFLICTS WITH BRIDGE 3 BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
5. TOPOGRAPHIC AND UTILITY INFORMATION SHOWN ON THE PLANS IS BASED UPON EXISTING CONDITIONS AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY PRIOR TO COMMENCEMENT OF WORK.
6. SEE BRIDGE B & 33 SHEETS FOR ADDITIONAL INFORMATION.
7. SEE SHEET 51 OF 64 FOR SCUPPER STATION LOCATIONS.
8. EXISTING PIERS ARE LOCATED APPROXIMATELY ACTUAL LOCATIONS MAY VARY ± HORIZONTALLY AND VERTICALLY. CONTRACTOR SHALL FIELD VERIFY PRIOR TO COMMENCEMENT OF WORK.
9. FOR DRAINAGE STRUCTURE DETAILS, REFERENCE DRAINAGE PLANS.
10. ALL PIERS ON THIS SHEET ARE PERPENDICULAR OR RADIAL TO ℄ I-71 NB.
11. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS EXCEPT AS NOTED OTHERWISE. ALL ELEVATIONS, OFFSETS, AND STATIONS ARE IN METERS.
12. ESTIMATED PAY LENGTH OF PILES IS BASED ON VERTICAL PILES FROM TIP ELEVATION TO CUT OFF ELEVATION. NO PRE-BORING IS CONSIDERED.

* SUPER ELEVATION OF RAMP B (FUTURE) WAS ASSUMED TO BE 5% FOR CLEARANCE CALCULATION

FINAL FOR CONSTRUCTION

DESIGN AGENCY: DCM
BRW HAZELET & ERDAL
A BRW COMPANY

DESIGNED	BY/DATE	STRUCTURE FILE NUMBER
JAP	BKH	BR351 TE1
DETAILED	REVISED	
JAP		
CHECKED	REVISED	
SWF/RAJ		

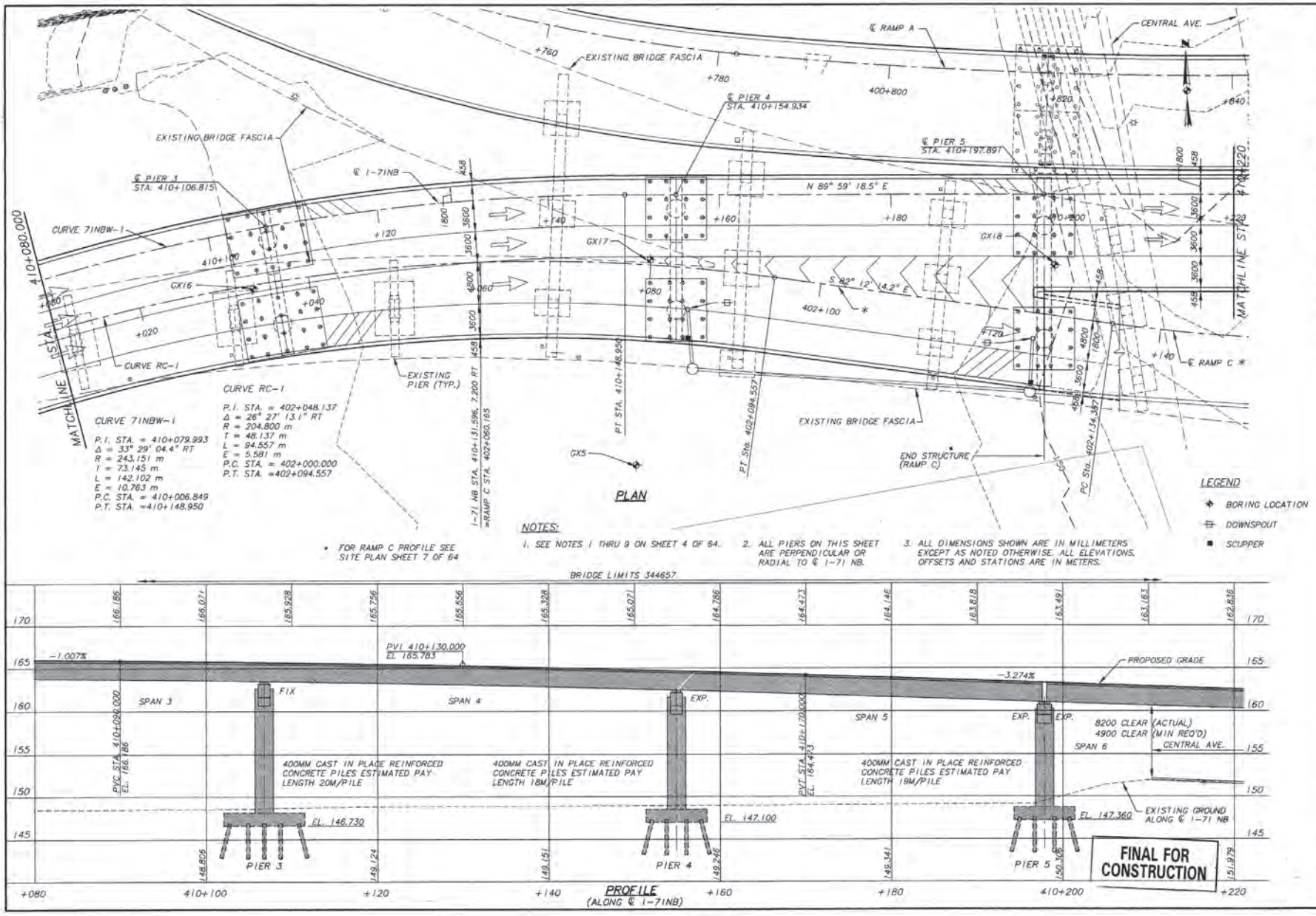
SITE PLAN
I-71 NB

BRIDGE 3

4/64

414/588

AUG 18 2008



BRW HAZELET & ERDAL
A BRW COMPANY

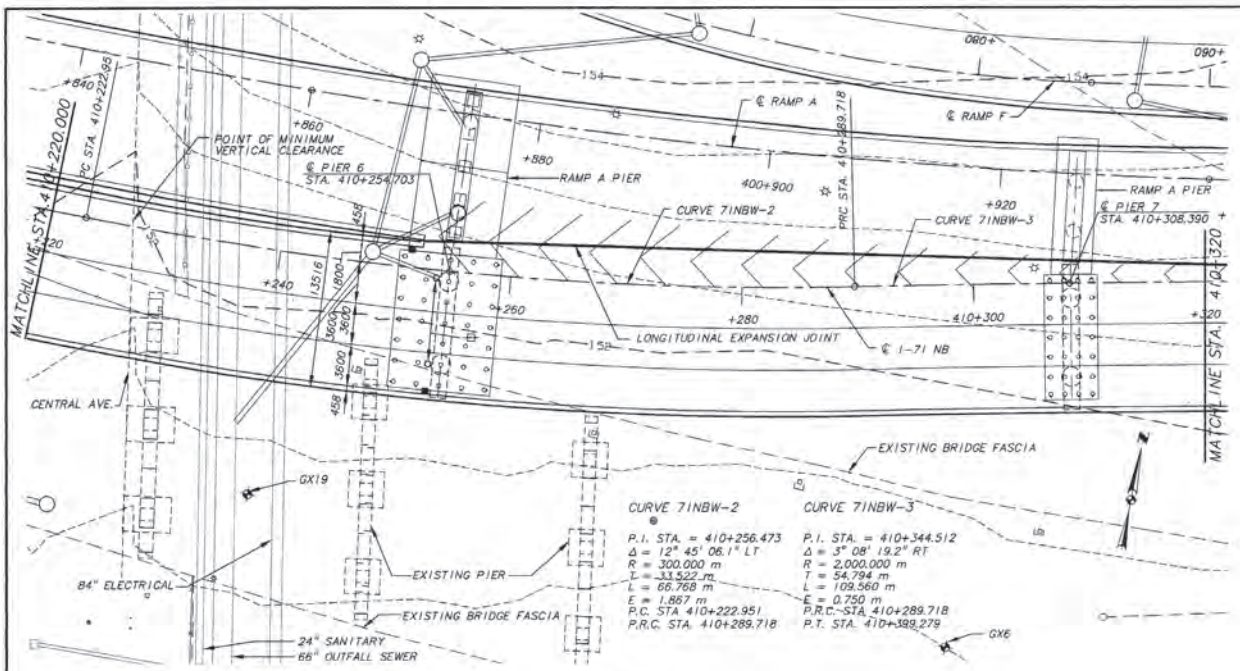
STRUCTURE FILE NUMBER BR351E2

SITE PLAN
I-71 NB

BRIDGE 3

5 / 64

415 / 588



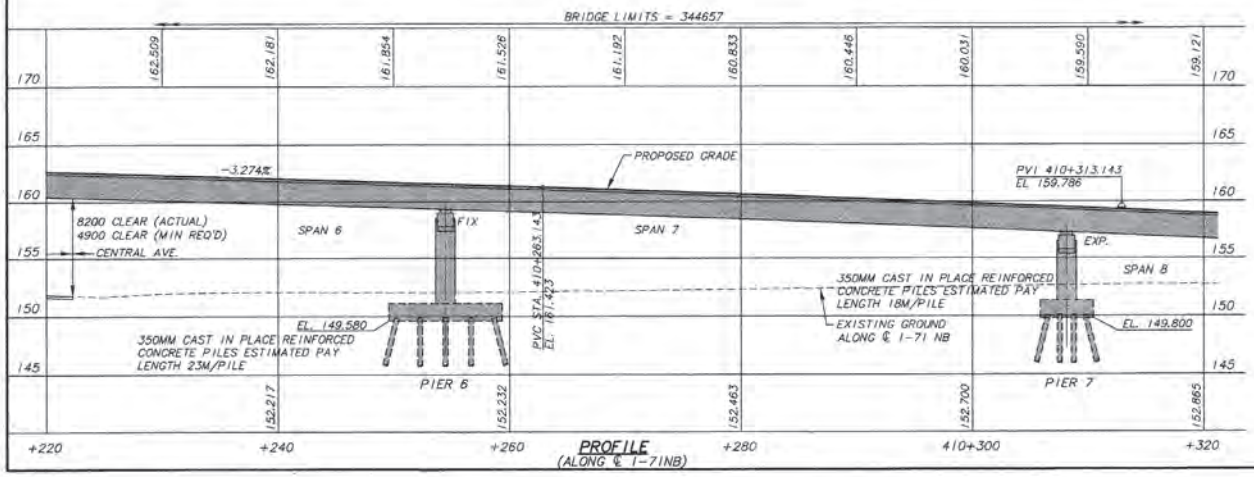
PLAN

LEGEND

- BORING LOCATION
- DOWNSPOUT
- SCUPPER

NOTES:

1. SEE NOTES 1 THRU 9 ON SHEET 4 OF 64.
2. ALL PIERS ON THIS SHEET ARE PERPENDICULAR OR RADIAL TO ℄ I-71 NB.
3. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS EXCEPT AS NOTED OTHERWISE. ALL ELEVATIONS, OFFSETS, AND STATIONS ARE IN METERS.



FINAL FOR CONSTRUCTION

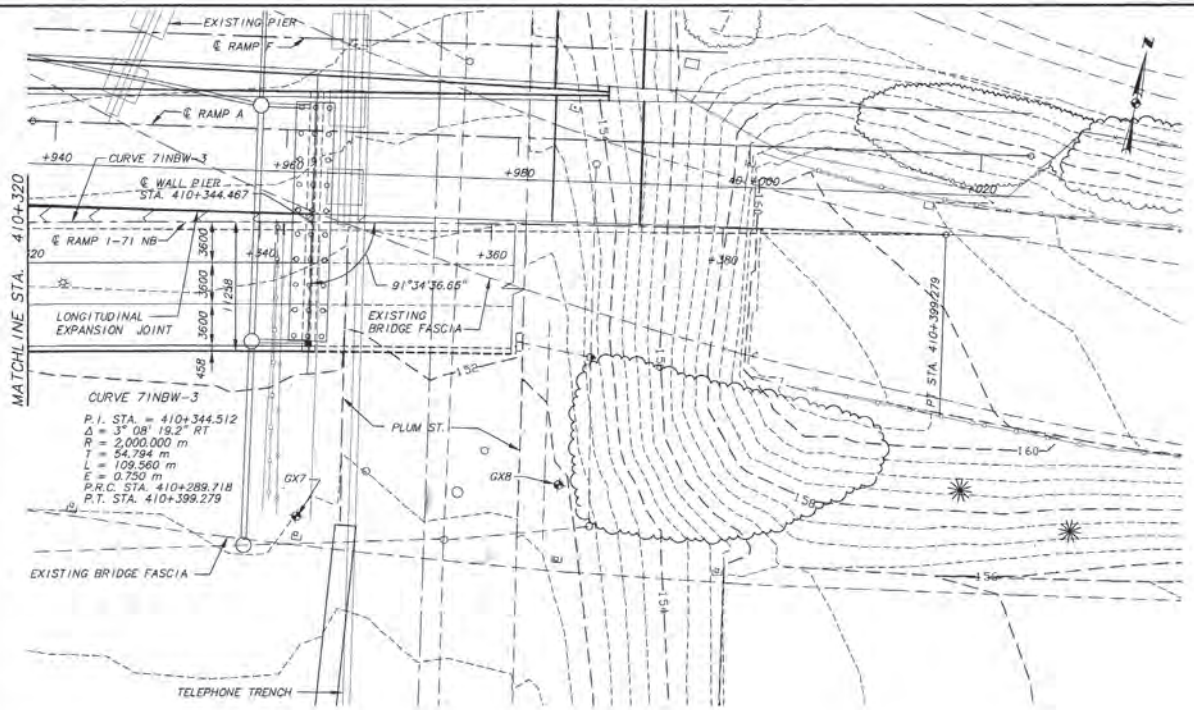
BRW HAZELET & ERDAL
A BRW COMPANY

SITE PLAN
I-71 NB

BRIDGE 3

6/64

416/588



PLAN

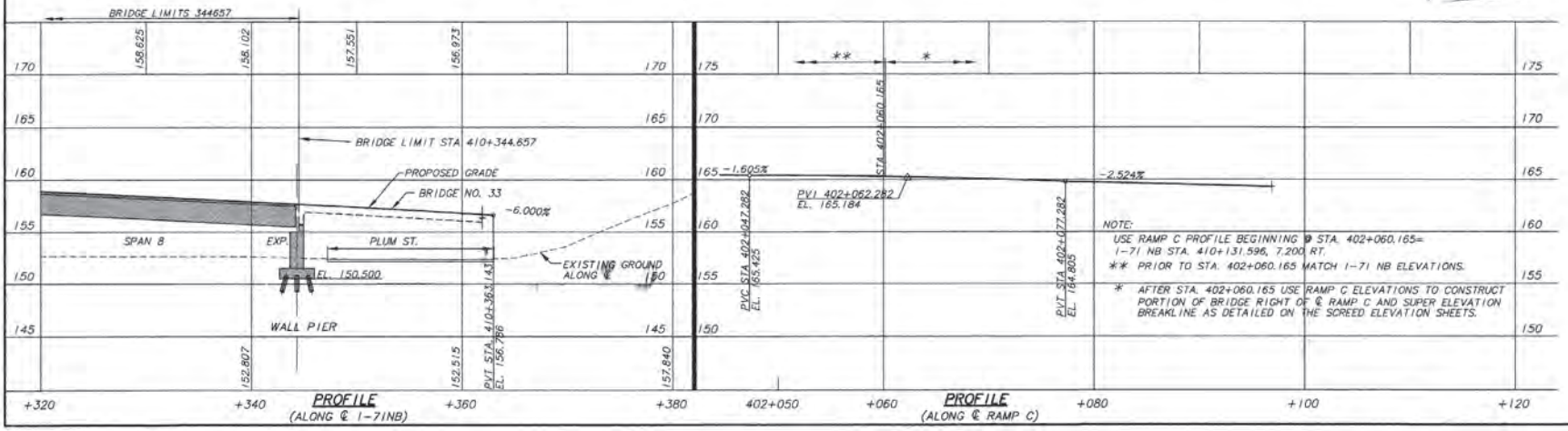
LEGEND

- BORING LOCATION
- SCUPPER

NOTES:

1. SEE NOTES 1 THRU 9 ON SHEET 4 OF 64.
2. WALL PIER IS SKEWED AS SHOWN. SEE BRIDGE 8 SHEET 15 & 29 FOR WALL PIER DETAILS.
3. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS EXCEPT AS NOTED OTHERWISE. ALL ELEVATIONS, OFFSETS AND STATIONS ARE IN METERS.

FINAL FOR CONSTRUCTION



NOTE:
USE RAMP C PROFILE BEGINNING @ STA. 402+060.165= 1-71 NB STA. 410+131.596, 7.200 RT.
** PRIOR TO STA. 402+060.165 MATCH 1-71 NB ELEVATIONS.
* AFTER STA. 402+060.165 USE RAMP C ELEVATIONS TO CONSTRUCT PORTION OF BRIDGE RIGHT OF ℄ RAMP C AND SUPER ELEVATION BREAKLINE AS DETAILED ON THE SCREED ELEVATION SHEETS.

BRW HAZELET & ERDAL A BWR COMPANY

DESIGNED JAP | DRAWN BKH | REVIEWED | DATE

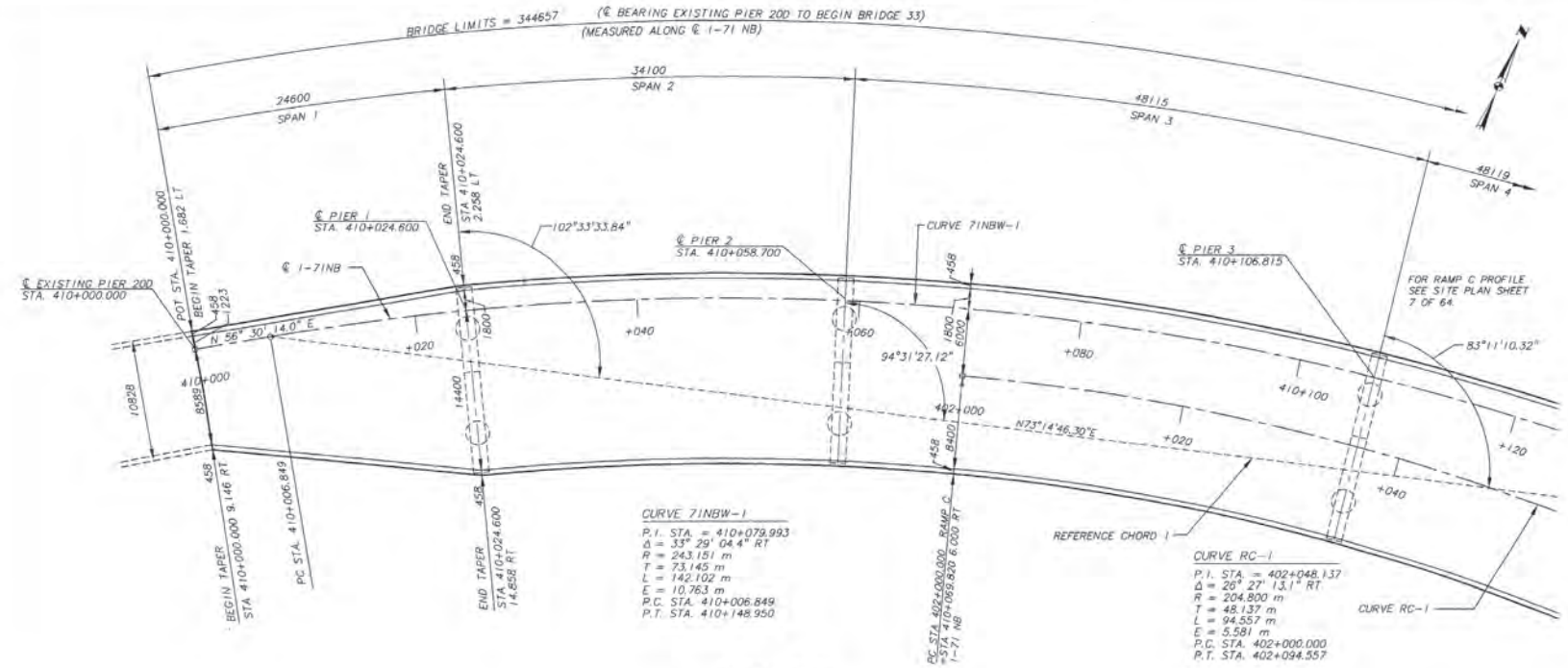
CHECKED SWF/RAJ | REVISED | STRUCTURE FILE NUMBER BR351E4

SITE PLAN
I-71 NB

BRIDGE 3

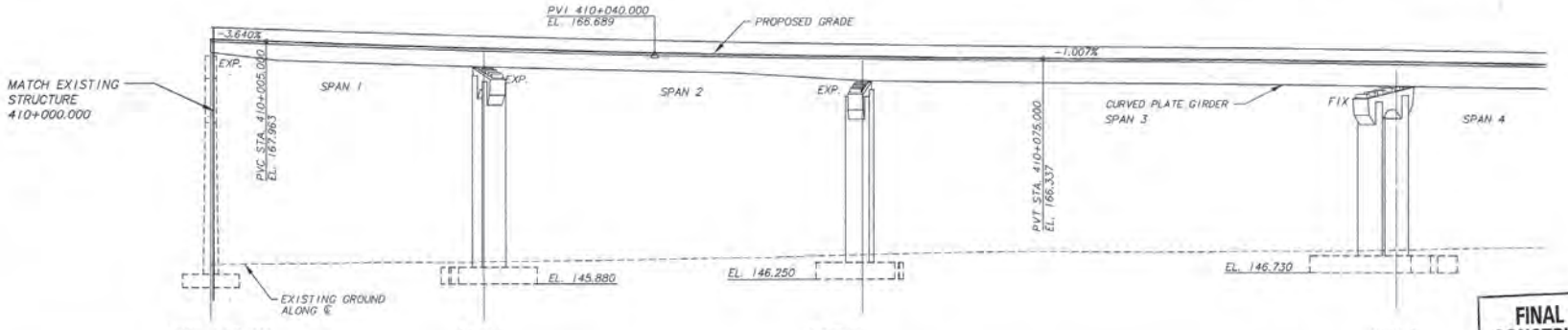
7/64

417/588



GENERAL PLAN

NOTE:
WORK GENERAL PLAN SHEETS 8 THROUGH 10 WITH GEOMETRIC LAYOUT SHEETS 11 THROUGH 13.



ELEVATION

FINAL FOR CONSTRUCTION

BRW HAZELET & ERDAL
A BRW COMPANY

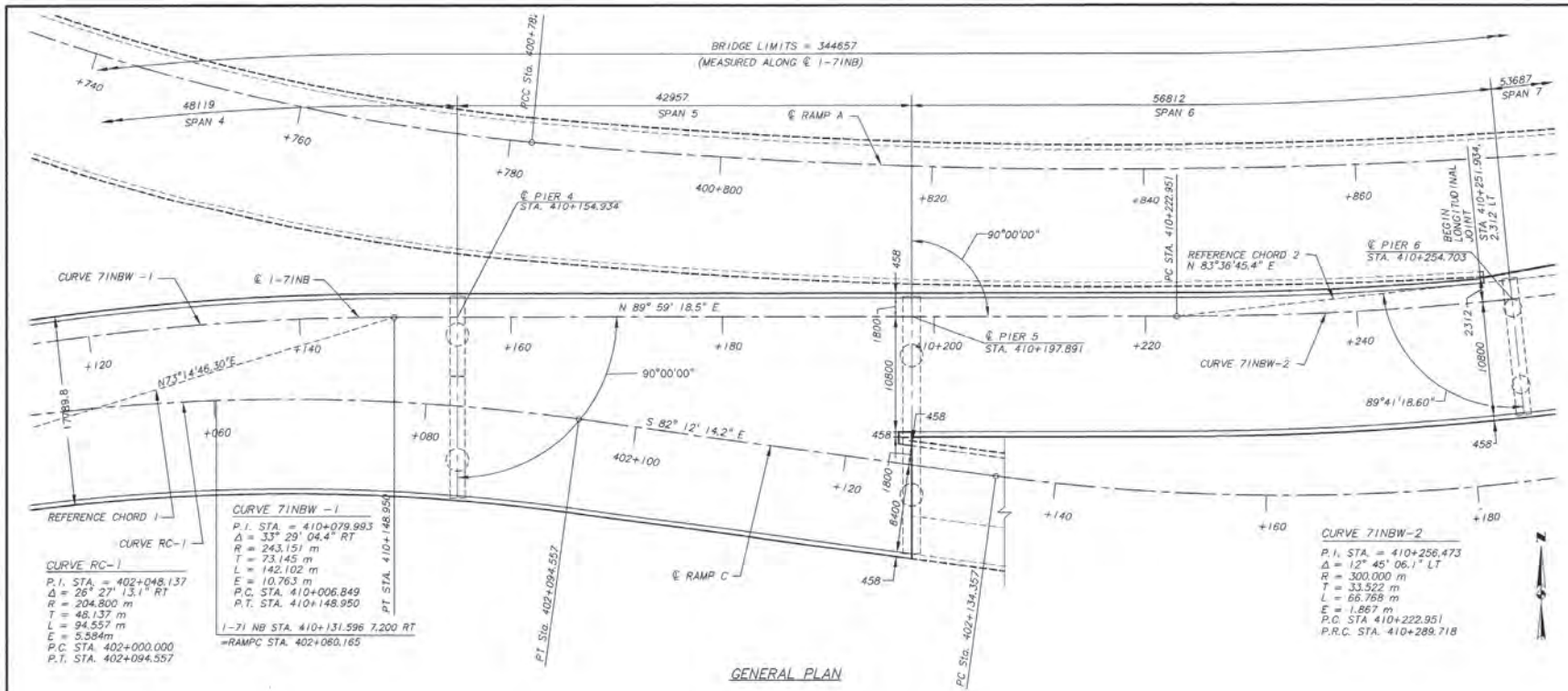
GENERAL PLAN
I-71 NB

BRIDGE 3

8/64

418/588

Aug 18 1998



AUG 18 1999

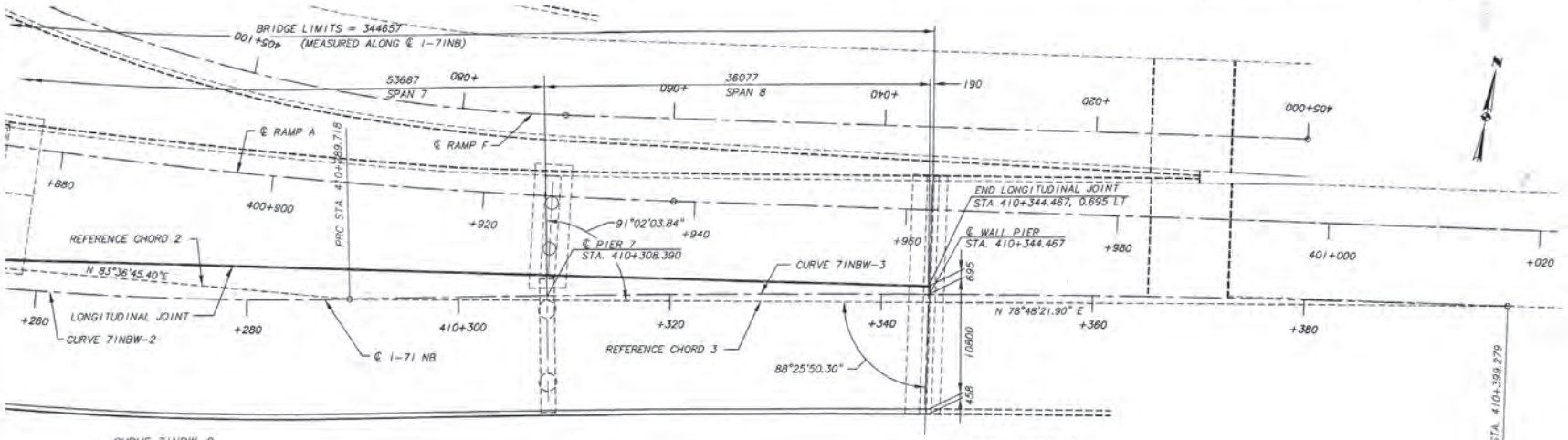
BRW HAZELET & ERDAL
A BRW COMPANY

GENERAL PLAN
I-71 NB

BRIDGE 3

9/64

419
588



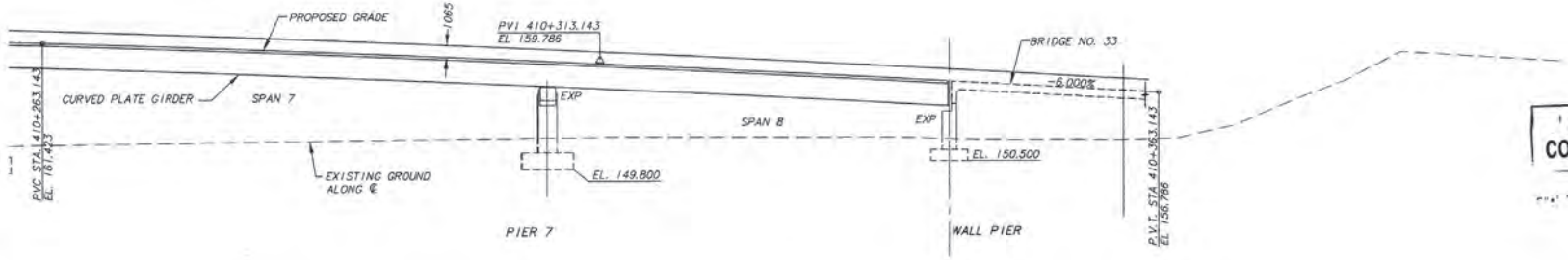
CURVE 71NBW-2

P.I. STA. = 410+256.473
Δ = 12° 45' 06.1" LT
R = 300.000 m
T = 33.522 m
L = 66.768 m
E = 1.867 m
P.C. STA 410+222.951
P.R.C. STA. 410+289.718

CURVE 71NBW-3

P.I. STA. = 410+344.512
Δ = 3° 08' 19.2" RT
R = 2,000.000 m
T = 54.794 m
L = 109.560 m
E = 0.750 m
P.R.C. STA 410+289.718
P.T. STA. 410+399.279

GENERAL PLAN



ELEVATION

FINAL FOR CONSTRUCTION

GENERAL PLAN
I-71 NB

BRIDGE 3

10/64

420/588

BRW HAZELET & ERDAL
A BRW COMPANY

BR3-GP3

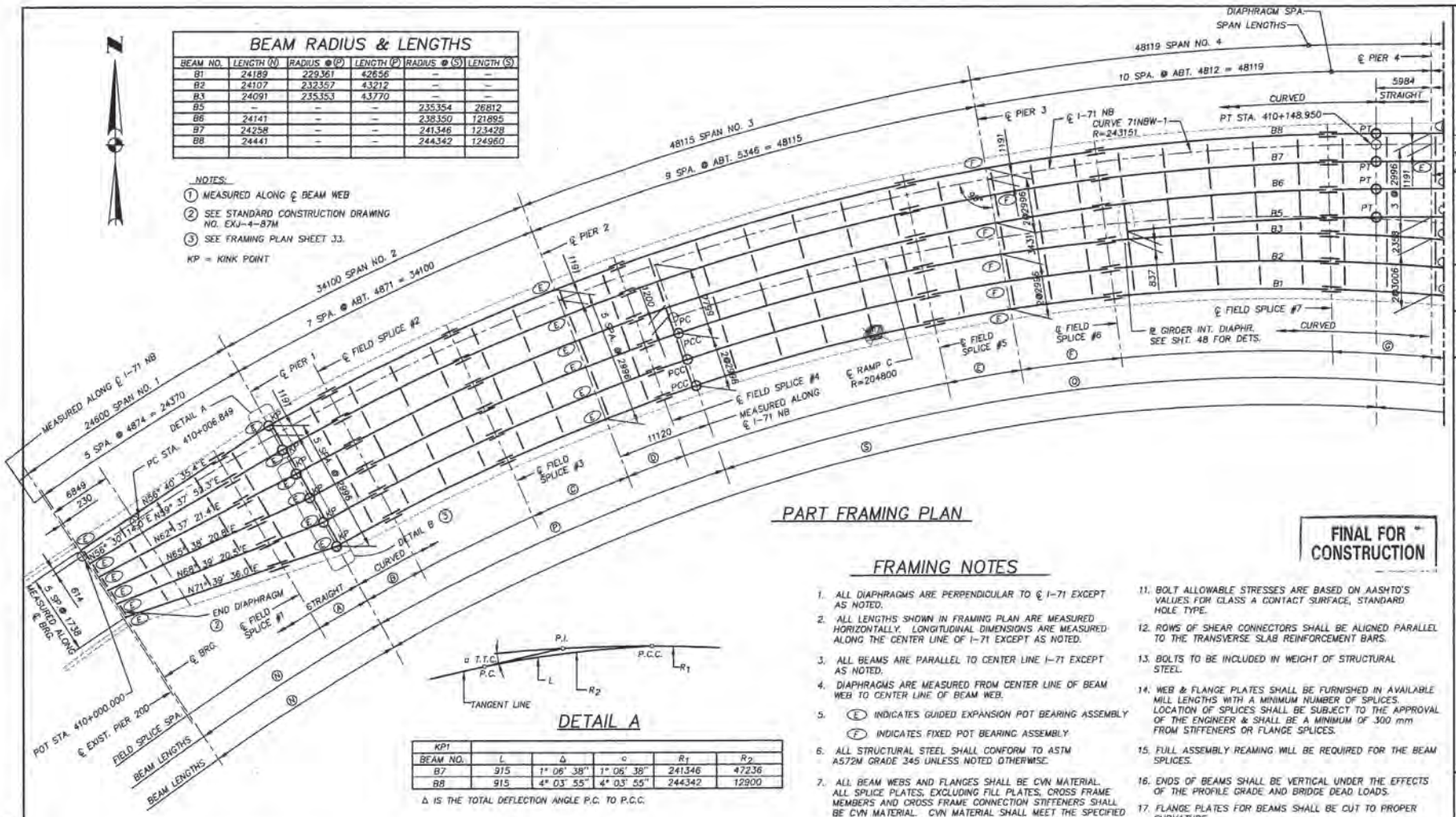
BEAM RADIUS & LENGTHS

BEAM NO.	LENGTH (N)	RADIUS ● (P)	LENGTH (P)	RADIUS ● (S)	LENGTH (S)
B1	24189	229361	42656	–	–
B2	24107	232357	43212	–	–
B3	24091	235353	43770	–	–
B5	–	–	–	235354	26812
B6	24141	–	–	238350	121895
B7	24258	–	–	241346	123428
B8	24441	–	–	244342	124960

NOTES:

1. MEASURED ALONG ℄ BEAM WEB
2. SEE STANDARD CONSTRUCTION DRAWING NO. EXJ-4-87M
3. SEE FRAMING PLAN SHEET 33.

KP = KINK POINT



PART FRAMING PLAN

DETAIL A

KP1					
BEAM NO.	L	Δ	c	R_1	R_2
B7	915	1° 06' 38"	1° 05' 38"	241346	47236
B8	915	4° 03' 55"	4° 03' 55"	244342	12900

Δ IS THE TOTAL DEFLECTION ANGLE P.C. TO P.C.C.

FIELD SPLICE DISTANCES ①

BEAM NO.	LENGTH (A)	LENGTH (B)	LENGTH (C)	LENGTH (D)	LENGTH (E)	LENGTH (F)	LENGTH (G)
B1	6287	6892	11487	6724	8394	11323	10911
B2	6305	6962	11637	6811	8504	11471	10975
B3	6339	7072	11787	6899	8614	11620	11039
B5	–	–	–	–	–	–	11060
B6	6390	7162	11937	6987	8734	11792	11125
B7	6459	7252	12087	7075	8844	11941	11189
B8	6545	7342	12237	7163	8954	12089	11254

FRAMING NOTES

1. ALL DIAPHRAGMS ARE PERPENDICULAR TO ℄ I-71 EXCEPT AS NOTED.
2. ALL LENGTHS SHOWN IN FRAMING PLAN ARE MEASURED HORIZONTALLY. LONGITUDINAL DIMENSIONS ARE MEASURED ALONG THE CENTER LINE OF I-71 EXCEPT AS NOTED.
3. ALL BEAMS ARE PARALLEL TO CENTER LINE I-71 EXCEPT AS NOTED.
4. DIAPHRAGMS ARE MEASURED FROM CENTER LINE OF BEAM WEB TO CENTER LINE OF BEAM WEB.
5. (E) INDICATES GUIDED EXPANSION POT BEARING ASSEMBLY
   (F) INDICATES FIXED POT BEARING ASSEMBLY
6. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A572M GRADE 345 UNLESS NOTED OTHERWISE.
7. ALL BEAM WEBS AND FLANGES SHALL BE CVN MATERIAL. ALL SPLICE PLATES, EXCLUDING FILL PLATES, CROSS FRAME MEMBERS AND CROSS FRAME CONNECTION STIFFENERS SHALL BE CVN MATERIAL. CVN MATERIAL SHALL MEET THE SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
8. BEARING STIFFENERS SHALL BE VERTICAL.
9. FIELD CONNECTIONS SHALL BE MADE WITH 22 mm ASTM A-325M HIGH STRENGTH BOLTS.
10. ERECTION BOLTS: THE HOLE DIAMETER IN CROSS FRAMES AND BEAM STIFFENERS SHALL BE 4 mm LARGER THAN THE DIAMETER OF THE ERECTION BOLTS. UNLESS REPLACED BY PERMANENT HIGH STRENGTH BOLTS, ERECTION BOLTS SHALL REMAIN IN PLACE. LOCK WASHERS SHALL BE FURNISHED FOR OTHER THAN FULLY TORQUED HIGH STRENGTH ERECTION BOLTS. BOLTS SHALL BE FURNISHED AS PART OF ITEM 513.
11. BOLT ALLOWABLE STRESSES ARE BASED ON AASHTO'S VALUES FOR CLASS A CONTACT SURFACE, STANDARD HOLE TYPE.
12. ROWS OF SHEAR CONNECTORS SHALL BE ALIGNED PARALLEL TO THE TRANSVERSE SLAB REINFORCEMENT BARS.
13. BOLTS TO BE INCLUDED IN WEIGHT OF STRUCTURAL STEEL.
14. WEB & FLANGE PLATES SHALL BE FURNISHED IN AVAILABLE MILL LENGTHS WITH A MINIMUM NUMBER OF SPLICES. LOCATION OF SPLICES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER & SHALL BE A MINIMUM OF 300 mm FROM STIFFENERS OR FLANGE SPLICES.
15. FULL ASSEMBLY REAMING WILL BE REQUIRED FOR THE BEAM SPLICES.
16. ENDS OF BEAMS SHALL BE VERTICAL UNDER THE EFFECTS OF THE PROFILE GRADE AND BRIDGE DEAD LOADS.
17. FLANGE PLATES FOR BEAMS SHALL BE CUT TO PROPER CURVATURE.
18. ALL STRUCTURAL STEEL SHALL BE PAINTED USING THE IZEU PAINT SYSTEM. PRIME COAT SHALL BE APPLIED IN THE FABRICATION SHOP. SPECIAL 3 COAT SYSTEM, REFER TO SUPPLEMENTAL SPECIFICATIONS.
19. ALL BOLTS SHALL BE GALVANIZED WHEN USED IN CONJUNCTION WITH THE IZEU PAINT SYSTEM.
20. KINK POINT TRANSITION CURVES (DETAILS A THRU C) ARE AT CONTRACTOR'S OPTION AND BEAM LENGTHS GIVEN IN "BEAM RADIUS & LENGTHS" TABLES ARE GIVEN TO THE UNTRANSITIONED KINK POINTS SHOWN ON THE PLAN VIEWS.

FINAL FOR CONSTRUCTION

BRW — A DAVIES & MOORE GROUP COMPANY

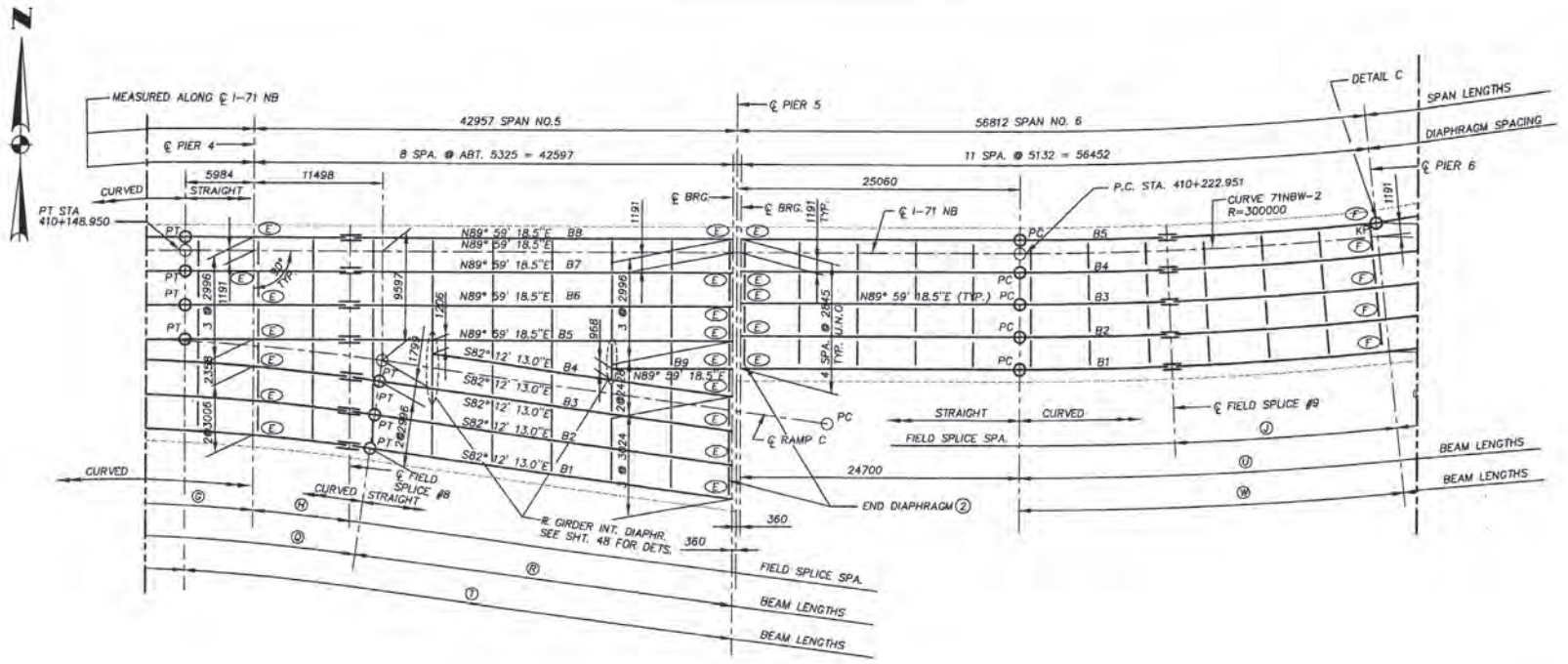
FRAMING PLAN
171 N.B.

BRIDGE 3

31 / 64

441
588

AUG 3 8 1996



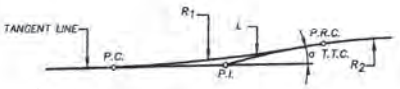
PART FRAMING PLAN

FIELD SPLICE DISTANCES ①			
BEAM NO.	LENGTH (H)	LENGTH (U)	
B1	8648	19287	
B2	8647	19110	
B3	8645	18933	
B4	–	18756	
B5	8600	18579	
B6	8600	–	
B7	8600	–	
B8	8600	–	

BEAM RADIUS & LENGTHS				
BEAM NO.	RADIUS ℄ (Q)	LENGTH (Q)	LENGTH (T)	LENGTH (R)
B1	197009	90960	–	32462
B2	200005	92344	–	32051
B3	203001	93727	–	31640
B4	–	–	–	26871
B5	–	–	48581	–
B6	–	–	48581	–
B7	–	–	48581	–
B8	–	–	48581	–
B9	–	–	–	10649

NOTES:
① MEASURED ALONG ℄ BEAM WEB
② SEE STANDARD CONSTRUCTION DRAWING NO. EXJ-4-87M
KP = KINK POINT

WELD CHART	
MAT. THICKNESS OF THICKER PART JOINED	MIN. SIZE OF FILLET WELD
TO 19 mm THICK INCLUSIVE	6 mm
OVER 19 mm THICK TO 38 mm INCL.	8 mm
OVER 38 mm THICK TO 57 mm INCL.	10 mm
OVER 57 mm THICK TO 152 mm INCL.	13 mm



DETAIL B

BEAM NO.	L	Δ	α	R_1	R_2
B1	915	10° 54' 57"	10° 54' 57"	4803	229361
B2	915	7° 54' 45"	7° 54' 45"	6626	232357
B3	915	4° 53' 46"	4° 53' 46"	10706	235353
B6	915	1° 52' 46"	1° 52' 46"	27873	238350

Δ IS THE TOTAL DEFLECTION ANGLE P.C. TO P.R.C.

FINAL FOR CONSTRUCTION

AUG 18 1998

BRW
A DAMES & MOORE GROUP COMPANY
GROUP

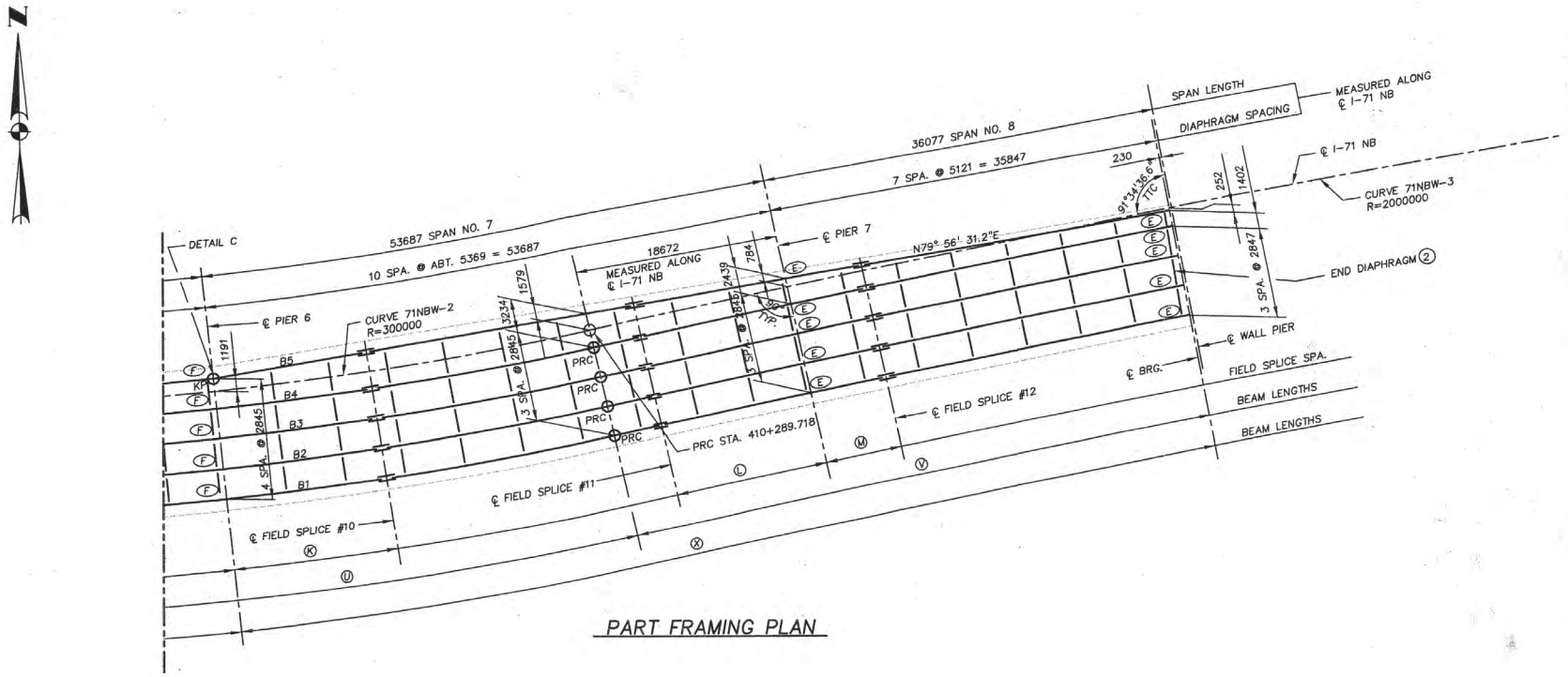
DESIGNED SA | DRAWN KLF | CHECKED MRN | REVIEWED | DATE | STRUCTURE FILE NUMBER | REVISED

FRAMING PLAN
171 N.B.

BRIDGE 3

32 / 64

442
588



PART FRAMING PLAN

FINAL FOR CONSTRUCTION

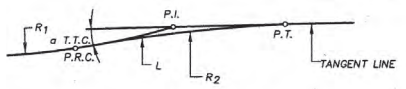
FIELD SPLICE DISTANCES (1)

BEAM NO.	LENGTH (K)	LENGTH (L)	LENGTH (M)
B1	14892	14129	7024
B2	14755	14149	7034
B3	14619	14169	7044
B4	14482	14190	7054
B5	14344	14220	7067

BEAM RADIUS & LENGTHS

BEAM NO.	RADIUS ℄ (U)	LENGTH (U)	RADIUS ℄ (V)	LENGTH (V)	RADIUS ℄ (W)	LENGTH (W)	LENGTH (X)
B1	310191	69035	1989809	53965	–	–	–
B2	307345	68402	1992655	54120	–	–	–
B3	304500	67770	1995500	54274	–	–	–
B4	301654	67136	1998346	54428	–	–	–
B5	–	–	–	–	298809	31626	89395

NOTES:
(1) MEASURED ALONG ℄ BEAM WEB
(2) SEE STANDARD CONSTRUCTION DRAWING NO. EXJ-4-87M
KP = KINK POINT



DETAIL C

BEAM NO.	L	Δ	a	R_1	R_2
B5	915	4° 04' 12"	4° 04' 12"	298809	13021

Δ IS THE TOTAL DEFLECTION ANGLE P.R.C. TO P.T.

FRAMING PLAN
171 N.B.

BRIDGE 3

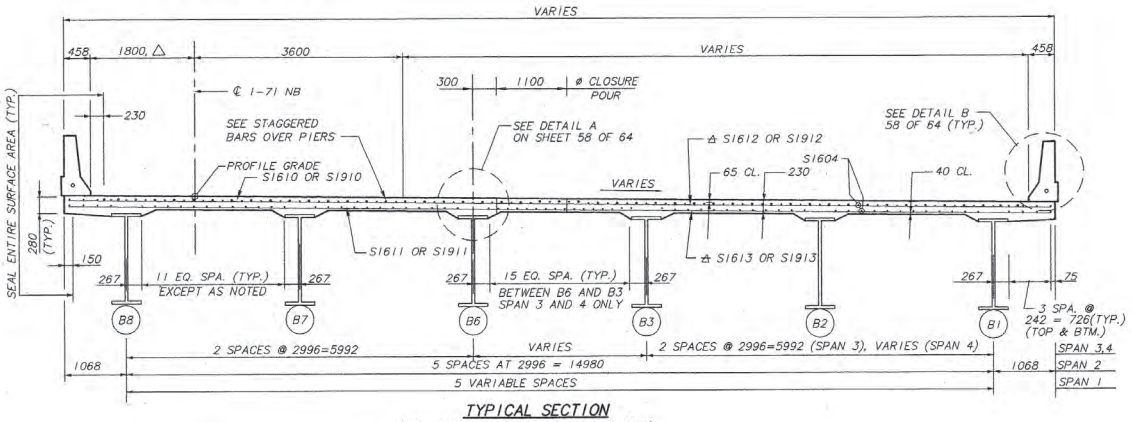
33 / 64

443 / 588

DESIGNED SA
DRAWN MJF
CHECKED MSM
REVISED
REVIEWED
DATE
STRUCTURE FILE NUMBER
BRIDGE
BRW
A DAMES & MOORE GROUP COMPANY

3-FRAMG.DWG 6-22-98

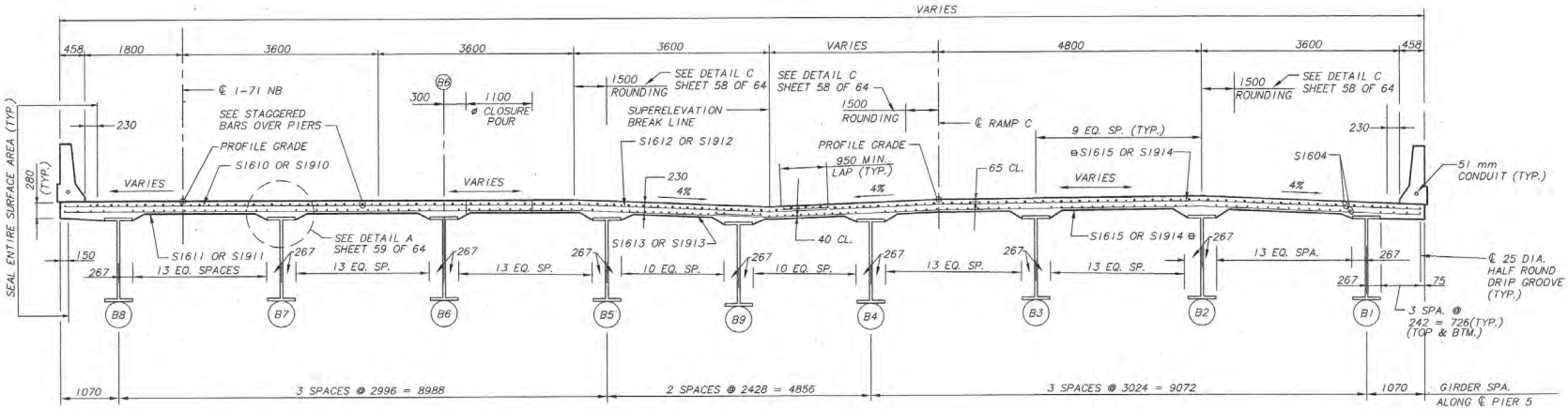
△ VARIES 1223 – 1800 IN SPAN 1



TYPICAL SECTION

(STA. 410+000.000 TO STA. 410+121.500)
(SPANS 1,2,3,PORTION OF 4)

SUPERSTRUCTURE (SPANS 1,2,3,4,5) REINFORCING STEEL LIST			
MARK	TOTAL NO.	LENGTH	TYPE
S1604	3030	12000	STR
S1606	868	2130	1
S1610	666	7310	STR
S1611	666	7310	STR
S1612	666	12000	STR
S1613	666	12000	STR
S1614	203	8200	STR
S1615	288	3800	STR
S1901	868	765	3
S1902	868	855	2
S1910	661	7310	STR
S1911	661	7310	STR
S1912	661	12000	STR
S1913	661	12000	STR
S1914	286	3800	STR



TYPICAL SECTION

(STA. 410+121.5 TO STA. 410+197.891)
(PORTION SPAN 4, 5)

△ CUT S1612, S1613, S1912, S1913 TO FIT.

ø SEE SECTION B-B SHEET 52 OF 64

⊖ CUT S1615 OR S1914 TO FIT. MULTIPLE LAPS ARE ALLOWED PER BAR LINE. LAP TOP BARS MIDWAY BETWEEN GIRDERS AND BTM. BARS OVER GIRDERS.

NOTES:

1. TRANSVERSE BARS TO BE PLACED RADIAL TO I-71 NB ALIGNMENT.
2. FOR SUPERELEVATION RATES, REFERENCE SUPERELEVATION PLANS.

FINAL FOR CONSTRUCTION

DESIGN AGENCY: BRW HAZELET & ERDAL, A BRW COMPANY
DCM Group
DESIGNED: JAP
DRAWN: RCS
CHECKED: SWF
REVIEWED
DATE
REVISED
STRUCTURE FILE NUMBER: BR3-7772

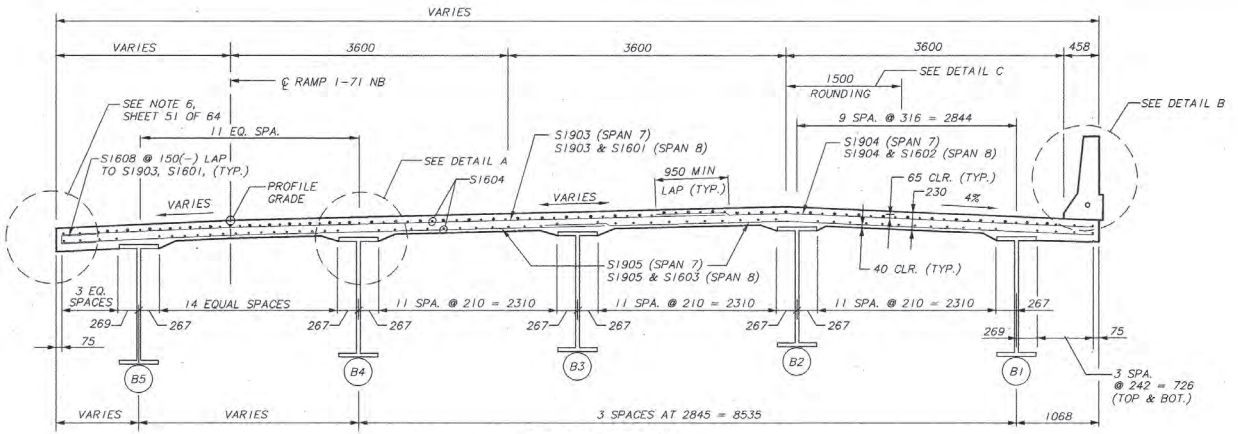
TYPICAL SECTIONS
I-71 NB

BRIDGE 3

58/64
468/588

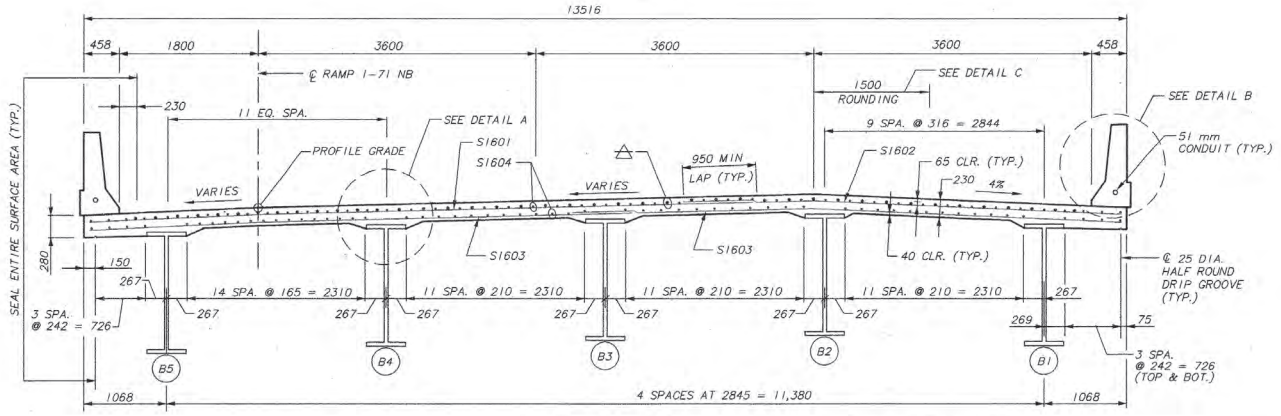
AUG 18 1998

BR3-7772 8/18/98



TYPICAL SECTION

(SPAN 6 STA. 410+252.220 TO STA. 410+254.703)
(SPAN 7 AND SPAN 8)



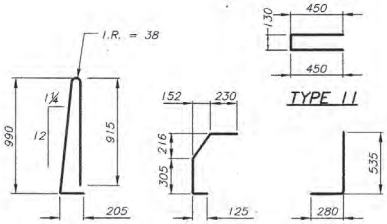
TYPICAL SECTION

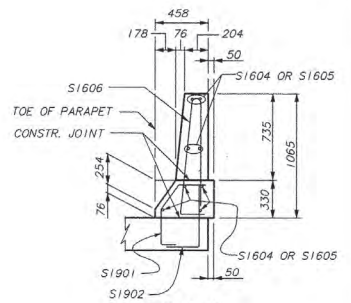
(SPAN 6 STA. 410+197.891 TO STA. 410+252.220)

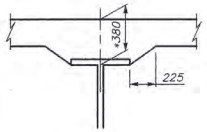
△ SEE STAGGERED BARS OVER PIERS SHOWN ON SLAB PLANS

SUPERSTRUCTURE (SPANS 6,7,8) REINFORCING STEEL LIST

MARK	TOTAL NO.	LENGTH	TYPE
S1601	507	8700	STR.
S1602	507	5800	STR.
S1603	1014	7300	STR.
S1604	1608	12000	STR.
S1605	112	11400	STR.
S1606	444	2130	1
S1607	84	12000	STR.
S1608	615	1030	11
S1901	444	765	3
S1902	444	855	2
S1903	487	9400	STR.
S1904	487	5700	STR.
S1905	974	7600	STR.





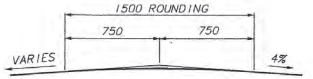


* DECK SLAB DEPTH: THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO TOP OF STEEL GIRDER WEB IS THE DESIGN DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.

NOTES:

1. TRANSVERSE BARS TO BE PLACED RADIAL TO I-71 NB ALIGNMENT.
2. FOR SUPERELEVATION RATES, REFERENCE SUPERELEVATION PLANS.

FINAL FOR CONSTRUCTION



DETAIL C

DESIGN AGENCY
DCM
BRW HAZELET & ERDAL
A BRW COMPANY
CENTRUP

DESIGNED	DRAWN	REVIEWED	DATE
JAP	RCS		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SF		BR3-1771	

TYPICAL SECTIONS
I-71 NB

BRIDGE 3

59/64

469
588

AUG 1 6 1998

8/10/98

BR3-1771