



2019 PHYSICAL CONDITION FRACTURE CRITICAL INSPECTION REPORT

Bridge CUY-10-0869

SFN 1801325

S.R. 10 (Lorain Road) Bridge over the Rocky River Valley

Dates of Inspection September 9 to September 12, 2019

**ODOT, DISTRICT 12
5500 TRANSPORTATION BOULEVARD
GARFIELD HEIGHTS, OHIO 44125
DECEMBER 30, 2019**

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ODOT BRIDGE NO. CUY-10-0869 S.R. 10 (LORAIN ROAD) BRIDGE OVER THE ROCKY RIVER VALLEY SFN 1801325


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Report Submitted December 30, 2019



EXECUTIVE SUMMARY

The Lorain Road bridge carrying State Route 10 over the Rocky River Valley is one of the major crossings over the river valley, connecting Cleveland to Fairview Park. The bridge is situated immediately west of the Fairview Hospital and is owned and maintained by the Ohio Department of Transportation (ODOT). The annual bridge inspection is performed by ODOT or consultants to confirm the condition state of the bridge. DLZ Ohio, Inc. (DLZ) was contracted by ODOT to perform element level inspection services on this bridge for years 2019, 2020, and 2021.

The overall condition of the Lorain Road Bridge (SFN 1801325) is rated a 6, meaning that it is in satisfactory condition. Significant findings justifying the general appraisal rating include the following results:

1. The sidewalk expansion joints have several locations of missing connection bolts and pack rust allowing for vertical misalignment of the plates.
2. The underside of the deck is generally in good condition with minor delaminations and spalls along beam top flanges and minor transverse cracking. The wearing surface is typically in good condition with patches and minor spalls.
3. The railings have significant areas of deterioration with holes in the tubular rails, spalls in the parapets, and exposed reinforcing steel and post anchor bolts.
4. A new vandal protection fence was installed just prior to the inspection and is in new condition.
5. The longitudinal drainage troughs along the roadway curbs are generally full of debris. There are several downspouts below the deck that are rusted out and continue to leak drainage onto the steelwork and piers below.
6. The expansion joint glands were missing on two-thirds of the bridge. A maintenance crew was replacing expansion joint glands during DLZ's inspection.
7. Currently, there are numerous cracked erection welds, but no known active cracks extending into the base metal.
8. Access doors at the base of each tower leg and at each end of the arches allow access to the interior for inspection. Several access door hinges are broken making opening the steel doors dangerous for inspectors. Some door hinges will not allow the doors to be completely closed and locked, which allow rodents access to the interior spaces.
9. Racoons continue to be a nuisance and a danger when climbing the pier tower interiors. The racoons gain access to the pier caps from the opening at the top.

Inspection findings were documented with field notes, sketches, pictures and measurements. Detailed discussion of all related issues can be found in the pertinent sections of this inspection report.

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1.0 Bridge Description

ODOT Bridge No. CUY-10-0869 over the Rocky River Valley (SFN 1801325), also known as the Lorain Road Viaduct, is located on State Route 10 between the cities of Fairview Park and Cleveland in Cuyahoga County, Ohio. The bridge was originally built in 1935 and had major rehabilitation in 1987. The existing structure is 1,202.9'(\pm) long with a nine (9) span superstructure which is divided into one (1) east approach span, four (4) main arch spans, and four (4) west approach spans. Span 1 is 60.5'(\pm) long; Span 2 is 236.7'(\pm) long; Spans 3 and 4 are 256'(\pm) long each; Span 5 is 236.7'(\pm) long; Span 6 is 41.1'(\pm) long; Spans 7 and 8 are 38.6'(\pm) long each; and Span 9 is 38.7'(\pm) long. The deck consists of a 64'-8"(\pm) out-to-out black steel reinforced concrete deck with 6'-4"(\pm) reinforced concrete sidewalks constructed in 1987. A decorative steel railing is mounted on top of the sidewalks. The roadway width is 52'-0"(\pm) curb-to-curb. Elastomeric strip seal expansion joints are present at the tower piers and at the abutments. The structure carries two (2) eastbound lanes and two (2) westbound lanes over the Rocky River, Cleveland Metroparks Rocky River Reservation, Valley Parkway Trail, and Valley Parkway.

The concrete deck is supported by continuous rolled steel stringers and steel beams. The main span steel box arches are spaced at 36'-6"(\pm). The steel superstructure members are ASTM A36 steel. The steel box arches and steel tower piers are supported on reinforced concrete spread footings in shale. The reinforced concrete abutments are founded on spread footings in shale.

The existing longitudinal bridge grade is approximately level (west to east) and the transverse roadway crown is approximately -1.56%. The approach slabs are 15"(\pm) thick and 25'(\pm) long, located on either end of the bridge. The current traffic (2015) on the bridge is estimated at 11,449 vehicles per day with 7.1% trucks.

2.0 Bridge History

The bridge was designed by D. H. (Henry) Overman, Principal Designing Engineer for the Ohio Department of Highways in 1933-1934 and constructed in 1935. The American Institute of Steel Construction judged the bridge the “Most Beautiful Steel Bridge” of its class built in the United States in 1935. The following table defines the projects and repairs which took place on the bridge since the start of construction in 1935:

Date	Project
1978	Temporary Repair: 2.5” of asphalt wearing surface were removed and replaced. Concrete patching on damaged areas of curbs, sidewalks and around the expansion joints.
1987	Major Rehabilitation: Widened the original roadway width from 40’(±) to 52’(±); installed new latex modified concrete wearing surface; installed new drainage scuppers and downspouts; constructed new concrete sidewalks and steel curb plates; rehabilitated original steel railings; graded rear slope and installed gabion slope protection.
1990-1991	Painting: IZEU paint system applied
2019	Fence: New vandal protection fence installed behind existing tubular steel railing. Expansion Joints: Expansion joint gland replacement work was in progress during the 2019 inspection.
Current	Bridge Inspection: The structure is inspected annually by ODOT or consultants. Consultants HDR, Infrastructure Engineers, and Richland Engineering Limited (REL) have inspected the bridge in the past. The 2019 inspection was an element level, fracture critical inspection performed by DLZ Ohio.

3.0 General

The data for this Physical Condition Inspection Report was obtained September 9 through September 12, 2019. The bridge inspection was performed by inspectors from DLZ. The bridge inspection was performed in accordance with the following documents:

Version	Document
2014	Manual of Bridge Inspection, Ohio Department of Transportation (ODOT)
2010	Manual for Bridge Evaluation, American Association of State Highway and Transportation Officials (AASHTO)
2012	Bridge Inspector's Reference Manual, Federal Highway Association
1986	Inspection of Fracture Critical Bridge Members, U.S. Department of Transportation
1988	National Bridge Inspection Standards, U.S. Department of Transportation

The Scope of Services directed DLZ to perform a routine element level inspection, including an “arm’s length” inspection of all fracture critical components of the structure, and report the findings in a formal report. The inspectors used several different access methods for the superstructure, including walking the deck, climbing the arches and pier towers, and using manlifts and snooters. Sofis Company, Inc. provided a snooper truck and traffic control September 9 through 11, 2019. The substructure was visually inspected from the ground and from the snooper, and from within the steel pier towers. The base of Tower No. 8 was accessed using rope-access techniques. DLZ collected photographs, field notes and sketches while carrying out the bridge inspection. No destructive testing was performed.

The Condition ratings used in this report are based on the 2014 ODOT Manual of Bridge Inspection Condition Rating Guidelines.

Condition Rating Guide			
1-4 Individual Component	9-0 NBIS Summary		Inspector Guidelines (Quantitative comments include the Location, Extent & Severity of the deficiency)
1-GOOD	9 - Excellent	No problems noted: no section loss, general deterioration.	Make brief comments as necessary. Communicate the predominant deficiency.
	8 - Very Good		
7 - Good	Some minor problems (ex. extent of concrete deterioration is up to 1% spalling or up to 5% saturation)		
2-FAIR	6 - Satisfactory	Structural elements show some minor deterioration (ex. extent of concrete deterioration is up to 5% spalling or up to 10% saturation)	
	5 -Fair	Structural elements show deterioration but are sound (ex. extent of concrete deterioration is up to 10% spalling or up to 20% saturation)	
3-POOR	4 - Poor	Advanced* (ex. extent of concrete deterioration is more than 10% spalling or more than 20% saturation). Usually the load path appears to be affected for primary members or there are obvious structural changes since the as-built condition that are advanced.	Candidate to establish monitoring benchmarks to track the rate-of -change. Take photos, make sketches and document quantitatively in order to determine if a re-load rating is possible. Include in-service conditions to verify capacity
	3 - Serious	4-Poor. . . And local failures possible.	<i>Above. . . And</i> discuss the deficiency immediately with Control Authority.
4-CRITICAL	2 - Critical	3-Serious. . . And Unless closely monitored it may be necessary to close the bridge until corrective action is taken.	<i>Above. . . And</i> the bridge is a candidate to dispatch road closure and/or immediate repairs and/or increased monitoring (Interim Inspections). Confirm in writing, critical finding.
	1 -Imminent Failure	2-Critical. . . And Major deterioration is affecting stability. Bridge or lane(s) shall be closed to traffic but corrective action may put bridge back into light service.	<i>Above. . . And</i> Dispatch immediate lane or bridge closure. Contact the Control Authority. Stay at the bridge until the safety of the traveling public is achieved. Confirm in writing.
	0 - Failed	1-Imm Failure. . . And Out of service - beyond corrective action.	

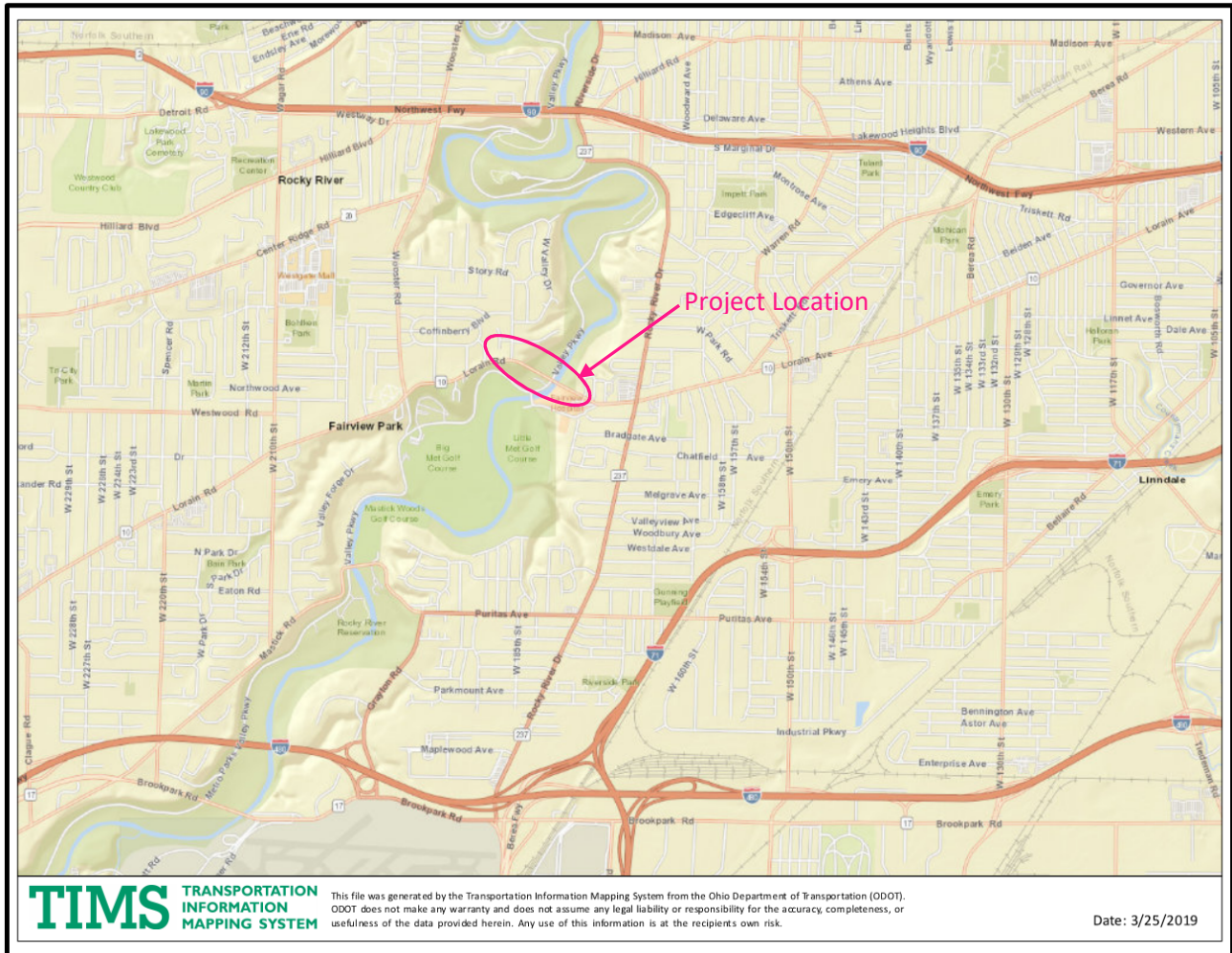
Poor
Structurally Deficient**

* **Advanced** –widespread deficiencies **or** a likely reduction to capacity (**more examples on following page**).

** **Structurally Deficient (SD)** –Bridge Deck, Superstructure, or Substructure Summary rated 4-Poor or below.

A bridge can also be classified as structurally deficient if its load carrying capacity is significantly below current design standards or if a waterway below frequently overtops the bridge during floods.

4.0 Location Map



5.0 General Appraisal and Operating Status

The overall condition rating of the bridge is **6 [A]**, indicating that it is in satisfactory condition and has no load restrictions.

The following is a summary of the field inspection recently performed September 9 through September 12, 2019:

Item	Rating
Approach Summary	5
Deck Summary	6
Superstructure Summary	6
Substructure Summary	6
Channel Summary	7

5.1 Approach Items

The Approach Items overall rating is a **5**, indicating that they are in Fair condition.

The following items are rated as follows:

APPROACH ITEMS

- c1. Approach Wearing Surface (EA)
- c2. Approach Slabs (SF)
- c3. Relief Joint (LF)
- c4. Embankment (EA) d
- c5. Guardrail (EA)
- N36. Safety Features:
Tr, Gr, Tm
- c6. Approach Summary

QTY.	condition state				cr
	1	2	3	4	TR
2	0	2	0	0	2.00
2583.9	2338.9	110	135	0	1.70
4	4	0	0	0	1.00
4	2	2	0	0	1.60
36)B	1	36)C	0	36)D	1
			(9-0)		5

5.1.1 APPROACH WEARING SURFACE

The approach pavement is in **fair** condition. The approach roadway wearing surface is asphalt with some patching and full width transverse cracks that have generally been sealed. There are large asphalt patches at both ends of the approach slabs that also extend onto the approach slabs.

5.1.2 APPROACH SLABS

The approach slabs are in **fair** condition. The rear approach slab has an asphalt wearing surface with partially sealed longitudinal and alligator cracks and raveling. In the eastbound lanes, there are both previously asphalt patched and open potholes in the asphalt wearing surface. The south curb of the rear approach slab has three full-depth spalled cracks. The forward approach slab has a latex modified concrete wearing surface with transverse and diagonal cracking, a deteriorated asphalt patch in the westbound lanes, and deteriorated asphalt patches along the forward end of the slab in the eastbound lanes, which continue into the approach pavement.



5.1.3 EMBANKMENT

The embankment for this bridge is rated **good**. There is minor bare soil and rutting around the wingwalls.

5.1.4 GUARDRAIL

The guardrail is rated **fair**. Two posts on north guardrail, east approach, are missing block-outs. The south guardrail on west approach has collision damage and a broken end post at the end anchor assembly. The guardrail does not meet current standards at all four corners.



Photo 2 - Guardrail missing block-out, northeast approach



Photo 3 - Guardrail collision damage at west end of bridge

5.2 Deck Items

The Deck overall rating is a **6**, indicating that it is in **satisfactory** condition. The bridge deck is a 6½ inch thick black steel reinforced concrete slab with a 1¼ inch latex modified concrete overlay wearing surface.

The following items are rated as follows:

DECK ITEMS

- c7.1 Floor/Slab (SF)
- c7.2 Edge of Floor/Slab (LF)
- c8. Wearing Surface (SF)
- c9. Curb/Sidewalk/Walkway (LF)
- c10. Median (LF)
- c11. Railing (LF)
- N36. Safety Features: Rail
- c12. Drainage (EA) d
- c13. Expansion Joint (LF) d
- N58. Deck Summary

QTY.	condition state				cr
	1	2	3	4	TR
74578	6511	9404	56	0	1.19
2406	8 325	1311	770	0	3.00
63823	5997	3845	7	0	1.09
2455	1 1379	1043	33	0	1.67
	0				
2455	206	1745	389	115	2.89
36)A	1				
58	0		49	9	3.00
434	0	168		266	3.00
				(9-0)	6

5.2.1 FLOOR/SLAB

The floor is in **good** condition. There is typical hairline transverse cracking throughout, with isolated locations of minor efflorescence. The transverse cracking is most prevalent in the exterior three bays of both sides of the deck, continuing from edge of deck cracks.

The access hatches in the deck over the pier towers in the arch spans are severely rusting and delaminating the surrounding deck concrete. The hatches leak and have dropped flaking rust onto the pier caps.



5.2.2 EDGE OF FLOOR/SLAB

The Edge of Floor/Slab is in **poor** condition. Throughout the bridge fascia there are minor transverse cracks that continue to the interior of the deck. There are areas of patching where the new fence posts have been anchored to the edge of deck. The undersides of the deck exhibit spalls with multiple transverse bars exposed.



Photo 6 - Multiple spalls bar exposed on edge of slab spall

5.2.3 WEARING SURFACE

The Wearing Surface is in **good** condition. The bridge deck was visually inspected during the lane closures and from the sidewalk. The wearing surface has transverse and longitudinal cracks throughout which is allowing water to seep into the concrete deck, promoting deterioration of the floor. There are minor spalls in the Eastbound curb lane of Spans 1 through 4, the eastbound curb lane of Spans 5 and 6 near the Pier 5 expansion joint, the westbound center lane of Span 7 near the Pier 6 expansion joint, the eastbound center lane of Span 7 at midspan, and the westbound center lane of Spans 8 and 9 near the Pier 8 expansion joint. There are small, sound concrete patches in the westbound lanes of Spans 5 and 6 near the Pier 5 expansion joint and Spans 6 and 7 near the Pier 6 expansion joint. There is a 3' x 4' concrete patch that is spalled along the longitudinal edge in the westbound curb lane of Span 7 near the Pier 7 expansion joint. There is a spall in the westbound center lane of Span 9 that has been patched with concrete and asphalt. The spalls and patches total approximately 6.0% of the deck surface. Overall, the latex modified concrete overlay provided a smooth driving surface.

5.2.4 CURB/SIDEWALK/WALKWAY

The reinforced concrete sidewalk slabs with steel curb plates are in **fair** condition with cracking and spalling in isolated areas stemming from the curb plate-to-sidewalk concrete interface. The sidewalks on the superstructure have a 3" thick concrete wearing surface. Various concrete repairs have been made to the sidewalk wearing surface, but there is typically additional deterioration around the repairs. Scaling was noted throughout the older portions of the sidewalk wearing surface in Spans 1 through 6. The northwest and southwest corners of the sidewalks along the approach slab are showing signs of heaving. An offset of up to 1½ inches exists at the northwest corner. The joint armor cover plates are missing connection bolts and are vertically misaligned at many of the expansion joints due to pack rust, and at several locations the curb portion of the joint armor cover plate is perforated due to corrosion. There is a 6" x 19" x 1" deep spall in the south sidewalk in Span 7.



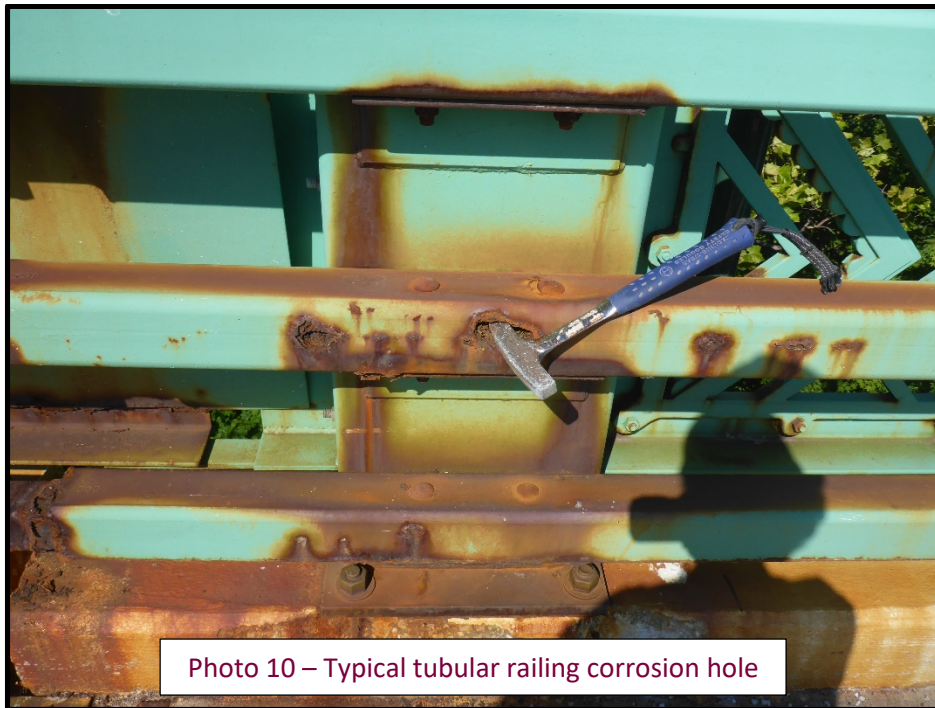
Photo 7 – Sidewalk spalling at curb plate



5.2.5 RAILING

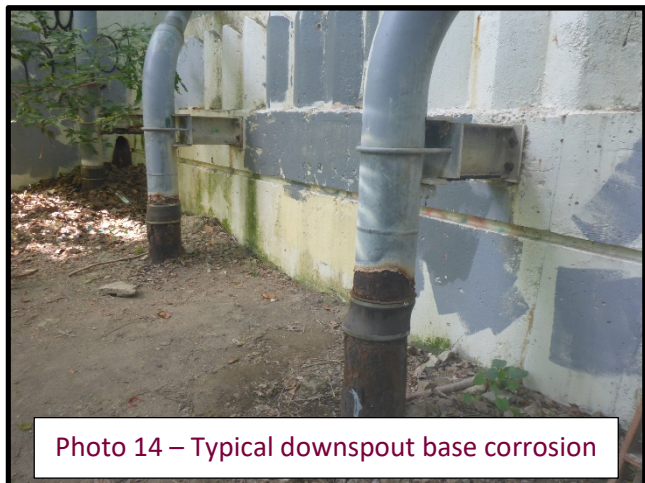
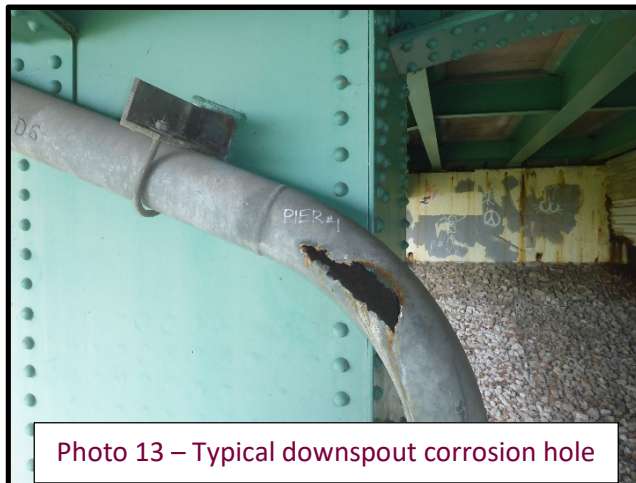
The steel tubular decorative railings on top of 11"-high concrete bases are in **poor** condition. The element level ratings are measured per linear foot and include deterioration to the steel post and tubes as well as the concrete base and the new vandal protection fence. The tubular horizontal rails are retaining water and corroding from the inside out. There are many locations where the rails have corrosion holes, particularly on the north side of the bridge. The expansion joints in the railing are heavily corroded throughout, with the north railing at Joint 5 having up to 100% section loss around the perimeter of the sliding angles. There is a broken connection bolt in the south railing connection in Span 8. The concrete bases of the railing posts are spalling in many locations, exposing the railing post anchor bolts. There is one location in Span 6 on the south railing where a two-foot long section of a 2x4 timber is embedded in the face of the concrete base. The decorative steel panels behind the tubular members are in generally good condition, though nearly all have corrosion along the top edge.

The newly installed vandal protection fence is in good condition.



5.2.6 DRAINAGE

The drainage system is in **poor** condition. The current drainage system removes water on the bridge by means of gutter troughs parallel to traffic. Although there is no evidence of pooling or stagnated water, several areas of the drainage system exhibit deficiencies. The grates and gutter troughs are impacted with debris growing vegetation, and in some cases, spilled concrete from recent sidewalk wearing surface replacement work. The downspouts follow the floorbeam cantilever, then down the face of the pier tower columns and exhibit section loss up to 100% at the downspout elbows. At the arch, the downspouts connect to 8" diameter collector pipes which follow the arch line to the piers, where they drain into an underground storm sewer system. There is rust at the ground line of the downspouts which do not free fall the runoff into catch basins. The storm sewer runs below ground and along the centerline of the bridge, from the rear approach to its outlet into the Rocky River.



5.2.7 EXPANSION JOINTS

The expansion joints are in **poor** condition. The expansion joints consist of elastomeric strip seal joints at the abutments and above each pier tower. There is a 6" tear in the joint seal above Tower 8 just south of the centerline. The joints exhibit minor misalignment possibly from snow plow strikes. There is vertical misalignment in the north sidewalk joint above Towers 4 and 5, and in the south sidewalk in Spans 8 and 9. There are minor gouges in multiple locations of the joint armor. The elastomeric seal was missing in the curb lanes of the expansion joints during the inspection and the seals were impacted with debris in the remaining portions. The sidewalk portion of the expansion joints have cover plates that turn vertically down the face of the curb. The cover plates generally exhibit section loss and missing bolt heads on the top surface of the sidewalk portion and through-holes due to corrosion on the curb portion.



Photo 15 – Typical joint condition



Photo 16 – Typical sidewalk joint armor condition

5.3 Superstructure

The Superstructure overall rating is a **6**, indicating that it is in **Satisfactory** condition.

The following items are rated as follows:

SUPERSTRUCTURE ITEMS	QTY.	condition state				cr
		1	2	3	4	TR
c14. Alignment (EA) d	9	9	0	0	0	1.00
c15.1 Beams/Girders (LF)	2828	2569	232	27	0	1.26
c16. Diaphragm/X-Frames (EA)	94	94	0	0	0	1.00
c17. Stringers (LF)	10839	1061	215	14	0	1.05
c18. Floorbeams (LF)	2898	2852	5	41	0	1.23
c24. Lateral Bracing (EA)	46	34	12	0	0	1.35
c26. Bearing Devices (EA) d	140	121	19		0	1.19
c27. Arch (LF)	1971	1774	195	2	0	1.16
c28. Arch Column/Hanger (EA)	92	19	19	54	0	3.00
c30. Prot. Coating System (LF) d	19044	1	1553	2460	1049	2.93
c31. Pins/Hangers/Hinges (EA) d	16	16	4	0	0	1.00
c32. Fatigue (LF) d	18790	1870	86	4	0	1.01
N59. Superstructure Summary		0				(9-0) 6

5.3.1 ALIGNMENT

The Alignment is in **good** condition. There were no instances of misaligned superstructure elements during the inspection.

5.3.2 BEAMS/GIRDERS

The Beams in the approach Spans 1-4 and Span 9 are in **good to fair** condition with no significant deficiencies. Minor surface rust is visible in isolated locations along the bottom flange of the beams.

5.3.3 DIAPHRAGM/X-FRAMES

The Diaphragms present between beams in the approach Spans 1-4 and Span 9 are in **good** condition with no significant deficiencies noted.

5.3.4 STRINGERS

The Stringers are in **good** condition. The original stringers under the interior roadway were reused in the 1987 rehabilitation and exhibit old section loss near the expansion joints that has been painted over and are starting to show rust from beneath in some locations. There is one missing bolt on the bottom flange of Stringer 8 in Span 8 at Tower 7. There are missing welds from the stringer ends to the floorbeam seats at the ends of Stringer 9 at Floorbeam 11 in Span 5, and at Floorbeam 2 in Span 6.





5.3.5 FLOORBEAMS

The Floorbeams are in **good to fair** condition. The floorbeams under the deck joints have active corrosion with minor section loss where the paint has failed.

There were multiple cracks noted in the “erection” welds made to the original steel, where the widened floorbeam section meets the arch columns. These broken welds are primarily at the bottom flange of the widened floorbeam section and are not of concern. The built-up bottom flange of Floorbeam 9 in Span 5 has an irregular gap between rivets but appears stable. A painted over miss-cut for the Stringer 7 flange was noted at the Floorbeam above Pier 5.





5.3.6 LATERAL BRACING

The strut lower lateral bracing is in **fair** condition. There is peeling paint with surface corrosion at several locations, but otherwise no significant deficiencies were noted.



5.3.7 BEARING DEVICES

The bearings on this bridge are in **good** condition. The bearings under the beams and stringers at the abutments and towers are sliding plate bearings. The sliding plate bearings under the expansion joints have built up pack rust in some locations due to exposure to roadway drainage. The exterior bearings were noted to have the heaviest active corrosion.

5.3.8 ARCH

The Arches are in **good to fair** condition with random areas of peeling paint and section loss. Area around the access doors exhibit laminar corrosion with section loss up to $\frac{1}{4}$ ". Several access doors are missing, broken, or near breaking due to section loss of the hinges. Old section loss is painted over along the arch webs at the bottom flanges on the outside of the box. Rust staining at the base of Arch Columns is prevalent at the last columns near the piers and at the corresponding Lateral Bracing connections. An opossum was present in the Pier 5 base of the north arch.

There are 5 locations where there are issues with the arch access doors. In Span 5, the N access door is missing and is covered by a filter fabric. The metal ties holding it are rusting away. In Span 5, the S access door has a broken latch, so it cannot be locked. The door also does not sit flush, which is causing the hinge to bend and fatigue. It is currently being held closed by paracord. In Span 6, both the N & S access doors have broken hinges and are only held on by the lock and friction. In Span 8, the N access door has a broken hinge and is only held on by the lock and friction.

The arch interiors were inspected and are in good condition. All arches show evidence of raccoon nesting, and some arches exhibit rust staining from raccoon waste. Several locations appeared to have leaks, but all locations were dry at the time of inspection. Arch interiors were not repainted during the 1990 painting contract and have peeling paint and bare metal with a surface rust patina. Minor surface rust on the internal faces primarily located near the end Pins. The arch web base metal was undercut on the welds to the closed construction access door frames in the upper portions of the Arch (refer to photo 25).





Photo 24 – Rust staining at Arch Column Connection



Photo 25 – Undercut weld at access door location

5.3.9 ARCH COLUMN/HANGER

The arch columns are in **poor** condition. Minor pack rust was noted between the built-up section on both interior and exterior faces. Many of the columns are collecting debris through the open interior face. There is painted over section loss in isolated locations on the Arch Columns.



Photo 26 – Pack rust forming between plates of the Arch Column

5.3.10 PROTECTIVE COATING SYSTEM

The Protective Coating System is in **poor** condition. There are localized areas where the paint is missing and the primer is exposed. Areas around the drainage system show the most deterioration to the PCS. In these areas, there is both surface corrosion and lamina corrosion to the girder, floorbeam, and bearings. The PCS on the arches and arch columns are in poor condition exhibiting a dull chalky appearance and rust staining.

The interior of the arches was not repainted during the 1990 painting contract. Since the interiors of the arches are generally dry and not exposed directly to weather, failure of the paint system is not a great concern. Even though the paint on the exterior of the arches was generally in good condition, the arch interior that was in poor condition governed the paint rating for the arches (see Photo 21).



Photo 27 – Peeling paint and rusting base metal

5.3.11 PINS/HINGES/HANGERS

The pins for the arches are rated in **good** condition. The visual inspection noted minor section loss due to surface corrosion.



Photo 28 – Surface corrosion surrounding arch pin

5.3.12 FATIGUE

The Fatigue details are in **good** condition. Erection welds prior to placing rivets at the inside faces of the Arch at the bottom of the Arch columns exhibited rust and minor cracking. None of these cracks have propagated into base metal and are in compression zones. A fatigue prone detail was noted in the welds at the bottom flange connection plate of the Beams in the approach spans as they frame into the integral pier caps. Neither of these locations are in high stress regions and they do not show any adverse conditions.

5.4 Substructure

The Substructure overall rating is a **6**, indicating that it is in **Satisfactory** condition.

The substructure items are rated as follows:

SUBSTRUCTURE ITEMS

c33. Abutment Walls (LF)
c34. Abutment Caps (LF)
c35. Abut. Columns/Bents (EA)
c36. Pier Walls (LF)
c37. Pier Caps (LF)
c38. Pier Columns/Bents (EA)
c39. Backwalls (LF)
c40. Wingwalls (EA)
c42. Scour (EA) d
c43. Slope Protection (EA) d
N60. Substructure Summary

QTY.	condition state				cr
	1	2	3	4	TR
128	125	3	0	0	1.03
64	58	6			1.13
	0				
281.3	227.3	43	11	0	1.67
507.6	501.6	6	0	0	1.02
16	6	7	3	0	2.48
128	128	0	0	0	1.00
4	4	0	0	0	1.00
10	10	0	0	0	1.00
2	1	0	1	0	3.00
				(9-0)	6

5.4.1 ABUTMENT WALLS

The abutment walls are in **good** condition. The rear abutment has a few minor vertical cracks and rust stains.

5.4.2 ABUTMENT CAPS

The abutment caps are in **good** condition. The forward abutment exhibits a horizontal crack and a vertical crack below Stringers 10 and 12.

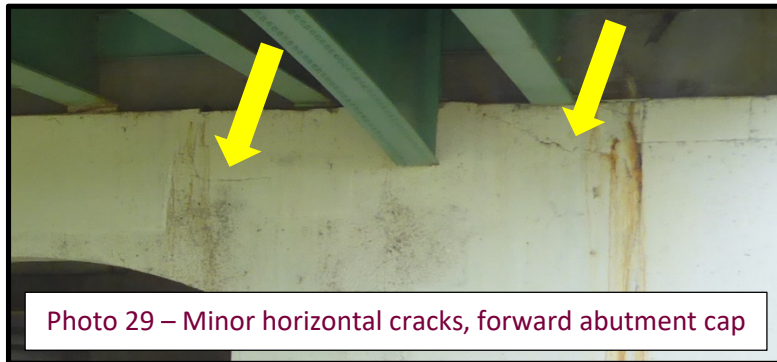


Photo 29 – Minor horizontal cracks, forward abutment cap

5.4.3 PIER WALLS

The pier walls are in **fair** condition. The pier walls and the pier caps were visually inspected. The pier walls exhibit areas of delaminations, cracks, and spalling with exposed reinforcing steel. The following deficiencies were also noted:

PIER	FACE	COMMENTS
2	North	Vertical cracking on the concrete pedestal
4	East	Multiple minor vertical cracks and one deep full height crack, all sealed over with epoxy
5	Inside Faces	Inside faces of the pedestal bases exhibit vertical cracking and rust staining. Full height crack on west face of center panel
6	All	Multiple minor vertical and horizontal cracks sealed over with epoxy
6	Southeast	Horizontal cracking with efflorescence
7	Center Panel	Two full height, full depth vertical cracks, sealed over with epoxy
7	South	Vertical cracks under the south tower on the south face
8	North	Spalling with exposed rebar, all sealed over with epoxy
8	South	Rust stained horizontal cracking below the South tower



Photo 30 – Typical crack, sealed over with epoxy

5.4.4 PIER CAPS

The steel pier caps are in **good to fair** condition. The arch-span Pier Caps exhibit minor corrosion and section loss due to leaking expansion joints. There is section loss on several stiffeners on the bottom of the cap interiors. The bottom plate of Pier 7 is bowed 1" over 10" on the West face of the Pier cap north of the South tower. Critter screen protection has failed, and the pier caps and columns are littered with raccoon fur and droppings.



Photo 31 – Pier 7 cap with 1" bowing bottom plate over 10"



Photo 32 – Typical underside rusting rivets

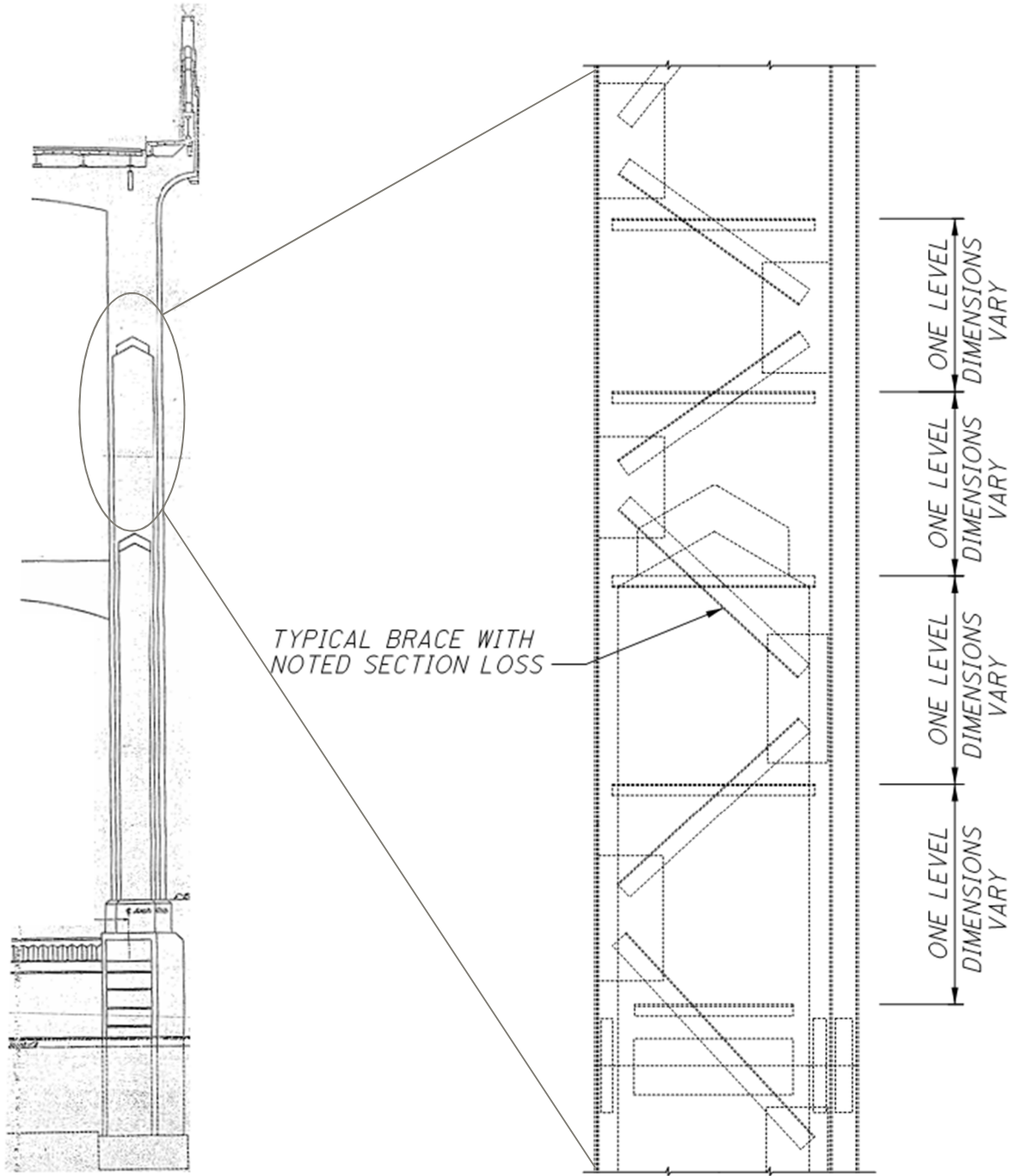
5.4.5 PIER COLUMNS

The steel built-up box pier columns are in **poor** condition. The Pier Columns rated as "each", which causes the presence of corrosion holes or bent plates due to pack rust to lower the entire column rating down to CS-3. The tower columns have minor surface corrosion on the exterior, localized to the connection between the art deco chevron relief. The approach span Pier Columns exhibited rust around the base of the Columns. Debris and fallen rust have accumulated along the horizontal stiffeners, flanges and in the corners of all towers.

The interiors of the towers have section loss in multiple locations up to complete flange loss of the dual-angle bracing members. Multiple stiffeners inside Towers 5, 6 and 7 have 50%-100% section loss. Corrosion holes in plates in several towers range from 1/8" up to 2-1/2" in diameter but are not concentrated in any one plate. Pack rust is distorting the bracing angles up to 1-1/4". Several access door hinges are broken making opening the steel doors for the access hatches dangerous for inspectors.

The following table of deficiencies were also noted (levels are numbered between internal horizontal bracings starting from 1 at the bottom of the pier column):

PIER	TOWER	COMMENTS
2	North	Broken access door latch, closed by 3/4" bolt only
4	South	Broken access door hinges
5	Both	Broken access door latch
5	North	Missing rivet in between levels 2-3, 6-7, and 11-12
6	Both	Broken access door hinges
6	North	Missing rivet at top level
7	North	Up to 12" deep piles of flaking rust along the base of the interior of the tower, access ladder attachment plates show severe section loss, plate to center cross brace exhibits section loss reducing width by 4" or more
7	South	Missing rivet on level 3, 4, 5, 8 and the top level
8	South	Missing rivet on level 4
8	North	Missing rivets on level 4, 5, 7 and 11
8	South	Broken access door hinges and latch



Partial Pier Elevation

Pier Column Interior Detail



Photo 33 – Pier 7 North Tower bracing section loss



Photo 34 – Exterior Pier Tower rust staining concrete base

5.4.6 BACKWALLS

The backwalls are in **good** condition with few vertical cracks. The top of the forward abutment backwall at the joint anchor has transverse cracking.

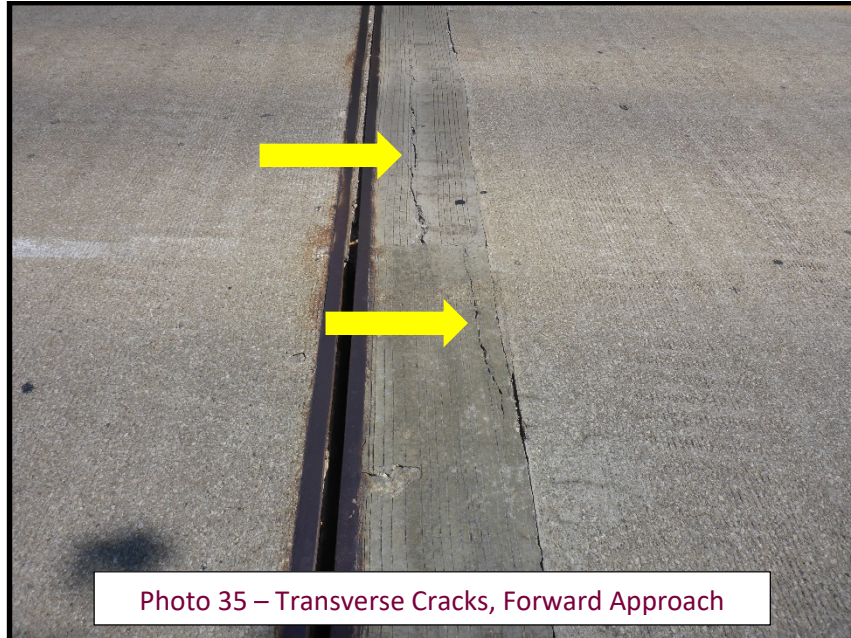


Photo 35 – Transverse Cracks, Forward Approach

5.4.7 WINGWALLS

The wingwalls are in **good** condition. There are areas of hairline cracking and minor efflorescence. No significant deficiencies were noted.

5.4.8 SCOUR

The condition of the scour is **good**. All substructure units are outside of normal flow.

5.4.9 SLOPE PROTECTION

The slope protection is in **poor** condition. The Rear Abutment slopes down to a gabion basket wall at the multi-use path, which appear to be new and are in good condition. The west embankments below the path and Tower 4 are heavily vegetated with drainage erosion causing a channel down the center of the bridge. The east bank of the Rocky River at the Forward Abutment consists of easily erodible, heavily weathered shale and has

sloughed up against and overtopped the concrete base of Tower 8. The slope on the west side of Tower 8 is severely eroded with a swale forming on the northern side of the shale slope.



Photo 36 – Forward Abutment Slope erosion channel

5.5 Channel

The Channel overall rating is a **7**, indicating that it is in **good** condition.

The following items are rated as follows:

CHANNEL ITEMS

- c51. Alignment (LF) d
- c52. Protection (LF) d
- c53. Hydraulic Opening (EA) d
- c54. Navigation Lights (EA) d
- N61. Channel Summary

QTY.	condition state				cr
	1	2	3	4	TR
200	200	0	0	0	1.00
200.0	200	0	0	0	1.00
9	9	0	0	0	1.00
				(9-0)	7

5.5.1 ALIGNMENT

The alignment of the Rocky River is in **good** condition. The river has a straight alignment for more than 100 feet upstream. No significant deficiencies were noted.

5.5.2 PROTECTION

The channel protection of the Rocky River is in **good** condition. The east side of the Rocky River consists of easily erodible material and continues to erode and cover the concrete base of Tower 8 with debris. The east face is entirely covered with soil and rock. The west side of Tower 8 is eroded beneath the three downspouts.

5.5.3 HYDRAULIC OPENING

The hydraulic opening of the Rocky River is in **good** condition. The roadway is approximately 125 feet above the river.

5.6 Sign/Utility

The following items are rated as follows:

CHANNEL ITEMS

- c51. Alignment (LF) d
- c52. Protection (LF) d
- c53. Hydraulic Opening (EA) d
- c54. Navigation Lights (EA) d
- N61. Channel Summary

QTY.	condition state				cr
	1	2	3	4	TR
200	200	0	0	0	1.00
200.0	200	0	0	0	1.00
9	9	0	0	0	1.00
				(9-0)	7

5.6.1 UTILITIES

The utilities are in **good** condition. The light poles on alternate sides at 120 ft spacing and are in generally good condition.

The utility supports under the deck are heavily corroded with the worst location in Span 6. Several conduits are open at the Rear Abutment. Raccoons use the utility conduits to travel from the abutments to the towers.



5.7 Conclusion and Recommendations

DLZ has determined the following recommendations for this bridge. Based on the level of urgency, recommendations have been divided into three categories: Priority, Maintenance, and Monitor.

5.7.1 PRIORITY

There are no concerns requiring immediate action for this bridge.

5.7.2 MAINTENANCE

The following recommendations are on-going repairs which are intended to maintain the current level of service for the bridge:

1. Clean and repaint the interior of the pier 7 north tower.
2. Clean all drainage troughs and downspouts to promote positive drainage on the bridge deck and to prevent water from the leaking downspouts from damaging the structural steel super- and substructure below.
3. Verify installation of new elastomeric strip seals was completed and provides an adequate seal.
4. Repair broken access doors to the piers and arches and replace doors that have broken or frozen hinges.
5. Repair the sliding joint plates at the sidewalk joints and curb faces.
6. Remove raccoon debris from the arch stiffeners and the bases of the arches.
7. Remove raccoon debris and piles of rust from the pier towers; clean out the drainage pipes from the pier tower bases to promote proper drainage if water infiltrates the towers.
8. Repair or replace the screening at the top of the pier caps to reduce the presence of raccoons in the pier towers.
9. Repair or replace the corroding steel railings and the spalled concrete railing base.
10. Repair the horizontal and vertical cracks on the piers below the steel towers by epoxy injection.
11. Trim trees and growth around pier 5 and 6, as poison ivy has grown tall around the bases.
12. Request that Cleveland Metroparks do not pile their mulch too far north, so that it inhibits manlift access to the bridge.

5.7.3 MONITOR

The following items should be investigated and recorded with each annual bridge inspection:

1. Monitor the deterioration of the super- and substructure steel beneath the deck joints
 2. Monitor the deterioration to the interior of the steel pier towers
 3. Monitor existing cracked welds in the floorbeam to arch column
 4. Monitor the forward abutment shale slope erosion
-

2019 FRACTURE CRITICAL ELEMENT LEVEL BRIDGE INSPECTION FIELD REPORT

Structure File Number: 1801325

Inventory Bridge Number: CUY 00010 08.690

Bridge Type: 3 - STEEL/5 - ARCH/3 - DECK

Sufficiency Rating: 77.6

Date Built: 7/1/1935

District: 12 Place Code (FIPS): FAIRVIEW PARK

SR 10 over VALLEY PKWY/ROCKY RIVER

Type of Service on: HIGHWAY-PEDESTRIAN

APPROACH ITEMS

	QTY.	condition state				cr
		1	2	3	4	
c1. Approach Wearing Surface (EA)	2	0	2	0	0	2.00
c2. Approach Slabs (SF)	2583.9	2338.9	110	135	0	1.70
c3. Relief Joint (LF)						
c4. Embankment (EA) d	4	4	0	0	0	1.00
c5. Guardrail (EA)	4	2	2	0	0	1.60

N36. Safety Features:
Tr, Gr, Tm36)B 1 36)C 0 36)D 1
(9-0) 5

c6. Approach Summary

DECK ITEMS

	QTY.	condition state				cr
		1	2	3	4	
c7.1 Floor/Slab (SF)	74578	65118	9404	56	0	1.19
c7.2 Edge of Floor/Slab (LF)	2406	325	1311	770	0	3.00
c8. Wearing Surface (SF)	63823	59971	3845	7	0	1.09
c9. Curb/Sidewalk/Walkway (LF)	2455	1379	1043	33	0	1.67
c10. Median (LF)		0				
c11. Railing (LF)	2455	206	1745	389	115	2.89

N36. Safety Features: Rail

36)A 1
58 0 49 9 3.00
434 0 168 266 3.00
(9-0) 6

c12. Drainage (EA) d

c13. Expansion Joint (LF) d

N58. Deck Summary

SUPERSTRUCTURE ITEMS

	QTY.	condition state				cr
		1	2	3	4	
c14. Alignment (EA) d	9	9	0	0	0	1.00
c15.1 Beams/Girders (LF)	2828	2569	232	27	0	1.26
c15.2 Slab (SF)						
c16. Diaphragm/X-Frames (EA)	94	94	0	0	0	1.00
c17. Stringers (LF)	10839	10610	215	14	0	1.05
c18. Floorbeams (LF)	2898	2852	5	41	0	1.23
c19. Truss Verticals (EA)						
c20. Truss Diagonals (EA)						
c21. Truss Upper Chord (EA)						
c22. Truss Lower Chord (EA)						
c23. Truss Gusset Plate (EA) d						
c24. Lateral Bracing (EA)	46	34	12	0	0	1.35
c25. Sway Bracing (EA)		0				
c26. Bearing Devices (EA) d	140	121	19		0	1.19
c27. Arch (LF)	1971	1774	195	2	0	1.16
c28. Arch Column/Hanger (EA)	92	19	19	54	0	3.00
c29. Arch Spandrel Walls (LF)						
c30. Prot. Coating System (LF) d	19044	1	15534	2460	1049	2.93
c31. Pins/Hangers/Hinges (EA) d	16	16	0	0	0	1.00
c32. Fatigue (LF) d	18790	18700	86	4	0	1.01

N59. Superstructure Summary

(9-0) 6**SUBSTRUCTURE ITEMS**

	QTY.	condition state				cr
		1	2	3	4	
c33. Abutment Walls (LF)	128	125	3	0	0	1.03
c34. Abutment Caps (LF)	64	58	6			1.13
c35. Abut. Columns/Bents (EA)		0				
c36. Pier Walls (LF)	281.3	227.3	43	11	0	1.67
c37. Pier Caps (LF)	507.6	501.6	6	0	0	1.02
c38. Pier Columns/Bents (EA)	16	6	7	3	0	2.48
c39. Backwalls (LF)	128	128	0	0	0	1.00
c40. Wingwalls (EA)	4	4	0	0	0	1.00
c42. Scour (EA) d	10	10	0	0	0	1.00
c43. Slope Protection (EA) d	2	1	0	1	0	3.00

N60. Substructure Summary

(9-0) 6**CULVERT ITEMS**

	QTY.	condition state				cr
		1	2	3	4	
c44. General (LF)						
c45. Alignment (LF) d						
c46. Shape (LF) d						
c47. Seams (LF) d						
c48. Headwall/Endwall (LF)						
c49. Scour (LF) d						
c50. Abutments (LF)						

N62. Culvert Summary

(9-0) N**CHANNEL ITEMS**

	QTY.	condition state				cr
		1	2	3	4	
c51. Alignment (LF) d	200	200	0	0	0	1.00
c52. Protection (LF) d	200.0	200	0	0	0	1.00
c53. Hydraulic Opening (EA) d	9	9	0	0	0	1.00
c54. Navigation Lights (EA) d						

N61. Channel Summary

(9-0) 7**SIGN/UTILITY ITEMS**

	QTY.	condition state				cr
		1	2	3	4	
c55. Signs (EA) d	2	0	0	0	2	3.00
c56. Sign Supports (EA) d	2	2				1.00
c57. Utilities (LF) d	3609	3589	0	20	0	1.09

General Appraisal

(9-0) 6

N41. Operating Status

A

Inspector Name Foye, Ian

Inspection Date/Type 09/12/2019 In-Depth and Fracture Critical

PE Number 82900

Reviewer Name Lawler, Matthew

Review Date 12/30/2019

PE Number 60508

2019 FRACTURE CRITICAL ELEMENT LEVEL BRIDGE INSPECTION FIELD REPORT

Structure File Number: 1801325

Inventory Bridge Number: CUY 00010 08.690

Bridge Type: 3 - STEEL/5 - ARCH/3 - DECK

Sufficiency Rating: 77.6

Date Built: 7/1/1935

District: 12 Place Code (FIPS): FAIRVIEW PARK

SR 10 over VALLEY PKWY/ROCKY RIVER

Type of Service on: HIGHWAY-PEDESTRIAN

Key: "Qty" = Quantity for Element Level inspection; "(LF)" = Linear Feet; "(SF)" = Square Feet; "(EA)" = Each or count; "CR" = 1-4 Condition Rating or average of worst span unless Summary item 9-0, then the average of entire bridge influenced by the bold boxes; "TR" = Transition Rating or weighted average of condition states; "d" = dedicated or specific chart and guidance, all others use Material specific chart/guidance; "c" = condition prefix; "N" = NBIS rating

Inspection Procedures

Snooper with lane closures used to inspect bottom of deck, stringers, floorbeams, and portions of the towers and arch columns that could not be reached by the manlift. Manlift used to inspect arches, and portions of the towers and arch columns that could not be reached by the snooper. Rope climbing used to access Tower 8.

Comments

APPROACH

c1. Approach Wearing Surface

Transverse cracks (some sealed), ruts, asphalt patching, and small potholes (mainly at joints with the rear backwall and the forward approach slab).

c2. Approach Slabs

Filled pothole on rear approach slab in eastbound curb lane is cracking. Large asphalt filled (asphalt is sinking) pothole at east end of the forward approach slab in eastbound curb lane. Map cracking along backwall in rear approach.

c4. Embankment

Minor bare soil and rutting.

c5. Guardrail

Two posts on north guardrail, east approach, are missing spacer blocks. Impact on north guardrail of east approach near end. South guardrail, west approach, has collision damage and broken end post.

DECK

c7.1 Floor/Slab

There are some minor pop-outs, up to 3" in diameter, at random locations. Minor spalls at the interfaces with the stringers. A 48"x12" spall with exposed reinforcing exists between Stringers 9 & 10 in Span 5. Multiple spalls exposing rebar in Span 8. The deck floor in Span 9 has full-length longitudinal cracks with efflorescence. Transverse cracking prevalent in all spans.

c7.2 Edge of Floor/Slab

Portions of the edges of the deck over the park trails had some loose concrete removed by inspectors. The south deck edge in Span 8 has several old large spalls with exposed rebar. Spans 1-4 on the south edge have multiple spalls at the top corner of the edge behind the railing.

c8. Wearing Surface

Arch Spans 5-8 have random longitudinal and transverse hairline cracks throughout. Span 8 has had some isolated patching. There are some small (< 3 sq. ft. each) spalls and delaminations along the expansion joints and curb gutters.

c9. Curb/Sidewalk/Walkway

Sidewalk is in good-to-fair condition with cracking in isolated areas. Multiple sections

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SR 10 over VALLEY PKWY/ROCKY RIVER

Type of Service on: HIGHWAY-PEDESTRIAN

of sidewalk have been repaired. Older sidewalk sections have scaling. The north and south sidewalks at the west approach shows signs of heaving, with offsets up to 1-1/2 inches on the north sidewalk.

c11. Railing

The tubular decorative railing is retaining water and corroding from the inside out. There are several locations where rails have rust holes (a few on south railing, but mainly on north railing). The concrete bases of the railing posts are spalling in some locations, exposing the railing anchors. Railing tube splices showing heavy corrosion

c12. Drainage

Deck inlet grates along curbs are typically clogged with vegetation and debris. The clogged downspout at the north column of Pier 3 has blown out. Clean out cover in Span 6, north side, missing 7 out of 8 bolts. There are many large corrosion holes in the downspouts throughout the bridge (a large amount in Spans 6 and 7).

c13. Expansion Joint

Joint seal has been removed in 2/3 of the bridge, remaining joint membrane is impacted. Sidewalk sliding plates are perforated at the abutments, and at Pier 6 and 7 joints. Sidewalk cover plate 1/2" gap at Pier 6 joint, south side. Rusting bolt heads throughout.

SUPERSTRUCTURE

c14. Alignment

All spans show proper alignment.

c15.1 Beams/Girders

Beams in approach Spans 1-4 and 9 are in good condition with minor surface rust through the PCS.

c16. Diaphragm/Cross Frames

Diaphragms between beams are in good condition.

c17. Stringers

Old section loss on bottom flange past the bearing support of Stringers 3 and 9 at Tower 7 and Stringer 4 at Tower 8. One missing bolt on the bottom flange of Stringer 8 in Span 8 at Tower 7. One anchor bolt missing for Stringer 4 at Tower 7. Old bends (construction?) in bottom flange of Stringer 3 (over North Arch) in Span 5 between columns 5 & 6 and between columns 7 & 8.

c18. Floorbeams

Multiple cracks noted in the non-structural, porous tack welds on the edges of the floorbeam bottom flanges, but no cracks in the base metal.

c24. Lateral Bracing

Debris accumulates on bottom flanges of some of the struts between arches near the piers due to the angle they are at. Rust forming at weep holes on the downward face.

c26. Bearing Devices

2019 FRACTURE CRITICAL ELEMENT LEVEL BRIDGE INSPECTION FIELD REPORT

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Sufficiency Rating: 77.6

Date Built: 7/1/1935

District: 12 Place Code (FIPS): FAIRVIEW PARK

SR 10 over VALLEY PKWY/ROCKY RIVER

Type of Service on: HIGHWAY-PEDESTRIAN

Arch skewbacks have laminar and surface corrosion. Stringer sliding bearings at tops of towers are functioning properly. Beam bearings at abutments are working properly, but exterior bearings have corrosion. Heavy rust on some exterior sidewalk stringer bearings.

c27. Arch

The arches are in good-to-fair condition overall, with random areas of peeling paint and surface corrosion. The ends of the arch rib, at the bearing, have laminar corrosion on the fill plate and at the bearing nut. This area commonly has rivet head loss up to 30%. There are many localized areas of painted over pitting up to 1/4". Where the struts and lower columns are attached to the arch rib, the web and flange commonly had up to 1/4" pitting. Surface corrosion is common along the lower chord flange angles. There are localized areas of chalking/ faded paint on the arch rib web and pack rust between the flange angles. Span 5, North arch rib, has a large area of rust staining on the top flange that appears to be coming from Column 11. The top flange plate adjacent to the columns typically has 1/4"-1/2" pitting. The interiors have surface corrosion with localized areas of section loss. Interior side of welded shut hatches in Span 7 exhibit undercut welds and rust on the interior webs.

Possum was present in the Pier 5 base of the north arch.

There are 5 locations where there are issues with the arch access door.

In Span 5, the N access door is missing and is covered by a filter fabric. The metal ties holding it are rusting away.

In Span 5, the S access door has a broken latch, so it cannot be locked. The door also does not sit flush, which is causing the hinge to bend and fatigue. It is currently being held together by cord.

In Span 6, both the N & S access doors have broken hinges and are only held on by the lock and friction.

In Span 8, the N access door has a broken hinge and is only held on by the lock and friction.

c28. Arch Column/Hanger

Arch columns are in fair condition (The SMS Transition Rating rates the arch columns as poor. This is based on isolated areas controlling the Element Level Rating for an entire member. Using the Condition Rating criteria, a high 2-fair condition rating is more accurate for these members.)

There is minor pack rust re-activating between the plates along the full heights of the columns on both interior and exterior faces. Surface corrosion and accumulation of debris in the bottom 3' of most columns. Reactivated pack rust has cracked some of the erection tack welds, but no propagation into base metal was noted. 1/8"-1/2" pitting at the base of the columns on the high side, where water and debris sit.

c30. Protective Coating System

The paint is in fair-to-poor condition on the superstructure and on the exterior faces of the columns and towers, but there is a general failure of the paint system inside the towers and columns, with peeling paint, surface corrosion and laminating corrosion. Tower legs below joints that allow water to leak through (i.e. north leg of Tower 7) are the worst areas. Also, the exterior beam bearings at the abutments and some towers have corrosion. Wide spread rusting through the original PCS inside the arches.

c31. Pins/Hangers/Hinges

Pins at ends of arches have surface corrosion. The pin nuts have laminar corrosion with up to 1/8" pack rust.

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Sufficiency Rating: 77.6

Date Built: 7/1/1935

District: 12 Place Code (FIPS): FAIRVIEW PARK

SR 10 over VALLEY PKWY/ROCKY RIVER

Type of Service on: HIGHWAY-PEDESTRIAN

c32. Fatigue

The majority of the erection tack welds on the bottom flanges of the floorbeams and the base of the arch columns are partially to fully cracked; none of these cracks have propagated into base metal and all of the cracks are in compression areas. The welds inside the towers are in good condition, although the welded stiffeners themselves have heavy section loss in some cases. There are cracks in several welds of plates on the tower caps (next to stringer bearings), but none are propagated into the base metal.

SUBSTRUCTURE

c33. Abutment Walls

The abutment walls are in good-to-fair condition. The West Abutment has rust stains and 3 hairline/narrow vertical cracks. The East Abutment is a cellular abutment and has a 4' long horizontal crack at the top east edge of the interior south wall.

Vagrant belongings inside cellular forward abutment.

c34. Abutment Caps

Scaling concrete around Stringer 3 Seat on East Abutment. There are a few horizontal cracks below Stringer 12 on the East Abutment.

c38. Pier Columns/Bents

The pier columns are in fair condition (The SMS Transition Rating rates pier columns as poor. This is based on isolated areas controlling the Element Level Rating for an entire member. Using the Condition Rating criteria, a high 2-fair condition rating is more accurate for these members.) The deficiencies are noted by levels, and are numbered between internal horizontal bracings starting from 1 at the bottom of the pier column.

The interiors of the towers have section loss in multiple locations. Multiple stiffeners inside the bottom of Towers 5, 6 and 7 have 50%-100% section loss. Corrosion holes in plates of several towers from 1/8" up to 2-1/2" in diameter but not concentrated in any one plate. Pack rust is distorting the bracing angles up to 1 1/4". There is a missing rivet between Levels 2-3, 6-7, and 11-12 of Tower 5, at the top of the North leg of Tower 6, at Level 3,4,5 and 8 of the North leg of Tower 7, at Level 18 of the North leg of Tower 7, at Level 4 of the South leg of Tower 8, and at Level 7 of the North leg of Tower 8. There are two missing rivets at Levels 4, 5, 7, and 11 of the North leg of Tower 8.

The interior of the North Tower at Pier 7 has up to 1 ft deep pile of rust along the bottom of the steel tower, severe section loss on all members and limited access into cross bracing and host to 2 raccoons.

The exterior of the towers has up to 3/4" pack rust along the cover plates. The South leg of Tower 5 has 3 missing rivets. The tower strut at Tower 6 has laminar corrosion, ponding water, & pack rust on the top plate.

Up to 50% section loss on some rivet heads.

The exteriors of both columns of Piers 2 & 3 have surface corrosion. Water is infiltrating the interiors of the steel columns of Piers 1, 2, and 3 from the top. Some laminating corrosion is at the top and surface corrosion for the rest of the column

2019 FRACTURE CRITICAL ELEMENT LEVEL BRIDGE INSPECTION FIELD REPORT

Structure File Number: 1801325

Inventory Bridge Number: CUY 00010 08.690

Bridge Type: 3 - STEEL/5 - ARCH/3 - DECK

Sufficiency Rating: 77.6

Date Built: 7/1/1935

District: 12 Place Code (FIPS): FAIRVIEW PARK

SR 10 over VALLEY PKWY/ROCKY RIVER

Type of Service on: HIGHWAY-PEDESTRIAN

interiors.

There are broken latches (locks cannot be used) at the access doors for Pier 2 at the north leg, Tower 4 at the south leg, Tower 5 at both legs, Tower 6 at the north leg, and Tower 8 at both legs. Broken hinges on the access doors for Tower 4 at both legs, Tower 6 at both legs, Tower 7 at the north leg, and Tower 8 at the north leg. The south leg of Tower 7 does not have a lock.

Vagrant belongings inside bottom of Towers 5 and 8.

c36. Pier Walls

The web walls between the tower/arch bases have transverse cracking and map cracking. There are several areas of patching that are in good condition when sounded with hammer. There is a 5'x3'x3" spall with exposed rebar under the south skewback for Tower 8, but the exposed painted rebar is not actively corroding.

c37. Pier Caps

The caps for the steel piers and towers are in fair condition with minor rust localized near connections.

2018-Tower 6 has ponding water (3" deep) at the top. Tower 7 has ponding at top of north leg. Raccoon fur and droppings inside most of the caps. 2019 - no ponding noted.

Wire screens installed over tops of caps have failed to keep out raccoons (peeled open).

c39. Backwalls

Abutment backwalls are in good condition.

c40. Wingwalls

Wingwalls are in good condition.

c43. Slope Protection

New slope protection under spans 1 and 2 with trail project. The west slope under Span 5 has channel formed by erosion that starts just below Tower 4.

The East bank of the Rocky River consists of easily erodible shale and has sloughed up against and overtopped the concrete base of Tower 8. The slope on the west side of Tower 8 is severely eroded. The shale east embankments continue to slowly erode. A drainage swale has formed from the forward abutment down the eroding shale slope to the base of Tower 8.

The west embankments are heavily vegetated.

CHANNEL

c51. Alignment

Channel is well aligned perpendicular to structure; normal flow is only under Span 8.

NOTE: THE SPAN LENGTHS AND THE LONGITUDINAL FRAMING DIMENSIONS SHOWN ON THESE PLANS ARE AS DETAILED ON THE EXISTING STRUCTURE PLANS. THE ACTUAL DIMENSIONS MAY VARY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD BEFORE USING THEM.

F.H.W.A. REG.	STATE	PROJECT
5	OHIO	F-BRF-69(42)

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CUYAHOGA COUNTY
CUY-10-08.69

EXISTING STRUCTURE

TYPE - OPEN SPANDEL STEEL ARCH BRIDGE WITH REINFORCE CONCRETE DECK SLAB.

EAST APPROACH SPAN 60'-5 3/16"
MAIN ARCH SPANS 236'-8 7/16", 256'-0", 256'-0" & 236'-8 7/16"
WEST APPROACH SPANS 41'-1 3/8", 38'-7 3/8", 38'-7 3/8" & 41'-1 3/8"

SKIEW = 0° 00' 00"
ROADWAY = 40' F/F CURBS WITH 2'-5" SIDEWALKS

LOADING = H20-33
WEARING SURFACE = ASPHALT
ALIGNMENT = TANGENT
GRADE = 0%
SLOPE PROTECTION = NONE

PROPOSED STRUCTURE

TYPE, SPAN, SKIEW, ALIGNMENT & GRADE - SAME AS EXISTING STRUCTURE

ROADWAY = 52'-0" F/F CURBS WITH 2'-5" SIDEWALKS

LOADING = HS20-44
WEARING SURFACE = 1 1/4" LATE MODIFIED CONCRETE

APPROACH SLABS = 25'-0" B.O. ABUTMENTS AS-1

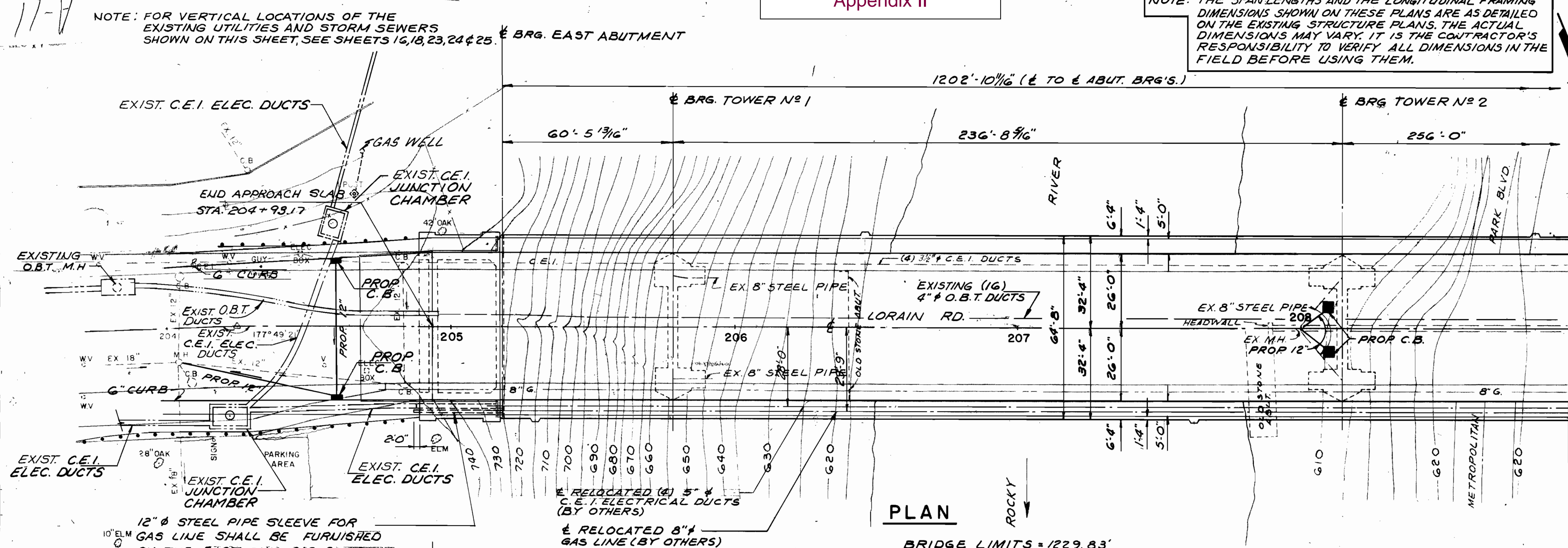
SLOPE PROTECTION = 9" THICK GABION MATS WEST ABUT SIDE ONLY

- NOTE:
- SEE SHEET 2/59 FOR DESCRIPTION OF PROPOSED NORMAL
 - SEE SHEET 3/59 FOR INDEX OF STRUCTURAL DETAIL PLANS

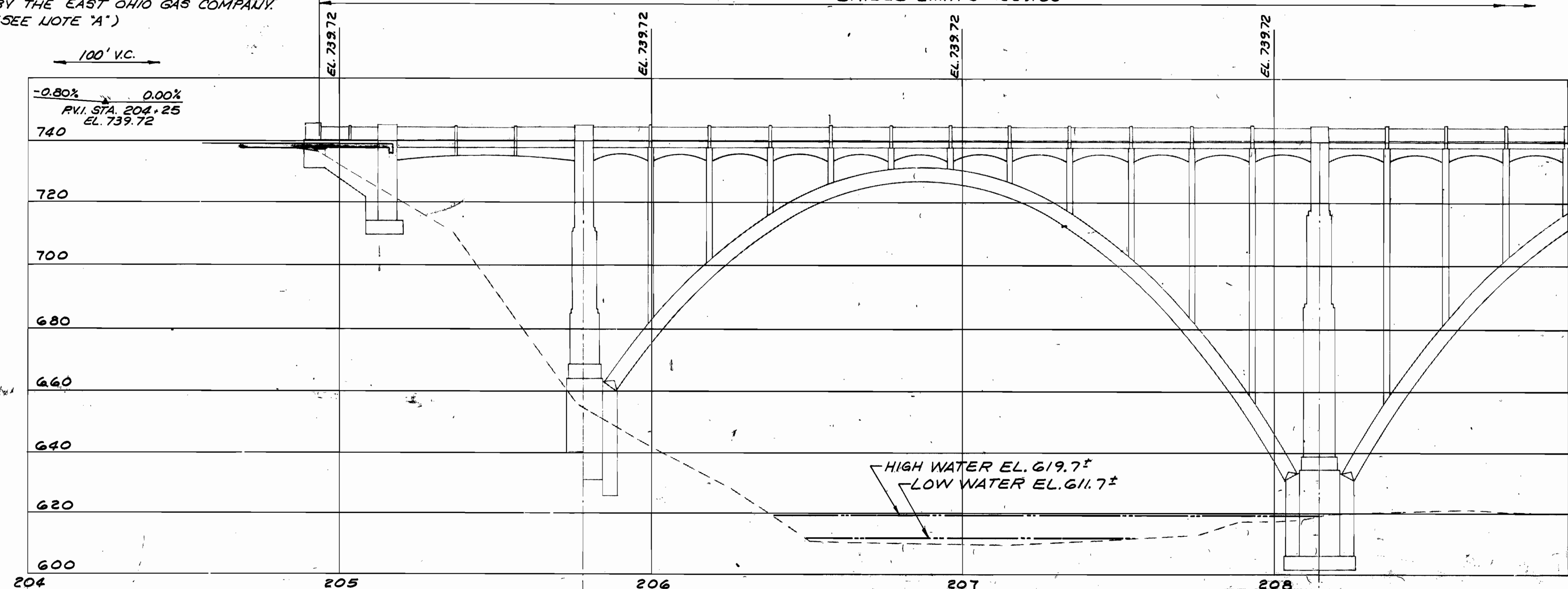
SITE PLAN

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE NO. CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY

REPORT NO. 7092	NO. 8-79	DATE	7/59
DESIGNED BY	CHECKED BY	APPROVED BY	DATE
B.K.	F.F.	A.H.	J.F.P. 7/59



PLAN



ELEVATION

NOTE: FOR VERTICAL LOCATIONS OF THE EXISTING UTILITIES AND STORM SEWERS SHOWN ON THIS SHEET, SEE SHEETS 16, 18, 23, 24 & 25.

12" Ø STEEL PIPE SLEEVE FOR GAS LINE SHALL BE FURNISHED BY THE EAST OHIO GAS COMPANY. (SEE NOTE "A")

(NOTE "A")
NO EXTRA PAYMENT WILL BE MADE FOR INSTALLING THE PIPE SLEEVE IN PLACE BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEM 202, "EXIST. GAS LINE AND SUPPORTS REMOVED", FOR PAYMENT.

MATCH LINE STA. 208+94.60 SEE SHEET 2/59

MATCH LINE STA. 208+94.60 SEE SHEET 2/59

DEC 17 1980

F.H.W.A. REG.	STATE	PROJECT
5	OHIO	F-BRF-89(42)

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CUYAHOGA COUNTY
CUY-10-08.69

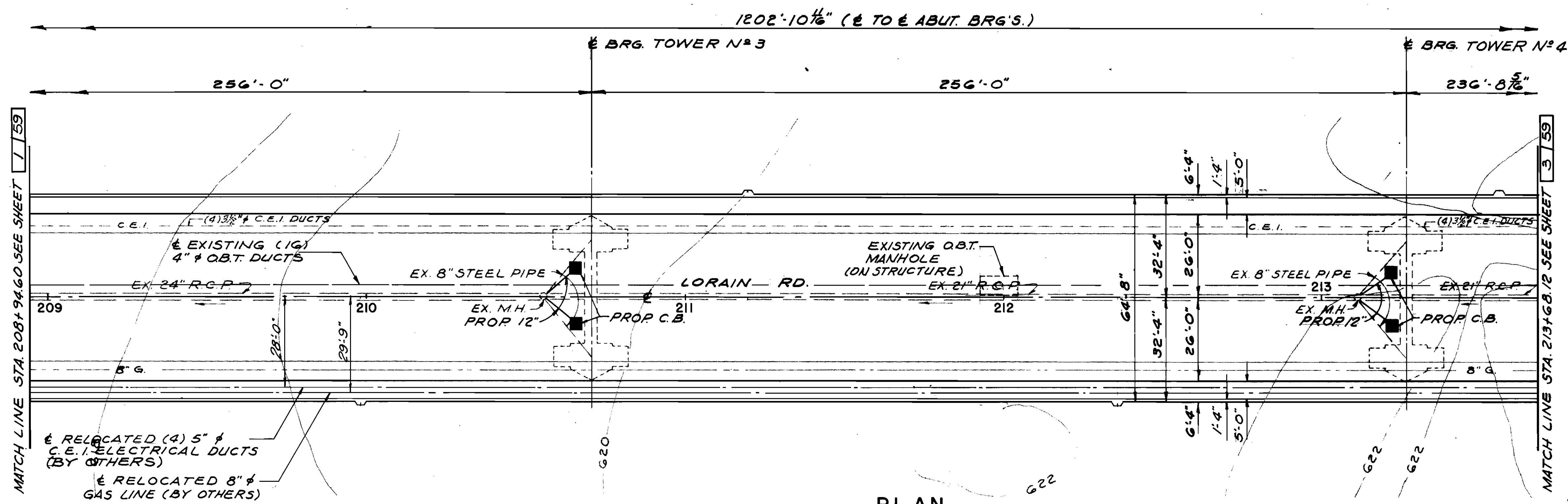
PROPOSED WORK

THE PROPOSED REHABILITATION AND WIDENING OF THE LORAIN ROAD VIADUCT OVER ROCKY RIVER SHALL BE DONE USING PHASE (PART WIDTH) CONSTRUCTION AS SHOWN ON THE PLANS. THE MAJOR ITEMS OF WORK CONTAINED IN THE PLANS INCLUDE BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

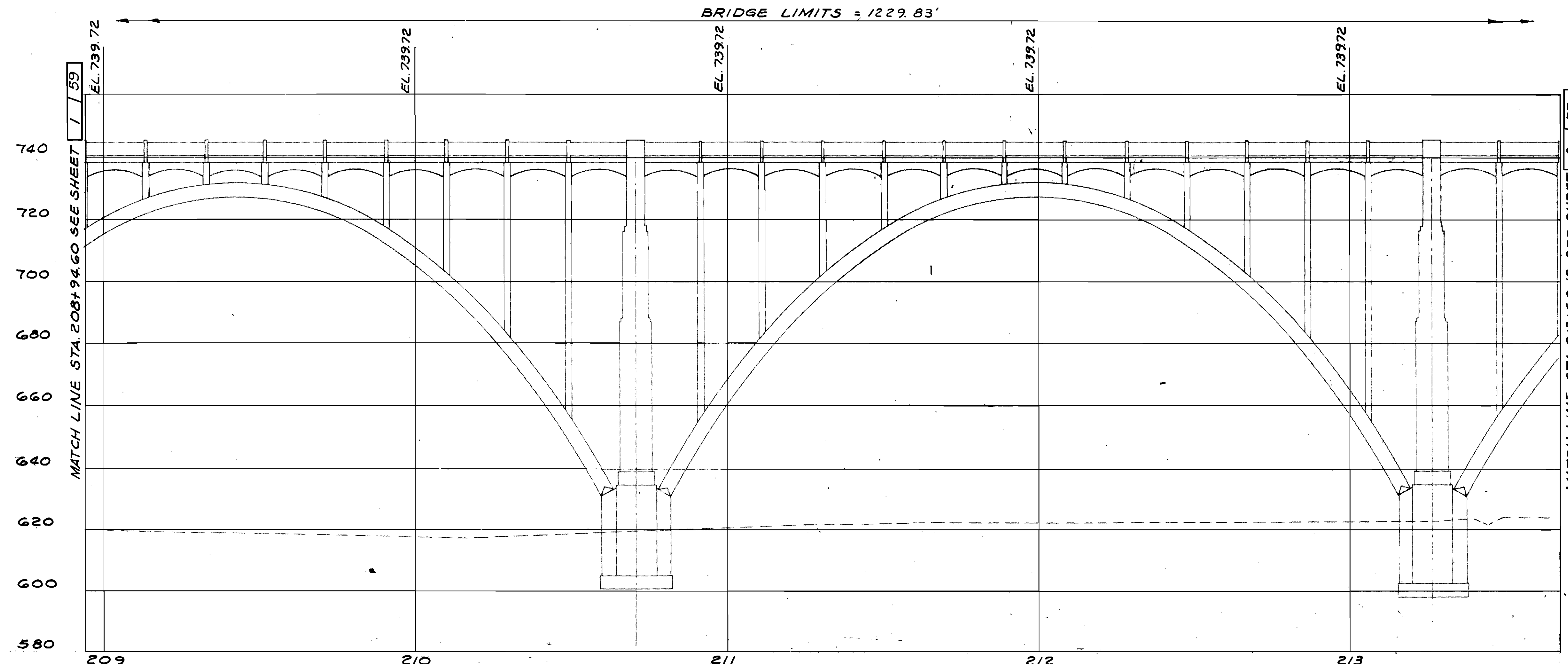
- ① REMOVE PORTIONS OF EXISTING STRUCTURE, INCLUDING THE DECK, SIDE WALKS, RAILING (SALVAGE PORTIONS FOR REUSE), BRIDGE DRAINAGE SYSTEM, STRUCTURAL STEEL CANTILEVERS AND LIGHT SUPPORTS ETC.; AS SHOWN IN THE PLANS.
- ② FURNISH AND INSTALL NEW STRUCTURAL STEEL FRAMING INCLUDING NEW CANTILEVERS.
- * ③ FURNISH AND INSTALL NEW REINFORCED CONCRETE DECK AND SIDEWALK, NEW EXPANSION JOINTS, AND NEW RAILING (INCLUDING PORTIONS OF EXISTING RAILING).
- ④ FURNISH AND INSTALL NEW BRIDGE DRAINAGE SYSTEM.
- ⑤ REPAIR THE EXISTING STRUCTURAL STEEL.
- ⑥ REPAIR AND WIDEN THE EAST AND WEST ABUTMENTS.
- ⑦ PAINT ALL STRUCTURAL STEEL.
- ⑧ FURNISH AND INSTALL NEW BRIDGE LIGHTING SYSTEM.

NOTE: FOR VERTICAL LOCATIONS OF EXISTING STORM SEWERS SHOWN ON THIS SHEET, SEE SHEETS 16, 18, 26, 27 & 28.

△ *NOTE: Concrete deck shall be placed in one continuous pour. Bridge will be closed to traffic during this time. Change order No. 3 provides additional compensation for this work.



PLAN



ELEVATION

DALTON DALTON NEWELL
CLEVELAND OHIO AKRON OHIO

SITE PLAN

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE N° CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY

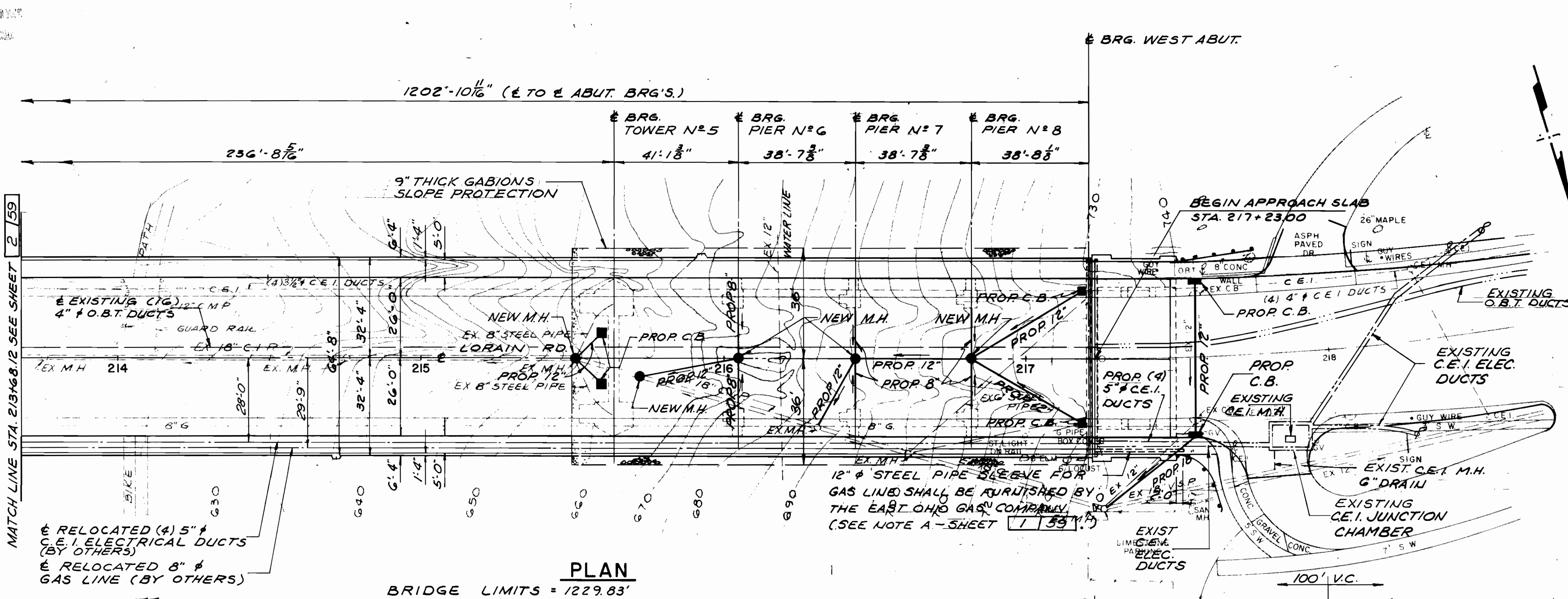
REPORT N° 7092 N° B-79	DESIGNED B.K.L.	DRAWN E.F.	TRACED A.L.H.	CHECKED J.F.P.	REVIEWED T.S.
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CUYAHOGA COUNTY
CUY-10-08.69

INDEX OF
STRUCTURAL DETAIL PLANS

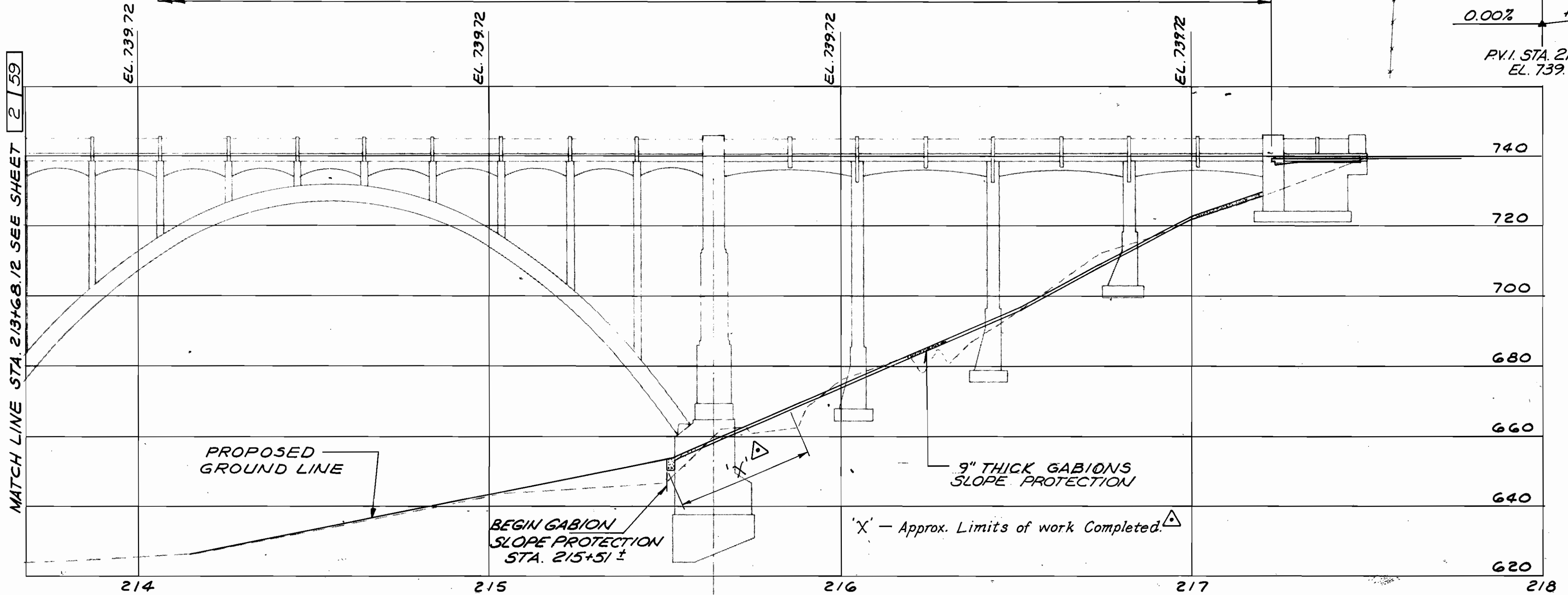
BRIDGE SHEET NO.	DESCRIPTION
1-3	SITE PLAN
4-8	STRUCTURAL GENERAL NOTES
9	STR. GEN. NOTES & EST. QUANT.
10-12	GENERAL PLAN & ELEVATION
13	DEMOLITION & PHASING DETAILS
14	EAST ABUT. DEMOLITION DETAILS
15-18	EAST ABUTMENT DETAILS
19	WEST ABUT. DEMOLITION DETAILS
20-22	WEST ABUTMENT DETAILS
23	FRAMING PLAN
24	FRAMING DETAILS
25	END DIAPHRAGM DETAILS
26-28	FRAMING DETAILS
29	TOWERS 1&5 DEMOLITION DETAILS
30	TOWERS 1&5 CANTILEVER DETAILS
31	TOWERS 2,3&4 DEMOLITION DETAILS
32	TOWERS 2,3&4 CANTILEVER DETAILS
33	TOWERS 1-5 CANTILEVER DETAILS
34	SPALLS 2,3&5 PORT. FRAME CANT.
35	PIERS 6,7&8 CANTILEVER DETAILS
36-37	STRUCTURAL STEEL REPAIR DETAILS
38	LADDER DETAIL
39	DEFLECTION & CAMBER
40	SLAB PLAN
41	TRANSVERSE SECTIONS
42-44	SUPERSTRUCTURE DETAILS
45	FORMING ELEVATIONS
46-47	EXPANSION JOINT DETAILS
48	RAILING PLAN
49-50	RAILING DETAILS
51-56	DRAINAGE DETAILS
57,57A,58,58A	REINFORCING SCHEDULE
59	APPROACH SLAB DETAILS

NOTE: FOR VERTICAL LOCATIONS OF EXISTING UTILITIES, SANITARY AND STORM SEWERS SEE SHEETS 18, 28 THRU 33.



PLAN

BRIDGE LIMITS = 1229.83'



ELEVATION

MATCH LINE STA. 213+68.12 SEE SHEET 2/59

MATCH LINE STA. 213+68.12 SEE SHEET 2/59

DALTON DALTON NEWELL

CLEVELAND OHIO ARRON OHIO

SITE PLAN

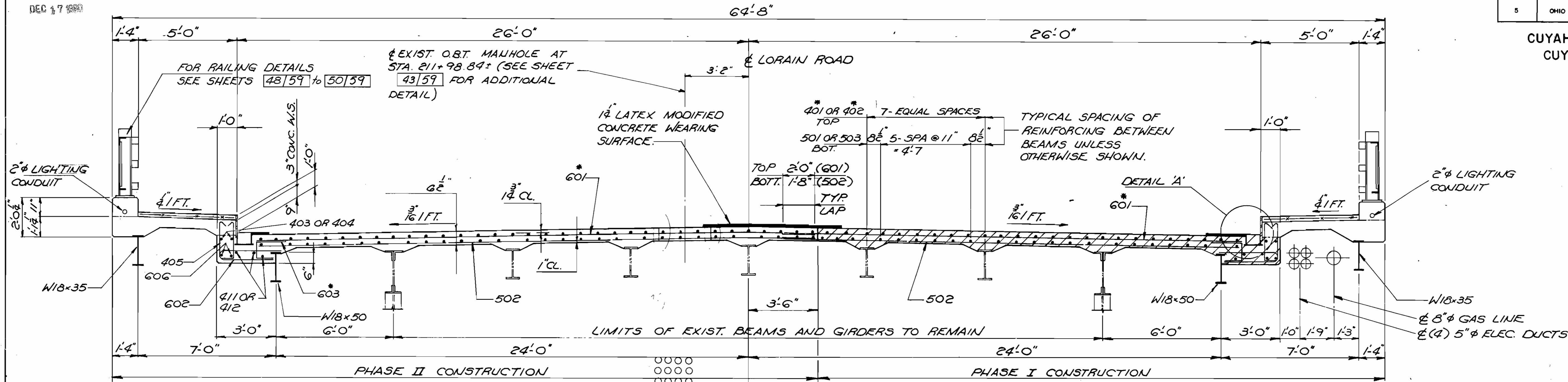
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE N^o CUY-10-0869
STA. 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY

MICROFILMED
DEC 17 1980

FHWA REG.	STATE	PROJECT
5	OHIO	F-BRF-69(42)

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CUYAHOGA COUNTY
CUY-10-08.69



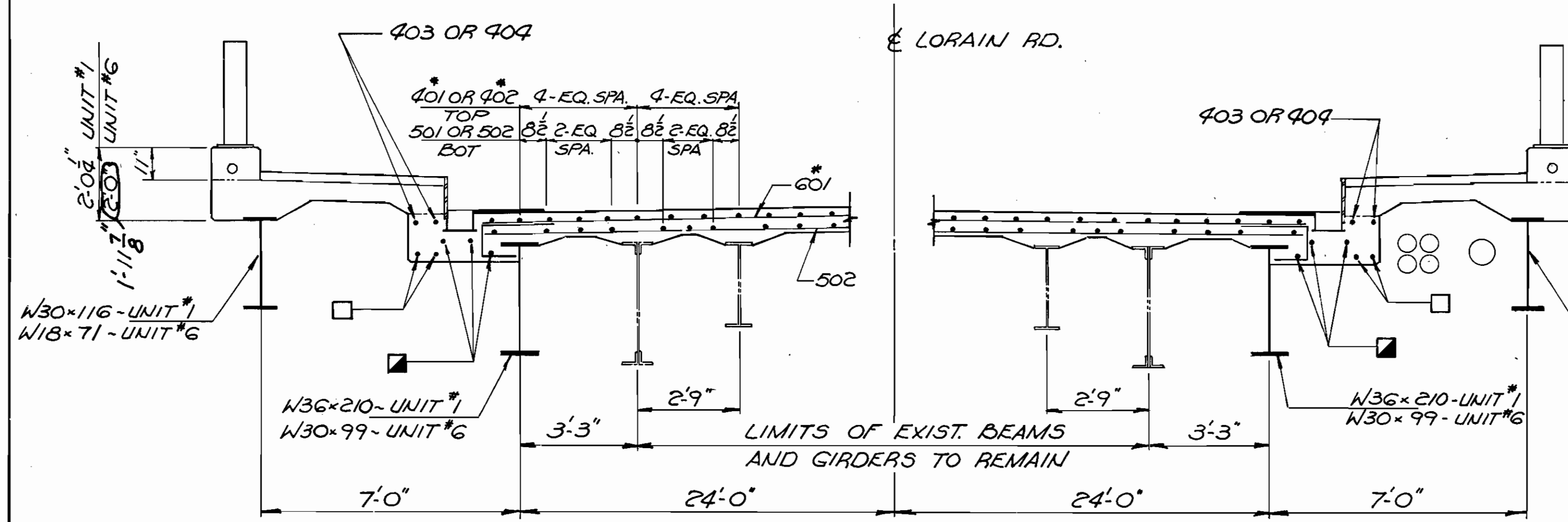
NOTE
FOR SIDEWALK AND PARAPET REINFORCING SEE DETAIL 'C'

SECTION A-A
FOR UNITS #2,3,4 & 5

EXISTING (16)
4" O.B.T. DUCTS

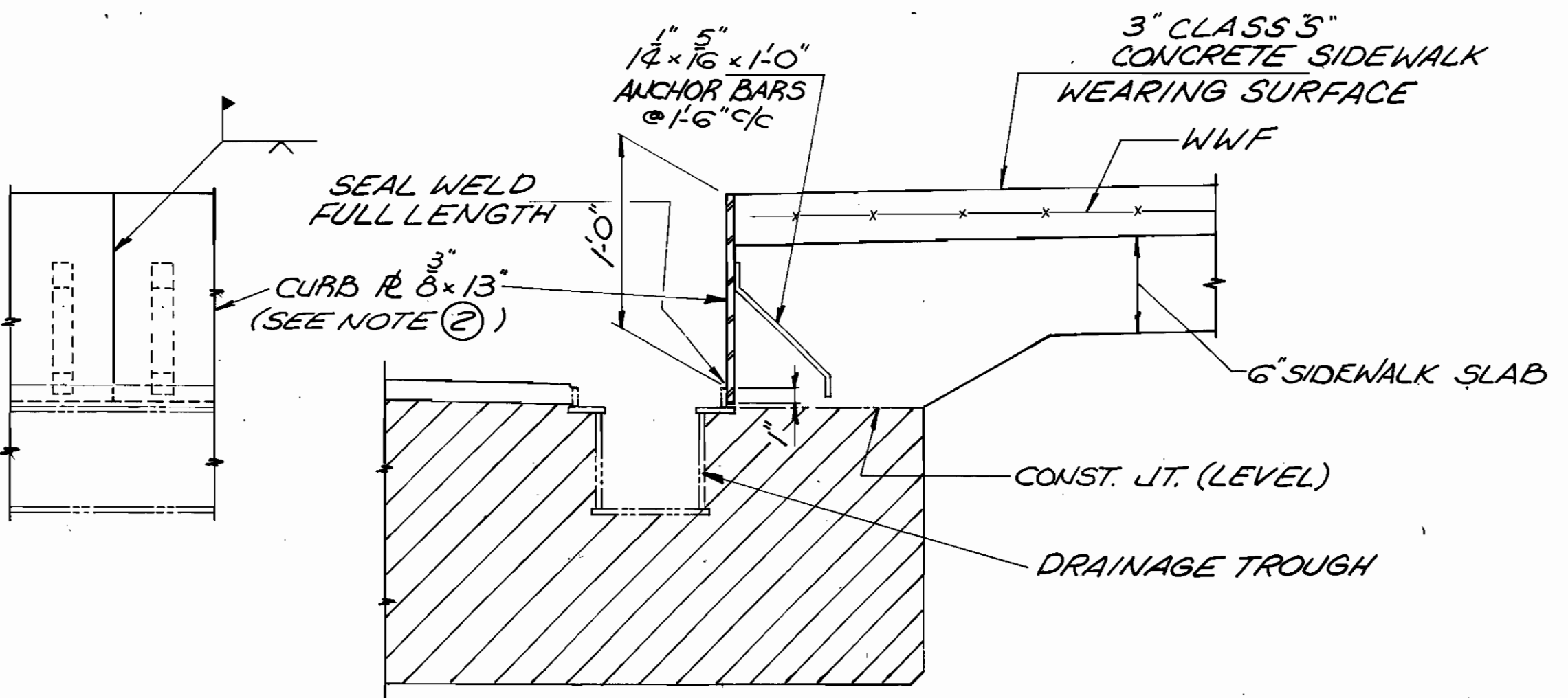
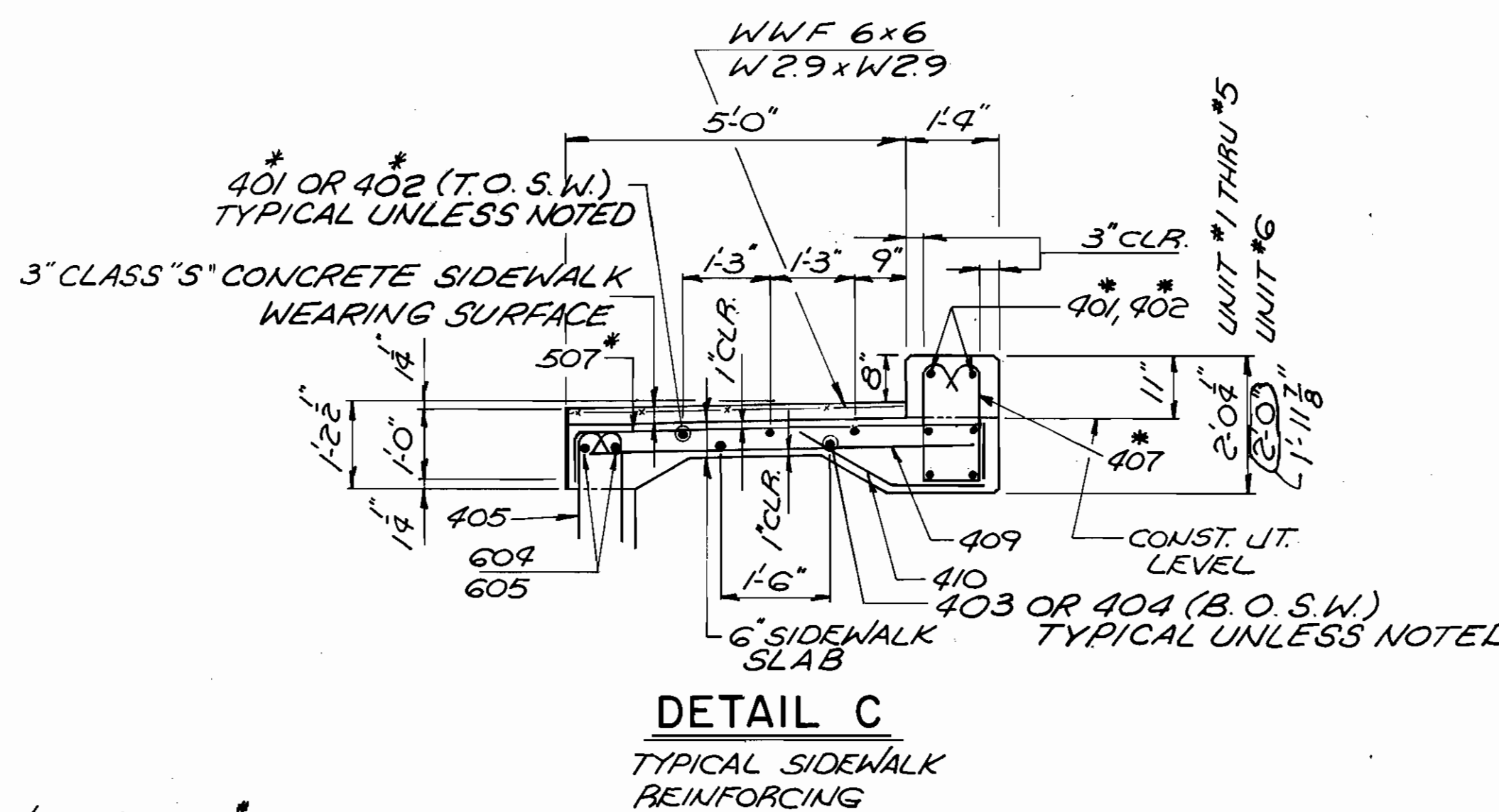
- NOTES**
- SEE SHEET 40/59 FOR NOTES AND LOCATION OF SECTIONS A-A & B-B.
 - THE FURNISHING AND INSTALLATION OF CURB PLATES AS SHOWN ON THE PLANS SHALL BE INCLUDED WITH ITEM 513 STRUCTURAL STEEL (A36) FOR PAYMENT EXCEPT IN THE VICINITY OF EXPANSION JOINTS AS SHOWN ON SHEET 46/59.
 - LONGITUDINAL & TRANSVERSE REINFORCING SHALL BE CUT IN FIELD 2" CLEAR OF EXISTING O.B.T. MANHOLE (PHASE II-UNIT #4) COST TO BE INCLUDED WITH ITEM 509-REINFORCING STEEL- GRADE 60 FOR PAYMENT.

Concrete in place.
NOTE: No Latex placed to date



SECTION B-B
FOR UNITS #1 & 6
FOR DIMENSIONS, DETAILS & REINFORCING NOT SHOWN SEE SECTION A-A

- LEGEND**
- 604-UNIT #1
606, 607 OR 609-UNIT #6
 - 403-UNIT #1
411, 412 OR 413-UNIT #6



DETAIL A

DALTON · DALTON · NEWPORT
CLEVELAND, OHIO AKRON, OHIO
4/59
TRANSVERSE SECTIONS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE # CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO
REPORT # 7092
B - 79
DESIGNED BKL DRAWN JWW TRACED ALH CHECKED JFP REVIEWED DATE 7-30-82 REVISED 5-15-84

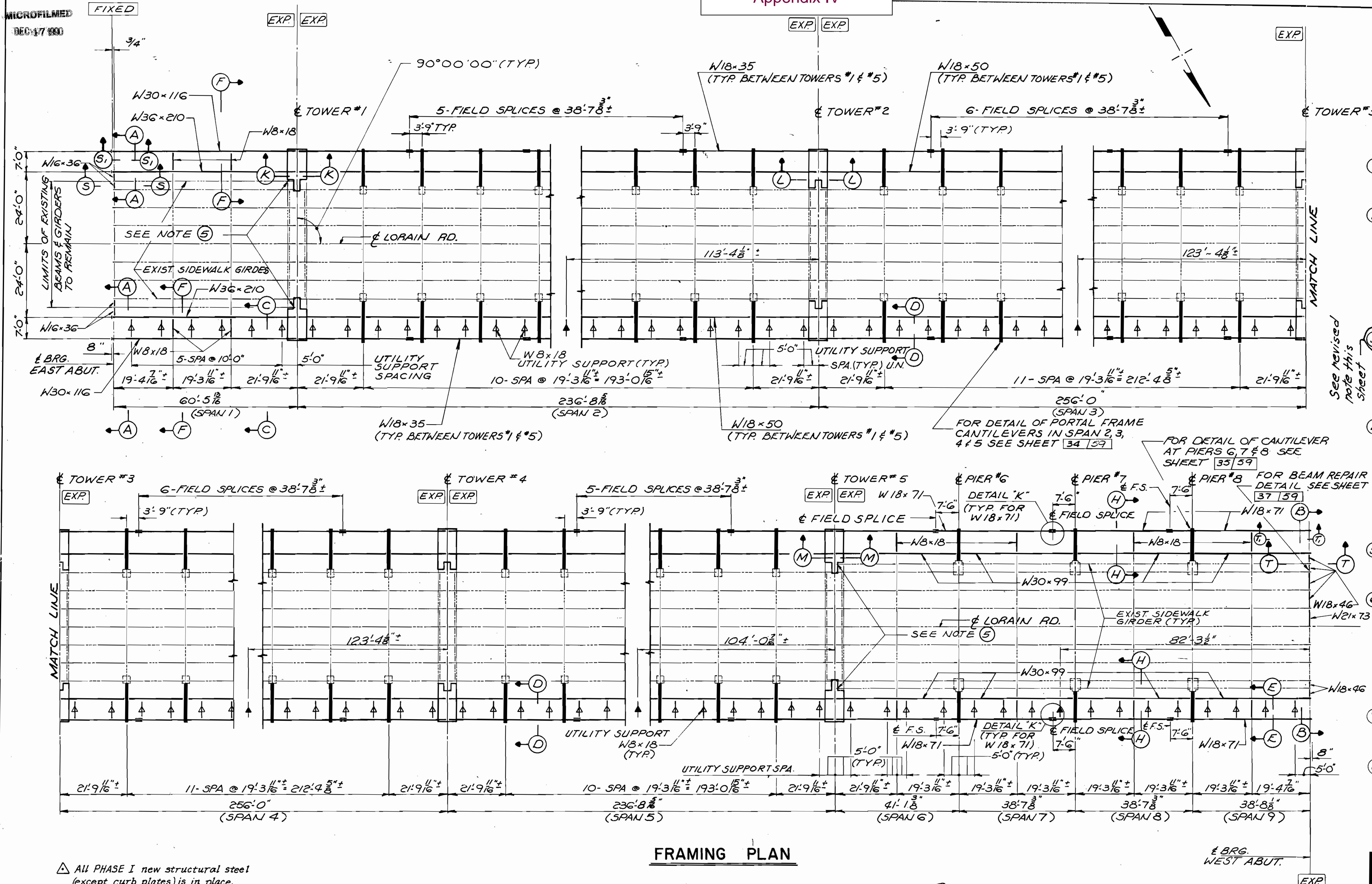
LORAIN ROAD BRIDGE #42

Appendix IV

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69 (42)	

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CUYAHOGA COUNTY
CUY-10-08.69



- NOTES**
- 1 ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36, UNLESS NOTED OTHERWISE.
 - 2 ALL FIELD SPLICES SHALL BE MADE WITH 3/4" DIAMETER HIGH STRENGTH STEEL BOLTS, CONFORMING TO ASTM A-325. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR BEAMS AND ON THE BOTTOM OF BOTTOM FLANGES AND TOP OF THE TOP FLANGE PLATES.
 - 3 ALL BEAMS AND SPLICE MATERIAL SHALL BE "CVN" WHERE A SHAPE OR PLATE IS DESIGNATED "CVN" THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS.
 - 4 THE SPAN LENGTHS AND THE LONGITUDINAL FRAMING DIMENSIONS SHOWN ARE AS DETAILED ON THE EXISTING STRUCTURE PLANS. THE ACTUAL DIMENSIONS MAY VARY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD BEFORE FABRICATION OF ANY STRUCTURAL STEEL.
 - 5 FOR DETAILS OF EXISTING SIDEWALK GIRDERS AT TOWERS 1 & 5, SEE VIEW "P-P", SHEET [24/59].
 - 6 FOR SECTIONS A-A & B-B, SEE SHEET [25/59], SECTIONS C-C, D-D & E-E, SEE SHEET [28/59], SECTIONS F-F & H-H, SEE SHEET [26/59], SECTIONS K-K, L-L & M-M, SEE SHEET [27/59], SECTIONS S-S, S'-S', T-T & T'-T, SEE SHEET [44/59] AND DETAIL "K", SEE SHEET [24/59].
 - 7 FOR TOWERS 1 THRU 5 CANTILEVER DETAILS SEE SHEETS [29/59] THRU [33/59].
 - 8 "Δ" DENOTES UTILITY SUPPORTS TYPE "A" (117-REQ'D)
"▲" DENOTES UTILITY SUPPORTS TYPE "B" (5-REQ'D)

FRAMING PLAN

△ All PHASE I new structural steel (except curb plates) is in place.

③ ALL BEAMS, SPLICE MATERIAL, AND WEBS AND TOP FLANGES OF CANTILEVERS SHALL BE "CVN". WHERE A SHAPE OR PLATE IS DESIGNATED "CVN" THE MATERIAL SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS.

DALTON · DALTON · NEWPORT			
CLEVELAND, OHIO		AKRON, OHIO	
FRAMING PLAN			
LORAIN ROAD VIADUCT OVER ROCKY RIVER BRIDGE N° CUY-10-0869 STA 204+93.17 TO STA 217+23.00			
CUYAHOGA COUNTY			
REPORT N° 7092	DESIGNED	DRAWN	TRACED
N° B-79	BKL	JWJ	RER
	CHECKED	REVIEWED	DATE
	JFP	JFP	7-30-82
			OHIO
			6-14-84

LORAIN ROAD BRIDGE N° 42



Fracture Critical Member and Fatigue Prone Connection Identification Plan

District:	12
County-Route-SLM:	Cuy-10-869
Structural File Number:	1801325
Access:	Snooper inspection. Use portable man lift to gain access to arches and columns. Repel down cliff to access tower on East slope.

Fatigue Life Study:	Year of Study: <u>not calculated</u>
	Remaining Fatigue Life: <u>not calculated</u>

Load Path Redundant:	No, structure is fracture critical; inspect FCM's every 24 months.
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Structurally Redundant:	No, Continuous Spans
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Location:	Figure 1: Profile View
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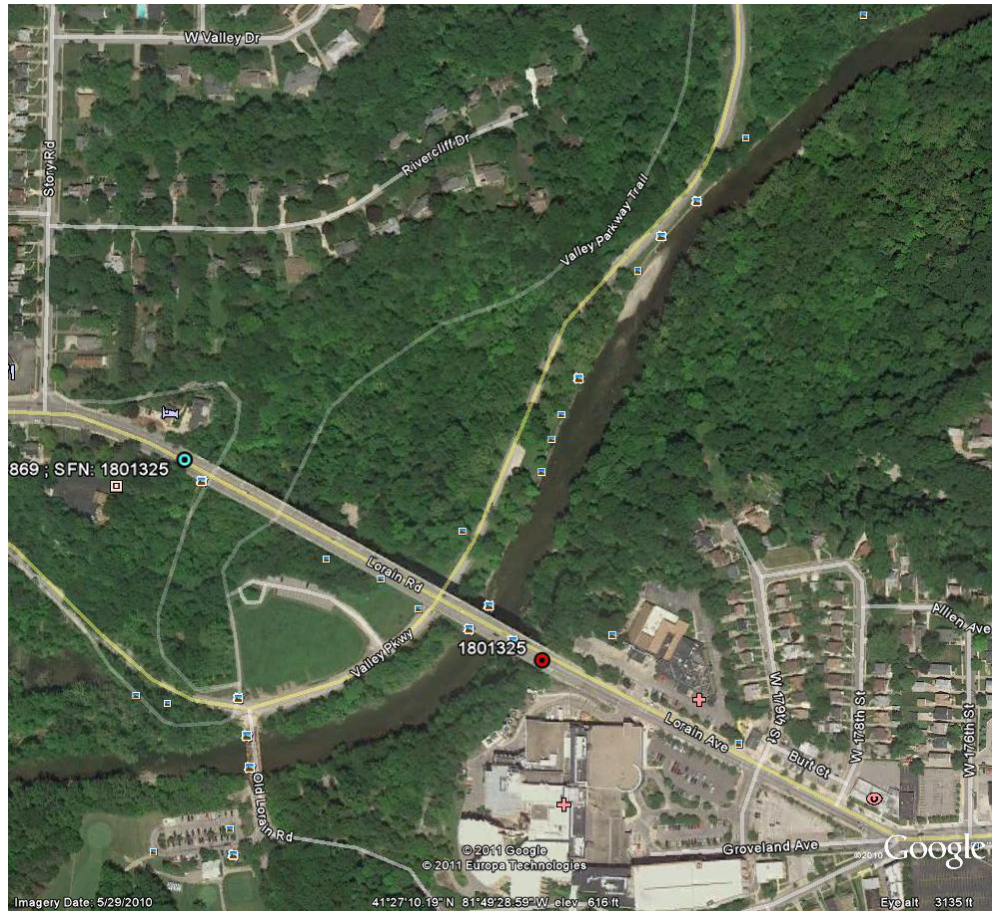


Figure 2 Cuy-10-869; SFN 1801325; City of Cleveland/Fairview Park

Structure Description:

This structure is 9 spans, 1230 feet long (a maximum span of 256 feet) steel arch with floor beams. It carries four lanes of traffic with a 52 foot roadway width and a 64 foot overall width. The average daily traffic for the bridge is 16810 vehicles with average truck traffic of 1040 vehicles (2010).

Additional Instructions:

Floor Beams spacing exceed 14 feet.
Pier Tower caps, steel, in tension.

Appendix VI

Approach TOTALS:	condition state				
	QTY.	1	2	3	4
c1. Approach Wearing Surface (EA)	2	0	2	0	0
c2 Approach Slabs (SF)	2583.9	2338.3	109.6	135.0	1.0
c4. Embankment (EA)	4	4	0	0	0
c5. Guardrail (EA)	4	2	2	0	0

Subtotals:

Rear (WEST) Approach

	condition state				
	QTY.	1	2	3	4
c1. Approach Wearing Surface (EA)	1	0	1	0	0
c2. Approach Slabs (SF)	1,300.0	1142.0	61.0	96.0	1.0
c4. Embankment (EA)	2	2	0	0	0
c5. Guardrail (EA)	2	1	1	0	0

Forward (EAST) Approach

	condition state				
	QTY.	1	2	3	4
c1. Approach Wearing Surface (EA)	1	0	1	0	0
c2. Approach Slabs (SF)	1,283.9	1196.3	48.6	39.0	0.0
c4. Embankment (EA)	2	2	0	0	0
c5. Guardrail (EA)	2	1	1	0	0

Deck TOTALS:	condition state				
	QTY.	1	2	3	4
c7.1 Floor/Slab (SF)	74,579.0	65119.47	9404	56	0
c7.2 Edge of Floor/Slab (LF)	2,406.0	1311.00	770	325	0
c8. Wearing Surface (SF)	63,824.0	59972.13	3845	7	0
c9. Curb/Sidewalk/Walkway (LF)	2,455.0	1379.13	1043	33	0
c11.Railing (LF)	2,455.0	206.76	1745	389	115
c12. Drainage (EA)	58	0	0	49	9
c13. Expansion Joint (LF)	434.0	0.00	168	0	266

Subtotals:

Beam Spans 1-4:

	condition state				
	QTY.	1	2	3	4
c7.1 Floor/Slab (SF)	9,735.0	9081.89	638.11	15.00	
c7.2 Edge of Floor/Slab (LF)	314.0	213.00	48.00	53.00	
c8. Wearing Surface (SF)	8,165.0	7750.13	414.5	0.4	0.0
c9. Curb/Sidewalk/Walkway (LF)	314.0	204.82	108.0	1.2	0.0
c11.Railing (LF)	314.0	30.96	237.5	45.5	0.0
c12. Drainage (EA)	10	0	0.0	4.0	6.0
c13. Expansion Joint (LF)	62.0	-62.00	48.0	0.0	76.0

Arch Span 5:

	condition state				
	QTY.	1	2	3	4
c7.1 Floor/Slab (SF)	14,675.0	12879.19	1795.81	0.00	
c7.2 Edge of Floor/Slab (LF)	473.0	147.31	292.69	33.00	
c8. Wearing Surface (SF)	12,308.0	11804.00	504.0	0.0	0.0
c9. Curb/Sidewalk/Walkway (LF)	473.0	221.20	246.8	5.0	0.0
c11.Railing (LF)	473.0	41.63	353.4	67.0	11.0
c12. Drainage (EA)	10	0	0.0	9.0	1.0
c13. Expansion Joint (LF)	62.0	0.00	24.0	0.0	38.0

Arch Span 6:

	condition state				
	QTY.	1	2	3	4
c7.1 Floor/Slab (SF)	15,872.0	13499.00	2373.00	0.00	
c7.2 Edge of Floor/Slab (LF)	512.0	374.00	90.00	48.00	
c8. Wearing Surface (SF)	13,312.0	12705.75	606.3	0.0	0.0
c9. Curb/Sidewalk/Walkway (LF)	512.0	256.01	240.9	15.1	0.0
c11.Railing (LF)	512.0	25.01	374.0	61.0	52.0
c12. Drainage (EA)	12	0	0.0	12.0	0.0
c13. Expansion Joint (LF)	62.0	0.00	24.0	0.0	38.0

Arch Span 7:

- c7.1 Floor/Slab (SF)
- c7.2 Edge of Floor/Slab (LF)
- c8. Wearing Surface (SF)
- c9. Curb/Sidewalk/Walkway (LF)
- c11.Railing (LF)
- c12. Drainage (EA)
- c13. Expansion Joint (LF)

QTY.	condition state			
	1	2	3	4
15,872.0	13788.64	2083.36	0.00	
512.0	249.69	173.00	89.31	
13,312.0	12295.25	1014.0	2.8	0.0
512.0	303.69	205.8	2.5	0.0
512.0	28.01	347.5	111.5	25.0
12	0	0.0	12.0	0.0
62.0	0.00	24.0	0.0	38.0

Arch Span 8:

- c7.1 Floor/Slab (SF)
- c7.2 Edge of Floor/Slab (LF)
- c8. Wearing Surface (SF)
- c9. Curb/Sidewalk/Walkway (LF)
- c11.Railing (LF)
- c12. Drainage (EA)
- c13. Expansion Joint (LF)

QTY.	condition state			
	1	2	3	4
14,675.0	12405.00	2229.00	41.00	
473.0	270.00	116.00	87.00	
12,308.0	11107.25	1200.0	0.8	0.0
473.0	284.15	181.3	7.6	0.0
473.0	25.13	339.6	87.0	21.3
10	0	0.0	9.0	1.0
62.0	0.00	24.0	0.0	38.0

Beam Span 9:

- c7.1 Floor/Slab (SF)
- c7.2 Edge of Floor/Slab (LF)
- c8. Wearing Surface (SF)
- c9. Curb/Sidewalk/Walkway (LF)
- c11.Railing (LF)
- c12. Drainage (EA)
- c13. Expansion Joint (LF)

QTY.	condition state			
	1	2	3	4
3,750.0	3465.75	284.25	0.00	
121.0	56.00	50.00	15.00	
4,419.0	4309.75	106.0	3.3	0.0
170.0	108.26	60.5	1.3	0.0
170.0	55.03	93.0	16.5	5.4
4	0	0.0	3.0	1.0
62.0	0.00	24.0	0.0	38.0

Bottom Deck Deterioration As inspected by snooper

Span 1 Beam Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		Bay 11		Bay 12		South Edge				
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3			
1	19.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00	0.00	4.00	0.00
2	19.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.00	0.00	0.00	0.00

Span 1 - c7.1 Floor/Slab Total:

CS-2	CS-3	
96.00	0.00	SF
4.00	0.00	LF

Span 1 - c7.2 Edge of Floor/Slab Total:

Span 2 Beam Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		Bay 11		Bay 12		South Edge				
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3			
1	19.31	0.00	0.00	10.50	0.00	0.00	0.00	4.50	0.00	9.00	0.00	9.00	0.00	9.00	0.00	1.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00	0.00	5.00	0.00
2	19.31	0.00	0.00	10.50	0.00	0.00	0.00	4.50	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00	15.00	3.00	12.00

Span 2 - c7.1 Floor/Slab Total:

CS-2	CS-3	
199.00	15.00	SF
8.00	12.00	LF

Span 2 - c7.2 Edge of Floor/Slab Total:

Span 3 Beam Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		Bay 11		Bay 12		South Edge					
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3				
1	19.31	3.00	0.00	10.50	0.00	0.00	0.00	4.50	0.00	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.00	0.00	7.00	15.00
2	19.31	3.00	5.00	10.50	0.00	0.00	0.00	4.50	0.00	9.00	0.00	9.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.00	0.00	3.00	15.00

Span 3 - c7.1 Floor/Slab Total:

CS-2	CS-3	
156.00	0.00	SF
16.00	35.00	LF

Span 3 - c7.2 Edge of Floor/Slab Total:

Span 4 Beam Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		Bay 11		Bay 12		South Edge					
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3				
1	19.31	2.00	0.00	19.31	0.00	0.00	0.00	0.00	0.00	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.00	0.00	8.00	3.00
2	21.81	3.00	0.00	21.81	0.00	0.00	0.00	0.00	0.00	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.00	0.00	7.00	3.00

Span 4 - c7.1 Floor/Slab Total:

CS-2	CS-3	
187.11	0.00	SF
20.00	6.00	LF

Span 4 - c7.2 Edge of Floor/Slab Total:

Span 5 Arch Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		South Edge	
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3
1	21.81	21.81	0.00	35.00	0.00	35.00	0.00	2.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	18.00	0.00	56.00	0.00	10.00	0.00		
2	19.31	19.31	0.00	35.00	0.00	20.00	0.00	2.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	18.00	0.00	26.00	0.00	49.00	0.00	6.00	0.00
3	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	8.00	0.00	14.00	0.00	18.00	0.00	18.00	0.00	70.00	0.00	2.00	0.00
4	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	1.00	0.00	8.00	0.00	6.00	0.00	0.00	0.00	49.00	0.00	10.00	0.00		
5	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	2.00	0.00	12.00	0.00	14.00	0.00	4.00	0.00	42.00	0.00	45.00	0.00	4.00	4.00
6	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	3.00	0.00	2.00	0.00	5.00	0.00	35.00	0.00	0.00	0.00
7	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	12.00	0.00	3.00	0.00	6.00	0.00	49.00	0.00	6.00	6.00
8	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	2.00	0.00	3.00	0.00	6.00	0.00	2.00	0.00	6.00	0.00	35.00	0.00	6.00	6.00
9	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	12.00	0.00	6.00	0.00	2.00	0.00	56.00	0.00	0.00	8.00
10	19.31	19.31	0.00	35.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	4.00	0.00	2.00	0.00	12.00	0.00	35.00	0.00	0.00	5.00
11	19.31	19.31	0.00	35.00	0.00	4.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	3.00	0.00	2.00	0.00	6.00	0.00	35.00	0.00	6.00	0.00
12	21.81	21.81	0.00	35.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	2.00	0.00	8.00	0.00	8.00	0.00	21.81	0.00	6.00	4.00

Span 5 - c7.1 Floor/Slab Total:

Span 5 - c7.2 Edge of Floor/Slab Total:

CS-2	CS-3	
1795.81	0.00	SF
292.69	33.00	LF

Span 6 Arch Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		South Edge	
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3
1	21.81	2.00	2.00	35.00	0.00	1.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	49.00	0.00	4.00	11.00
2	19.31	2.00	0.00	35.00	0.00	0.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	2.00	0.00	4.00	0.00	12.00	0.00	7.00	0.00	42.00	0.00	6.00	1.00
3	19.31	6.00	5.00	39.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	0.00	0.00	12.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00	49.00	0.00	0.00	0.00
4	19.31	5.00	4.00	35.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	0.00	0.00	12.00	0.00	12.00	0.00	6.00	0.00	6.00	0.00	55.00	0.00	0.00	2.00
5	19.31	2.00	0.00	44.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	0.00	0.00	7.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	68.00	0.00	3.00	2.00
6	19.31	1.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	1.00	0.00	0.00	0.00	45.00	0.00	3.00	0.00
7	19.31	2.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	28.00	0.00	9.00	0.00	0.00	0.00	12.00	0.00	12.00	0.00	2.00	0.00	35.00	0.00	0.00	0.00
8	19.31	2.00	0.00	32.00	0.00	0.00	0.00	28.00	0.00	28.00	0.00	0.00	0.00	12.00	0.00	6.00	0.00	6.00	0.00	2.00	0.00	70.00	0.00	10.00	0.00
9	19.31	2.00	0.00	21.00	0.00	0.00	0.00	20.00	0.00	20.00	0.00	6.00	0.00	6.00	0.00	12.00	0.00	220.00	0.00	22.00	0.00	56.00	0.00	8.00	0.00
10	19.31	2.00	0.00	21.00	0.00	0.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	6.00	0.00	12.00	0.00	6.00	0.00	3.00	0.00	63.00	0.00	5.00	4.00
11	19.31	4.00	3.00	21.00	0.00	0.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	3.00	0.00	2.00	0.00	45.00	0.00	7.00	2.00
12	19.31	0.00	0.00	21.00	0.00	0.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	2.00	0.00	18.00	0.00	0.00	0.00	12.00	0.00	54.00	0.00	4.00	2.00
13	21.81	10.00	6.00	22.00	0.00	1.00	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	0.00	77.00	0.00	0.00	4.00

Span 6 - c7.1 Floor/Slab Total:

Span 6 - c7.2 Edge of Floor/Slab Total:

CS-2	CS-3	
2373.00	0.00	SF
90.00	48.00	LF

Span 9 Beam Span

Bay	Length (LF)	North Edge		Bay 1		Bay 2		Bay 3		Bay 4		Bay 5		Bay 6		Bay 7		Bay 8		Bay 9		Bay 10		Bay 11		Bay 12		South Edge		
		(LF) CS-2	(LF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(LF) CS-2	(LF) CS-3	
1	21.81	10.00	0.00	6.00	0.00	3.25	0.00	0.00	0.00	6.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	56.00	0.00	8.00	5.00	
2	19.31	10.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	5.00
3	19.37	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	91.00	0.00	6.00	5.00	

Span 9 - c7.1 Floor/Slab Total:

CS-2	CS-3	SF
284.25	0.00	

Span 9 - c7.2 Edge of Floor/Slab Total:

CS-2	CS-3	LF
50.00	15.00	

Top Deck Deterioration

As inspected by foot from closed lane and sidewalk

Span 1 thru 4 Beam Span

Transverse Section

Length (LF)	Expansion Joint			N Rail	N SW	WB 1	WB 2	EB 3	EB 4	S SW	S Rail
	(LF) CS-2	(LF) CS-3	(LF) CS-4								
62.00	24.0	0.0	38.0	1.0	5.0	13.0	12.0	12.0	13.0	5.0	1.0

Length	North Rail (LT)			North Sidewalk (LT)			North Trough Drain (LT)			WB Lane 1		WB Lane 2		EB Lane 3		EB Lane 4		South Trough Drain (RT)			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(EA) CS-2	(EA) CS-3	(EA) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(EA) CS-2	(EA) CS-3	(EA) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
157.02	110.52	22.00	0.00	53.98	0.00	0.00	0	1	4	104.00	0.13	96.00	0.00	102.00	0.00	112.50	0.25	0	3	2	53.98	1.23	0.00	127.02	23.50	0.00

Trans. Cracks, EA: 8 0 8 0 8 0 8 0
 Patch / Spall, SF: 0.00 0.13 0.00 0.00 6.00 0.00 8.50 0.25

Tower 5 Expansion Joint:

Length (LF)	(LF) CS-2	(LF) CS-3	(LF) CS-4
62.00	24.0	0.0	38.0

Span 1 thru 4

Span 1 thru 4 - c8 Wearing Surface Total:
 Span 1 thru 4 - c9 Curb/Sidewalk Total:
 Span 1 thru 4 - c11 Railing Total:
 Span 1 thru 4 - c12 Drainage Total:
 Span 1 thru 4 - c13 Expansion Joint Total:

CS-2	CS-3	CS-4	
414.50	0.38		SF
107.95	1.23	0.00	LF
237.54	45.50	0.00	LF
0.00	4.00	6.00	EA
48.00	0.00	76.00	LF

Trough Drain:
 Sidewalk Surface:
 Post Base Concrete:
 Steel Railing Tube Splice:
 Steel Railing Tube Other:
 Steel Railing Inset Panel:
 Railing, Overall:

North Side (LT)					South Side (RT)						
Total	Unit	CS-1	CS-2	CS-3	CS-4	Total	Unit	CS-1	CS-2	CS-3	CS-4
5	EA	0	0	1	4	5	EA	0	0	3	2
32	EA	21	11	0	0	32	EA	20.75	11	0.25	0
33	1.5' EA	27	2	4	0	33	1.5' EA	15	13	5	0
8	2.0' EA	0	0	8	0	8	2.0' EA	0	0	8	0
141.02	FT	141.02	0	0	0	141.02	FT	141.02	0	0	0
32	EA	0	32	0	0	32	EA	0	32	0	0
107.52	FT	0.00	107.52	0.00	0.00	107.52	FT	0.00	107.52	0.00	0.00
157.02	FT	24.50	110.52	22.00	0.00	157.02	FT	6.50	127.02	23.50	0.00

Span 5 Arch Span

Length (LF)	North Rail (LT)			North Sidewalk (LT)			North Trough Drain (LT)			WB Lane 1		WB Lane 2		EB Lane 3		EB Lane 4		South Trough Drain (RT)			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(EA) CS-2	(EA) CS-3	(EA) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(EA) CS-2	(EA) CS-3	(EA) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
236.69	173.69	43.50	3.00	141.01	2.52	0.00	0	5	0	132.00	0.00	120.00	0.00	120.00	0.00	132.00	0.00	0	4	1	105.75	2.52	0.00	179.69	23.50	8.00

Trans. Cracks, EA: 10 0 10 0 10 0 10 0
 Patch / Spall, SF: 2.00 0.00 0.00 0.00 0.00 0.00 2.00 0.00

Tower 4 Expansion Joint:

Length (LF)	(LF) CS-2	(LF) CS-3	(LF) CS-4
62.00	24.0	0.0	38.0

Span 5

Span 5 - c8 Wearing Surface Total:
 Span 5 - c9 Curb/Sidewalk Total:
 Span 5 - c11 Railing Total:
 Span 5 - c12 Drainage Total:
 Span 5 - c13 Expansion Joint Total:

CS-2	CS-3	CS-4	
504.00	0.00		SF
246.76	5.04	0.00	LF
353.38	67.00	11.00	LF
0.00	9.00	1.00	EA
24.00	0.00	38.00	LF

Trough Drain:
 Sidewalk Surface:
 Post Base Concrete:
 Steel Railing Tube Splice:
 Steel Railing Tube Other:
 Steel Railing Inset Panel:
 Railing, Overall:

North Side (LT)					South Side (RT)						
Total	Unit	CS-1	CS-2	CS-3	CS-4	Total	Unit	CS-1	CS-2	CS-3	CS-4
5	EA	0	0	5	0	5	EA	0	0	4	1
47	EA	18.5	28	0.5	0	47	EA	25.5	21	0.5	0
49	1.5' EA	29	7	13	0	49	1.5' EA	33	11	5	0
12	2.0' EA	0	0	12	0	12	2.0' EA	0	0	8	4
212.69	FT	209.69	0	0	3.0	212.69	FT	212.69	0	0	0
48	EA	0	48	0	0	48	EA	0	48	0	0
163.19	FT	0.00	163.19	0.00	0.00	163.19	FT	0.00	163.19	0.00	0.00
236.69	FT	16.50	173.69	43.50	3.00	236.69	FT	25.50	179.69	23.50	8.00

Span 6 Arch Span

Length (LF)	North Rail (LT)			North Sidewalk (LT)			North Trough Drain (LT)			WB Lane 1		WB Lane 2		EB Lane 3		EB Lane 4		South Trough Drain (RT)			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(EA) CS-2	(EA) CS-3	(EA) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(EA) CS-2	(EA) CS-3	(EA) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
255.99	190.00	20.00	46.00	95.37	0.00	0.00	0	6	0	159.00	0.00	144.00	0.00	144.00	0.00	159.25	0.00	0	6	0	145.57	15.06	0.00	183.99	41.00	6.00

Trans. Cracks, EA: 12 0 12 0 12 0 12 0
 Patch / Spall, SF: 3.00 0.00 0.00 0.00 0.00 0.00 3.25 0.00

Tower 3 Expansion Joint:

Length (LF)	(LF) CS-2	(LF) CS-3	(LF) CS-4
62.00	24.0	0.0	38.0

Span 6

Span 6 - c8 Wearing Surface Total:
 Span 6 - c9 Curb/Sidewalk Total:
 Span 6 - c11 Railing Total:
 Span 6 - c12 Drainage Total:
 Span 6 - c13 Expansion Joint Total:

CS-2	CS-3	CS-4	
606.25	0.00		SF
240.94	15.06	0.00	LF
373.99	61.00	52.00	LF
0.00	12.00	0.00	EA
24.00	0.00	38.00	LF

Trough Drain:
 Sidewalk Surface:
 Post Base Concrete:
 Steel Railing Tube Splice:
 Steel Railing Tube Other:
 Steel Railing Inset Panel:
 Railing, Overall:

North Side (LT)					South Side (RT)						
Total	Unit	CS-1	CS-2	CS-3	CS-4	Total	Unit	CS-1	CS-2	CS-3	CS-4
6	EA	0	0	6	0	6	EA	0	0	6	0
51	EA	32	19	0	0	51	EA	19	29	3	0
53	1.5' EA	34	19	0	0	53	1.5' EA	34	5	14	0
13	2.0' EA	1	2	10	0	13	2.0' EA	0	0	10	3
229.99	FT	184.00	0	0	46.0	229.99	FT	229.99	0	0	0
52	EA	0	52	0	0	52	EA	0	52	0	0
176.49	FT	0.00	176.49	0.00	0.00	176.49	FT	0.00	176.49	0.00	0.00
255.99	FT	0.00	190.00	20.00	46.00	255.99	FT	25.00	183.99	41.00	6.00

Span 7 Arch Span

Length (LF)	North Rail (LT)			North Sidewalk (LT)			North Trough Drain (LT)			WB Lane 1		WB Lane 2		EB Lane 3		EB Lane 4		South Trough Drain (RT)			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(EA) CS-2	(EA) CS-3	(EA) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(EA) CS-2	(EA) CS-3	(EA) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
255.99	162.00	71.00	23.00	125.49	0.00	0.00	0	6	0	274.00	2.50	240.00	0.00	240.00	0.25	260.00	0.00	0	6	0	80.31	2.51	0.00	185.49	40.50	2.00

Trans. Cracks, EA: 20 0 20 0 20 0 20 0
 Patch / Spall, SF: 14.00 2.50 0.00 0.00 0.00 0.25 0.00 0.00

Tower 2 Expansion Joint:

Length (LF)	(LF) CS-2	(LF) CS-3	(LF) CS-4
62.00	24.0	0.0	38.0

Span 7

Span 7 - c8 Wearing Surface Total:
 Span 7 - c9 Curb/Sidewalk Total:
 Span 7 - c11 Railing Total:
 Span 7 - c12 Drainage Total:
 Span 7 - c13 Expansion Joint Total:

CS-2	CS-3	CS-4
1014.00	2.75	
205.80	2.51	0.00
347.49	111.50	25.00
0.00	12.00	0.00
24.00	0.00	38.00

Trough Drain:
 Sidewalk Surface:
 Post Base Concrete:
 Steel Railing Tube Splice:
 Steel Railing Tube Other:
 Steel Railing Inset Panel:
 Steel Railing Inset Panel:
 Railing, Overall:

Total		North Side (LT)				Total		South Side (RT)			
Unit	CS-1	CS-2	CS-3	CS-4	Unit	CS-1	CS-2	CS-3	CS-4		
6 EA	0	0	6	0	6 EA	0	0	6	0		
51 EA	26	25	0	0	51 EA	34.5	16	0.5	0		
53 1.5' EA	21	2	30	0	53 1.5' EA	36	6	11	0		
13 2.0' EA	0	0	13	0	13 2.0' EA	0	0	12	1		
229.99 FT	207.00	0	0	23.0	229.99 FT	229.99	0	0	0		
52 EA	0	52	0	0	52 EA	0	52	0	0		
176.49 FT	0.00	176.49	0.00	0.00	176.49 FT	0.00	176.49	0.00	0.00		
255.99 FT	0.00	162.00	71.00	23.00	255.99 FT	28.00	185.49	40.50	2.00		

Span 8 Arch Span

Length (LF)	North Rail (LT)			North Sidewalk (LT)			North Trough Drain (LT)			WB Lane 1		WB Lane 2		EB Lane 3		EB Lane 4		South Trough Drain (RT)			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(EA) CS-2	(EA) CS-3	(EA) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(EA) CS-2	(EA) CS-3	(EA) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
236.69	167.42	48.00	21.27	110.79	0.00	0.00	0	4	1	312.00	0.50	288.00	0.25	288.00	0.00	312.00	0.00	0	5	0	70.50	7.55	0.00	172.19	39.00	0.00

Trans. Cracks, EA: 24 0 24 0 24 0 24 0
 Patch / Spall, SF: 0.00 0.50 0.00 0.25 0.00 0.00 0.00 0.00

Tower 1 Expansion Joint:

Length (LF)	(LF) CS-2	(LF) CS-3	(LF) CS-4
62.00	24.0	0.0	38.0

Span 8

Span 8 - c8 Wearing Surface Total:
 Span 8 - c9 Curb/Sidewalk Total:
 Span 8 - c11 Railing Total:
 Span 8 - c12 Drainage Total:
 Span 8 - c13 Expansion Joint Total:

CS-2	CS-3	CS-4
1200.00	0.75	
181.29	7.55	0.00
339.61	87.00	21.27
0.00	9.00	1.00
24.00	0.00	38.00

Trough Drain:
 Sidewalk Surface:
 Post Base Concrete:
 Steel Railing Tube Splice:
 Steel Railing Tube Other:
 Steel Railing Inset Panel:
 Steel Railing Inset Panel:
 Railing, Overall:

Total		North Side (LT)				Total		South Side (RT)			
Unit	CS-1	CS-2	CS-3	CS-4	Unit	CS-1	CS-2	CS-3	CS-4		
5 EA	0	0	4	1	5 EA	0	0	5	0		
47 EA	25	22	0	0	47 EA	31.5	14	1.5	0		
49 1.5' EA	26	7	16	0	49 1.5' EA	33	6	10	0		
12 2.0' EA	0	0	12	0	12 2.0' EA	0	0	12	0		
212.69 FT	191.42	0	0	21.3	212.69 FT	212.69	0	0	0		
48 EA	0	48	0	0	48 EA	0	48	0	0		
163.19 FT	0.00	163.19	0.00	0.00	163.19 FT	0.00	163.19	0.00	0.00		
236.69 FT	0.00	167.42	48.00	21.27	236.69 FT	25.50	172.19	39.00	0.00		

Span 9 Beam Span

Length (LF)	North Rail (LT)			North Sidewalk (LT)			North Trough Drain (LT)			WB Lane 1		WB Lane 2		EB Lane 3		EB Lane 4		South Trough Drain (RT)			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(EA) CS-2	(EA) CS-3	(EA) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(SF) CS-2	(SF) CS-3	(EA) CS-2	(EA) CS-3	(EA) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
60.48	46.04	9.00	5.45	15.12	0.00	0.00	0	1	1	26.00	0.00	30.00	3.25	24.00	0.00	26.00	0.00	0	2	0	45.36	1.26	0.00	46.98	7.50	0.00

Trans. Cracks, EA: 2 0 2 0 2 0 2 0
 Patch / Spall, SF: 0.00 0.00 6.00 3.25 0.00 0.00 0.00 0.00

F.A. Expansion Joint:

Length (LF)	(LF) CS-2	(LF) CS-3	(LF) CS-4
62.00	24.0	0.0	38.0

Span 9

Span 9 - c8 Wearing Surface Total:
 Span 9 - c9 Curb/Sidewalk Total:
 Span 9 - c11 Railing Total:
 Span 9 - c12 Drainage Total:
 Span 9 - c13 Expansion Joint Total:

CS-2	CS-3	CS-4
106.00	3.25	
60.48	1.26	0.00
93.02	16.50	5.45
0.00	3.00	1.00
24.00	0.00	38.00

Trough Drain:
 Sidewalk Surface:
 Post Base Concrete:
 Steel Railing Tube Splice:
 Steel Railing Tube Other:
 Steel Railing Inset Panel:
 Steel Railing Inset Panel:
 Railing, Overall:

Total		North Side (LT)				Total		South Side (RT)			
Unit	CS-1	CS-2	CS-3	CS-4	Unit	CS-1	CS-2	CS-3	CS-4		
2 EA	0	0	1	1	2 EA	0	0	2	0		
12 EA	9	3	0	0	12 EA	2.75	9	0.25	0		
13 1.5' EA	7	4	2	0	13 1.5' EA	8	4	1	0		
3 2.0' EA	0	0	3	0	3 2.0' EA	0	0	3	0		
54.48 FT	49.04	0	0	5.4	54.48 FT	54.48	0	0	0		
12 EA	0	12	0	0	12 EA	0	12	0	0		
40.98 FT	0.00	40.98	0.00	0.00	40.98 FT	0.00	40.98	0.00	0.00		
60.48 FT	0.00	46.04	9.00	5.45	60.48 FT	6.00	46.98	7.50	0.00		

Rear Approach

Approach Slab - Asphalt Wearing Surface

Length (LF)	North Rail (LT)			North Sidewalk (LT)			WB Lane 1			WB Lane 2			EB Lane 3			EB Lane 4			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
25.00	19.00	3.50	0.00	6.25	0.00	0.00	17.00	0.00	0.00	20.00	0.00	0.00	24.00	0.00	0.00	0.00	96.00	1.00	5.00	0.00	4.00	21.50	3.50	0.00

Rear Approach- c2 Approach Slabs Total:

Rear Approach- c9 Curb/Sidewalk Total:

Rear Approach- c11 Railing Total:

CS-2	CS-3	CS-4
61.00	96.00	1.00
11.25	0.00	4.00
40.50	7.00	0.00

SF

LF

LF

Rear Approach

Concrete Curb:

Sidewalk Surface:

Post Base Concrete:

Steel Railing Tube Splice:

Steel Railing Tube Other:

Steel Railing Inset Panel:

Steel Railing Inset Panel:

Railing, Overall:

North Side (LT)						South Side (RT)					
Total	Unit	CS-1	CS-2	CS-3	CS-4	Total	Unit	CS-1	CS-2	CS-3	CS-4
25.00	FT	25.00	0.00	0.00	0.00	25.00	FT	21.00	0.00	0.00	4.00
5	EA	3.75	1.25	0	0	5	EA	4	1	0	0
4	1.5' EA	3	0	1	0	4	1.5' EA	1	2	1	0
1	2.0' EA	0	0	1	0	1	2.0' EA	0	0	1	0
23.00	FT	23.00	0	0	0	23.00	FT	23.00	0	0	0
3	EA	0	3	0	0	3	EA	0	3	0	0
19.00	FT	0.00	19.00	0.00	0.00	19.00	FT	0.00	19.00	0.00	0.00
25.00	FT	2.50	19.00	3.50	0.00	25.00	FT	0.00	21.50	3.50	0.00

Forward Approach

Approach Slab - Concrete Wearing Surface

Length (LF)	North Rail (LT)			North Sidewalk (LT)			WB Lane 1			WB Lane 2			EB Lane 3			EB Lane 4			South Sidewalk (RT)			South Rail (RT)		
	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(SF) CS-2	(SF) CS-3	(SF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4	(LF) CS-2	(LF) CS-3	(LF) CS-4
25.00	21.00	1.50	2.50	0.00	0.00	0.00	3.25	2.00	0.00	3.00	12.00	0.00	3.00	12.00	0.00	39.32	13.00	0.00	0.00	0.00	0.00	20.50	1.50	0.00

Forward Approach- c2 Approach Slabs Total:

Forward Approach- c9 Curb/Sidewalk Total:

Forward Approach- c11 Railing Total:

CS-2	CS-3	CS-4
48.57	39.00	0.00
0.00	0.00	0.00
41.50	3.00	2.50

Forward Approach

Sidewalk Surface:

Post Base Concrete:

Steel Railing Tube Splice:

Steel Railing Tube Other:

Steel Railing Inset Panel:

Steel Railing Inset Panel:

Railing, Overall:

North Side (LT)						South Side (RT)					
Total	Unit	CS-1	CS-2	CS-3	CS-4	Total	Unit	CS-1	CS-2	CS-3	CS-4
5	EA	5	0	0	0	5	EA	5	0	0	0
4	1.5' EA	0	3	1	0	4	1.5' EA	2	1	1	0
0	2.0' EA	0	0	0	0	0	2.0' EA	0	0	0	0
25.00	FT	22.50	0	0	2.5	25.00	FT	25.00	0	0	0
3	EA	0	3	0	0	3	EA	0	3	0	0
19.00	FT	0.00	19.00	0.00	0.00	19.00	FT	0.00	19.00	0.00	0.00
25.00	FT	0.00	21.00	1.50	2.50	25.00	FT	3.00	20.50	1.50	0.00

 = Quantity not in inventory

Superstructure TOTALS:	condition state				
	QTY.	1	2	3	4
c14 Alignment (EA)	9.0	9	0	0	0
c15.1 Beams/Girders (LF)	2,827.0	2568.45	232	27	0
c16 Diaphragms/X-Frames (EA)	94.0	94	0	0	0
c17 Stringers (LF)	10,840.0	10610.87	215	14	0
c18 Floorbeams (LF)	2,898.0	2852.00	5	41	0
c24 Lateral Bracing (EA)	46.0	34	12	0	0
c26 Bearing Devices (EA)	140.0	121	19	0	0
c27 Arch (LF)	1,970.0	1772.88	195	2	0
c28 Arch Column/Hanger (EA)	92.0	19	19	54	0
c30 Protective Coating System (LF)	19,044.0	1.31	15534	2460	1049
c31 Pins/Hangers/Hinges (EA)	16.0	16	0	0	0
c32 Fatigue (LF)	18,791.0	18701.00	86	4	0

Subtotals:

Beam Span 1:

	condition state				
	QTY.	1	2	3	4
c14 Alignment (EA)	1.0	1	0	0	0
c15.1 Beams/Girders (LF)	503.0	463.00	24.00	16.00	0.00
c16 Diaphragms/X-Frames (EA)	22.0	22	0	0	0
c17 Stringers (LF)					
c18 Floorbeams (LF)					
c24 Lateral Bracing (EA)					
c26 Bearing Devices (EA)	13	13	0	0	0
c27 Arch (LF)					
c28 Arch Column/Hanger (EA)					
c30 Protective Coating System (LF)	503.0	0.00	500.00	3.00	0.00
c31 Pins/Hangers/Hinges (EA)					
c32 Fatigue (LF)	503.0	503.00	0.00	0.00	0.00

Beam Span 2:

	condition state				
	QTY.	1	2	3	4
c14 Alignment (EA)	1.0	1	0	0	0
c15.1 Beams/Girders (LF)	502.0	502.00	0.00	0.00	0.00
c16 Diaphragms/X-Frames (EA)	12.0	12	0	0	0
c17 Stringers (LF)					
c18 Floorbeams (LF)					
c24 Lateral Bracing (EA)					
c26 Bearing Devices (EA)	0	0	0	0	0
c27 Arch (LF)					
c28 Arch Column/Hanger (EA)					
c30 Protective Coating System (LF)	565.0	-0.80	525.02	40.78	0.00
c31 Pins/Hangers/Hinges (EA)					
c32 Fatigue (LF)	502.0	502.00	0.00	0.00	0.00

Beam Span 3:

c14 Alignment (EA)
 c15.1 Beams/Girders (LF)
 c16 Diaphragms/X-Frames (EA)
 c17 Stringers (LF)
 c18 Floorbeams (LF)
 c24 Lateral Bracing (EA)
 c26 Bearing Devices (EA)
 c27 Arch (LF)
 c28 Arch Column/Hanger (EA)
 c30 Protective Coating System (LF)
 c31 Pins/Hangers/Hinges (EA)
 c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
502.0	482.69	19.31	0.00	0.00
12.0	12	0	0	0
0	0	0	0	0
565.0	-0.80	523.13	42.68	0.00
502.0	502.00	0.00	0.00	0.00

Beam Span 4:

c14 Alignment (EA)
 c15.1 Beams/Girders (LF)
 c16 Diaphragms/X-Frames (EA)
 c17 Stringers (LF)
 c18 Floorbeams (LF)
 c24 Lateral Bracing (EA)
 c26 Bearing Devices (EA)
 c27 Arch (LF)
 c28 Arch Column/Hanger (EA)
 c30 Protective Coating System (LF)
 c31 Pins/Hangers/Hinges (EA)
 c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
534.0	404.76	118.24	11.00	0.00
12.0	12	0	0	0
0	0	0	0	0
597.0	-1.30	527.94	70.37	0.00
534.0	534.00	0.00	0.00	0.00

Arch Span 5:

c14 Alignment (EA)
 c15.1 Beams/Girders (LF)
 c16 Diaphragms/X-Frames (EA)
 c17 Stringers (LF)
 c18 Floorbeams (LF)
 c24 Lateral Bracing (EA)
 c26 Bearing Devices (EA)
 c27 Arch (LF)
 c28 Arch Column/Hanger (EA)
 c30 Protective Coating System (LF)
 c31 Pins/Hangers/Hinges (EA)
 c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
2,604.0	2600	1.0	3.0	0.0
693.0	679	4.00	10.00	0.00
11	9	2	0	0
24	22	2	0	0
473.0	440	33.00	0.00	0.00
22	1	3	18	0
3,834.0	1	3337.02	330.57	165.34
4	4	0	0	0
3,834.0	3808.00	26.00	0.00	0.00

Arch Span 6:

- c14 Alignment (EA)
- c15.1 Beams/Girders (LF)
- c16 Diaphragms/X-Frames (EA)
- c17 Stringers (LF)
- c18 Floorbeams (LF)
- c24 Lateral Bracing (EA)
- c26 Bearing Devices (EA)
- c27 Arch (LF)
- c28 Arch Column/Hanger (EA)
- c30 Protective Coating System (LF)
- c31 Pins/Hangers/Hinges (EA)
- c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
2,816.0	2751	64.4	1.0	0.0
756.0	748	1.00	7.00	0.00
12	9	3	0	0
22	22	0	0	0
512.0	457	52.81	2.00	0.00
24	6	5	13	0
4,148.0	1	3229.26	589.37	328.30
4	4	0	0	0
4,148.0	4121.00	23.00	4.00	0.00

Arch Span 7:

- c14 Alignment (EA)
- c15.1 Beams/Girders (LF)
- c16 Diaphragms/X-Frames (EA)
- c17 Stringers (LF)
- c18 Floorbeams (LF)
- c24 Lateral Bracing (EA)
- c26 Bearing Devices (EA)
- c27 Arch (LF)
- c28 Arch Column/Hanger (EA)
- c30 Protective Coating System (LF)
- c31 Pins/Hangers/Hinges (EA)
- c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
2,816.0	2803	8.0	5.0	0.0
756.0	739	0.00	17.00	0.00
12	7	5	0	0
22	22	0	0	0
512.0	459	53.00	0.00	0.00
24	7	6	11	0
4,148.0	1	3187.29	642.09	317.56
4	4	0	0	0
4,148.0	4124.00	24.00	0.00	0.00

Arch Span 8:

- c14 Alignment (EA)
- c15.1 Beams/Girders (LF)
- c16 Diaphragms/X-Frames (EA)
- c17 Stringers (LF)
- c18 Floorbeams (LF)
- c24 Lateral Bracing (EA)
- c26 Bearing Devices (EA)
- c27 Arch (LF)
- c28 Arch Column/Hanger (EA)
- c30 Protective Coating System (LF)
- c31 Pins/Hangers/Hinges (EA)
- c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
2,604.0	2457	141.7	5.0	0.0
693.0	686	0.00	7.00	0.00
11	9	2	0	0
22	22	0	0	0
473.0	417	56.31	0.00	0.00
22	5	5	12	0
3,834.0	1	2983.24	627.93	221.77
4	4	0	0	0
3,834.0	3821.00	13.00	0.00	0.00

Beam Span 9:

- c14 Alignment (EA)
- c15.1 Beams/Girders (LF)
- c16 Diaphragms/X-Frames (EA)
- c17 Stringers (LF)
- c18 Floorbeams (LF)
- c24 Lateral Bracing (EA)
- c26 Bearing Devices (EA)
- c27 Arch (LF)
- c28 Arch Column/Hanger (EA)
- c30 Protective Coating System (LF)
- c31 Pins/Hangers/Hinges (EA)
- c32 Fatigue (LF)

QTY.	condition state			
	1	2	3	4
1.0	1	0	0	0
786.0	716.00	70.00	0.00	0.00
36.0	36	0	0	0
37	20	17	0	0
850.0	-0.04	721.28	112.76	16.00
786.0	786.00	0.00	0.00	0.00

Span 4 Beam Span

Table with columns: Bay, Length (LF), Steel Beam 1-13, Steel Diaphragms. Rows 1 and 2.

Table with columns: Bay, Length (LF), PCS Beam 1-13, PCS Pier 3 Cap Beam. Rows 1 and 2.

Table with columns: Bay, Length (LF), Fatigue Beam 1-13. Rows 1 and 2.

Summary table for Span 4 - c14 Alignment Total, Span 4 - c15.1 Beams/Girders Total, Span 4 - c16 Diaphragms/X-Frames Total, Span 4 - c26 Bearing Devices Total, Span 4 - c30 Protective Coating System Total, Span 4 - c32 Fatigue Total. Columns CS-2, CS-3, CS-4.

transfer to Utilities section: Span 4 - c57 Utilities Total: Table with columns CS-2, CS-3, CS-4.

Span 5 Arch Span

Table with columns: Bay, Length (LF), Steel Stringer 1-13, Steel Floorbeam, Steel North Arch, Steel South Arch, Steel Arch Column, Steel Lat. Bracing. Rows 1-12.

Table with columns: Bay, Length (LF), PCS Stringer 1-13, PCS Floorbeam, PCS North Arch, PCS South Arch. Rows 1-12.

Table with columns: Bay, Length (LF), Fatigue Stringer 1-13, Fatigue Floorbeam, Fatigue North Arch, Fatigue South Arch. Rows 1-12.

Summary table for Span 5 - c14 Alignment Total, Span 5 - c17 Stringers Total, Span 5 - c18 Floorbeams Total, Span 5 - c24 Lateral Bracing Total, Span 5 - c26 Bearing Devices Total, Span 5 - c27 Arch Total, Span 5 - c28 Arch Column/Hanger Total, Span 5 - c30 Protective Coating System Total, Span 5 - c31 Pins/Hangers/Hinges Total, Span 5 - c32 Fatigue Total. Columns CS-2, CS-3, CS-4.

Pier 4 Stringer Bearings, Pier 4 Arch Pins, Pier 5 Stringer Bearings, Pier 5 Arch Pins. Transfer to Utilities section: Span 5 - c57 Utilities Total: Table with columns CS-2, CS-3, CS-4.

Table with columns CS-2, CS-3, CS-4. Value 236.69.

Substructure Totals:	condition state				
	QTY.	1	2	3	4
c33. Abutment Walls (LF)	128.0	125.00	3.00	0.00	0.00
c34. Abutment Caps (LF)	128.0	122.00	6.00	0.00	0.00
c36. Pier Walls (LF)	281.3	227.33	43.00	11.00	0.00
c37. Pier Caps (LF)	507.7	501.65	6.00	0.00	0.00
c38. Pier Columns/Bents(EA)	16	6	7	3	0
c39. Backwalls (LF)	128.0	128.00	0.00	0.00	0.00
c40. Wingwalls (EA)	4	4	0	0	0
c42. Scour (EA) d	10	10	0	0	0
c43. Slope Protection (EA) d	2	1	0	1	0

Subtotals:

Rear Abutment:

	condition state				
	QTY.	1	2	3	4
c33. Abutment Walls (LF)	64.0	61.00	3		
c34. Abutment Caps (LF)	64.0	64.00			
c36. Pier Walls (LF)					
c37. Pier Caps (LF)					
c38. Pier Columns/Bents(EA)					
c39. Backwalls (LF)	64.0	64.00			
c40. Wingwalls (EA)	2	2			
c42. Scour (EA) d	1	1			
c43. Slope Protection (EA) d	1	1			

Pier 1:

	condition state				
	QTY.	1	2	3	4
c33. Abutment Walls (LF)					
c34. Abutment Caps (LF)					
c36. Pier Walls (LF)	11.0	9.00	2.00		
c37. Pier Caps (LF)	63.0	61.00	2.00		
c38. Pier Columns/Bents(EA)	2	2			
c39. Backwalls (LF)					
c40. Wingwalls (EA)					
c42. Scour (EA) d	1	1			
c43. Slope Protection (EA) d					

Pier 2:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
11.0	9.00	2.00		
63.0	61.00	2.00		
2	0	2.00		
1	1			

Pier 3:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
11.0	8.00	3.00		
63.0	61.00	2.00		
2	0	2.00		
1	1			

Pier 4:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
11.0	3.00	8.00		
63.0	63.00			
2	0		2.00	
1	1			

Pier 5:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
50.1	43.13	7.00		
63.7	63.73			
2	2			
1	1			

Pier 6:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
50.1	41.13	5.00	4.00	
63.7	63.73			
2	2			
1	1			

Pier 7:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
50.1	36.13	12.00	2.00	
63.7	63.73			
2	0	1.00	1.00	
1	1			

Pier 8:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
49.0	39.98	4.00	5.00	
63.7	63.73			
2	0	2.00		
1	1			

Forward Abutment:

- c33. Abutment Walls (LF)
- c34. Abutment Caps (LF)
- c36. Pier Walls (LF)
- c37. Pier Caps (LF)
- c38. Pier Columns/Bents(EA)
- c39. Backwalls (LF)
- c40. Wingwalls (EA)
- c42. Scour (EA) d
- c43. Slope Protection (EA) d

QTY.	condition state			
	1	2	3	4
64.0	64.00			
64.0	58.00	6.0		
64.0	64.00			
2	2			
1	1			
1	0		1.00	