Item 9: Water Quality Certification Application

PIC-CR22-6.95 BRIDGE REPLACEMENT (PID 83541)

Bridge Inventory Report
and
Bridge Inspection Report

Bridge Inventory Information

Inventory Bridge Number: PIC C0022 0695

ROUTE CARRIED BY STRUCTURE BIG DARBY CREEK

District: 06 | County: PICKAWAY | (101) Location: 0.4MI E.OF DARBY CREEK RD | (102) Facility Carried: SCIOTO-DARBY ROAD
(2) FIPS Code: DARBY TWP | (103) Route On Bridge: COUNTY | (104) Route Under Bridge: NON-HIGHWAY
(9) Direction of Traffic: ONE LANE FOR 2-WAY TRAFFIC | (10) Temporary: N | (11) Truck Network: N | (12) Parallel: N
(100) Type Serv: (On): HIGHWAY | (Under): WATERWAY

Inventory Route Data

(3) Route On/Under: ROUTE CARRIED BY STRUCTU | Hwy Sys: COUNTY/TOWNSHIP HIGHW
Route No: C0022 | Dir: | Des: MAINLINE | Pref:
(4) Feature Inspected: BIG DARBY CREEK
(5) County: DAR | Mileage: 0695 | Special Desig:
(6)Avg. Daily Traffic(ADT): 140 | (7) ADT Year: 1984
(8) Truck Traf: 0 | (14) NHS: NON-NHS BRG E | (15) Corridor: N
(16) Functional Class: LOCAL ROAD-RURAL | (19) Strahnt: Not Applicable (Not a Strahnet Brid

Intersected Route Data

(22) Route On/Under: | Hwy Sys:
Route No: | Dir: | Des: | Pref:
(23) Feature Inspected:
(24) County: | Mileage: | Special Desig:
(25)Avg. Daily Traffic(ADT): | (26) ADT Year:
(27) Truck Traf: | (28) NHS: - | (29) Corridor: N
(30) Functional Class: | (36) Strahnt:

Clearance On the Bridge

(154) Min. Hriz on Bridge: NC: 0.0 | Card: 17.3 Ft
(155) Prac Max Vert On Brg: 14.2 Ft
(67) Min Vrt Clr On Brg: NC: 0.0 | Card: 11.0 Ft
(80) Min Latl Clr: NC: 0.0/0.0 Ft | Card: 1.3/1.1 Ft
(81) Vrt Clr Lft: 0.0 Ft

Structure Information

(38) Bypass Length: 06 Miles
(39) Latitude: 39 Deg 45.2 Min | Longitude: 83 Deg 9.0 Min
(40) Toll: ON FREE ROAD
(41) Date Built: 7/1/1910 | (42) Major Rehabilitation: 1/1/1986
(43) No. Lanes On: 1 | No. Lanes Under: 0
(44) Horiz Curve: | (45) Skew: 0 Deg
(49) App. Rdw Width: 23 Ft | (50) Brg. Rdw Width: 17.3 Ft
(51) Deck Width: 17.7 Ft | Deck Area: 4510 Sq. Ft
(52) Median Type: NONE/NON BARRIER/NO JOINT
(53) Bridge Median: NO MEDIAN
(54) Sidewalks: | (left) 0.0 Ft | (right) 0.0 Ft
(55) Type Curb or Sidewalks:
(Left) Matl: NONE | Type: NONE
(Right) Matl: NONE | Type: NONE
(56) Flared: N | (57) Composite: N - NON_COMPOSITE
(58) Railing: STL GUARDRL ON STL, CONCR, OR TMBR POSTS
(59) Deck Drainage: OVER THE SIDE (W/O DRIP STRIP)
(60) Deck Type: CORRUGATED STEEL PLATE
(61) Deck Protection: External: NONE
Internal: NONE
(62) Wearing Surface: BITUM (ASPHLT CONCRT)
Thickness: 2.0 in | (119) Date of Wearing Surface:
Slope Protection: NONE-NATURAL PROTECTION(GRASS,BUSHES)

(63) Main Spans Number: 2 | Type: STEEL/TRUSS/THRU
Approach Spans Number: 0 | Type: NONE/NONE/NONE
Total Spans: 2 | (65) Max Span: 125 Ft | (66) Overall Leng: 255 Ft

(70) Substructure		(71) Foundation and Scour Information	
Abut-Rear	Matl: CONCRETE	Type: GRAVITY	Fnd: UNKNOWN (OR OLDER BRIDGE BEING ADDED)
Abut-Fwd	Matl: CONCRETE	Type: GRAVITY	Fnd: UNKNOWN (OR OLDER BRIDGE BEING ADDED)
Pier-Pred	Matl: CONCRETE	Type: GRAVITY	Fnd: UNKNOWN (OR OLDER BRIDGE BEING ADDED)
Pier-Other	Matl: NONE	Type: NONE	Fnd: UNKNOWN (OR OLDER BRIDGE BEING ADDED)
Pier-Other	Matl: NONE	Type: NONE	Fnd: UNKNOWN (OR OLDER BRIDGE BEING ADDED)

No of Piers Predominate: 01 | Other: NN | Other: NN
(86) Stream Velocity: UUU | (74) Scour: STABLE: ACTION REQUIRED TO PROTECT FND
(189) Dive: N Freq: 0 | Probe: Y Freq: 12 | (75) Chan Prot: SHEET PILING
(189) Date of last Dive Insp: | (152) Drainage Area: UUU Sq Mi

Clearance Under the Bridge

(156) Min. Horiz Under Clear: NC: 0.0 Ft | Card: 0.0 Ft
(157) Prac Max Vrt Under Clear: 0.0 Ft
(77) Min Vert Under Clear: NC: 0.0 Ft | Card: 0.0 Ft
(78) Min Lat Under Clear: NC: 0.0/0.0 Ft | Card: 0.0/0.0 Ft

Load Rating Information

(48) Design Load: UNKNOWN [DEFAULT]
Opr Rat Fact: 1.250 LD: HS20 LOADING
Inv Rat Fact: 0.920 LD: HS20 LOADING
(83) Ohio Percent of Legal Load: 120
Year of Rating: 1987
(84) Analysis: WORKING STRESS (WS)
(85) Rate Soft: NO SOFTWARE USED [DEFAULT]
Analysis on Bars: NOT ON BARS [DEFAULT]
PE#: 0

(88-89) Appraisal

(Including calculated Items)
(88) Waterway Adequacy: 4
(89) Approach Alignment: 4
Calc Gen Appraisal: 0
Calc Deck Geometry: 0
Calc Underclearance: N

Approach Information

(109) Approach Guardrail: STEEL BEAM
(110) Approach Pavement: BITUMINOUS | (111) Grade: FAIR

Culvert Information

(131) Culvert Type: NONE/NOT APPLICBLE | (127) Length: 0.0 Ft
(129) Depth of Fill: 0.0 Ft | (130) Headwalls: NONE

General Information

(121) Main Member: N/A (CULVERTS, TRUSSES, ETC.) | (122) Moment Plate: NOT APPLICABLE
(169) Expansion Joint: SLIDING METAL PLATE ANGLE
(124) Bearing Devices: ROLLERS
(126) Navigation: Control-N | Vert Clr: 0.0 Ft | Horiz Clear: 0.0 Ft
(193) Spec Insp: N | Freq: 0 | Date:
(188) Fracture Critical Insp: Y | Freq: 24 | Date: 11/30/2011
(138) Long Member: TWO TRUSSES (RIVETED) | (135) Hinges: PINS, PIN PLATES
(141) Structural Steel Memb: UNKNOWN | (139) Framing: NONE
Railing: U
Pay Wt: 0 pounds | Prime Loc: UNKNOWN | Paint: OTHER
Bridge Dedicated Name:

General Information (Continued)

(---) Hist Significance: NOT HISTORIC (69) NBIS: Y
(---) Hist Builder: OREGONIA BRIDGE CO (LEBANON, OH) Hist Build Year: 1910
(69) Hist Type: PRATT (PINNED)
(161) Special Features (see below):
(105) Border Bridge State: Resp: %(106) SFN:

Proposed Improvements

(90) Type Work: -
(90) Length: Ft
(90) Bridge Cost ($1000s):
(90) Roadway Cost ($1000s):
(90) Total Project Cost ($1000s): (90) Year:
(91) Future ADT (On Bridge): 194 (92) Year of Future ADT: 2032

Programming Info

PID Number:
PID Status:
PID Date:

Original Plans Information

(142) Fabricator:
(143) Contractor:
(144) Ohio Original Construction Project No:
(---) Microfilm Reel:
(151) Standard Drawing:
Aperture Cards: Orig: N Repair: N Fabr: N
Plan Information Available: 1 PLAN INFORMATION AVAILABLE

(153) Repair Projects:
1) / 020 2) / MMM 3) / 020

Inspection Summary

(I-8) Deck:	4
(I-32) Superstructure:	2
(I-42) Substructure:	3
(I-50) Culvert:	
(I-54) Channel:	6
(I-60) Approaches:	8
(I-66) General Appraisal:	2
(I-66) Operational Status:	X
Inspection Date:	11/30/2011
(94) Desig Insp Freq	12 Months

(I-69) Survey Items

Railings:	DOES NOT MEET CURRENT STANDARD
Transitions:	DOES NOT MEET CURRENT STANDARD
Guardrail:	MEETS CURRENT STANDARDS
Rail Ends:	MEETS CURRENT STANDARDS
In Depth:	MEETS CURRENT STANDARDS
Fracture Critical:	NONE N/A
Scour Critical	MEETS CURRENT STANDARDS
Critical Findings:	NONE N/A
Insp. Update Date:	3/7/2012

Utilities

(46)	Electric:	N
	Gas:	N
	Sanitary Sewer:	N
	Telephone:	N
	TV Cable:	N
	Water:	N
	Other:	N

Special Features

(161)	Lighting:	N
	Fencing:	N
	Glare-Screen:	N
	Splash-Guard:	N
	Catwalks:	N
	Other-Feat:	N
(184)	Signs-On:	N
	Signs-Under	N
(162)	Fence-Ht	0.0
(163)	Noise Barr	N

SFNs Replacing this retired bridge: -
SFNs That were replaced by this bridge: -
This bridge was retired and copied to:
The bridge was copied from:

INV Field Bridge Marker: PIC - C0022 - 0695 -
INT Field Bridge Marker: - - -

(95) Insp: COUNTY 2nd: NONE 3rd: NONE
(96) Maint: COUNTY 2nd: NONE 3rd: NONE
(97) Routine: COUNTY 2nd: NONE 3rd: NONE

PONTIS CoRe elements and Conditions States

Elem No.	CoRe Element Description	Total Quantity	Unit Meas.	Condition State Percents(*)				
				1	2	3	4	5

(*) Percentages should add to 100%

Ohio Department of Transportation Bridge Inventory Report

Sfn # : 6530192 **County :** PICKAWAY **District:** 06

Fips Code: 20156 **Inventory Route:** C0022 **Major Maintenance Responsibilty:** COUNTY

Sufficiency Rating: 021.8 **Ohio % Legal Load:** 120 **Mpo Code:** NN - NONE

Latitude: 39451200 **Longitude:** 83090000

Inventory SLM : 0695

Bridge Material Type: STEEL

Bridge Struc Type: TRUSS

Bridge Struc Desc: THRU

Inventory Feature Intersected: BIG DARBY CREEK

Date of Major Rehab : 01/01/1986

Deck Width: 17.70

Main Spans # : 2

Bridge Roadway width : 17.30

Deck Area : 4510

Inventory Special Designation :

Overall Length : 255

Structure Location : 0.4MI E.OF DARBY CREEK RD

SD/FO: 1

Date Built : 07/01/1910

Inspection Date : 11/30/2011

General Appraisal : 2

Inspection Responsibility : 3 - COUNTY

Bridge Dedicated Name :

Routine maint Responsibility : 3 - COUNTY

Operational Status : X

Intersected Route :

Intersected Feature Intersected :

Intersected County :

Intersected Straight Line Mileage :

Intersected Special Designation :

Interstate Straight Line Mileage : 0.0

Minimum Vertical Clr On Bridge(C) : 11

Minimum Vertical Clr On Bridge(NC) : 0

Minimum Vertical Clr Under Bridge(C) : 0

Minimum Vertical Clr Under Bridge(NC) : 0

Minimum Horizontal Clr On Bridge(C) : 17.30

Minimum Horizontal Clr On Bridge(NC) : 0

Minimum Horizontal Clr Under Bridge(C) : 0

Minimum Horizontal Clr Under Bridge(NC) : 0

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

BRIDGE INSPECTION REPORT

STRUCTURE FILE NUMBER: 6530192 | **PIC** | **CO** C0022 | **Route** 0695 | **SLM** | **FIPS** DARBY TWP | **DATE BUILT** 07/01/1910 - 1986

District 06 | STEEL/TRUSSTHRU | **Type of Service** 1 | 15 BIG DARBY CREEK | **SD** | **PIC**

DECK

1. Floor Poor or Serious — Out/Out 17.7, 6-CORRUGATED STEEL PLATE	3	2. Wearing Surface fair — THCK= 2.0, 6-BITUM (ASPHLT CONCRT)	2		
3. Curbs, Sidewalks & Walkways — N-NONE, N-NONE		4. Median — W.S. Date = N-NO MEDIAN			
5. Railing Poor or Serious — 7-STL GUARDRL ON STL, CONCR, OR TMBR POSTS	3	6. Drainage Good — 1-OVER THE SIDE (W/O DRIP STRIP)	1		
7. Expansion Joints fair — 2-SLIDING METAL PLATE ANGLE	2	**8. SUMMARY** — Deck Area: 4510	4	Poor	

SUPERSTRUCTURE

9. Alignment of Members — MAX.SPAN.LENGTH = 125.0 Good	1	10. Beams/Girders/Slab — N-N/A (CULVERTS, TRUSSES, ETC.)			
11. Diaphragms or Cross Frames — TOT.LGTH = 255.0		12. Joist/Stringers fair	2		
13. Floorbeams fair	2	14. Floorbeam Connections Poor or Serious	3		
15. Verticals Poor or Serious	3	16. Diagonals Poor or Serious	3		
17. End posts fair	2	18. Upper Chord Good	1		
19. Lower Chord Critical	4	20. Gusset Plates			
21. Lateral Bracing Good	1	22. Sway Bracing Good	1		
23. Portals Fair	2	24. Bearing Devices Poor or Serious — 1-ROLLERS, N-NONE	3		
25. Arch		26. Arch Columns or Hangers			
27. Spandrel Walls		**28. Protective Coating System (PCS)** TYPE: 0OTHER, DATE = 01/01/1991 fair	2		
29. Pins/Hangers/Hinges — ADT: 140 TRUCK: 0 YEAR: 1984 Poor Serias	3	30. Fatigue Prone Detail (E & E')			
31. Live Load Response (E or S) Satisfactory	S	**32. SUMMARY**	2	Fair	

SUBSTRUCTURE

33. Abutments Poor or Serious — 2-CONCRETE, 2-CONCRETE	3	34. Abutment Seats Poor or Serious — PIERS=1, # OF SPANS=2	3		
35. Piers Poor or Serious — TYPE = 2-CONCRETE	3	36. Pier Seats Poor or Serious	3		
37. Backwalls Poor or Serious	3	38. Wingwalls Fair — ABUTMENT:=UNKNOWN (OR OLDER BRIDGE BEING ADDED),UNKNOWN (OR OLDER BRIDGE BEING ADDED)	2		
39. Fenders and Dolphins		40. Scour (Insp Type - 1, 2, 3) Fair — 4-STABLE: ACTION REQUIRED TO PROTECT FND: 1	2		
41. Slope Protection — N-NONE-NATURAL PROTECTION (GRASS,BUSHES)		**42. SUMMARY** — DIVE DT= N/A	3	~~Poor~~ Serious	

CULVERTS

43. General		44. Alignment			
45. Shape		46. Seams			
47. Headwalls or Endwalls		48. Scour (Insp Type - 1, 2, 3)			
49. Abutments		**50. SUMMARY**			

CHANNEL

51. Alignment Fair	2	52. Protection Fair — 3-SHEET PILING	2		
53. Hydraulic Opening Fair	2	**54. SUMMARY**	6	Satisfactory	

APPROACHES

55. Pavement Good — 2-BITUMINOUS	1	56. Approach Slabs			
57. Guardrail Good — 1-STEEL BEAM	1	58. Relief Joint			
59. Embankment Good — BRDG.WIDTH=17.3	1	**60. SUMMARY** — PCT.LEGAL= 120	8	Very Good	

GENERAL

61. Navigation Lights		62. Warning Signs Fair — ROUTINE.RESP: 3-COUNTY MAINT.RESP: 3-COUNTY	2		
63. Sign Supports — MVC ON=1100 UND=0000		64. Utilities			
65. Vertical Clearance (1, 2-change, N) Restriction	1	66. **General Appraisal** & Operational Status Critical	2	X	

67. INSPECTED BY

Print First & Last Name | 69738 PE Number | JD Initial

Inspected Date: 11/30/2011

68. REVIEWED BY

Print First & Last Name | 64055 PE Number | JP Initial

Reviewed Date: 11/30/2011

0	0	1	1	1	N	1	1

69. Survey (1, 0, N)

OVERALL CONDITION CRITICAL

Condition Rating Guidelines			
1-4 Worst Span	**NBIS 9-0 – Deck, Superstructure and Substructure SUMMARY Items TOTAL BRIDGE**		**Inspector Guidelines**
1	9 - Excellent		Brief comments as appropriate
	8 - Very Good	No problems noted	
	7 - Good	Some minor problems	
2	**6 - Satisfactory**	**Structural elements show some minor deterioration**	**Comments as appropriate**
	5 -Fair	**All primary structural elements are sound but have minor section loss, deterioration, spalling or scour**	**Document deficiencies quantitatively with descriptive comments.**
3	4 - Poor	Advanced section loss, deterioration, spalling or scour	Candidate to establish monitoring parameters with specific locations to track the deficiencies rate-of-change at the next inspection. In addition to quantitative documentation take photos, make sketches and/or establish monitoring control points.
	3 - Serious	Loss of section, deterioration, spalling or scour has seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present	Document deficiencies quantitatively with descriptive comments; establish monitoring benchmarks. Discuss with Program Manager, structure may be prone to localized failures.
4	**2 - Critical**	**Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken**	**Document deficiencies quantitatively with descriptive comments; establish monitoring benchmarks. Contact Program Manager; candidate to dispatch repairs and or road closure. Confirm in writing.**
	1 - Imminent Failure	**Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put bridge back into light service**	**Dispatch personnel for immediate closure. Notify Program Manager. Confirm in writing.**
	0 - Failed	**Out of service - beyond corrective action**	