

BRIDGE INSPECTION REPORT

2801388
Structure File Number

BRIDGE NUMBER **GEA 00322 0863**

YEAR BUILT **1961**

DIST **12** Bridge Type **395** TYPE SERVICE **1 5** **BEAVER CRK 1.77 MI. W 44**

DECK out/out 0 Deck Area 1,076 sqft			N NOT APPLICABLE (CULVERT UNDER FILL ETC)	
1. FLOOR	N NONE		2. WEARING SURFACE	Thk 0
Left N NONE / Right N NONE				
3. CURBS, SIDEWALKS AND WALKWAYS			4. MEDIAN	Lanes on 2
5. RAILING	N NONE		6. DRAINAGE	N NONE
7. EXPANSION JOINTS			8. SUMMARY	
SUPERSTRUCTURE			3 N/A (CULVERTS, TRUSSES, ETC.)	
9. ALIGNMENT	Max Spans 6		10. BEAMS/GIRDERS/SLAB	
11. DIAPHRAGMS or CROSSFRAMES			12. JOISTS/STRINGERS	
13. FLOOR BEAMS			14. FLOOR BEAM CONNECTIONS	
15. VERTICALS			16. DIAGONALS	
17. END POSTS			18. TOP CHORD	
19. LOWER CHORD			20. LOWER LATERAL BRACING	
21. TOP LATERAL BRACING			22. SWAY BRACING	
23. PORTALS			24. BEARING DEVICES	N NONE
25. ARCH			26. ARCH COLUMNS or HANGERS	
27. SPANDREL WALLS			28. PROTECTIVE COATING SYSTEM	
29. PINS/HANGERS/HINGES			30. FATIGUE PRONE CONNECTIONS	
31. LIVE LOAD RESPONSE			32. SUMMARY	
SUBSTRUCTURE			N NONE	
33. ABUTMENTS	N NONE		34. ABUTMENT SEATS	Abutment: NOT ON PILING
35. PIERS			36. PIER SEATS	Piers: NOT ON PILING
37. BACKWALLS			38. WINGWALLS	
39. FENDERS and DOLPHINS		Piers = NN NN NN Spans = 3	40. SCOUR	
41. SLOPE PROTECTION		N NONE-NATURAL PROTECTION(GRA)	42. SUMMARY	
			Dive Date 12/30/1899	
CULVERTS				
43. GENERAL	5 PIPE-ARCH	2	44. ALIGNMENT	2
45. SHAPE		2	46. SEAMS	2
47. HEADWALLS or ENDWALLS	Culvert Length 18	2	48. SCOUR	Culvert Fill Depth 0 1
49.			50. SUMMARY	5
CHANNEL				
51. ALIGNMENT		2	52. PROTECTION	0 OTHER-GRASS, BUSHES & TREES 1
8 SLIGHT CHANCE OVERTOPPING				
53. WATERWAY ADEQUACY		2	54. SUMMARY	
5				
APPROACHES				
55. PAVEMENT	2 BITUMINOUS	2	56. APPROACH SLABS	
57. GUARDRAIL	1 STEEL BEAM	1	58. RELIEF JOINTS	
59. EMBANKMENT		2	60. SUMMARY	Percent Legal = 150 6
GENERAL				
61. NAVIGATION LIGHTS			62. WARNING SIGNS	Maint Resp 1 OHIO TRAN DEPT
63. SIGN SUPPORTS	Signs on = N MVC on = 9999.9 Under C = 0		64. UTILITIES	
65. VERTICAL CLEARANCE	Under NC = 0	N	66. GENERAL APPRAISAL & OPERATIONAL STATUS	
			5 A	

67. INSPECTED BY _____ 68. REVIEWED BY _____
 _____ ACP 60048 MJM
 SIGNED PE Number INITIALS SIGNED PE Number INITIALS

CULVERTS

GENERAL: RUSTING SECTION LOSS @ WATER LINE AND @ 12:00
O'CLOCK IN AREAS.
SHAPE: WEST CELL APPROX 12' IN FROM INLET THERE IS A 8"
DIAMETER BULGE @ 10 O'CLOCK. BULGE IS NOT UNDER TRAFFIC.
EAST CELL APPROX 15' IN FROM INLET THERE IS A 4" DIAMETER
BULGE @ 10 O'CLOCK.
SEAMS: WATER INFILTRATION. SOME RUSTING SECTION LOSS. A FEW
AREAS OF CUSPING AS MUCH AS 1/8".
HEADWALLS: CRACKS AND SPALLS.

CHANNEL

ALIGNMENT: WATER IS STAGNANT, BUT STREAM MOSTLY LINES UP
WITH WESTERN 2 PIPES.
WATERWAY ADEQUACY: 10" CLEARANCE BETWEEN WATER AND TOP OF
PIPE.

APPROACHES

PAVEMENT: TWO CRACKS, ONE EACH ABOVE CENTERLINE OF EAST AND
MIDDLE PIPE.
EMBANKMENT: MINOR EROSION AROUND INLET AND OUTLET.

GENERAL

UNDERWATER INSPECTION BY MARINE SOLUTIONS, INC. ON 9/24/07.
SEE ATTACHED REPORT FOR DETAILS.

2801388

Structural File Number

GEA-00322-0863

Bridge Number

September 24, 2007

Inspection Date

Underwater Inspection Report for:

US 322 (Mayfield Road) over Beaver Creek
Geauga County, Ohio
(Three cell culvert)



General Elevation View

Personnel on site during inspection:

ODOT

Ms. Andrea Persanyi

Contractor

Mr. Don W. Wilkins (Primary Diver/ Supervisor)

Mr. James A. Ritchie (Backup Diver/ Inspector)

Mr. Brian B. Butler (Tender)

Prepared for:

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1. Introduction

Marine Solutions, Inc (MSI) conducted a routine underwater inspection of the GEA-00322-0863 culvert over Beaver Creek in Claridon Township, Ohio. The inspection was completed on September 24, 2007. Details of the inspection, along with observed conditions and conclusions, are provided within this report. Supplemental drawings, pictures and a location map are provided within the Appendixes.

2. Description of Structure

Culvert Number GEA-00322-0863 (SFN 2801388) carries U.S. Route 322 (Mayfield Road) over Beaver Creek in Geauga County, Ohio. The culvert has an overall length of approximately 72 feet. The structure consists of three cell corrugated metal pipe arch culvert measuring approximately 6 feet wide by 4 feet 9 inches tall.

3. Inspection Procedure

The culvert inspection was performed on 9/24/07. A visual/tactile inspection was performed on the portions of the culvert located below the water surface. Original plans were not available for review.

Inspection Mode: *Wading*

Flow Direction / Velocity: *North/ < 1 knot*

Channel Bottom: *Corrugated steel pipe with silt and light debris*

Scour Checked By: *N/A*

Equipment Used: *Wet suit, digital camera, survey rod, lights*

Hazards Encountered: *< 2 ft of visibility*

Hydrographic Reference: *Top of footing, 5.1 ft below the water surface*

4. Observed Conditions

- There is light to moderate corrosion of the culvert pipes with no holes or section loss.
- The bottom material consists of the steel pipe with silt and light debris.
- There is an indentation in the top of barrel 1 measuring approximately 8 inches tall by 3 inches deep located 8.5 feet north of the south entrance of the barrel.
- There is an indentation in the top of barrel 3 measuring approximately 8 inches tall by 3 inches deep located 13.5 feet north of the south entrance of the barrel.
- There is light tree debris at the south entrance of barrel 2.
- There is a boulder measuring 2 feet in diameter located 2 feet south of the entrance to barrel 1.
- There is minor surface corrosion on the culvert joint bolt heads located throughout the three culvert pipes.

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- There is an area of tree debris located on the northwest face of the pier.
- There is minor surface corrosion on the sides of the steel pipe from 1 foot below the surface to 1 foot above the water surface.
- There is minor surface corrosion of the steel culvert roof. There are isolated water seepage through the top of the culvert pipe.

5. Conclusions

The condition of the culvert during the 2007 inspection was consistent with the findings of the 2006 inspection.

Appendix A
Photographs

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Photo by B. Butler 09/24/07

Photo 1. Elevation view looking North to South.



Photo by B. Butler 09/24/07

Photo 2. Elevation view looking South to North.

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Photo by B. Butler 09/24/07

Photo 3. Indention in pipe number 1.



Photo by B. Butler 09/24/07

Photo 4. Indention in pipe number 3.

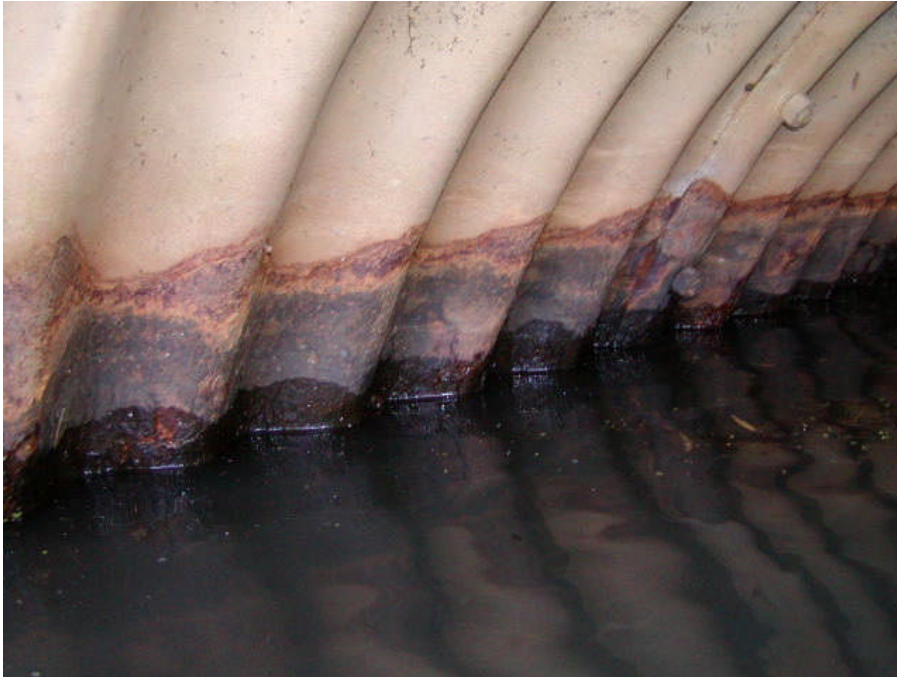


Photo by B. Butler 09/24/07

Photo 5. Typical surface corrosion from water surface to 1 ft above.

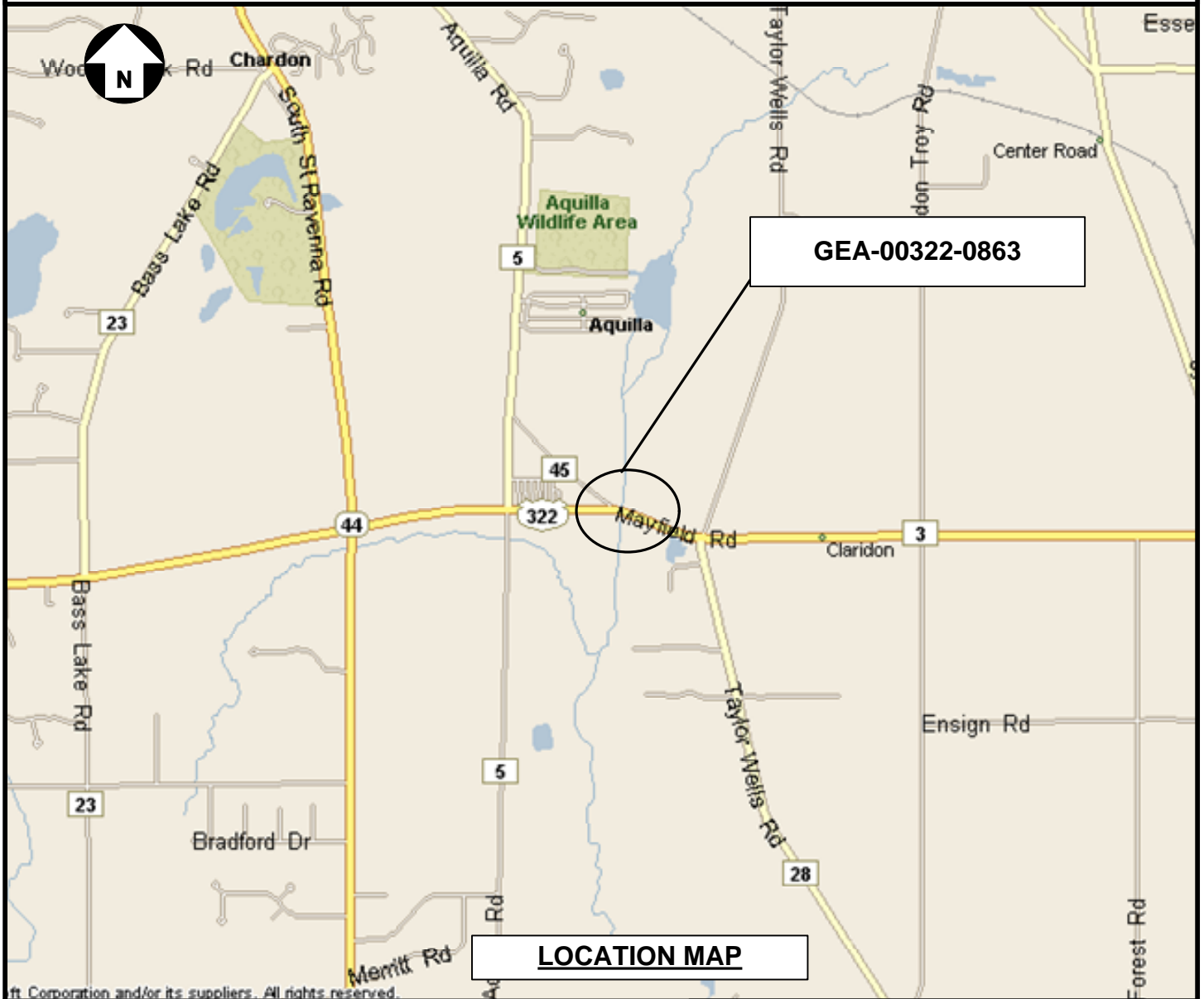


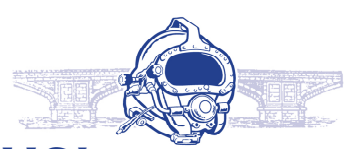
Photo by B. Butler 09/24/07

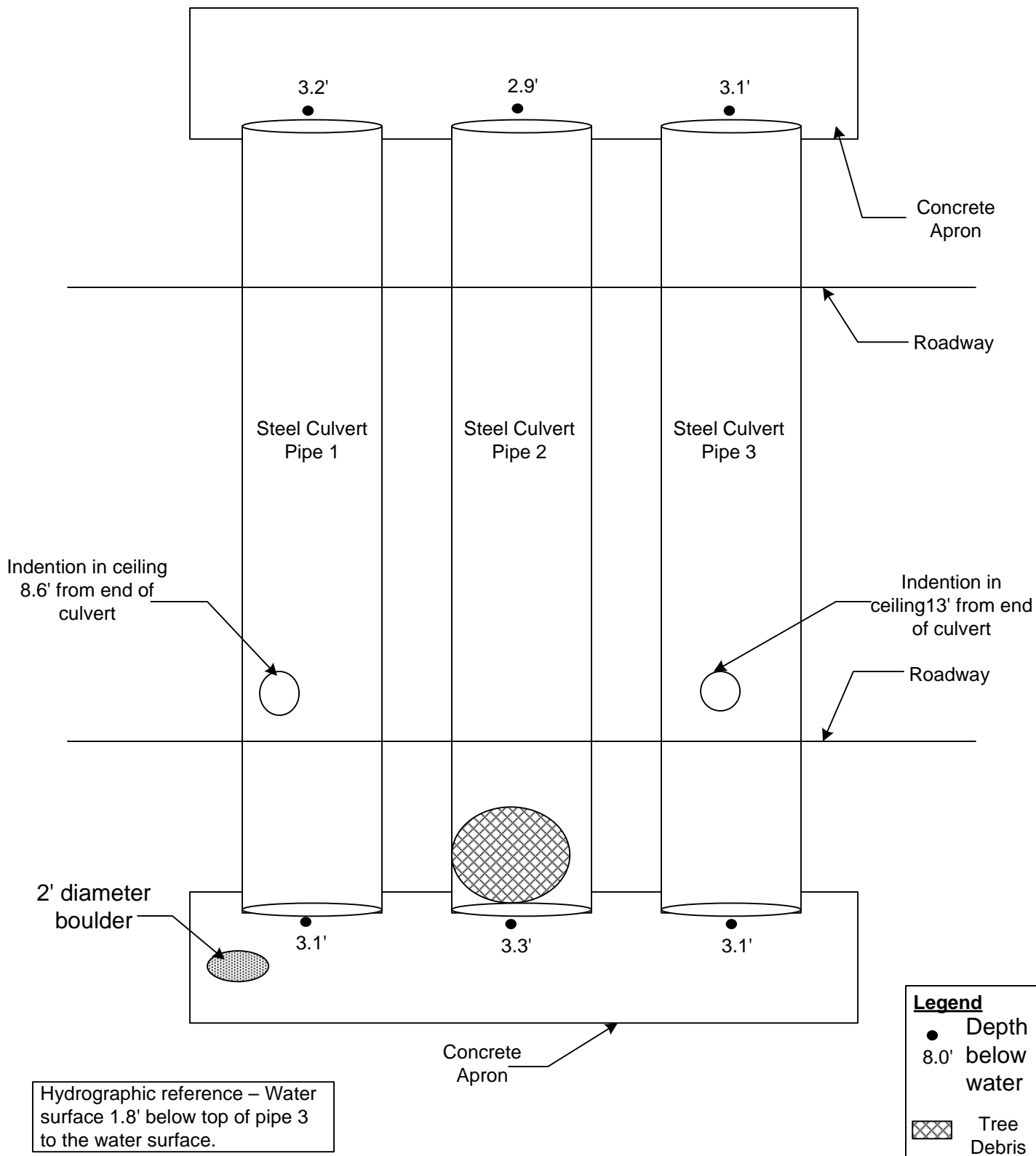
Photo 6. Typical surface corrosion on roof of culvert.

Appendix B

Figures



 <p>MSI MARINE SOLUTIONS, INC. ENGINEERING & COMMERCIAL DIVING SERVICES</p>	GRAPHIC SCALE: Not To Scale		PROJECT: ODOT District 12 2007 Underwater Bridge Inspections		
	INSPECTION DATE: September 24, 2007		SHEET: GEA-00322-0863 Geauga County Ohio		PAGE NO.: B-1
	DRAWN BY: DW	CKD. BY: ANW	Location Map		FIG. NO.: 1
	MSI JOB NO.: MSI2007008				
	FILE NAME: GEA-00322-0863 Location Map				



Legend

- Depth 8.0' below water
- ▣ Tree Debris



GRAPHIC SCALE: Not to Scale	
INSPECTION DATE: October 24, 2007	
DRAWN BY: DW	CKD. BY: ANW
FMSM JOB NO.: MSI2007008	
FILE NAME: GEA-00322-0863	

PROJECT: ODOT District 12 2007 Underwater Bridge Inspections	
SHEET: GEA-00322-0863 US 322 (Mayfield Rd) over Beaver Creek Geauga County	PAGE NO.: B-2
Substructure Plan View	
FIG. NO.: 2	