

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)	
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovly. 2021 / / /	TSC Taylor(25)	Operational Status A Open, no restriction(A)
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Scour Evaluation 3 SC - Unstable



NBI INSPECTION

T8VZ

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Joel Thorne	Great Lakes Engineering Group	24	08/02/2023

GENERAL NOTES

Inspection completed in August to return to August Cycle.

DECK

08/20 02/22 08/23

	08/20	02/22	08/23	
1. Surface (SIA-58A)	6	9	8	Concrete deck with tined surface. 4 short longitudinal cracks propagating from east reference line, 1 at west reference line. Very small spall near reference line of west joint in WB lane, most likely from plow. (08/23) New concrete deck with tined surface. Very small spall near reference line of west joint in WB lane, most likely from plow. (02/22) HMA over deck. Many sealed and unsealed random cracks. Few patched areas in shoulders. (08/20)
2. Expansion Joints	N	9	8	E3 joints at reference lines, approx 1/4" below surface. Minor LOA throughout. (08/23) E3 joints at reference lines, approx 1/4" below surface. (02/22) Paved over. (08/20)
3. Other Joints	N	N	N	(08/23) N/A (02/22) Paved over. (08/20)
4. Railings	5	9	8	Concrete aesthetic parapet tube with concrete surface coating and stone pattern on fascias. 1 HL vertical crack in north rail at midspan. Numerous popouts on both railings. (08/23) Aesthetic Parapet Tube on each sidewalk with stone pattern on fascias. Numerous popouts on both railings. (02/22) Decorative granite railing. Scale on top surface. Few areas of deep scale. Several cracks up to 1/8" wide. Brushblocks and columns patched. (08/20)
5. Sidewalks or Curbs	6	9	8	Sidewalks on each side, no deficiencies noted. (08/23) Sidewalks on each side, snow covered at time of inspection. (02/22) Raised concrete sidewalks on both sides. Transverse cracks at 4' spacing. There are a few rust stains. (08/20)
6. Deck Bottom Surface (SIA-58B)	3	N	N	Adjacent box beams, no deficiencies noted. (08/23) Adjacent box beams, no deficiencies noted. (02/22) Concrete deck. Large areas of spalls with exposed and corroded rebar. Transverse leaching cracks in non-spalled areas with efflorescence and stalactites in all bays. (08/20)
7. Deck (SIA-58)	3	9	8	Deck surface: Concrete deck with tined surface. 4 short longitudinal cracks propagating from east reference line, 1 at west reference line. Very small spall near reference line of west joint in WB lane, most likely from plow. Deck Bottom: Adjacent box beams, no deficiencies noted. (08/23) Surface in good condition. Fascias, no deficiencies noted. (02/22) Surface: HMA over deck. Many sealed and unsealed random cracks. Few patched areas in shoulders. Bottom surface: Concrete deck. Large areas of spalls with exposed and corroded rebar. Transverse leaching cracks in non-spalled areas with efflorescence and stalactites in all bays. Fascias: Many horizontal and random leaching cracks. (08/20)
8. Drainage				(08/23) (02/22) (08/20)

SUPERSTRUCTURE

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)	
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovly. 2021 / / /	TSC Taylor(25)	Operational Status A Open, no restriction(A)
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Scour Evaluation 3 SC - Unstable



08/20 02/22 08/23

9. Stringer (SIA-59)	1	9	8	11 (EA) adjacent box beams with panels attached to fascia beams. No deficiencies noted in either. (08/23) Adjacent box beams with panels attached to fascia beams. No deficiencies noted in either. (02/22) Concrete on the cantilever variable depth T beams with dapped ends and suspended span. Cracking, delamination and spalls in all beams with bottom and second row of rebar exposed in several. Suspended span is delaminated throughout with open spalls and rebar no longer connected. Spalls at joint location with primary rebar holding dapped end exhibiting heavy section loss (over 50%) and crumbling concrete at hooks no longer providing development length. RFA sent to close the bridge while on site on 9/1/2020. Bridge closed on 9/2/2020. (08/20)
10. Paint (SIA-59A)	N	N	N	(08/23) No concrete surface coating present, will be applied later in year. (02/22) (08/20)
11. Section Loss	0	N	3	Beam ends are in good condition. (08/23) No section loss present. (02/22) Heavy spalling at dapped beam ends with most bars exposed, corroded and heavy section loss. Additionally, concrete surrounding the rebar is crumbling and no longer engaging the rebar. (08/20)
12. Bearings	N	8	8	3/4" Elastomeric Pads with no visible deficiencies. (08/23) 3/4" Elastomeric Pads with no visible deficiencies. (02/22) (08/20)

SUBSTRUCTURE

08/20 02/22 08/23

13. Abutments (SIA-60)	6	9	8	Concrete cantilever abutments with no deficiencies noted. (08/23) Cantilever abutments with no deficiencies noted. (02/22) Abutments are not visible for inspection. Assumed to be in similar condition to the piers. (08/20)
14. Piers (SIA-60)	6	N	N	(08/23) (02/22) Piers were completely under water at time of inspection. Piers were in fair condition with minor abrasion. No footing exposure noted during inspection. (08/20)
15. Slope Protection	N	9	N	(08/23) Riprap placed in front of new abutments. (02/22) (08/20)
16. Channel (SIA-61)	7	9	8	Flow north to south. Channel banks around bridge reinforced with large riprap. Opening is adequate. (08/23) Channel banks around bridge reinforced with large riprap. Opening is adequate. (02/22) (08/20)
17. Scour Inspection	8	9	8	Riprap placed in front of new abutments. No scour noted. (08/23) Riprap placed in front of new abutments. (02/22) Dive and probe with no scour found. (08/20)

APPROACH

08/20 02/22 08/23

18. Approach Pavement	7	9	8	Concrete approaches adjacent to bridge with HMA approaches ~20' beyond. Diagonal crack in east approach near sidewalk (08/23) Concrete approaches adjacent to bridge with HMA approaches ~20' beyond. (02/22) HMA approaches. Transverse and random cracks are mostly sealed. (08/20)
------------------------------	---	---	---	---

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition
GIBRALTAR ROAD	42.0949 / -83.1907	824263600007B02	Good Condition(8)
Feature	Length / Width / Spans	Owner	
WATERWAY CANAL	70 / 48 / 1	City: GIBRALTAR(2636)	
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status
GIBRALTAR E/N GIBRALTAR	2021 / / /	Taylor(25)	A Open, no restriction(A)
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation
Metro(7) / Wayne(82)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	08/02/2023 / T8VZ	3 SC - Unstable



- 19. Approach Shoulders Sidewalks** 4 9 8 Concrete sidewalks slope down to meet grade in all quadrants. (08/23)
Concrete sidewalks slope down to meet grade. (02/22)
HMA shoulder in good condition with sealed cracks. Approach sidewalks on south side are in good condition. Bit approach sidewalks on north side are low and have ADA trip hazards. Rating controlled by settlement at the sidewalks. (08/20)
- 20. Approach Slopes** Riprap in all four quadrants. (08/23)
Riprap in all four quadrants. (02/22)
Approach slopes are a mix of vegetation, retaining walls and riprap. All are stable. No approach guardrail. (08/20)
- 21. Utilities** OH lines north of the bridge. Light poles on all 4 ends of bridge on railing. (08/23)
OH lines north of the bridge. Light poles on all 4 ends of bridge on railing. (02/22)
Overhead north of the bridge. (08/20)
- 22. Drainage Culverts** Foundation underdrain outlets in all 4 quadrants. (08/23)
Foundation underdrain outlets in all 4 quadrants. (02/22)
(08/20)

MISCELLANEOUS

Guard Rail		Other Items	
<u>Item</u>	<u>Rating</u>	<u>Item</u>	<u>Rating</u>
36A. Bridge Railings	1	71. Water Adequacy	6
36B. Transitions	1	72. Approach Alignment	8
36C. Approach Guardrail	1	Temporary Support	0 No Temporary Supports
36D. Approach Guardrail Ends	1	High Load Hit (M)	No
		Special Insp. Equipment	2
		Underwater Insp. Method	1
False Decking (Timber) Removed to Complete Inspection		N/A - No False Decking	


Critical Feature Inspections (SIA-92)

	<u>Freq</u>	<u>Date</u>
92A. Fracture Critical		
92B. Underwater		
92C. Other Special		
92D. Fatigue Sensitive		

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)	
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)		
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovlly. 2021 / / /	TSC Taylor(25)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Scour Evaluation 3 SC - Unstable	

SUPPORTING IMAGES

T8VZ 08/02/2023



Document Name: IMG_4525.JPG
 Category: Elevation
 Span Number:
 Comments: North elevation



Document Name: IMG_4529.JPG
 Category: Elevation
 Span Number:
 Comments: South elevation



Document Name: IMG_4511.JPG
 Category: Approach
 Span Number:
 Comments: Looking east through structure



Document Name: IMG_4512.JPG
 Category: Approach
 Span Number:
 Comments: West approach

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)	
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)		
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovly. 2021 / / /	TSC Taylor(25)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Scour Evaluation 3 SC - Unstable	



Document Name: IMG_4516.JPG
 Category: Approach
 Span Number:
 Comments: East approach



Document Name: IMG_4518.JPG
 Category: Railing
 Span Number:
 Comments: South rail



Document Name: IMG_4521.JPG
 Category: Railing
 Span Number:
 Comments: North rail




Document Name: IMG_4524.JPG
 Category: Railing
 Span Number:
 Comments: HL vertical crack in north rail

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)	
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovly. 2021 / / /	TSC Taylor(25)	
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Operational Status A Open, no restriction(A)
			Scour Evaluation 3 SC - Unstable



Document Name: IMG_4514.JPG
 Category: Deck
 Span Number:
 Comments: Deck surface



Document Name: IMG_4517.JPG
 Category: Deck
 Span Number:
 Comments: South sidewalk



Document Name: IMG_4520.JPG
 Category: Deck
 Span Number:
 Comments: North sidewalk




Document Name: IMG_4523.JPG
 Category: Deck
 Span Number:
 Comments: Longitudinal cracks in deck surface

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)	
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)		
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovly. 2021 / / /	TSC Taylor(25)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Scour Evaluation 3 SC - Unstable	



Document Name: IMG_4513.JPG
 Category: Joints
 Span Number:
 Comments: West reference line



Document Name: IMG_4515.JPG
 Category: Joints
 Span Number:
 Comments: East reference line



Document Name: IMG_4528.JPG
 Category: Superstructure
 Span Number:
 Comments: Beams



Document Name: IMG_4526.JPG
 Category: Substructure
 Span Number:
 Comments: West abutment

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11998

BRIDGE SAFETY INSPECTION REPORT

Facility GIBRALTAR ROAD	Latitude / Longitude 42.0949 / -83.1907	MDOT Structure ID 824263600007B02	Structure Condition Good Condition(8)	
Feature WATERWAY CANAL	Length / Width / Spans 70 / 48 / 1	Owner City: GIBRALTAR(2636)		
Location GIBRALTAR E/N GIBRALTAR	Built / Recon. / Paint / Ovly. 2021 / / /	TSC Taylor(25)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Wayne(82)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 08/02/2023 / T8VZ	Scour Evaluation 3 SC - Unstable	



Document Name: IMG_4527.JPG
 Category: Substructure
 Span Number:
 Comments: East abutment



Document Name: IMG_4519.JPG
 Category: Channel
 Span Number:
 Comments: South channel



Document Name: IMG_4522.JPG
 Category: Channel
 Span Number:
 Comments: North channel