

STRUCTURES INSPECTION FIELD REPORT

2-DIST 05 B.I.N. 45E

ROUTINE INSPECTION

BR. DEPT. NO. MI-05-001=W-06-013

CITY/TOWN MARION=WAREHAM		8.-STRUCTURE NO. M05001-45E-DOT-NBI	11-Kilo. POINT 066.300	41-STATUS A:OPEN	90-ROUTINE INSP. DATE OCT 12, 2016
07-FACILITY CARRIED US 6 WAREHAM ST		MEMORIAL NAME/LOCAL NAME	27-YR BUILT 1929	106-YR REBUILT 1957	YR REHAB'D (NON 106) 0000
06-FEATURES INTERSECTED WATER WEWEANTIC RIVER		26-FUNCTIONAL CLASS Urban Minor Arterial	DIST. BRIDGE INSPECTION ENGINEER G. Simpson		
43-STRUCTURE TYPE 204 : Concrete continuous Tee Beam		22-OWNER State Highway Agency	21-MAINTAINER State Highway Agency	TEAM LEADER Gonsalves	
107-DECK TYPE 1 : Concrete Cast-in-Place		WEATHER CLEAR	TEMP. (air) 15°C	TEAM MEMBERS J. MARMELO, M. MARSHALL	

<b>ITEM 58</b>			<b>6</b>		
<b>DECK</b>		<b>DEF</b>			
1.Wearing surface	6	M-P			
2.Deck Condition	6	M-P			
3.Stay in place forms	N	-			
4.Curbs	6	M-P			
5.Median	N	-			
6.Sidewalks	5	S-P			
7.Parapets	N	-			
8.Railing	6	M-P			
9.Anti Missile Fence	N	-			
10.Drainage System	N	-			
11.Lighting Standards	N	-			
12.Utillities	6	M-P			
13.Deck Joints	N	-			
14.	N	-			
15.	N	-			
16.	N	-			
CURB REVEAL (In millimeters)		N	S		
	210		230		

<b>ITEM 59</b>			<b>6</b>		
<b>SUPERSTRUCTURE</b>		<b>DEF</b>			
1.Stringers	N	-			
2.Floorbeams	N	-			
3.Floor System Bracing	N	-			
4.Girders or Beams	6	M-P			
5.Trusses - General	N	-			
a. Upper Chords	N	-			
b. Lower Chords	N	-			
c. Web Members	N	-			
d. Lateral Bracing	N	-			
e. Sway Bracings	N	-			
f. Portals	N	-			
g. End Posts	N	-			
6.Pin & Hangers	N	-			
7.Conn Plt's, Gussets & Angles	N	-			
8.Cover Plates	7	-			
9.Bearing Devices	7	-			
10.Diaphragms/Cross Frames	6	-			
11.Rivets & Bolts	7	-			
12.Welds	7	-			
13.Member Alignment	7	-			
14.Paint/Coating	4	S-A			
15.	N	-			
Year Painted	1992				

COLLISION DAMAGE: Please explain  
None (X) Minor ( ) Moderate ( ) Severe ( )

LOAD DEFLECTION: Please explain  
None (X) Minor ( ) Moderate ( ) Severe ( )

LOAD VIBRATION: Please explain  
None (X) Minor ( ) Moderate ( ) Severe ( )

Any Fracture Critical Member: (Y/N) **N**

Any Cracks: (Y/N) **N**

<b>ITEM 60</b>			<b>4</b>		
<b>SUBSTRUCTURE</b>		<b>DEF</b>			
1. Abutments	Dive	Cur	6		
a. Pedestals	N	N			
b. Bridge Seats	N	7			
c. Backwalls	N	6			M-P
d. Breastwalls	N	6			
e. Wingwalls	N	7			
f. Slope Paving/Rip-Rap	N	N			
g. Pointing	N	7			
h. Footings	N	H			
i. Piles	N	H			
j. Scour	N	7			
k. Settlement	N	7			
l.	N	N			
m.	N	N			
2. Piers or Bents			5		
a. Pedestals	N	N			
b. Caps	N	5			S-P
c. Columns	N	N			
d. Stems/Webs/Pierwalls	5	5			S-P
e. Pointing	4	4			S-A
f. Footing	4	H			
g. Piles	N	N			
h. Scour	6	H			
i. Settlement	6	6			
j.	N	N			
k.	N	N			
3. Pile Bents			N		
a. Pile Caps	N	N			
b. Piles	N	N			
c. Diagonal Bracing	N	N			
d. Horizontal Bracing	N	N			
e. Fasteners	N	N			

UNDERMINING (Y/N) If YES please explain **N**

COLLISION DAMAGE:  
None (X) Minor ( ) Moderate ( ) Severe ( )

SCOUR: Please explain  
None ( ) Minor ( ) Moderate (X) Severe ( )

I-60 (Dive Report): **4** I-60 (This Report): **4**

93B-U/W (DIVE) Insp **10/07/2015**

X=UNKNOWN N=NOT APPLICABLE H=HIDDEN/INACCESSIBLE R=REMOVED

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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**ITEM 61**  
**CHANNEL & CHANNEL PROTECTION**

	Dive	Cur	DEF
1.Channel Scour	6	H	-
2.Embankment Erosion	7	7	-
3.Debris	7	7	-
4.Vegetation	7	7	-
5.Uilities	N	X	-
6.Rip-Rap/Slope Protection	7	6	M-P
7.Aggradation	8	H	-
8.Fender System	N	N	-

**STREAM FLOW VELOCITY:**  
Tidal (X) High ( ) Moderate ( ) Low ( ) None ( )

ITEM 61 (Dive Report): 6    ITEM 61 (This Report): 6

93b-U/W INSP. DATE: 10/07/2015

**ITEM 36 TRAFFIC SAFETY**

	36	COND	DEF
A. Bridge Railing	0	6	M-P
B. Transitions	0	7	M-P
C. Approach Guardrail	1	7	-
D. Approach Guardrail Ends	N	N	-

**WEIGHT POSTING**    *Not Applicable*     X

H    3    3S2    Single

Actual Posting     N     N     N     N

Recommended Posting     N     N     N     N

Waived Date: 02/04/1980    EJDMT Date: 00/00/0000

At bridge    Other Advance

E	W	E	W
/	/	/	/

Signs In Place (Y=Yes, N=No, NR=Not Required)  
Legibility/Visibility

**CLEARANCE POSTING**

Not     X    N    S    meter

ft	in	ft	in	
	0		0	
ft	in	ft	in	
	0		0	

At bridge    Advance

N	S	N	S
/	/	/	/

Signs In Place (Y=Yes, N=No, NR=Not Required)  
Legibility/Visibility

**ACCESSIBILITY (Y/N/P)**

	Neede	Used
Lift Bucket	N	N
Ladder	N	N
Boat	Y	Y
Waders	N	N
Inspector 50	N	N
Rigging	N	N
Staging	N	N
Traffic Control	N	N
RR Flagger	N	N
Police	N	N
Other:		
	N	N

**TOTAL HOURS**    24

**PLANS (Y/N):**    Y

**(V.C.R.) (Y/N):**    N

**TAPE#:** \_\_\_\_\_

List of field tests performed:  
Hands-on, Tactile, Probing

**RATING**  
Rating Report (Y/N): Y  
Date: 01/01/1980  
Inspection data at time of existing rating  
158: 7    159: 7    160: 7    Date :06/15/1977

(To be filled out by DBIE)  
Request for Rating or Rerating (Y/N): N  
If YES please give priority:  
HIGH ( ) MEDIUM ( ) LOW ( )

**REASON:** \_\_\_\_\_

**CONDITION RATING GUIDE**    (For Items 58, 59, 60 and 61)

CODE	CONDITION	DEFECTS
N	NOT APPLICABLE	
G 9	EXCELLENT	Excellent condition.
G 8	VERY GOOD	No problem noted.
G 7	GOOD	Some minor problems.
F 6	SATISFACTORY	Structural elements show some minor deterioration.
F 5	FAIR	All primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
P 4	POOR	Advance section loss, deterioration, spalling or scour.
P 3	SERIOUS	Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
C 2	CRITICAL	Advance 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.
C 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 it back in light service.
0	FAILED	Out of service - beyond corrective action.

**DEFICIENCY REPORTING GUIDE**

**DEFICIENCY**    A defect in a structure that requires corrective action.

**CATEGORIES OF DEFICIENCIES:**

**M= Minor Deficiency** - Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.

**S= Severe/Major Deficiency** - Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.

**C-S= Critical Structural Deficiency** - A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.

**C-H= Critical Hazard Deficiency** - A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.

**URGENCY OF REPAIR:**

**I = Immediate-** [Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].

**A = ASAP-** [Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].

**P = Prioritize-** [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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## REMARKS

### **BRIDGE ORIENTATION**

U.S. 6 over the Weweantic River has an east/west orientation. The spans are numbered from the west. The 6 tee beams, & 4 steel beams, are numbered from the north.

### **GENERAL REMARKS**

This inspection was performed in conjunction with sister bridge W-06-016 (45K), using Boston Whaler launched from the upstream State Boat Ramp at the I-195EB rest area.

The value for SI&A item #29 was kept constant due to the lack of recent traffic data on the Transportation Data Management System (local ID #253500).

### **ITEM 58 - DECK**

#### **Item 58.1 - Wearing surface**

See photo 1 for general topside. Wearing surface has random unsealed cracking throughout, delamination along both gutterlines  $\leq 1'$ W, rutting in all wheel paths, and transverse/alligator cracking along both sawcuts. Westbound right lane adjacent to west abutment has a settled patch, 3' diameter x 3/4"D, see photo 2. Each right lane adjacent to east abutment has a settled patch,  $\leq 2.5'$  diameter x 1/2"D, see photo 3.

#### **Item 58.2 - Deck Condition**

Original Tee beam section of bridge exhibits scattered hairline to narrow longitudinal cracking with moderate to heavy efflorescence & staining, heaviest in bays 1 & 2. The deck soffit below the north sidewalk has transverse and longitudinal cracking with efflo throughout, with worst condition at the east abutment, 3' diameter spall with exposed rebar & void, see photo 9. Tee bay 2 has heavy cracking with efflo and dampness, particularly at the concrete beam interface, see photo 6. 1957 widening of the bridge has areas of cracking with surface scale, chloride and rust staining throughout, see photos 4 & 5.

#### **Item 58.4 - Curbs**

The northwest end of the curb is rotated towards the roadway  $\leq 3'$  with a debris impacted gap with the sidewalk, see photo 7.

#### **Item 58.6 - Sidewalks**

The south sidewalk has a large debris impacted spall/scale section along curb  $\leq 40'$ L x 1.5'W x  $\leq 6'$ "D, see photo 8. The south fascia of south sidewalk has a minor spall over the pier. The north sidewalk in span 2 has some transverse cracks with scattered spot rust. Also see items 58.2 and 58.4.

#### **Item 58.8 - Railing**

South rail, 6th section from the east 7 bent/broken lower pickets, see photo 10. South rail, 4th post from the west an anchor nut is missing from the base. Town line sign attached to north rail at midspan, loose fasteners & areas of 100% section loss at base, see photo 11.

#### **Item 58.12 - Utilities**

There are several abandoned PVC conduit pipes that are disconnected at the end of bay 1, see photo 9. The original utility diaphragms in span 1 tee bay 1 have severe corrosion, however there are supplemental galvanized diaphragms, see photo 12. The abandoned steel conduit in Tee bay 5 has areas of 100% section loss at both abutments. The concrete encased utility box in Tee bay 5 that scattered delaminations & spalls.

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

## REMARKS

### APPROACHES

#### **Approaches a - Appr. pavement condition**

The approaches have longitudinal, transverse, and random cracking scattered throughout. There is some alligator cracking adjacent to both abutment sawcut joints, see photos 2 & 3.

#### **Approaches c - Appr. Sidewalk Settlement**

The approach sidewalks are settled up to 3 inches with weed growth, see photo 7.

### **ITEM 59 - SUPERSTRUCTURE**

#### **Item 59.4 - Girders or Beams**

The north face of tee beam 1 in both spans has cracking with efflo throughout, see photo 16. There is a full length repair that is spalling/scaling along about 75% of the length of the repair. Tee Beam 1, span 1 has a 4' long spall by 3" high and wide with exposed rebar, see photo 14. Tee beams 1 and 2 have cracking throughout with heavy dripping efflo with of areas of deteriorating concrete, see photo 15, 17 & 18. Tee beams 5 and 6 have some random cracks, delams and spalls. The south face of tee beam 6 in span 2 has scattered patches that are in satisfactory condition, see photo 19.

The steel beams in the 1957 bridge widening have scattered areas of failed paint with minor corrosion & scattered pack rust along exterior face of top flange at Beam 4, see photos 5 & 20.

#### **Item 59.10 - Diaphragms/Cross Frames**

The concrete diaphragms have repairs throughout, and cracks with heavy efflo in tee bays 1 and 2, see photo 6.

#### **Item 59.12 - Welds**

The steel beams are butt welded over the pier.

#### **Item 59.13 - Member Alignment**

Visible positive camber in both rails, see photo 21.

#### **Item 59.14 - Paint/Coating**

S/A - The 24 year old paint system is chalky with scattered peeling and flaking throughout, especially the exterior face of steel beam 4, see photos 5 & 22.

### **ITEM 60 - SUBSTRUCTURE**

#### **Item 60.1 - Abutments**

##### **Item 60.1.c - Backwalls**

Scattered cracks with efflo. and/or rust stains. There is spall/scale area at steel bay 1 at east abutment, see photo 23.

##### **Item 60.1.d - Breastwalls**

At the north end of the west breastwall there is a large spall/scale 5.5 ft long by 1 ft high by 6 in wide by 2 in deep with adjacent cracking and efflo. There are some scattered minor vertical cracks in the concrete caps.

##### **Item 60.1.e - Wingwalls**

Minor cracks with efflo. and a patch at the northwest. Heavy horizontal cracking with efflo at southeast, see photo 24.

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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## REMARKS

### Item 60.1.g - Pointing

Scattered minor gaps.

### Item 60.2 - Piers or Bents

#### Item 60.2.b - Caps

Scattered full height vertical cracks  $\leq 1/8"$ W, minor cover spalls with rust bleed to exposed soffit, and a large spall/scale area  $\leq 3.5"$ D at the north nosing from bay 1 west face to bay 1 east face, see photos 25-28, & 31.

#### Item 60.2.d - Stems/Webs/Pierwalls

There are scattered full height vertical cracks to granite stones, see photos 26 & 29. Also see item 60.2.e.

#### Item 60.2.e - Pointing

S/A - Majority of the pointing is missing below the top course of granite and daylight can be seen in some joints, see photos 25-27, & 29-31. See the most recent Routine Underwater Inspection Report dated 10/7/2015 for S/A Deficiency.

#### SubStructure Scour Notes

See the Underwater Inspection Report dated 10/07/15 for scour issues.

### ITEM 61 - CHANNEL AND CHANNEL PROTECTION

#### Item 61.6 - Rip-Rap/Slope Protection

South half of rip-rap along east abutment has slumped & missing stones, see photo 32.

### TRAFFIC SAFETY

#### Item 36a - Bridge Railing

AL-3 with aluminum palings, non-standard.

#### Item 36b - Transitions

Type W Guard rail with nested panels smoothly attached to the endposts with nonstandard post spacing.

#### Item 36c - Approach Guardrail

Type-W guardrail, standard

#### Item 36d - Approach Guardrail Ends

Beyond bridge limits.

### Sketch / Photo Log

Sketch 1 : Beam layout

Photo 1 : General wearing surface looking northeast

Photo 2 : Over west abutment looking south, rutting in travel lanes & settled patch in WB right lane

Photo 3 : Over east abutment looking south, minor rutting in travel lanes & 2 settled patches in each right lane

Photo 4 : Span 1 Steel Bay 2 looking east, typical minor cracking w/ efflo

Photo 5 : Span 2 Steel beam bays looking east, minor delams/cracking & corrosion to bottom flanges

Photo 6 : Span 2 Tee Bay 2 looking east, typical cracking w/ efflo

Photo 7 : North sidewalk looking east, curb displaced towards roadway & approach sidewalk/curb settlement

Photo 8 : South sidewalk looking east, debris impacted scaling/spalling along curb

Photo 9 : North sidewalk soffit at east abutment, heavy spalling w/ exposed rebar & void

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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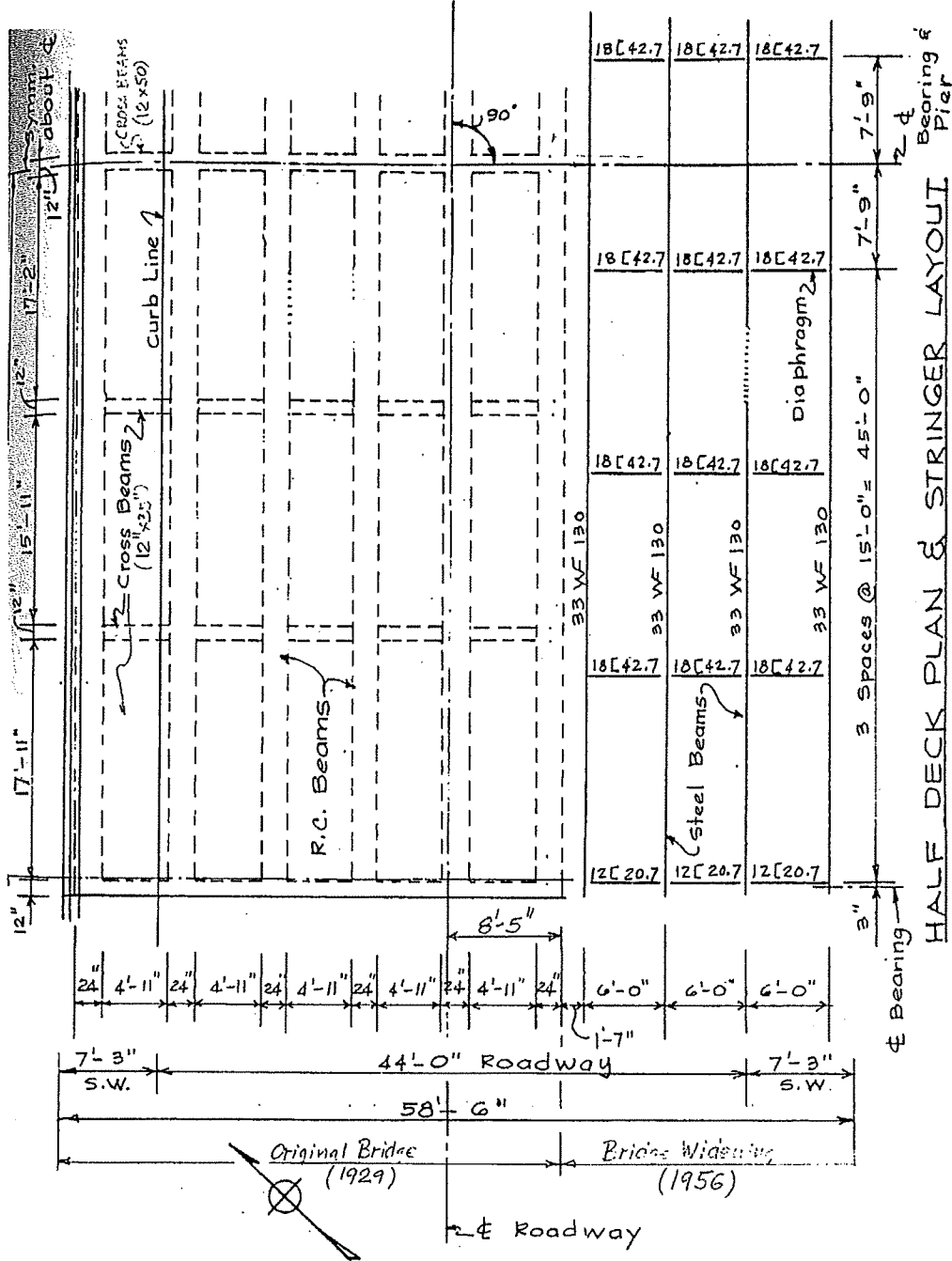
## REMARKS

### Sketch / Photo Log (Cont'd)

- Photo 10 : South rail 6th section from east abutment, bent lower sections of pickets
- Photo 11 : Town line sign attached to north rail at midspan, loose fasteners & small areas of 100% section loss at base
- Photo 12 : Span 1 Tee Bay 1, corrosion to utility support
- Photo 13 : Tee Bay 5 at west abutment, area of 100% section loss to unused utility conduit
- Photo 14 : Span 1 Tee Beam 1 looking east, spalling w/ exposed rebar
- Photo 15 : Span 1 Tee Beam 2 north face, horizontal cracking w/ efflo & rust bleed
- Photo 16 : Span 2 Tee Beam 1 north face, horizontal & diagonal cracking w/ efflo
- Photo 17 : Span 2 Tee Beam 1 looking west, longitudinal cracking w/ efflo
- Photo 18 : Span 2 Tee Beams 1 & 2 looking west, longitudinal cracking w/ efflo
- Photo 19 : Span 2 Tee Beam 6 south face, patches
- Photo 20 : Span 2 Steel Beam 4 at east abutment, south top flange pack rust
- Photo 21 : South rail looking west, positive camber
- Photo 22 : Span 2 Steel beam 4 looking west, paint failure
- Photo 23 : Steel Bay 1 at east abutment, backwall spalling/cracking w/ rust bleed
- Photo 24 : Southeast wingwall, horizontal cracking w/ efflo
- Photo 25 : North nose of pier, cap spalling
- Photo 26 : Northwest end of pier, cap spalling & cracked stones in wall
- Photo 27 : Pier cap west face below Tee Beam 6, vertical crack
- Photo 28 : Pier cap soffit below Steel Bay 1, cover spalls w/ rust bleed
- Photo 29 : Pier wall east face below Steel Bay 3, vertical crack in top course stone & missing mortar
- Photo 30 : Northeast end of pier wall, void clear through second course
- Photo 31 : Northeast nose of pier cap, spalling
- Photo 32 : East abutment rip-rap south end, slumped & missing stones

CITY/TOWN <b>MARION=WAREHAM</b>	B.L.N. <b>45E</b>	BR. DEPT. NO. <b>M-05-001=W-06-013</b>	8-STRUCTURE NO. <b>M05001-45E-DOT-NBI</b>	INSPECTION DATE <b>OCT 12, 2016</b>
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**SKETCHES**



**HALF DECK PLAN & STRINGER LAYOUT**  
 Not to Scale  
 M05001 (45E)

**Sketch 1: Beam layout**



CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

**PHOTOS**

Photo 1: General wearing surface looking northeast



Photo 2: Over west abutment looking south, rutting in travel lanes & settled patch in WB right lane

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

**PHOTOS**

**Photo 3:** Over east abutment looking south, minor rutting in travel lanes & 2 settled patches in each right lane



**Photo 4:** Span 1 Steel Bay 2 looking east, typical minor cracking w/ efflo

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

**PHOTOS**

**Photo 5:** Span 2 Steel beam bays looking east, minor delams/cracking & corrosion to bottom flanges



**Photo 6:** Span 2 Tee Bay 2 looking east, typical cracking w/ efflo

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

## PHOTOS



**Photo 7:** North sidewalk looking east, curb displaced towards roadway & approach sidewalk/curb settlement



**Photo 8:** South sidewalk looking east, debris impacted scaling/spalling along curb

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

## PHOTOS



Photo 9: North sidewalk soffit at east abutment, heavy spalling w/ exposed rebar & void



Photo 10: South rail 6th section from east abutment, bent lower sections of pickets

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	---------------------------------------	---------------------------------

## PHOTOS



Photo 11: Town line sign attached to north rail at midspan, loose fasteners & small areas of 100% section loss at base



Photo 12: Span 1 Tee Bay 1, corrosion to utility support

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

**PHOTOS**

**Photo 13:** Tee Bay 5 at west abutment, area of 100% section loss to unused utility conduit



**Photo 14:** Span 1 Tee Beam 1 looking east, spalling w/ exposed rebar

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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**PHOTOS**

Photo 15: Span 1 Tee Beam 2 north face, horizontal cracking w/ efflo & rust bleed

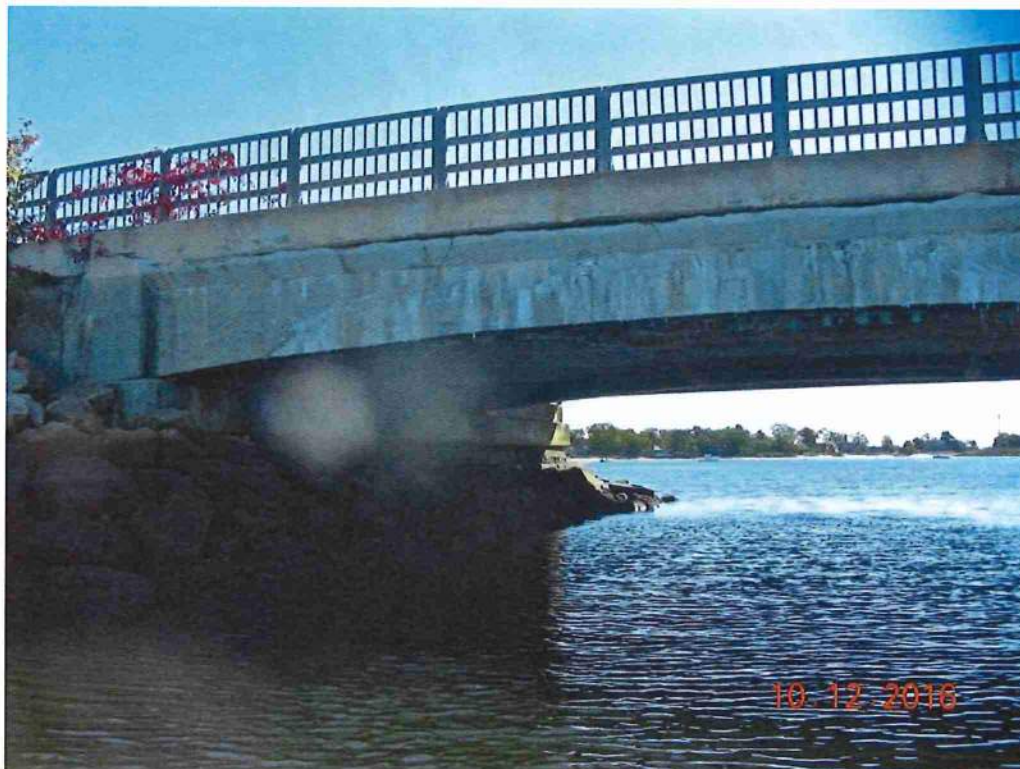


Photo 16: Span 2 Tee Beam 1 north face, horizontal & diagonal cracking w/ efflo

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
-----------------------------	---------------	------------------------------------	--	---------------------------------

## PHOTOS



Photo 17: Span 2 Tee Beam 1 looking west, longitudinal cracking w/ efflo



Photo 18: Span 2 Tee Beams 1 & 2 looking west, longitudinal cracking w/ efflo

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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## PHOTOS

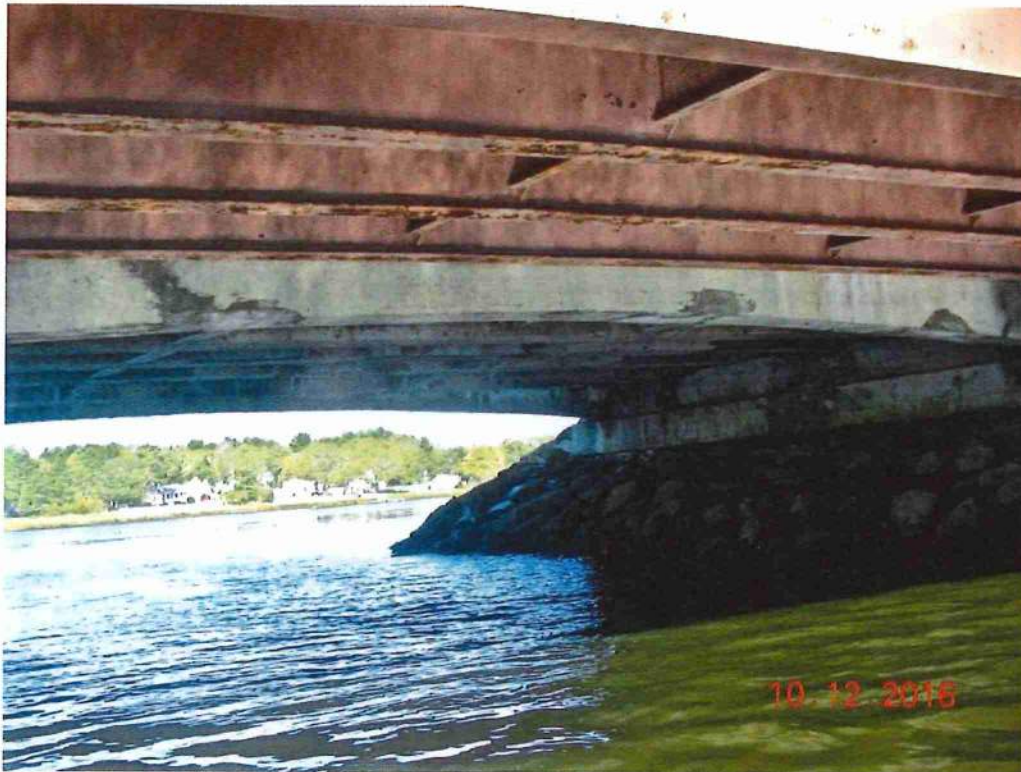


Photo 19: Span 2 Tee Beam 6 south face, patches



Photo 20: Span 2 Steel Beam 4 at east abutment, south top flange pack rust

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-----------------------------	---------------	------------------------------------	--	---------------------------------

## PHOTOS



Photo 21: South rail looking west, positive camber



Photo 22: Span 2 Steel beam 4 looking west, paint failure

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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## PHOTOS

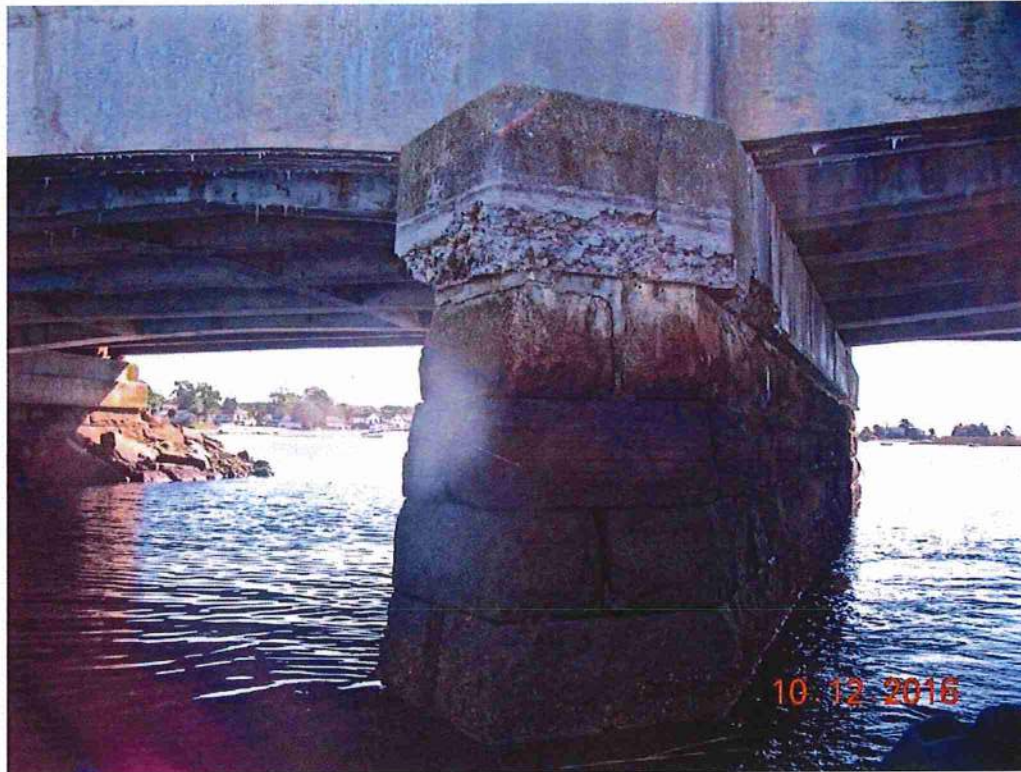


Photo 23: Steel Bay 1 at east abutment, backwall spalling/cracking w/ rust bleed



Photo 24: Southeast wingwall, horizontal cracking w/ efflo

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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**PHOTOS**

**Photo 25:** North nose of pier, cap spalling



**Photo 26:** Northwest end of pier, cap spalling & cracked stones in wall

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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**PHOTOS**

Photo 27: Pier cap west face below Tee Beam 6, vertical crack



Photo 28: Pier cap soffit below Steel Bay 1, cover spalls w/ rust bleed

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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**PHOTOS**

**Photo 29:** Pier wall east face below Steel Bay 3, vertical crack in top course stone & missing mortar



**Photo 30:** Northeast end of pier wall, void clear through second course

CITY/TOWN MARION=WAREHAM	B.I.N. 45E	BR. DEPT. NO. M-05-001=W-06-013	8.-STRUCTURE NO. M05001-45E-DOT-NBI	INSPECTION DATE OCT 12, 2016
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## PHOTOS



Photo 31: Northeast nose of pier cap, spalling



Photo 32: East abutment rip-rap south end, slumped & missing stones

# National Bridge Element Inspection

BDEPT# M-05-001

Date 10/12/2016

B.I.N. 45E

District Bridge Inspection Eng'r Grant Simpson

Item 8 M05001-45E-DOT-NBI

Inspecting Agency Mass. Highway Dept.

Span Group 1

Team Leader Jake Gonsalves

Town Marion

Team Jorge Marmelo, Marquis

District 5

Member(s) Marshall

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
12	Re Concrete Deck	sq feet	3	7,002.000	<input type="checkbox"/> %	6,000.000	1,002.000		
Notes :									
> 1120	<i>Efflorescence/Rust Staining</i>	sq feet	3	1.000	<input type="checkbox"/> %	1.000			
Notes :									
> 510	Wearing Surfaces	sq feet	3	5,280.000	<input type="checkbox"/> %	5,000.000	280.000		
Notes :									
107	Steel Opn Girder/Beam	feet	3	424.000	<input type="checkbox"/> %	324.000	100.000		
Notes :									
> 515	Steel Protective Coating	sq feet	3	999.000	<input type="checkbox"/> %	999.000			
Notes :									
110	Re Conc Opn Girder/Beam	feet	3	636.000	<input type="checkbox"/> %	384.000	226.000	26.000	
Notes :									
213	Masonry Pier Wall	feet	3	60.000	<input type="checkbox"/> %	15.000	30.000	15.000	
Notes :									
217	Masonry Abutment	feet	3	200.000	<input type="checkbox"/> %	180.000	20.000		
Notes :									
234	Re Conc Pier Cap	feet	3	60.039	<input type="checkbox"/> %	45.029	6.003	9.005	
Notes :									
311	Moveable Bearing	each	3	8	<input type="checkbox"/> %		8		
Notes :									
> 515	Steel Protective Coating	sq feet	3	999.000	<input type="checkbox"/> %	999.000			
Notes :									
313	Fixed Bearing	each	3	4	<input type="checkbox"/> %		4		
Notes :									

# National Bridge Element Inspection

BDEPT# **M-05-001**

Date **10/12/2016**

B.I.N. **45E**

District Bridge Inspection Eng'r **Grant Simpson**

Item 8 **M05001-45E-DOT-NBI**

Inspecting Agency **Mass. Highway Dept.**

Span Group **1**

Team Leader **Jake Gonsalves**

Town **Marion**

Team Member(s) **Jorge Marmelo, Marquis**

District **5**

**Marshall**

El #	Element Name	Units	Env.	Total Q.	% or Q	State 1	State 2	State 3	State 4
> 515	Steel Protective Coating	sq feet	3	999.000	<input type="checkbox"/> %	999.000			
Notes :									
330	<b>Metal Bridge Railing</b>	feet	3	300.000	<input type="checkbox"/> %	270.000	30.000		
Notes :									
7375	<i>Soffit of Concrete Sidewalks</i>		2	1.000	<input type="checkbox"/> %				1.000
Notes :									