# EXHIBIT M

# BRIDGE INSPECTION REPORT

**PREPARED FOR:** FLORIDA DEPARTMENT OF TRANSPORTATION

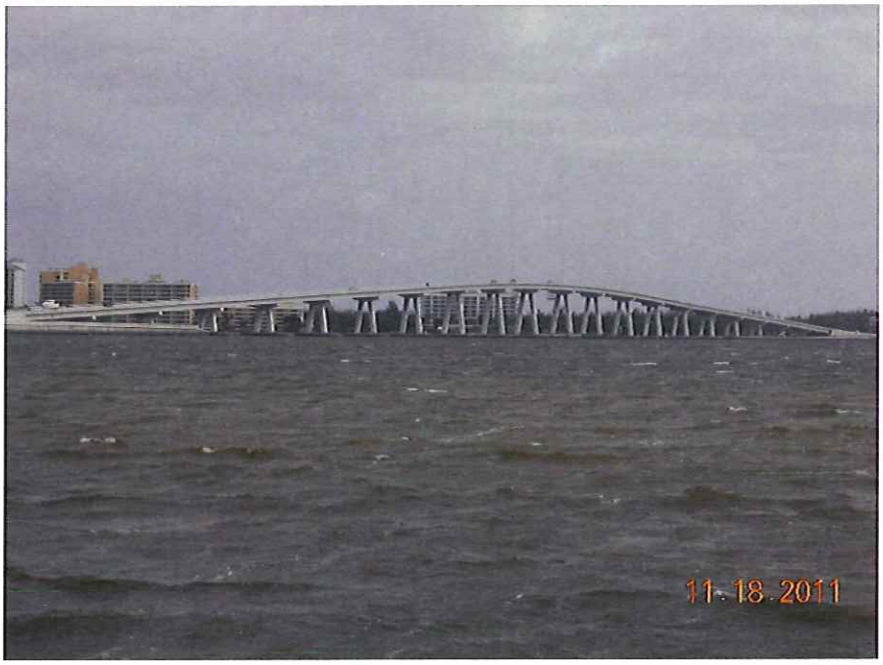
**BRIDGE OWNER:** LEE COUNTY

INSPECTED BY: VOLKERT

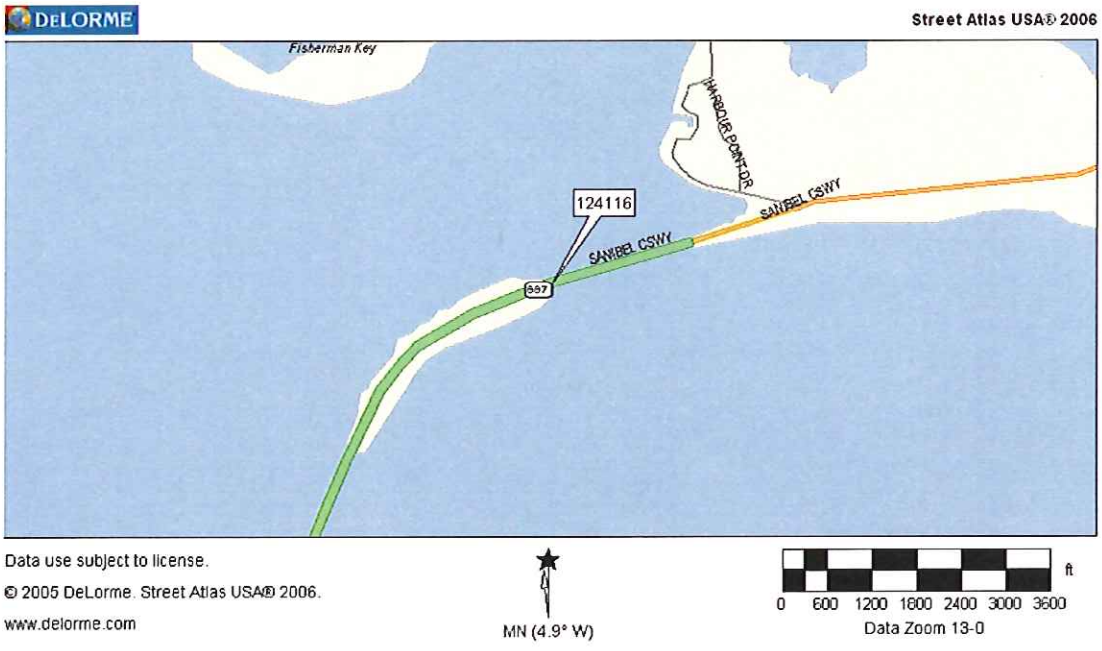
**BRIDGE NO.** 124116 **CONTENTS OF REPORT** **INSPECTION DATE:** 11/18/2011

| | | | |
|---|---|---|---|
| | Pontis Report | | U/W Inspection Report |
| | CIDR | * | Fracture Critical Data |
| | Scour Elevation (Profile) | * | Load Rating Analysis Summary |
| * | Addendum (Element Notes & Photos/Sketches) | | |

*This section is not included in this report.




**STRUCTURE A SANIBEL CAUSEWAY OVER SAN CARLOS BAY** **1ST STRUCTURE SOUTH OF TOLL PLAZA**



# FLORIDA DEPARTMENT OF TRANSPORTATION
# BRIDGE MANAGEMENT SYSTEM
## Inspection/CID Report with PDF attachment(s)



| | | | |
|---|---|---|---|
| BY: | VOLKERT, INC. | STRUCTURE NAME: | STRUCTURE A SANIBEL CAUSEV |
| OWNER: | 2 County Hwy Agency | YEAR BUILT: | 2007 |
| MAINTAINED BY: | 2 County Hwy Agency | SECTION NO.: | 12 000 000 |
| STRUCTURE TYPE: | 6 P/S Conc Continuous - 02 Stringer/Girder | MP: | 0 |
| LOCATION: | 1ST STRUC S OF TOLL PLAZA | ROUTE: | 00867 |
| SERVICE TYPE ON: | 1 Highway | FACILITY CARRIED: | CR-867 |
| SERV TYPE UND: | 5 Waterway | FEATURE INTERSECTED: | SAN CARLOS BAY |

☐ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 11/18/2011 UNDERWATER: 10/24/2011

SUFFICIENCY RATING: 79.0

HEALTH INDEX: 98.94

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# FLORIDA DEPARTMENT OF TRANSPORTATION
# BRIDGE MANAGEMENT SYSTEM
## Inspection/CID Report with PDF attachment(s)



| | |
|---|---|
| BY: VOLKERT, INC. | STRUCTURE NAME: STRUCTURE A SANIBEL CAUSEWAY |
| OWNER: 2 County Hwy Agency | YEAR BUILT: 2007 |
| MAINTAINED BY: 2 County Hwy Agency | SECTION NO.: 12 000 000 |
| STRUCTURE TYPE: 6 P/S Conc Continuous - 02 Stringer/Girder | MP: 0 |
| LOCATION: 1ST STRUC S OF TOLL PLAZA | ROUTE: 00867 |
| SERVICE TYPE ON: 1 Highway | FACILITY CARRIED: CR-867 |
| SERV TYPE UND: 5 Waterway | FEATURE INTERSECTED: SAN CARLOS BAY |

☐ THIS BRIDGE CONTAINS FRACTURE CRITICAL COMPONENTS
☐ THIS BRIDGE IS SCOUR CRITICAL
☐ THIS REPORT IDENTIFIES DEFICIENCIES WHICH REQUIRE PROMPT CORRECTIVE ACTION
☐ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI
DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 11/18/2011 UNDERWATER: 10/24/2011

SMART FLAGS:
None

OVERALL NBI RATINGS:

| | |
|---|---|
| DECK: 8 Very Good | CHANNEL: 7 Minor Damage |
| SUPERSTRUCTURE: 7 Good | CULVERT: N N/A (NBI) |
| SUBSTRUCTURE: 7 Good | SUFF. RATING: 79.0 |
| PERF. RATING: Good | HEALTH INDEX: 98.94 |

| FIELD PERSONNEL / TITLE / NUMBER | INITIALS |
|---|---|
| Eorgan, Steve - Bridge Inspector (CBI#00362) (lead) | CE |
| Bibelhauser, Anthony - Bridge Inspector (CBI #00359) | |
| Hoogland, Keith - Bridge Inspector/Diver (CBI#00341) (lead) | |
| Tumaniszwili, Alex P. - Diver/Inspector | |
| Young, Ryan C. - Diver/Inspector | |

REVIEWING BRIDGE INSPECTION SUPERVISOR:
Rucks, Edward - CBI (#00273) ER

CONFIRMING REGISTERED PROFESSIONAL ENGINEER:
Teal, Daniel - PROJECT MANAGER (PE # 42097)
VOLKERT, INC.
3409 W. LEMON STREET STE 1
CERTIFICATE OF AUTHORIZATION NO 4641
TAMPA, FL 33609

DANIEL BOWERS TEAL LICENSE No. 42097 JAN 05 2012 STATE OF FLORIDA PROFESSIONAL ENGINEER

SIGNATURE:
DATE:

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## All Elements

**UNIT: Structure Unit 1 DECKS**

**ELEMENT/ENV: 12/4 Bare Concrete Deck 129408 sf. ELEM CATEGORY:** Decks/Slabs

| CONDITION STATE (5) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The surface and underside of the deck have few repaired areas, there are few spalls/delaminations in the deck surface or underside and the only cracking is superficial or surface map cracking. The combined distressed area is 2% or less of the deck area. | 129408 sf. |

ELEMENT INSPECTION NOTES:

Note: Two 4-1/2in. diameter fiberglass conduits are attached to hangers anchored to the underside of Bay 3 in all spans. The type of hanger anchorage is unknown.

CS1: There is a light accumulation of debris in the shoulder areas.

The undersides of the overhangs have full width x up to 1/64in. wide transverse cracks, some with efflorescence.

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## All Elements

**UNIT: Structure Unit 1 DECKS**

**ELEMENT/ENV: 300/4 Strip Seal Exp Joint 345 lf. ELEM CATEGORY:** Joints

| CONDITION STATE (3) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows minimal deterioration. There is no leakage at any point along the joint. Gland is secure and has no defects. Debris in joint is not causing any problems. The adjacent deck and/or header is sound. | 345 lf. |

ELEMENT INSPECTION NOTES:

Note: Joints are present at Abutments 1 and 22 and Piers 4, 7, 10, 13, 16 and 19.

CS1: The joints have light dirt and debris in the shoulder areas and are functioning as intended - DECREASED.

CORRECTIVE ACTION TAKEN:
Most of the dirt and debris within the joints has been removed.

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## All Elements

**UNIT: Structure Unit 1 DECKS**

**ELEMENT/ENV: 334/4 Metal Rail Coated** **6005 lf.** **ELEM CATEGORY:** Railing

| CONDITION STATE (5) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | There is no evidence of active corrosion. Protective coating is sound and functioning as intended to protect the element. | 5999 lf. |
| 2 | There is little or no active corrosion. Surface corrosion has formed or is forming. Protective coating may have minor areas of deterioration. | 6 lf. |

ELEMENT INSPECTION NOTES:

Note: Barriers meet NCHRP TL4 criteria and meet SIA Item #36 standards.

CS1: There are several tire marks on the barriers.

CS2: There are several areas of impact scrapes to the left bridge rail up to 8ft long at the following locations - NEW. Refer to Photo 1. REPAIR ALL

Span 4, near Pier 5
Span 5, at 1/2 and 3/4 points
Span 6, at 1/4, 1/2 and 3/4 points
Span 12, near Pier 12
Span 13, at 1/4 point
Span 14, near Pier 15
Span 16, near at Pier 17
Span 18, at 1/2 point

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## All Elements

**UNIT: Structure Unit 1 SUPERSTRUCTURE**

**ELEMENT/ENV: 109/4 P/S Conc Open Girder 12010 lf.** **ELEM CATEGORY:** Superstructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 12006 lf. |
| 2 | Minor cracks and spalls may be present and there may be exposed reinforcing with no evidence of corrosion. There is no exposure of the prestress system. | 4 lf. |

ELEMENT INSPECTION NOTES:

CS1: The beams have diagonal web cracks up to 4ft. long x typically less than 1/64in. wide at the bearing areas, extending up and away from the supports.

The east face of the bottom flange of Beam 14-4 has a 20in. long x 1/64in. wide vertical/diagonal crack over the bearing at Pier 14. Beam 16-4 at Pier 16 has similar cracking - INCREASE.

The left top flange of Beam 17-4 has longitudinal hairline cracking, some with efflorescence, up to 1/64in. wide near Pier 18.

CS2: There are minor spalls with no exposed steel in the bottom flanges of the following beams:
Beam 15-1, east face 7-1/2ft. from Pier 16, 6in. x 2in. x 1/2in.
Beam 15-3, east face at 25-1/2ft. from Pier 16, 4in. x 4in. x 1in.
Beam 15-4, west face 60ft. from Pier 15, 16in. x 4in. x 1in.

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## All Elements

**UNIT: Structure Unit 1 SUPERSTRUCTURE**

**ELEMENT/ENV: 397/4 Drain. Syst Metal** **20 ea.** **ELEM CATEGORY:** Superstructure

| CONDITION STATE (5) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | There is no evidence of active corrosion and the paint system is sound and functioning as intended to protect the metal surface. Drainage system is functioning as intended. | 19 ea. |
| 2 | There is little or no active corrosion. Surface corrosion rust has formed or is forming. The paint system may be chalking, peeling, curling or showing other early evidence of paint system distress but there is no exposure of metal. Drainage system is functioning as intended, there may be evidence of minor restrictions of flow. | 1 ea. |

ELEMENT INSPECTION NOTES:

CS2: The anchor hardware for the scupper down pipe attached to the inside face of Beam 8-1 at the 2/3 point is loose - NEW. Refer to Photo 2. REPAIR

CORRECTIVE ACTION TAKEN:
The scupper down pipes have been properly shimmed.

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## All Elements

**UNIT: Structure Unit 1 SUPERSTRUCTURE**

**ELEMENT/ENV: 310/4 Elastomeric Bearing 168 ea. ELEM CATEGORY:** Bearings

| CONDITION STATE (3) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. Shear deformations are correct for existing temperatures. | 168 ea. |

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## All Elements

**UNIT: Structure Unit 1 SUPERSTRUCTURE**

**ELEMENT/ENV: 563/4 Acc Ladd & Plat** **16 ea.** **ELEM CATEGORY:** Movable

| CONDITION STATE (5) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | There is no evidence of active corrosion, and the paint system is sound and functioning as intended to protect the metal surface. | 16 ea. |

ELEMENT INSPECTION NOTES:

Note: The quantity includes eight ladders and eight platforms including the two fender access walkways.

**ELEMENT/ENV: 580/4 Navigational Lights** **1 ea.** **ELEM CATEGORY:** Movable

| CONDITION STATE (3) | DESCRIPTION | QUANTITY |
|---|---|---|
| 2 | There is some evidence of corrosion, lights may be burned out, lens may be broken. | 1 ea. |

ELEMENT INSPECTION NOTES:

Note: The element includes six fender lights, two clearance at centerline of channel gauge lights and two swing lights at centerline of channel attached to the deck fascias with unknown anchors. Refer to Photo 3.

CS2: The hinges for top access cover on the southeast and northwest fender lights are broken - NEW. Refer to Photo 4. REPAIR

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## All Elements

**UNIT: Structure Unit 1 SUBSTRUCTURE**

**ELEMENT/ENV: 205/4 R/Conc Column** **40 ea.** **ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 40 ea. |

**ELEMENT/ENV: 207/4 P/S Conc Holl Pile** **224 ea.** **ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 220 ea. |
| 2 | Minor cracks, spalls and scaling may be present and there may be exposed reinforcing with no evidence of corrosion. There is no exposure of the prestress system. | 4 ea. |

ELEMENT INSPECTION NOTES:

Note: Quantity field verified by underwater inspectors.

The following was noted by the underwater inspectors;
CS2: The northesast corner of Pile 10-13 has a 7ft6in x 18in x 2in spall with no exposed steel 11ft below the footing.
The northeast corner of Pile 4-1 has a 16in. x 6in. x 2in. spall with no exposed steel, 5ft. below the footing.
The northwest corner of Pile 11-17 has a 5ft. 6in. x 10in. x 2in. spall with no exposed steel, just below the footing.
The northeast corner of Pile 17-10 has a 13ft. x 12in. x 3in. spall with no exposed steel, 24in. below the footing.

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## All Elements

**UNIT: Structure Unit 1 SUBSTRUCTURE**

**ELEMENT/ENV: 215/4 R/Conc Abutment 70 lf. ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 70 lf. |

ELEMENT INSPECTION NOTES:

CS1: There is minor horizontal cracking to the top outside faces of both cheek walls at the cold joint of Abutment 1 - NEW.

**ELEMENT/ENV: 220/4 R/C Sub Pile Cap/Ftg 17 ea. ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 8 ea. |

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## All Elements

**UNIT: Structure Unit 1 SUBSTRUCTURE**

**ELEMENT/ENV: 220/4 R/C Sub Pile Cap/Ftg 17 ea. ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 2 | Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion. | 9 ea. |

ELEMENT INSPECTION NOTES:

NOTE: Quantity change due to footings 19, 20 and 21 no longer being exposed.

CS1: The following was noted by the underwater inspection:
There are several corner scrapes up to 6in H x 5ft W x 3/4in D.
The footing have concrete formed sides that have vertical cracks with no corrosion bleedout up to 1/16in wide x full height. Several cracks have efflorescence.

CS2: The top northwest corner of footing 4 has a 24in x 12in x 2in spall with no exposed steel.

The top east corner of footing 9 near center point has a 30in x 9in x 2in spall with no exposed steel (Previously noted as a delamination).

The top northeast corner of footing 10 has a spall with no exposed steel 24in x 8in x 1in previously noted as a spall/delamination on the northwest corner of footing 10.

The top northeast corner of footing 16 has a spall with no exposed steel 15in x 12in x 1in. Previously noted as a spall/delamination on the northwest corner.

The following was noted by the underwater inspection:
Footing 5, southeast corner 18in below top of footing - spall with no exposed steel, 9in H x 9in W x 2in D - NEW.
Footing 8, southeast corner 10in below top of footing - spall with no exposed steel, 12in H x 6in W x 2in D - NEW.
Footing 10, northeast corner at top of footing - intermittent spall with no exposed steel, 28in H x 9in W x 2in D - NEW.
Footing 12, southwest corner 20in below top of footing, spall with no exposed steel, 6in x H 8in W x 2-1/2in D.
Footing 13, southeast corner 15in below top of footing, spall with no exposed steel, 12in H x 6in W x 1in D.
Footing 17, northeast and southeast corners 20in below top footing, spall with no exposed steel, 12in H x 12in W x 2in D.

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**UNIT: Structure Unit 1 SUBSTRUCTURE**

**ELEMENT/ENV: 234/4 R/Conc Cap** **862 lf.** **ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 862 lf. |

**ELEMENT/ENV: 298/4 Pile Jacket Bare** **2 ea.** **ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | There is little or no deterioration. Surface defects only are in evidence. | 2 ea. |

ELEMENT INSPECTION NOTES:

NOTE: This element is for the Pile Jackets installed on Piling 11-8 and 11-15.

**ELEMENT/ENV: 387/4 P/S Fender/Dolphin** **588 lf.** **ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. | 588 lf. |

ELEMENT INSPECTION NOTES:

Note: The quantity includes the three rectangular dolphins at the southeast corner of the fender and the three rectangular dolphins at the northwest corner of the fender.

CS3: The south fender starting at the 1st single plumb pile (12th cluster) from the west for the next 13 piles (55ft long), the steel driving tips are exposed up to 30in to 3ft height - NEW. Refer to Photo 5 and Diagram 1. REPAIR

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## All Elements

**UNIT: Structure Unit 1 SUBSTRUCTURE**

**ELEMENT/ENV: 396/4 Other Abut Slope Pro 2500 sf. ELEM CATEGORY:** Substructure

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | There is little or no deterioration. Surface defects only are in evidence. Random open joints may exist. | 2404 sf. |
| 2 | There may be minor deterioration, random open joints, cracking and weathering. Mortar in joints may show minor deterioration. | 12 sf. |
| 3 | Moderate to major deterioration and cracking. Major deterioration of joints. Minor settlement may be present. | 84 sf. |

ELEMENT INSPECTION NOTES:

Note: This element includes rock rubble rip rap and concrete block mats.

CS1: The rock inside the concrete block mats has settled up to 6in in several location - NEW.

CS2: There are 6 displaced concrete rip rap bags on the south slope protection under the structure.

CS3: The rock inside the concrete block mat on the north slope protection 8ft adjacent to the seawall cap has settled up to 16in and has undermined the slope in a 4ft x 3ft area - NEW. Refer to Photo 6. REPAIR

There is a 20ft x 4ft x 1ft of settlement to the concrete block mat on the southwest corner of footing 18 - NEW. Refer to Photo 7. REPAIR

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## All Elements

**UNIT: Structure Unit 1 CHANNEL**

**ELEMENT/ENV: 290/4 Channel** | **1 ea.** | **ELEM CATEGORY:** Channel

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 2 | Bank protection is in need of minor repairs, bank may be beginning to slump, minor stream bed movement may be evident or debris may be present. | 1 ea. |

ELEMENT INSPECTION NOTES:

Note: The bulkheads were evaluated under this element as channel bank protection.

CS2: Some channel measurements have a 3ft. or greater change since the previous inspection. Reason for change may be due to the strong current altering the channel bottom.

The following was noted by the underwater inspectors:
There is scattered timber debris from the previous fender system along the new fender system.
At Bents 4 through 17, the groundline slopes upward up to 4ft. going away from the piling, on one or more sides. Several piling have minimal marine growth on the lower 4in. to 6in. - INCREASE.

CORRECTIVE ACTION TAKEN:
The north channel bulkhead cap has been repaired.

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## All Elements

**UNIT: Structure Unit 1 MISCELLANEOUS**

**ELEMENT/ENV: 321/4 R/Conc Approach Slab 2 ea.** **ELEM CATEGORY:** Other Elements

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | The slab has not settled and shows no sign of deterioration other than superficial surface cracks. | 2 ea. |

ELEMENT INSPECTION NOTES:
Note: The approach slabs are not visible due to an overlay of asphalt.

**ELEMENT/ENV: 478/4 MSE Walls 120 lf.** **ELEM CATEGORY:** Other Elements

| CONDITION STATE (4) | DESCRIPTION | QUANTITY |
|---|---|---|
| 1 | There is little or no deterioration. Surface defects only are in evidence. | 120 lf. |

ELEMENT INSPECTION NOTES:
Note: The MSE walls were measured back 30ft. at each corner of the structure.

**Structure Notes**

BRIDGE OWNER: LEE COUNTY

TRAFFIC RESTRICTION: Based on the load rating analysis dated 8/8/07, the structure does not require posting. This structure is not posted.

Structure was inventoried from south to north on a west to east leg of a south to north roadway. Direction of stationing is used to describe deficiency locations (left is west).

This structure replaces bascule Bridge No. 124043.

Access to the bridge underside requires a boat with a 60ft. lift or an under bridge inspection vehicle with a lane shift traffic control setup.

Power boat used for groundline measurements and substructure inspection.

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**INSPECTION NOTES: WNFP 11/18/2011**

Sufficiency Rating Calculation Accepted by KNVOLFA-P at 2011-12-06 13:52:56

LOAD CAPACITY EVALUATION:
The findings of this inspection reveal no reason to warrant a new analysis; therefore, the current load rating dated 8/8/07 results still govern.

Note: Element 298, Pile Jacket Bare, has been added to this report.

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**PHOTO 1: 334 METAL RAIL COATED**

Impact scrapes on bridge railing Span 4 left near Pier 5.

REPAIR RECOMMENDATION:
Repair impact scrapes to left bridge railing up to 8ft long in Spans 4, 5, 6, 12, 13, 14, 16 and 18.

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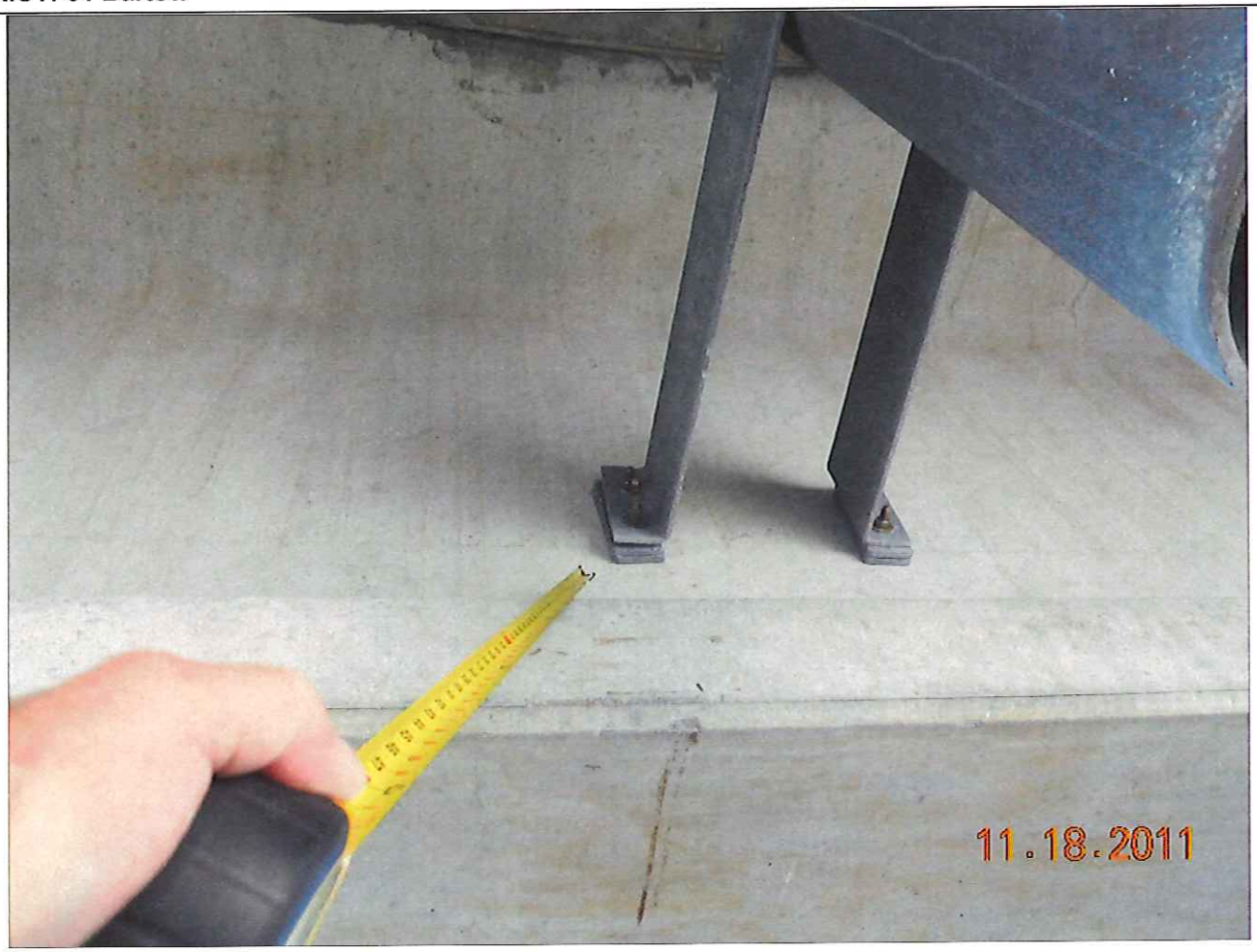


**PHOTO 2: 397 DRAIN SYST METAL**

Loose anchor hardware for scupper down pipe attached to inside face of Beam 8-1.

REPAIR RECOMMENDATION:
Repair loose anchor hardware for scupper down pipe attached to Beam 8-1 at the 2/3 point.

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**PHOTO 3: 580 NAVIGATIONAL LIGHTS**

Center span navigational swing lights attached to bridge fascias.

REPAIR RECOMMENDATION:
None

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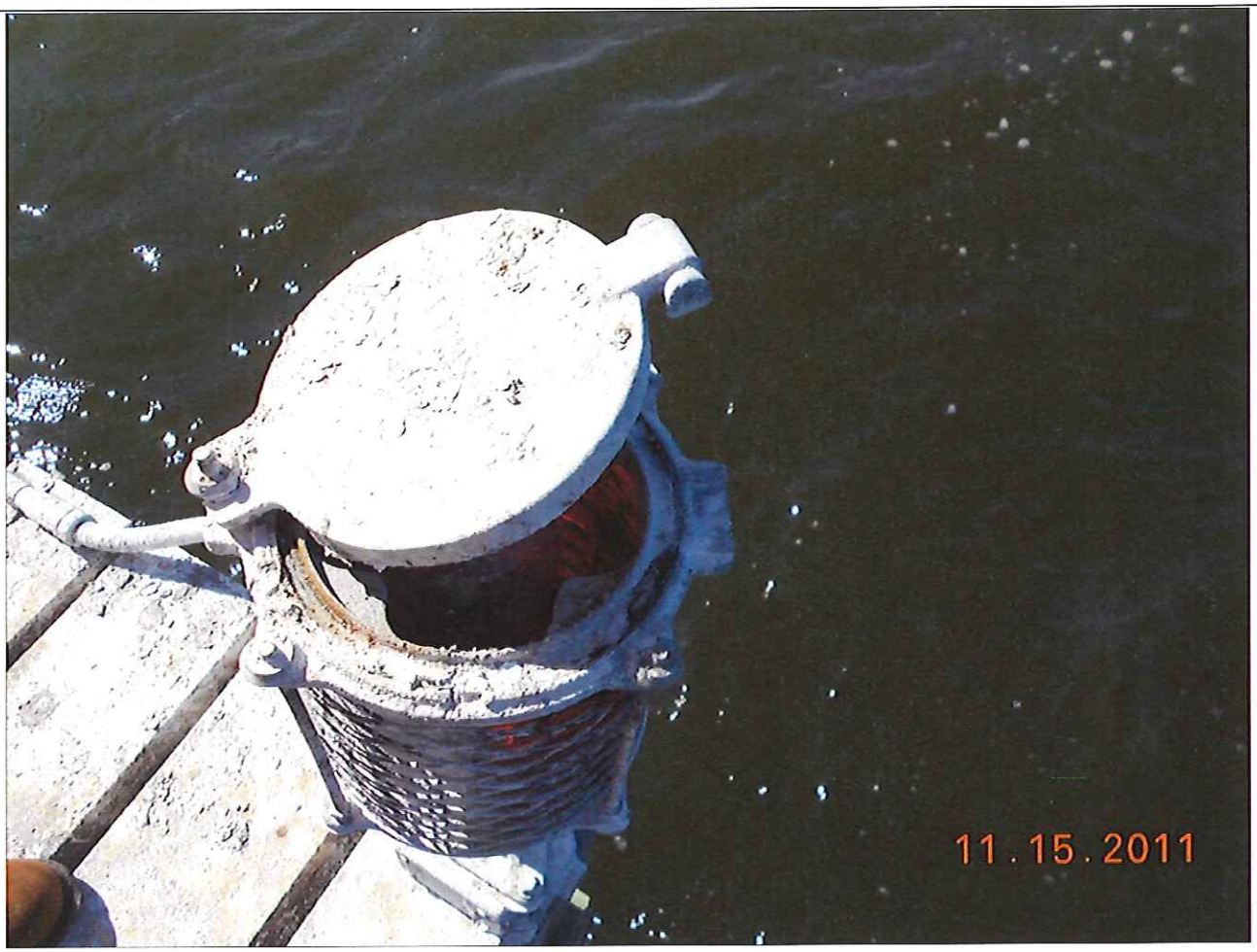


PHOTO 4: 580 NAVIGATIONAL LIGHTS

Broken access cover plate hinge for the northwest fender light.

REPAIR RECOMMENDATION:
Repair 2 broken access cover plate hinges for the southeast and northwest fender lights.

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**PHOTO 5: 387 P/S FENDER/DOLPHIN**

Area of exposed driving tips on the southwest fender top side (from 12th cluster from west to 25th cluster).

REPAIR RECOMMENDATION:
Install 55lf of scour protection for south fender piling starting at 12th cluster from west for next 13 pilings.

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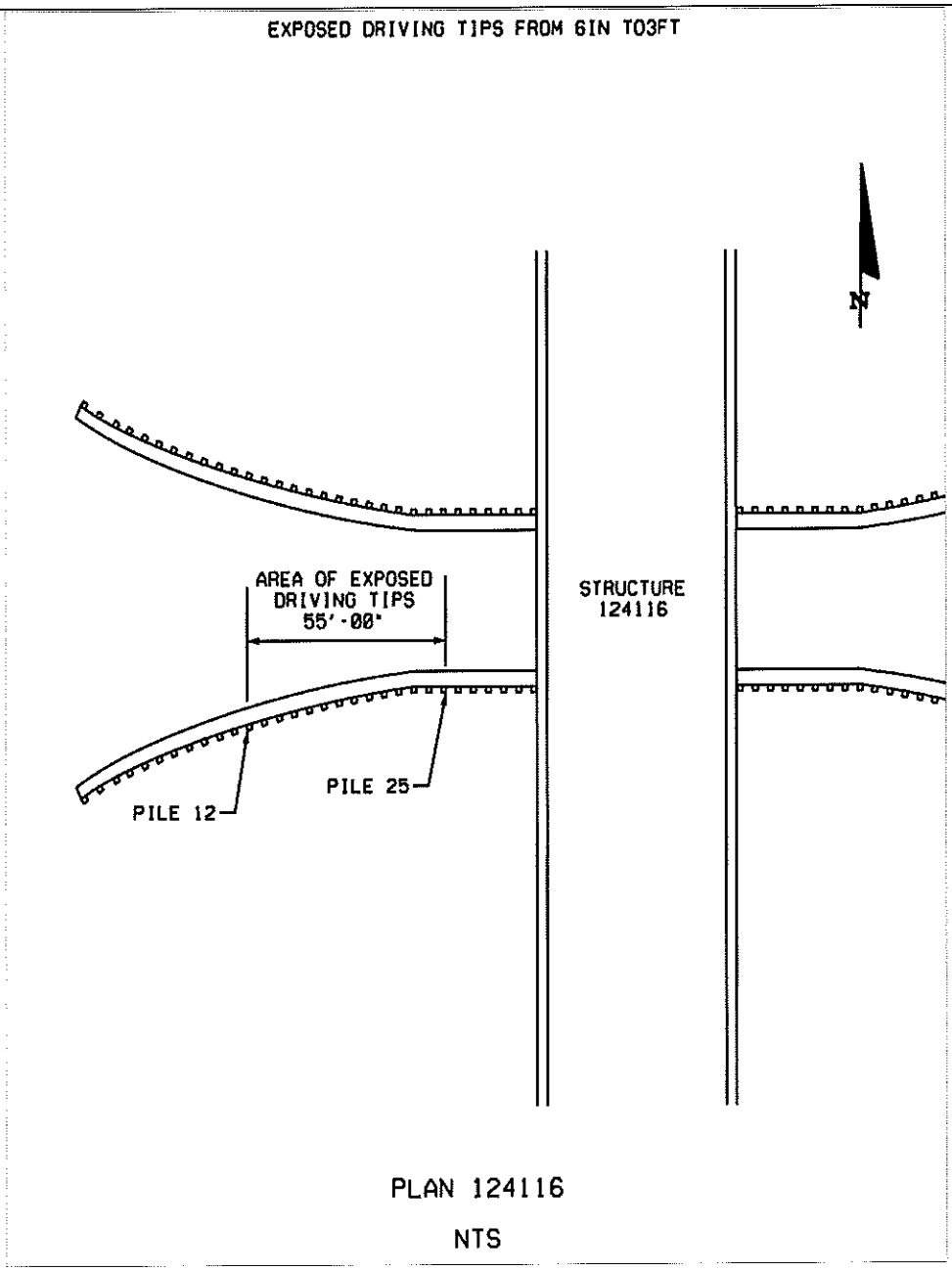


**DIAGRAM 1: 387 P/S FENDER/DOLPHIN**

Piles with exposed driving tips.

REPAIR RECOMMENDATION:
Refer to Photo 5.

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**PHOTO 6: 396 OTHER ABUT SLOPE PRO**

Settled rock fill with undermining to the concrete block mat 8ft south of the southeast corner of Pier 18.

REPAIR RECOMMENDATION:
Fill and stabilize loss fill and undermining to the concrete block mats 8ft south of the southeast corner of Pier 18.

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**PHOTO 7: 396 OTHER ABUT SLOPE PRO**

Settled slope and erosion of the concrete block mat on the southwest corner at footing 18.

REPAIR RECOMMENDATION:
Fill and stabilize 20ft x 4ft area of settlement and erosion to the slope on the southwest corner at footing 18.

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# Description

## Structure Unit Identification

Bridge/Unit Key: 124116 1
Structure Name: STRUCTURE A SANIBEL CAUSEWAY
Description:
Type: M Main

## Roadway Identification:

NBI Structure No (8) 124116
Position/Prefix (5) Route On Structure
Kind Hwy (Rte Prefix) 4 County Hwy
Design Level of Service 1 Mainline
Route Number/Suffix 00867/ 0 N/A (NBI)
Feature Intersect (6) SAN CARLOS BAY
Critical Facility Not Defense-crit
Facility Carried (7) CR-867
Mile Point (11) 0
Latitude (16) 026d28'56" Long (17) 082d01'03"

## Roadway Traffic and Accidents

Lanes (28) 2 Medians 0 Speed 35 mph
ADT Class ADT Class 4
Recent ADT (29) 19690 Year (30) 2011
Future ADT (114) 20675 Year (115) 2031
Truck % ADT (109) 7
Detour Length (19) 99 mi
Detour Speed -1 mph
Accident Count -1 Rate -1

## Roadway Classification

Nat. Hwy Sys (104) 0 Not on NHS
National base Net (12) Not on Base Network
LRS Inventory Rte (13a) 12 000 000 Sub Rte (13b) 00
Functional Class (26) 16 Urban Minor Arterial
On Federal Aid System Y
Defense Hwy (100) 0 Not a STRAHNET hwy
Direction of Traffic (102) 2 2-way traffic
Emergency ☒

## Roadway Clearances

Vertical (10) 99.99 ft Appr. Road (32) 40
Horiz. (47) 40 ft Roadway (51) 40 ft
Truck Network (110) 0 Not part of natl netwo
Toll Facility (20) 2 On toll road
Fed. Lands Hwy (105) 0 N/A (NBI)
School Bus Route ☒
Transit Route ☒

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## Structure Identification

Admin Area Lee County
District (2) D1 - Bartow
County (3) (12)Lee
Place Code (4) Sanibel
Location (9) 1ST STRUC S OF TOLL PLAZA
Border Br St/Reg (98) Not Applicable (P) Share 0 %
Border Struct No (99)
FIPS State/Region (1) 12 Florida Region 4-Atlanta
NBIS Bridge Len (112) Meets NBI Length
Parallel Structure (101) No || bridge exists
Temp. Structure (103) Not Applicable (P)
Maint. Resp. (21) 2 County Hwy Agency
Owner (22) 2 County Hwy Agency
Historic Signif. (37) 5 Not eligible for NRHP

## Geometrics

Spans in Main Unit (45) 21
Approach Spans (46) 0
Length of Max Span (48) 144.2 ft
Structure Length (49) 3002.5 ft
Total Length 3042.5 ft
Deck Area 129408 sqft
Structure Flared (35) 0 No flare

## Age and Service

Year Built (27) 2007
Year Reconstructed (106) 0
Type of Service On (42a) 1 Highway
Under (42b) 5 Waterway
Fracture Critical Details Not Applicable

## Structure Type and Material

Curb/Sidewalk (50): Left 0 ft Right 0 ft
Bridge Median (33): 0 No median
Main Span Material (43A): 6 P/S Conc Continuous
Appr Span Material (44A): Not Applicable (P)
Main Span Design (43B): 02 Stringer/Girder
Appr Span Design (44B): Not Applicable (P)

## Deck Type and Material

Deck Width (52): 43.1
Skew (34): 0
Deck Type (107): 1 Concrete-Cast-in-Place
Surface (108): 0 None
Membrane: 0 None
Deck Protection: None

# Appraisal

## Structure Appraisal

Open/Posted/Closed (41) A Open, no restriction
Deck Geometry (68) 5 Above Tolerable
Underclearances (69) N Not applicable (NBI)
Approach Alignment (72) 9-No Speed Red No Curve
Bridge Railings (36a) 1 Meets Standards
Transitions (36b) 1 Meets Standards
Approach Guardrail (36c) 1 Meets Standards
Approach Guardrail ends (36d) 1 Meets Standards
Scour Critical (113) 8 Stable Above Footing

## Navigation Data

Navigation Control (38) Permit Required
Nav Vertical Clr (39) 70 ft
Nav Horizontal Clr (40) 111.2 ft
Min Vert Lift Clr (116) 0 ft
Pier Protection (111) 2 In-Place, Functioning

## NBI Condition Rating

Sufficiency Rating 79
Health Index 98.94
Structural Eval (67) 7 Above Min Criteria
Deficiency Not Deficient

## Minimum Vertical Clearance

Over Structure (53) 99.99 ft
Under (reference) (54a) N Feature not hwy or RR
Under (54b) 0 ft

## Minimum Lateral Underclearance

Reference (55a) N Feature not hwy or RR
Right Side (55b) 0 ft
Left Side (56) 0 ft

## Load Rating

Design Load (31) HL 93
Rating Date 8/8/2007 Initials RS
Posting (70) 5 At/Above Legal Loads

Operating Type (63) 3 LRFR Load & Res. Fact
Operating rating (64) 60.9 tons Alternate -1
Inventory Type (65) 3 LRFR Load & Res. Fact
Inventory Rating (66) 47.7 tons Alternate -1
Alt Meth -1

# Schedule

## Current Inspection

Inspection Date: 11/18/2011
Inspector: KNVOLSE-P - Steve Eorgan
Bridge Group: BD523
Primary Type: Regular NBI
Review Required: ☒

## Next Inspection Date Scheduled

NBI: 11/18/2013
Element: 11/18/2013
Fracture Critical:
Underwater: 11/18/2013
Other/Special:

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## Schedule Cont.

**Inspection Types Performed** NBI ☒ Element ☒ Fracture Critical ☐ Underwater ☒ Other Special ☐

| Inspection Intervals | Required (92) | Frequency (92) | Last Date (93) |
|---|---|---|---|
| Fracture Critical | ☐ | mos | |
| Underwater | ☒ | 24 mos | 10/24/2011 |
| Other Special | ☐ | mos | |
| NBI | | 24 mos (91) | 11/18/2011 (90) |

**Inspection Resources**

| | |
|---|---|
| Crew Hours | 20 |
| Flagger Hours | 8 |
| Helper Hours | 0 |
| Snooper Hours | 6 |
| Special Crew Hours | 18 |
| Special Equip Hours | 0 |

## Custom

### General Bridge Information

| | |
|---|---|
| Parallel Bridge Seq | 0000 |
| Channel Depth | 26.499 ft |
| Radio Frequency | -1 |
| Phone Number | (000) 000-0000 |
| Exception Date | |
| Exception Type | Unknown |
| Accepted By Maint | 00/00/0000 |
| Warranty Expiration | 00/00/0000 |
| Bridge Rail 1 | Steel barrier |
| Bridge Rail 2 | Not applicable-No rail |
| Electrical Devices | Navigation lights only |
| Culvert Type | Not applicable |
| Maintenance Yard | 0 |
| FIHS ON / OFF | No Routes on FIHS |
| Previous Structure | 124043 |
| 2nd Previous Structure | |
| Replacement Structure | |

### Bridge Load Rating Information

| | |
|---|---|
| HS20 Govr. Span Length | 144 ft |
| L-Rating Origination | Design Plans |
| Load Rating Date | 08/08/2007 |
| Method Calculation | AASHTO formula |
| Load Dist. Factor | 0.982 |
| Impact Factor | 1 |
| Design Method | LRFD (Load & Res Factor) |
| Design Measure | English |
| Recommend SU Posting | 99 tons |
| Recommend C Posting | 99 tons |
| Recommend ST Posting | 99 tons |
| Gov FB Span | 0 ft |
| Gov FB Spacing | 0 ft |
| FB HS20 Rating | 0 tons |
| FB SU4 Rating | 0 tons |
| FB Present | N |
| FB INV Rating Factor | 0 |
| FB OPR Rating Factor | 0 |
| FB FL 120 | 0 tons |
| Single Unit Truck 2 Axles | -1 tons |
| Single Unit Truck 3 Axles | -1 tons |
| Single Unit Truck 4 Axles | -1 tons |
| Combination Unit Truck 3 Axles | -1 tons |
| Combination Unit Truck 4 Axles | -1 tons |
| Combination Unit Truck 5 Axles | -1 tons |
| Truck Trailer 5 Axles | -1 tons |
| Posting Weight | 99 tons |
| Actual SU Posting | 99 tons |
| Actual C Posting | 99 tons |
| Actual ST Posting | 99 tons |
| FL 120 Long Gov Span | 110 tons |
| FL 120 Trans | -1 tons |
| Single Axle Trans | -1 tons |
| Tandem Axle Trans | -1 tons |
| Wing Span | -1 ft |
| Web to Web Span | -1 ft |
| HS20 OPR Rating Max Span | -1 tons |
| FL120 Long Max Span | 110 tons |

### Bridge Scour and Storm Information

| | |
|---|---|
| Pile Driving Record | All pile driving records |
| Foundation Type | Foundation details |
| Mode of Flow | Tidal |
| Rating Scour Eval | Low Risk - High |
| Highest Scour Eval | No phase completed |
| Scour Recommended I | No recommendation |
| Scour Recommended II | No recommendation |
| Scour Recommended III | No recommendation |
| Scour Elevation | 999 ft |
| Action Elevation | 999 ft |
| Storm Frequency | 100 |

## Condition

### NBI Rating

| | |
|---|---|
| Channel (61) | 7 Minor Damage |
| Deck (58) | 8 Very Good |
| Superstructure (59) | 7 Good |
| Substructure (60) | 7 Good |
| Culvert (62) | N N/A (NBI) |
| Waterway (71) | 8 Equal Desirable |
| Unrepaired Spalls | -1 sq.ft. |
| Review Required | ☒ |

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**Elements**

**Inspection Date: 11/18/2011WNFP**

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 12/4 | Bare Concrete Deck | 129408 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 129408 sf. |

**Notes** Note: Two 4-1/2in. diameter fiberglass conduits are attached to hangers anchored to the underside of Bay 3 in all spans. The type of hanger anchorage is unknown.

CS1: There is a light accumulation of debris in the shoulder areas.

The undersides of the overhangs have full width x up to 1/64in. wide transverse cracks, some with efflorescence.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 300/4 | Strip Seal Exp Joint | 345 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 345 lf. |

**Notes** Note: Joints are present at Abutments 1 and 22 and Piers 4, 7, 10, 13, 16 and 19.

CS1: The joints have light dirt and debris in the shoulder areas and are functioning as intended - DECREASED.

CORRECTIVE ACTION TAKEN:
Most of the dirt and debris within the joints has been removed.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 334/4 | Metal Rail Coated | 5999 | 99.9 | 6 | .1 | 0 | . | 0 | . | 0 | . | 6005 lf. |

**Notes** Note: Barriers meet NCHRP TL4 criteria and meet SIA Item #36 standards.

CS1: There are several tire marks on the barriers.

CS2: There are several areas of impact scrapes to the left bridge rail up to 8ft long at the following locations - NEW. Refer to Photo 1. REPAIR ALL

Span 4, near Pier 5
Span 5, at 1/2 and 3/4 points
Span 6, at 1/4, 1/2 and 3/4 points
Span 12, near Pier 12
Span 13, at 1/4 point
Span 14, near Pier 15
Span 16, near at Pier 17
Span 18, at 1/2 point

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 109/4 | P/S Conc Open Girder | 12006 | 99.97 | 4 | . | 0 | . | 0 | . | 0 | . | 12010 lf. |

**Notes** CS1: The beams have diagonal web cracks up to 4ft. long x typically less than 1/64in. wide at the bearing areas, extending up and away from the supports.

The east face of the bottom flange of Beam 14-4 has a 20in. long x 1/64in. wide vertical/diagonal crack over the bearing at Pier 14. Beam 16-4 at Pier 16 has similar cracking - INCREASE.

The left top flange of Beam 17-4 has longitudinal hairline cracking, some with efflorescence, up to 1/64in. wide near Pier 18.

CS2: There are minor spalls with no exposed steel in the bottom flanges of the following beams:
Beam 15-1, east face 7-1/2ft. from Pier 16, 6in. x 2in. x 1/2in.
Beam 15-3, east face at 25-1/2ft. from Pier 16, 4in. x 4in. x 1in.
Beam 15-4, west face 60ft. from Pier 15, 16in. x 4in. x 1in.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 397/4 | Drain. Syst Metal | 19 | 95. | 1 | 5. | 0 | . | 0 | . | 0 | . | 20 ea. |

**Notes** CS2: The anchor hardware for the scupper down pipe attached to the inside face of Beam 8-1 at the 2/3 point is loose - NEW. Refer to Photo 2. REPAIR

CORRECTIVE ACTION TAKEN:
The scupper down pipes have been properly shimmed.

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**Elements**

**Inspection Date: 11/18/2011WNFP**

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 310/4 | Elastomeric Bearing | 168 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 168 ea. |

**Notes**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 563/4 | Acc Ladd & Plat | 16 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 16 ea. |

**Notes** Note: The quantity includes eight ladders and eight platforms including the two fender access walkways.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 580/4 | Navigational Lights | 0 | . | 1 | 100. | 0 | . | 0 | . | 0 | . | 1 ea. |

**Notes** Note: The element includes six fender lights, two clearance at centerline of channel gauge lights and two swing lights at centerline of channel attached to the deck fascias with unknown anchors. Refer to Photo 3.

CS2: The hinges for top access cover on the southeast and northwest fender lights are broken - NEW. Refer to Photo 4. REPAIR

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 205/4 | R/Conc Column | 40 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 40 ea. |

**Notes**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 207/4 | P/S Conc Holl Pile | 220 | 98.21 | 4 | 1.79 | 0 | . | 0 | . | 0 | . | 224 ea. |

**Notes** Note: Quantity field verified by underwater inspectors.

The following was noted by the underwater inspectors;
CS2: The northesast corner of Pile 10-13 has a 7ft6in x 18in x 2in spall with no exposed steel 11ft below the footing.
The northeast corner of Pile 4-1 has a 16in. x 6in. x 2in. spall with no exposed steel, 5ft. below the footing.
The northwest corner of Pile 11-17 has a 5ft. 6in. x 10in. x 2in. spall with no exposed steel, just below the footing.
The northeast corner of Pile 17-10 has a 13ft. x 12in. x 3in. spall with no exposed steel, 24in. below the footing.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 215/4 | R/Conc Abutment | 70 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 70 lf. |

**Notes** CS1: There is minor horizontal cracking to the top outside faces of both cheek walls at the cold joint of Abutment 1 - NEW.

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**Elements**

**Inspection Date: 11/18/2011WNFP**

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 220/4 | R/C Sub Pile Cap/Ftg | 8 | 47.06 | 9 | 52.94 | 0 | . | 0 | . | 0 | . | 17 ea. |

**Notes** NOTE: Quantity change due to footings 19, 20 and 21 no longer being exposed.

CS1: The following was noted by the underwater inspection:
There are several corner scrapes up to 6in H x 5ft W x 3/4in D.
The footing have concrete formed sides that have vertical cracks with no corrosion bleedout up to 1/16in wide x full height. Several cracks have efflorescence.

CS2: The top northwest corner of footing 4 has a 24in x 12in x 2in spall with no exposed steel.

The top east corner of footing 9 near center point has a 30in x 9in x 2in spall with no exposed steel (Previously noted as a delamination).

The top northeast corner of footing 10 has a spall with no exposed steel 24in x 8in x 1in previously noted as a spall/delamination on the northwest corner of footing 10.

The top northeast corner of footing 16 has a spall with no exposed steel 15in x 12in x 1in. Previously noted as a spall/delamination on the northwest corner.

The following was noted by the underwater inspection:
Footing 5, southeast corner 18in below top of footing - spall with no exposed steel, 9in H x 9in W x 2in D - NEW.
Footing 8, southeast corner 10in below top of footing - spall with no exposed steel, 12in H x 6in W x 2in D - NEW.
Footing 10, northeast corner at top of footing - intermittent spall with no exposed steel, 28in H x 9in W x 2in D - NEW.
Footing 12, southwest corner 20in below top of footing, spall with no exposed steel, 6in x H 8in W x 2-1/2in D.
Footing 13, southeast corner 15in below top of footing, spall with no exposed steel, 12in H x 6in W x 1in D.
Footing 17, northeast and southeast corners 20in below top footing, spall with no exposed steel, 12in H x 12in W x 2in D.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 234/4 | R/Conc Cap | 862 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 862 lf. |

**Notes**

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 298/4 | Pile Jacket Bare | 2 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 2 ea. |

**Notes** NOTE: This element is for the Pile Jackets installed on Piling 11-8 and 11-15.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 387/4 | P/S Fender/Dolphin | 588 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 588 lf. |

**Notes** Note: The quantity includes the three rectangular dolphins at the southeast corner of the fender and the three rectangular dolphins at the northwest corner of the fender.

CS3: The south fender starting at the 1st single plumb pile (12th cluster) from the west for the next 13 piles (55ft long), the steel driving tips are exposed up to 30in to 3ft height - NEW. Refer to Photo 5 and Diagram 1. REPAIR

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 396/4 | Other Abut Slope Pro | 2404 | 96.16 | 12 | .48 | 84 | 3.36 | 0 | . | 0 | . | 2500 sf. |

**Notes** Note: This element includes rock rubble rip rap and concrete block mats.

CS1: The rock inside the concrete block mats has settled up to 6in in several location - NEW.

CS2: There are 6 displaced concrete rip rap bags on the south slope protection under the structure.

CS3: The rock inside the concrete block mat on the north slope protection 8ft adjacent to the seawall cap has settled up to 16in and has undermined the slope in a 4ft x 3ft area - NEW. Refer to Photo 6. REPAIR

There is a 20ft x 4ft x 1ft of settlement to the concrete block mat on the southwest corner of footing 18 - NEW. Refer to Photo 7. REPAIR

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**Elements**

**Inspection Date: 11/18/2011WNFP**

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 290/4 | Channel | 0 | . | 1 | 100. | 0 | . | 0 | . | 0 | . | 1 ea. |

**Notes** Note: The bulkheads were evaluated under this element as channel bank protection.

CS2: Some channel measurements have a 3ft. or greater change since the previous inspection. Reason for change may be due to the strong current altering the channel bottom.

The following was noted by the underwater inspectors:
There is scattered timber debris from the previous fender system along the new fender system.
At Bents 4 through 17, the groundline slopes upward up to 4ft. going away from the piling, on one or more sides. Several piling have minimal marine growth on the lower 4in. to 6in. - INCREASE.

CORRECTIVE ACTION TAKEN:
The north channel bulkhead cap has been repaired.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 321/4 | R/Conc Approach Slab | 2 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 2 ea. |

**Notes** Note: The approach slabs are not visible due to an overlay of asphalt.

| Span Id | Elem/Env | Description | Qty1 | %1 | Qty2 | %2 | Qty3 | %3 | Qty4 | %4 | Qty5 | %5 | T Qty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structur | 478/4 | MSE Walls | 120 | 100. | 0 | . | 0 | . | 0 | . | 0 | . | 120 lf. |

**Notes** Note: The MSE walls were measured back 30ft. at each corner of the structure.

**Total Number of Elements:** 19

## Inspection Information

**Inspection Date:** 11.18.2011 **Type:** Regular NBI

**Inspector:** KNVOLSE-P - Steve Eorgan

**Inspection Notes:** Sufficiency Rating Calculation Accepted by KNVOLFA-P at 2011-12-06 13:52:56

LOAD CAPACITY EVALUATION:
The findings of this inspection reveal no reason to warrant a new analysis; therefore, the current load rating dated 8/8/07 results still govern.

Note: Element 298, Pile Jacket Bare, has been added to this report.

## Structure Notes

BRIDGE OWNER: LEE COUNTY

TRAFFIC RESTRICTION: Based on the load rating analysis dated 8/8/07, the structure does not require posting. This structure is not posted.

Structure was inventoried from south to north on a west to east leg of a south to north roadway. Direction of stationing is used to describe deficiency locations (left is west).

This structure replaces bascule Bridge No. 124043.

Access to the bridge underside requires a boat with a 60ft. lift or an under bridge inspection vehicle with a lane shift traffic control setup.

Power boat used for groundline measurements and substructure inspection.

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**FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM**

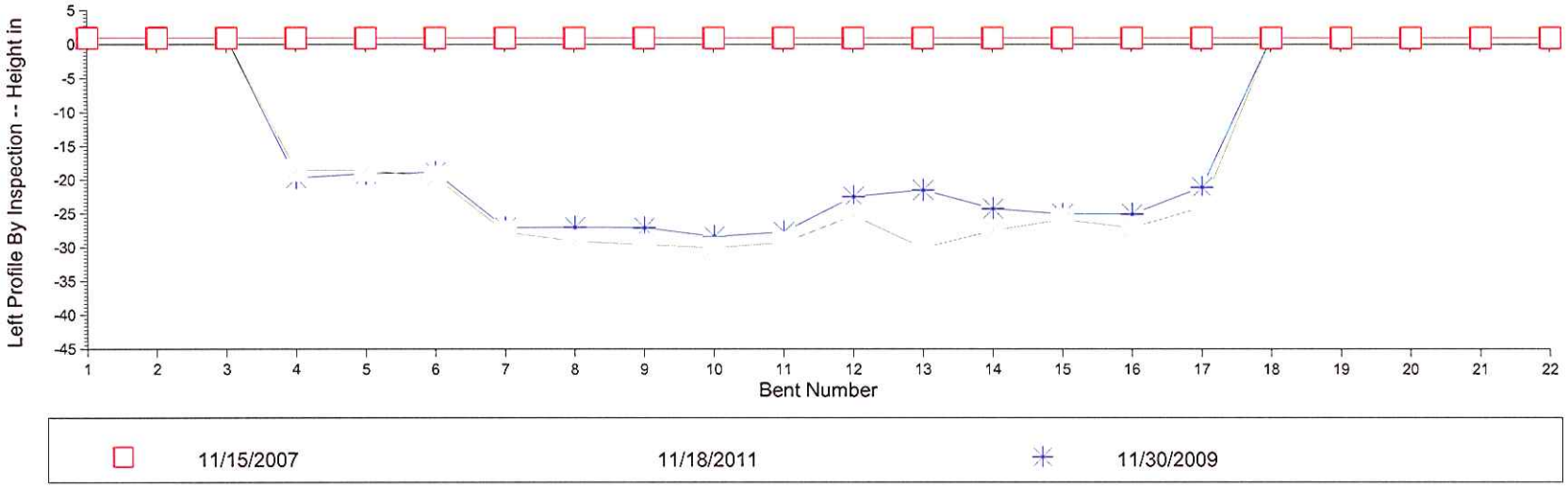
**Bridge Profile Report**

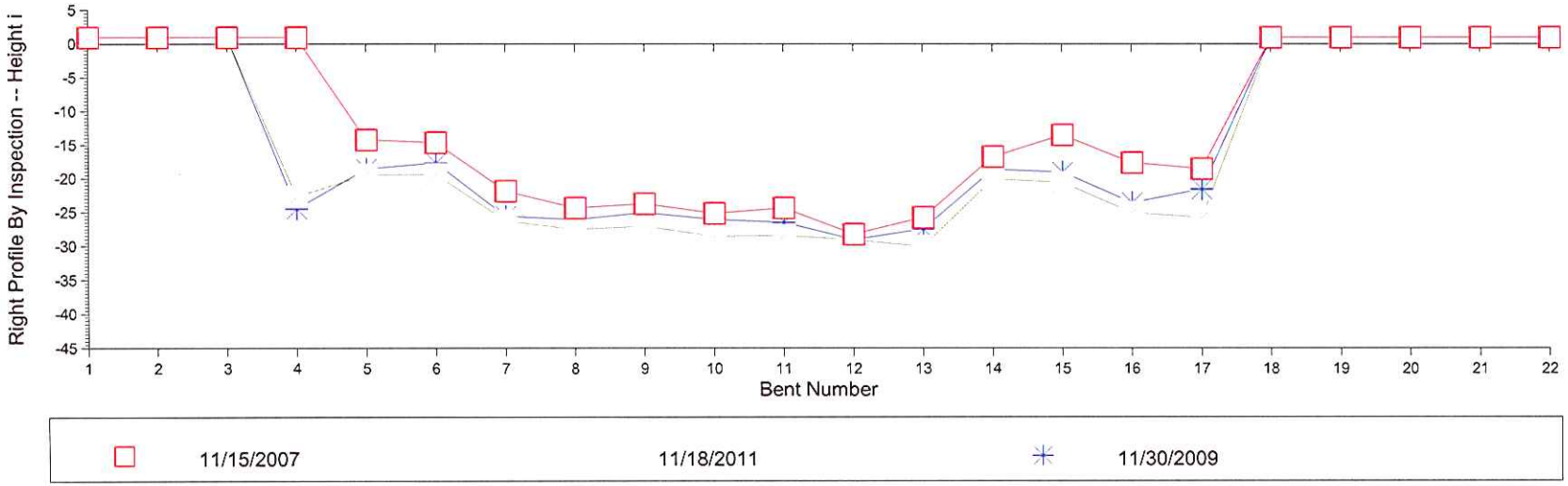
**REPORT ID: INVT016**

**Structure #: 124116**

**DATE PRINTED:** 12/28/2011





## Profile Data - Numerical Summary

**Inspection Date and Key:** 11/18/2011 WNFP

| Bent # | Left Height | Right Height |
|---|---|---|
| 1 | -1 | -1 |
| 2 | -1 | -1 |
| 3 | -1 | -1 |
| 4 | 18.5 | 22.6 |
| 5 | 18.5 | 19.4 |
| 6 | 19.5 | 19.3 |
| 7 | 27.6 | 26.2 |
| 8 | 29 | 27.5 |
| 9 | 29.5 | 27 |
| 10 | 30 | 28.5 |
| 11 | 29.2 | 28.4 |
| 12 | 25.2 | 29 |
| 13 | 30 | 30 |
| 14 | 27.4 | 20 |
| 15 | 25.8 | 20.5 |
| 16 | 27 | 25 |
| 17 | 24 | 25.7 |
| 18 | -1 | -1 |
| 19 | -1 | -1 |
| 20 | -1 | -1 |
| 21 | -1 | -1 |
| 22 | -1 | -1 |

(All Heights Are In Feet)

**Air Temp:**

**Profile Notes:**

Measurements referenced from the top of the footing.
Waterline at top of footing 4 = 4ft.
Note: Bents 1 to 3 and 18 to 22 are on dry land.

**Inspection Date and Key:** 11/30/2009 ESCS

| Bent # | Left Height | Right Height |
|---|---|---|
| 1 | -1 | -1 |
| 2 | -1 | -1 |
| 3 | -1 | -1 |
| 4 | 19.6 | 24.4 |

## Profile Data - Numerical Summary

**Inspection Date and Key:** 11/30/2009 ESCS

| Bent # | Left Height | Right Height |
|---|---|---|
| 5 | 19 | 18.5 |
| 6 | 18.8 | 17.6 |
| 7 | 27 | 25.5 |
| 8 | 26.9 | 26 |
| 9 | 27 | 25 |
| 10 | 28.3 | 26 |
| 11 | 27.6 | 26.4 |
| 12 | 22.4 | 29 |
| 13 | 21.4 | 27.4 |
| 14 | 24.2 | 18.6 |
| 15 | 25 | 19 |
| 16 | 25 | 23.5 |
| 17 | 21 | 21.5 |
| 18 | -1 | -1 |
| 19 | -1 | -1 |
| 20 | -1 | -1 |
| 21 | -1 | -1 |
| 22 | -1 | -1 |

(All Heights Are In Feet)

**Air Temp:** 1

**Profile Notes:**

Measurements referenced from the top of the footers.
Waterline = 2.5ft.
Note: A value of -1 indicates that location was out of the water during this inspection.

**Inspection Date and Key:** 11/15/2007 GPFO

| Bent # | Left Height | Right Height |
|---|---|---|
| 1 | -1 | -1 |
| 2 | -1 | -1 |
| 3 | -1 | -1 |
| 4 | -1 | -1 |
| 5 | -1 | 14.2 |
| 6 | -1 | 14.6 |
| 7 | -1 | 21.8 |
| 8 | -1 | 24.3 |

## Profile Data - Numerical Summary

**Inspection Date and Key:** 11/15/2007 GPFO

| Bent # | Left Height | Right Height |
|---|---|---|
| 9 | -1 | 23.7 |
| 10 | -1 | 25.1 |
| 11 | -1 | 24.3 |
| 12 | -1 | 28.2 |
| 13 | -1 | 25.7 |
| 14 | -1 | 16.7 |
| 15 | -1 | 13.5 |
| 16 | -1 | 17.6 |
| 17 | -1 | 18.5 |
| 18 | -1 | -1 |
| 19 | -1 | -1 |
| 20 | -1 | -1 |
| 21 | -1 | -1 |
| 22 | -1 | -1 |

(All Heights Are In Feet)

**Air Temp:**

**Profile Notes:**

Measurements referenced to top of pier 4 footer.
Waterline: 3.0ft

No left side measurements taken due to ongoing demolition.
Bents 1 - 4 and 18 - 22 are on dryland.

BOLT Underwater Services, Inc
7930 62ND STREET NORTH, PINELLAS PARK, FL 33781

# Routine Underwater Bridge Inspection Report for VOLKERT, INC.

NBI Structure No. (8): **124116 (Structure A / Sanibel)** Underwater Date (93): 10/24/11

**Structure/Roadway Identification:**

| | |
|---|---|
| District (2): | 01 |
| County (3): | Lee |
| Feature Intersected (6): | San Carlos Bay |
| Facility Carried (7): | CR 867 |

**Underwater Inspection Details:**

| | |
|---|---|
| Special Crew Hours: | 18.0 |
| Max. Depth: | 28ft. |
| Type of Dive Insp.: | SCUBA |
| Type of Boat Used: | 21ft. |
| Water Type/Marine Growth: | Salt-Tidal / Barnacles - Oysters |

**Previous Inspection:**

| Lead Diver: | C.B.I. No.: | Inspection Date: |
|---|---|---|
| Hays, Stephen F. | 00438 | 10/07/2009 |

**Inspection Personnel:**

| Field Personnel: | Title | C.B.I. No.: | Duty: | Signature: |
|---|---|---|---|---|
| Hoogland, Keith S. | C.B.I. Diver-Inspector | 00341/Lead | Dive | KLN |
| Tumaniszwili, Alex P. | Diver-Inspector | | Dive | |
| Young, Ryan C. | Diver-Inspector | | Tend | |

**PILING/COLUMNS**
**ELEMENT: 207 HLW CORE** **291**: ea.

NOTE: Pile quantity was incorrect on the previous topside report, quantity was field verified.

| Condition State: | QTY: | Recommended Feasible Action: |
|---|---|---|
| CS-1 | 287 | Do Nothing |

**CS-2** **4** **Do Nothing**
Pile 4-1: Northeast corner 5ft. below footing, spall, no exposed steel, 16in. H x 6in. W x 2in. D.
Pile 10-13: Northeast corner 11ft. below footing, intermittent spall, no exposed steel, 7ft. 6in. H x 18in. W x 2in. D – *NEW.*
Pile 11-17: Northwest corner below footing, spall, no exposed steel, 5ft. 6in. H x 10in. W x 2in. D.
Pile 17-10: Northwest corner 24in. below footing, intermittent spall, no exposed steel, 13ft. H x 12in. W x 3in. D (entire pile length).

NOTE: Piles 6-1, 6-8, 6-15, 7-1, 7-2, 7-15, 11-7, 11-14, 11-20, 11-21, 13-7, 13-21, 14-5, 14-6, 14-7, 14-10, 14-11, 14-12, 14-17 through 21, 15-3, 15-4, 15-8 through 15-11 and all deficiencies were cleaned.

**SUBMERGED FOOTING**
**ELEMENT: 220 R/CONCRETE** **14**: ea.

| Condition State: | QTY: | Recommended Feasible Action: |
|---|---|---|
| CS-1 | 8 | Do Nothing |

There are several corner scrapes up to 6in. H x 5ft. W x ¾in. D.
The footing have concrete formed sides that have vertical cracks with no corrosion bleedout up to 1/16in. wide x full height. Several cracks have efflorescence.

**CS-2** **6** **Do Nothing**

| Footing | Location | Type | Comment | Size |
|---|---|---|---|---|
| 5 | Southeast corner 18in. below top of footing | Spall | No exposed steel | 9in. H x 9in. W x 2in. D - *NEW* |
| 8 | Southeast corner 10in. below top of footing | Spall | No exposed steel | 12in. H x 6in. W x 2in. D - *NEW* |
| 10 | Northeast corner at top of footing | Intermittent Spall | No exposed steel | 28in. H x 9in. W x 2in. D - *NEW* |
| 12 | Southwest corner 20in. below top of footing | Spall | No exposed steel | 6in. H x 8in. W x 2½in. D. |
| 13 | Southeast corner 15in. below top of footing | Spall | No exposed steel | 12in. H x 6in. W x 1in. D. |
| 17 | Northeast and southeast corners 20in. below top of footing | Spall | No exposed steel | 12in. H x 12in. W x 2in. D |

NOTE: Footing 4 and 6 and all deficiencies were cleaned.

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**CHANNEL**
**ELEMENT: 290** **1**: ea.

NOTE: The bulkheads were evaluated under this element as channel bank protection.

| Condition State: | QTY: | Recommended Feasible Action: |
|---|---|---|
| CS-2 | 1 | Do Nothing |

There is scattered timber debris from the previous fender system along the new fender system.

On Bents 4 through 17, the groundline slopes upward going away from the piling up to 4ft. high on one or more sides. Several piling had minimal marine growth on the bottom 4in. to 6in. – *INCREASE.*

North Seawall: 1st panel west of the angle break on the west joint, 7ft. below the cap, spall with no steel, 6ft. H x 8in. W x 4in. D (extends to the groundline) – *NEW.*

**JACKETS**
**ELEMENT: 298 PILE JACKET BARE** **2**: ea.

NOTE: Piles 11-8 and 11-15 have Jackets from the footing to the groundline approximately 5ft. in diameter due to damage during old bridge removal.

| Condition State: | QTY: | Recommended Feasible Action: |
|---|---|---|
| CS-1 | 2 | Do Nothing |

**FENDER SYSTEM**
**ELEMENT: 387 P/S CONCRETE** **588 lf.**

NOTE: Quantity includes three rectangular dolphins at the southeast corner of the fender and three rectangular dolphins at the northwest corner of the fender. The lower wales are composite.

| Condition State: | QTY: | Recommended Feasible Action: |
|---|---|---|
| CS-1 | 533 | Do Nothing |
| CS-3 | 55 | REPAIR |

The south fender starting at the 1st single plumb pile (12th cluster) from the west, for the next 13 piles (55ft. long), the steel driving tips are exposed up to 30in. to 3ft. high – *NEW.*

**INSPECTION NOTES:** Divers inspected two hundred ninety-one 30in. piling in Bents 5 through 17, eighteen 30in. concrete piling in Bent 4, Jackets, Footing, Fender System and Channel.
**STRUCTURE NOTES:** Structure inventoried south to north

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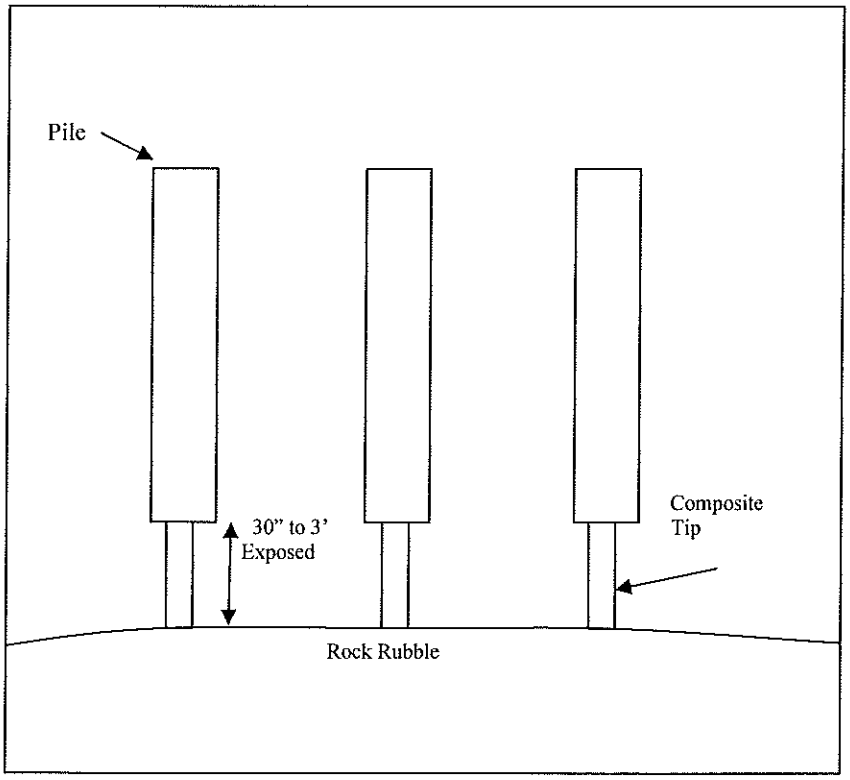
Fender Pile Sketch




Not to Scale

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