

2016 UNDERWATER BRIDGE INSPECTION REPORT



BRIDGE # 7065 CSAH 18 over GARDEN LAKE

DISTRICT: District 1

COUNTY: Lake

CITY/TOWNSHIP: FALL LAKE

STATE: Minnesota

Date of Inspection: 06/21/2016

Equipment Used:

Owner: County Highway Agency

Inspected By: Janulis, Lukas

Report Written By: Lukas Janulis

Report Reviewed By:

Final Report Date:



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UNDERWATER INSPECTION

REPORT SUMMARY

The substructure units inspected at Bridge No. 7065, the East and West Abutments and Piers 1 and 2, were found to be generally in good condition. The few concrete defects observed at the substructure, including scaling and section loss, have not progressed noticeably since the last inspection and are not structurally significant at this time. A minor scour depression, 5 feet in radius with a 1 foot depth, was observed at the upstream column of Pier 1. Overall, the channel bottom at the bridge appeared stable with no significant changes since the last underwater inspection.

INSPECTION FINDINGS

(A) The channel bottom material consisted of sandy gravel typically allowing 2 inches of probe rod penetration with scattered 1 to 3 foot diameter riprap and 6 inch diameter cobbles.

(B) An area of minor section loss, 12 inches high by 6 inches wide with 2 inches maximum penetration, was observed at the upstream nose of the downstream column of Pier 1 with no exposed reinforcing steel observed.

(C) The top of a horizontal strut was observed approximately 5.5 feet below the waterline. The channel bottom was generally flush with the bottom of the horizontal strut on both the east and west side of the pier.

(D) Several scattered 1 foot diameter logs were observed on the channel bottom around Pier 1, with one extending across the upstream column of the pier. Other 6 inch diameter and smaller drift was also scattered around the pier.

(E) The concrete surfaces on both piers from 6 inches above to 3 feet below the waterline exhibited up to 1/4 inch deep scaling with exposed aggregate.

(F) At approximately 8 feet below the waterline at the center of the horizontal strut of Pier 1, a steel I-beam was observed extending out 5 feet on each side of the strut.

(G) A minor scour depression, 5 feet in radius by 1 foot deep, was observed at the upstream column of Pier 1.

(H) A heavy concentration of up to 4 foot diameter riprap was observed along the easterly side of the upstream column of Pier 2.

(I) 1/4 inch to 1/2 inch deep scaling was observed at the West and East abutments extending from the waterline to the channel bottom.

RECOMMENDATIONS

(A) Reinspect the submerged substructure units at the normal maximum recommended (NBIS) interval of sixty (60) months.

Contractor: Collins Engineers, Inc.

Contractor Job Number: 9687

UNDERWATER INSPECTION

1. BRIDGE DATA

Bridge #: 7065
Feature Intersected: GARDEN LAKE
Facility Carried: CSAH 18
District: District 1
County: 038 - Lake

Bridge Description:

The superstructure consists of a three span, multiple steel girder bridge supporting a reinforced concrete deck. The superstructure is supported by two reinforced concrete abutments and two reinforced concrete piers. The pier and abutment footings are founded on steel H-piles. The piers are numbered 1 and 2, starting from the west end of the bridge.

2. INSPECTION DATA

Professional Engineer/Team Leader: Lukas Janulis
Inspection Diver: Lukas Janulis
Date of Underwater Inspection: 06/21/2016
Weather Conditions: Sunny, 75°F
Underwater Visibility (feet): 3.0 feet
Waterway Velocity (ft/sec): 1 ft/sec

3. SUBSTRUCTURE INSPECTION DATA

Substructure(s) Inspected: East and West Abutments and Piers 1 and 2.

General Shape:

The piers consist of two elongated hexagonal shafts / columns supporting a rectangular pier cap. Each pier shaft is supported on a rectangular footing founded on steel H-piles. The pier shafts are connected by a concrete diaphragm located above the footings. The abutments consist of vertical walls with perpendicular wingwalls.

Maximum Water Depth at Substructure(s) Inspected (feet): 10.5 feet

4. WATERLINE DATUM

Water Level Reference: Below the top of the cap at the south end of Pier 1.
Waterline Elevation (feet): 1388.2 feet
Description: The waterline was located approximately 6.4 feet below the reference.

5. NBIS CODING INFORMATION

(Minnesota specific codes are used for 92B and 113)

Item 60: Substructure: Code: 7
Item 61: Channel and Channel Protection: Code: 8
Item 62: Culvert: Code:
Item 92B: Underwater Inspection: Code: Y 48 06/2016

Item 113: Scour Critical Bridge:

Code: R

Bridge is scour critical because abutment or pier foundation is rated as unstable due to observed scour at bridge site.

Yes No (Mark your selection with an X)

6. STRUCTURAL ELEMENT CONDITION RATING

ELEM #	Element Description	Quantity	Unit	Conditions			
				CS1	CS2	CS3	CS4
205	Reinforced Concrete Column	4	EA		4		
215	Reinforced Concrete Abutment	96	LF	96			
885	Scour	1	EA	1			

UNDERWATER INSPECTION

INSPECTION PROCEDURES

The routine underwater inspection of Bridge 7065 (CSAH 18 over Garden Lake) was completed on June 21, 2016. The underwater inspection was conducted from shore. The inspection was conducted by a team consisting of a Professional Engineer Diver with a valid MnDOT Team Leader certification, a backup diver and dive tender. The inspection utilized commercial dive equipment and techniques in accordance with OSHA regulations. Channel bottom profiles were taken along the upstream and downstream faces of the bridge and around the periphery of substructure units to determine the presence, location and area of scour.

The bridge elements inspected consisted of two concrete piers and two concrete abutments. According to the bridge inventory, the shafts/columns of Piers 1 and 2 are founded on steel H-piles supporting a rectangular concrete cap. The East and West Abutments are founded on concrete footings supported by steel H-piles. Inspection procedures followed FHWA guidance and the MnDOT Bridge and Structure Inspection Program Manual with channel bottom probing to search for foundations. The maximum routine underwater inspection frequency is recommended to remain at 60 months based on those findings and risk factors. Also, inspection procedures should continue to follow the above approach and standard guidance with 100% Level I and 10% Level II intensity efforts.

Minnesota Structure Inventory Report

Bridge ID: 7065

CSAH 18 over GARDEN LAKE

Date: 09/08/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +																				
Agency Br. No. Crew District 01 Maint. Area County 038 - Lake City Township 38003 - FALL LAKE Desc. Loc. 0.3 MI E OF JCT TH 169 Sect., Twp., Range 20 - 063N - 11W Latitude 47 ° 55 ' 43.36 " Longitude 91 ° 45 ' 37.74 " Custodian 02 - County Highway Agency Owner 02 - County Highway Agency BMU Agreement Year Built 1952 MN Year Reconstructed FHWA Year Reconstructed MN Temporary Status Bridge Plan Location 3 - COUNTY Date Opened to Traffic On - Off System 1 - ON Legislative District 06A Potential ABC 2 - N/A	Bridge Match ID (TIS) 0 Roadway O/U Key Route On Structure Route Sys 04 - CSAH Number 18 Roadway Name or Description CSAH 18 Level of Service 1 - MAINLINE Roadway Type 2 - 2-way traffic Control Section (TH Only) Reference Point 000+00.310 Detour Length 99.0 mi. Lanes ON 2 UNDER 0 ADT 671 YEAR 2008 HCA DT ADTT % Functional Class 07 - Rural - Major Collector	Userkey 78 Structurally Deficient N Functionally Obsolete N Sufficiency Rating 57.7 Routine Inspection Date 05/20/2015 Routine Inspection Frequency 24 Inspector Name Janulis, Lukas Status A - Open																				
		+ NBI CONDITION RATINGS +																				
		Deck 7 Unsound Deck % Superstructure 5 Substructure 7 Channel 8 Culvert N																				
	+ RDWY DIMENSIONS +	+ NBI APPRAISAL RATINGS +																				
	If Divided NB-EB SB-WB Roadway Width 24.00 ft. ft. Vertical Clearance ft. ft. Max. Vert. Clear. ft. ft. Horizontal Clear. ft. ft. Lateral Clearance ft. ft. Appr. Surface Width 28.0 ft. Bridge Roadway Width 24.0 ft. Median Width On Bridge ft.	Structure Evaluation 5 Deck Geometry 4 Underclearances N Waterway Adequacy 8 Approach Alignment 8																				
+ STRUCTURE +	+ MISC. BRIDGE DATA +	+ SAFETY FEATURES +																				
Service On 1 - Highway Service Under 5 - Waterway Main Span Type 4 - Steel Continuous Main Span Design 01 - Beam Span Main Span Detail Appr. Span Type 1 - Concrete Appr. Span Design 09 - Slab Span Appr. Span Detail Skew 0 Culvert Type Barrel Length Cantilever ID Number of Spans MAIN: 3 APPR: 2 TOTAL: Main Span Length 90.0 ft. Structure Length 284.0 ft. Deck Width (Out-to-Out) 28.7 ft. Deck Material 1 - Concrete Cast-in-Place Wear Surf Type 1 - Monolithic Concrete Wear Surf Install Year Wear Course/Fill Depth 0.00 ft. Deck Membrane 0 - None Deck Rebars 0 - None Deck Rebars Install Year Structure Area (Out-to-Out) 8151 sq. ft. Roadway Area (Curb-to-Curb) 6814 sq. ft. Sidewalk Width 50A. Lt 0.00 ft. 50B. Rt 0.00 ft. Curb Height Lt 0.75 ft. Rt 0.75 ft. Rail Type Lt 31 Rt 31	Structure Flared 0 - No flare Parallel Structure N - No parallel structure Field Conn. ID 2 - Riveted Abutment Foundation (Material/Type) 3 - FTG PILE Pier Foundation (Material/Type) 3 - FTG PILE Historic Status 5 - Not eligible	Bridge Railing 0 - SUBSTANDARD GR Transition 0 - SUBSTANDARD Appr. Guardrail 0 - SUBSTANDARD GR Termini 0 - SUBSTANDARD																				
	+ PAINT +	+ IN DEPTH INSP. +																				
	Year Painted 1952 Unsound Paint % Painted Area sq. ft. Primer Type 1 - Lead - non 3309 Finish Type F - Phenolic Resin Alum	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Y/N</th> <th style="text-align: center;">Freq</th> <th style="text-align: center;">Date</th> </tr> </thead> <tbody> <tr> <td>Frac. Critical</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Underwater</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">60</td> <td style="text-align: center;">06/21/2016</td> </tr> <tr> <td>Pinned Asbly.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Spec. Feat.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Y/N	Freq	Date	Frac. Critical				Underwater	Y	60	06/21/2016	Pinned Asbly.				Spec. Feat.			
	Y/N	Freq	Date																			
Frac. Critical																						
Underwater	Y	60	06/21/2016																			
Pinned Asbly.																						
Spec. Feat.																						
	+ BRIDGE SIGNS +	+ WATERWAY +																				
	Posted Load 0 - Not Required Traffic 0 - Not Required Horizontal 1 - Object Markers Vertical N - Not Applicable	Drainage Area (sq. mi.) Waterway Opening (sf.) 3825 Navigation Control 0 - No nav. control on Pier Protection - Nav. Clr. (ft.) Vert. 0.0 Horiz. 0.0 Nav. Vert. Lift Bridge Clear. (ft.) MN Scour Code R - CRIT - Year 2011																				
		+ CAPACITY RATINGS +																				
		Design Load 4 - H 20 Operating Rating 1 - H TRUCK 32.3 Inventory Rating 1 - H TRUCK 20.6 Posting VEH: SEMI: DBL: Rating Date 9/1/1973 Overweight Permit Codes A N - N/A B N - N/A C N - N/A																				

MINNESOTA BRIDGE INSPECTION REPORT

10/24/2016

Inspector: CO Bridge

BRIDGE 7065 CSAH 18 OVER GARDEN LAKE

County: Lake	Location: 0.3 MI E OF JCT TH 169	Length: 284.0 ft.
City:	Route: 04 - CSAH 18 Ref. Pt.: 000+00.310	Deck Width: 28.7 ft.
Township: 38003 - FALL LAKE	Control Section:	Rdwy. Area/ Pct. Unsnd: 6814 sq. ft. / %
Section: 20 Township: 063N Range: 11W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 4 - Steel Continuous 2 - List: Stringer/Multi-beam or Girder	Local Agency Bridge Nbr.:	Culvert: N/A
NBI Deck: 7 Super: 5 Sub: 7 Chan: 8 Culv: N		Postings:
	Open, Posted, Closed: A - Open	
	MN Scour Code: R - CRIT - MONITOR	

Appraisal Ratings - Approach: 8 Waterway: 8		Unofficial Structurally Deficient N
Required Bridge Signs - Load Posting: 0 - Not Required	Traffic: 0 - Not Required	Unofficial Functionally Obsolete N
Horizontal: 1 - Object Markers	Vertical: N - Not Applicable	Unofficial Sufficiency Rating 57.7

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	Reinforced Concrete Deck	Underwater	09/08/2016	8151 SF	8151	0	0	0
		Migrated Values		8151 SF	8151	0	0	0
Notes: Top of Concrete Deck with Uncoated Rebar Notes: [2016] Migrator assumed CS1.								
510 - Wearing Surfaces		Underwater	09/08/2016	6814 SF	6814	0	0	0
		Migrated Values		6814 SF	6814	0	0	0
Notes: Top of Concrete Deck with Uncoated Rebar Notes: Overlaid in 1999.								
107	Steel Open Girder/Beam	Underwater	09/08/2016	1135 LF	0	1135	0	0
		Migrated Values		1135 LF	0	1135	0	0
Notes: 2007 Minor paint failure along fascia beams. Two beams CS3 at bearings for 5 lin ft.								
515 - Steel Protective Coating		Underwater	09/08/2016	999 SF	0	0	955	44
		Migrated Values		999 SF	0	0	955	44
Notes: [2016] Migrator assumed quantity of 999 SF and estimated the condition states.								
205	Reinforced Concrete Column	Underwater	09/08/2016	4 EA	0	4	0	0
		Migrated Values		4 EA	4	0	0	0
Notes:								
215	Reinforced Concrete Abutment	Underwater	09/08/2016	96 LF	96	0	0	0
		Migrated Values		96 LF	96	0	0	0
Notes: [2016] Migrator added 40 LF to abutment quantity to account for wingwalls (CS1:40 CS2:0 CS3:0 CS4:0).								
Wingwall notes:								
234	Reinforced Concrete Pier Cap	Underwater	09/08/2016	56 LF	56	0	0	0
		Migrated Values		56 LF	56	0	0	0
Notes:								
300	Strip Seal Expansion Joint	Underwater	09/08/2016	49 LF	0	24	0	25
		Migrated Values		49 LF	0	24	0	25
Notes: Significant leakage at end joints varying from CS2 to CS3.								
311	Movable Bearing	Underwater	09/08/2016	15 EA	5	2	0	8
		Migrated Values		15 EA	5	2	0	8
Notes: Eight bearings seem not functioning.								

BRIDGE 7065 CSAH 18 OVER GARDEN LAKE

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
313	Fixed Bearing	Underwater	09/08/2016	5 EA	5	0	0	0
		Migrated Values		5 EA	5	0	0	0
Notes:								
331	Reinforced Concrete Bridge Railing	Underwater	09/08/2016	568 LF	0	568	0	0
		Migrated Values		568 LF	0	568	0	0
Notes: Minor popouts along length of railing.								
800	Critical Deficiencies or Safety Hazards	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: NO CRITICAL FINDINGS OBSERVED DURING THE LAST INSPECTION.								
822	Bituminous Approach Roadway	Underwater	09/08/2016	2 EA	2	0	0	0
		Migrated Values		2 EA	2	0	0	0
Notes: Will be resurfaced in June 2015.								
883	Concrete Shear Cracking	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Use this element to monitor the presence of shear cracking on concrete elements. Pay particular attention to the concrete pier caps.								
885	Scour	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: R - Scour critical. Monitoring required.								
891	Other Bridge Signing	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes:								
892	Slopes & Slope Protection	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes:								
893	Guardrail	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes:								
894	Deck & Approach Drainage	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes:								
895	Sidewalk, Curb, & Median	Underwater	09/08/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes:								
900	Protected Species	Underwater	09/08/2016	1 EA	0	0	1	0
		Migrated Values		1 EA	0	0	1	0
Notes: [2016] Migrator determined the presence of bats on this structure based on comments made in the general/miscellaneous notes.								

General Notes: 2015: Preservation project planned for 2016.

No evidence of bats or nesting birds noted during this inspection.

PONTIS inspection comments - PONTIS inspection comments - 1995 #91, NEEDS REPLACEMENT. #99, SLIGHT SAGGING AT APPROACH SLABS. #181 BRIDGE END SIGN MISSING AT SW CORNER. 1996 SAME AS 1995 OTHER THAN #96 BEARINGS ON BRIDGE ENDS HAVE FAIR AMOUNT OF RUST DUE TO JOINT LEAKAGE. #182, EAST GUARD

BRIDGE 7065 CSAH 18 OVER GARDEN LAKE

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
	<p>RAILS DAMAGED. 1997 SAME AS 1996, PLUS ITEM #58 SCALING AND SOFT CONCRETE WITH TYPICAL PENETRATIONS OF 1/4" ON BOTH PIERS FROM 6" ABOVE WATERLINE TO 3" BELOW WATERLINE. ALSO A MINOR SPALL ON NORTH SHAFT OF PIER.(ACCORDING TO UNDER WATER INSPECTION 8/23/97). #96, 4 OUT OF PLACE. #181, SW SIGN GONE. #182, SE RAIL NOT REPAIRED. 1998 #112 CHANGED TO COND. 5, WAS INSPECTED BY WIDSETH, SMITH AND NOLTING. #181, SIGN REPLACED. #182, EAST GUARD RAIL ENDS BOTH HAVE PLOW DAMAGE. 1999 ITEMS #90,99,112,182 WERE REPAIRED UNDER CONTRACT SAP 38-618-20 IN 1999. 2000 NO CHANGE. DECK COULD USE CLEANING. 2002 No change. 2003 No change. 2002 underwater inspection added to paper file. 2004 bridge in good condition other than 20' of NW guard rail has collision damage and needs to be repaired. 2005 NW guardrail damage has been fixed. Only change. 2006 No change from 2005 inspection. 2007 No change, see LHB's inspection on file. 2008 No change from 2007 inspection. 2009 No change. Erickson Engineering commissioned to reengineer bearings and expansion devices. 2010 Expansion joints have failed. 2011 No change. 2012 No change. 2013 Approach on west side needs bituminous patch.</p>							
	58. Deck NBI:	Isolated patches intact under overlay. Minor cracking of overlay.						
	36A. Brdg Railings NBI:							
	36B. Transitions NBI:							
	36C. Appr Guardrail NBI:							
	36D. Appr Guardrail Terminal NBI:							
	59. Superstructure NBI:	Bearings not functioning.						
	60. Substructure NBI:							
	61. Channel NBI:	[2016] Minor timber debris around Pier 1. No erosion. Well-vegetated. No noteworthy deficiencies.						
	62. Culvert NBI:							
	71. Waterway Adeq NBI:	Greater than 3 ft freeboard.						
	72. Appr Roadway Alignment NBI:	No speed reduction required.						
	Inventory Notes:							

 Inspector's Signature

 Reviewer's Signature

Pictures



Photo 1 - Upstream Fascia, Looking Northeast



Photo 2 - Downstream Fascia, Looking South

Pictures



Photo 3 - Pier 1, Looking East



Photo 4 - Pier 2, Looking Northwest

Pictures



Photo 5 - East Abutment, Looking East

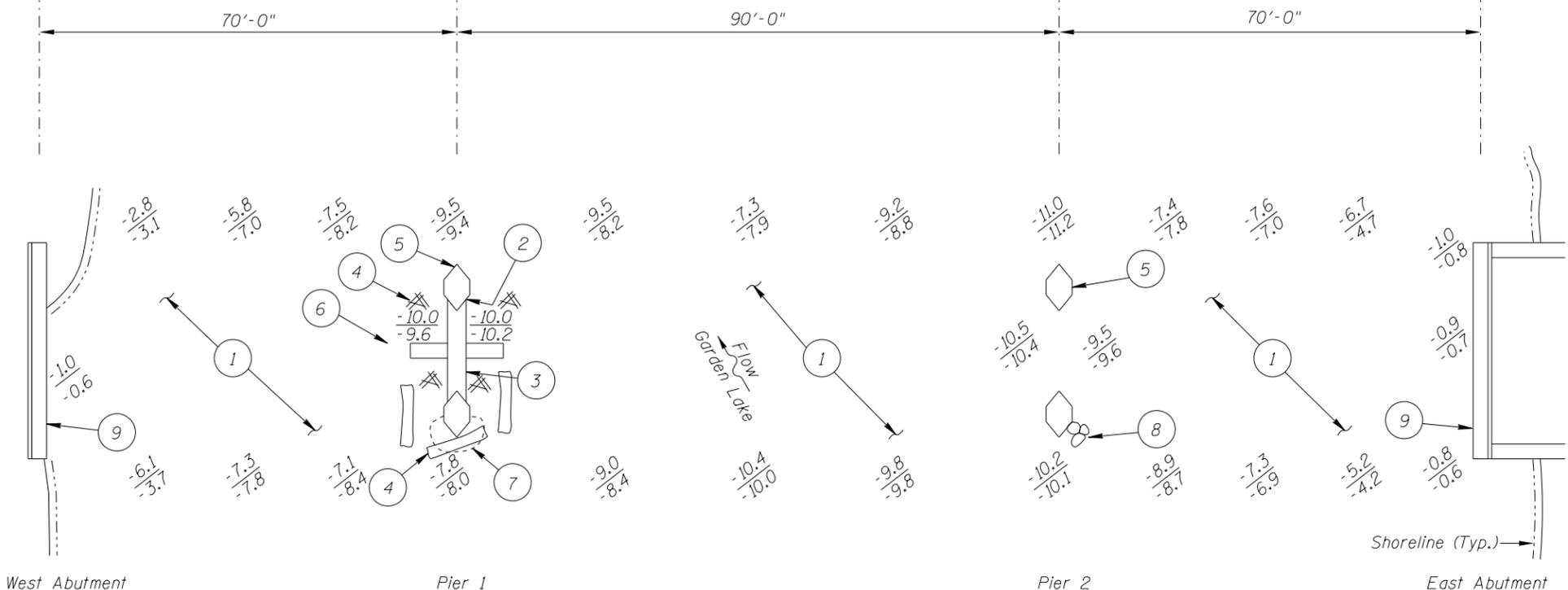
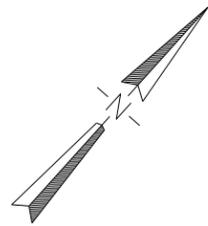


Photo 6 - West Abutment, Looking West

Pictures



Photo 7 - Typical Concrete Condition at Waterline (Pier 2 Downstream Column Shown), Looking West



SOUNDING PLAN

TYPICAL END VIEW OF PIERS

GENERAL NOTES:

1. The East and West Abutments, and Piers 1 and 2 were inspected underwater.
2. At the time of inspection on June 21, 2016, the waterline was located approximately 6.4 feet below the top of the cap at the south end of Pier 1. This corresponds to a waterline elevation of 1388.2 based on design drawings.
3. Soundings indicate the water depth at the time of inspection and are measured in feet.
4. Soundings were taken parallel to the bridge at 1/4 point intervals between the substructure units.

Legend

- 6.5 Sounding Depth from Waterline (6/21/16)
- 5.5 Sounding Depth from Waterline (6/19/12)
- Timber Debris
- Scour Depression

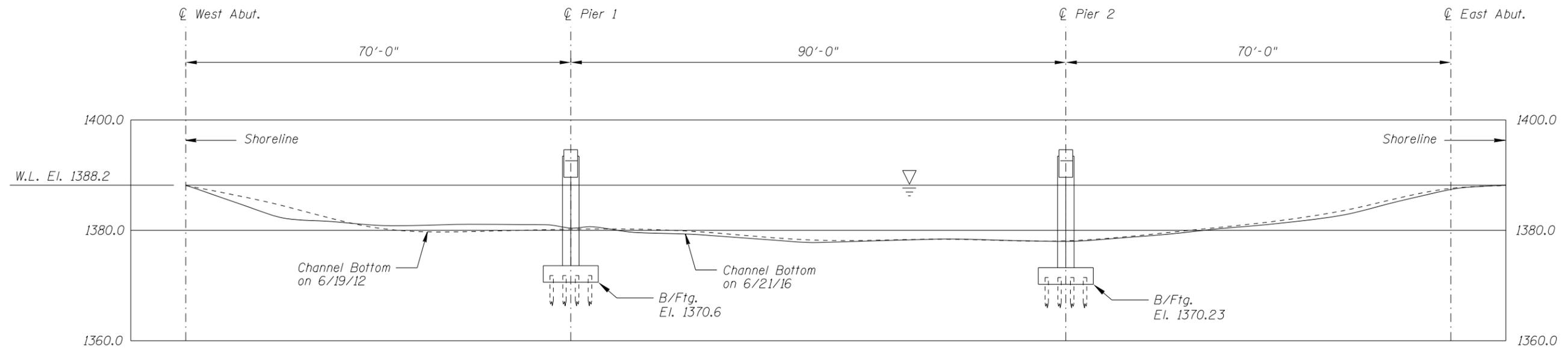
Note:

All soundings are based on 2016 waterline location.

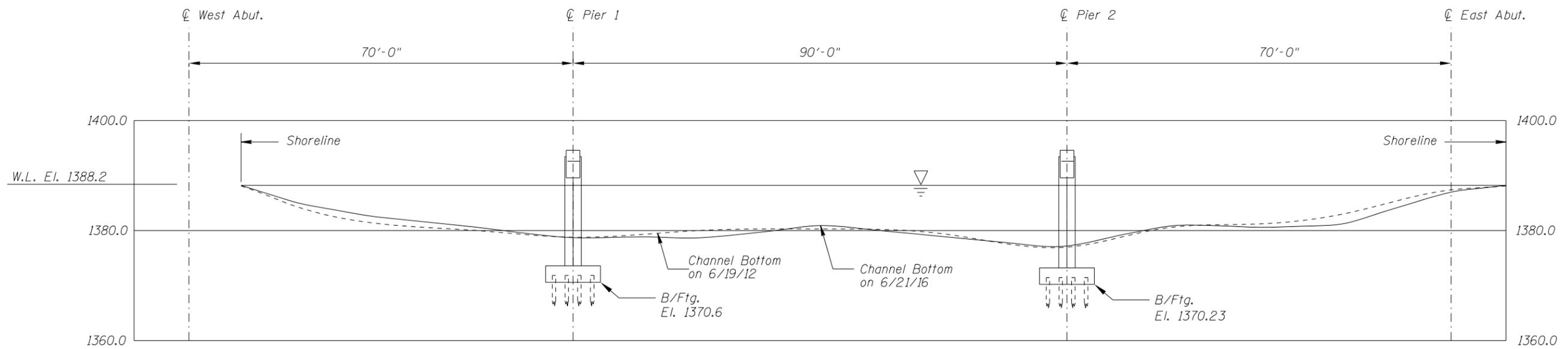
INSPECTION NOTES:

1. The channel bottom material consisted of sandy gravel allowing 2 inches of probe rod penetration with scattered 1 to 3 foot diameter riprap and 6 inch diameter cobbles.
2. Section loss, approximately 12 inches high by 6 inches wide, with 2 inches maximum penetration was observed at the upstream nose of the downstream column of Pier 1. No exposed reinforcing steel was present.
3. The top of a horizontal strut was observed approximately 5.5 feet below the waterline. The channel bottom was generally flush with the bottom of the horizontal strut on both the east and west side of the pier.
4. Several scattered 1 foot diameter logs were observed on the channel bottom around Pier 1, with one extending across the upstream column of the pier. Other 6 inch diameter and smaller drift was also scattered around the pier.
5. The concrete surfaces on both piers from 6 inches above to 3 feet below the waterline exhibited up to a 1/4 inch deep scaling with exposed aggregate.
6. At approximately 8 feet below the waterline at the center of the horizontal strut of Pier 1, a steel I-beam was observed extending out 5 feet on each side of the strut.
7. A minor scour depression, 5 feet in radius by 1 foot deep, was observed at the upstream column of Pier 1.
8. Heavy concentration of up to 4 foot diameter riprap was observed along the easterly side of the upstream column of Pier 2.
9. 1/4 inch to 1/2 inch deep scaling was observed at the West and East abutments extending from the waterline to the channel bottom.

MINNESOTA DEPARTMENT OF TRANSPORTATION UNDERWATER BRIDGE INSPECTION		
STRUCTURE NO. 7065 OVER GARDEN LAKE DISTRICT 1, LAKE COUNTY		
INSPECTION AND SOUNDING PLAN		
DRAWN BY: PRH	COLLINS ENGINEERS	DATE: JUNE 21, 2016
CHECKED BY: LJ	<small>133 North Wacker Drive Suite 900 Chicago, IL 60606 (312) 704-9300 www.collinsengr.com</small>	SCALE: NTS
CODE: 968707065		FIGURE NO.: 1



UPSTREAM FASCIA PROFILE



DOWNSTREAM FASCIA PROFILE

Note:
Refer to Figure 1 for General Notes.

MINNESOTA DEPARTMENT OF TRANSPORTATION UNDERWATER BRIDGE INSPECTION		
STRUCTURE NO. 7065 OVER GARDEN LAKE DISTRICT I, LAKE COUNTY UPSTREAM AND DOWNSTREAM FASCIA PROFILES		
DRAWN BY: PRH	COLLINS ENGINEERS <small>133 North Wacker Drive Suite 900 Chicago, IL 60606 (312) 704-9300 www.collinsengr.com</small>	DATE: JUNE 21, 2016
CHECKED BY: LJ		SCALE: 1"=20'-0"
CODE: 968707065		FIGURE NO.: 2