

2016 UNDERWATER BRIDGE INSPECTION REPORT



BRIDGE # 49521 CSAH 52 over PIKE CREEK

DISTRICT: District 3

COUNTY: Morrison

CITY/TOWNSHIP: Little Falls

STATE: Minnesota

Date of Inspection: 06/10/2016

Equipment Used:

Owner: County Highway Agency

Inspected By: Stromberg, Dan

Report Written By: Dan Stromberg

Report Reviewed By:

Final Report Date:



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UNDERWATER INSPECTION

REPORT SUMMARY

The substructure units inspected at Bridge No. 49521, Piers 1 and 2, were found to be in good to satisfactory condition with no defects of structural significance observed below water. The steel HP piles exhibited up to 50% coating loss and light to moderate corrosion from the channel bottom to 1 foot above the waterline. The channel bottom around the substructure units appeared stable with no evidence of scour.

INSPECTION FINDINGS

(A) The abutment slopes were generally well armored with riprap up to 1 foot in diameter, but there was less coverage on the south slope.

(B) The steel HP piles were in satisfactory condition with up to 50% of coating loss and light to moderate corrosion from the channel bottom to 1 foot above the waterline. Below water rust nodules up to 1/2 inch in diameter and minor pitting up to 1/16 inch deep were present on all piles.

(C) The channel bottom at Pier 1 consisted of scattered riprap up to 2 foot diameter and soft silt allowing up to 6 inches of probe rod penetration.

(D) The channel bottom at Pier 2 consisted of riprap up to 2 foot diameter with silt infill and no probe rod penetration.

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 #: 49521
Feature Intersected: PIKE CREEK
Facility Carried: CSAH 52
District: District 3
County: 049 - Morrison

Bridge Description:

The bridge superstructure consists of three spans of timber deck and stringers. The superstructure is supported by two steel HP pile bent piers and concrete abutments. The two piers are designated as Piers 1 and 2 starting from the north end of the bridge.

2. INSPECTION DATA

Professional Engineer/Team Leader: Daniel G. Stromberg
Inspection Diver: Daniel G. Stromberg
Date of Underwater Inspection: 06/10/2016
Weather Conditions: Sunny, 70°F
Underwater Visibility (feet): 1.0 foot
Waterway Velocity (ft/sec): 0.5 ft/sec

3. SUBSTRUCTURE INSPECTION DATA

Substructure(s) Inspected: Piers 1 and 2

General Shape:

Each of the piers consists of a single row of six steel HP piles under a common concrete cap.

Maximum Water Depth at Substructure(s) Inspected (feet): 6.2 feet

4. WATERLINE DATUM

Water Level Reference: The top of the pier cap at the upstream end of Pier 2.
Waterline Elevation (feet): 90.5 feet
Description: The waterline was located approximately 9.5 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: 6
Item 62: Culvert: Code:
Item 92B: Underwater Inspection: Code: Y 48 06/2016

Item 113: Scour Critical Bridge:

Code: N

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
202	Steel Column	12	EA		12		
885	Scour	1	EA	1			

UNDERWATER INSPECTION

INSPECTION PROCEDURES

The routine underwater inspection of Bridge 49521 (CSAH 52 over Pike Creek) was completed on June 10, 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 (SSA and/or SCUBA) 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 piers. According to the bridge inventory, Piers 1 and 2 are founded on steel HP piles supporting a reinforced concrete cap. 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: 49521

CSAH 52 over PIKE CREEK

Date: 08/16/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +																				
Agency Br. No. Crew District 03 Maint. Area County 049 - Morrison City Little Falls Township Desc. Loc. 0.9 MI N OF JCT CSAH 12 Sect., Twp., Range 25 - 129N - 30W Latitude 45 ° 57 ' 10.03 " Longitude 94 ° 23 ' 27.71 " Custodian 02 - County Highway Agency Owner 02 - County Highway Agency BMU Agreement Year Built 1978 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 12B Potential ABC 2 - N/A	Bridge Match ID (TIS) 0 Roadway O/U Key Route On Structure Route Sys 04 - CSAH Number 52 Roadway Name or Description CSAH 52 Level of Service 1 - MAINLINE Roadway Type 2 - 2-way traffic Control Section (TH Only) Reference Point 009+00.670 Detour Length 1.0 mi. Lanes ON 2 UNDER 0 ADT 720 YEAR 2008 HCA DT ADTT % Functional Class 07 - Rural - Major Collector	Userkey 89 Structurally Deficient N Functionally Obsolete N Sufficiency Rating 99.3 Routine Inspection Date 10/20/2015 Routine Inspection Frequency 24 Inspector Name Stromberg, Dan Status A - Open																				
	+ RDWY DIMENSIONS +	+ NBI CONDITION RATINGS +																				
	If Divided NB-EB SB-WB Roadway Width 37.00 ft. ft. Vertical Clearance ft. ft. Max. Vert. Clear. ft. ft. Horizontal Clear. 36.9 ft. ft. Lateral Clearance ft. ft. Appr. Surface Width 36.0 ft. Bridge Roadway Width 37.0 ft. Median Width On Bridge ft.	Deck 7 Unsound Deck % Superstructure 7 Substructure 7 Channel 6 Culvert N																				
+ STRUCTURE +	+ MISC. BRIDGE DATA +	+ NBI APPRAISAL RATINGS +																				
Service On 5 - Highway-pedestrian Service Under 5 - Waterway Main Span Type 7 - Timber Main Span Design 01 - Beam Span Main Span Detail Appr. Span Type Appr. Span Design Appr. Span Detail Skew 30 RIGHT Culvert Type Barrel Length Cantilever ID Number of Spans MAIN: 3 APPR: 0 TOTAL: Main Span Length 42.0 ft. Structure Length 126.0 ft. Deck Width (Out-to-Out) 47.1 ft. Deck Material 8 - Wood or Timber Wear Surf Type 6 - Bituminous Wear Surf Install Year Wear Course/Fill Depth 0.25 ft. Deck Membrane 0 - None Deck Rebars N - Not Applicable (no deck) Deck Rebars Install Year Structure Area (Out-to-Out) 5935 sq. ft. Roadway Area (Curb-to-Curb) 4661 sq. ft. Sidewalk Width 50A. Lt 0.00 ft. 50B. Rt 10.00 ft. Curb Height Lt 1.00 ft. Rt 1.00 ft. Rail Type Lt 06 Rt 06	Structure Flared 0 - No flare Parallel Structure N - No parallel structure Field Conn. ID Abutment Foundation (Material/Type) 1 - CONC 3 - FTG PILE Pier Foundation (Material/Type) 3 - STEEL 4 - PILE BENT Historic Status 5 - Not eligible	Structure Evaluation 7 Deck Geometry 7 Underclearances N Waterway Adequacy 9 Approach Alignment 7																				
	+ PAINT +	+ SAFETY FEATURES +																				
	Year Painted Unsound Paint % Painted Area sq. ft. Primer Type Finish Type	Bridge Railing 0 - SUBSTANDARD GR Transition 1 - MEETS STANDARDS Appr. Guardrail 1 - MEETS STANDARDS GR Termini 1 - MEETS STANDARDS																				
	+ BRIDGE SIGNS +	+ IN DEPTH INSP. +																				
	Posted Load 0 - Not Required Traffic 1 - Speed Limit Horizontal 1 - Object Markers Vertical N - Not Applicable	<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></td> <td></td> <td style="text-align: right;">06/10/2016</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			06/10/2016	Pinned Asbly.				Spec. Feat.			
	Y/N	Freq	Date																			
Frac. Critical																						
Underwater			06/10/2016																			
Pinned Asbly.																						
Spec. Feat.																						
		+ WATERWAY +																				
		Drainage Area (sq. mi.) 41.8 Waterway Opening (sf.) 1402 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 N - STBL - LIM Year																				
		+ CAPACITY RATINGS +																				
		Design Load 5 - HS 20 Operating Rating 2 - HS TRUCK 27.4 Inventory Rating 2 - HS TRUCK 18.9 Posting VEH: SEMI: DBL: Rating Date 06/15/2012 Overweight Permit Codes A N - N/A B N - N/A C N - N/A																				

MINNESOTA BRIDGE INSPECTION REPORT

09/23/2016

Inspector: CO Bridge

BRIDGE 49521 CSAH 52 OVER PIKE CREEK

County: Morrison	Location: 0.9 MI N OF JCT CSAH 12	Length: 126.0 ft.
City: Little Falls	Route: 04 - CSAH 52 Ref. Pt.: 009+00.670	Deck Width: 47.1 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 4661 sq. ft. / %
Section: 25 Township: 129N Range: 30W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 7 - Wood or Timber 2 -	Local Agency Bridge Nbr.:	Culvert: N/A
List: Stringer/Multi-beam or Girder		Postings:
NBI Deck: 7 Super: 7 Sub: 7 Chan: 6 Culv: N		
	Open, Posted, Closed: A - Open	
	MN Scour Code: N - STBL - LIM SCOUR	

Appraisal Ratings - Approach: 7 Waterway: 9	Unofficial Structurally Deficient N
Required Bridge Signs - Load Posting: 0 - Not Required	Unofficial Functionally Obsolete N
Horizontal: 1 - Object Markers	Unofficial Sufficiency Rating 99.3
Traffic: 1 - Speed Limit	
Vertical: N - Not Applicable	

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
31	Timber Deck	Underwater	08/16/2016	5935 SF	5935	0	0	0
		Migrated Values		5935 SF	5935	0	0	0
Notes: [2016] Migrator assumed CS1.								
510 - Wearing Surfaces		Underwater	08/16/2016	4661 SF	4568	0	93	0
		Migrated Values		4661 SF	4568	0	93	0
Notes: 12-21-95 > Bit. mat on deck has many unsealed transverse & longitudinal cracks allowing water to leach thru deck. 9/29/04 - Deck has several 3"diam. full depth pop outs in bituminous. Needs rehab. 10/10/07 - Bituminous mat removed and replaced in August, 2007. 8/20/13 - Bituminous mat has longitudinal and transverse cracks. Needs sealing. 9/24/14 - Bituminous mat has been sealed. 10-20-15: Short intermediate diagonal cracks have formed opposite the long, large SW/NE cracks already sealed, all are CS2.								
111	Timber Open Girder/Beam	Underwater	08/16/2016	1007 LF	1007	0	0	0
		Migrated Values		1007 LF	1007	0	0	0
Notes: 1995-2015: Beams beginning to lose creosote Rx.								
202	Steel Column	Underwater	08/16/2016	12 EA	0	12	0	0
		Migrated Values		12 EA	0	12	0	0
Notes: 12-21-95 > Steel plies corroding @ pier cap locations (flaking rust). All piles losing paint system due to ice damage. 2015: N/C								
515 - Steel Protective Coating		Underwater	08/16/2016	999 SF	1	0	832	166
		Migrated Values		999 SF	0	0	832	166
Notes: [2016] Migrator assumed quantity of 999 SF and estimated the condition states.								
215	Reinforced Concrete Abutment	Underwater	08/16/2016	155 LF	0	155	0	0
		Migrated Values		155 LF	0	155	0	0
Notes: [2016] Migrator added 40 LF to abutment quantity to account for wingwalls (CS1:0 CS2:40 CS3:0 CS4:0). 12-21-95 > S. abut. has (12) - hairline cracks w/ efflorescence. N. abut. has (1) - 1/16" crack w/ efflorescence. N. abut. has (2) - hairline cracks. 8-11-97 > Infiltration of backfill mat'l. thru abut. backing boards. 11-14-00 > N. abut. has (9) - holes in face of wall where plastic form ties were used. Concrete has popped out. 3.0' vert. crack thru two of these holes. 11-16-01 > S. abut. has (6) spalls (1" - 6" x 1.5") on W. end. 10-20-15: South abutment: 3.5' of delaminating concrete 2" below beam seat between B2&B3; 4.5' of delam. between B3&B4 (some beneath B4) and 3' of delam. beneath B5. All length is CS2. North abutment: 5 vertical hairline cracks, 1 w/efflorescence; 3/4" gaps in backing boards between B3-B6 leaving 6"-12" piles of gravel on beam seat. All length is CS2.								
Wingwall notes: 12-21-95 > All wingwalls have map cracking. 10-19-99 > N.W. WINGWALL HAS (1) - 1.5" SPALL. 2015: N/C								

BRIDGE 49521 CSAH 52 OVER PIKE CREEK

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	Reinforced Concrete Pier Cap	Underwater	08/16/2016	115 LF	112	3	0	0
		Migrated Values		115 LF	112	3	0	0
Notes: 10/31/08 - Pier cap #1 has 3" cracks on lower west end. 10/7/11 - East end of South pier cap has 4"x 1" spall. 10-20-15: Pier 2 east end, north side has a vertical hairline crack at west edge of step up for outside beam. 3' CS2 w/previously noted defects.								
313	Fixed Bearing	Underwater	08/16/2016	28 EA	28	0	0	0
		Migrated Values		28 EA	28	0	0	0
330	Metal Bridge Railing	Underwater	08/16/2016	250 LF	250	0	0	0
		Migrated Values		250 LF	250	0	0	0
Notes: [2016] Migrator assumed metal rail/timber post combination type rail. 10-19-99 > (2) - 6" x 2" railing boards replaced by MCHD in 1999. 10/6/05 - Timber railing has had 54' of 2" x 6" damaged. Needs repair. 12/6/05 - MCHD repaired railing w/ 60 lin. ft. of 2" x 6" T. Timber. Good cond. 10-20-15: East rail has a nut missing on 5th post from the north end. Several other bolts on 2"x6" boards are loose.								
Chain Link Fence Notes:								
515	Steel Protective Coating	Underwater	08/16/2016	999 SF	999	0	0	0
		Migrated Values		999 SF	999	0	0	0
Notes: [2016] Migrator assumed CS1 and a quantity of 999 SF.								
332	Timber Bridge Railing	Underwater	08/16/2016	270 LF	20	250	0	0
		Migrated Values		270 LF	20	250	0	0
Notes: 11-16-01 > E. railing missing (1) - 10" x 1/2" bolt. 8/20/13 - Both railings show delaminations of boards. 10-20-15: Rail to post hardware needs tightening, some rail post to curb bolts need tightening, curb to deck bolts need tightening. Delamination of rail boards continues with minor decay in lamination gaps, CS2.								
[2016] Migrator assumed metal rail/timber post combination type rail. Post spacing assumed to be 5LF, each post 1LF. 10-19-99 > (2) - 6" x 2" railing boards replaced by MCHD in 1999. 10/6/05 - Timber railing has had 54' of 2" x 6" damaged. Needs repair. 12/6/05 - MCHD repaired railing w/ 60 lin. ft. of 2" x 6" T. Timber. Good cond. 10-20-15: East rail has a nut missing on 5th post from the north end. Several other bolts on 2"x6" boards are loose.								
800	Critical Deficiencies or Safety Hazards	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: No critical structural deficiencies or serious safety hazards are present on this structure.								
822	Bituminous Approach Roadway	Underwater	08/16/2016	2 EA	1	1	0	0
		Migrated Values		2 EA	1	1	0	0
Notes: 10/11/07 - CSAH 52 regraded in August, 2007. Alignment improved. New bituminous placed. 9/20/10 - CSAH 52 had 1.5" bituminous overlay in August, 2010. 10-20-15: South end has slight dip at bridge end, CS2.								
855	Secondary Members (Superstructure)	Underwater	08/16/2016	2 EA	2	0	0	0
		Migrated Values		2 EA	2	0	0	0
Notes: 8/20/13 - Flaking rust on steel "X" brace to pile welds. 2015: N/C								
881	Steel Section Loss	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: 2015: Minor section loss on pile cap connection plates.								
883	Concrete Shear Cracking	Underwater	08/16/2016	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.								

BRIDGE 49521 CSAH 52 OVER PIKE CREEK

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
885	Scour	Underwater	08/16/2016	1 EA	1	0	0	0
891	Other Bridge Signing	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: 10/11/07 - All delineators replaced in August, 2007. Good condition. 2015: N/C							
892	Slopes & Slope Protection	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: 12-21-95 > Grouted riprap is in poor cond. 2003: MCHD placed several loads of riprap on NW corner. County placed 500 cubic yards of Class III riprap in July, 2003. 8/21/12 - South berm lost some riprap due to vandalism. Slope remains protected. 2015: N/C							
893	Guardrail	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: 11/13/09 - New guardrail added to all corners in Aug. 2009. 10/7/11 - S.E. guardrail has sustained minor vehicle impact. 10-20-15: Guardrail nuts need tightening.							
894	Deck & Approach Drainage	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
895	Sidewalk, Curb, & Median	Underwater	08/16/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
	Notes: 10-20-15: 3' of curb on Northwest corner has moderate decay. Several areas by edge drains have minor decay, CS2.							
900	Protected Species	Underwater	08/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Use this element to track the presence of protected species living on this structure.							
	General Notes: 9/24/14 - Inspection of Bridge 49521 on this date it was noted that weight restriction signs had been placed restricting legal loads traveling over structure. Investigation of previous rating documents does not indicate posting is required for this bridge. The most recent rating performed by consultant WSN (6/15/2012) shows an Inventory Rating of HS 18.9, and an Operating Rating of HS 27.4 with no restrictions. Discussed situation with Engineer/Program Administrator. He directed erroneous signage to be removed.							
	58. Deck NBI: 2013-2015 - Bituminous mat has longitudinal, transverse & diagonal cracks. Timber deck has minor deterioration, NBI 7.							
	36A. Brdg Railings NBI:							
	36B. Transitions NBI:							
	36C. Appr Guardrail NBI:							
	36D. Appr Guardrail Terminal NBI:							
	59. Superstructure NBI: 2015:Minor deterioration of timber components, NBI 7.							
	60. Substructure NBI: 2015: Minor deterioration of painted steel piling, concrete pier caps and abutments, NBI 7.							
	61. Channel NBI: 2004-2015 - Fair condition after abutment slope rehab. in 2003, NBI 6.							
	62. Culvert NBI:							
	71. Waterway Adeq NBI:							
	72. Appr Roadway Alignment NBI:							

BRIDGE 49521 CSAH 52 OVER PIKE CREEK

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
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Inventory Notes:

Inspector's Signature

Reviewer's Signature

Pictures



Photo 1 - Upstream Fascia, Looking East



Photo 2 - Downstream Fascia, Looking Northwest

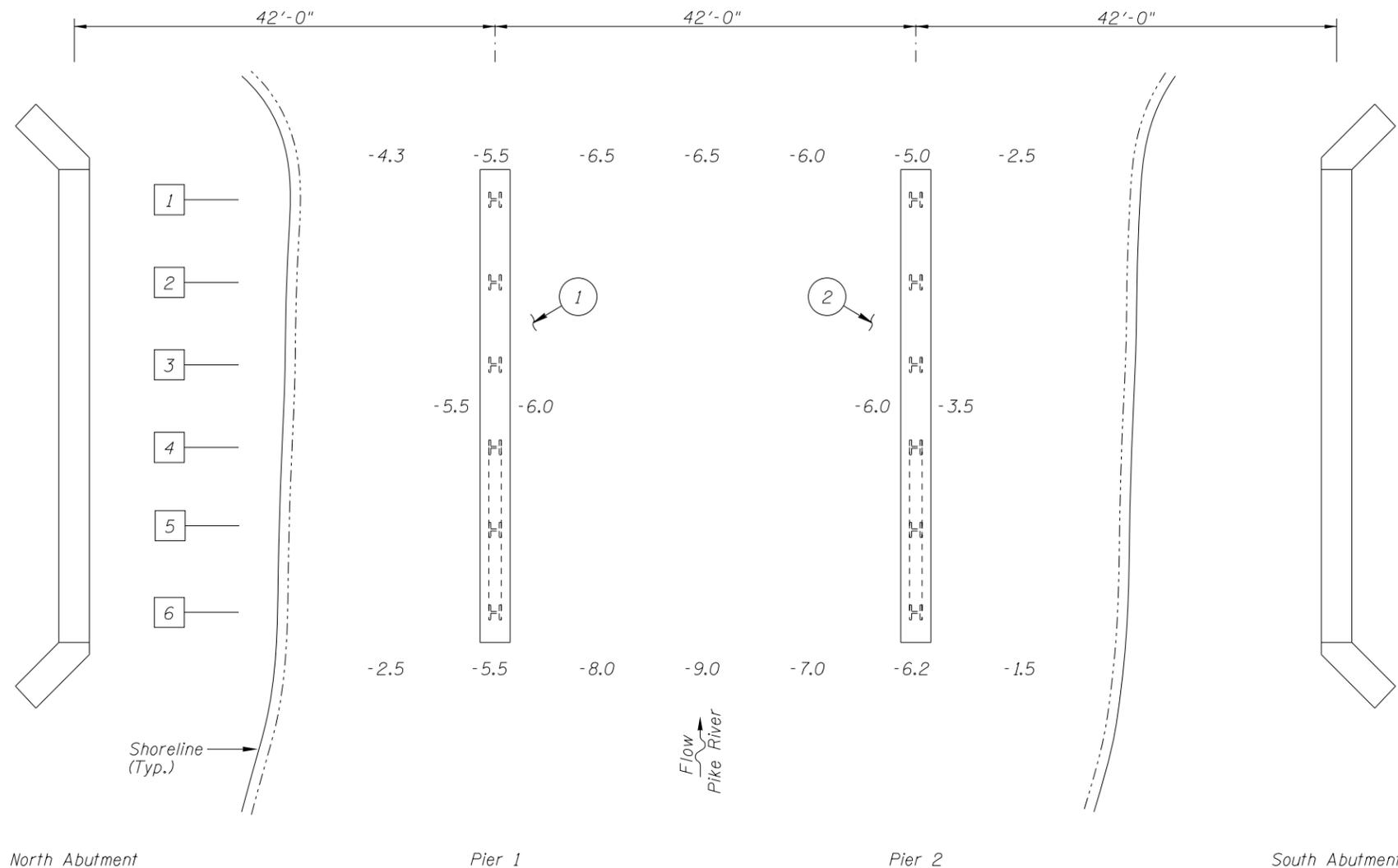
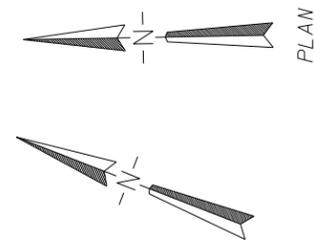
Pictures



Photo 3 - Pier 1, Looking Northwest



Photo 4 - Pier 2, Looking Northeast



SOUNDING PLAN

GENERAL NOTES:

- Piers 1 and 2 were inspected underwater.
- At the time of inspection, on June 10, 2016, the waterline was located approximately 9.5 feet below the top of the pier cap at the upstream end of Pier 2. Since insufficient bridge elevation information was available so a reference elevation of 100.0 was assumed. Based on the assumed reference the waterline elevation was 90.5.
- The steel HP piles were in satisfactory condition with up to 50% of coating loss and light to moderate corrosion from the channel bottom to 1 foot above the waterline. Below water rust nodules up to 1/2 in inch diameter and minor pitting up to 1/16 inch deep were present on all piles.
- The abutment slopes were generally well armored with riprap up to 1 foot in diameter, but there was less coverage on the south slope.
- Soundings indicate the water depth at the time of inspection and are measured in feet.
- Soundings were taken parallel to the bridge at 1/4 point intervals between the substructure units.

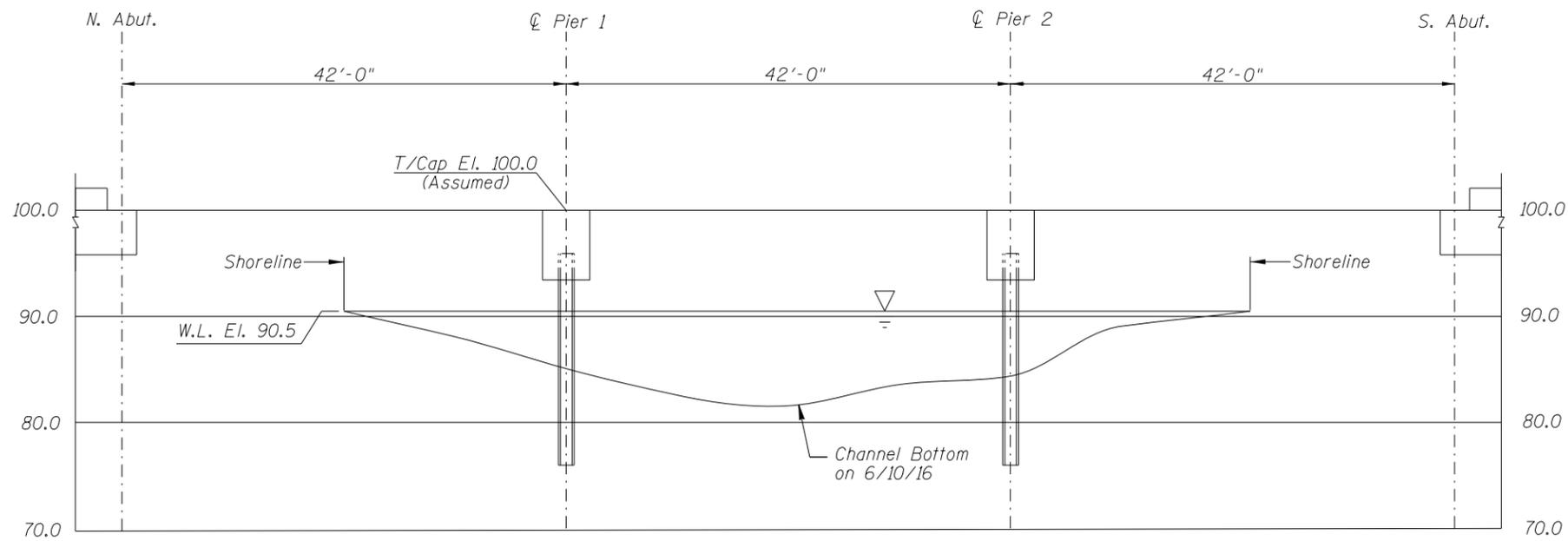
INSPECTION NOTES:

- The channel bottom at Pier 1 consisted of scattered riprap up to 2 foot diameter and soft silt allowing up to 6 inches of probe rod penetration
- The channel bottom at Pier 2 consisted of riprap up to 2 foot diameter with silt infill and no probe rod penetration.

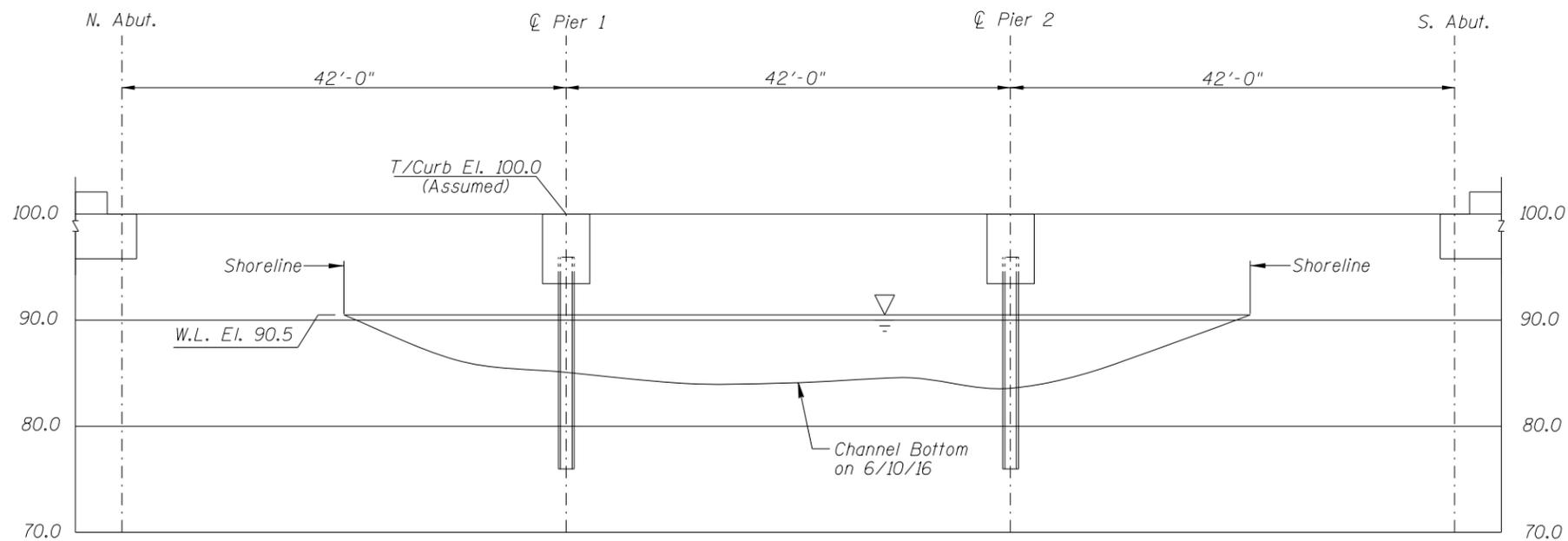
Legend

- 6.2 Sounding Depth (6/10/16)
- Steel HP Pile
- Pile Number Designation

MINNESOTA DEPARTMENT OF TRANSPORTATION UNDERWATER BRIDGE INSPECTION		
STRUCTURE NO. 49521 OVER PIKE CREEK DISTRICT 3, MORRISON COUNTY		
INSPECTION AND SOUNDING PLAN		
DRAWN BY: ELN	COLLINS ENGINEERS	DATE: JUNE 10, 2016
CHECKED BY: DGS		SCALE: NTS
CODE: 96874952I		FIGURE NO.: 1



UPSTREAM FASCIA PROFILE
Vertical Scale: 1"=15'-0"



DOWNSTREAM FASCIA PROFILE
Vertical Scale: 1"=15'-0"

Note:
Refer to Figure 1 for General Notes.

MINNESOTA DEPARTMENT OF TRANSPORTATION UNDERWATER BRIDGE INSPECTION		
STRUCTURE NO. 49521 OVER PIKE CREEK DISTRICT 3, MORRISON COUNTY UPSTREAM AND DOWNSTREAM FASCIA PROFILES		
DRAWN BY: ELN	COLLINS ENGINEERS	DATE: JUNE 10, 2016
CHECKED BY: DGS		SCALE: NTS (U.O.N.)
CODE: 96874952I		FIGURE NO.: 2

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