

## BRIDGE INSPECTION REPORT

Page 1 of 8

Status: Released

Printed On: 12/4/2020

Agency: Washington State

CD Guid: c38b6b2b-99f6-4d55-924d-421df9ca88b5

Release Date: 12/4/2020

Program Mgr: Evan M Grimm

Br. No. 303/12

SID 0005565A

Br. Name PORT WASHINGTON CS1840

Carrying SR 303

Route On 00303

Mile Post 0.73

Intersecting PORT WASHINGTON NARROWS

Route Under

Mile Post

Inspector's Signature FPP

Cert # G0710

Cert Exp Date 5/11/2022

Co-Inspector's Signature RAB

## Inspections Performed

Report Type	Inspection Type	Date	Freq	Hours	Inspector	Cert No	Co-Insp.
<u>Routine</u>		<u>10/13/2020</u>	<u>24</u>	<u>2.0</u>	<u>FPP</u>	<u>G0710</u>	<u>RAB</u>
<u>Fracture Critical</u>		<u>10/13/2020</u>	<u>24</u>	<u>5.0</u>	<u>FPP</u>	<u>G0710</u>	<u>RAB</u>
Underwater		10/26/2015	60	7.5	DON	G0314	JRH
<u>Damage</u>	<u>Reported by Others, Bridge Rail</u>	<u>10/16/2020</u>		<u>1.0</u>	<u>GAS</u>	<u>G0709</u>	
Geometric		9/4/2013	144	1.0	GGI	GEOM	DJM

8	<input type="checkbox"/> Alignment (1661)	42	<input type="checkbox"/> Operating Tons (1552)	1	<input type="checkbox"/> Bridge Rails (1684)	4	<input type="checkbox"/> No Utilities (2675)
5	<input type="checkbox"/> Deck Overall (1663)		<input type="checkbox"/> Op RF (1553)	1	<input type="checkbox"/> Transition (1685)	0.00	<input type="checkbox"/> Asphalt Depth (2610)
5	<input type="checkbox"/> Superstructure (1671)	25	<input type="checkbox"/> Inventory Tons (1555)	1	<input type="checkbox"/> Guardrails (1686)	1958	<input type="checkbox"/> Year Built (1332)
6	<input type="checkbox"/> Substructure (1676)		<input type="checkbox"/> Inv RF (1556)	1	<input type="checkbox"/> Terminals (1687)	0	<input type="checkbox"/> Year Rebuilt (1336)
9	<input type="checkbox"/> Culvert (1678)	5	<input type="checkbox"/> Operating Level (1660)	30.0	<input type="checkbox"/> Bridge Rail Ht (2612)		
8	<input type="checkbox"/> Chan/Protection (1677)	A	<input type="checkbox"/> Open/Closed (1293)		<input type="checkbox"/> Design Curb Ht (2611)		
1	<input type="checkbox"/> Pier/Abut/Prot (1679)	5	<input type="checkbox"/> Structural Eval (1657)				
8	<input type="checkbox"/> Waterway (1662)	4	<input type="checkbox"/> Deck Geometry (1658)				
3	<input type="checkbox"/> Scour (1680)	4	<input type="checkbox"/> Underclearance (1659)				

NBIS Risk Category

High Risk

## Inspection Flags

Y <input type="checkbox"/> Soundings (2693)	<input type="checkbox"/> Measure Clearance (2694)	<input type="checkbox"/> Revise Rating (2688)	<input type="checkbox"/> Photos (2691)	<input type="checkbox"/> QA Flag (2695)
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## BMS Elements

Element	Element Description	Total	Units	CS 1	CS 2	CS 3	CS 4
12	Concrete Deck	59994	SF	59751	240	3	0
20	Concrete Deck - Lightweight Aggregate	32724	SF	32010	708	6	0
35	Concrete Deck Soffit	92718	SF	92498	215	5	0
91	Steel Riveted Girder	1212	LF	1192	0	20	0
105	Concrete Box Girder	786	LF	761	3	22	0
110	Concrete Girder	2456	LF	2456	0	0	0
113	Steel Stringer	2305	LF	2305	0	0	0
152	Steel Floor Beam	1682	LF	1682	0	0	0
200	Abutment Fill	2	EA	2	0	0	0
205	Concrete Pile/Column	18	EA	17	0	1	0
215	Concrete Abutment	120	LF	120	0	0	0
220	Concrete Submerged Foundation	7	EA	6	0	1	0
221	Concrete Foundation	3	EA	2	0	1	0

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## BMS Elements (Continued)

Element	Element Description	Total	Units	CS 1	CS 2	CS 3	CS 4
227	Concrete Submerged Pile/Column	14	EA	10	0	4	0
234	Concrete Pier Cap/Crossbeam	590	LF	590	0	0	0
266	Concrete Sidewalk & Supports	13736	SF	13722	6	8	0
310	Elastomeric Bearing	4	EA	4	0	0	0
311	Moveable Bearing (roller, sliding, etc)	32	EA	0	0	32	0
313	Fixed Bearing	20	EA	20	0	0	0
331	Concrete Bridge Railing	3434	LF	3434	0	0	0
340	Metal Pedestrian Railing	6868	LF	6866	0	2	0
355	Damaged Bolts or Rivets	13	EA	0	0	13	0
357	Pack Rust	10	EA	6	4	0	0
361	Scour	7	EA	0	0	7	0
370	Seismic - Longitudinal Restrainer	14	EA	14	0	0	0
371	Seismic - Transverse Restrainer	34	EA	34	0	0	0
373	Seismic - Catcher Block	8	EA	8	0	0	0
381	Joint Seal/Gland Leaking	22	EA	22	0	0	0
402	Open Concrete Joint	810	LF	432	324	54	0
410	Steel Fingers	216	LF	162	54	0	0
412	Strip Seal - Anchored	162	LF	54	108	0	0
705	Bridge Luminaire Pole and Base	21	EA	21	0	0	0
804	Polyester Concrete Overlay	92718	SF	91761	948	9	0
902	Inorganic Zinc/Vinyl Paint System	113520	SF	102020	0	4500	7000

## Notes

- 0 Bridge is oriented south to north.  
 The City of Bremerton has stockpiled sand below Spans 12 and 13. Lebo Blvd. is under Span 14.  
 The area below Span 15 is enclosed by a chain link fence. In 2014 the area was accessed from Lebo Blvd. by removing two fence ties and pulling back the fence.  
 Trees obstruct UBIT access below Spans 10 and 11 (Photos #72). REPAIR #14239.

Damage Report 10/16/20

On 10/16/20 a southbound RV lost control, crossing over all lanes and damaging the northeast approach rail, transition and pedestrian rail. See element notes #340, #685, and #686.



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## Notes (Continued)

- 9 The WSDOT Bridge Preservation Office (BPO) Dive Team performed an underwater inspection of the Port Washington CS1840 bridge over the Port Washington Narrows on October 26th and 27th, 2015. Piers 3 through 9 were in the waterway during the inspection.

The submerged portions of the substructure are in fair to good condition. Several of the columns have vertical corner cracking or spalls just above the intertidal zone (ITZ). The submerged portions of the columns have heavy marine growth up to 6-inches thick. The pedestals and footings are heavily encrusted with marine growth up to several feet thick. Tops of footings were typically very uneven and can vary in elevation several feet. Some of the piers had portions of steel cofferdam still in place. Pier concrete condition was mostly sound, but Pier 7 has several areas of poor consolidation voids in the footing and at the column/footing interface.

All submerged piers have exposed footings to varying extents. The footing exposures are similar to previous underwater inspections. The maximum vertical footing exposure was found at Pier 8 on the east face where there is 10-feet of vertical exposure with an estimated remaining embedded depth of 10-feet. No evidence of significant local scour was found at the piers since the last underwater inspection. Riprap protection is in place at Piers 4 through 8. Riprap extents should continue to be monitored.

Recommend retaining 60-month frequency for underwater inspections. Continue to monitor foundation exposures and the riprap extents around the piers.

- 12 Deck is covered with overlay.  
See element 804 for condition state quantity breakdown.

- 20 Lightweight deck is located over the steel girder spans 5, 6 and 7.  
Deck is covered with an overlay.  
See element 804 for condition state quantity breakdown.

- 35 The soffit has transverse leaching cracks between the girders.  
In the steel spans 5, 6, and 7 there are areas with full depth patches; most with plywood forms still in place.  
Span 5 has 14 sq. ft. of patches.  
Span 6 has 144 sq. ft. of patches, and a plywood form below an 8 sq. ft. full depth patch (Photo #87).  
Span 7 has 48 sq. ft. of patches.  
Span 13 has a 1 sq. ft. spall with exposed rebar.  
There is some minor spalling at the stringer/floorbeam/girder concrete fillets.

- 91 The girders are located in Spans 5, 6, and 7.  
Both girders in Spans 5, 6 and 7 have cormorants roosting on the bottom flange.  
In numerous locations the bottom flange is caked with excrement the consistency of concrete up to 3" deep (Photos #26, #31 and #84). REPAIR #13779.  
See Visual Fracture Critical Inspection Report in the Files tab for further information.

- 105 Concrete box girders are located in Spans 2, 3, 4, 8, 9 and 10.  
Bottom slab has hairline map cracking and leaching cracks scattered throughout, some rust-stained.  
In the webs throughout all spans, there are hairline shear and moment cracks, some are leaching and rust stained.  
A few drains in the bottom slab are plugged.  
Span 3 near Pier 3 has a couple of 1 sq. ft. patches.  
Span 4 below the sidewalk corbels has a couple of 1 sq. ft. delaminations.  
Spans 8 and 9 have 20 sq. ft. areas of hairline leaching cracks with rust in the bottom slab (Photos #23 and #24).  
In the east web of Span 9 there are several exposed rusty rebar and several 1 ft. diameter delaminations.  
Span 10 near Pier 11 has a 1 sq. ft. patch.  
Span 12 the concrete corbel was damaged and replaced.

- 110 The girders have numerous hairline transverse cracks in the bottom flanges and hairline cracks in the webs.  
Spans 11 and 12 have exposed rusty bottom flange stirrups, due to lack of cover.

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<b>Carrying</b> SR 303		<b>Route On</b> 00303 <b>Mile Post</b> 0.73
<b>Intersecting</b> PORT WASHINGTON NARROWS		<b>Route Under</b> <b>Mile Post</b>

**Notes (Continued)**

- 152 For this report, FB 0 begins at each pier of the steel spans even though the spans are continuous. This does not follow plans.  
 Span 2 FB2 has one loose bolt.  
 Span 5 FB5 in the floorbeam center brace there are three loose bolts.  
 Span 5 FB6 west girder lateral gusset plate in the bottom chord connection has four loose bolts (Photo #34).  
 Span 5 FB6 east girder lateral gusset plate in the bottom chord connection has one loose bolt (Photo #44).  
 Span 6 FB2 west girder in the lower lateral gusset plate has 1/8" pack rust. In addition the lateral gusset plate has one loose bolt.  
 Span 6 FB6 in the top of the connection to the Girder 6B web there is some minor pack rust.  
 Span 6 FB10 west in bottom flange lateral gusset has one loose bolt.  
 Span 7 FB7 angle/gusset plate weld at the connection to the Girder 7N web has heavy surface rust.
- 200 Pier 1 and Pier 16 have concrete slope protection in place.  
 On the west end of the south abutment wingwall there is a 3 ft. deep x 3 ft. wide x 6 ft. long erosion hole (Photo #13). REPAIR #13774.
- 205 Piers 11-15 are included in the quantities.  
 The columns in Piers 13-15 have small scrapes and spalls.  
 Column 13B at mid height on the east side has a 11" x 6" x 1/2" deep spall and on the northeast side a 24" x 7" delamination.
- 220 Underwater Inspection Findings:  
 Quantity includes the seven submerged footings that are exposed, Piers 3 through 9. All submerged concrete is heavily encrusted with marine growth (Photo #UW-2). All pedestal and footing top surfaces are very irregular and vary in elevation several feet. There are some steel cofferdam remains in place around the footings at Pier 4, 5 and 9. Pier 7 has some poor consolidation voids/lenses in the footing (CS3). REPAIR #14242.
- 221 Top corner of footings are spalled away 2" deep.
- 227 Piers 2-10 included in quantity.  
 Piers 3, 4, 5 and 6 struts have diagonal leaching cracks.  
 Pier 6 Column A, east face has a 3-ft x 2-ft delaminated area just above the intertidal zone (Photo #UW-3).  
 Pier 7 outside corners have shallow impact spalls just above the intertidal zone (Photo #UW-4).  
 Pier 8 columns have vertical cracks up to 4 ft. long in the intertidal zone. Some are delaminated with rust staining. The SW corner of Column A has spalled, exposing the corner vertical rebar (Photo #UW-5).  
  
 Underwater Inspection Findings:  
 All in water piers have two columns with a strut above and a shared footing below (Photo #UW-6). Heavy marine growth on submerged columns in Piers 3 through 9. Random cleaning in small areas revealed sound concrete. Pier 7 Column B has a poor consolidation void at the column/footing interface, 18-inches along the south and east faces.
- 234 In the concrete girder spans the exterior columns caps have diagonal leaching cracks throughout, while the inside columns have vertical leaching cracks.  
 Vertical leaching cracks at centerline.  
 The west end of Pier 2 cap has heavy leaching.
- 266 The sidewalk joints have some 'D' spalls and the surface has scattered transverse cracks. Near the floorbeams the surface has been patched in several locations (Photo #77).  
 The overhangs of the box girder spans have transverse leaching cracks with some showing rust stains.  
 In the west overhang of Span 5 near Piers 5 and 6 there are a couple of spalls with 2 ft. of exposed rebar.  
 Span 5 east sidewalk edge near Floorbeam 1 has an 18" diameter spall with exposed rebar.  
 Span 7 east overhang has 2 sq. ft. of spalls/delaminations.  
 Span 16 west corbel has 3 ft. x 6" x 6" spall with exposed rebar.
- 310 Elastomeric bearings are at Piers 5 and 8.  
 The grout under the bearings have some vertical leaching cracks.
- 311 Sliding bearings for the concrete spans are at Piers 1, 2, 11, and 16 have moderate to severe laminar rust with minor section loss to masonry plates. The nuts have moderate section loss as well. The worst location is at Pier 16 (Photo #56). REPAIR #14234.  
 The bearings are typically covered with debris from the roadway above (Photo #25). REPAIR #14234.
- 313 Fixed bearings for the concrete spans are at Piers 2, 5, 8, and 11. Fixed bearings in steel spans are at Piers 6 and 7. Pier 5 and Pier 8 bearings are covered with dirt (Photos #50 and #46).

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## Notes (Continued)

331 Bridge rails replaced in 2010.

340 BP rails installed on top of bridge rail.  
 Pedestrian railing is missing a nut and bolt at the following locations:  
 Span 4 west side lower connection.  
 Span 5 west side lower connection.  
 (Photo #75) REPAIR #14238

Damage Report 10/16/20

The east pedestrian rail just off the bridge was damaged due to an errant vehicle at the north end over an approximate 10 ft. length.  
 See photos #91, #92, and #93. REPAIR #14245.

355 There are damaged or loose bolts in the steel floor beams. See 152 note.

357 Pack rust is present up to 1/2" thick in the girders and floorbeams. See 91 and 152 notes and Fracture Critical Inspection Report File #9.

361 This bridge is over salt water. Piers 3 through 9 are in channel.  
 The riprap slope repair at Pier 11 is stable.  
 Underwater Inspection Findings:  
 Overall channel is stable with only minor changes to sounding depths. Bridge was designed for riprap protection at all in-water piers.  
 Riprap in place at Piers 4 thru 8 has settled/consolidated somewhat but vertical footing exposures are similar to previous underwater inspections. Minimum remaining footing embedment is at the east face of Pier 8 where 10-ft remains to the bottom of the footing.

373 Concrete catcher blocks under girders at Piers 5 and 8 and steel catcher blocks under girders at Piers 6 and 7.

381 Joints are leaking on to the steel floor system below causing corrosion.

402 Poured joints with polymer headers are located in Spans 5, 6, and 7.  
 Joints are located at the even numbered FBs.  
 Rubber has debonded and leaks at Span 5 FB2, FB4, FB6, FB8, Span 6 FB0, Span 7 FB0, FB2. REPAIR #14236.  
 The top flange of joint support diaphragms at floorbeams have laminar rust on top with scalloping on bottom.  
 Patches and form work are in place at many locations in soffit from the joint header repairs in the steel spans.

NB deck:

Span 7

FB0 header is patched in right lane.

FB2 header is "D" spalled.

SB deck:

Span 6

FB2 left lane header has been patched.

FB4 left lane header has 2 LF of patches.

Span 7

FB0 header has 12 ft. of patches in left lane header.

FB2 header has 12" x 6" patch in Panel 3.

FB4 header has a 4 LF patch.

410 Joint at Pier 5 has 10 LF of patches.

Joints measured at west fogline:

Year	Pier 2	Pier 5	Pier 8	Pier 11	Temp	Time
2018	5-1/2"	8-1/4"	7-1/2"	4-3/4"	55° F	9:00 am
2016	5-1/2"	8-1/16"	7-3/16"	4-5/8"	55° F	3:00 pm
2014	5-3/4"	8-1/4"	7-1/2"	4-3/4"	55° F	12:00 pm

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412 The joint at Pier 13 was filled with concrete during the earthquake retrofit to make it a rigid joint.

Pier 1 SB right lane has 6 LF of patches.

Pier 13 NB has 5 LF of patches.

Pier 16 is missing the strip seal (Photo #83). REPAIR #14241.

Joints measured at west fogline:

Year	Pier 1	Pier 13	Pier 16	Temp	Time
2020	2-1/4"	2"	2-1/2"	55° F	9:00 am
2018	2-1/8"	2"	2-1/2"	55° F	3:00 pm
2016	2-1/8"	2"	2-1/2"	55° F	12:00 pm

705 A few nuts have inadequate engagement due to short length of anchor bolts.

Luminaire Pole near Pier 3 east has minor impact damage, (Photo #76).

804 The overlay has many areas that appear to be patches, but were formed during the placement of the overlay (1991) and are not coded down in BMS (per BBT) nor quantified in text below.

SB DECK:

Span 3 near Pier 4 has a 1 ft. diameter spall with exposed rebar (Photo #59). REPAIR #14240.

Span 5

Panel 4 has 30 sq. ft. of patches.

Span 6

Panel 1 has 64 sq. ft. of scattered patches. (Photo #88).

Panel 2 has 30 sq. ft. of patches.

Panel 3 has 22 sq. ft. of patches.

Panel 4 has 50 sq. ft. of patches and 5 sq. ft. of small spalls.

Panel 6 has 42 sq. ft. of patches.

Span 7

Panel 1 has 1 sq. ft. patch.

Panel 3 has 95 sq. ft. of patches and a 1 ft. diameter spall (Photo #81). REPAIR #14240.

Panel 3 south joint in the right hand lane has a 12 sq. ft. patch (Photo #90).

Panel 4 has 360 sq. ft. of patches in right lane.

Span 8 has a 200 sq. ft. patch adjacent to the Pier 8 finger joint.

Span 14 has 2 sq. ft. of patches.

NB DECK:

Span 3 has 8 sq. ft. of patches and 2 sq. ft. of shallow spalls.

Span 4 has 14 sq. ft. of patches near Pier 5.

Span 5 Panel 1 has 10 sq. ft. patches near Pier 5.

Span 6

Panel 1 has 10 sq. ft. of patches in left lane.

Panel 4 has a 2 sq. ft. of patches.

Span 7 has a 2 sq. ft. patch.

Span 10 has 15 sq. ft. of patches.

Span 13 has a 1 sq. ft. patch.

902 Paint has failed over lower third of Spans 6 and 7 typically where cormorants perch.

Steel is beginning to rust on the bottom flanges and lower quarter of the web plates in all spans.

Worst areas are where cormorants nest at Pier 7 (Photo #27).

1663 NBI deck coding lowered to '5' due to greater than 1.2% of the deck is patched or spalled.

1671 Superstructure coded '5' due to minor section loss in the girder web, see Visual Fracture Critical Inspection Report.

1677 Well vegetated tidal banks. Riprap in place along the north shore.

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## Notes (Continued)

- 1680 Continue to monitor Piers 3 through 9 for scour. These piers and the embankments are designed for riprap protection. The Pier 3 spread footing is 15' 0" thick. Piers 4 and 8 have 20' 0" thick spread footings. The Pier 5 spread footing is 24' 0" thick. Piers 6 and 7 have 21' 6" thick spread footings. The Pier 9 spread footing is 17' 0" thick.
- 1685 Damage Report 10/16/20  
 The northeast transition was torn out over its entire length due to a vehicular accident. See photos under element note #340. REPAIR #14245.
- 1686 Damage Report 10/16/20  
 The east guard rail was damaged due to a vehicular accident at the north end over an approximate 20 ft. length. See photos under element note #340. REPAIR #14245.
- 2675 There is a 6" gas, 4"galvanized, and 18" water line on the east overhang.  
 There are twelve 4" diameter fiberglass wrapped conduits hung below west overhang.
- 2693 Dive team does channel soundings from the boat and performs fathometric surveys at the request of the Scour Engineer. See 2015 Underwater Inspection Report drawings.
- 2694 Vertical clearance checked on 10/13/2020. Minimum clearance under the bridge measured to be 27'-1" below Girder A to the right and left curb lines on Lebo Blvd.

## Repairs

Repair No	Pr	R	Repair Descriptions	BMS	Noted	Maint	Verified
13774	1	B	Prevent the roadway deck water run-off from draining around the west end of the south abutment. It is partly undermining the abutment Wingwalls. Fill the erosion gullies created by the runoff, down west side of slope protection.	200	11/7/2002		
13779	1	B	Clean bottom flanges of plate girders at panel points in Spans 5, 6, and 7 where cormorant debris prohibits inspection of steel connections. Clean before next inspection due 10/2022.	91	10/23/2006		
14234	1	B	Clean debris from around bearings at all piers.	311	10/15/2012		
14236	1	B	Reseal floorbeam joints in steel spans.	402	10/15/2012		
14238	1	B	Replace missing nut and bolt in the pedestrian railing at the following locations: Span 4 west side lower connection. Span 5 west side lower connection.	340	10/27/2014		
14239	1	B	Remove plants and trees near Piers 10 and 11 that prevent UBIT access to Span 10 and Pier 11 bearings. (The ivy at Pier 10 was removed in 2018 - WDS/SMT)	0	10/27/2014		
14240	1	B	Patch spalls in overlay.	804	10/27/2014		
14241	1	B	Repair strip seal at Pier 16 to prevent water from eroding soil at abutment.	412	10/27/2014		
14242	1	S	Design and install scour countermeasures for all submerged piers to rebuild the channel bottom and prevent further scour.	220	10/9/2018		
14245	0	J	Rebuild and repair the northeast corner guardrail, transition and pedestrian rail.	340, 1685, 1686	10/16/2020		

## Inspections Performed and Resources Required

Report Type	Date	Freq	Hrs	Insp	CertNo	Coinsp				Note	
Routine	10/13/2020	24	2.0	FPP	G0710	RAB					
Resources	Hours	Min	Pref	Max	Freq	Date	Need Date	Override	Notes		

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Intersecting		PORT WASHINGTON NARROWS		Route Under				Mile Post			
Resources	Hours	Min	Pref	Max	Freq	Date	Need Date	Override	Notes		
SNDG									Underwater inspectors provide groundlines. Regional inspectors do not need to take soundings.		
Fracture Critical		10/13/2020	24	5.0	FPP	G0710	RAB				
Resources	Hours	Min	Pref	Max	Freq	Date	Need Date	Override	Notes		
UBIT	5.00	52	62	62	24	10/13/2020	10/13/2022	Deployed from both sides.			
Attenuator									Contact the Olympi Region at (360) 357-2763 to arrange for traffic control.		
Scheduling Restrictions									Traffic Window: WEEKDAYS 9 A.M. - 3 P.M.		
Underwater		10/26/2015	60	7.5	DON	G0314	JRH	Underwater Inspection by WSDOT Dive Team completed on 10/26-27/2015.			
Resources	Hours	Min	Pref	Max	Freq	Date	Need Date	Override	Notes		
SNDG									Underwater inspectors provide groundlines. Regional inspectors do not need to take soundings.		
Boat	12.00	D	D	D	Duckworth launched from boat ramp between Warren Ave and Manette Bridges.						
Tides									Check slack tide times for the optimal dive inspection experience (Port Washington, South Entrance is the more accurate prediction for the bridge site).		
Damage		10/16/2020		1.0	GAS	G0709	On 10/16/20 a southbound RV lost control, crossing over all lanes and damaging the northeast approach rail, transitions and pedestrian rail.				
Geometric		9/4/2013	144	1.0	GGI	GEOM	DJM	Attached CFDR from 4/4/20 Damage Added Geometric Report			





**Washington State  
Department of Transportation**

**VISUAL FRACTURE CRITICAL INSPECTION REPORT**

Bridge Name: PORT WASHINGTON NARROWS CS 1840 Date: 10/13/2020  
Bridge No: 303/12 Hours: 5.0  
Structure ID: 0005565A Inspector ID #: G0710  
Structure Type: SG CBOX CTB Lead Inspector Initials: FPP  
Agency: WSDOT Co-Inspector Initials: RAB  
Milepost: 0.73

Lead Inspector Signature:

*John P. Pomeroy*

Inspected items: Two Girder System

Co-Inspector Signature:

*RK*

**Procedures:**

**Riveted Two Girder FC Inspection Procedure**

1. Check a sampling of rivets, with emphasis on the end row of cover plates and outside edges of splice plates.
2. Check girder web at areas around floorbeam and lateral bracing.
3. For continuous spans with welded stud shear connectors, check top flange soffit for cracking in tension areas and document location in weld category C.
4. Check for any welds, including plug, tack, or repair welds. Record location of welds and document weld type and category.
5. Check FC members for areas of heavy or pitted corrosion, nicks, gouges, sharp bends, and collision damage. Record location of all these conditions and estimated section loss, if applicable.
6. Check all heat straightened or repaired areas. Record location of these areas, regardless of condition.

FCM Location	FCM Type	FCM Per Girder or Truss Line	Rivet Server Plans		
			Sh. No.	Contract	Sh. Name
Spans 5, 6 and 7	Riveted Plate Girder		4	4490	Layout, Plan & Elev.
		1	26	5565	Steel Girder, Roadway Slab and Details

Note: FCM = Fracture Critical Member



## VISUAL FRACTURE CRITICAL INSPECTION REPORT

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
General:					Tack welds at web fill plates beneath stiffener angles at piers in the top flange tension zone.
East	5	Tension zone	web & flanges	Riveted plate girder	Seam rust on bottom of exterior splice plates up to 4 ft. long in places. First and second bottom splice plate north of Pier 5 bottom plates have 1/8" thick pack rust 2 ft. long, exterior side.
East	6	Tension zone	web & flanges	Riveted plate girder	Bottom flange cover plates near midspan and at Pier 6 have minor seam/pack rust 1/8" thick at multiple locations, exterior side, 20 ft. total. At 2/3 span on the bottom flange interior side there is a build up of cormorant excrement and vomit up to 3" deep.
East	7	Tension zone	web & flanges	Riveted plate girder	No defects noted.
West	5	Tension zone	web & flanges	Riveted plate girder	First bottom splice plate and cover plates north of Pier 5 have several 1 ft. lengths of 1/8" thick pack rust, exterior side. Second bottom splice plate and cover plates north of Pier 5 have up to 1/4" thick pack rust over 15 ft. length, exterior side. Third bottom flange splice plate north of Pier 5 has pack rust 3/8" to 1/2" thick in 2 locations, exterior side (1 ft. and 4 ft. long).
West	6	Tension zone	web & flanges	Riveted plate girder	Just south of the navigation light near midspan, the bottom flange splice plate has minor pack rust up to 3/8" thick, 8 ft. long, exterior side. At 2/3 span on the bottom flange interior side there is a build up of cormorant excrement and vomit to 3" deep. The web has several 3 ft. x 1 ft. areas between stiffeners with laminar rust and minor section loss, see photos #66 and #67.
West	7	Tension zone	web & flanges	Riveted plate girder	A few minor areas of pack rust in bottom flange plates up to 1/2", see photos #15 and #30. The bottom flange interior side has a build up of cormorant excrement and vomit to 3" deep. The web has several 3 ft. x 1 ft. areas between stiffeners with laminar rust and minor section loss, see photos #66 and #67.

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION  
NBI STRUCTURE INVENTORY AND APPRAISAL REPORT  
(ENGLISH UNITS)

CD Date: 12/4/2020 Printed on: 12/4/2020  
CD Guid: c38b6b2b-99f6-4d55-924d-421df9ca88b5

IDENTIFICATION				WSBIS DATA			
(1) STATE NAME - WASHINGTON			530	BRIDGE NUMBER			303/12
(8) STRUCTURE NUMBER		# 0005565A0000000		BRIDGE NAME		PORT WASHINGTON	CS1840
(5) INVENTORY ROUTE (ON/UNDER) - On		1 3 1 00303		CUSTODIAN		Washington State	
STATE ROUTE MILEPOST		0.73		CROSSING DESC		PORT WASHINGTON	CS1830
(2) HIGHWAY AGENCY DISTRICT - OL Region		03		MAIN LISTING FLAG			M
(3) COUNTY CODE 35 - Kitsap County		(4) PLACE CODE 00000		SUFFICIENCY RATING		44.17	Not SD or FO
(6) FEATURES INTERSECTED		PORT WASHINGTON NARROWS		CLASSIFICATION			
(7) FACILITY CARRIED		SR 303		(112) NBIS BRIDGE LENGTH			Y
(9) LOCATION		0.7 N JCT SR 304		(104) HIGHWAY SYSTEM - On the NHS			1
(12) BASE HIGHWAY NETWORK - Part of network		1		(26) FUNCTIONAL CLASS - Other Principal Arterial			14
(13) LRS INV ROUTE AND SUB ROUTE		30300		(100) DEFENSE HIGHWAY - Not a STRAHNET route			0
(11) LRS MILEPOST		0.73		(101) PARALLEL STRUCTURE - Not a parallel bridge			N
(16) LATITUDE		47 Deg 34 Min 41.02 Sec		(102) DIRECTION OF TRAFFIC - 2-way traffic			2
(17) LONGITUDE		122 Deg 37 Min 57.83 Sec		(103) TEMPORARY STRUCTURE - Not Applicable			
(98A) BORDER BR. - Not a border bridge (98B) (99) BORDER BR. SID - Not a border bridge				(105) FEDERAL LANDS HIGHWAY - Not Applicable			0
STRUCTURE TYPE AND MATERIAL				(110) DESIGNATED NATIONAL NETWORK - Part of network			1
(43) STRUCTURE TYPE MAIN: MATERIAL - Steel continuous				(20) TOLL - Non-toll structure			3
DESIGN - Girder & floorbeam sys		403		(21) MAINTENANCE - State Highway Agency			01
(44) STRUCTURE TYPE APPR: MATERIAL - Other				(22) OWNER - Washington State			1
DESIGN - Mixed types		020		(37) HISTORICAL SIGNIFICANCE - Eligible for NRHP			2
(45) NO. OF SPANS IN MAIN UNIT		3		CONDITION			
(46) NO. OF APPROACH SPANS		12		(58) DECK			5
(107) DECK STRUCTURE TYPE - Conc. CIP		1		(59) SUPERSTRUCTURE			5
(108) WEARING SURFACE / PROTECTIVE SYSTEM:				(60) SUBSTRUCTURE			6
(A) TYPE OF WEARING SURFACE - Epoxy Overlay		5		(61) CHANNEL AND CHANNEL PROTECTION			8
(B) TYPE OF MEMBRANE - None		0		(62) CULVERTS			N
(C) TYPE OF DECK PROTECTION - None		0		LOAD RATING AND POSTING			
AGE AND SERVICE				(31) DESIGN LOAD - HS 20			5
(27) YEAR BUILT		1958		(63) OPER RATING METHOD - Ld Factor (LFR) tons HS20			1
(106) YEAR RECONSTRUCTED		0000		(64) OPERATING RATING			42 T
(42) TYPE OF SERVICE ON - Highway & Pedestrian		5		(65) INV RATING METHOD - Ld Factor (LFR) tons HS20			1
UNDER - Highway & waterway		6		(66) INVENTORY RATING			25 T
(28) LANES: ON STRUCTURE 4		UNDER STRUCTURE 2		(70) BRIDGE POSTING - Equal or above legal loads			5
(29) AVERAGE DAILY TRAFFIC		40478		(41) STRUCT OPEN, POSTED, CLOSED - Open, no restrictions			A
(30) YEAR OF ADT 2016		(109) TRUCK ADT 3%		APPRAISAL			
(19) BYPASS, DETOUR LENGTH		3 mi		(67) STRUCTURAL EVALUATION			5
GEOMETRIC DATA				(68) DECK GEOMETRY			4
(48) LENGTH OF MAXIMUM SPAN		250 ft		(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL			4
(49) STRUCTURE LENGTH		1717 ft		(71) WATERWAY ADEQUACY			8
(50) CURB OR SIDEWALK: LEFT 4.0 ft		RIGHT 4.0 ft		(72) APPROACH ROADWAY ALIGNMENT			8
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		54.0 ft		(36) TRAFFIC SAFETY FEATURES			1111
(52) DECK WIDTH OUT TO OUT		67.5 ft		(113) SCOUR CRITICAL BRIDGE			3
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		54 ft		PROPOSED IMPROVEMENTS			
(33) BRIDGE MEDIAN - Closed median non-m		3		(75) TYPE OF WORK -			351
(34) SKEW 0 Deg		(35) STRUCTURE FLARED No 0		(76) LENGTH OF STRUCTURE IMPROVEMENT			1717 ft
(10) INVENTORY ROUTE MIN VERT CLEAR		99 ft 99 in		(94) BRIDGE IMPROVEMENT COST			\$19,230,000
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		27 ft 00 in		(95) ROADWAY IMPROVEMENT COST			\$3,846,000
(53) MIN VERT CLEAR OVER BRIDGE RDW		99 ft 99 in		(96) TOTAL PROJECT COST			\$38,461,000
(54) MIN VERT UNDERCLEAR		27 ft 01 in H		(97) YEAR OF IMPROVEMENT COST ESTIMATE			2014
(55) MIN LAT UNDERCLEAR RT		6.7 ft H		(114) FUTURE ADT			57895
(56) MIN LAT UNDERCLEAR LT		0.0 ft		(115) YEAR OF FUTURE ADT			2038
NAVIGATION DATA				INSPECTIONS			
(38) NAVIGATION CONTROL - Navigation control		1		(90) INSPECTION DATE 10/20		(91) FREQUENCY 24 MO	
(111) PIER PROTECTION -		1		(92) CRITICAL FEATURE INSPECTION:		(93) CFI DATE	
(39) NAVIGATION VERTICAL CLEARANCE		80 ft		(A) FRACTURE CRIT DETAIL - YES -		24 Month	(A) 10/20
(116) VERT-LIFT BRIDGE NAV MIN VERT CLR				(B) UNDERWATER INSP - YES -		60 Month	(B) 10/15
(40) NAVIGATION HORIZONTAL CLR		231 ft		(C) OTHER SPECIAL INSP - NO -		Month	(C) _/_

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<b>Carrying</b> SR 303		<b>Route On</b> 00303	<b>Mile Post</b> 0.73
<b>Intersecting</b> PORT WASHINGTON NARROWS		<b>Route Under</b>	<b>Mile Post</b>

## SI-1

0 Orientation  
Photo Type: D - Deck  
Orientation: N  
Date: 10/15/2012  
Repairs:  
Deck looking north.



## SI-2

0 Orientation  
Photo Type: E - Elevation  
Orientation: W  
Date: 10/28/2008  
Repairs:  
Elevation looking west.





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## SI-72

0 Orientation

Photo Type: R - Repair

Orientation: S

Date: 10/28/2014

Repairs: 14239

At Piers 10 and 11 trees obstruct Ubit access.



## UW-1

9 Underwater Report Executive Summary

Photo Type: W - UW Cover

Orientation: W

Date: 10/26/2015

Repairs:

Elevation for UW report cover.





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## SI-87

35 Concrete Deck Soffit  
Photo Type: C - Completed  
Orientation: UP  
Date: 11/7/2018  
Repairs:  
Soffit patch in Span 6 Panel 1 SB.



## MI-26

91 Steel Riveted Girder  
Photo Type: R - Repair  
Orientation: E  
Date: 10/23/2006  
Repairs: 13779  
Cormorant guano and debris on bottom flange of plate girder.





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## SI-31

91 Steel Riveted Girder  
Photo Type: R - Repair  
Orientation: NE  
Date: 10/27/2008  
Repairs: 13779  
Typical Cormorant guano at panel points.



## SI-84

91 Steel Riveted Girder  
Photo Type: R - Repair  
Orientation: NW  
Date: 10/18/2016  
Repairs: 13779  
Mid-span lower sway brace connection on a typical floorbeam showing the amount of bird excrement buildup.





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## SI-66

Visual Fracture Critical Report

Photo Type: G - General

Orientation: SW

Date: 10/15/2012

Repairs:

Girder 7A typical failed paint and laminar rust in webs.



## SI-67

Visual Fracture Critical Report

Photo Type: G - General

Orientation: SW

Date: 10/15/2012

Repairs:

Close up of Girder 7A laminar rust under failed paint.





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## MI-15

Visual Fracture Critical Report

Photo Type: G - General

Orientation: NE

Date: 10/23/2003

Repairs:

1/2" thick pack rust at bottom splice plate  
west girder in Span 7 .



## SI-30

Visual Fracture Critical Report

Photo Type: G - General

Orientation: E

Date: 10/28/2008

Repairs:

Typical pack rust between Girder cover  
plates in bottom flange.





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## MI-23

105 Concrete Box Girder

Photo Type: G - General

Orientation: UP

Date: 10/23/2006

Repairs:

Areas of leaching cracks in Spans 8 and 9 due to plugged drain ports.



## MI-24

105 Concrete Box Girder

Photo Type: G - General

Orientation: UP

Date: 10/23/2006

Repairs:

Plugged drain port (typical) in spans 8 and 9.





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## SI-34

152 Steel Floor Beam

Photo Type: G - General

Orientation: SW

Date: 10/28/2008

Repairs:

Loose bolts in Floorbeam 6/Girder 5A connection



## SI-44

152 Steel Floor Beam

Photo Type: G - General

Orientation: SE

Date: 10/13/2010

Repairs:

Loose bolt in Span 5 Floorbeam 6 lateral gusset to east girder.





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## MI-13

200 Abutment Fill

Photo Type: R - Repair

Orientation: E

Date: 10/22/2003

Repairs: 13774

Erosion under wing wall at west end of south abutment.



## UW-2

220 Concrete Submerged Foundation

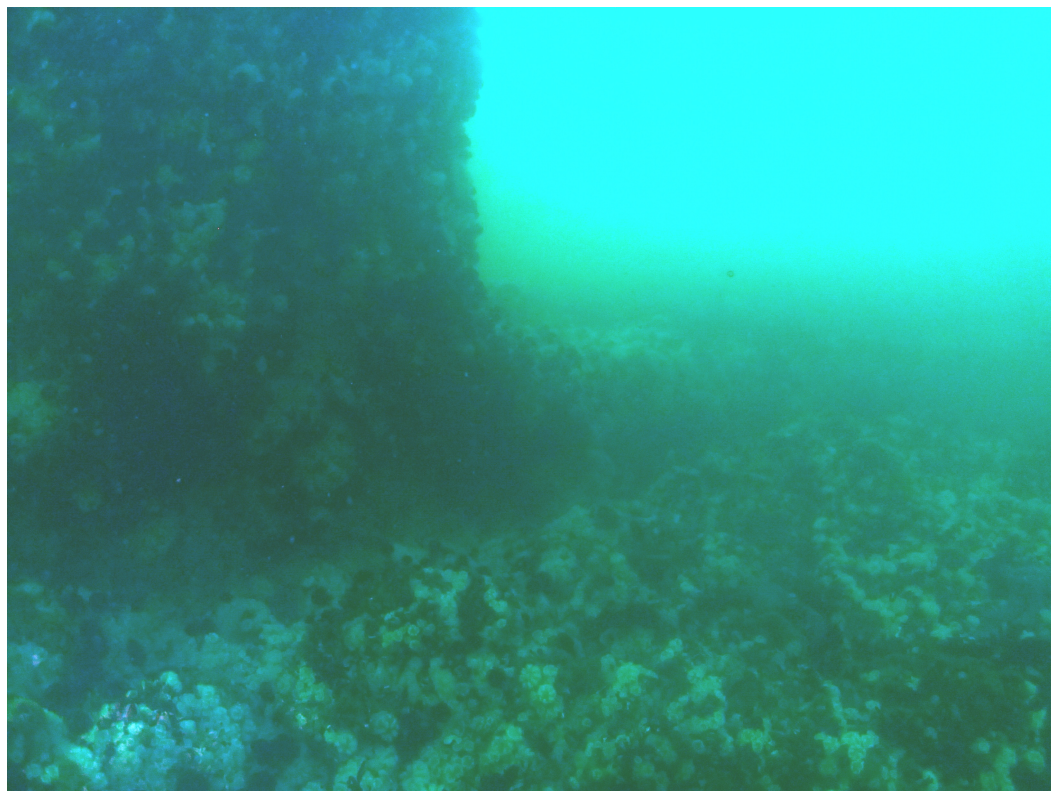
Photo Type: S - Scour

Orientation:

Date: 10/26/2015

Repairs: 14242

Typical heavy marine growth on submerged surfaces.





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**Route Under**

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## UW-3

227 Concrete Submerged Pile-Column

Photo Type: G - General

Orientation: NW

Date: 10/26/2015

Repairs:

Pier 6, Column A, east face; 3-ft x 2-ft delam/spall just above the ITZ.



## UW-4

227 Concrete Submerged Pile-Column

Photo Type: G - General

Orientation: E

Date: 10/26/2015

Repairs:

Pier 7, Column A, NW corner; shallow impact spalls. Typical of other corners on Pier 7 columns.





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**Route Under**  
**Mile Post** 0.73  
**Mile Post**

## UW-5

227 Concrete Submerged Pile-Column

Photo Type: G - General

Orientation: NE

Date: 10/26/2015

Repairs:

Pier 8, Column A, SW corner; spalled corner with exposed rebar. Other Pier 8 corners have vertical cracking with rust staining.



## UW-6

227 Concrete Submerged Pile-Column

Photo Type: G - General

Orientation: N

Date: 10/26/2015

Repairs:

Pier 9. Typical in-water pier elevation and configuration. Note north bank riprap.





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## SI-77

266 Concrete Sidewalk & Supports

Photo Type: G - General

Orientation: SW

Date: 10/28/2014

Repairs:

Patched sidewalk at Span 5 Floorbeam 6 east. (Typical at many locations)



## SI-56

311 Moveable Bearing (roller, sliding, etc)

Photo Type: R - Repair

Orientation: NW

Date: 10/15/2012

Repairs: 14234

Typical bearing at Pier 16.





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**Br. Name** PORT WASHINGTON CS1840

**Route On** 00303

**Mile Post** 0.73

**Route Under**

**Mile Post**

## MI-25

311 Moveable Bearing (roller, sliding, etc)  
Photo Type: R - Repair  
Orientation: N  
Date: 10/23/2006  
Repairs: 14234  
Debris on Pier 2 cap.



## SI-50

313 Fixed Bearing  
Photo Type: G - General  
Orientation: NW  
Date: 10/13/2010  
Repairs:  
Pier 5 bearings are covered with debris.





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**SID** 0005565A

**Br. Name** PORT WASHINGTON CS1840

**Route On** 00303

**Mile Post** 0.73

**Route Under**

**Mile Post**

## SI-46

313 Fixed Bearing  
Photo Type: G - General  
Orientation: W  
Date: 10/13/2010  
Repairs:  
Pier 8 bearings are covered with dirt.



## SI-75

340 Metal Pedestrian Railing  
Photo Type: R - Repair  
Orientation: SW  
Date: 9/4/2013  
Repairs: 14238  
Pedestrian railing Span 5 west side.



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<b>Carrying</b> SR 303		<b>Route On</b> 00303 <b>Mile Post</b> 0.73
<b>Intersecting</b> PORT WASHINGTON NARROWS		<b>Route Under</b> <b>Mile Post</b>

## SI-91

340 Metal Pedestrian Railing

Photo Type: J - Reg Road Maint

Orientation: E

Date: 10/16/2020

Repairs: 14245

Errant vehicle damaged the northeast corner guardrail, transition and pedestrian rail.



## SI-92

340 Metal Pedestrian Railing

Photo Type: J - Reg Road Maint

Orientation: SW

Date: 10/16/2020

Repairs: 14245

The northeast corner guardrail, transition and pedestrian rail are heavily damaged over approximately 30 ft.





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Agency: Washington State  
Program Mgr: Evan M Grimm

**Br. No.** 303/12 **SID** 0005565A

**Br. Name** PORT WASHINGTON CS1840

**Carrying** SR 303

**Route On** 00303

**Mile Post** 0.73

**Intersecting** PORT WASHINGTON NARROWS

**Route Under**

**Mile Post**

## SI-93

340 Metal Pedestrian Railing

Photo Type: J - Reg Road Maint

Orientation: N

Date: 10/16/2020

Repairs: 14245

The northeast corner guardrail, transition and pedestrian rail are heavily damaged over approximately 30 ft.



## SI-83

412 Strip Seal - Anchored

Photo Type: R - Repair

Orientation: E

Date: 10/27/2014

Repairs: 14241

Missing strip seal at Pier 16 SB lanes.





# BRIDGE INSPECTION REPORT

Page 17 of 20

Status: Released  
CD Guid: c38b6b2b-99f6-4d55-924d-421df9ca88b5

Printed On: 1/21/2021  
Release Date: 12/4/2020

Agency: Washington State  
Program Mgr: Evan M Grimm

**Br. No.** 303/12  
**Carrying** SR 303  
**Intersecting** PORT WASHINGTON NARROWS

**SID** 0005565A

**Br. Name** PORT WASHINGTON CS1840

**Route On** 00303

**Mile Post** 0.73

**Route Under**

**Mile Post**

## SI-76

705 Bridge Luminaire Pole and Base

Photo Type: G - General

Orientation: W

Date: 10/27/2014

Repairs:

Luminaire near Pier 3 east has impact damage.



## SI-59

804 Polyester Concrete Overlay

Photo Type: R - Repair

Orientation: NE

Date: 10/15/2012

Repairs: 14240

Span 3 SB spall with exposed rebar.





# BRIDGE INSPECTION REPORT

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Status: Released  
CD Guid: c38b6b2b-99f6-4d55-924d-421df9ca88b5

Printed On: 1/21/2021  
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**Br. No.** 303/12  
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**SID** 0005565A

**Br. Name** PORT WASHINGTON CS1840

**Route On** 00303

**Mile Post** 0.73

**Route Under**

**Mile Post**

## SI-88

804 Polyester Concrete Overlay  
Photo Type: G - General  
Orientation: E  
Date: 11/13/2018  
Repairs:  
Span 6 Panel 1 SB patch in overlay.



## SI-81

804 Polyester Concrete Overlay  
Photo Type: R - Repair  
Orientation: NE  
Date: 10/28/2014  
Repairs: 14240  
Span 7 Panel 3 SB patches and spall.





# BRIDGE INSPECTION REPORT

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Status: Released  
CD Guid: c38b6b2b-99f6-4d55-924d-421df9ca88b5

Printed On: 1/21/2021  
Release Date: 12/4/2020

Agency: Washington State  
Program Mgr: Evan M Grimm

**Br. No.** 303/12 **SID** 0005565A

**Br. Name** PORT WASHINGTON CS1840

**Carrying** SR 303

**Route On** 00303

**Mile Post** 0.73

**Intersecting** PORT WASHINGTON NARROWS

**Route Under**

**Mile Post**

## SI-90

804 Polyester Concrete Overlay

Photo Type: G - General

Orientation: S

Date: 3/4/2020

Repairs:

Span 7 Panel 3 SB 3' x 4' patched spall  
at south joint right lane.



## SI-27

902 Inorganic-Zinc-Vinyl Paint System

Photo Type: G - General

Orientation: NW

Date: 10/27/2008

Repairs:

Typical paint condition.





## BRIDGE INSPECTION REPORT

Page 20 of 20

Status: Released

Printed On: 1/21/2021

Agency: Washington State

CD Guid: c38b6b2b-99f6-4d55-924d-421df9ca88b5

Release Date: 12/4/2020

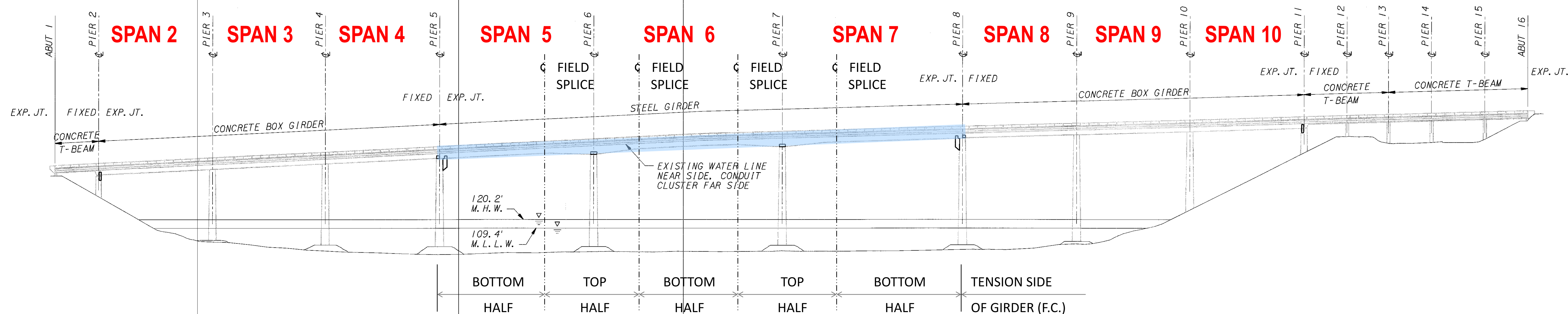
Program Mgr: Evan M Grimm

<b>Br. No.</b> 303/12	<b>SID</b> 0005565A	<b>Br. Name</b> PORT WASHINGTON CS1840
<b>Carrying</b> SR 303		<b>Route On</b> 00303 <b>Mile Post</b> 0.73
<b>Intersecting</b> PORT WASHINGTON NARROWS		<b>Route Under</b> <b>Mile Post</b>

Entry Name	Folder Name	Type	Repairs	Page
SI-1	0 Orientation	D		1
SI-2	0 Orientation	E		1
SI-72	0 Orientation	R	14239	2
UW-1	9 Underwater Report Executive Summary	W		2
SI-87	35 Concrete Deck Soffit	C		3
MI-26	91 Steel Riveted Girder	R	13779	3
SI-31	91 Steel Riveted Girder	R	13779	4
SI-84	91 Steel Riveted Girder	R	13779	4
SI-66	Visual Fracture Critical Report	G		5
SI-67	Visual Fracture Critical Report	G		5
MI-15	Visual Fracture Critical Report	G		6
SI-30	Visual Fracture Critical Report	G		6
MI-23	105 Concrete Box Girder	G		7
MI-24	105 Concrete Box Girder	G		7
SI-34	152 Steel Floor Beam	G		8
SI-44	152 Steel Floor Beam	G		8
MI-13	200 Abutment Fill	R	13774	9
UW-2	220 Concrete Submerged Foundation	S	14242	9
UW-3	227 Concrete Submerged Pile-Column	G		10
UW-4	227 Concrete Submerged Pile-Column	G		10
UW-5	227 Concrete Submerged Pile-Column	G		11
UW-6	227 Concrete Submerged Pile-Column	G		11
SI-77	266 Concrete Sidewalk & Supports	G		12
SI-56	311 Moveable Bearing (roller, sliding, etc)	R	14234	12
MI-25	311 Moveable Bearing (roller, sliding, etc)	R	14234	13
SI-50	313 Fixed Bearing	G		13
SI-46	313 Fixed Bearing	G		14
SI-75	340 Metal Pedestrian Railing	R	14238	14
SI-91	340 Metal Pedestrian Railing	J	14245	15
SI-92	340 Metal Pedestrian Railing	J	14245	15
SI-93	340 Metal Pedestrian Railing	J	14245	16
SI-83	412 Strip Seal - Anchored	R	14241	16
SI-76	705 Bridge Luminaire Pole and Base	G		17
SI-59	804 Polyester Concrete Overlay	R	14240	17
SI-88	804 Polyester Concrete Overlay	G		18
SI-81	804 Polyester Concrete Overlay	R	14240	18
SI-90	804 Polyester Concrete Overlay	G		19
SI-27	902 Inorganic-Zinc-Vinyl Paint System	G		19



## PLAN

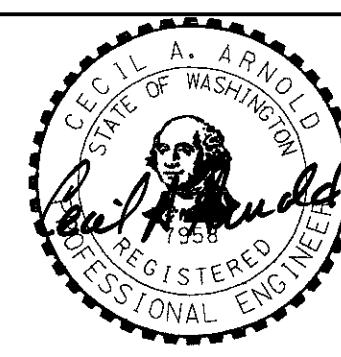


ELEVATION

ELEVATION BASED ON CITY OF BREMERTON DATUM.

## FRACTURE CRITICAL MEMBERS

Structure ID # 0005565A (303/012)

[illegible]

**Washington State  
Department of Transportation**

**AB** ANDERSEN BJORNSTAD KANE JACOBS • INC.

**SR 303  
PORT WASHINGTON NARROWS  
BRIDGE  
SEISMIC RETROFIT & BEARING REHAB.**

BRIDGE 303/12

BRIDGE  
SHEET  
NO.  
2

SHEET  
4  
OF









**Washington State  
Department of Transportation**

**Bridge Preservation Dive Team**

**UNDERWATER INSPECTION REPORT**  
**FOR THE**  
**PORT WASHINGTON NARROWS (WARREN AVE.)**  
**BRIDGE NO. 303/12**



**Inspection Date:** May 3, 2005

**Lead Inspector/Diver:** Darren Nebergall, P.E.

**Cert. #:** G0314

*/s/ Darren Nebergall*

(Signature)

**Inspector/Diver:** Shawn Plichta, P.E.

*/s/ Shawn Plichta*

(Signature)



UNDERWATER INSPECTION REPORT  
FOR THE  
PORT WASHINGTON NARROWS (WARREN AVE)  
BRIDGE NO. 303/12

EXECUTIVE SUMMARY

The underwater inspection performed May 3 and May 4, 2005 revealed that the submerged portions of the Warren Avenue Bridge are in good condition with only minor defects noted. These defects should be monitored during future inspections but do not significantly affect the structural integrity or stability of the bridge. The channel has deepened in the vicinity of Span 4 however riprap armoring is in place at the piers and is functioning as intended. Minimum footing embedments appear to be adequate.

INSPECTION FINDINGS

The bridge substructure consists of reinforced concrete bents, each with two columns supported by a shared footing. There were 7 piers in the waterway at the time of the inspection, Piers 3 through 9.

Visible portions of the concrete substructure were examined from the inter-tidal zone (ITZ) down to the channel grade. Columns in 3 piers have impact spalls in the ITZ. The columns at Pier 8 have vertical cracks at the corners in the ITZ with some bleed through rusting. The footings are generally structurally sound with only minor defects noted.

The channel bottom consists mostly of sand and clay with some cobbles. In comparing the construction drawings with spot sounding taken by the divers, the minimum embedments of the support footings for each of the piers are as follows:

Pier 3 – 12 ft.

Pier 4 – 13 ft.

Pier 5 – 10 ft.

Pier 6 – 18.5 ft.

Pier 7 – 14.5 ft.

Pier 8 – 13 ft.

Pier 9 – 14 ft.

Riprap protection is in place at Piers 4, 5, 6, 7, and 8. No evidence of major scour was observed.

FATHOMETRIC SURVEY

The original construction drawing elevations are based on the City of Bremerton datum. Using this datum results in elevations that are 109.4 ft. higher than Mean Lower Low Water (MLLW) datum, Elevation 0.0 ft. For consistency, the fathometric data was converted to this datum as well.

The results of the survey indicate a relatively gentle slope to the channel bottom. There appears to be a deepening of the channel in the vicinity of Piers 4 and 5 since the bridge was constructed. However, there has been little change in the channel since the last underwater inspection.





# Daily Site Dive Log

Inspector Darren Nebergall, P.E.		Date May 3, 2005
Bridge Number 303/12	Bridge Name Port Washington (Warren Avenue)	
Bridge Type Steel girder / concrete box	Waterway Name Port Washington Narrows	
Dive Objective Inspection of submerged substructure elements.		

## Diving Operation

Type of Operation ☒ SCUBA ☐ Submarine (ROV) ☐ Other \_\_\_\_\_  
☐ Hard Hat ☐ Surface Supplied Air

Equipment

Suit Dry suit, hood, and gloves

Air Supply LP Steel 95

Site Access Boat (Duckworth)

Inspection Tools hammer/scrapper, u/w light, u/w camera, camera

Repair Tools n/a

Repair Materials n/a

## Conditions

Water ☒ Salt ☐ Fresh Temperature 50 °F Visibility ~ 10 ft.

Surface ☒ Calm ☐ Choppy ☐ Rough

Surf ☐ Small ☐ Medium ☐ Large ☒ N/A

Tide ☐ High ☐ Low ☒ Flood ☒ Ebb ☐ N/A

Current ☐ Fast ☒ Moderate ☒ Slow Velocity 0 - 2 ft/sec.

Weather ☒ Sunny ☐ Cloudy ☐ Overcast ☐ Rain Air Temperature 65 °F

Thermocline Temperature n/a Depth n/a ft.

## Diver Checks

☒ First Aid Equipment on Site ☒ Physical Condition of Diver(s) Checked  
☒ Communication for EMS ☒ Communications for Diver(s)  
☒ Dive Gear Inspection ☒ Dive Team Briefed and Understand Dive  
☒ Air Source Checked ☒ Special Site Hazards Noted

☐ \_\_\_\_\_  
☐ \_\_\_\_\_

## Dive Plan and Dive Team Procedures

Dives will be conducted during periods of slack current with two piers being inspected per dive. Divers will enter water from the boat which will be anchored near the pier to be inspected. Divers will work on a pier together and will be in constant communication. Notes will be relayed to surface personnel on the boat via wireless communication systems.

Dive Schedule					
Dive No.	Entry Time	Exit Time	Total Time in Water	Maximum Depth	Remarks
1	9:12	9:50	0:38:00	28 ft.	Piers 3 and 4
2	2:09	2:45	0:36:00	42 ft.	Piers 5 and 6

**Dive Narrative**

Divers inspected piers 3 and 4 during morning slack time. Piers 5 and 6 were inspected during the afternoon dive. Each diver inspected a column, and the footing area and riprap around that end of the pier. Spot water depths were noted at the corners at the top of the footing as well as the toe of the riprap slope. Sample areas were cleaned of marine growth for further inspection. Photos were taken as necessary.

Remnants of sheetpile formwork/cofferdam are still in place in a number of areas and could pose a hazard to divers.

Dive Team Members

Darren Nebergall

(Print Name)

Dave Bruce

(Print Name)

Shawn Plichta

(Print Name)

Tim Nauman

(Print Name)

(Print Name)

Lead Inspector / Diver

(Role)

Inspector / Diver

(Role)

Standby Diver

(Role)

Surface Support

(Role)

(Role)



# Daily Site Dive Log

Inspector Darren Nebergall, P.E.		Date May 4, 2005
Bridge Number 303/12	Bridge Name Port Washington (Warren Avenue)	
Bridge Type Steel girder / concrete box	Waterway Name Port Washington Narrows	
Dive Objective Inspection of submerged substructure elements.		

## Diving Operation

Type of Operation ☒ SCUBA ☐ Submarine (ROV) ☐ Other  
☐ Hard Hat ☐ Surface Supplied Air

Equipment

Suit Dry suit, hood, and gloves

Air Supply LP Steel 95

Site Access Boat (Duckworth)

Inspection Tools hammer/scrapper, u/w light, u/w camera, camera

Repair Tools n/a

Repair Materials n/a

## Conditions

Water ☒ Salt ☐ Fresh Temperature 50 °F Visibility ~ 10 ft.

Surface ☒ Calm ☐ Choppy ☐ Rough

Surf ☐ Small ☐ Medium ☐ Large ☒ N/A

Tide ☐ High ☐ Low ☒ Flood ☒ Ebb ☐ N/A

Current ☐ Fast ☒ Moderate ☒ Slow Velocity 0 - 2 ft/sec.

Weather ☒ Sunny ☐ Cloudy ☐ Overcast ☐ Rain Air Temperature 65 °F

Thermocline Temperature n/a Depth n/a ft.

## Diver Checks

☒ First Aid Equipment on Site ☒ Physical Condition of Diver(s) Checked  
☒ Communication for EMS ☒ Communications for Diver(s)  
☒ Dive Gear Inspection ☒ Dive Team Briefed and Understand Dive  
☒ Air Source Checked ☒ Special Site Hazards Noted

☐ \_\_\_\_\_  
☐ \_\_\_\_\_

## Dive Plan and Dive Team Procedures

Dives will be conducted during periods of slack current with two piers being inspected per dive. Divers will enter water from the boat which will be anchored near the pier to be inspected. Divers will work on a pier together and will be in constant communication. Notes will be relayed to surface personnel on the boat via wireless communication systems.



Dive Schedule					
Dive No.	Entry Time	Exit Time	Total Time in Water	Maximum Depth	Remarks
1	9:50	10:24	0:34:00	28 ft.	Piers 7 and 8
2	3:36	3:49	0:13:00	22 ft.	Pier 9
3	4:00	4:12	0:12:00	31 ft.	Pier 4

Dive Narrative

Divers inspected piers 7 and 8 during morning slack time. Pier 9 was inspected during the afternoon dive, followed by a re-visit to Pier 4. Each diver inspected a column, and the footing area and riprap around that end of the pier. Spot water depths were noted at the corners at the top of the footing as well as the toe of the riprap slope. Sample areas were cleaned of marine growth for further inspection. Photos were taken as necessary.

Remnants of sheetpile formwork/cofferdam are still in place in a number of areas and could pose a hazard to divers.

Dive Team Members

Darren Nebergall

(Print Name)

Dave Bruce

(Print Name)

Shawn Plichta

(Print Name)

Tim Nauman

(Print Name)

(Print Name)

Lead Inspector / Diver

(Role)

Inspector / Diver

(Role)

Standby Diver

(Role)

Surface Support

(Role)

(Role)



# Underwater Inspection Report

Bridge Number 303/12	Route SR 303	Agency WSDOT	Date 5/3/2005
Bridge Name Port Washington (Warren Avenue)			Intersecting Puget Sound
Inspector Darren Nebergall, P.E.		Identification No. G0314	Hours on Site 10
Dive Contractor WSDOT BPO Dive Team			
Diver Name Darren Nebergall, P.E.		Diver Name Dave Bruce, P.E. / Shawn Plichta, P.E.	
Structure Type Steel girder / concrete box		Substructure Type Concrete columns	
Foundation Type Spread footing	Number of Spans 15	Number of Piers in Waterway 7	

<div>6 Bents (1)</div> <div>Abut/Pier Wall (2)</div> <div>Web Wall (3)</div> <div>Columns (4)</div> <div>Shaft (5)</div> <div>Piles (6)</div> <div>Bracing (7)</div> <div>Foundation (8)</div> <div>Footing (9)</div> <div>Seal (10)</div> <div>Piles (11)</div> <div>3 Scour (12)</div> <div>Scour Mitigat. (13)</div> <div>7 Channel (14)</div> <div>Streambed (15)</div> <div>Drift (16)</div> <div>Flow (17)</div>	0	Dives were conducted during periods of slack current. Dives were limited to about 20 minutes each and two piers were inspected during each dive.
	1	<b>BENTS</b>
		There are total of 7 piers in the water; Piers 3 through 9 (see Photo #1). Each consists of two concrete columns sharing a common spread footing.
	4	<b>COLUMNS</b>
		Columns are in generally good condition with only minor defects noted. Columns 6A, 7A, 7B, 8A, and 8B have impact spalls near the intertidal zone (ITZ) on one or more corners (Photos #2 and #4). Both Columns 8A and 8B have vertical cracks, approx. 4 ft. in length, in the ITZ, some with rust bleed-through (see Photos #3 and #5). All columns have minor to moderate marine growth below the high water mark. Level II cleanings were performed in random areas on the column faces with no additional defects found (see Photo #6).
	9	<b>FOOTINGS</b>
		All footings located in the waterway have some degree of exposure, however, in
		looking at the original construction drawings, the piers appear to have been constructed with the tops of the
		footings located above the original ground line. The footings were then armored with heavy riprap. In
		general, the riprap is still in place and functioning as an effective scour countermeasure, however, much of the rubble has shifted and consolidated over time and the stones are no longer flush with the tops of the footings. See attached drawings for further details. The footings are generally structurally sound. Footings at Piers 5, 6, 7, and 8 had notable voids. These are likely large rock pockets that have been eroded by currents, but little changes were observed since the last underwater inspection in 2000. Remnants of sheetpile formwork/cofferdam are still in place in a number of areas and could pose a hazard to divers.
12,13	<b>SCOUR, SCOUR MITIGATION</b>	
	There appears to be a general deepening of the channel between Piers 4 and 5. The channel is now approx. 5-1/2 feet lower than is reflected in the original construction drawings. Large riprap was placed at the time of construction and for the most part is still in place and functioning as intended, though the rocks seem to have settled somewhat.	





Bridge Number 303/12	Bridge Name Port Washington Narrows	Date May 3, 2005
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Photograph 1 : Elevation looking West. Pier 3 is at the left of the photo and Pier 9 is at the right.



Photograph 2 : Corner spall and cracking on Column 8A, NE corner. All 4 corners of this column have vertical cracking in the ITZ.



Bridge Number 303/12	Bridge Name Port Washington Narrows	Date May 3, 2005
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Photograph 3 : Column 8B, NE corner. Vertical cracking with rust bleed-through.

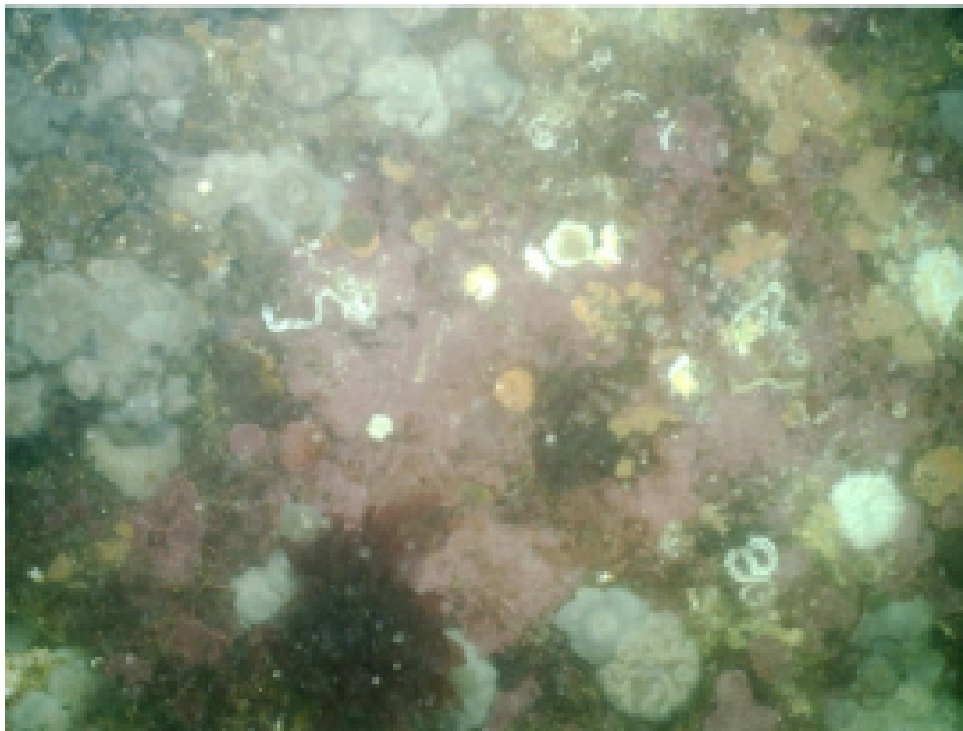


Photograph 4 : Impact spall on SE corner of Column 7B. Column 7A, NW and SW corners are similar.

Bridge Number 303/12	Bridge Name Port Washington Narrows	Date May 3, 2005
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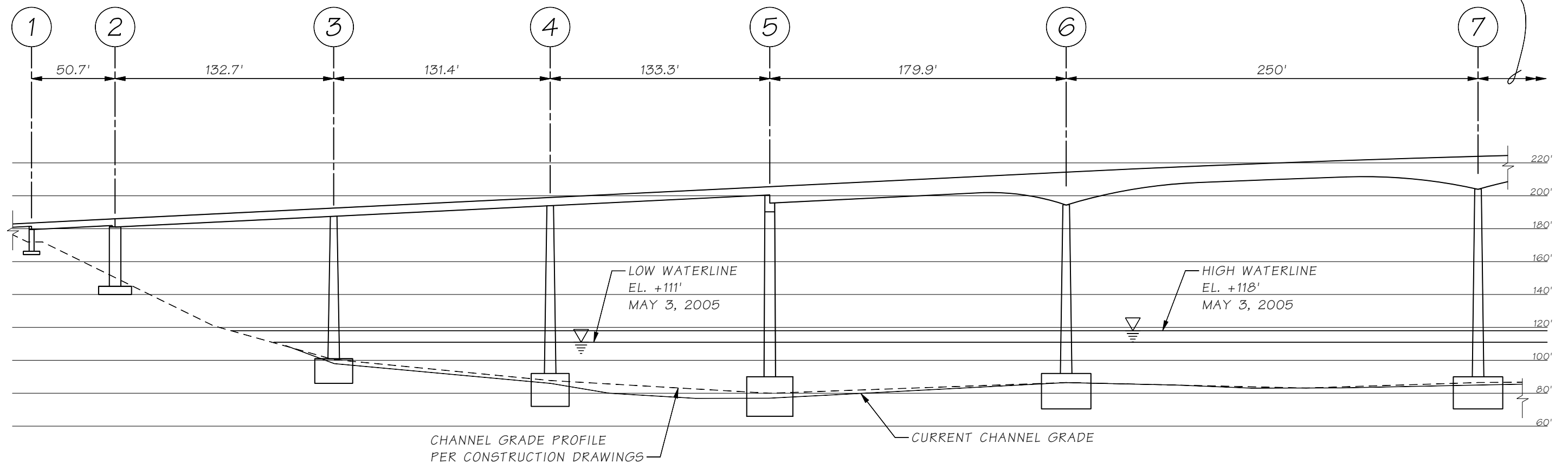
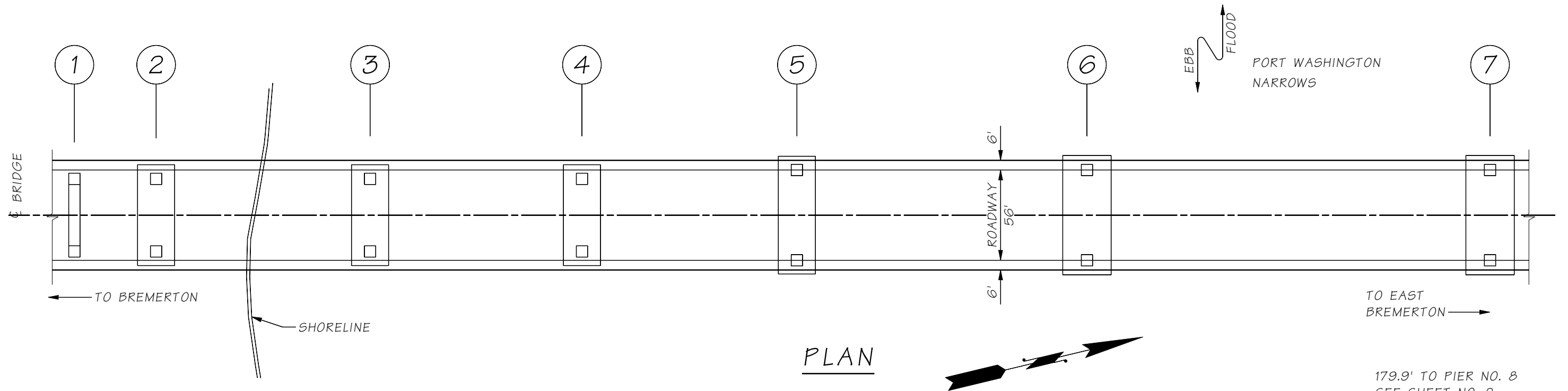


Photograph 5 : Level II cleaning at Column 5B, SE corner. Shallow delamination with rust bleeding.



Photograph 6 : Typical moderate marine growth area after Level II cleaning. Submerged concrete portions were generally found to be hard and tight.

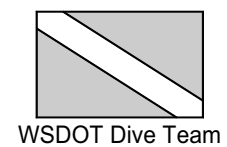




#### GENERAL NOTES:

- REFERENCE CONSTRUCTION DRAWINGS: SECONDARY STATE HIGHWAY NO. 21-B; PORT WASHINGTON NARROWS BRIDGE, DATED MAY 17, 1957.
- REFERENCE ELEVATION: FINISHED GRADE TOP OF PIER 3 - ELEV. 192.47; BASED ON CITY OF BREMERTON DATUM

Scale:		
Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	BY



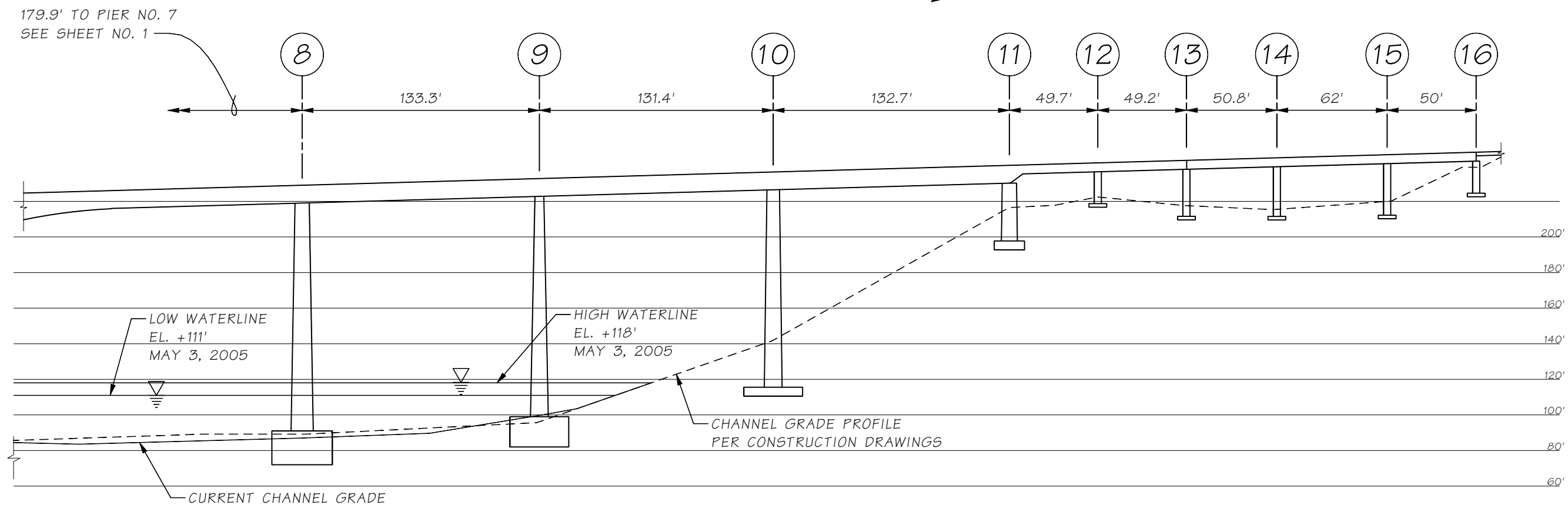
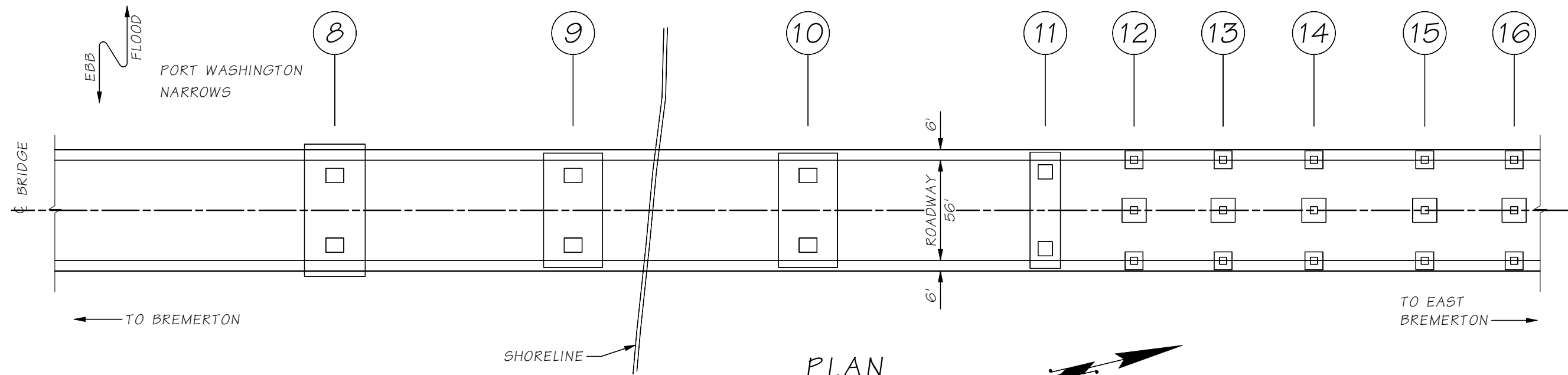
303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION

PLAN AND ELEVATION, PIERS 1 - 7

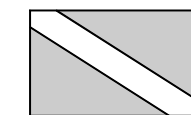
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Scale:		
Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	BY



WSDOT Dive Team



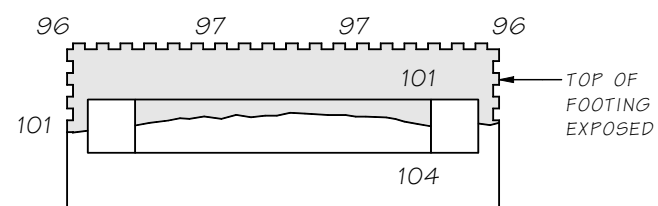
**Washington State**  
**Department of Transportation**  
Bridge and Structures Office

303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION

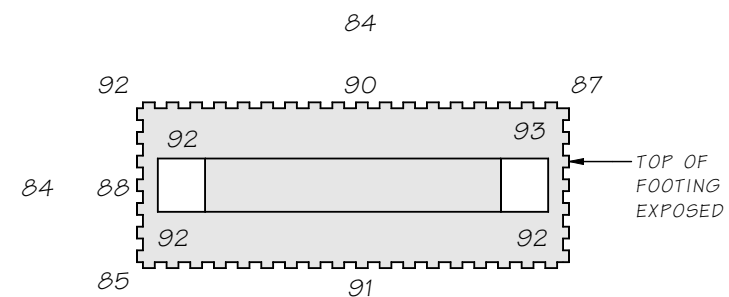
PLAN AND ELEVATION, PIERS 8 - 16

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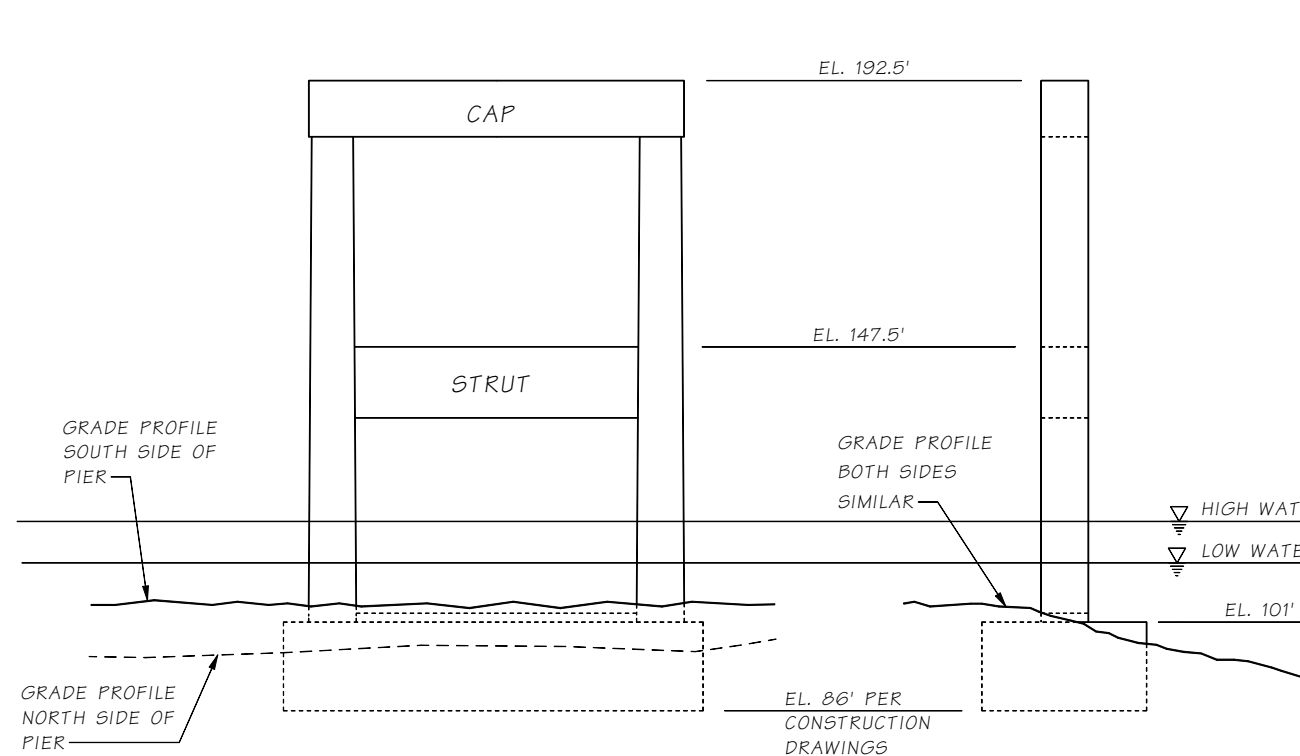
PIER 3  
PLAN



87  
PIER 4  

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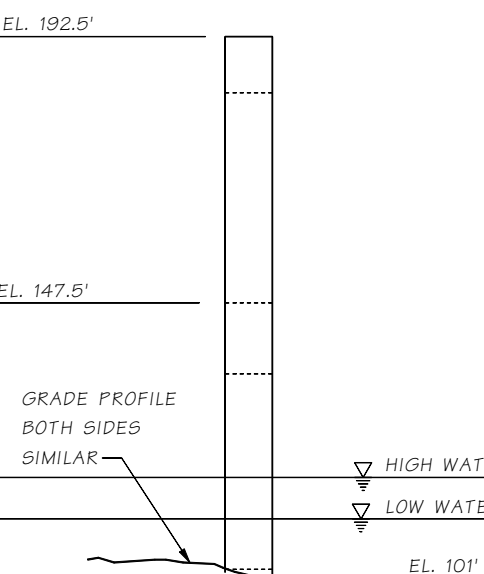
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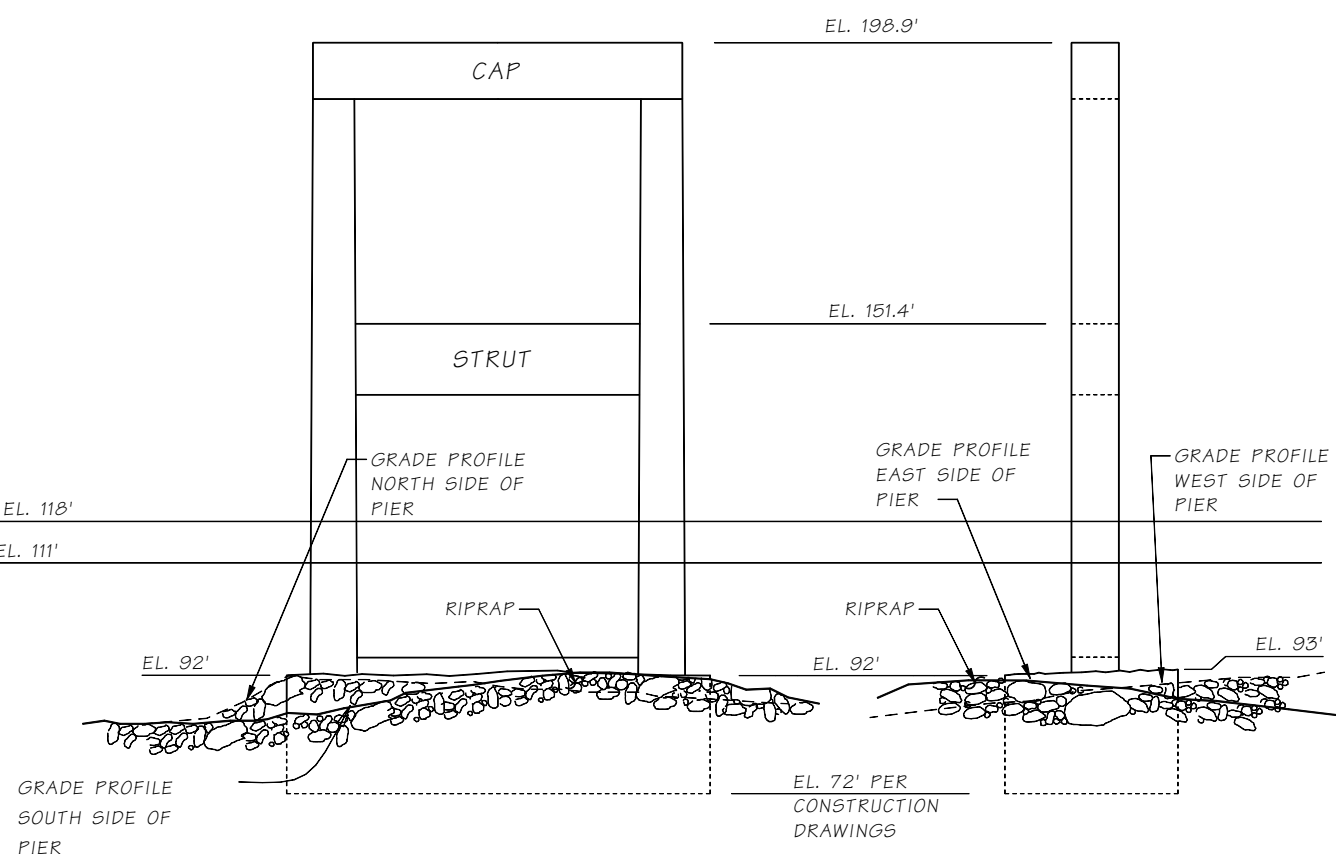
PIER 3

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SOUTH ELEVATION



PIER 3  
EAST ELEVATION



PIER 4

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SOUTH ELEVATION

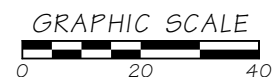
PIER 4

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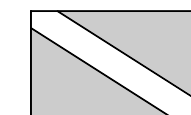
EAST ELEVATION

NOTES:

1. 101 INDICATES CHANNEL GRADE ELEVATION.  
2. — REFERENCE ELEVATION: FINISH GRADE  
PIER 3 - EL. 192.47'



Scale:		
Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	B



WSDOT Dive Team



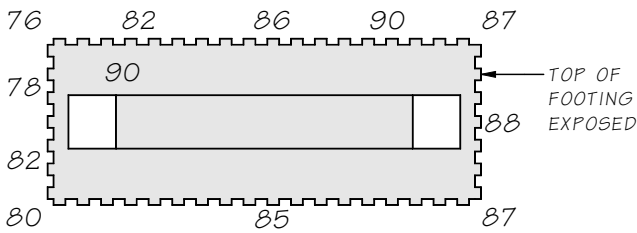
**Washington State  
Department of Transportation**  
Bridge and Structures Office

303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION

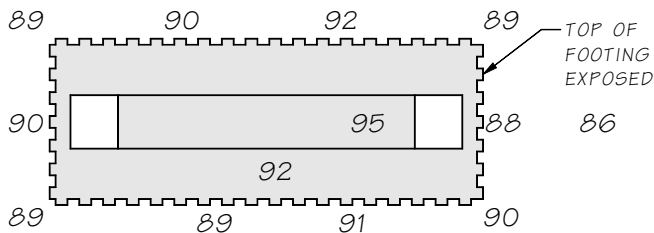
PLAN AND ELEVATION - PIERS 3 & 4

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SHEET  
OF  
SHEETS

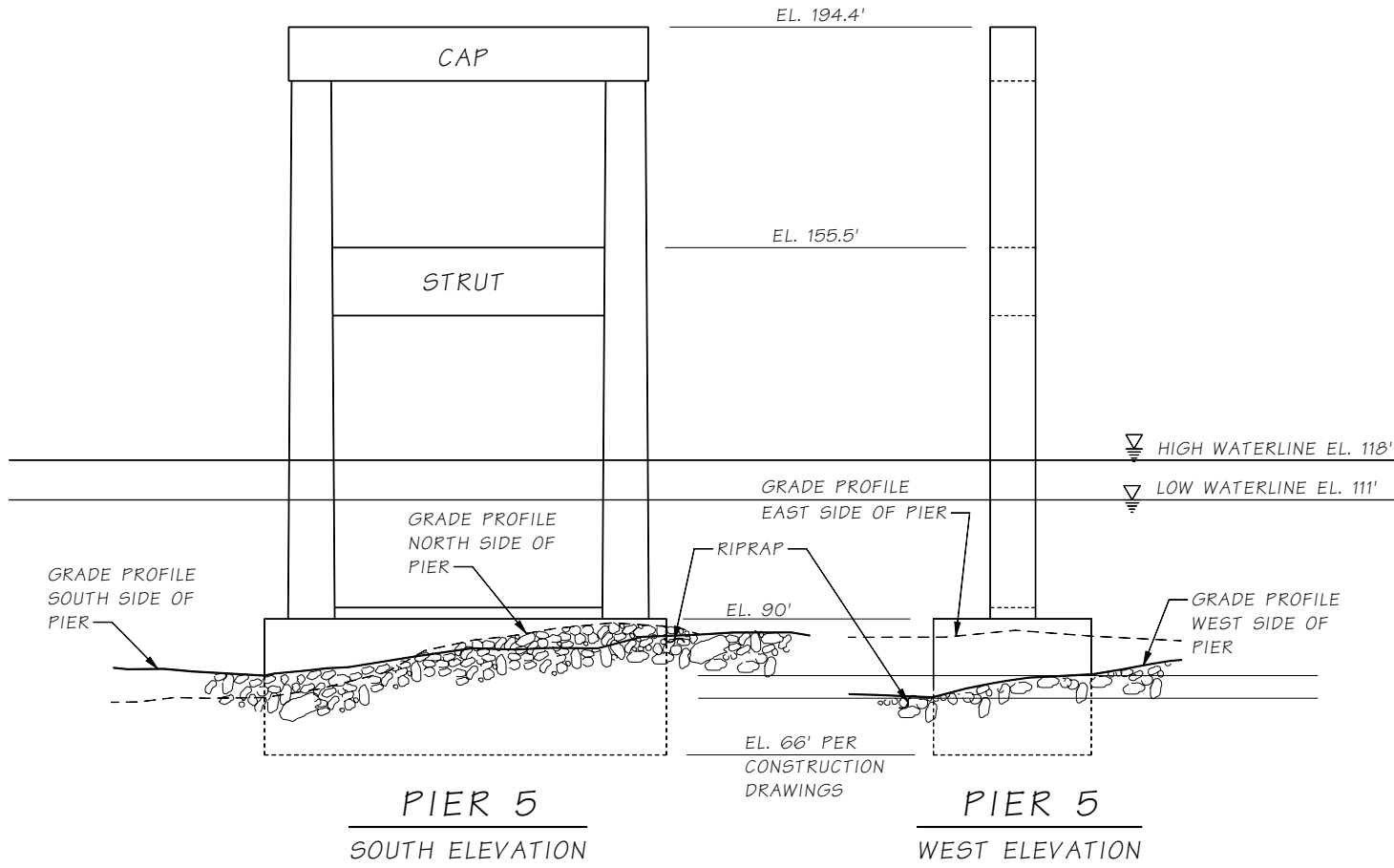
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73  
**PIER 5**  
PLAN

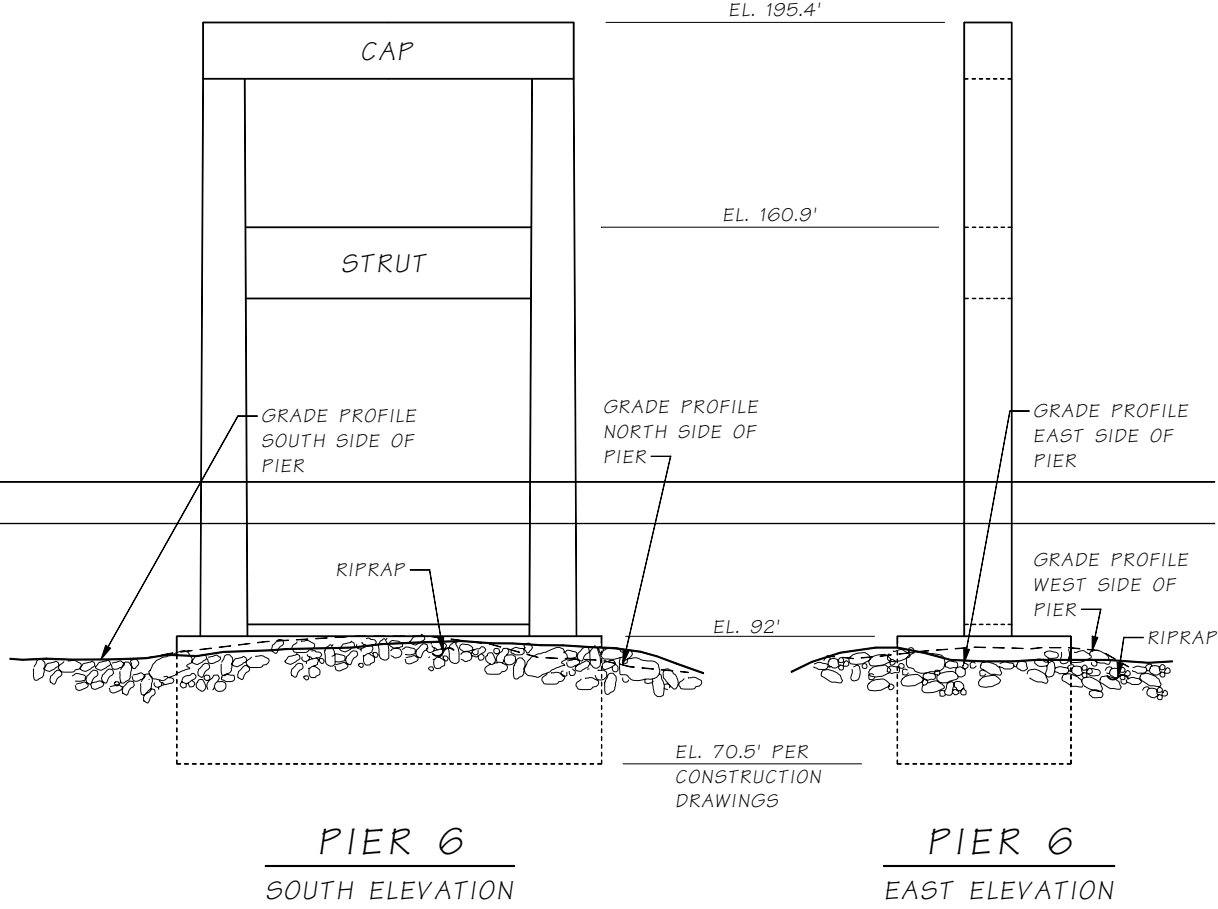


**PIER 6**  
PLAN



**PIER 5**  
SOUTH ELEVATION

**PIER 5**  
WEST ELEVATION



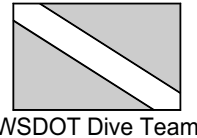
**PIER 6**  
SOUTH ELEVATION

**PIER 6**  
EAST ELEVATION

- NOTES:
- 85 INDICATES CHANNEL GRADE ELEVATION.
  - REFERENCE ELEVATION: FINISH GRADE PIER 3 - EL. 192.47'



Scale:		
Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	BY

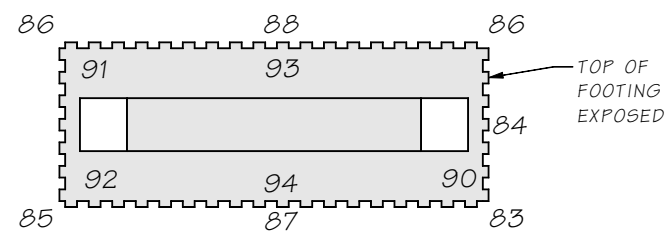


303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION  
PLAN AND ELEVATION, PIERS 5 & 6

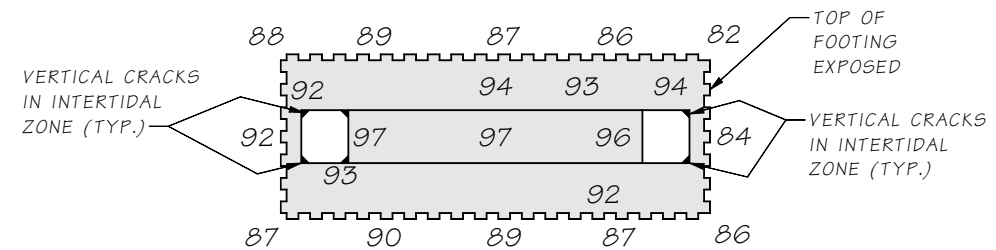
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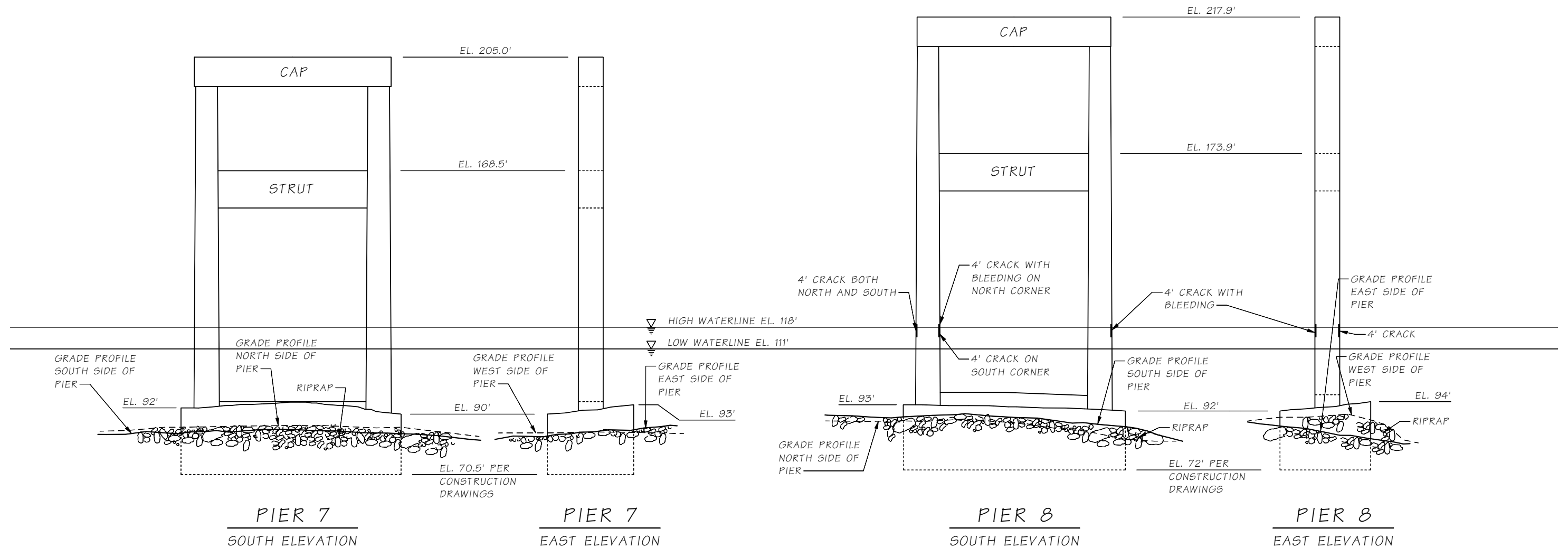
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PIER 7  
PLAN



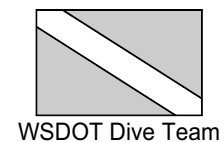
PIER 8  
PLAN



- NOTES:
- 85 INDICATES CHANNEL GRADE ELEVATION.
  - REFERENCE ELEVATION: FINISH GRADE PIER 3 - EL. 192.47'



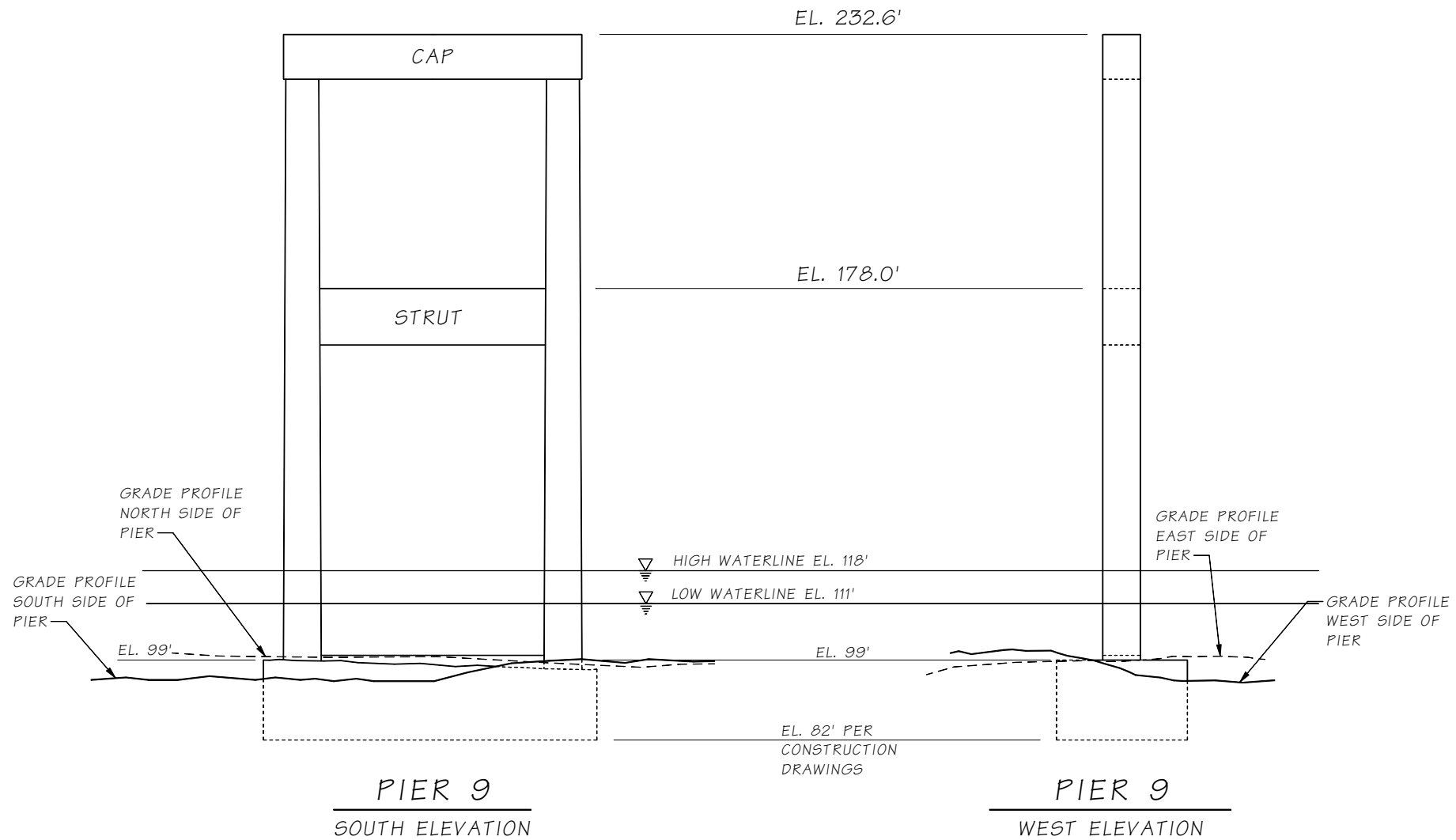
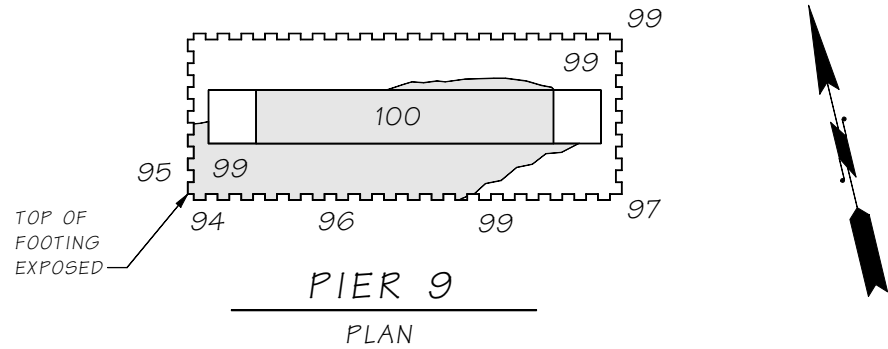
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Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	BY



303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION

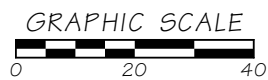
PLAN AND ELEVATION - PIERS 7 & 8

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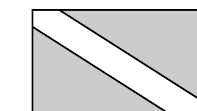


NOTES:

1. 100 INDICATES CHANNEL GRADE ELEVATION.
2. — REFERENCE ELEVATION: FINISH GRADE PIER 3 - EL. 192.47'



Scale:		
Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	BY



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Bridge and Structures Office

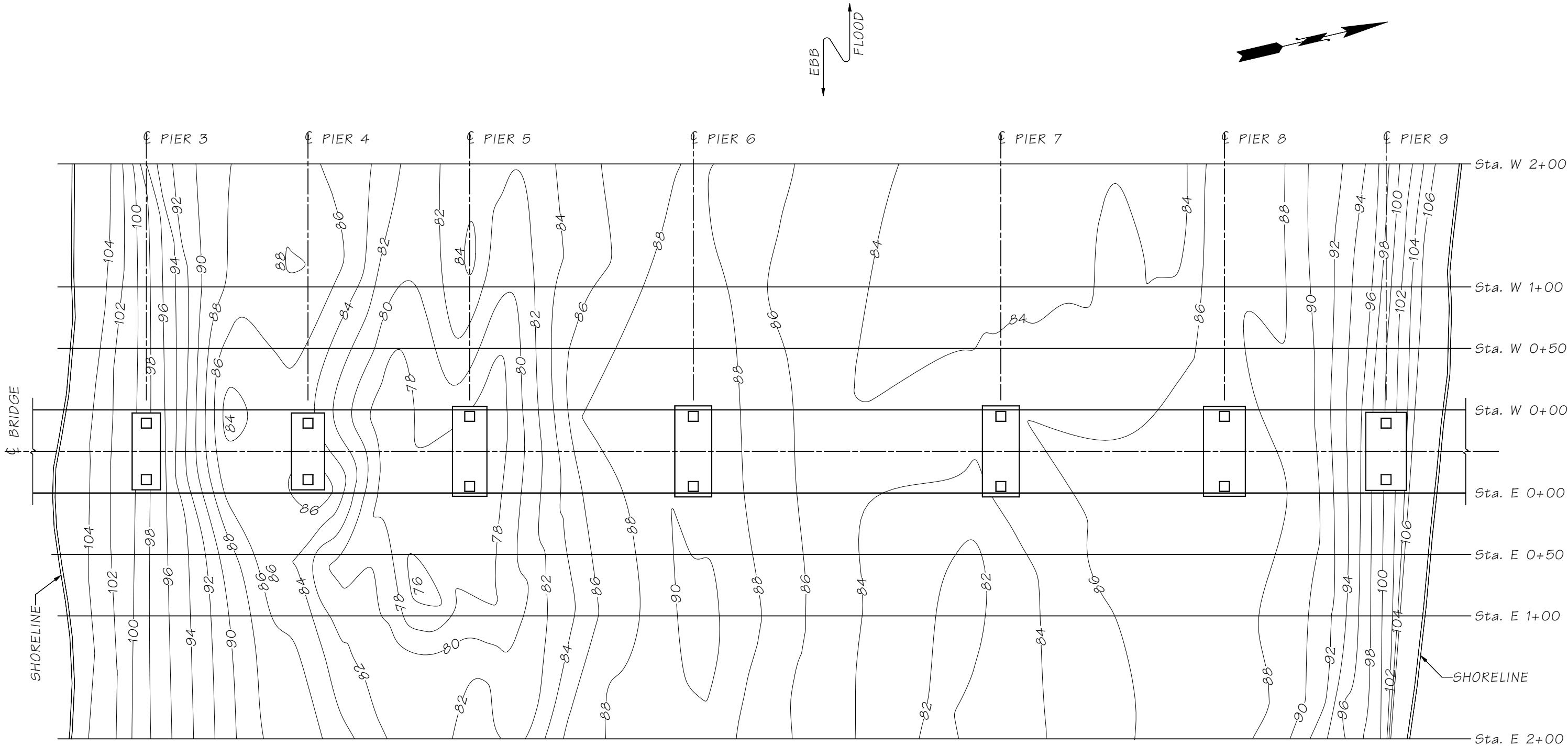
303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION

PLAN AND ELEVATION - PIER 9

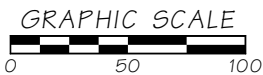
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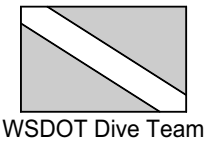
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PLAN



Scale:		
Drawn By: DON		
Approved By: DRB		
Date: May 3, 2005		
DATE	REVISION	BY



303/12 PORT WASHINGTON NARROWS  
WARREN AVENUE  
UNDERWATER INSPECTION

FATHOMETRIC SURVEY

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SHEETS





## VISUAL FRACTURE CRITICAL INSPECTION REPORT

<b>Bridge Name:</b>	PORT WASHINGTON NARROWS CS 1840	<b>Date:</b>	10/9/2018
<b>Bridge No:</b>	303/12	<b>Hours:</b>	5.0
<b>Structure ID:</b>	0005565A	<b>Inspector ID #:</b>	G0910
<b>Structure Type:</b>	SG CBOX CTB	<b>Lead Inspector Initials:</b>	WDS
<b>Agency:</b>	WSDOT	<b>Co-Inspector Initials:</b>	SMT
<b>Milepost:</b>	0.73	<b>Lead Inspector Signature:</b>	_____
<b>Inspected items:</b>	Two Girder System	<b>Co-Inspector Signature:</b>	_____

**Procedures:**

**Riveted Two Girder FC Inspection Procedure**

1. Check a sampling of rivets, with emphasis on the end row of cover plates and outside edges of splice plates.
2. Check girder web at areas around floorbeam and lateral bracing.
3. For continuous spans with welded stud shear connectors, check top flange soffit for cracking in tension areas and document location in weld category C.
4. Check for any welds, including plug, tack, or repair welds. Record location of welds and document weld type and category.
5. Check FC members for areas of heavy or pitted corrosion, nicks, gouges, sharp bends, and collision damage. Record location of all these conditions and estimated section loss, if applicable.
6. Check all heat straightened or repaired areas. Record location of these areas, regardless of condition.

FCM Location	FCM Type	FCM Per Girder or Truss Line	Rivet Server Plans		
			Sh. No.	Contract	Sh. Name
Spans 5, 6 and 7	Riveted Plate Girder		4	4490	Layout, Plan & Elev.
		1	26	5565	Steel Girder, Roadway Slab and Details

Note: FCM = Fracture Critical Member



## VISUAL FRACTURE CRITICAL INSPECTION REPORT

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
General:					Tack welds at web fill plates beneath stiffener angles at piers in the top flange tension zone.
East	5	Tension zone	web & flanges	Riveted plate girder	Seam rust on bottom of exterior splice plates up to 4 ft. long in places. First and second bottom splice plate north of Pier 5 bottom plates have 1/8" thick pack rust 2 ft. long, exterior side.
East	6	Tension zone	web & flanges	Riveted plate girder	Bottom flange cover plates near midspan and at Pier 6 have minor seam/pack rust 1/8" thick at multiple locations, exterior side, 20 ft. total. At 2/3 span on the bottom flange interior side there is a build up of cormorant excrement and vomit up to 3" deep.
East	7	Tension zone	web & flanges	Riveted plate girder	No defects noted.
West	5	Tension zone	web & flanges	Riveted plate girder	First bottom splice plate and cover plates north of Pier 5 have several 1 ft. lengths of 1/8" thick pack rust, exterior side. Second bottom splice plate and cover plates north of Pier 5 have up to 1/4" thick pack rust over 15 ft. length, exterior side. Third bottom flange splice plate north of Pier 5 has pack rust 3/8" to 1/2" thick in 2 locations, exterior side (1 ft. and 4 ft. long).
West	6	Tension zone	web & flanges	Riveted plate girder	Just south of the navigation light near midspan, the bottom flange splice plate has minor pack rust up to 3/8" thick, 8 ft. long, exterior side. At 2/3 span on the bottom flange interior side there is a build up of cormorant excrement and vomit to 3" deep. The web has several 3 ft. x 1 ft. areas between stiffeners with laminar rust and minor section loss, see photos #66 and #67.
West	7	Tension zone	web & flanges	Riveted plate girder	A few minor areas of pack rust in bottom flange plates up to 1/2", see photos #15 and #30. The bottom flange interior side has a build up of cormorant excrement and vomit to 3" deep. The web has several 3 ft. x 1 ft. areas between stiffeners with laminar rust and minor section loss, see photos #66 and #67.

## CRITICAL FINDING DAMAGE REPORT

<b>Agency Name:</b>	<b>SID</b>	<b>Bridge Number</b>	<b>MP</b>	<b>Incident Date</b>
Washington DOT	0005565A	303/12	0.73	3/4/2020
<b>Bridge Name:</b>		<b>CFDR Date:</b>		<b>Check all that apply</b>
Port Washington CS1840		3/4/2020		
<b>Lead Inspectors Name/CFDR Author</b>		<b>Lead Inspectors Cert#</b>	Bridge Closure <input type="checkbox"/> Lane Closure <input checked="" type="checkbox"/> Temporary Load Posting <input type="checkbox"/> Other restriction <input type="checkbox"/>	
John LaBranche/Colt Tatum		D2016		
<b>Co-Inspectors Name</b>		<b>Inspection Date</b>		
Click here to enter text.		3/4/2020		
<b>Incident Reported to Owner Agency by:</b>		<b>Date Reported</b>	<b>Phone No.</b>	
City of Bremerton		3/4/2020	Click here to enter text.	
<b>Incident</b>				
<b>Description of Incident</b>				
Previously patched location in the right, southbound lane failed under normal traffic.				
<b>Description of Damage to the Structure</b>				
Patch failure resulted in a hole through the full thickness of the bridge deck, approximately 2 ft. x 2ft. At least one deck reinforcing bar is broken and deformed downward.				
<b>Mitigation Measures Taken</b> (And explain in more detail any closures, postings, restrictions or other actions taken)				
Right lane, southbound is closed until a repair is made.				
<b>Description of Recommended Repair(s)</b> (This may be added while onsite or sometime after the field visit prior to submitting)				
Remove all damaged concrete from the hole area. Once fully competent concrete is reached, further remove concrete as needed to provide for structural splicing of any damaged rebar. Form and patch the hole with approved material.				

<b>CFDR Update:</b>	
<b>Description of Update</b>	
Click or tap here to enter text.	
<b>Update Submitted By:</b>	<b>Date Submitted:</b>
Click here to enter text.	Click to use pull down menu.

<b>Post Repair Update : For use by the Repair Specialist</b>
This section to be completed within 1 month after verified completion of recommended repair.
<b>Description of Work Done</b>



Olympic Region Maintenance crews opened the hole up from 2' x 2' to 3' x 4' in order to reach competent concrete and to allow for rebar splices to 2' where possible. New rebar was spliced into three broken rebars and two additional #4 longitudinal bars were placed into an 18" longitudinal gap. A plywood formboard was placed in the soffit via the UBIT bucket then Quickset Sackrete was mixed, placed, and troweled smooth. A concrete insulation blanket was placed at 6:45 PM with a plan of opening to traffic at 10 AM the next morning.

Date of Repair Completion or Owner Agency Verification Date If Completion Date Is Unknown	Update Submitted By (Print Name)	Date Submitted
3/5/2020	J H LaBranche	3/5/2020



## VISUAL FRACTURE CRITICAL INSPECTION REPORT

<b>Bridge Name:</b>	PORT WASHINGTON NARROWS CS 1840	<b>Date:</b>	10/13/2020
<b>Bridge No:</b>	303/12	<b>Hours:</b>	5.0
<b>Structure ID:</b>	0005565A	<b>Inspector ID #:</b>	G0710
<b>Structure Type:</b>	SG CBOX CTB	<b>Lead Inspector Initials:</b>	FPP
<b>Agency:</b>	WSDOT	<b>Co-Inspector Initials:</b>	RAB
<b>Milepost:</b>	0.73	<b>Lead Inspector Signature:</b>	_____
<b>Inspected items:</b>	Two Girder System	<b>Co-Inspector Signature:</b>	_____

**Procedures:**

**Riveted Two Girder FC Inspection Procedure**

1. Check a sampling of rivets, with emphasis on the end row of cover plates and outside edges of splice plates.
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3. For continuous spans with welded stud shear connectors, check top flange soffit for cracking in tension areas and document location in weld category C.
4. Check for any welds, including plug, tack, or repair welds. Record location of welds and document weld type and category.
5. Check FC members for areas of heavy or pitted corrosion, nicks, gouges, sharp bends, and collision damage. Record location of all these conditions and estimated section loss, if applicable.
6. Check all heat straightened or repaired areas. Record location of these areas, regardless of condition.

FCM Location	FCM Type	FCM Per Girder or Truss Line	Rivet Server Plans		
			Sh. No.	Contract	Sh. Name
Spans 5, 6 and 7	Riveted Plate Girder		4	4490	Layout, Plan & Elev.
		1	26	5565	Steel Girder, Roadway Slab and Details

Note: FCM = Fracture Critical Member

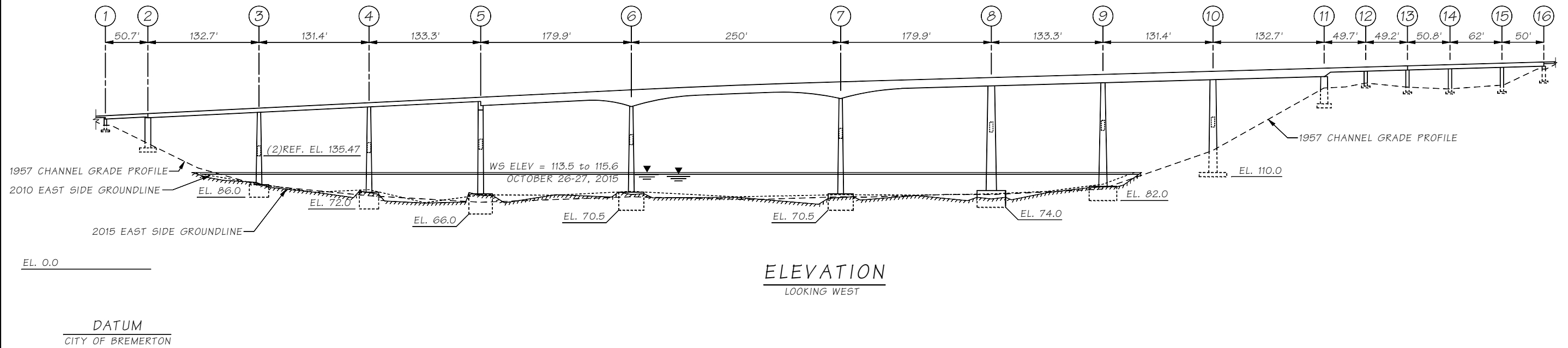
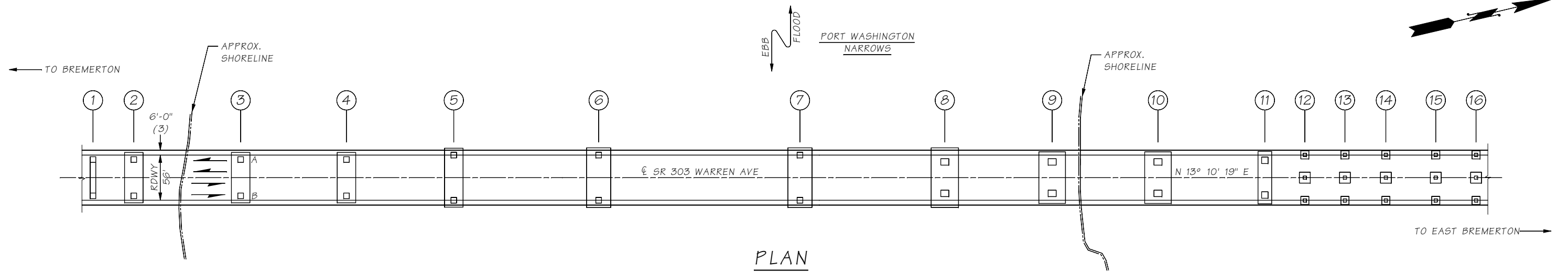


## VISUAL FRACTURE CRITICAL INSPECTION REPORT

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
General:					Tack welds at web fill plates beneath stiffener angles at piers in the top flange tension zone.
East	5	Tension zone	web & flanges	Riveted plate girder	Seam rust on bottom of exterior splice plates up to 4 ft. long in places. First and second bottom splice plate north of Pier 5 bottom plates have 1/8" thick pack rust 2 ft. long, exterior side.
East	6	Tension zone	web & flanges	Riveted plate girder	Bottom flange cover plates near midspan and at Pier 6 have minor seam/pack rust 1/8" thick at multiple locations, exterior side, 20 ft. total. At 2/3 span on the bottom flange interior side there is a build up of cormorant excrement and vomit up to 3" deep.
East	7	Tension zone	web & flanges	Riveted plate girder	No defects noted.
West	5	Tension zone	web & flanges	Riveted plate girder	First bottom splice plate and cover plates north of Pier 5 have several 1 ft. lengths of 1/8" thick pack rust, exterior side. Second bottom splice plate and cover plates north of Pier 5 have up to 1/4" thick pack rust over 15 ft. length, exterior side. Third bottom flange splice plate north of Pier 5 has pack rust 3/8" to 1/2" thick in 2 locations, exterior side (1 ft. and 4 ft. long).
West	6	Tension zone	web & flanges	Riveted plate girder	Just south of the navigation light near midspan, the bottom flange splice plate has minor pack rust up to 3/8" thick, 8 ft. long, exterior side. At 2/3 span on the bottom flange interior side there is a build up of cormorant excrement and vomit to 3" deep. The web has several 3 ft. x 1 ft. areas between stiffeners with laminar rust and minor section loss, see photos #66 and #67.
West	7	Tension zone	web & flanges	Riveted plate girder	A few minor areas of pack rust in bottom flange plates up to 1/2", see photos #15 and #30. The bottom flange interior side has a build up of cormorant excrement and vomit to 3" deep. The web has several 3 ft. x 1 ft. areas between stiffeners with laminar rust and minor section loss, see photos #66 and #67.



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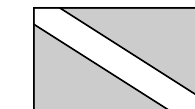
LEGEND:

EL. 0.0    ●    FIELD MEASURED ELEVATION

NOTES:

1. REFERENCE CONSTRUCTION DRAWINGS: SECONDARY STATE HIGHWAY NO. 21-B; PORT WASHINGTON NARROWS BRIDGE, DATED MAY 17, 1957.
2. REFERENCE ELEVATION: BOTTOM OF PIER 3 STRUT - ELEV. 135.47; BASED ON CITY OF BREMERTON DATUM. CITY OF BREMERTON DATUM = MLLW + 109.4 FT.
3. WIDTH INCLUDES SIDEWALK AND BARRIER.

Date:	OCTOBER 26, 2015
Scale:	MGDS SCALE 1:750
Drawn By:	DON
Reviewed By:	DRB



WSDOT Dive Team



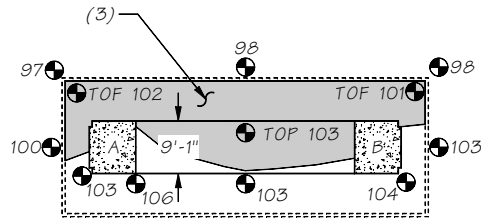
**Washington State**  
**Department of Transportation**  
Bridge and Structures Office

303/12 PORT WASHINGTON CS1840  
WSDOT SID #0005565A  
UNDERWATER INSPECTION

LAYOUT

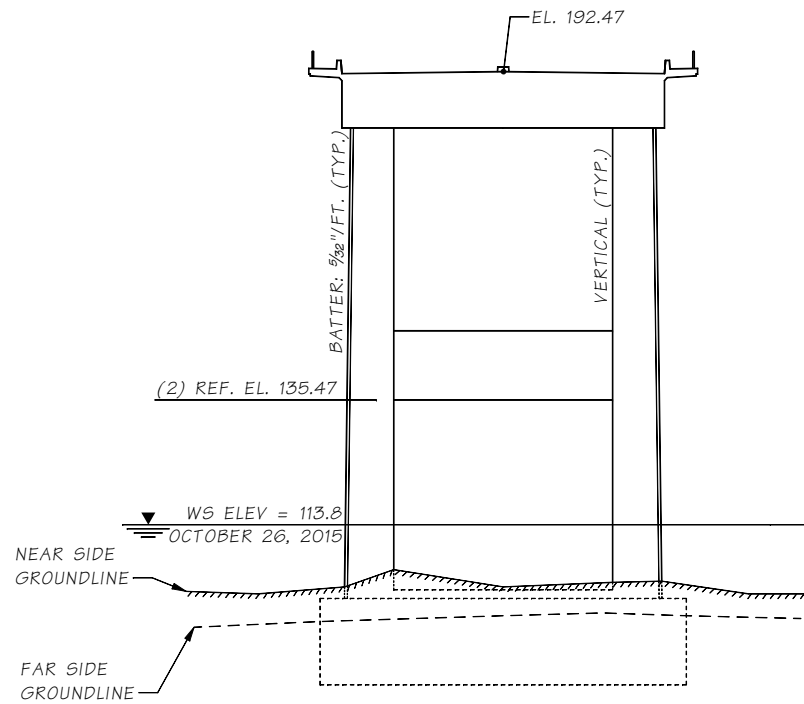
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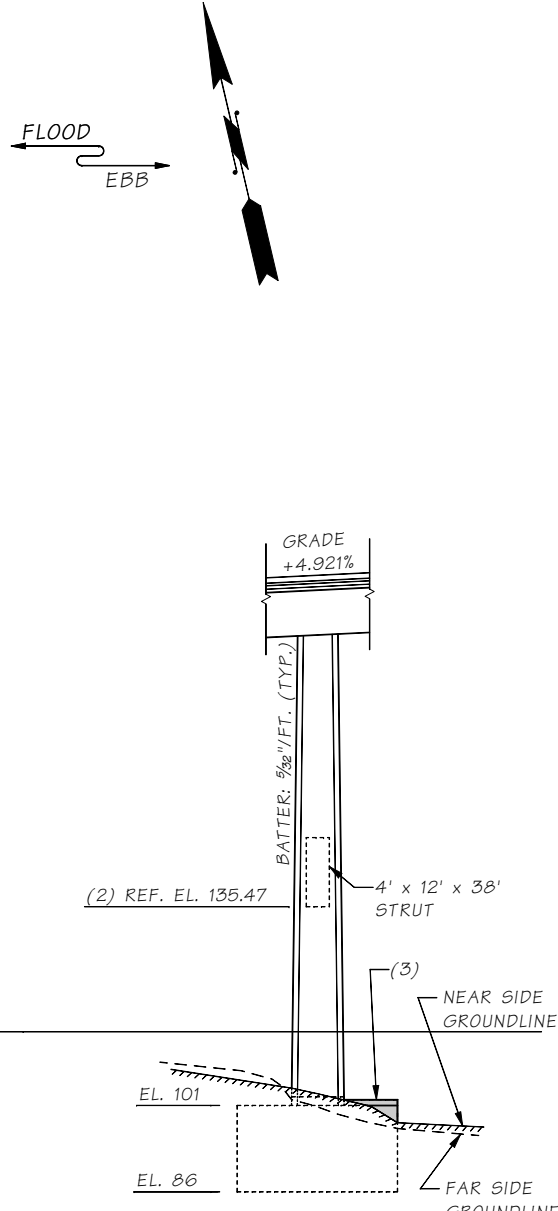
PIER 3 - PLAN

63'-7" x 24'-1" COFFERDAM  
62'-6" x 23'-0" FOOTING  
38'-0" x 9'-1 1/2" PEDESTAL



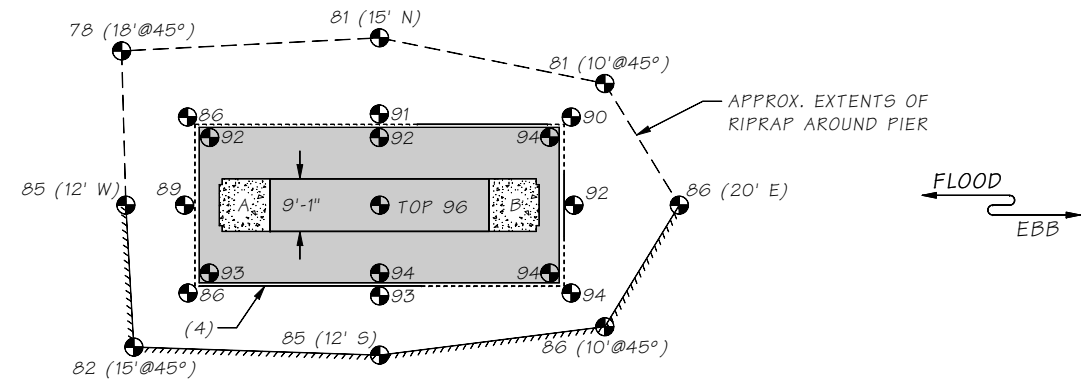
PIER 3 - ELEVATION

LOOKING NORTH



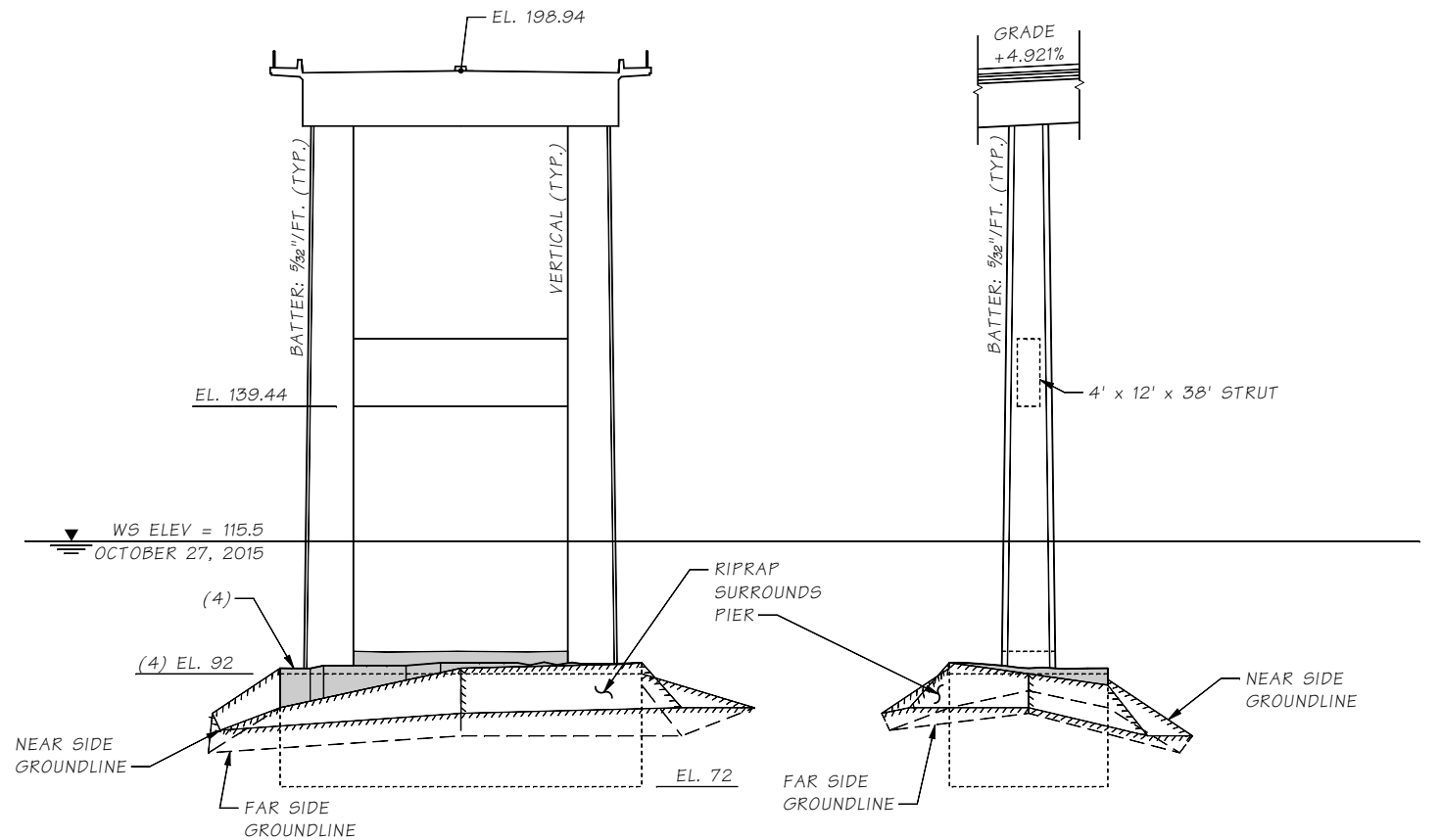
PIER 3 - VIEW

LOOKING WEST



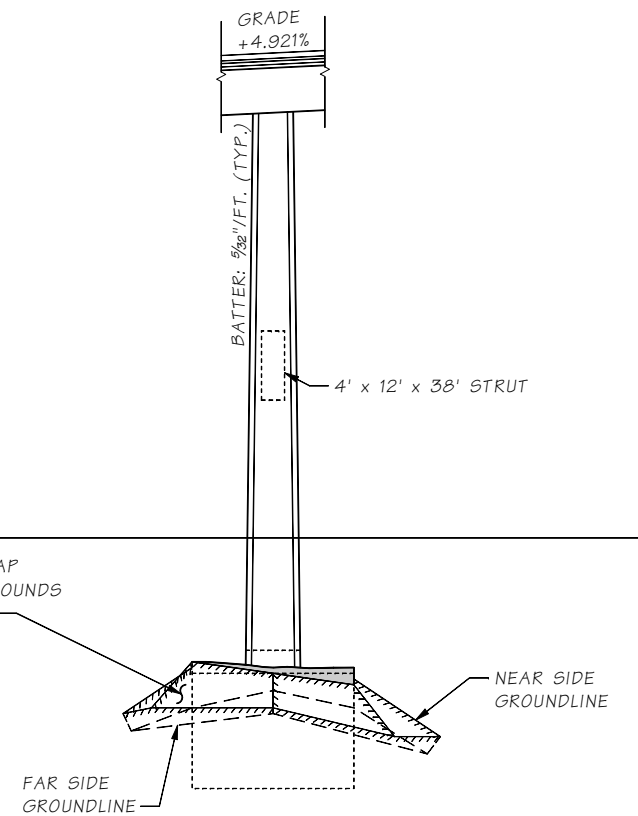
PIER 4 - PLAN

64'-1" x 28'-1" COFFERDAM  
62'-6" x 27'-0" FOOTING  
38'-0" x 9'-1 1/2" PEDESTAL



PIER 4 - ELEVATION

LOOKING NORTH



PIER 4 - VIEW

LOOKING WEST

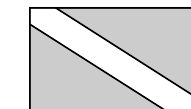
LEGEND:

- 100 ● FIELD MEASURED ELEVATION  
■ EXPOSED AREA OF FOOTING AND PEDESTAL

NOTES:

1. REFERENCE CONSTRUCTION DRAWINGS: SECONDARY STATE HIGHWAY NO. 21-B; PORT WASHINGTON NARROWS BRIDGE, DATED MAY 17, 1957.
2. REFERENCE ELEVATION: BOTTOM OF PIER 3 STRUT - ELEV. 135.47; BASED ON CITY OF BREMERTON DATUM. CITY OF BREMERTON DATUM = MLLW + 109.4 FT.
3. PIER 3 EXPOSED TOP OF FOOTING (TOF) ELEVATION IS 101' VARYING +/- 1 FT.
4. EXPOSED REMNANT SHEETPILE COFFERDAM 1 FT. TO 4 FT. ABOVE TOF.

Date: OCTOBER 26, 2015  
Scale: MGDS SCALE 1:200  
Drawn By: DON  
Reviewed By: DRB



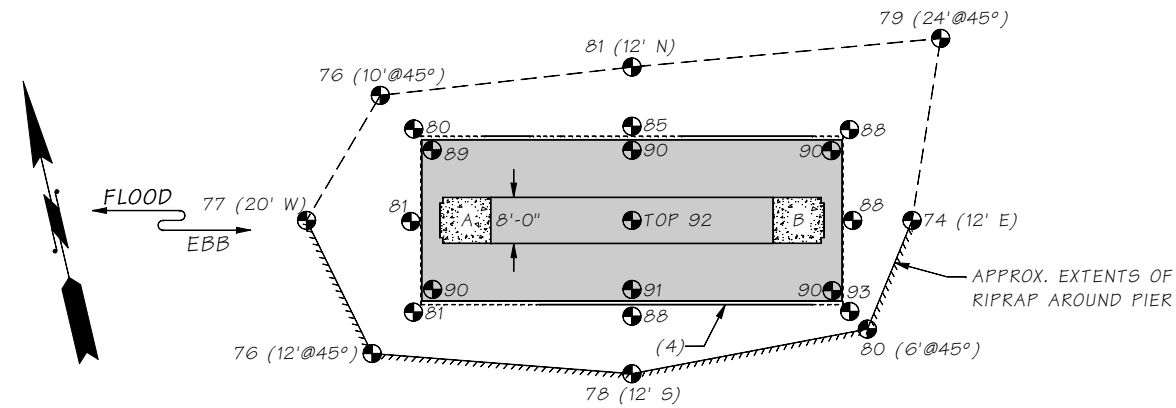
Washington State  
Department of Transportation  
Bridge and Structures Office

303/12 PORT WASHINGTON CS1840  
WSDOT SID #0005565A  
UNDERWATER INSPECTION

PIER 3 AND PIER 4

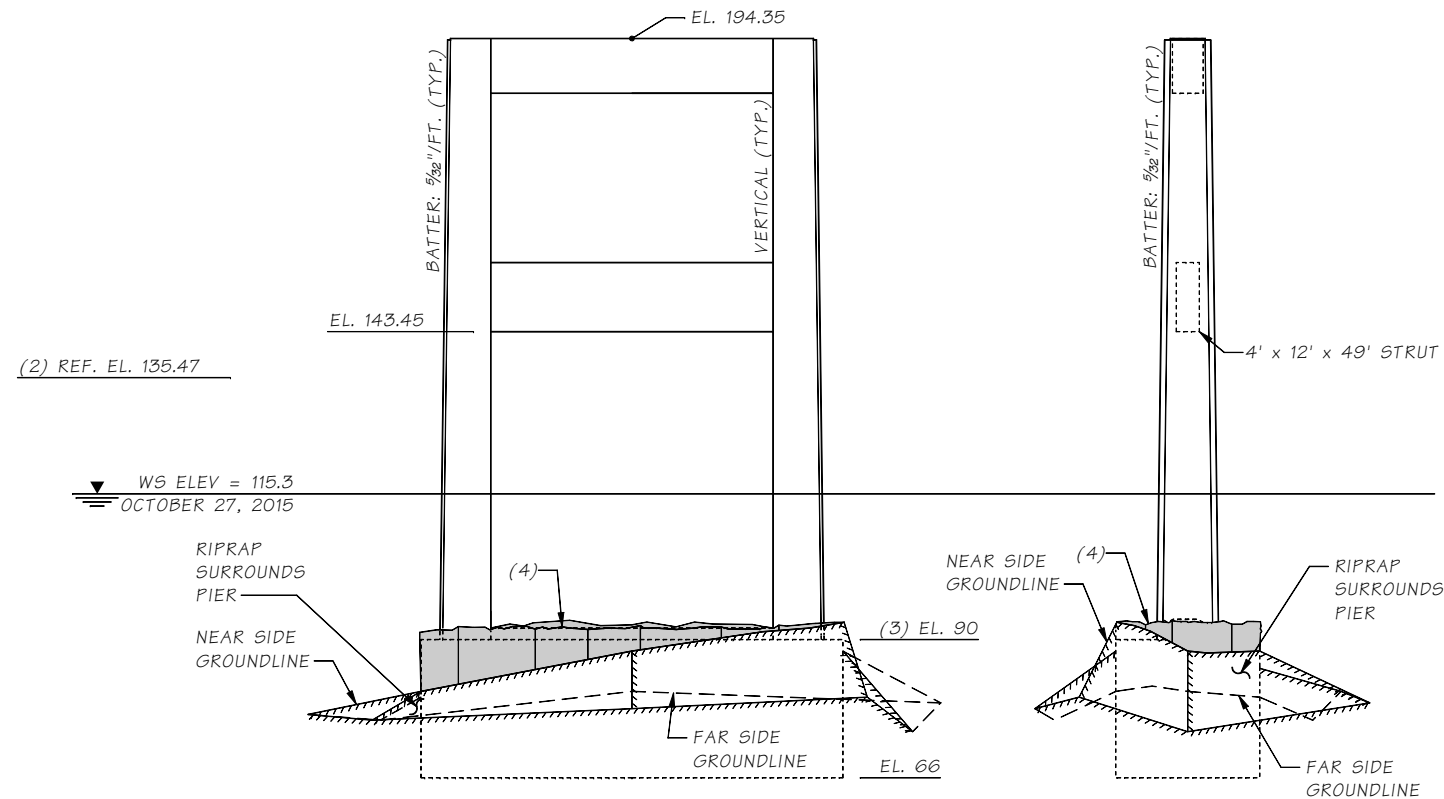
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PIER 5 - PLAN

73'-3" x 29'-3" COFFERDAM  
73'-0" x 28'-0" FOOTING  
49'-0" x 8'-0" PEDESTAL



PIER 5 - ELEVATION

LOOKING NORTH

PIER 5 - VIEW

LOOKING WEST

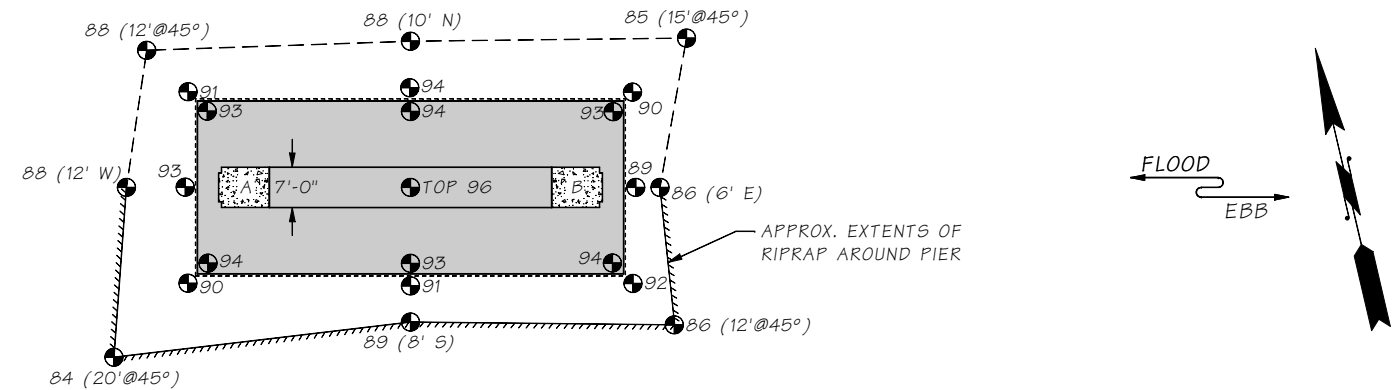
LEGEND:

100 ● FIELD MEASURED ELEVATION

■ EXPOSED AREA OF FOOTING AND PEDESTAL

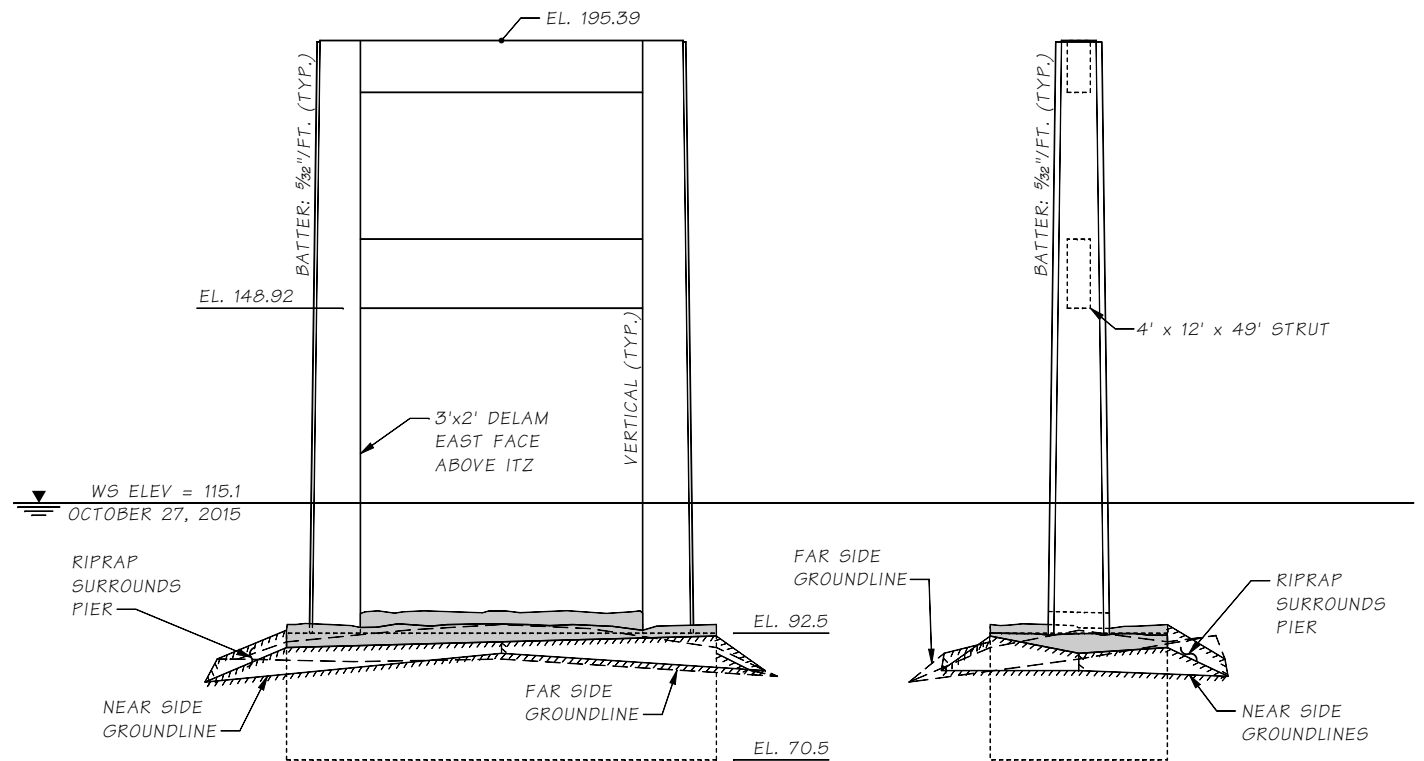
NOTES:

1. REFERENCE CONSTRUCTION DRAWINGS: SECONDARY STATE HIGHWAY NO. 21-B; PORT WASHINGTON NARROWS BRIDGE, DATED MAY 17, 1957.
2. REFERENCE ELEVATION: BOTTOM OF PIER 3 STRUT - ELEV. 135.47; BASED ON CITY OF BREMERTON DATUM. CITY OF BREMERTON DATUM = MLLW + 109.4 FT.
3. PIERS HAVE HEAVY MARINE GROWTH. TOP OF FOOTING (TOF) ELEVATIONS VARY +2 FT.
4. EXPOSED REMNANT SHEETPILE COFFERDAM 1 FT. TO 4 FT. ABOVE TOF.



PIER 6 - PLAN

74'-7 1/2" x 30'-8 1/4" COFFERDAM  
74'-0" x 30'-0" FOOTING  
49'-0" x 7'-0" PEDESTAL



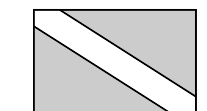
PIER 6 - ELEVATION

LOOKING NORTH

PIER 6 - VIEW

LOOKING WEST

Date: OCTOBER 26, 2015  
Scale: MGDS SCALE 1:200  
Drawn By: DON  
Reviewed By: DRB



WSDOT Dive Team



Washington State  
Department of Transportation  
Bridge and Structures Office

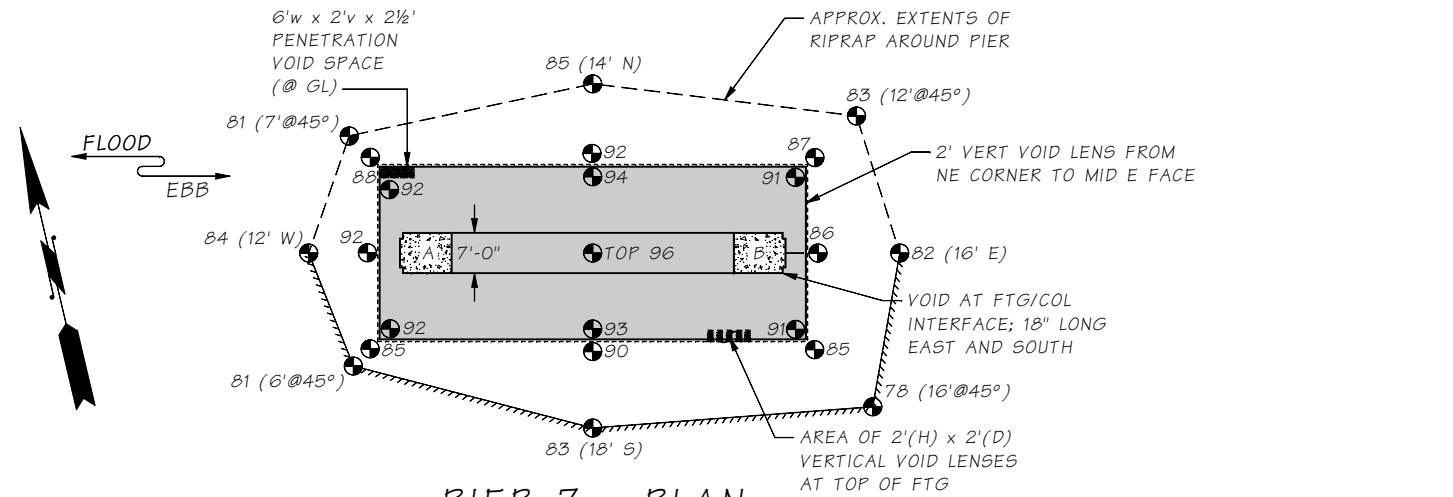
303/12 PORT WASHINGTON CS1840  
WSDOT SID #0005565A  
UNDERWATER INSPECTION

PIER 5 AND PIER 6

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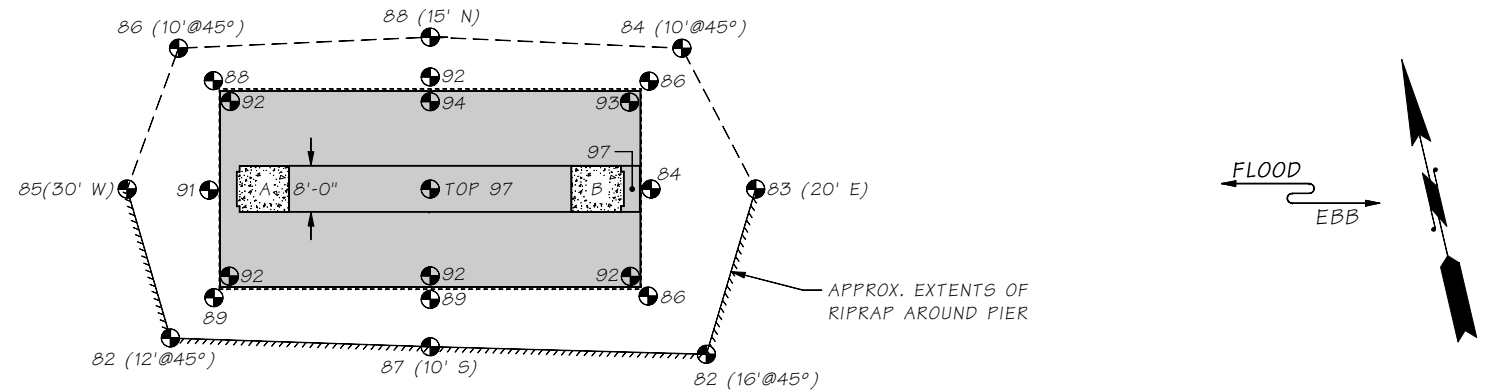


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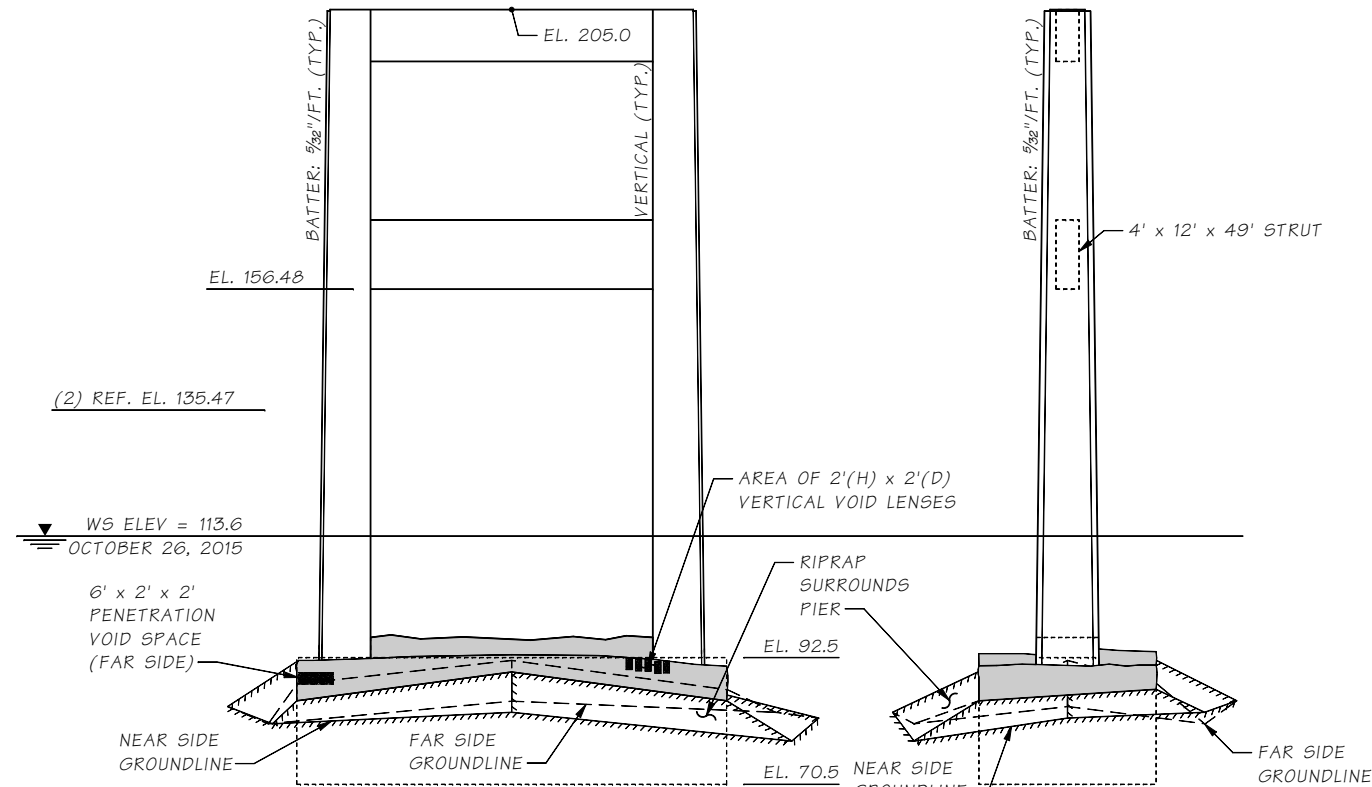
### PIER 7 - PLAN

74'-7½" x 30'-9" COFFERDAM  
74'-0" x 30'-0" FOOTING  
49'-0" x 7'-0" PEDESTAL



### PIER 8 - PLAN

73'-3" x 34'-9" COFFERDAM  
73'-0" x 34'-0" FOOTING  
49'-0" x 8'-0" PEDESTAL

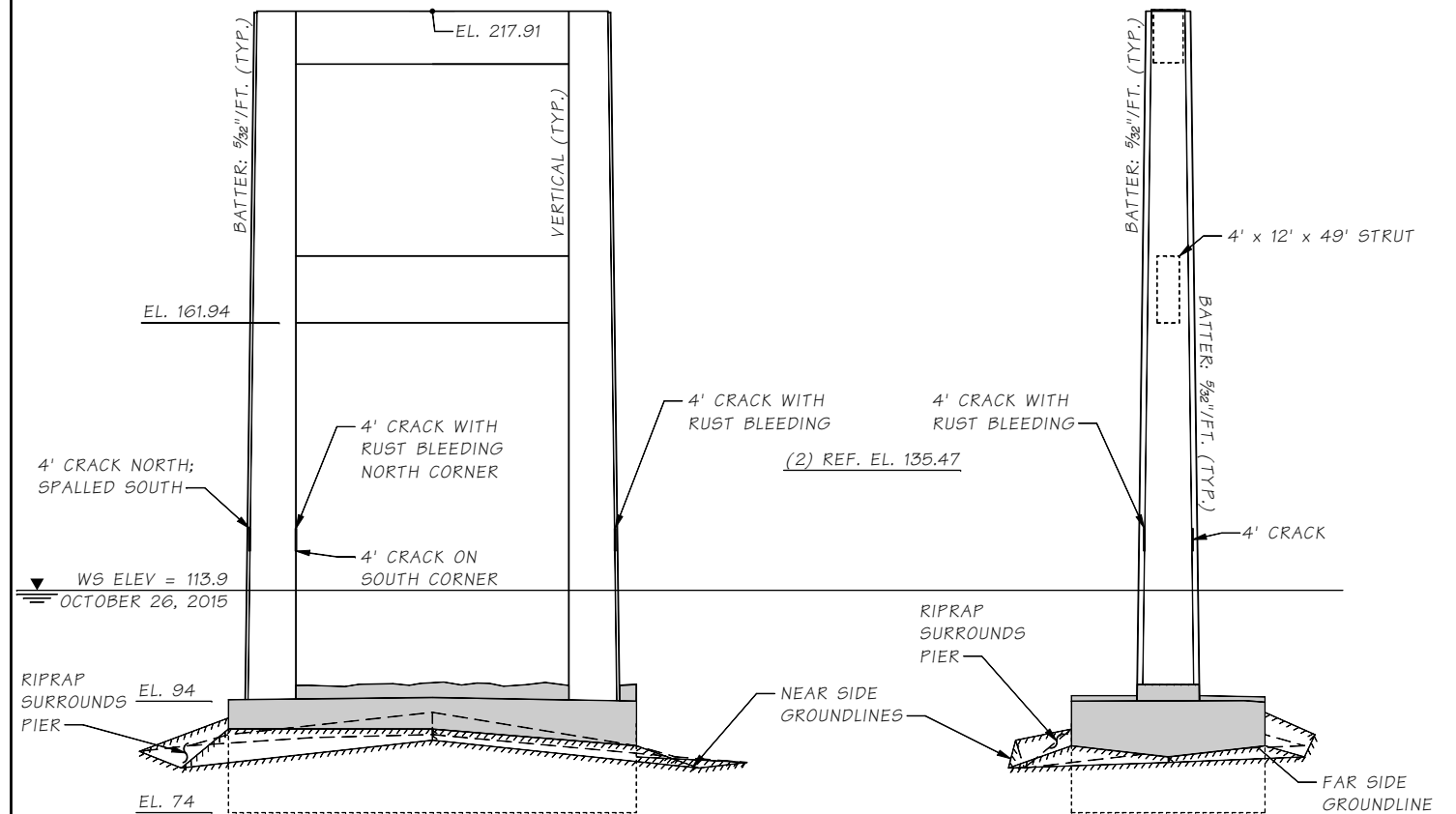


### PIER 7 - ELEVATION

LOOKING NORTH

### PIER 7 - VIEW

LOOKING WEST



### PIER 8 - ELEVATION

LOOKING NORTH

### PIER 8 - VIEW

LOOKING WEST

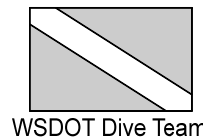
#### LEGEND:

- 100 ● FIELD MEASURED ELEVATION
- EXPOSED AREA OF FOOTING AND PEDESTAL
- VOID SPACE IN FOOTING

#### NOTES:

- REFERENCE CONSTRUCTION DRAWINGS: SECONDARY STATE HIGHWAY NO. 21-B; PORT WASHINGTON NARROWS BRIDGE, DATED MAY 17, 1957.
- REFERENCE ELEVATION: BOTTOM OF PIER 3 STRUT - ELEV. 135.47; BASED ON CITY OF BREMERTON DATUM. CITY OF BREMERTON DATUM = MLLW + 109.4 FT.
- PIERS HAVE HEAVY MARINE GROWTH UP TO 1 FT. THICKNESS.

Date: OCTOBER 26, 2015  
Scale: MGDS SCALE 1:200  
Drawn By: DON  
Reviewed By: DRB

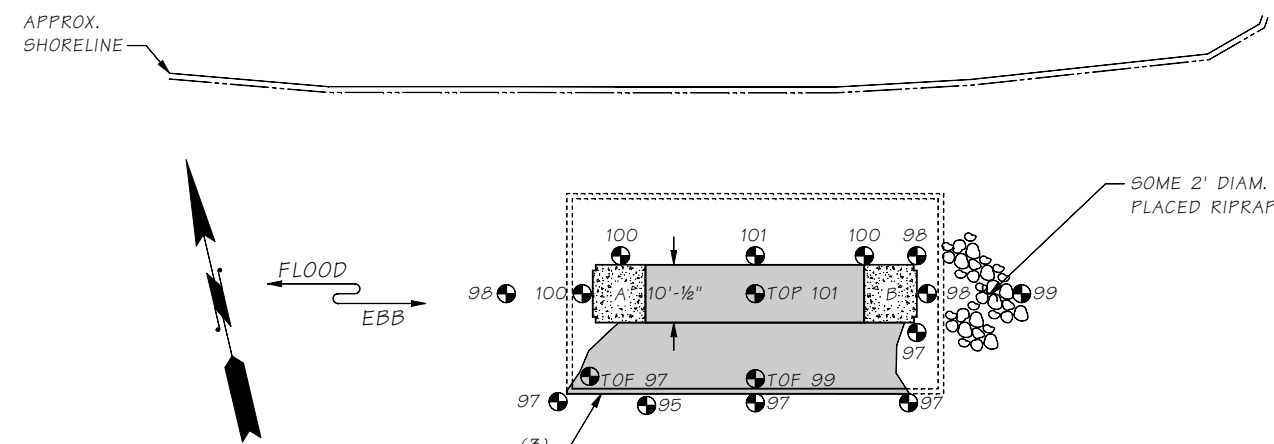


**Washington State**  
Department of Transportation  
Bridge and Structures Office

303/12 PORT WASHINGTON CS1840  
WSDOT SID #0005565A  
UNDERWATER INSPECTION

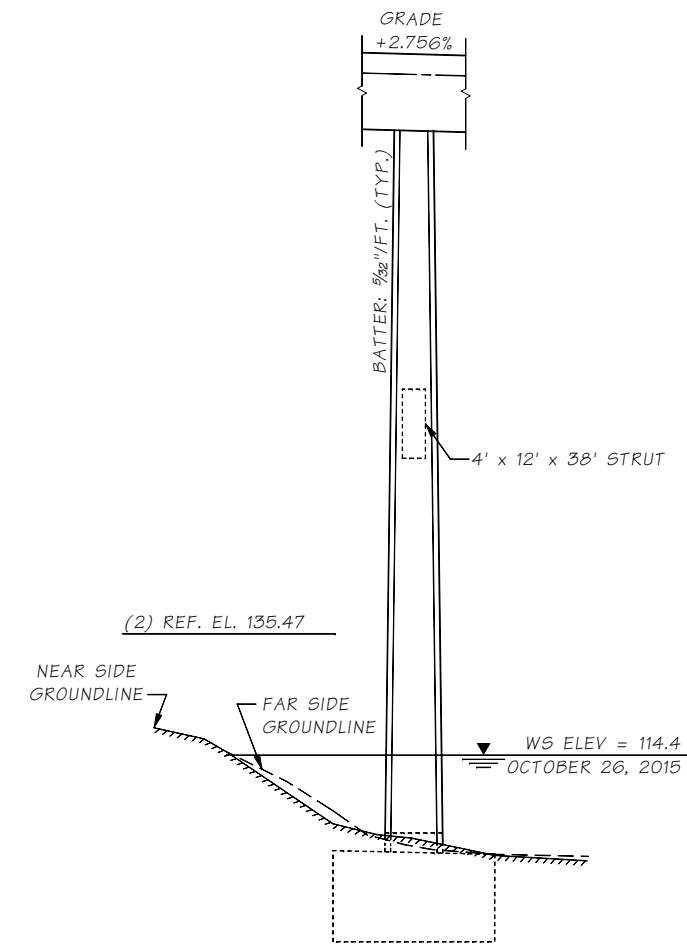
PIER 7 AND PIER 8

SHEET NO.  
4  
SHEET  
4  
OF  
5  
SHEETS



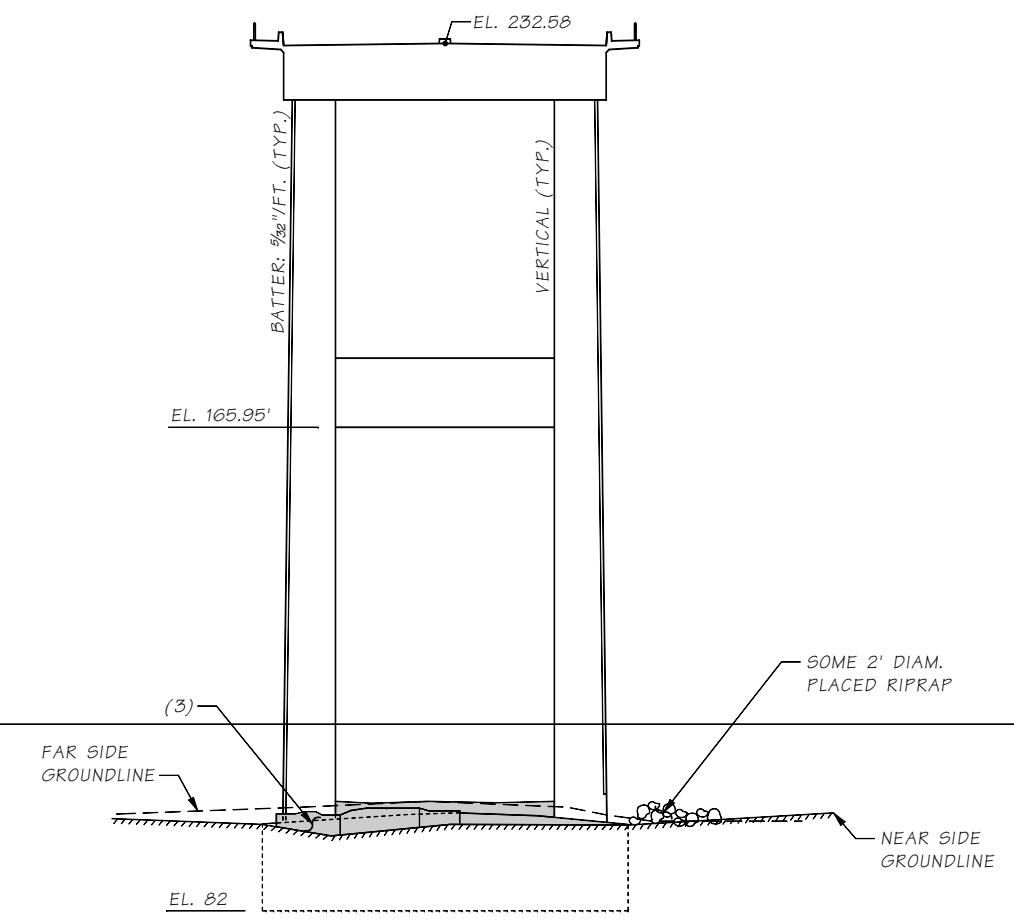
PIER 9 - PLAN

65'-5" x 34'-9" COFFERDAM  
63'-6" x 33'-0" FOOTING  
38'-0" x 10'-1/2" PEDESTAL



PIER 9 - VIEW

LOOKING EAST



PIER 9 - ELEVATION

LOOKING NORTH

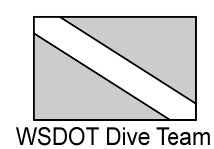
LEGEND:

- 100 ● FIELD MEASURED ELEVATION
- EXPOSED AREA OF FOOTING AND PEDESTAL

NOTES:

- REFERENCE CONSTRUCTION DRAWINGS: SECONDARY STATE HIGHWAY NO. 21-B; PORT WASHINGTON NARROWS BRIDGE, DATED MAY 17, 1957.
- REFERENCE ELEVATION: BOTTOM OF PIER 3 STRUT - ELEV. 135.47; BASED ON CITY OF BREMERTON DATUM. CITY OF BREMERTON DATUM = MLLW + 109.4 FT.
- EXPOSED REMNANT SHEETPILE COFFERDAM 1 FT. TO 2 FT. ABOVE TOF.

Date:	OCTOBER 26, 2015
Scale:	MGDS SCALE 1:200
Drawn By:	DON
Reviewed By:	DRB



303/12 PORT WASHINGTON CS1840 WSDOT SID #0005565A UNDERWATER INSPECTION
PIER 9

SHEET NO. 5
SHEET 5 OF 5 SHEETS

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