# P2 Bridge Preservation - Concrete Deck Repair / Overlay Projects

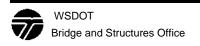


### 2009-11 Bien Priority Array

(Sorted by Priority Number)



09-11 #	Bridge Number	Bridge Name	Mile post	Region	n Future Work Description E	Bridge Item\$'s	
12	090/078N	SR 18 OC	25.55	NW	Bridge Deck Overlay - HMA	\$119,905	
20	203/104	DRAINAGE OVERFLOW	22.05	NW	MCO Deck Prep Slab	\$81,840	
28	005/534S-W	S-W RAMP LUCILE ST OC	161.28	NW	MCO Hydro Orig deck	\$372,767	
33	203/106	SKYKOMISH R	23.20	NW	Bridge Deck Overlay - RSLMC	\$524,883	
34	203/003	SLOUGH	0.49	NW	0.25 HMA/Mem Spalling	\$28,567	
40	018/017S	GREEN R (NEELEY BRIDGE)	6.62	NW	Bridge Deck Overlay - RSLMC	\$378,103	
41	018/031N	HOLDER CR HOBART RD OC	20.34	NW	Bridge Deck Overlay - MC	\$324,649	
42	005/536N-W	NB I5 to WB W SEA FRWY	162.98	NW	Bridge Deck Overlay - RSLMC	\$815,174	
43	090/043S	MERCER SL	9.24	NW	Bridge Deck Overlay - RSLMC	\$2,712,780	
44	405/001	I-5 OC	0.00	NW	Bridge Deck Overlay - RSLMC	\$668,001	
48	532/006	GN RY COUNTY RD OC	4.98	NW	Bridge Deck Overlay - RSLMC	\$562,467	
53	005/511W	SR 516 OC	149.17	NW	HMA Mill Fill 0.08'	\$146,930	
54	005/525.5E	INTERURBAN AVE OC	155.98	NW	HMA Mill Fill 0.08'	\$111,885	
55	005/510E	S 260TH ST OC	147.64	NW	HMA Mill Fill 0.08'	\$97,269	
56	005/526W	DUWAMISH R BN & UP RR		NW	HMA w new Thin overaly	\$340,932	
57	005/526E	DUWAMISH R BN & UP RR OC		NW	HMA Mill and Fill	\$345,240	
58	520/016	108TH AVE NE OC	6.27	NW	Bridge Deck Overlay - RSLMC	\$1,046,376	
Tota	Total Number of Bridges = 17  Total of Bridge Item\$ = \$						



# P2 Bridge Preservation - Concrete Deck Repair / Overlay Projects



### 2009-11 Bien Priority Array

(Sorted by State Route)



09-11 #	Bridge Number	Bridge Name	Mile post	Region	Future Work Description	Bridge Item\$'s
55	005/510E	S 260TH ST OC	147.64	NW	HMA Mill Fill 0.08'	\$97,269
53	005/511W	SR 516 OC	149.17	NW	HMA Mill Fill 0.08'	\$146,930
54	005/525.5E	INTERURBAN AVE OC	155.98	NW	HMA Mill Fill 0.08'	\$111,885
57	005/526E	DUWAMISH R BN & UP RR OC		NW	HMA Mill and Fill	\$345,240
56	005/526W	DUWAMISH R BN & UP RR		NW	HMA w new Thin overaly	\$340,932
28	005/534S-W	S-W RAMP LUCILE ST OC	161.28	NW	MCO Hydro Orig deck	\$372,767
42	005/536N-W	NB I5 to WB W SEA FRWY	162.98	NW	Bridge Deck Overlay - RSLMC	\$815,174
40	018/017S	GREEN R (NEELEY BRIDGE)	6.62	NW	Bridge Deck Overlay - RSLMC	\$378,103
41	018/031N	HOLDER CR HOBART RD OC	20.34	NW	Bridge Deck Overlay - MC	\$324,649
43	090/043S	MERCER SL	9.24	NW	Bridge Deck Overlay - RSLMC	\$2,712,780
12	090/078N	SR 18 OC	25.55	NW	Bridge Deck Overlay - HMA	\$119,905
34	203/003	SLOUGH	0.49	NW	0.25 HMA/Mem Spalling	\$28,567
20	203/104	DRAINAGE OVERFLOW	22.05	NW	MCO Deck Prep Slab	\$81,840
33	203/106	SKYKOMISH R	23.20	NW	Bridge Deck Overlay - RSLMC	\$524,883
44	405/001	I-5 OC	0.00	NW	Bridge Deck Overlay - RSLMC	\$668,001
58	520/016	108TH AVE NE OC	6.27	NW	Bridge Deck Overlay - RSLMC	\$1,046,376
48	532/006	GN RY COUNTY RD OC	4.98	NW	Bridge Deck Overlay - RSLMC	\$562,467
Total Number of Bridges = 17 Total of Bridge Item\$ =						





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
5 / 510E	S 260TH ST OC	Northw	est	147.64
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	ING:
1960	06186, 10342, 12404, 13850		60.81	FO

BRIDGE TYPE: CVS

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 26.0 in.

(Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 63.0 ft. 162 ft.

NUMBER OF LANES: AVERAGE DAILY TRAFFIC (ADT):

> 80,000 4

> > **VERTICAL CLEARANCE**

VC Type:

NA

**BRIDGE RAIL** 

WSDOT CODE - 60 BRIDGE RAIL TYPE:

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 0.0 Lt 0.0 Rt

### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 55 TYPE RECOMMENDED: HMA Mill Fill 0.08'

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

ACP w/membrane

Overlay Thickness - 1.8 inches

Year Applied - 1976

COMMENTS:

This bridge is on Interstate 5 and has concrete roadway approaches. The existing Asphalt with membrane overlay is in need of replacement.

We recommend to remove and replace 0.08' of HMA, using 3/8" aggregate mix.



**BRIDGE DECK SURVEY** 

**DELAMINATION RESULTS:** DATE

NA

CHLORIDE RESULTS:

18 % are > 2 lbs./CY 6 / 87

REBAR RESULTS:

NA

REVIEWED BY:

DATE:

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
5 / 511W	SR 516 OC	Northw	est	149.17
YEAR BUILT / YR WIDENED: CONTRACT NO.(S):			SUFFICIENCY RAT	ING:
1962	06820 , 15968		84.32	

BRIDGE TYPE: PCG

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 7.0 in. (Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 71.2 ft. 259 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES: 5

85,000

**VERTICAL CLEARANCE** 

VC Type: SR 516 OC

NA

**BRIDGE RAIL** 

WSDOT CODE - 70.6 BRIDGE RAIL TYPE:

Conc Base - Type 1B w/Thrie Beam

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 0.0 Lt 0.0 Rt

403 **EXPANSION JOINTS** 

Modifications may be required to accommodate a new overlay.

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 53 TYPE RECOMMENDED: HMA Mill Fill 0.08'

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

ACP Overlay

Year Applied - 2002

COMMENTS:

A 1.5" Modified Concrete overlay was specified as part of the widening project in 2002. The Modified Concrete overlay was deleted by change order and an ACP overlay was applied instead.

We recommend to remove and replace 0.08' of HMA, using 3/8" aggregate mix.

#### **BRIDGE DECK SURVEY**

DELAMINATION RESULTS: DATE

0.0% of deck 3 sq ft 6 / 87

CHLORIDE RESULTS:

18 % are > 2 lbs./CY 6 / 87

REBAR RESULTS:

16 % are < or = 1 inch 6 / 87 REVIEWED BY:

DATE:

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
5 / 525.5E	INTERURBAN AVE OC	Northw	est	155.98
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	TING:
1966	07618,12291,13182,14543		85.59	FO

BRIDGE TYPE: PCG

DECK TYPE: Conc cast-in-place

DECK THICKNESS: 7.0 in.

(Main Span) / . U III.

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

76.0 ft. 160 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

94,500 5

**VERTICAL CLEARANCE** 

VC Type:

NA

BRIDGE RAIL

BRIDGE RAIL TYPE: WSDOT CODE - 60

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 0.0 Lt 0.0 Rt

404 407 **EXPANSION JOINTS** 

Coordinate with your Region's Maintenance Office to determine if any repairs are required.

If r

**BRIDGE DECK SURVEY** 

DELAMINATION RESULTS: DATE

NA

CHLORIDE RESULTS:

0 % are > 2 lbs./CY 1 / 85

REBAR RESULTS:

NA

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

ACP overlay

Year Applied - 1982

Overlay Thickness - 1.8 inches



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 54

TYPE RECOMMENDED: HMA Mill Fill 0.08'

COMMENTS:

If ride improvement is needed We recommend to remove and replace 0.08' of HMA, using 3/8" aggregate mix.

REVIEWED BY: DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
5 / 526E	DUWAMISH R BN & UP RR OC	Northw	est 156.34
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATING:
1964 / 1997	07171,10342,13182,14543		83.86 FO

BRIDGE TYPE: SG CBox

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 9.0 in.

(Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

69.0 ft. 812 ft. NUMBER OF LANES:

5 100,500

**VERTICAL CLEARANCE** 

VC Type:

AVERAGE DAILY TRAFFIC (ADT):

Minimum VC = 18 FT 08 in

**BRIDGE RAIL** 

WSDOT CODE - 60 BRIDGE RAIL TYPE:

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 0.0 Lt 0.0 Rt

412 **EXPANSION JOINTS** 

Coordinate with your Region's Maintenance Office to

determine if any repairs are required.

**BRIDGE DECK SURVEY** 

**DELAMINATION RESULTS:** DATE

CHLORIDE RESULTS:

12 % are > 2 lbs./CY 3 / 85

REBAR RESULTS:

NA

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

ACP overlay

Year Applied - 1976

Overlay Thickness - 1.5 inches



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: NO 09-11 P2 Priority #: **57** TYPE RECOMMENDED: None

COMMENTS:

If ride improvement is needed We recommend to remove and replace 0.08' of HMA, using 3/8" aggregate mix.

REVIEWED BY: DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
5 / 526W	DUWAMISH R BN & UP RR	Northw	est	156.35
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATI	NG:
1964 / 1996	07171,10342,13182,14543		71.22	FO

BRIDGE TYPE: SG CBox

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 9.0 in.

(Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

68.0 ft. 812 ft.

NUMBER OF LANES: AVERAGE DAILY TRAFFIC (ADT): 5 100,500

**VERTICAL CLEARANCE** 

VC Type:

Minimum VC = 17 FT 03 in

**BRIDGE RAIL** 

WSDOT CODE - 60 BRIDGE RAIL TYPE:

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 0.0 Lt 0.0 Rt

412 **EXPANSION JOINTS** 

Coordinate with your Region's Maintenance Office to determine if any repairs are required.

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 56 TYPE RECOMMENDED: RR HMA & Thin overaly

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

If asphalt pavement is needs replacement, we recommend Removing 1.5" HMA; placing waterproofing membrane; and placing 1.5" of HMA.

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE: ACP overlay

Year Applied - 1986

Overlay Thickness - 1.5 inches



### **BRIDGE DECK SURVEY**

**DELAMINATION RESULTS:** DATE

CHLORIDE RESULTS:

2 % are > 2 lbs./CY 3 / 85

REBAR RESULTS:

NA

REVIEWED BY:

COMMENTS:

DATE:

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
5 / 534S-W	S-W RAMP LUCILE ST OC	Northwe	est 161.28
YEAR BUILT / YR WIDENED: CONTRACT NO.(S):			SUFFICIENCY RATING:
1967	07930 , 13737		72.60 SD

BRIDGE TYPE: CBox

DECKTYPE: Conc cast-in-place

DECK THICKNESS: 6.5 in. (Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

31.0 ft. 550 ft.

11,404 2

### **VERTICAL CLEARANCE**

NUMBER OF LANES:

VC Type:

AVERAGE DAILY TRAFFIC (ADT):

NA

#### **BRIDGE RAIL**

BRIDGE RAIL TYPE: WSDOT CODE - 73.2

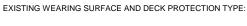
Conc Base - Type R

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 1.5 Lt 1.5 Rt

#### EXPANSION JOINTS

Coordinate with your Region's Maintenance Office to determine if any repairs are required. No modifications required at this time.



original concrete



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 28

TYPE RECOMMENDED: MC Overlay / Hydro

#### COMMENTS:

Deck protection is required. A 3/8 inch polymer overlay was applied in 1990 (Sika-epoxy) and removed in 2004.

We recommend placing 1.5" modified concrete overlay using hydromilling. Expansion Joint modification is required.

### BRIDGE DECK SURVEY

DELAMINATION RESULTS: DATE

412 sq ft 2.4% of deck 7 / 88

CHLORIDE RESULTS:

48 % are > 2 lbs./CY 7 / 88

REBAR RESULTS:

13 % are < or = 1 inch 8 / 85

REVIEWED BY:

DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
5 / 536N-W	NB I5 to WB W SEA FRWY	Northw	est 162.98
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATING:
1967	07741		78.89

BRIDGE TYPE: CBox

DECKTYPE: Conc cast-in-place

DECK THICKNESS: (Main Span) 6.5 in.

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

21.0 ft. 1,722 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

16,485

**VERTICAL CLEARANCE** 

1

VC Type: Ramp OC

NA

**BRIDGE RAIL** 

BRIDGE RAIL TYPE: WSDOT CODE - 73.2

Conc Base - Type R

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 1.5 Lt 1.5 Rt

402 408 **EXPANSION JOINTS** 

The steel sliding expansion joints need to be replaced.

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 42

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

original concrete

TYPE RECOMMENDED: RSLMC or MCO

COMMENTS:

This structure has extremely large laminar spalling that is unique and the cause has yet to be determined.

We recommend to remove the delams by Hydromilling and place a 1.5" modified concrete overlay. Rapid Set Latex Modified Concrete overlay may be option for rapid construction and will cost more. Expansion Joints modification is required.

BRIDGE DECK SURVEY

DELAMINATION RESULTS: DATE

2,017 sq ft 7.4% of deck 7/05

CHLORIDE RESULTS:

3 % are > 2 lbs./CY 7 / 85

REBAR RESULTS:

6 % are < or = 1 inch 7 / 85

REVIEWED BY: DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
18 / 17S	GREEN R (NEELEY BRIDGE)	Northwe	est 6.62
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATING:
1959	06066 , 14354		37.45 SD

BRIDGE TYPE: STrus CBox

DECKTYPE: Conc cast-in-place

DECK THICKNESS: (Main Span) 6.5 in.

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

29.5 ft. 371 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

22,000 2

**VERTICAL CLEARANCE** 

VC Type: Steel Truss

NA

BRIDGE RAIL

BRIDGE RAIL TYPE: WSDOT CODE - 60

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 0.0 Lt 0.0 Rt

403 404 405 412 **EXPANSION JOINTS** 

Coordinate with the Maintenance office to determine if any repairs are required.

DECK PROTECTIVE SYSTEM RECOMMENDATIONS

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 40

TYPE RECOMMENDED: 3/4" Polyester

Deck protection is required.

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

Original Concrete

A 3/8" polymer overlay was applied in 1995. This overlay was removed in 2003.

We recommend placing 1" Polyester overlay.



DELAMINATION RESULTS: DATE

57 sq ft 0.5% of deck 3 / 84

CHLORIDE RESULTS:

64 % are > 2 lbs./CY 10 / 84

REBAR RESULTS:

9 % are < or = 1 inch 3 / 84

REVIEWED BY:

COMMENTS:

DATE:

12/12/2007

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
18 / 31N	HOLDER CR HOBART RD OC	Northwe	est 20.34
YEAR BUILT / YR WIDENED: CONTRACT NO.(S):			SUFFICIENCY RATING:
1961	06541 , 13549		77.96

BRIDGE TYPE: CBox

DECK TYPE: Conc cast-in-place

DECK THICKNESS: 6.5 in.

(Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 40.3 ft. 304 ft.

NUMBER OF LANES: AVERAGE DAILY TRAFFIC (ADT):

9,500

### **VERTICAL CLEARANCE**

2

VC Type:

NA

#### **BRIDGE RAIL**

WSDOT CODE - 65 BRIDGE RAIL TYPE:

Single Slope Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 0.0 Lt 0.0 Rt

404 412 **EXPANSION JOINTS** 

Modifications may be required to accommodate the new overlay.

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

Polyester Overlay

Year Applied - 1989

Overlay Thickness - 0.8 inches



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 41 TYPE RECOMMENDED: Mod Concrete

COMMENTS:

The existing 3/4" Polyester is developing pot holes above the existing patch locations.

We recommend removing the existing overlay with a rotomill, hydromill for deck preparation, and replacing it with a modified concrete overlay.

### **BRIDGE DECK SURVEY**

DELAMINATION RESULTS: DATE 16.7% of deck 2,047 sq ft

5 / 87

CHLORIDE RESULTS:

100 % are > 2 lbs./CY 5 / 87

REBAR RESULTS:

4 % are < or = 1 inch 5 / 87 REVIEWED BY:

Bruce Thill 12/12/2007

DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
90 / 43S	MERCER SL	Northw	est	9.24
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	ING:
1970	08610 , 13846		67.95	FO

CBox CS BRIDGE TYPE:

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 7.2 in. (Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 73.5 ft. 2,669 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

65,500 5

### **VERTICAL CLEARANCE**

VC Type:

NA

### **BRIDGE RAIL**

WSDOT CODE - 73.2 BRIDGE RAIL TYPE:

Conc Base - Type R

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 0.8 Lt 0.8 Rt

406 408 **EXPANSION JOINTS** 

Coordinate with your Region's Maintenance Office to

determine if any repairs are required.

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 43 TYPE RECOMMENDED: Rapid Set LMC Overlay

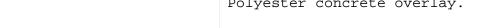
EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

original concrete

COMMENTS:

Deck protection is required due to the amount of exposed reinforcing steel in the bridge deck.

We recommend adding a new 3/4" Polyester concrete overlay.



**BRIDGE DECK SURVEY** 

**DELAMINATION RESULTS:** DATE

0.1% of deck 158 sq ft 6 / 87

CHLORIDE RESULTS:

5 % are > 2 lbs./CY 6 / 87

REBAR RESULTS:

2 % are < or = 1 inch 6 / 87 REVIEWED BY:

Bruce Thill 12/12/2007

DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
90 / 78N	SR 18 OC	Northw	est	25.55
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	ΓING:
1963	06966 , 13941		90.23	SD

BRIDGE TYPE: PCG

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 5.8 in.

(Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 70.0 ft. 158 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

> 15,675 4

> > **VERTICAL CLEARANCE**

VC Type: SR 18 OC

NA

**BRIDGE RAIL** 

WSDOT CODE - 60 BRIDGE RAIL TYPE:

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 0.0 Lt 0.0 Rt

404 **EXPANSION JOINTS** 

Coordinate with your Region's Maintenance Office to determine if any repairs are required.

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 12 TYPE RECOMMENDED: HMA mill only

SR: 090 MAINLINE, MP: 25.69, 08/17/1999, 18:37:30

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

MMC Overlay

Overlay Thickness - 6.0 inches

Year Applied - 1991

We recommend removing the 2"-6" concrete overlay and placing HMA with membrane. The deck is in good condition.

ACP overlay was removed and replaced with 2"-6" MMC in 1991 widening project. The MMC overlay is too thick. Overlay has fractured into large pieces and has significant rutting at the joint headers.

The Load Rating includes up to 6" of additional overlay Dead Load.

REVIEWED BY:

COMMENTS:

DATE:

12/12/2007

**BRIDGE DECK SURVEY** 

**DELAMINATION RESULTS:** DATE

NA

CHLORIDE RESULTS:

69 % are > 2 lbs./CY 6 / 86

REBAR RESULTS:

NA

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
203 / 3	SLOUGH	Northwe	est	0.49
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	TING:
1945	02999		89.71	FO

BRIDGE TYPE: TTC

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 7.5 in. (Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 36.0 ft. 52 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

8,600

### **VERTICAL CLEARANCE**

VC Type:

NA

#### **BRIDGE RAIL**

WSDOT CODE - 42 BRIDGE RAIL TYPE:

Balluster Rail w/Thrie Beam

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 0.0 Lt 0.0 Rt

**EXPANSION JOINTS** 

Std. Plan A7, Detail 1 should be used at the end of the bridge

deck.

original concrete

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 34

TYPE RECOMMENDED: 0.25 HMA/Mem

We recommend adding 0.25' ACP with water proofing membrane.

The total thickness should not exceed 3 inches.

**BRIDGE DECK SURVEY** 

**DELAMINATION RESULTS:** DATE

CHLORIDE RESULTS:

40 % are > 2 lbs./CY 3 / 82

REBAR RESULTS:

NA

REVIEWED BY:

COMMENTS:

DATE:

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILE	EPOST:
203 / 104	DRAINAGE OVERFLOW	Northwe	est 2	2.05
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATING:	
1954	04825		63.98 FO	

BRIDGE TYPE: CS

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 14.0 in. (Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 26.0 ft. 89 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES: 2

11,000

### **VERTICAL CLEARANCE**

VC Type:

NA

#### **BRIDGE RAIL**

WSDOT CODE - 42 BRIDGE RAIL TYPE:

Balluster Rail w/Thrie Beam

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 2.5 Lt 2.5 Rt

# **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 20 TYPE RECOMMENDED: MC Overlay

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

original concrete

COMMENTS:

Bridge Inspection reports indicate the deck is more than 5% deteriorated.

We recommend placing 1.5" modified concrete overlay with 0.5" hydromill scarification.

#### **EXPANSION JOINTS**

Std. Plan A7, Detail 1should be used at the end of the bridge deck.

### **BRIDGE DECK SURVEY**

DELAMINATION RESULTS: DATE

> 0.0% of deck 1 sq ft 11 / 86

CHLORIDE RESULTS:

0 % are > 2 lbs./CY 11 / 86

REBAR RESULTS:

0 % are < or = 1 inch 11 / 86 REVIEWED BY:

DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
203 / 106	SKYKOMISH R	Northw	est	23.20
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	ING:
1957	05294 , 14227		48.00	FO

BRIDGE TYPE: STrus CBox

DECKTYPE: Conc cast-in-place

DECK THICKNESS: (Main Span) 6.5 in.

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

28.0 ft. 582 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

11,000 2

**VERTICAL CLEARANCE** 

VC Type: Steel Truss

NA

**BRIDGE RAIL** 

BRIDGE RAIL TYPE: WSDOT CODE - 42

Balluster Rail w/Thrie Beam

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

YES 2.5 Lt 2.5 Rt

402 408 **EXPANSION JOINTS** 

Coordinate with your Region's Maintenance Office to determine if any repairs are required.

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

3/8in Polymer-Epoxy

Year Applied - 1993 Overlay Thickness - 0.4 inches



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 33

TYPE RECOMMENDED: Rapid Set LMC Overlay

COMMENTS:

The existing thin polymer overlay has failed. Deck protection is warranted.

We recommend removing the existing polymer overlay and then placing a new 3/4" Polyester Concrete or RSLMC overlay. Joint modifications will be required to accommodate a new concrete overlay.

#### **BRIDGE DECK SURVEY**

DELAMINATION RESULTS: DATE

194 sq ft 1.2% of deck 7 / 92

CHLORIDE RESULTS:

REBAR RESULTS:

 REVIEWED BY:

DATE:

Bruce Thill





BRIDGE NUMBER:	BRIDGE NAME:	REGION:		MILEPOST:
405 / 1	I-5 OC	Northw	est	0.00
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RAT	ΓING:
1965	07401 , 14621		87.49	FO

BRIDGE TYPE: CBox

DECKTYPE: Conc cast-in-place

DECK THICKNESS: (Main Span) 6.5 in.

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

46.0 ft. 560 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

31,740

**VERTICAL CLEARANCE** 

VC Type: SR 5 OC

NA

**BRIDGE RAIL** 

BRIDGE RAIL TYPE: WSDOT CODE - 70.4

Conc Base - Type 1B

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

NO 1.5 Lt 1.5 Rt

EXPANSION JOINTS

Modifications are required to accommodate the new overlay,

please coordinate with the Bridge Office.

**BRIDGE DECK SURVEY** 

DELAMINATION RESULTS: DATE

129 sq ft 0.5% of deck 9 / 92

CHLORIDE RESULTS:

22 % are > 2 lbs./CY 5 / 85

REBAR RESULTS:

17 % are < or = 1 inch 4 / 85

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

original concrete



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 44

TYPE RECOMMENDED: Rapid Set LMC Overlay

COMMENTS:

Bridge Inspection reports indicate the deck is more than 1% deteriorated with areas in the deck with exposed rebars. Several small areas of heavy scale and delaminations. There are many transverse cracks at 1' spacing through out.

We recommend 1.5" Rapid Set Latex Modified Conrete with 0.5" hydromill scarification. As an alternate design, 3/4" Polyester overlay with shot blast to scarify the bridge deck.

REVIEWED BY: DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
520 / 16	108TH AVE NE OC	Northwe	est 6.27
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATING:
1966	07839 , 13953 , 14849		92.31

BRIDGE TYPE: CBox

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 6.5 in. (Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH: 141.8 ft. 271 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

> 7 82,000

> > **VERTICAL CLEARANCE**

VC Type:

NA

**BRIDGE RAIL** 

WSDOT CODE - 60 BRIDGE RAIL TYPE:

New Jersey Barrier

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 0.0 Lt 0.0 Rt

Polyester Overlay

Overlay Thickness - 0.8 inches

Year Applied - 1991

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:



**EXPANSION JOINTS** 

**DECK PROTECTIVE SYSTEM RECOMMENDATIONS** 

PROTECTIVE OVERLAY RECOMMENDED?: Yes 09-11 P2 Priority #: 58 TYPE RECOMMENDED: Replace Overlay

COMMENTS:

We anticipate the service life of the polyester overlay to be due for replacement in 2017.

The bridge was widened on the north side (WB) in 1996. The widening deck section (22'x 271') has epoxy coated rebar. The existing deck has standard rebar and a 3/4" thick Polyester overlay.

**BRIDGE DECK SURVEY** 

**DELAMINATION RESULTS:** DATE

CHLORIDE RESULTS:

NA

REBAR RESULTS:

NA

We recommend to Remove and Replace the Polyester overlay.

REVIEWED BY:

Bruce Thill

12/12/2007

DATE:





BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
532 / 6	GN RY COUNTY RD OC	Northw	est 4.98
YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):		SUFFICIENCY RATING:
1960	06837 , 14209		77.51 FO

BRIDGE TYPE: PCG

Conc cast-in-place DECK TYPE:

DECK THICKNESS: 7.0 in.

(Main Span)

BRIDGE WIDTH (curb-curb): BRIDGE LENGTH:

> 26.0 ft. 699 ft.

AVERAGE DAILY TRAFFIC (ADT): NUMBER OF LANES:

> 2 12,000

### **VERTICAL CLEARANCE**

VC Type:

NA

#### **BRIDGE RAIL**

WSDOT CODE - 25 BRIDGE RAIL TYPE:

Steel Post w/Thrie Beam

RAIL MEETS CURRENT STANDARDS?: SIDEWALK / CURB WIDTH:

> YES 2.0 Lt 2.0 Rt

#### 404 **EXPANSION JOINTS**

Coordinate with your Region's Maintenance Office to determine if any repairs are required.

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

3/8in Polymer-Epoxy

Year Applied - 1993

Overlay Thickness - 0.4 inches



### **DECK PROTECTIVE SYSTEM RECOMMENDATIONS**

PROTECTIVE OVERLAY RECOMMENDED?: YES 09-11 P2 Priority #: 48 TYPE RECOMMENDED: Rapid Set LMC Overlay

#### COMMENTS:

A 3/8" Polymer overlay (Sika-epoxy) was applied in 1993. Bridge Inspection reports indicate thin overlay is worn thru in locations. Localized concrete failure is forming potholes.

We recommend to remove existing thin overlay, scarify 0.5" with Hydromill before placing 1.5" Modified Concrete Overlay.

### **BRIDGE DECK SURVEY**

DELAMINATION RESULTS: DATE

3.3% of deck 598 sq ft 7 / 92

CHLORIDE RESULTS:

58 % are > 2 lbs./CY 7 / 85

REBAR RESULTS:

1 % are < or = 1 inch 7 / 85 REVIEWED BY:

DATE:

Bruce Thill