



CLARK COUNTY STAFF REPORT

DEPARTMENT: Public Works/ Engineering and Construction Division

DATE: June 23, 2015

REQUESTED ACTION: Accept and Approve the 2014 Annual Bridge Report.

SR Number:

FOR APPROVAL BY: X BOCC COUNTY MANAGER HEARING

PUBLIC WORKS GOALS:

- Provide safe and efficient transportation systems in Clark County
- Create and maintain a vibrant system of parks, trails and green spaces
- Continue responsible stewardship of public funds
- Promote family-wage job creation and economic development to support a thriving community
- Maintain a healthy, desirable quality of life
- Increase partnerships and foster an engaged, informed community
- Cultivate a nimble, responsive work force
- Make Public Works a great place to work

BACKGROUND

Attached is the Annual Bridge Report for 2014, as required by Washington Administrative Code 136-20-060. The report summarizes the condition of 109 bridges within the county, including bridges owned by the Cities of Battle Ground, Camas, Washougal, Ridgefield, La Center and Vancouver. Of the 109 bridges, 74 are in good condition, 25 are in fair condition and 1 in poor condition (Bridge # 230 – Fifth Plain Creek). The remaining 9 bridges are either railroad or pedestrian bridges which are only inspected with respect to roadway and pedestrian safety.

ADMINISTRATIVE POLICY IMPLICATIONS

None.

COUNCIL POLICY IMPLICATIONS

None.

PREVIOUS REVIEWS AND ACTIONS

This report is an annual evaluation of the county's bridges, as required by the State statutes.

COMMUNITY OUTREACH

None.

BUDGET IMPLICATIONS

YES	NO	
X		Action falls within existing budget capacity. If the action is for a contract, a fiscal impacts page is still required even if there is existing budget capacity.
	X	Action falls within existing budget capacity but requires a change of purpose within existing appropriation
	X	Additional budget capacity is necessary and will be requested at the next supplemental. If YES, please complete the budget impact statement. If YES, this action will be referred to the county council with a recommendation from the county manager.

*neg
OK
N*

PW15-050

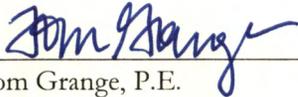
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Copies are available by close of business on the Thursday after council deliberations.

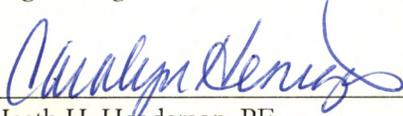
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PUBLIC WORKS APPROVALS:



Tom Grange, P.E.
Engineering & Construction Division Manager



Heath H. Henderson, PE
Public Works Director/County Engineer

Attachments:

- 2014 Annual Bridge Reports

CC: David Dolan, Carolyn Heniges, Susan Wilson, Bill Wright, Sandra Hall, Jean Singer and Karen Carlie



APPROVED: _____
CLARK COUNTY, WASHINGTON
BOARD OF COUNTY COUNCILORS

APPROVED: _____
MARK MCCAULEY
ACTING COUNTY MANAGER

DATE: 6/23/15

SR #: SR 130-15

PW15-050

COUNTY MANAGER ACTION\RECOMMENDATION

By: Mark McCauley

Date:

SR Number:

REQUESTED ACTION: Accept and Approve the 2014 Annual Bridge Report.

COUNTY MANAGER RECOMMENDATION:

Action	Conditions	Referral to council?
<i>Approval</i> \ <i>denial</i>	<i>Enter conditions or requests here</i>	<i>Yes</i> \ <i>No</i>


Mark McCauley
Acting County Manager

DISTRIBUTION

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PW15-050

2014 Annual Bridge Report



Moulton Falls Pedestrian Bridge

Prepared by David Dolan, P.E.
Clark County Public Works Engineering and Construction Division
Submitted June 2015



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I. INTRODUCTION

This bridge report is prepared by Clark County Public Works Department each year to fulfill the requirements of the Washington Administrative Code (WAC) 136-20-060. The WAC requires the County Engineer's report of bridge inspections as follows:

Each county engineer shall furnish the county legislative authority with a written resume of the findings of the bridge inspection effort. This resume shall be made available to said authority and shall be consulted during the preparation of the proposed six-year transportation program revision. The resume shall include the county engineer's recommendations as to replacement, repair or load restriction for each deficient bridge. The resolution of adoption of the six-year transportation program shall include assurances to the effect that the county engineer's report with respect to deficient bridges was available to said authority during the preparation of the program.

The bridge inspections follow the National Bridge Inspection Standards (NBIS) which are published in the Code of Federal Regulations, 23 CFR 650, subpart C. The NBIS sets the national standards for the proper safety inspection and evaluation of bridges and apply to all structures defined as highway bridges located on public roads. The County uses the Washington State Bridge Inspection Manual which details Washington State's policies and procedures for the condition and inspection of bridges.

This report summarizes the county's 2014 bridge programs, activities and findings. These programs help to prioritize the efforts for maintaining and preserving the county's bridges and identifying complete bridge replacements before they significantly impact the county's transportation network.

II. BRIDGE INVENTORY

The county inspects and inventories 109 bridges located throughout Clark County. Of these bridges:

- 76 bridges are owned by Clark County. (3 of which are pedestrian bridges)
- 27 bridges are owned by cities and inspected under interagency agreements.
- 6 bridges are owned by the Railroad and inspected with respect to roadway safety.

Bridges are identified throughout this report by the bridge name followed by the bridge number, e.g., Betts Bridge No. 26. A complete bridge inventory spreadsheet is included in Table A in the Appendix. As referenced above, 27 bridges are wholly owned by the cities of Vancouver, Camas, Washougal, Ridgefield, Battle Ground and La Center and 6 are owned by BNSF Railroad or CCRR and are inspected with respect to roadway safety of the streets that pass under them. The following map, Clark County Bridge Locations Figure 1, shows the locations of county-owned and city owned bridges throughout the county, in each commissioner's district.

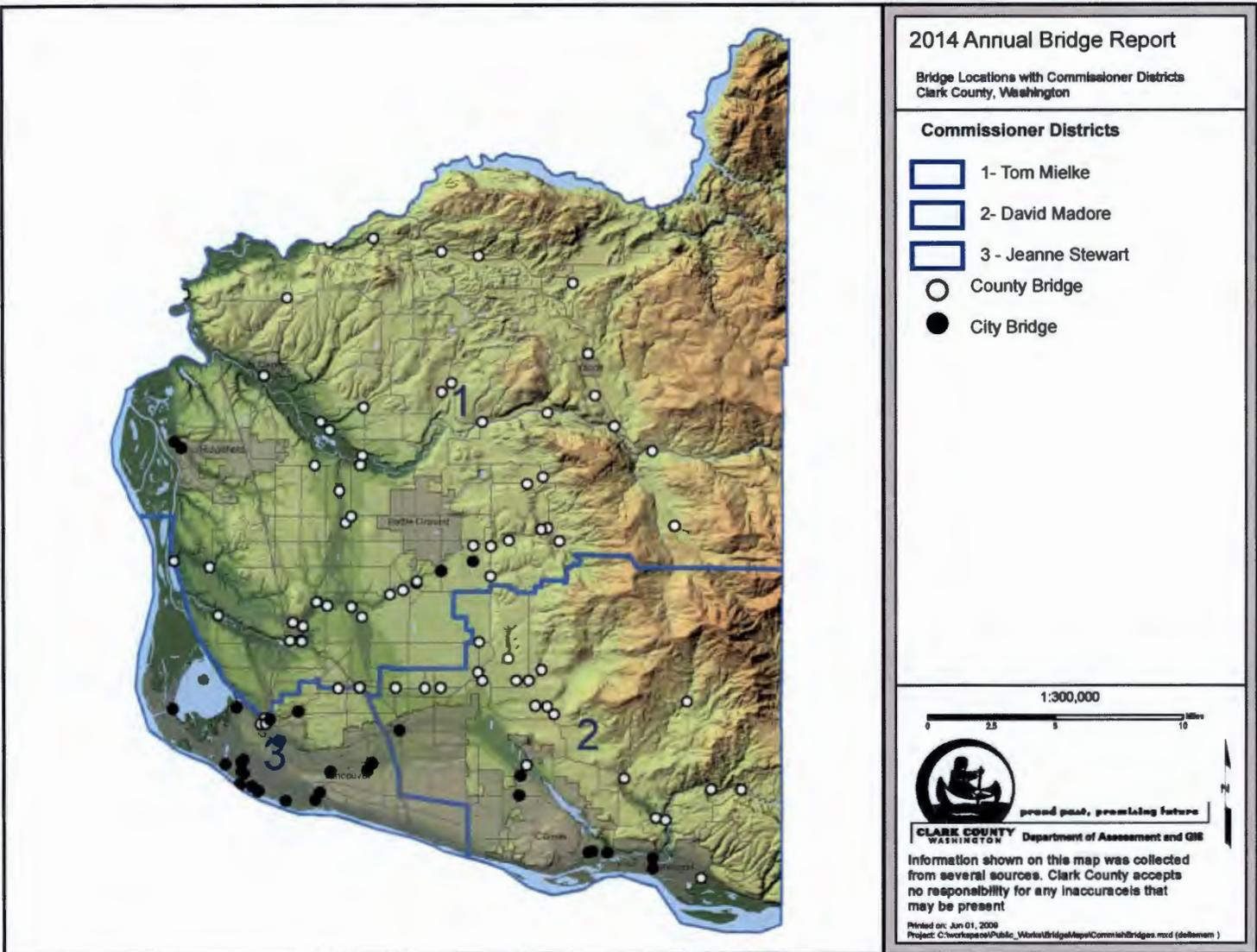


Figure 1 Clark County Bridge Locations Map

III. BRIDGE INSPECTION FINDINGS AND REPAIRS

A. Bridge Inspection Findings

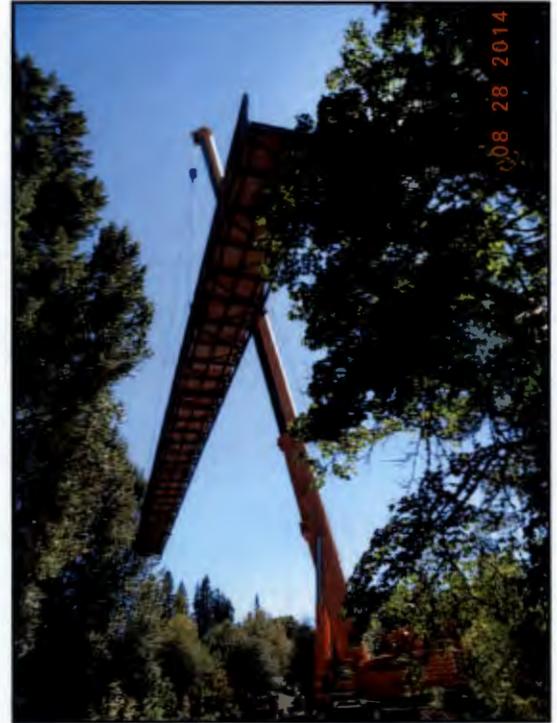
The National Bridge Inspection Standards (NBIS) mandate that public agencies inspect and report on all bridges at least once every two years. Under these standards, the county is required to document and report the current condition of each bridge, determine the degree of wear or deterioration, and recommend repairs or needed services. Bridges deficient in their conditions, such as load restricted bridges, may require more frequent inspections.

A total of 50 routine bridge inspections were conducted in late 2014 and early 2015. Inspectors made an in-depth evaluation of the condition of the bridge structure and documented any observable deficiencies. When deficiencies were observed, a deficiency report was generated and provided to the operation and maintenance section for follow up. Any urgent structural or safety concerns were addressed promptly. No significant findings resulted from this year's bridge inspections.

In addition to routine bridge inspection, several significant storm events brought high flow in streams and creeks triggering a scour specific inspection. A total of 29 of the County's bridges are considered scour critical or have unknown foundations, and can require special inspection after the events for erosion, debris and stream bank instability.

As the bridge inspection reports were generated and reviewed, these reports were entered into Bridge Works, a bridge management application developed by the WSDOT Bridge Preservation office. This system acts as the master inventory of all structures that are the responsibility of WSDOT. It in turn, verifies compliance with the NBIS and reports the information to Federal Highway Administration (FHWA).

One measure that provides an overview of the condition of the inventory is a rating factor known as the Sufficiency Rating (SR). The SR is a numeric value which indicates a bridge's relative ability to serve its intended purpose. The sufficiency rating is the summation of four calculated values: Structural Adequacy and Safety, Serviceability and Functional Obsolescence, Essentiality for Public Use and Special Reductions. The SR is a score calculated for each bridge using the ratings that the inspector assigns to individual features of the bridge, as well as the geometric layout, traffic volume, and the length of the detour route. The SR ranges from zero (a bridge that is closed and cannot carry traffic loads) to 100 (a new bridge with no deficiencies). The average SR of all of the bridges provides a comparative look at the health of the inventory from one year to the next.



Pleasant Valley Pedestrian Bridge (2014).

Overall, the average SR for the county inventory of bridges shows a positive trend line with minor fluctuations from year to year. Due to the number of bridges in the inventory and the fact that the inventory continues to age, it is a significant accomplishment that a positive trend in the SR has been maintained. With only three new bridges anticipated in the six year plan, the upward trend will be adversely affected. Figure 2 illustrates the average annual SR over the last ten years, while Figure 3 depicts the age of the bridges as it relates to the bridge design life.

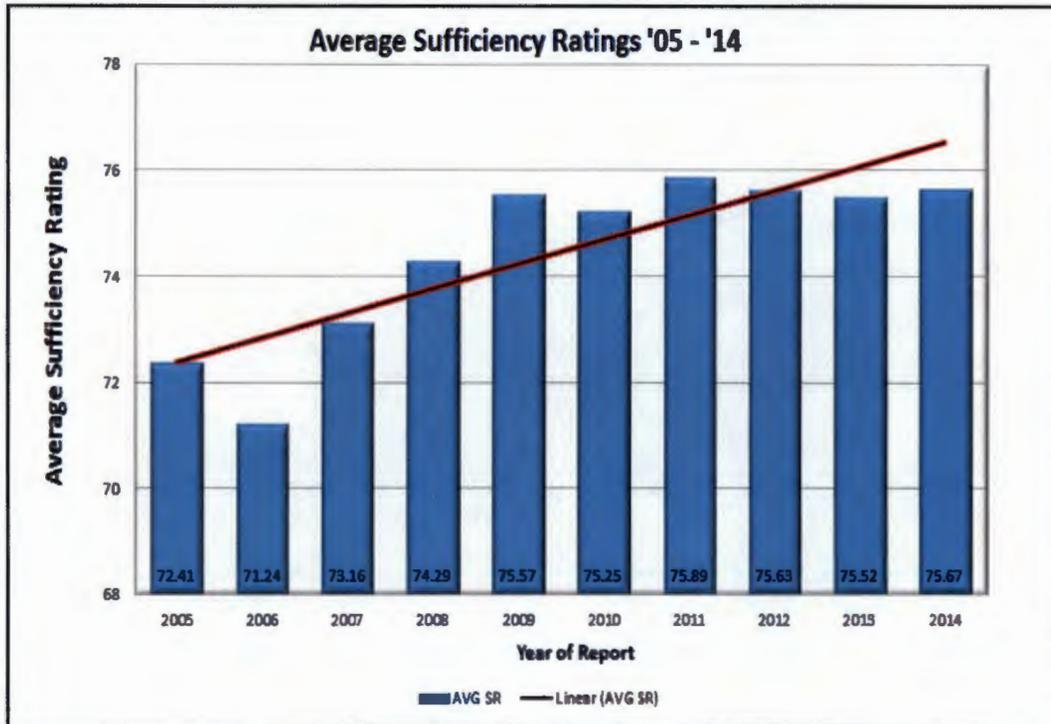


Figure 2: Average annual Sufficiency Rating (SR) for bridges owned by Clark County with ten year trend line.

Generally speaking, bridges with a SR greater than 50 have a fair amount of useful life remaining. Bridges with a SR less than 50 require more attention and may need major repairs or complete replacement. The Bridge Replacement Advisory Committee (BRAC) which provides grants for bridge improvements are only screening bridges with a SR of 30 or less for replacement eligibility and a SR of 50 or less for rehabilitation eligibility. It is important to note that while the SR for the overall inventory is 75.52, there are a number of individual bridges with a SR below 50. There is a direct correlation between the SR and the age of the bridge and we can expect the average SR rating to begin to decline if bridge maintenance and repairs needs are not addressed. In addition to using the SR as a measure of the condition of a bridge, the NBIS define two types of deficient bridges – **structurally deficient (SD)** and **functionally obsolete (FO)**.

A **structurally deficient (SD) bridge** as defined by the FHWA, is one whose condition or design has impacted its ability to carry the intended traffic loads. Examples include bridges that have significant load carry elements that are found to be in poor condition due to deterioration or damage and/or the inadequacy of waterway opening provided by the bridge which causes flooding over the bridge deck or adjacent roadway causing significant traffic interruptions. The fact that a bridge is “structurally deficient” does not mean that the bridge is unsafe or is likely to collapse. It does however indicate that when left open to traffic, it typically requires significant maintenance and repair to remain in

service and ultimately will require replacement or major rehabilitation to address the deficiencies. Currently, the Clark County Bridge inventory has one structurally deficient bridge, Fifth Plain Bridge No. 230 which is scheduled for replacement in the summer of 2015.

A **functionally obsolete (FO) bridge** is one in which the deck geometry, load carrying capacity, clearance, or approach roadway alignment has reduced its ability to adequately meet the traffic needs below accepted design standards.

While structural deficiencies are generally the result of deterioration of bridge components, functional obsolescence typically results from older bridge designs that are subject to increased traffic demands and are substandard structures as defined by the current bridge design codes. Examples include narrow lanes or shoulders and height restrictions of less than 14 feet. The Clark County Bridge inventory has 16 bridges that are listed as Functionally Obsolete (FO) while, the City of Camas has 4, the City of Vancouver has 3, the City of Washougal has 2, and the cities of Ridgefield and Battle Ground each have a single bridge listed as FO.

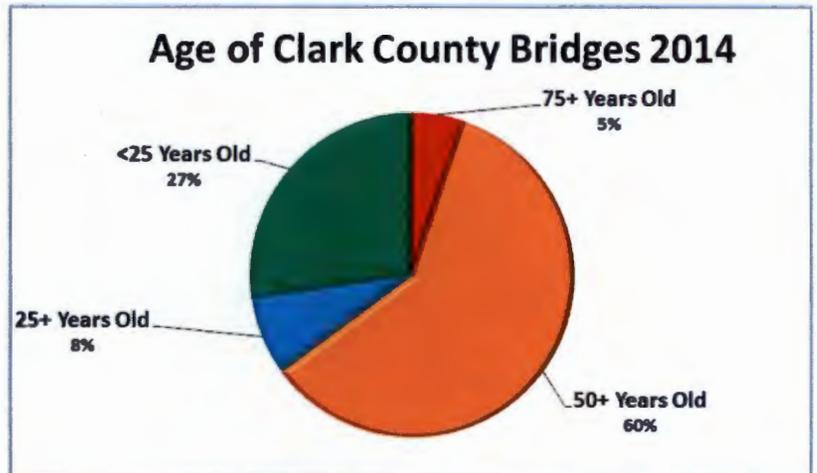


Table 1: Functionally Obsolete & Structurally Deficient Bridges

Agency	Number of Bridges	Functionality Obsolete (FO)	Structurally Deficient (SD)
Clark County	73	16	1
City of Vancouver	13	3	0
City of Camas	6	4	0
City of Washougal	3	2	0
City of Ridgefield	2	1	0
City of Battle Ground	2	1	0
City of La Center	1	0	0
Railroad (BNSF-5, CCRR-1)	6	N/A	N/A
Pedestrian Bridge (CC)	3	N/A	N/A

IV. RESTRICTED BRIDGES

If a bridge deficiency is severe and repairs cannot restore the full load or height capacity to a bridge, load or height restriction signs are placed at each end of the bridge and heavy or tall loads are restricted from the bridge. Currently Clark County has two weight-limited bridges in their inventory and one height restricted bridge.

Table 2: Height and Load Limited Bridges in Clark County

Bridge Name	Bridge No.	Action
Cedar Creek (County)	65	Weight Restricted
Kepper (County)	102	Weight Restricted
CCRR U/C - Old 99 (County)	20141	Height Restricted

V. BRIDGE IMPROVEMENT PROGRAM (BIP)

In 2008 Clark County initiated a Bridge Improvement Program to develop a process for establishing a bridge priority system to assess bridge needs and provide a consistent ranking and scoring system for bridges needing repair, rehabilitation, or replacement.

The goals and objectives of the program are:

- Review and analyze deficiencies for all bridges and prepare cost estimates for repair, rehabilitation, or replacement.
- Develop a bridge matrix, rank bridges for prioritizing funding.
- Catalog the potential environmental permits required to repair deficiencies.
- Develop a database containing all bridge information that is easily expandable, calculates deficiency costs, and scores and ranks bridge improvements.
- Use the BIP to pursue funding through state and federal programs. (Bridges are funded differently than road projects by state and federal programs.)

The BIP incorporates previously completed scour and seismic vulnerability programs.

VI. BRIDGE CONSTRUCTION/ACCOMPLISHMENTS IN 2014

In the fall of 2012 Washington State Department of Transportation announced the selection for BRAC funded projects. Of the eight projects submitted by Clark County all eight were selected totaling \$4million in federal funding. Design and permitting of the selected projects began in 2013.

Bridge Name	Bridge No.	Funding Requested For	Estimated Project Cost	Federal Funding
Fifth Plain Creek	230	Replacement	\$ 2,300,000	80%
Brush Prairie Creek	201	Seismic Retrofit	\$402,000	100%
Brush Prairie Creek	201	Scour Mitigation	\$385,000	100%
Van Atta	275	Seismic Retrofit	\$287,000	100%
Van Atta	275	Painting	\$32,000	100%
Big Tree Creek	120	Seismic Retrofit	\$379,000	100%
Big Tree Creek	120	Scour Mitigation	\$385,000	100%
Blair Zeek	252	Seismic Retrofit	\$486,000	100%

One bridge project was completed in 2014, the Blair Zeek Bridge No. 252 Seismic Retrofit. In addition, design and permitting work continued on the Cedar Creek Bridge No. 65 Bridge Replacement Project, the 10th Avenue Bridge and the Brush Prairie Creek No. 201 Seismic Retrofit and Scour Mitigation Project. Five projects are scheduled for construction in 2015.

The County also upgraded bridge rail components on two bridges to bring them up to current standards as part of the 2014 Overlay Preservation Project.

VII. FUTURE PLANS

It is anticipated that five of the remaining seven 2012 BRAC funded projects will be constructed in the summer of 2015, the Fifth Plan Creek Bridge No. 230 Bridge Replacement Project, the Big Tree Creek No. 120 Seismic Retrofit and Scour Mitigation Project, the Van Atta Bridge No. 275 Seismic Retrofit and Painting Project while the remaining two (Brush Prairie Creek No. 201 Seismic Retrofit and Scour Mitigation Project) selected 2012 BRAC funded projects are scheduled to be constructed in 2016.

The County also completed the Pleasant Valley Pedestrian Bridge over Salmon Creek in 2014. This bridge will connect the trails within the Pleasant Valley

Community Park with the WSU trail system. Bridge rail components on two bridges will also be upgraded as part of the 2015 Overlay Preservation project.

Other goals include:

- Expand our partnerships with local cities and neighboring counties to provide bridge inspection services.
- Continue to support Clark County Parks and Railroad with their bridge needs. Facilitate the monitoring and assessment of their bridges and offer engineering support services as needed.
- Coordinate bridge railing upgrades with guardrail improvements through the annual County overlay program.
- Support and review private bridge designs.
- Submit applications for the 2016 BRAC selection.



Blair Zeek seismic retrofit completed in 2014.

GLOSSARY OF BRIDGE TERMINOLOGY

Abutment: a substructure supporting the end of a single span, or the extreme end of a multispan superstructure and, in general, retaining or supporting the approach fill.

Backwall: the top-most portion of an abutment functioning primarily as a retaining wall to contain approach roadway fill.

Bent: a supporting unit of the beams of a span made up of one or more column or column-like members connected at their top-most ends by a cap, strut, or other horizontal member.

BRAC: Bridge Replacement Advisory Committee

Bracing: a system of tension or compression members or a combination of these, connected to the parts to be supported or strengthened by a truss or frame. It transfers wind, dynamic, impact, and vibratory stresses to the substructure and gives rigidity throughout the complete assemblage. Can also refer to diagonal members that tie two or more columns of a bent together.

Cap: the horizontally-oriented, top-most piece or member of a bent serving to distribute the beam loads upon the columns and to hold the beams in their proper relative positions.

Chord: in a truss, the upper-most and the lower-most longitudinal members, extending the full length of the truss.

Compression: a type of stress involving pressing together; tends to shorten a member; opposite of tension.

Deck: portion of a bridge that provides direct support for vehicular and pedestrian traffic.

Elastomeric pads: rectangular pads made of neoprene, found between the sub- and superstructure that bears the entire weight of the superstructure. Elastomeric pads can deform to allow for thermal movements of the superstructure.

Endwall: the wall located directly under each end of a bridge that holds back approach roadway fill. The endwall is part of the abutment.

Fracture critical member: a member in tension or with a tension element whose failure would probably cause a portion of or the entire bridge to collapse.

Pier: a structure comprised of stone, concrete, brick, steel, or wood that supports the ends of the spans of a multispan superstructure at an intermediate location between abutments. A pier is usually a solid structure as opposed to a bent, which is usually made up of columns.

Pile: a rod or shaft-like linear member of timber, steel, concrete, or composite materials driven into the earth to carry structure loads into the soil.

Pinpile: a series of two-inch-diameter pipes driven in a line into the ground to support the timber planks of a small retaining wall, typically used to prevent erosion under a bridge abutment.

Post or column: a member resisting compressive stresses, in a vertical or near vertical position.

Scour: erosive action of removing streambed material around bridge substructure due to water flow. Scour is of particular concern during high-water events.

Short span bridge: the characteristics of these bridges are a span less than 20 feet and typically supported by timber piles or shallow concrete footings.

Soffit: the underside of the bridge deck or sidewalk.

Spall: a concrete deficiency wherein a portion of the concrete surface is popped off from the main structure due to the expansive forces of corroding steel rebar underneath. This is especially common on older concrete bridges.

Stringer: a longitudinal beam (less than 30' long) supporting the bridge deck, and in large bridges, framed into or upon the floor beams.

Sufficiency rating: the sufficiency rating is a numeric value from 100 (a bridge in new condition) to 0 (a bridge incapable of carrying traffic). The sufficiency rating is the summation of four calculated values: Structural Adequacy and Safety, Serviceability and Functional Obsolescence, Essentiality for Public Use, and Special Reductions.

Substructure: the abutment, piers, grillage, or other structure built to support the span or spans of a bridge superstructure and includes abutments, piers, bents, and bearings.

Superstructure: the entire portion of a bridge structure which primarily receives and supports traffic loads and in turn transfers the reactions to the bridge substructure; usually consists of the deck and beams or, in the case of a truss bridge, the entire truss.

Tension: type of stress involving an action which pulls apart.

Trestle: a bridge structure consisting of beam spans supported upon bents. Trestles are usually made of timber and have numerous diagonal braces, both within each bent and from bent to bent.

UBIT: Under Bridge Inspection Truck

Wheelrail: a timber curb fastened directly to the deck, most commonly found on all-timber bridges.

Wingwall: walls that slant outward from the corners of the overall bridge that support roadway fill of the approach

APPENDIX TO THE 2013 ANNUAL BRIDGE REPORT

Table A – Bridge Condition Summary

Table B - Bridge Inventory Detail

Table C - Bridge Repairs

Table A- Bridge Inventory

Bridge No.	Bridge Name	Location	Milepost No.	Bridge Type	Built date	Bridge Age	Atlas page	Bridge Condition	Sufficiency Rating	Structurally Deficient / Functionally Scour code	Scour Critical	Inventory Rating (Tons)	Inventory Rating Method	Operating Rating (Tons)	Operating Rating Method	Bridge Posted - Height (H), Weight (W)	NBI Releasable	Municipal Code
Clark County Public Works																		
1	Kineline	NE Highway 99	6.12	Prestressed Concrete Girder	2008	6	26	Good	96.45			54	Load and Resistance Factor Design	90	LRFD		Y	0000
2	Felda	NE Seward	3.46	Post Tensioned Box Girder	1985	29	25	Good	95.57			39	LRFD	99	LRFD		Y	0000
6	Gibbons Creek	SE Evergreen Way	0.82	Concrete Slab & Stringer	1940	74	4	Good	74.34	FO	Critical	29	LRFD	49	LRFD		Y	0000
11	Whipple Creek	NW 179th Street	4.36	Concrete Slab & Stringer	1963	51	25	Good	82.41	U	Unknown Foundation	33	LRFD	56	LRFD		Y	0000
12	Knapps Station	NW Krieger Road	2.78	Concrete Slab & (Lin-Tee) Stringers with 1-6 Pile Bent	1962	52	24	Good	86.41			44	LRFD	73	LRFD		Y	0000
13	Burnt Bridge Crest	NE Hazel Dell Avenue	0.65	Pre-cast Concrete Stringers & Deck	1996	18	17	Good	96.59	N		46	LRFD	77	LRFD		Y	0000
26	Betts	NE Salmon Creek Avenue	1.12	Prestressed Concrete Girder	2006	8	26	Good	97.38			51	LRFD	99	LRFD		Y	0000
30	Flatwood	NE 239th Street	0.45	Concrete Slab & Stringer	1951	63	36	Fair	62.86		Critical	22	LRFD	37	LRFD		Y	0000
32	Knowles	NE Salmon Creek Avenue	2.29	Concrete Slab & Stringer	1963	51	26	Good	76.9			39	LRFD	65	LRFD		N	0000
33	Pleasant Valley	NE 50th Avenue	1.49	Concrete Slab & Stringer	1960	54	27	Good	72.73	FO	Critical	33	LRFD	55	LRFD		Y	0000
36	Wilson	NE 72nd Avenue	4.68	Prestressed Concrete Bulb-T Girder	1994	20	27	Good	94.86			33	LRFD	55	LRFD		Y	0000
39	Glenwood	NE 139th Street	1.34	Concrete Slab & Stringer	1955	59	27	Good	70.14		Critical	27	LRFD	45	LRFD		N	0000
51	Dollar's Corner	NE 72nd Avenue	8.23	Precast Concrete Arch	1995	19	36	Good	93.98		Critical	45	LRFD	76	LRFD		Y	0000
54	Huber	NE 259th Street	10.57	Concrete Slab & Stringer	1951	63	36	Fair	63.04			22	LRFD	37	LRFD		N	0000
56	Pioneer	NE 259th Street	1.48	Concrete Slab & Stringer	1951	63	35	Good	68.24			26	LRFD	43	LRFD		N	0000
59	Bratton (Cattle Pass)	NE Jenny Creek Road	1.58	Culvert for Cattle Pass	1956	58	53	Good	75.08	N		22	LRFD	36	LRFD		N	0000
63	Carson	NE 67th Avenue	0.42	Concrete Slab & Stringer	1957	57	36	Good	74.43			24	LRFD	40	LRFD		Y	0000
65	Cedar Creek			Concrete Box Girder w/Cantilever Section	1946	68	53-54	Fair	52.44			18	LRFD	31	LRFD	W	Y	0000
69	Grist Mill	NE Grist Mill Road	0.65	Covered Timber Truss	1994	20	60	Good	83.19			38	WSD	58	WSD		Y	0000
75	Dayton	NE Cedar Creek Road	11.90	Concrete Slab & Steel Beam	1955	59	55	Good	69.73			22	LRFD	36	LRFD		Y	0000
94	Blaker	NE 142nd Ave	3.77	Concrete Slab & Stringer	1953	61	46	Good	77.47			27	LRFD	46	LRFD		N	0000
96	Rock Creek	Rock Creek Road	9.06	Concrete Slab on Solid Concrete Bent	1949	65	46	Fair	63.5	FO		24	LRFD	39	LRFD		Y	0000
100	Heisson	NE 172nd Avenue	6.40	Concrete Open Spandrel Ribbed Arch	1999	15	47	Good	96.19			32	LRFD	54	LRFD		Y	0000
102	Kepfer	JR Anderson Rd	1.72	Concrete Slab & Stringer	1959	55	45	Fair	47.45		Critical	18	LRFD	29	LRFD	W	Y	0000
107	JA Moore	JA Moore Road	2.37	Concrete Slab & Stringer	1954	60	45	Good	75.36	U	Unknown Foundation	32	LRFD	54	LRFD		N	0000
Clark County Public Works																		
108	Heitman	JA Moore Road	1.82	Concrete Slab & Stringer	1958	56	44	Fair	49.75	FO		22	LRFD	37	LRFD		Y	0000
116	Lucia Falls	NE Hantwick Road	3.55	Pre-cast Concrete Slab & Prestressed Concrete Beams	2005	9	47	Good	83.91			41	LRFD	66	LRFD		Y	0000
120	Big Tree Creek	Lucia Falls Road	5.54	Concrete Slab & Stringers / Solid Concrete Bent	1959	55	48	Good	85.47		Critical	32	LRFD	53	LRFD		Y	0000
127	Arch McKee	Gerber McKee Road	0.43	Concrete Slab	1958	56	57	Good	72.36		Critical	27	LRFD	45	LRFD		N	0000
167	Vancamp	NE 217th Avenue	0.70	Prestressed Concrete Beams w/Concrete Deck & Abutments	1991	23	20	Good	98.07			58	LRFD	96	LRFD		Y	0000
168	Matney	NE 68th Street	2.27	Concrete Slab & Stringer	1955	59	20	Fair	57.99			19	LRFD	32	LRFD		Y	0000
169	Matney South	NE 232nd Avenue	0.19	Concrete Slab & Stringer	1953	61	21	Good	67.1		Critical	33	LRFD	55	LRFD		Y	0000
196	Washougal River	NE Vernon Road	2.02	Prestressed Concrete Beams w/Concrete Deck & Abutments	1998	16	14	Good	94.1	FO		42	LRFD	99	LRFD		Y	0000
201	Brush Prairie	NE 156th Street	0.05	Concrete Box Girder w/2 Open Pile Concrete Bents	1960	54	27	Fair	66.07		Critical	19	LRFD	32	LRFD		Y	0000
203	Boulder Creek	NE Lessard Road	2.72	Steel Stringers w/Wood Deck	1960	54	22	Good	72.91		Critical	34	LRFD	57	LRFD		N	0000
205/30P	Padden Parkway Ped Bridge	I-205 Overcrossing	32.95	Prestressed Concrete Grids/Deck	2003	11	18		0	N		0	Not Rated	0	Not Rated		N	0000
211	None	NE 167th Avenue	1.92	Concrete Slab & Stringer	1963	51	28	Good	78.72		Critical	37	LRFD	57	LRFD		Y	0000

Table A- Bridge Inventory

212	JC Ward	NE 182nd Avenue	7.09	Concrete Slab & Stringer	1960	54	29	Good	78.05	FO	7		36	LRFD	61	LRFD		Y	0000
213	Morgan	NE 182nd Avenue	5.91	Concrete Slab & Stringer	1956	58	29	Fair	64.14	FO	U	Unknown Foundation	23	LRFD	38	LRFD		Y	0000
216	John Ott	NE Risto Road	1.40	Concrete Slab & Stringer	1958	56	38	Fair	62.18	FO	8		23	LRFD	38	LRFD		Y	0000
217	Venersborg	NE Risto Road	1.15	Concrete Slab & Stringer	1954	60	38	Fair	54.43	FO	5		19	LRFD	32	LRFD		Y	0000
222	None	NE 167th Avenue	1.30	Concrete Slab & Stringer	1954	60	28	Fair	65.52	FO	3	Critical	34	LRFD	39	LRFD		Y	0000
225	Dudley	NE 199th Street	1.00	Concrete Slab & Stringer	1962	52	39	Good	86.32		U	Unknown Foundation	39	LRFD	65	LRFD		Y	0000
229	172nd Bridge	172nd Ave		Steel Girder	2009	5	20	Good	99.75		8		57	LRFD	95	LRFD		Y	0000
230	Fifth Plain Creek	NE 88th Street	0.50	Concrete Slab & Stringer w/One Timber Bent	1949	65	20	Poor	27.95	SD	5		17	LRFD	28	LRFD		Y	0000
231	China Ditch	NE Ward Road	1.89	Prestressed Conc Girder	2009	5	20	Good	98.53		8		40	LRFD	68	LRFD		Y	0000
Clark County Public Works																			
232	Davis	NE Davis Road	0.64	Concrete Slab & Stringer	1953	61	28	Fair	63.12		3	Critical	32	LRFD	54	LRFD		N	0000
242	Lewis River	Dole Valley Road	0.01	Concrete Slab & Stringer	1961	53	40	Good	87.92		8		36	LRFD	59	LRFD		Y	0000
244	Rock Creek	Dole Valley Road	3.79	Glu-Lam Beam w/Wood Deck & Concrete Bent	1975	39	40	Good	68.06	FO	U	Unknown Foundation	33	Working Stress Design (WSD)	43	LRFD		Y	0000
252	Blair Zeek	NE Blair Road	1.16	Concrete Slab & Stringer w/ 2 - 4 Concrete Column Bents	1961	53	12	Good	76.2	FO	3	Critical	36	LRFD	61	LRFD		Y	0000
261	None	NE 119th Street	7.12	Concrete Slab & Stringer	1949	65	29	Good	81		7		23	LRFD	48	LRFD		N	0000
266	Allworth	NE Allsworth Road	1.36	Concrete Slab & Stringer	1954	60	38	Fair	65.53		5		23	LRFD	38	LRFD		N	0000
267	Cresap	Cresap Road	0.24	Concrete Flat Slab	1956	58	38	Good	76.37		U	Unknown Foundation	26	LRFD	42	LRFD		N	0000
272	None	NE 202nd Avenue	0.27	Concrete Slab & Stringer	1961	53	20	Good	71.52		3	Critical	29	LRFD	65	LRFD		N	0000
273	Day Break	Daybreak Road	11.09	Concrete Deck, Steel Girders & One solid Concrete Bent	1966	48	36	Good	88.52		7		38	LRFD	59	LRFD		Y	0000
274	Shanghai Creek	NE 212th Avenue	0.26	Concrete Slab & Stringer	1955	59	20	Good	74.44		4		31	LRFD	51	LRFD		N	0000
275	Van Atta	NE 112th Avenue	0.85	Wood Deck w/Steel Stringers & 1 Solid Concrete Bent	1960	54	27	Good	70.66		U	Unknown Foundation	31	LRFD	51	LRFD		Y	0000
294	Lehto	NE Lehto Road	0.25	Concrete Sonovoid Beams	1972	42	29	Good	67.04	FO	3	Critical	50	LRFD	83	LRFD		Y	0000
299	Landon	CC Landon Road	0.31	Concrete Slab & Stringer	1955	59	48	Fair	62.29		U	Unknown Foundation	21	LRFD	34	LRFD		Y	0000
307	Little Washougal	SE Blair Road	3.50	Concrete Slab & Beam	1959	55	13	Fair	50.98		5		20	LRFD	34	LRFD		Y	0000
308	Bonneville	NE 222nd Avenue	0.06	Concrete Slab & Stringer	1955	59	20	Good	77.28		U	Unknown Foundation	30	LRFD	50	LRFD		N	0000
320P	149th Walkway Ped Bridge	NE 149th St		Concrete Deck with Glu-Lam Girder	2005	9	25				8		0		0			N	0000
326	NE 2nd Avenue	NE Second Avenue	0.10	Concrete Slab	1985	29	17	Good	89.47		5		33	LRFD	65	LRFD		Y	0000
327	Alki Rd	Alki Rd	0.26	Concrete Slab	1985	29	17	Good	81.86		4		33	LRFD	65	LRFD		Y	0000
330	Padden	Padden Parkway	1.92	Prestressed Concrete Bulb-T Girders w/Concrete Deck & Abutment	1999	15	18	Good	98.19		N		41	LF	69	LF		Y	0000
331	Salmon Creek	Salmon Creek	0.70	Concrete Luten Arch	1923	91	28	Good	79.01	FO	5		72	Other	99	Other		Y	0000
332	Woodin Creek Bridge	Weaver Creek Rd	0.76	Concrete Box Culvert	1900	114	28	Fair	60.42		3	Critical	19	Unknown	36	Unknown		N	0000
337	LaLonde Creek Culvert	Salmon Creek Avenue @ LaLonde Creek	0.01	Concrete Culvert	2003	11	26	Good	84.44		U	Unknown Foundation	24	LF	40	LF		N	0000
338	Salmon Creek Culvert	NE 119th Street	0.01	Concrete Culvert	2002	12	26	Good	81.51		U	Unknown Foundation	22	LF	44	LF		N	0000
339	Padden West Culverts	W. of Andreson	0.11	2 HDPE & 2 Metal	2003	11	18	Good	77.49	FO	8		99	LRFD	99	LRFD		Y	0000
340	John Creek Culvert	NE Cedar Creek Road	14.38	Metal Culvert	1999	15	55	Good	80		6		99	LRFD	99	LRFD		N	0000
341	Amboy/Cedar Creek Culvert	Amboy Road	8.89	Culvert	1999	15	48	Fair	62.83		4		20	LRFD	33	LRFD		Y	0000
342	Rockwell Creek	NE 23rd Avenue	0.21	Prestressed Concrete Girder	2004	10	26	Good	99.36		9		45	LF	97	LF		Y	0000
1406	Little Washougal River	Little Washougal River	2.27	Concrete Stringer	1949	65	13	Fair	63.2	FO	5		23	LRFD	38	LRFD		Y	0000
1409	Cougar Creek	Washougal River Road	5.16	Voided concrete slab Railroad bridge carrying tracks	2012	2	14	Good	94.09		8		69	LRFD	91	LRFD		Y	0000
20141	CCRR Undercrossing - Old Hwy 99	NE Hwy 99	10.00				17							Other		Other	H		0000

Table A- Bridge Inventory

City of Vancouver																			
5	Minnehaha	NE Minnehaha Street	1.09	Concrete Slab w/Concrete Pile Bents	1972	42	17	Good	91.71		N		29	LRFD	48	LRFD		Y	1350
38	39th street RR Overcrossing	NW 39th Street		Concrete Deck w/Prestressed Concrete Girders	2010	4	16	Good	99.86		N		73	LRFD	99	LRFD		Y	1350
162	Burton Road	NE Burton Road	0.99	Concrete Slab	2005	9	9	Good	96.29		8		84	LRFD	99	LRFD		Y	1350
328	Corporate Woods Bridge	NE 110th Avenue	0.23	Concrete Slab w/Pre-cast Concrete Channel Beams	1989	25	18	Good	98.44		U	Unknown Foundation	33	LRFD	70	LRFD		Y	1350
329	NE 15th Avenue Bridge	NE 15th Avenue	0.40	Concrete Stayed Girder???	1984	30	17	Good	94.72		8		45	LRFD	75	LRFD		Y	1350
1350	Burnt Bridge Creek Culvert	NE Devine Road	10.00	Aluminum Culvert	1978	36	9	Good	76.86		6		40	LRFD	40	LRFD		N	1350
1351	Port of Vancouver	NW 26th Avenue	10.00	Concrete Deck/Abutment & Pier Cap	2000	14	7	Good	92.48		N		59		99			Y	1350
1352	Burnt Bridge Creek	NE 86th Avenue	0.10	Prestressed Concrete Bulb-T w/Concrete Deck & Abutments	2001	13	9	Good	97.12		8		47	LRFD	81	LRFD		Y	1350
4236	Evergreen Blvd Overpass	NE Blandford Drive	10.00	Concrete Slab & Steel Girder	1969	45	8	Good	80.53		N		48	LRFD	80	LRFD		Y	1350
4891	Fruit Valley Rd Overpass	Fruit Valley Road	10.00	Concrete Slab	1948	66	16	Fair	55.53	FO	N		21	LRFD	35	LRFD		Y	1350
501/8E	BNRR OC	Fourth Plain Blvd	1.60	Concrete Deck w/Welded Steel Girders	1962	52	7	Good	72.11	FO	N		30	LF	50	LF		Y	1350
501/8W	BNRR OC	Fourth Plain Blvd	1.60	Concrete Deck w/Prestressed Concrete Girders	1986	28	7	Good	81.26		N		49	LF	82	LF		Y	1350
501/10C	Vancouver Lake Flushing Channel	SR501	5.30	Submerged Culvert	1990	24	15	Good	86.14	FO	8		99		99			Y	1350
Not Reportable																			
99906-01	BNRR Columbia River O-xing	W. 8th - Columbia River Crossing	9.60	Steel Truss - Railroad	1908	106	7							Other		Other		Y	
99906-02	BNRR at Boise Cascade O-xing	Boise Cascade Paper (W 5th, Grant & W. 6th)	10.10	Railroad	1907	107	8											N	
99906-03	Inn at the Quay - O-xing	Columbia Street	10.70	Railroad	1983	31	8							Other		Other		Y	
99906-04	BNRR-Columbia Shores O-xing	Columbia Shores Blvd	11.80	Railroad	1942	72	8							Other		Other		Y	
99906-05	BNRR Marine Park Wy O-xing	Marine Park Way	12.80	Railroad	1908	106	8							Other		Other	H	N	
City of Washougal																			
WASHOU-1	Orchard View	0.2 M south of J St	0.3	3-sided concrete box	2008	6	4	Good	97.94		8		41	LF	61	LF		Y	1385
1402	BNSF RR U-xing	Washougal River Road	0.26	Prestressed Concrete Stringer	1965	49	4	Good	75.4	FO	N		41	LRFD	68	LRFD		Y	1385
1404	Washougal River Bridge	Washougal River Road	0.32	Prestressed Concrete	1957	57	4	Good	92.07	FO	3	Critical	40	LRFD	67	LRFD		Y	0000
City of Camas																			
Camas-010	Washougal River Bridge	NE 3rd Avenue	0.35	Stringer/Multi-beam	1957	57	3	Fair	59.1	FO	3	Critical	40	Other	67	Other		Y	0000
Camas-020	Division Street Bridge	Division Street	0.15	Concrete T Beams	1957	57	3	Fair	59.1	FO	3	Critical	40	LF	67	LF		Y	0000
Camas-030	Dallas Street	Crown Z Mill Water Ditch	0.15	Concrete Multi-beam	1957	57	3	Fair	59.1	FO	3	Critical	40	LF	67	LF	W	Y	0000
Camas-040	Camas Meadows	Camas Meadows Drive	0.10	Pre-cast Concrete Arch	1957	57	11	Good	93.91	FO	3	Critical	40	Not Rated	67	Not Rated		Y	0000
Camas-050	Woodburn Drive	Woodburn Drive		Steel arch Culvert	2013	1	13	Good	93.13		8		99						0145
Camas-060	Lacamas	NE Goodwin Road	1.88	Concrete Slab & Stringer	1953	61	11	Fair	59.1		3	Critical	33	LRFD	55	LRFD		Y	0000
City of Ridgefield																			
99																			
Ridgefd-1	Gee Creek - Abrams Park	Division Street	0.01	Glu-Lam Stringer/Multi-beam	1975	39	34	Fair	63.98	FO	7		50	Load Factor (LF)	71	LF		Y	1085
Ridgefd-2	Heron Ridge	Heron Drive	0.1	Concrete Deck Bulb	2003	11	34	Good	94.07		5		36	Admin	36	Admin		Y	1085
City of Battle Ground																			
336	Woodin Creek Culvert	Eaton Blvd (199th St)	0.03	Concrete Box Culvert 12' X 3'	2003	11	28	Good	96.5		U	Unknown Foundation	99	LRFD	99	LRFD		Y	0060
205	None	NE 142nd Avenue	0.79	Concrete Slab & Stringer	1958	56	28	Good	76.13	FO	5		39	LRFD	62	LRFD		Y	0000
City of La Center																			
21	LaCenter	NE LaCenter Road	5.83	Continuous w/Prestressed WB3G Girders & Cast-In-place Deck	2001	13	44	Good	82.37		8		84	LRFD	99	LRFD		Y	0080

Table B - Bridge Condition State 2014

Agency	Total Bridges in Program	Bridge Condition			Structurally Deficient	Functionally Obsolete	Scour Condition		Fracture Critical
		Good	Fair	Poor			Critical	Unknown Foundation	
Clark County	73	53	19	1	1	16	17	11	0
City of Vancouver	13	12	1	0	0	2	0	1	1
City of Washougal	3	3	0	0	0	2	1	0	0
City of Camas	6	2	4	0	0	4	5	0	0
City of Ridgefield	2	1	1	0	0	1	0	0	0
City of Battle Ground	2	2	0	0	0	1	0	1	0
City of La Center	1	1	0	0	0	0	0	0	
RailRoad (BNSF-5,CC-1)	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pedestrian Bridges (CC)	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Totals	109	74	25	1	1	26	23	13	1

> Good - Sufficiency Rating from 66.7 to 99.9

> Fair - Sufficiency Rating from 33.3 to 66.6

> Poor - Sufficiency Rating from 0 to 33.2

> Structurally Deficient - Impacted ability to carry intended traffic loads.

> Functionally Obsolete - Narrow structure and geometry are not based on current standards.

> Scour Critical - Foundations considered unstable or shallow or stream is undermining stability of structure. Requires more extensive monitoring and inspection during and after flood events.

> Fracture Critical - Defined as a structure with 2 load paths with steel members in tension, could cause immediate catastrophic failure if members fail. Requires more extensive inspection and testing.

Table C - Bridge Repairs

structure_id	bridge_no	bridge_name	repair_description
Clark County			
08162600	0000000120	BIG TREE CREEK	Repair the rock stabilization at the Northwest and Northeast corners.
08162600	0000000120	BIG TREE CREEK	Monitor the riprap at the Southwest corner ckwall and pedestrian bridge abutment.
08393900	0000000266	ALLWORTH	Clear debris on upstream side of bridge.
000000HE	00000331	SALMON CR	Rock pocket repair on both abutments near top of footing
08241100	0000000213	MORGAN	Not for bridge records, but noted a "widow-maker" on SW approach (no danger of hitting bridge) that will come down in roadway. 10" cedar. Check to see if it is removed.
08644100	0000000196	WASHOUGAL RIVER	Paint over the graffiti on the South Abutment.
08644100	0000000196	WASHOUGAL RIVER	Remove bird nest grider A mid span
08644100	0000000196	WASHOUGAL RIVER	Seal ac joint at SW corner of deck
08644100	0000000196	WASHOUGAL RIVER	Retrieve and place P marker on SE corner, Marker is over the bridge side near the concrete steps.
08251100	0000000033	PLEASANT VALLEY	Old abutment needs stabilization or removal. Imminent danger of falling against South pier supports (Bent #2) .
08251100	0000000033	PLEASANT VALLEY	Monitor erosion at Abutment 4.
08251100	0000000033	PLEASANT VALLEY	Remove loose gravel from sidewalk tripping hazard
08251100	0000000033	PLEASANT VALLEY	Repair Drain SE corner that is eroding the bank under the concrete debis
08251100	0000000033	PLEASANT VALLEY	Repair damaged guardrail at southeast quadrant of bridge.
08 251100	0000000033	PLEASANT VALLEY	Repaint areas of grafitti on the girders in Span 3 and Abutment 4.
08185300	0000000127	ARCH MCKEE	Steel utility conduit on west side of bridge has pulled loose from brackets.
08185300	0000000127	ARCH MCKEE	Bridge drains need to be cleaned.
08185300	0000000127	ARCH MCKEE	Concrete base for delineator at southeast corner is 25% undermined.
08185300	0000000127	ARCH MCKEE	Delineator post on NW corner is broken. Requires repair.
08185300	0000000127	ARCH MCKEE	Steel utility conduit on west side of bridge has pulled loose from brackets.
08:185300	0000000127	ARCH MCKEE	Concrete base for delineator at southeast corner is 25% undermined.

Table C - Bridge Repairs

08130000	0000000094	BLAKER	Remove vegetation in upstream channel.
08130000	0000000094	BLAKER	Reseal the joints at each approach.
08130000	0000000094	BLAKER	Clean moss and vegetation from abutments.
08130000	0000000094	BLAKER	Repair the spalls in the east overhang.
000000CL	0000000332	WOODIN CREEK BRIDGE	Clear rock from the downstream shallow area to eliminate ponding and scour.
08082200	0000000011	WHIPPLE CREEK	NW corner traffic delineator is loose and needs reattachment.
08082200	0000000011	WHIPPLE CREEK	Minor crack opening at west deck joint.
08438900	0000000307	LITTLE WASHOUGAL	Remove Tar Paper from under bridge soffits so that deck can be seen for inspection.
08438900	0000000307	LITTLE WASHOUGAL	Remove bird nests
08627800	0000000013	BURNT BRIDGE CREST	Clean moss off the girder fascia as necessary.
08627800	0000000013	BURNT BRIDGE CREST	remove leaves slip/fall hazard for pedestrians
08627800	0000000013	BURNT BRIDGE CREST	Tighten loose fasteners on the NE section of guardrail.
08627800	0000000013	BURNT BRIDGE CREST	North approach joint needs to be resealed.
08627800	0000000013	BURNT BRIDGE CREST	Reseal AC overlay at pier caps.
08627800	0000000013	BURNT BRIDGE CREST	Remove transient encampment and clean up garbage under bridge.
08627800	0000000013	BURNT BRIDGE CREST	Monitor erosion at the base of Pier 3.
08627800	0000000013	BURNT BRIDGE CREST	Seal AC pavement cracks as necessary.
08627800	0000000013	BURNT BRIDGE CREST	Replace missing bolts in the NW and SW guardrail transitions.
08627800	0000000013	BURNT BRIDGE CREST	reset cap block on SW wall
08627800	0000000013	BURNT BRIDGE CREST	Replace bold cap cover on bridge rail - see note 684
08627800	0000000013	BURNT BRIDGE CREST	Paint over graffiti on parapets and pier walls.
08238600	0000000107	JA MOORE	Debris both rock and large woody material under the bridge needs removal for water way clearance
08611600	00000069	GRIST MILL	Expansion joints and bridge drains at each end of bridge need to be cleaned out.

Table C - Bridge Repairs

08611600	00000069	GRIST MILL	Clean the graffiti damage from the South Abutment Backwall.
08611600	00000069	GRIST MILL	Bridge overhead clearance changed from 16'-1" to 15'-7". Clearance measured at SW corner of portal. Previous clearance appears to have been taken at centerline of portal.
08611600	00000069	GRIST MILL	Replace the missing sections of timber cladding at deck level.
08087400	0000000169	MATNEY SOUTH	M&O Remove Debris from South Abutment
08087400	0000000169	MATNEY SOUTH	M&O to place rip rap at NW corner
08087400	0000000169	MATNEY SOUTH	Broken conduit
08140500	0000000222	NONE	Remove car door in main channel upstream from bridge.
08140500	0000000222	NONE	Re-pave the AC wearing surface.
08095200	0000000168	MATNEY	Add material at rock/block wingwalls that are undermined
08032800	0000000244	ROCK CREEK	Divert/clean ditch NE end eroding wingwall/abut
08032800	0000000244	ROCK CREEK	Reseal the joints at both abutments.
08032800	0000000244	ROCK CREEK	Reinforce the Abutment 3 footing due to scouring.
08095600	0000000203	BOULDER CREEK	NW Guardrail Terminal - Has been hit and a bolt is broken, as well as a steel member is bent.
08095600	0000000203	BOULDER CREEK	East Bridge Rail Post and Thrie-Beam - Thrie beam was hit, and bolt holding a post broke away. Other bolts may be compromised. Check all bolts on east side of bridge for damage. Thrie beam damage.
08227700	00000075	DAYTON	Girders need to be painted
08310900	00000059	BRATTON (CATTLE PASS)	Retaining wall crack repair
08322100	0000000056	PIONEER	Address erosion at the ends of the bridges at roadway intersection at three corners
08322100	0000000056	PIONEER	Stabilize slope at SE, SW and NW corners of bridge with rip rap
08322100	0000000056	PIONEER	Monitor NW retainingl as the wall in leaning toward creek
08158000	0000000108	HEITMAN	Repair the spall in the east curb.
08158000	0000000108	HEITMAN	Seal the cracks in the AC at Abutment 1.
08158000	0000000108	HEITMAN	Chip out, sleeve and repack concrete at utility through the southwest and northwest wingwalls.
08158000	0000000108	HEITMAN	Patch the cracks in the abutment.

Table C - Bridge Repairs

08064500	0000000012	KNAPPS STATION	Classic scour hole developing @ center pier around concrete hex piles 1 - 4, estimated 6 to 7 feet deep but too deep and too far out to measure with equipment on hand. See what we can protect the pier with.
08097600	0000000116	LUCIA FALLS	Repair Girder 1B by removing all loose concrete and scale, painting exposed strands with an epoxy paint, and patching spalled areas with grout.
08097600	0000000116	LUCIA FALLS	The following WSBIS Inventory items were updated as a result of this inspection: WB73-60, 64 & 67, WB75-46 & 49, and WB78-38. Please verify our findings. If changes are incorrect, please see the cover letter for instructions regarding updating this inf
08097600	0000000116	LUCIA FALLS	SW guard Rail is low at 24" vs new standard of 26"
08097600	0000000116	LUCIA FALLS	On SW Approach the 3rd post has a missing bolt, the guard rail is not tied to the post at this location
08097600	0000000116	LUCIA FALLS	Recommend a 12 month routine inspection frequency and a 24 month UBIT inspection frequency. Routine frequency may be changed to 24 months after girder is repaired.
08042500	0000000063	CARSON	Remove vegetation in upstream channel.
08010700	0000000274	SHANGHAI CREEK	Remove tree from stream on downstream side of bridge.
0003606A	00001406	LITTLE WASHOUGAL R	Old Bridge abutments, particularly the north one, are close to pair 2&3. There is no fall protection for the remaining structure on a 12-16' vertical hazard. If still in county ROW maintenance should install fencing.
0003606A	00001406	LITTLE WASHOUGAL R	Trash and brush dumped under NE side of bridge.
0003606A	00001406	LITTLE WASHOUGAL R	Repair potholes and spalling of asphalt at south approach joint.
08404200	0000000030	FLATWOOD	Replace riprap at NW abutment.
08404200	0000000030	FLATWOOD	Brush slight obstruction on the up stream side should be cleaned out, adjacent wall slight under mining
08121100	0000000299	LANDON	Repair scour at West Abutment.
08121100	0000000299	LANDON	Remove vegetation in upstream channel.
08202500	000000006	GIBBONS CREEK	Pot hole SE end of bridge
08323300	0000000032	KNOWLES	Bridge has no approach rails on any end. Can we install?
08323300	0000000032	KNOWLES	West footing needs to be monitored. Current hits west footing approx. 10 ft. from south end and is starting to dig out the stream bed. (Not yet to the bottom of the footing).
08268600	0000000039	GLENWOOD	Edge of ACP needs filled with rock at approach rails.
08335700	0000000252	BLAIR ZEEK	Clear debris from south columns.
08335700	0000000252	BLAIR ZEEK	Settlement due to scour needs repair on both ends of the bridge
08335700	0000000252	BLAIR ZEEK	S guard rail too low needs to be raised
08335700	0000000252	BLAIR ZEEK	South approach has settle between 1 and 2 " smooth out with AC patch

Table C - Bridge Repairs

08335700	0000000252	BLAIR ZEEK	Clean out drains
08142300	0000000211	NONE	Inspector noted debris collecting by rocks at NW abutment
08078700	0000000102	KEPFER	Monitor the wingwall/abutment settlement at the SW corner.
08276000	0000000273	DAY BREAK	North Approach has slight settlement east lane patch with AC for smooth transition
08184300	0000000327	ALKI ROAD	Remove moss from the deck fascia and the roadway shoulder
08184300	0000000327	ALKI ROAD	Repair the southwest rail terminal.
08184300	0000000327	ALKI ROAD	Remove or cutback the tree at the southwest corner.
08184300	0000000327	ALKI ROAD	Add additional riprap as necessary.
08184300	0000000327	ALKI ROAD	Repair the 2' long crack in the south approach roadway.
08611700	000000036	WILSON	Joint at south end of bridge deck needs resealing
08611700	000000036	WILSON	Approximately 3' length of south abutment (east side) being undermined by erosion. Cavity is 4" in height and extends 4 to 5" under abutment (see photos)
08611700	000000036	WILSON	Cracks in ACP at each end o bridge need patched. (done by 4/4/05 inspection)
08611700	000000036	WILSON	Clean growth on girders near weep holes.
07992900	0000000096	ROCK CREEK	Monitor settlement at the east approach and seal the cracking in the asphalt.
07992900	0000000096	ROCK CREEK	Patch spalling and areas of poor consolidation in the slab, Abutment 1 and Pier 2 as necessary.
08025800	0000000294	LEHTO	pot holes in deck overlay
08186600	0000000275	VAN ATTA	Clean and repaint all steel components, rail posts, and wood curbs.
08186600	0000000275	VAN ATTA	Repair the spall in the AC in Span 1, right wheel line.
08186600	0000000275	VAN ATTA	Remove debris on the upstream side of Pier 2. Remove falling tree on northwest bank.
08186600	0000000275	VAN ATTA	Replace split Guard rail post (see previous inspection reports).
08186600	0000000275	VAN ATTA	Clean and repaint Girder E paint failing (see previous inspection reports).
08186600	0000000275	VAN ATTA	Culvert upstream and to the south is half plugged, needs cleared (see previous inspection reports).
08171200	0000000205	NONE	Patch cracks in the abutments and Girder E at Pier 2. Patch spall in Girder E at Pier 2.

Table C - Bridge Repairs

08171200	0000000205	NONE	Seal cracks in the AC wearing surface. Monitor settlement at NW approach.
08171200	0000000205	NONE	Clean dirt and moss off the girders, pier and abutments. Repaint as necessary.
08043100	0000000230	FIFTH PLAIN CREEK	Repair RED TAGGED piles 2C and 2D. For the repair it is recommended that all the piles at pier 2 have strengthening using FRP jacketing with grouting. The jacket should start 1 ft. below the rot and extend full height of the pile.
08043100	0000000230	FIFTH PLAIN CREEK	Monitor YELLOW TAGGED pile 2E.
08182900	0000000326	N.E. 2ND AVENUE	Remove moss from the deck fascia and the roadway shoulder.
08182900	0000000326	N.E. 2ND AVENUE	Repair the heaving at the south end.
08182900	0000000326	N.E. 2ND AVENUE	Repair the erosion at Abutment 2.
08182900	0000000326	N.E. 2ND AVENUE	Repair the settlement and cracking at the southeast corner.
08243300	0000000242	LEWIS RIVER	Paint over graffiti at Abutment 1.
08243300	0000000242	LEWIS RIVER	Clean moss from girders and wingwalls.
08243300	0000000242	LEWIS RIVER	Seal approach joint at Abutment 2.
08243300	0000000242	LEWIS RIVER	Repair utility conduit bracket at SW wingwall.
08243300	0000000242	LEWIS RIVER	Patch spalls on girder bottom flanges as necessary.
08771700	0000000001	Kliline	West Overlook rail missing a nut
08771700	0000000001	Kliline	Sidewalk approach NE corner vehicle damage
08649000	0000000100	HEISSON	Fall protection fence on south side under bridge should be removed.
08649000	0000000100	HEISSON	South end, west side @ expansion joint. 3' long area of joint seat is broken & has dropped down about 2". Recommend checking utility sleeve, under bridge, for erosion.
08649000	0000000100	HEISSON	Recomend UBIT to look at spalling occuring on arch near girder.
08433600	0000000232	DAVIS	Channel protection at downstream west end is undercut. Repair as necessary
08433600	0000000232	DAVIS	D/S west footing begining to be undercut. Needs channel protection
08433600	0000000232	DAVIS	North side curb has a void where the guardrail bolt enters the curb. This may effect the function of the rail system.
08771800	00000342	ROCKWELL CREEK	Remove hay bales, silt fence and other remanents of homeless encampment on north abutment and repsir chain link fencing
08771800	00000342	ROCKWELL CREEK	Roadway to approach slab shows a gap on both ends of the bridge, this should be filled with loop or crack sealant

Table C - Bridge Repairs

08016100	0000000216	JOHN OTT	several pieces of woody debris built up across the river on span 1, picture
08016100	0000000216	JOHN OTT	Damage to bridge guardrail
08272200	00000002	FELIDA	Trip hazard at settled walkway all for corners
08272200	00000002	FELIDA	Compression Seal -north end of bridge -concrete surrounding seal severely cracked, broken.
08644000	00000330	PADDEN	Trip issue on side walk both sides, sidewalk settlement off structure. dirt in AC transition or rack sidewalk back to grade
08814500	00000231	China Ditch	Spalled barrier concrete at SW corner of bridge at the barrier/guardrail connection
08588800	0000000167	VAN CAMP	Erosion bypassing paved channel SW corner
08709000	00000339	PADDEN WEST CULVERTS	Remove trees and vegetation or the ends will become in accessible and perhaps start clogging the culverts
08015000	0000000217	VENERSBORG	Remove excess material which is causing a bump at the joints.
08015000	0000000217	VENERSBORG	approach guardrail needs to be raised
08015000	0000000217	VENERSBORG	Repair/replace the joint
08015000	0000000217	VENERSBORG	Remove debris buildup on the north girder, outboard side.
City of Battle Ground			
08708700	0000000336	WOODIN CREEK CULVERT	Remove the vegetation and debris in the upstream channel.
08708700	0000000336	WOODIN CREEK CULVERT	8" diameter log across N. end of culvert needs to be removed. This tree is still across the mouth of the culvert and should be removed.
City of Camas			
08706100	CAMAS-040	CAMAS MEADOWS	low guard rail and curb alignment
08706100	CAMAS-040	CAMAS MEADOWS	Clean and patch Ws arch spall at rebar
08706100	CAMAS-040	CAMAS MEADOWS	Terminal at NW corner needs repair/replace.
08507100	CAMAS-010	WASHOUGAL RIVER BRIDGE	Scour calculations should be completed as soon as possible.
08507100	CAMAS-010	WASHOUGAL RIVER BRIDGE	Add downspouts to drains on north side of bridge to prevent runoff from falling onto north stringer top flange.
08507100	CAMAS-010	WASHOUGAL RIVER BRIDGE	Steel sliding joint plate on southern half of Pier 2 (Outside EB lane) AC spall 12' x 4" x 1" exposing angle iron. several nut have rattled off causing noise and excess movement. Notified
08507100	CAMAS-010	WASHOUGAL RIVER BRIDGE	WB 75-51 and WB 75-54 are coded "O" which is not a valid code. Also note that both the inventory and operating ratings are the same, indicating that one is incorrect.

Table C - Bridge Repairs

08507100	CAMAS-010	WASHOUGAL RIVER BRIDGE	Guardrail terminal on northeast is damaged; needs replacement
08269900	CAMAS-060	LACAMAS	Repair/replace joints
08269900	CAMAS-060	LACAMAS	Clean Deck and open drains
08269900	CAMAS-060	LACAMAS	River guage rusted through and will likely fall over unless fixed
08269900	CAMAS-060	LACAMAS	Grind a taper at bridge ends for smooth transitions onto and off of bridge.
08269900	CAMAS-060	LACAMAS	pot hole on west bound at jint
City of La Center			
08684200	0000000021	LA CENTER	Chip out and patch back spall on coping
City of Ridgefield			
08531500	RIDGEFD-1	GEE CREEK-ABRAMS PARK	Channel has large accumulation of storm debris upstream of bridge which is directing stream flow against the east bank.
City of Vancouver			
0012986A	0000501/8W	BNRR OC	Sliding Expansion joints need cleaned out.
0012986A	0000501/8W	BNRR OC	This bridge needs vertical clearance posted. The actual vertical clearance is 14' -10". The vertical clearance posting should read 14'-7" on Span 5 Girders in industrial yard. Please verify our findings. ..
08710200	00001352	BURNT BRIDGE CREEK	Sidewalk settlement SW corner needs fixed as it is a triping hazard and an ADA issue
08710200	00001352	BURNT BRIDGE CREEK	Review settlement issues with geotechnical and structural experts for recommendations.
08544900	00004236	EVERGREEN BLVD. OVERPASS	Remove moss and vegetation from the structure and immediate vicinity
08544900	00004236	EVERGREEN BLVD. OVERPASS	Both approaches are starting to settle and crack. Will need to address this soon.
08771900	0000000162	BURTON ROAD	Seal transverse crack in AC at west end of bridge
08711300	0000001351	PORT OF VANCOUVER	Clean out packed sand in both north and south expansion joints
08711300	0000001351	PORT OF VANCOUVER	SE corner of concrete barrier transition has a triangle 12" long by 8" that should be patched.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	Trees need trimming near NE corner of bridge that is blocking sidewalk.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	Remove moss growth on approach sidewalks.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	Replace or repair Poured Joint Filler over Pier2.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	(Removed repair as the joint over Pier 2 is a sliding plate joint, RGP 8/23/2005)

Table C - Bridge Repairs

08512400	0000004891	FRUIT VALLEY RD OVERPASS	Clean debris from joints at both ends of bridge.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	Clean and unplug all drains.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	Repair impact damage to transition in SE corner.
08512400	0000004891	FRUIT VALLEY RD OVERPASS	Wedge patch the north approach to eliminate potholes and provide a smooth transition for cars driving onto the bridge.
08572100	00000328	CORPORATE WOODS BRIDGE	Approach sidewalks on down stream side heaved and a tripping hazard
0006786A	0000501/8E	BNRR OC	Remove all the loose concrete and clean all the rust off the exposed rebars in the Bottom Flange spalls in Girders 5E and 5C. Concrete grout patch with High Strength Concrete.
0006786A	0000501/8E	BNRR OC	Drains still plugged & need cleaned out.
0006786A	0000501/8E	BNRR OC	North pedestrial rail has been damaged by vehicle impact @ expansion joint @ pier 3. Concrete broken off @ back of post & rail being held together with 2X4 & caution tape (Needs immediate attention)
0006786A	0000501/8E	BNRR OC	Metal rail damaged on East side requires repair. Post on East side has been hit and broken two bolts; requires repair.
0006786A	0000501/8E	BNRR OC	Expansion joints need to be cleaned out.
08124800	0000000005	MINNEHAHA	Replace the missing bolts in the guardrail end section at the concrete barrier
08124800	0000000005	MINNEHAHA	Vehicle damage to concrete bridge railing on south side - aprox 15' from east end of bridge. Handrail needs permanent replacement.
08124800	0000000005	MINNEHAHA	Homeless camps becoming extensive and unsanitary, unsafe to inspect alone.
08124800	0000000005	MINNEHAHA	Heavy graffiti and tagging throughout, including "NO TRESSPASSING" signs.
08124800	0000000005	MINNEHAHA	SE deck drain partially plugged
08124800	0000000005	MINNEHAHA	Object marker at SW corner of bridge is down and needs to be reinstalled.
08124800	0000000005	MINNEHAHA	Sidewalk approaches need work to reduce a tripping hazard.
08124800	0000000005	MINNEHAHA	East approach in eastbound lanes near joint - needs repair.
08124800	0000000005	MINNEHAHA	Erosion under SE corner of bridge, apparently from drain pipe. Cannot find original exit of burried part of pipe due to dense blackberry growth.
08124800	0000000005	MINNEHAHA	Drains on the deck need to be unplugged
08636100	0099906-03	INN AT THE QUAY	Several turfstone blocks on slope under bridge are displaced.
City of Washougal			
08602800	0000001404	WASHOUGAL RIVER BRIDGE	Differential settlemt on sidewlk south end tripping hazard

Table C - Bridge Repairs

08602800	0000001404	WASHOUGAL RIVER BRIDGE	BP rail missing verts
0007597A	0000001402	BN/SF RR O/C	Girder G3 at the NE end of bridge should be excavated out to expose bearing pad
0007597A	0000001402	BN/SF RR O/C	Drains need to be cleaned.
0007597A	0000001402	BN/SF RR O/C	Repair approach settlement.
0007597A	0000001402	BN/SF RR O/C	SW corner of bridge sidewalk have trip hazards.
0007597A	0000001402	BN/SF RR O/C	NE Sidewalk needs repaired to fix tripping hazard, All sidewalks need to be fixed for tripping hazard.