

CLARK COUNTY  
STAFF REPORT

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DEPARTMENT/DIVISION: Public Works / Engineering and Construction Division

DATE: June 11, 2013

REQUEST: Accept and Approve the 2012 Annual Bridge Report.



CHECK ONE:  Consent  Chief Administrative Officer

**PUBLIC WORKS GOALS:**

- Provide safe and efficient transportation systems within Clark County
- Continue responsible stewardship of public funds
- Promote family-wage job creation and economic development to support a thriving community
- Maintain a desirable quality of life
- Improve environmental stewardship and protection of natural resources
- Increase partnerships and foster an engaged, informed community
- Make Public Works a great place to work

**BACKGROUND:** Attached is the Annual Bridge Report for 2012, as required by Washington Administrative Code 136-20-060. The report summarizes the condition of 107 bridges within the county, including bridges owned by the Cities of Battle Ground, Camas, Washougal, Ridgefield, La Center and Vancouver. Of the 107 bridges, 72 are in good condition, 26 are in fair condition, and 1 in poor condition (Bridge # 230 – Fifth Plain Creek). The remaining 8 bridges are either railroad or pedestrian bridges which are only inspected with respect to roadway and pedestrian safety.

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

**BUDGET AND POLICY IMPLICATIONS:** Improvements to agency owned bridges are programmed for repair, replacement or rehabilitation through the Six-Year Transportation Improvement Program (TIP).

**FISCAL IMPACTS:**  Yes (see Fiscal Impacts Attachment)  No

**ACTION REQUESTED:** Accept and approve the 2012 Annual Bridge Report.

**DISTRIBUTION:** Please retain one copy for the Board's files and return one copy to the Public Works Department indicating the action taken.

  
\_\_\_\_\_  
Heath H. Henderson, P.E.  
Engineering & Construction Division Manager

APPROVED:   
\_\_\_\_\_  
CLARK COUNTY, WASHINGTON  
BOARD OF COMMISSIONERS

  
\_\_\_\_\_  
Peter Capell, P.E.  
Public Works Director/County Engineer

June 11, 2013  
SR 107-13

PC/HH/DWD/pam

cc: David Dolan, Carolyn Heniges, Susan Wilson, Bill Wright, Sandra Hall, & Jean Singer

# 2012 Annual Bridge Report



Cougar Creek Bridge #1409- Setting new girders 2012



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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 2012 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 107 bridges located throughout Clark County. Of these bridges:

- 76 bridges are owned by Clark County. (2 of which are pedestrian bridges)
- 25 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, 25 bridges are wholly owned by the cities of Vancouver, Camas, Washougal, Ridgefield and Battle Ground and 6 are owned by BNSF or CCRR Railroad and are inspected with respect to roadway safety of the streets that pass under them. Clark County Bridge Locations Map (Figure 1), illustrates the distribution of county-owned and city-owned bridges throughout the county, in each commissioner's district.

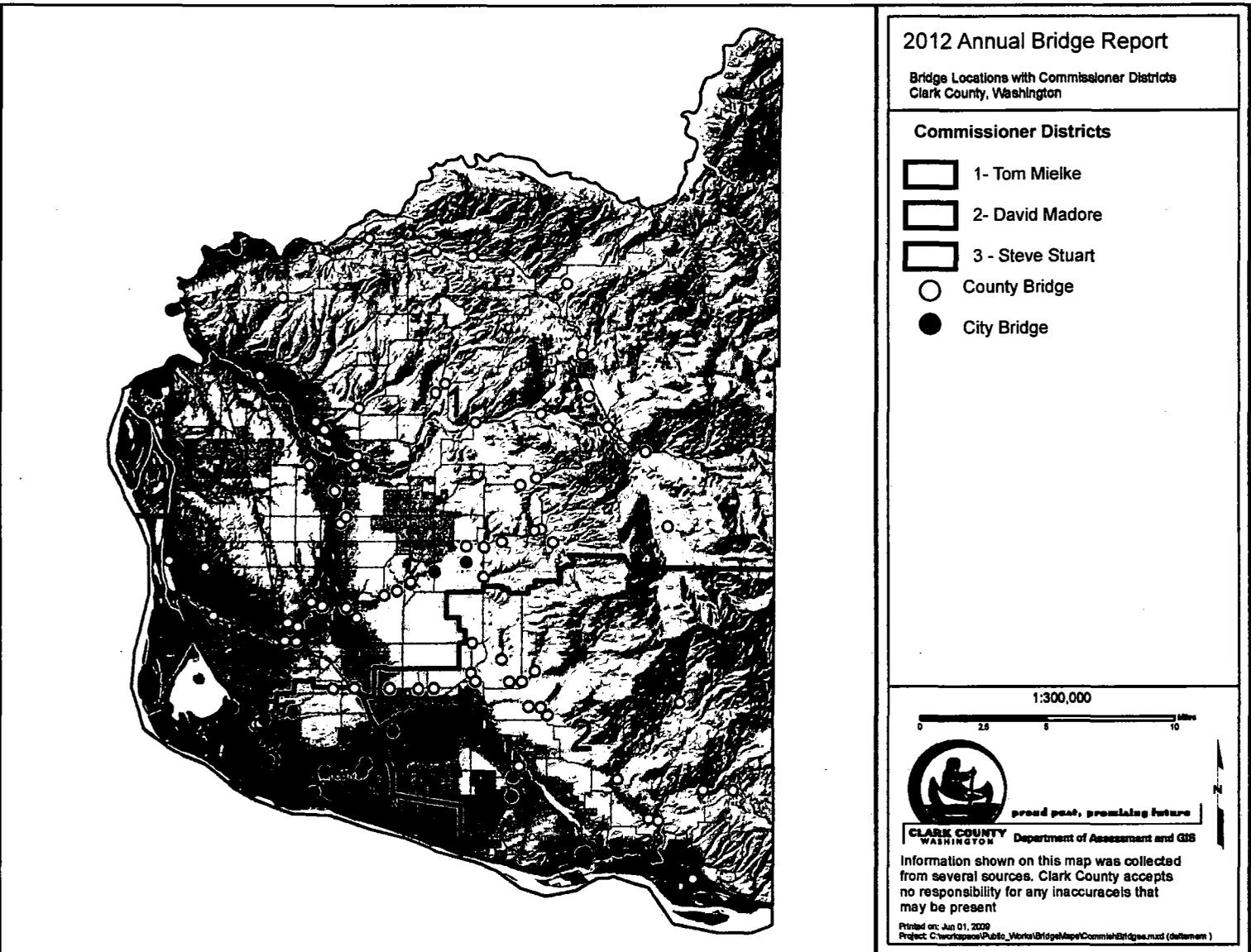


Figure 1 Clark County Bridge Locations Map

### III. BRIDGE INSPECTION FINDINGS AND REPAIRS

#### A. Bridge Inspection Findings

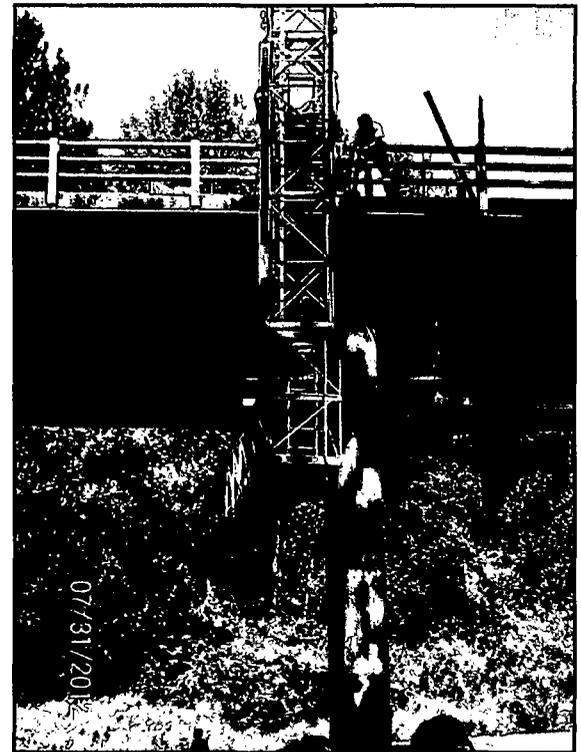
The National Bridge Inspection Standards (NBIS) mandates that public agencies inspect and report on all bridges at least once every two years. Under these standards, the county is required to document and report the current condition of each bridge, determine the degree of wear or deterioration, and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

A total of 25 routine bridge inspections were conducted in late 2012 and early 2013. During these bridge inspections, our inspectors made an in-depth evaluation of the condition of the bridge structure and documented any observable deficiencies. When deficiencies were revealed they were noted in the report, and a deficiency report was generated and provided to the operation and maintenance section for follow up. Any urgent structural or safety concerns are 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 levels in streams and creeks and required scour specific inspection. As a result, 25 scour critical bridges were inspected after the event for erosion, debris, and instability of stream banks.

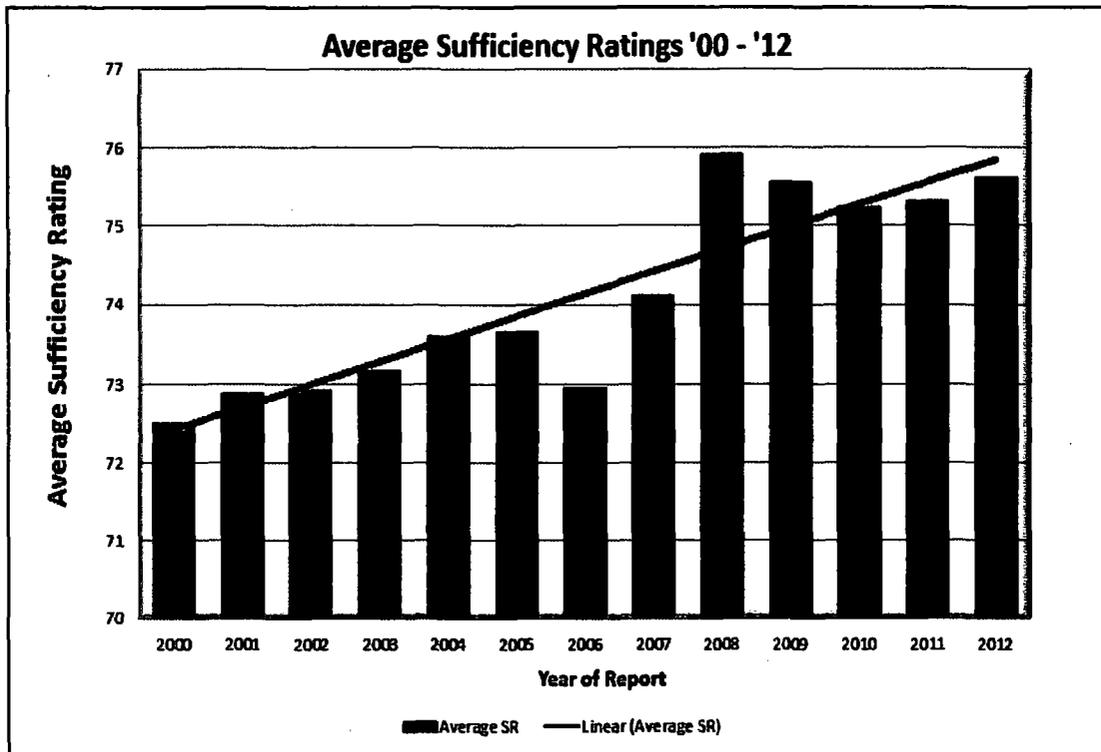
As the bridge inspection reports were generated and reviewed, these reports were entered into Bridge Works, a bridge management application developed by the WSDOT Bridge Preservation office. This system acts as a master inventory of all structures that are the responsibility of WSDOT. They in turn verify compliance with the NBIS standards and report 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. Geometric layout, traffic volume, and the length of the detour route are also used in calculating the SR. 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 the entire inventory provides a comparative look at the health of the inventory from one year to the next.



Daybreak Bridge # 273 - Inspection

Overall, the SR for the county inventory of bridges shows a positive trendline with minor fluctuations from year to year. Due to the overall number of bridges in the inventory and the fact that the inventory continues to age, it is a significant accomplishment to maintain a positive trend in the SR. With only one new bridge anticipated in the six year plan, the upward trend will be adversely affected. Figure 2 illustrates the average annual SR over the last twelve years, while Figure 3 depicts the percentage of bridge inventory in four age ranges.



**Figure 2: Average annual Sufficiency Rating (SR) for bridges owned by Clark County with twelve 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) 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 75.65, there are a number of individual bridges with 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 defines two types of deficient bridges – **structurally deficient (SD)** and **functionally obsolete (FO)**.

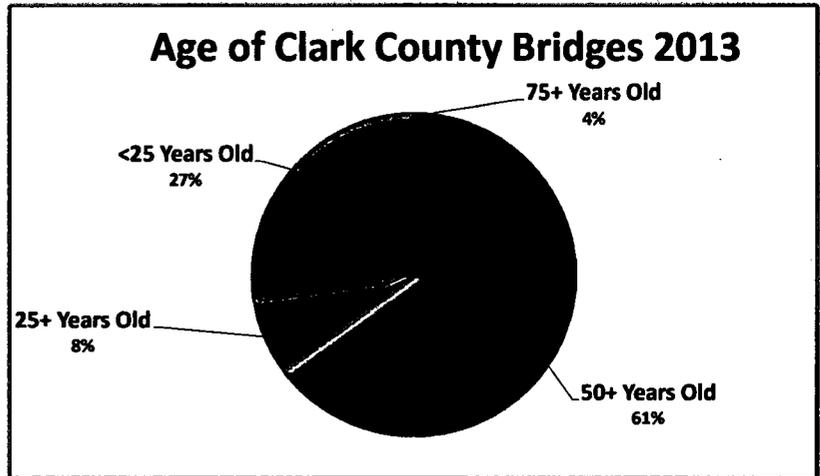
A **structurally deficient bridge (SD)** as defined by the FHWA, is one whose condition or design has impacted its ability to carry its intended traffic loads. Examples include bridges that have significant load carrying elements that are found to be in poor condition due to deterioration or damage and/or 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 or imply that the bridge is unsafe or is likely to collapse. However, it does indicate that when left open to traffic, the bridge typically will require significant maintenance and/or

repairs to remain in service. Ultimately this bridge will require replacement or major rehabilitation to address the deficiencies. Currently, Clark County Bridge inventory has two structurally deficient bridges, Fifth Plain Bridge No. 230, and Dayton Bridge No. 75.

A ***functionally obsolete bridge (FO)*** 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 lane/shoulder widths and height restrictions of less than 14 feet. Clark County Bridge inventory has 18 bridges that are listed as Functionally Obsolete (FO) while the City of Vancouver has 1, the City of Camas has 3 and the City of Ridgefield, Battle Ground and Washougal each have a single bridge listed as FO.

A ***fracture critical bridge (FC)*** is one in which the structure has no load bearing redundancies and a failure of the load bearing member would result in a collapse of the structure. Clark County has no fracture critical roadway bridges, the City of Vancouver has one (Bridge No. 4891 Fruit Valley Road Overpass).



**Table 1: Functionally Obsolete & Structurally Deficient Bridges**

| Agency                    | Number of Bridges | Functionality Obsolete (FO) | Structurally Deficient (SD) |
|---------------------------|-------------------|-----------------------------|-----------------------------|
| Clark County              | 74                | 18                          | 2                           |
| City of Vancouver         | 13                | 1                           | 0                           |
| City of Camas             | 4                 | 3                           | 0                           |
| City of Washougal         | 3                 | 1                           | 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)    | 2                 | N/A                         | N/A                         |

**IV. RESTRICTED BRIDGES**

If a bridge deficiency is severe and repairs cannot restore full loading capability to a bridge, load restriction signs for trucks are installed at each end of the bridge. Heavy loads are restricted from these bridges. Currently, Clark County has two load-limited bridges in their inventory and one Height restricted bridge. The City of Vancouver has one height restricted bridge.

**Table 2: Load Limited Bridges in Clark County**

| Bridge Name                | Bridge No. | Action            |
|----------------------------|------------|-------------------|
| Cedar Creek (County)       | 65         | Weight Restricted |
| Kefer (County)             | 102        | Weight Restricted |
| CCRR U/C - Old 99 (County) | 20141      | Height Restricted |
| BNSF RR - Marine Park Way  | 99909-05   | Height Restricted |

## V. BRIDGE IMPROVEMENT PROGRAM (BIP)

In 2008, Clark County initiated a Bridge Improvement Program (BIP) 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 to score and rank bridges for priority funding.
- Cataloge the potential environmental permits required to repair deficiencies.
- Develop a database containing all bridge information systems that is easily expandable, calculates deficiency costs, and scores/ranks bridge improvements.
- Use the BIP to help guide project rankings and 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 2012

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 over \$4 million in federal funding. Design and permitting of the selected projects will begin 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%            |

Two bridge projects were completed in 2012, the Cougar Creek Bridge No. 1409 replacement and the Daybreak Bridge No. 273 – Seismic Retrofit. In addition, design and permitting work continued on the Cedar Creek Bridge No. 65 Bridge Replacement Project, the Dayton Bridge No. 75 Scour Repair Project and the Pleasant Valley Bridge No. 33 Scour Repair Project.

The County also moved forward in 2012 on implementing a Private Bridge Code by adopting standards for private bridges. The code is intended to adjust the engineering standards from a highway level to a level more appropriate for private driveways and roads. The new standards will allow single lane bridges with turnouts that can carry emergency services.

## VII. FUTURE PLANS

It is anticipated that the last two of the remaining 2010 BRAC funded projects will be constructed in the summer of 2013, – the Dayton Bridge #75 Scour Mitigation and Pleasant Valley Bridge #33 Scour Mitigation – while the design and permitting phase of the eight selected 2012 BRAC funded projects are scheduled to begin in 2013.

The County is also moving forward with the design and permitting phase of the Cedar Creek Bridge No. 65 Replacement and the Pleasant Valley Pedestrian Bridge, which are funded entirely by County funds. The County will also be upgrading bridge rail components on four bridges as part of the 2013 Overlay Preservation project.



Cougar Creek Bridge #1409 - Demolition of old bridge

Other goals include:

- Expansion of our partnerships with local cities and neighboring counties to provide bridge inspection services.
- Continuing to support other Clark County departments/sections – i.e. Parks and Railroad – with their bridge needs. Facilitate the monitoring and assessment of their bridges and offering engineering support services as needed.
- Coordinating bridge barrier railing upgrades with requirements for guardrail improvements necessary through the annual County Roads Overlay Program.
- Ongoing support and review of private bridge designs

## 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 2012 ANNUAL BRIDGE REPORT**

Table A – Bridge Inventory

Table B - Bridge Condition State

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 Repoable | Municipal Code |
|----------------------------------|-----------------------|------------------------|--------------|--|------------|------------|------------|------------------|--------------------|---------------------------------------|------------|--------------------|-------------------------|-----------------------------------|-------------------------|-------------------------|--|--------------|----------------|
| <b>Clark County Public Works</b> |                       |                        |              |  |            |            |            |                  |                    |                                       |            |                    |                         |                                   |                         |                         |  |              |                |
| 1                                | Klinejine             | NE Highway 99          | 6.12         | Prestressed Concrete Girder                            | 2008       | 5          | 26         | Good             | 96.45              |                                       | 5          |                    | 54                      | Load and Resistance Factor Design | 90                      | LRFD                    |  | Y            | 0000           |
| 2                                | Feida                 | NE Seward              | 3.46         | Post Tensioned Box Girder                              | 1985       | 28         | 25         | Good             | 95.57              |                                       | 8          |                    | 39                      | LRFD                              | 99                      | LRFD                    |  | Y            | 0000           |
| 6                                | Gibbons Creek         | SE Evergreen Way       | 0.82         | Concrete Slab & Stringer                               | 1940       | 73         | 4          | Good             | 72.08              | FO                                    | 3          | Critical           | 29                      | LRFD                              | 49                      | LRFD                    |  | Y            | 0000           |
| 11                               | Whipple Creek         | NW 179th Street        | 4.36         | Concrete Slab & Stringer                               | 1963       | 50         | 25         | Good             | 82.42              |                                       | 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       | 51         | 24         | Good             | 90.93              |                                       | 5          |                    | 44                      | LRFD                              | 73                      | LRFD                    |  | Y            | 0000           |
| 13                               | Burnt Bridge Crest    | NE Hazel Dell Avenue   | 0.65         | Pre-cast Concrete Stringers & Deck                     | 1996       | 17         | 17         | Good             | 98.6               |                                       | N          |                    | 46                      | LRFD                              | 77                      | LRFD                    |  | Y            | 0000           |
| 26                               | Betts                 | NE Salmon Creek Avenue | 1.12         | Prestressed Concrete Girder                            | 2006       | 7          | 26         | Good             | 99.38              |                                       | 8          |                    | 51                      | LRFD                              | 99                      | LRFD                    |  | Y            | 0000           |
| 30                               | Flatwood              | NE 239th Street        | 0.45         | Concrete Slab & Stringer                               | 1951       | 62         | 36         | Fair             | 62.78              |                                       | 3          | Critical           | 22                      | LRFD                              | 37                      | LRFD                    |  | Y            | 0000           |
| 32                               | Knowles               | NE Salmon Creek Avenue | 2.29         | Concrete Slab & Stringer                               | 1963       | 50         | 26         | Good             | 76.9               |                                       | U          | Unknown Foundation | 39                      | LRFD                              | 65                      | LRFD                    |  | N            | 0000           |
| 33                               | Pleasant Valley       | NE 50th Avenue         | 1.49         | Concrete Slab & Stringer                               | 1960       | 53         | 27         | Good             | 72.73              | FO                                    | 3          | Critical           | 33                      | LRFD                              | 55                      | LRFD                    |  | Y            | 0000           |
| 36                               | Wilson                | NE 72nd Avenue         | 4.68         | Prestressed Concrete Bulb-T Girder                     | 1994       | 19         | 27         | Good             | 94.86              |                                       | U          | Unknown Foundation | 33                      | LRFD                              | 55                      | LRFD                    |  | Y            | 0000           |
| 39                               | Glenwood              | NE 139th Street        | 1.34         | Concrete Slab & Stringer                               | 1955       | 58         | 27         | Good             | 70.14              |                                       | 3          | Critical           | 27                      | LRFD                              | 45                      | LRFD                    |  | N            | 0000           |
| 51                               | Dollar's Corner       | NE 72nd Avenue         | 8.23         | Precast Concrete Arch                                  | 1995       | 18         | 36         | Good             | 77.77              |                                       | 3          | Critical           | 45                      | LRFD                              | 76                      | LRFD                    |  | Y            | 0000           |
| 54                               | Huber                 | NE 259th Street        | 10.57        | Concrete Slab & Stringer                               | 1951       | 62         | 36         | Fair             | 63.04              |                                       | 6          |                    | 22                      | LRFD                              | 37                      | LRFD                    |  | N            | 0000           |
| 56                               | Pioneer               | NE 259th Street        | 1.48         | Concrete Slab & Stringer                               | 1951       | 62         | 35         | Good             | 67.85              |                                       | 7          |                    | 26                      | LRFD                              | 43                      | LRFD                    |  | N            | 0000           |
| 59                               | Bratton (Cattle Pass) | NE Jenny Creek Road    | 1.58         | Culvert for Cattle Pass                                | 1956       | 57         | 53         | Good             | 75.08              |                                       | N          |                    | 22                      | LRFD                              | 36                      | LRFD                    |  | N            | 0000           |
| 63                               | Carson                | NE 67th Avenue         | 0.42         | Concrete Slab & Stringer                               | 1957       | 56         | 36         | Good             | 74.43              |                                       | 7          |                    | 24                      | LRFD                              | 40                      | LRFD                    |  | Y            | 0000           |
| 65                               | Cedar Creek           |                        |              | Concrete Box Girder w/Cantilever Section               | 1946       | 67         | 53-54      | Fair             | 52.44              |                                       | 5          |                    | 18                      | LRFD                              | 31                      | LRFD                    | W                                      | Y            | 0000           |
| 69                               | Grist Mill            | NE Grist Mill Road     | 0.65         | Covered Timber Truss                                   | 1994       | 19         | 60         | Good             | 83.19              |                                       | 5          |                    | 38                      | WSD                               | 58                      | WSD                     |  | Y            | 0000           |
| 75                               | Dayton                | NE Cedar Creek Road    | 11.90        | Concrete Slab & Steel Beam                             | 1955       | 58         | 55         | Fair             | 42.99              | SD                                    | 3          | Critical           | 22                      | LRFD                              | 36                      | LRFD                    |  | Y            | 0000           |
| 94                               | Blaker                | NE 142nd Ave           | 3.77         | Concrete Slab & Stringer                               | 1953       | 60         | 46         | Good             | 77.47              |                                       | 5          |                    | 27                      | LRFD                              | 46                      | LRFD                    |  | N            | 0000           |
| 96                               | Rock Creek            | Rock Creek Road        | 9.06         | Concrete Slab on Solid Concrete Bent                   | 1949       | 64         | 46         | Fair             | 63.5               | FO                                    | 5          |                    | 24                      | LRFD                              | 39                      | LRFD                    |  | Y            | 0000           |
| 100                              | Heisson               | NE 172nd Avenue        | 6.40         | Concrete Open Spandrel Ribbed Arch                     | 1999       | 14         | 47         | Good             | 96.19              |                                       | 8          |                    | 32                      | LRFD                              | 54                      | LRFD                    |  | Y            | 0000           |
| 102                              | Kepfer                | JR Anderson Rd         | 1.72         | Concrete Slab & Stringer                               | 1959       | 54         | 45         | Fair             | 57.52              |                                       | 3          | Critical           | 18                      | LRFD                              | 29                      | LRFD                    | W                                      | Y            | 0000           |
| 107                              | JA Moore              | JA Moore Road          | 2.37         | Concrete Slab & Stringer                               | 1954       | 59         | 45         | Good             | 75.36              |                                       | U          | Unknown Foundation | 32                      | LRFD                              | 54                      | LRFD                    |  | N            | 0000           |
| <b>Clark County Public Works</b> |                       |                        |              |  |            |            |            |                  |                    |                                       |            |                    |                         |                                   |                         |                         |  |              |                |
| 108                              | Heitman               | JA Moore Road          | 1.82         | Concrete Slab & Stringer                               | 1958       | 55         | 44         | Fair             | 59.9               | FO                                    | 5          |                    | 22                      | LRFD                              | 37                      | LRFD                    |  | Y            | 0000           |
| 116                              | Lucia Falls           | NE Hantwick Road       | 3.55         | Pre-cast Concrete Slab & Prestressed Concrete Beams    | 2005       | 8          | 47         | Good             | 83.91              |                                       | 5          |                    | 41                      | LRFD                              | 66                      | LRFD                    |  | Y            | 0000           |
| 120                              | Big Tree Creek        | Lucia Falls Road       | 5.54         | Concrete Slab & Stringers / Solid Concrete Bent        | 1959       | 54         | 48         | Good             | 85.47              |                                       | 3          | Critical           | 32                      | LRFD                              | 53                      | LRFD                    |  | Y            | 0000           |
| 127                              | Arch McKee            | Gerber McKee Road      | 0.43         | Concrete Slab  | 1958       | 55         | 57         | Good             | 72.36              |                                       | 3          | Critical           | 27                      | LRFD                              | 45                      | LRFD                    |  | N            | 0000           |
| 167                              | Vancamp               | NE 217th Avenue        | 0.70         | Prestressed Concrete Beams w/Concrete Deck & Abutments | 1991       | 22         | 20         | Good             | 98.07              |                                       | 7          |                    | 58                      | LRFD                              | 96                      | LRFD                    |  | Y            | 0000           |
| 168                              | Matney                | NE 68th Street         | 2.27         | Concrete Slab & Stringer                               | 1955       | 58         | 20         | Fair             | 57.99              |                                       | 3          | Critical           | 19                      | LRFD                              | 32                      | LRFD                    |  | Y            | 0000           |
| 169                              | Matney South          | NE 232nd Avenue        | 0.19         | Concrete Slab & Stringer                               | 1953       | 60         | 21         | Good             | 78.18              |                                       | 3          | Critical           | 33                      | LRFD                              | 55                      | LRFD                    |  | Y            | 0000           |
| 172                              | Lacamas               | NE Goodwin Road        | 1.88         | Concrete Slab & Stringer                               | 1957       | 56         | 11         | Fair             | 60.69              | FO                                    | 3          | Critical           | 40                      | LRFD                              | 67                      | LRFD                    |  | Y            | 0000           |
| 196                              | Washougal River       | NE Vernon Road         | 2.02         | Prestressed Concrete Beams w/Concrete Deck & Abutments | 1998       | 15         | 14         | Good             | 94.1               | FO                                    | 5          |                    | 42                      | LRFD                              | 99                      | LRFD                    |  | Y            | 0000           |
| 201                              | Brush Prairie         | NE 156th Street        | 0.05         | Concrete Box Girder w/2 Open Pile Concrete Bents       | 1960       | 53         | 27         | Fair             | 66.04              |                                       | 3          | Critical           | 19                      | LRFD                              | 32                      | LRFD                    |  | Y            | 0000           |
| 203                              | Boulder Creek         | NE Lessard Road        | 2.72         | Steel Stringers w/Wood Deck                            | 1960       | 53         | 22         | Good             | 69.01              |                                       | 3          | Critical           | 34                      | LRFD                              | 57                      | LRFD                    |  | N            | 0000           |

# Table A- Bridge Inventory

|                                  |                                 |                                     |       |  |      |     |    |      |       |    |   |                    |    |                             |    |           |  |   |      |
|----------------------------------|---------------------------------|-------------------------------------|-------|--|------|-----|----|------|-------|----|---|--------------------|----|-----------------------------|----|-----------|--|---|------|
| 205/30P                          | Padden Parkway Ped Bridge       | I-205 Overcrossing                  | 32.95 | Prestressed Concrete Girders/Deck                              | 2003 | 10  | 18 |      |       |    | N |                    | 0  | Not Rated                   | 0  | Not Rated |  | N | 0000 |
| 211                              | None                            | NE 167th Avenue                     | 1.92  | Concrete Slab & Stringer                                       | 1963 | 50  | 28 | Good | 78.72 |    | 3 | Critical           | 37 | LRFD                        | 57 | LRFD      |  | Y | 0000 |
| 212                              | JC Ward                         | NE 182nd Avenue                     | 7.09  | Concrete Slab & Stringer                                       | 1960 | 53  | 29 | Good | 78.05 | FO | 7 |                    | 36 | LRFD                        | 61 | LRFD      |  | Y | 0000 |
| 213                              | Morgan                          | NE 182nd Avenue                     | 5.91  | Concrete Slab & Stringer                                       | 1956 | 57  | 29 | Fair | 64.09 | FO | U | Unknown Foundation | 23 | LRFD                        | 38 | LRFD      |  | Y | 0000 |
| 216                              | John Ott                        | NE Risto Road                       | 1.40  | Concrete Slab & Stringer                                       | 1958 | 55  | 38 | Fair | 62.18 | FO | 8 |                    | 23 | LRFD                        | 38 | LRFD      |  | Y | 0000 |
| 217                              | Venersborg                      | NE Risto Road                       | 1.15  | Concrete Slab & Stringer                                       | 1954 | 59  | 38 | Fair | 56.43 | FO | 3 | Critical           | 19 | LRFD                        | 32 | LRFD      |  | Y | 0000 |
| 222                              | None                            | NE 167th Avenue                     | 1.30  | Concrete Slab & Stringer                                       | 1954 | 59  | 28 | Fair | 63.52 | FO | 3 | Critical           | 34 | LRFD                        | 39 | LRFD      |  | Y | 0000 |
| 225                              | Dudley                          | NE 199th Street                     | 1.00  | Concrete Slab & Stringer                                       | 1962 | 51  | 39 | Good | 86.32 |    | U | Unknown Foundation | 39 | LRFD                        | 65 | LRFD      |  | Y | 0000 |
| 229                              | 172nd Bridge                    | 172nd Ave                           |       | Steel Girder   | 2009 | 4   | 20 | Good | 98.77 |    | 8 |                    | 57 | LRFD                        | 95 | LRFD      |  | Y | 0000 |
| 230                              | Fifth Plain Creek               | NE 88th Street                      | 0.50  | Concrete Slab & Stringer w/One Timber Bent                     | 1949 | 64  | 20 | Poor | 29.07 | SD | 5 |                    | 17 | LRFD                        | 28 | LRFD      |  | Y | 0000 |
| 231                              | China Ditch                     | NE Ward Road                        | 1.89  | Prestressed Conc Girder  | 2009 | 4   | 20 | Good | 98.77 |    | 8 |                    | 40 | LRFD                        | 68 | LRFD      |  | Y | 0000 |
| <b>Clark County Public Works</b> |                                 |                                     |       |  |      |     |    |      |       |    |   |                    |    |                             |    |           |  |   |      |
| 232                              | Davis                           | NE Davis Road                       | 0.64  | Concrete Slab & Stringer                                       | 1953 | 60  | 28 | Fair | 63.12 |    | 3 | Critical           | 32 | LRFD                        | 54 | LRFD      |  | N | 0000 |
| 242                              | Lewis River                     | Dole Valley Road                    | 0.01  | Concrete Slab & Stringer                                       | 1961 | 52  | 40 | Good | 84.92 |    | 8 |                    | 36 | LRFD                        | 59 | LRFD      |  | Y | 0000 |
| 244                              | Rock Creek                      | Dole Valley Road                    | 3.79  | Glu-Lam Beam w/Wood Deck & Concrete Bent                       | 1975 | 38  | 40 | Good | 76.14 | 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 | 52  | 12 | Good | 76.2  | FO | 3 | Critical           | 36 | LRFD                        | 61 | LRFD      |  | Y | 0000 |
| 261                              | None                            | NE 119th Street                     | 7.12  | Concrete Slab & Stringer                                       | 1949 | 64  | 29 | Good | 81    |    | 7 |                    | 23 | LRFD                        | 48 | LRFD      |  | N | 0000 |
| 266                              | Allworth                        | NE Allsworth Road                   | 1.36  | Concrete Slab & Stringer                                       | 1954 | 59  | 38 | Fair | 65.53 |    | 5 |                    | 23 | LRFD                        | 38 | LRFD      |  | N | 0000 |
| 267                              | Cresap                          | Cresap Road                         | 0.24  | Concrete Flat Slab   | 1956 | 57  | 38 | Good | 76.37 |    | U | Unknown Foundation | 26 | LRFD                        | 42 | LRFD      |  | N | 0000 |
| 272                              | None                            | NE 202nd Avenue                     | 0.27  | Concrete Slab & Stringer                                       | 1961 | 52  | 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 | 47  | 36 | Good | 88.52 |    | 7 |                    | 38 | LRFD                        | 59 | LRFD      |  | Y | 0000 |
| 274                              | Shanghai Creek                  | NE 212th Avenue                     | 0.26  | Concrete Slab & Stringer                                       | 1955 | 58  | 20 | Good | 74.44 |    | U | Unknown Foundation | 31 | LRFD                        | 51 | LRFD      |  | N | 0000 |
| 275                              | Van Atta                        | NE 112th Avenue                     | 0.85  | Wood Deck w/Steel Stringers & 1 Solid Concrete Bent            | 1960 | 53  | 27 | Good | 70.29 |    | U | Unknown Foundation | 31 | LRFD                        | 51 | LRFD      |  | Y | 0000 |
| 294                              | Lehto                           | NE Lehto Road                       | 0.25  | Concrete Sonovoid Beams  | 1972 | 41  | 29 | Good | 67.04 | FO | 3 | Critical           | 50 | LRFD                        | 83 | LRFD      |  | Y | 0000 |
| 299                              | Landon                          | CC Landon Road                      | 0.31  | Concrete Slab & Stringer                                       | 1955 | 58  | 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 | 54  | 13 | Fair | 50.98 |    | 5 |                    | 20 | LRFD                        | 34 | LRFD      |  | Y | 0000 |
| 308                              | Bonneville                      | NE 222nd Avenue                     | 0.06  | Concrete Slab & Stringer                                       | 1955 | 58  | 20 | Good | 77.31 |    | U | Unknown Foundation | 30 | LRFD                        | 50 | LRFD      |  | N | 0000 |
| 320P                             | 149th Walkway Ped Bridge        | NE 149th St                         |       | Concrete Deck with Glu-Lam Girder                              | 2005 | 8   | 25 |      |       |    | 8 |                    | 0  |                             | 0  |           |  | N | 0000 |
| 326                              | NE 2nd Avenue                   | NE Second Avenue                    | 0.10  | Concrete Slab  | 1985 | 28  | 17 | Good | 88.47 |    | 5 |                    | 33 | LRFD                        | 65 | LRFD      |  | Y | 0000 |
| 327                              | Alki Rd                         | Alki Rd                             | 0.26  | Concrete Slab  | 1985 | 28  | 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 | 14  | 18 | Good | 98.19 |    | N |                    | 41 | LF                          | 69 | LF        |  | Y | 0000 |
| 331                              | Salmon Creek                    | Salmon Creek                        | 0.70  | Concrete Luten Arch  | 1923 | 90  | 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 | 113 | 28 | Fair | 59.07 |    | 3 | Critical           | 19 | Unknown                     | 36 | Unknown   |  | N | 0000 |
| 337                              | LaLonde Creek Culvert           | Salmon Creek Avenue @ LaLonde Creek | 0.01  | Concrete Culvert   | 2003 | 10  | 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 | 11  | 26 | Good | 81.51 |    | U | Unknown Foundation | 22 | LF                          | 44 | LF        |  | N | 0000 |
| 339                              | Padden West Culverts            | W. of Andresson                     | 0.11  | 2 HDPE & 2 Metal   | 2003 | 10  | 18 | Good | 78.21 | FO | 8 |                    | 99 | LRFD                        | 99 | LRFD      |  | Y | 0000 |
| 340                              | John Creek Culvert              | NE Cedar Creek Road                 | 14.38 | Metal Culvert  | 1999 | 14  | 55 | Good | 80.09 |    | 6 |                    | 99 | LRFD                        | 99 | LRFD      |  | N | 0000 |
| 341                              | Amboy/Cedar Creek Culvert       | Amboy Road                          | 8.89  | Culvert  | 1999 | 14  | 48 | Fair | 59.55 | FO | 4 |                    | 20 | LRFD                        | 33 | LRFD      |  | Y | 0000 |
| 342                              | Rockwell Creek                  | NE 23rd Avenue                      | 0.21  | Prestressed Concrete Girder                                    | 2004 | 9   | 26 | Good | 99.95 |    | 9 |                    | 45 | LF                          | 97 | LF        |  | Y | 0000 |
| 1406                             | Little Washougal River          | Little Washougal River              | 2.27  | Concrete Stringer  | 1949 | 64  | 13 | Fair | 66.2  | FO | 5 |                    | 23 | LRFD                        | 38 | LRFD      |  | Y | 0000 |
| 1409                             | Cougar Creek                    | Washougal River Road                | 5.16  | Voided concrete slab   | 2012 | 1   | 14 | Good | 94.09 |    | 8 |                    | 69 | LRFD                        | 91 | LRFD      |  | Y | 0000 |
| 20141                            | CCRR Undercrossing - Old Hwy 99 | NE Hwy 99                           | 10.00 | Railroad bridge carrying tracks                                |      |     | 17 |      |       |    |   |                    |    | Other                       |    | Other     |  | H | 0000 |

# Table A- Bridge Inventory

| City of Vancouver     |                                 |   |       |  |      |     |    |      |       |    |   |                    |    |                  |    |           |   |      |
|-----------------------|---------------------------------|---|-------|--|------|-----|----|------|-------|----|---|--------------------|----|------------------|----|-----------|---|------|
| 5                     | Minnehaha                       | NE Minnehaha Street                         | 1.09  | Concrete Slab w/Concrete Pile Berths                       | 1972 | 41  | 17 | Good | 93.73 |    | N |                    | 29 | LRFD             | 48 | LRFD      | Y | 1350 |
| 38                    | 39th street RR Overcrossing     | NW 39th Street                              |       | Concrete Deck w/Prestressed Concrete Girders               | 2010 | 3   | 16 | Good | 99.86 |    | N |                    | 73 | LRFD             | 99 | LRFD      | Y | 1350 |
| 162                   | Burton Road                     | NE Burton Road                              | 0.99  | Concrete Slab  | 2005 | 8   | 9  | Good | 96.29 |    | B |                    | 84 | LRFD             | 99 | LRFD      | Y | 1350 |
| 328                   | Corporate Woods Bridge          | NE 110th Avenue                             | 0.23  | Concrete Slab w/Pre-cast Concrete Channel Beams            | 1989 | 24  | 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 | 29  | 17 | Good | 94.72 |    | B |                    | 45 | LRFD             | 75 | LRFD      | Y | 1350 |
| 1350                  | Burnt Bridge Creek Culvert      | NE Devine Road                              | 10.00 | Aluminum Culvert   | 1978 | 35  | 9  | Good | 76.86 |    | B |                    | 40 | LRFD             | 40 | LRFD      | N | 1350 |
| 1351                  | Port of Vancouver               | NW 26th Avenue                              | 10.00 | Concrete Deck/Abutment & Pier Cap                          | 2000 | 13  | 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 | 12  | 9  | Good | 97.12 |    | B |                    | 47 | LRFD             | 81 | LRFD      | Y | 1350 |
| 4236                  | Evergreen Blvd Overpass         | NE Blandford Drive                          | 10.00 | Concrete Slab & Steel Girder                               | 1969 | 44  | 8  | Good | 78.49 |    | N |                    | 48 | LRFD             | 80 | LRFD      | Y | 1350 |
| 4891                  | Fruit Valley Rd Overpass        | Fruit Valley Road                           | 10.00 | Concrete Slab  | 1948 | 65  | 16 | Fair | 56.62 | FO | N |                    | 21 | LRFD             | 35 | LRFD      | Y | 1350 |
| 501/8E                | BNRR OC                         | Fourth Plain Blvd                           | 1.60  | Concrete Deck w/Welded Steel Girders                       | 1962 | 51  | 7  | Good | 76.16 |    | N |                    | 30 | LF               | 50 | LF        | Y | 1350 |
| 501/8W                | BNRR OC                         | Fourth Plain Blvd                           | 1.60  | Concrete Deck w/Prestressed Concrete Girders               | 1986 | 27  | 7  | Good | 82.28 |    | N |                    | 49 | LF               | 82 | LF        | Y | 1350 |
| 501/10C               | Vancouver Lake Flushing Channel | SR501                                       | 5.30  | Submerged Culvert  | 1990 | 23  | 15 | Good | 86.14 |    | B |                    | 99 |                  | 99 |           | Y | 1350 |
| Not Reportable        |                                 |   |       |  |      |     |    |      |       |    |   |                    |    |                  |    |           |   |      |
| 99906-01              | BNRR Columbia River O-xing      | W. 8th - Columbia River Crossing            | 9.60  | Steel Truss - Railroad                                     | 1908 | 105 | 7  |      |       |    |   |                    |    | Other            |    | Other     |   |      |
| 99906-02              | BNRR at Boise Cascade O-xing    | Boise Cascade Paper (W 5th, Grant & W. 6th) | 10.10 | Railroad   | 1907 | 106 | 8  |      |       |    |   |                    |    |                  |    |           |   |      |
| 99906-03              | Inn at the Quay - O-xing        | Columbia Street                             | 10.70 | Railroad   | 1983 | 30  | 8  |      |       |    |   |                    |    | Other            |    | Other     |   |      |
| 99906-04              | BNRR-Columbia Shores O-xing     | Columbia Shores Blvd                        | 11.80 | Railroad   | 1942 | 71  | 8  |      |       |    |   |                    |    | Other            |    | Other     |   |      |
| 99906-05              | BNRR Marine Park Wy O-xing      | Marine Park Way                             | 12.80 | Railroad   | 1908 | 105 | 8  |      |       |    |   |                    |    | Other            |    | Other     | H |      |
| City of Washougal     |                                 |   |       |  |      |     |    |      |       |    |   |                    |    |                  |    |           |   |      |
| WASHQU-1              | Orchard View                    | 0.2 M south of J St                         | 0.3   | 3-sided concrete box Prestressed Concrete Stringer         | 2008 | 5   | 4  | Good | 97.94 |    | B |                    | 41 | LF               | 61 | LF        | Y | 1385 |
| 1402                  | BNSF RR U-xing                  | Washougal River Road                        | 0.26  | Prestressed Concrete Stringer                              | 1965 | 48  | 4  | Good | 75.4  | FO | N |                    | 41 | LRFD             | 68 | LRFD      | Y | 1385 |
| 1404                  | Washougal River Bridge          | Washougal River Road                        | 0.32  | Prestressed Concrete                                       | 1993 | 20  | 4  | Good | 90.07 |    | B |                    | 22 | LRFD             | 76 | LRFD      | Y | 1385 |
| City of Camas         |                                 |   |       |  |      |     |    |      |       |    |   |                    |    |                  |    |           |   |      |
| Camas-010             | Washougal River Bridge          | NE 3rd Avenue                               | 0.35  | Stringer/Multi-beam  | 1969 | 44  | 3  | Fair | 58.54 | FO | 3 | Critical           | 46 | Other            | 37 | Other     | Y | 0145 |
| Camas-020             | Division Street Bridge          | Division Street                             | 0.15  | Concrete T Beams   | 1960 | 53  | 3  | Fair | 58.82 | FO | 8 |                    | 17 | LF               | 29 | LF        | Y | 0145 |
| Camas-030             | Dallas Street                   | Crown Z Mill Water Ditch                    | 0.15  | Concrete Multi-beam  | 1919 | 94  | 3  | Fair | 51.76 | FO | 8 |                    | 17 | LF               | 28 | LF        | W | 0145 |
| Camas-040             | Camas Meadows                   | Camas Meadows Drive                         | 0.10  | Pre-cast Concrete Arch                                     | 2000 | 13  | 11 | Good | 99.84 |    | B |                    | 99 | Not Rated        | 99 | Not Rated | Y | 0145 |
| City of Ridgefield    |                                 |   |       |  |      |     |    |      |       |    |   |                    |    |                  |    |           |   |      |
| Ridgefd-1             | Gee Creek - Abrams Park         | Division Street                             | 0.01  | Glu-Lam Stringer/Multi-beam                                | 1975 | 38  | 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 | 10  | 34 | Good | 94.94 |    | U | Unknown Foundation | 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 | 10  | 28 | Good | 96.5  |    | U | Unknown Foundation | 99 | LRFD             | 99 | LRFD      | Y | 0060 |
| 205                   | None                            | NE 142nd Avenue                             | 0.79  | Concrete Slab & Stringer                                   | 1958 | 55  | 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 W83G Girders & Cast-in-place Deck | 2001 | 12  | 44 | Good | 82.37 |    | B |                    | 84 | LRFD             | 99 | LRFD      | Y | 0080 |

**Table B - Bridge Condition State**

| Agency                  | Total Bridges in Program | Bridge Condition |           |          | Structurally Deficient | Functionally Obsolete | Scour Condition |                    | Fracture Critical |
|-------------------------|--------------------------|------------------|-----------|----------|------------------------|-----------------------|-----------------|--------------------|-------------------|
|                         |                          | Good             | Fair      | Poor     |                        |                       | Critical        | Unknown Foundation |                   |
| Clark County            | 74                       | 52               | 21        | 1        | 2                      | 18                    | 22              | 14                 | 0                 |
| City of Vancouver       | 13                       | 12               | 1         | 0        | 0                      | 1                     | 0               | 1                  | 1                 |
| City of Washougal       | 3                        | 3                | 0         | 0        | 0                      | 1                     | 0               | 0                  | 0                 |
| City of Camas           | 4                        | 1                | 3         | 0        | 0                      | 3                     | 1               | 0                  | 0                 |
| City of Ridgefield      | 2                        | 1                | 1         | 0        | 0                      | 1                     | 0               | 1                  | 0                 |
| City of Battle Ground   | 2                        | 2                | 0         | 0        | 0                      | 1                     | 0               | 1                  | 0                 |
| City of La Center       | 1                        | 1                | 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) | 2                        | N/A              | N/A       | N/A      | N/A                    | N/A                   | N/A             | N/A                | N/A               |
| <b>Totals</b>           | <b>107</b>               | <b>72</b>        | <b>26</b> | <b>1</b> | <b>2</b>               | <b>25</b>             | <b>23</b>       | <b>17</b>          | <b>1</b>          |

> 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 -2012 Bridge Repairs

| City ID    | Agency Name        | Bridge No | Name | Repair Description  |
|------------|--------------------|-----------|------|---|
| 0000       | Clark County       |           |      |   |
| 0000000327 | ALKI ROAD          |           |      | Remove moss from deck.  |
| 0000000327 | ALKI ROAD          |           |      | Repair southwest terminal   |
| 0000000327 | ALKI ROAD          |           |      | Add additional riprap at SE Abutment to prevent additional scour at abutment. See photo |
| 0000000266 | ALLWORTH           |           |      | Cut away debris on upstream side of bridge.   |
| 0000000127 | ARCH MCKEE         |           |      | Steel utility conduit on west side of bridge has pulled loose from brackets.            |
| 0000000127 | ARCH MCKEE         |           |      | Steel utility conduit on west side of bridge has pulled loose from brackets.            |
| 0000000127 | ARCH MCKEE         |           |      | Concrete base for delineator at southeast corner is 25% undermined.                     |
| 0000000127 | ARCH MCKEE         |           |      | Delineator post on NW corner is broken  |
| 0000000127 | ARCH MCKEE         |           |      | Concrete base for delineator at southeast corner is 25% undermined.                     |
| 0000000120 | BIG TREE CREEK     |           |      | Composite fascia beam (none structural) held by chain needs repair. Pic                 |
| 0000000252 | BLAIR ZEEK         |           |      | Clean out drains  |
| 0000000252 | BLAIR ZEEK         |           |      | S guard rail too low needs to be raised   |
| 0000000252 | BLAIR ZEEK         |           |      | Clear debris from south columns.  |
| 0000000252 | BLAIR ZEEK         |           |      | South approach has settle between 1 and 2 " smooth out with AC patch                    |
| 0000000013 | BURNT BRIDGE CREST |           |      | reset cap block on SW wall  |
| 0000000013 | BURNT BRIDGE CREST |           |      | remove leaves slip/fall hazard for pedestrians  |
| 0000000013 | BURNT BRIDGE CREST |           |      | North approach joint needs to be resealed.  |

| <b>City ID</b> | <b>Agency Name</b> | <b>Bridge No</b> | <b>Name</b>        | <b>Repair Description</b>  |
|----------------|--------------------|------------------|--------------------|--|
|                |                    | 0000000013       | BURNT BRIDGE CREST | Replace bold cap cover on bridge rail - see note 684   |
|                |                    | 0000000013       | BURNT BRIDGE CREST | Reseal AC overlay at pier caps.  |
|                |                    | 0000000232       | DAVIS              | D/S west footing beginning to be undercut. Needs channel protection  |
|                |                    | 0000000232       | DAVIS              | North side curb has a void where the guardrail bolt enters the curb. This may effect the function of the rail system.  |
|                |                    | 0000000232       | DAVIS              | Channel protection at downstream west end is undercut. Repair as necessary   |
|                |                    | 0000000273       | DAY BREAK          | North Approach has slight settlement east lane patch with AC for smooth transition   |
|                |                    | 00000075         | DAYTON             | Girders need to be painted   |
|                |                    | 00000002         | FELIDA             | Compression Seal -north end of bridge -concrete surrounding seal severely cracked, broken.   |
|                |                    | 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. |
|                |                    | 0000000230       | FIFTH PLAIN CREEK  | Monitor YELLOW TAGGED pile 2E.   |
|                |                    | 0000000030       | FLATWOOD           | Replace riprap at NW abutment.   |
|                |                    | 0000000030       | FLATWOOD           | Brush slight obstruction on the up stream side should be cleaned out, adjacent wall slight under mining  |
|                |                    | 00000006         | GIBBONS CREEK      | NW corner anchor needs to be raised to 27 inchs  |
|                |                    | 0000000039       | GLENWOOD           | Edge of ACP needs filled with rock at approach rails.  |
|                |                    | 00000069         | GRIST MILL         | Expansion joints, at each end of bridge need to be cleaned out.  |
|                |                    | 0000000100       | HEISSON            | Fall protection fence on south side under bridge should be removed.  |
|                |                    | 0000000100       | HEISSON            | Recomend UBIT to look at spalling occuring on arch near girder.  |
|                |                    | 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.  |
|                |                    | 0000000108       | HEITMAN            | Chip out, sleeve and repack concrete at utility through the abutment.  |

| <b>City ID</b> | <b>Agency Name</b> | <b>Bridge No</b> | <b>Name</b>        | <b>Repair Description</b>   |
|----------------|--------------------|------------------|--------------------|---|
|                |                    | 0000000216       | JOHN OTT           | several pieces of woody debris built up across the river on span 1, picture   |
|                |                    | 0000000001       | Klinline           | West Overlook rail missing a nut  |
|                |                    | 0000000001       | Klinline           | Sidewalk approach NE corner vehicle damage  |
|                |                    | 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.  |
|                |                    | 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).  |
|                |                    | 0000000032       | KNOWLES            | Bridge has no approach rails on any end. Can we install?  |
|                |                    | 0000000172       | LACAMAS            | Grind a taper at bridge ends for smooth transitions onto and off of bridge.   |
|                |                    | 0000000299       | LANDON             | Investigate beaver dam for potential scour issues.  |
|                |                    | 0000000307       | LITTLE WASHOUGAL   | Remove bird nests   |
|                |                    | 0000000307       | LITTLE WASHOUGAL   | Remove Tar Paper from under bridge soffits so that deck can be seen for inspection.   |
|                |                    | 00001406         | LITTLE WASHOUGAL R | Trash and brush dumped under NE side of bridge.   |
|                |                    | 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.  |
|                |                    | 00001406         | LITTLE WASHOUGAL R | Repair potholes and spalling of asphalt at south approach joint.  |
|                |                    | 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.   |
|                |                    | 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   |
|                |                    | 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 information. |
|                |                    | 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.   |

| <b>City ID</b> | <b>Agency Name</b> | <b>Bridge No</b> | <b>Name</b>     | <b>Repair Description</b>  |
|----------------|--------------------|------------------|-----------------|--|
|                |                    | 0000000169       | MATNEY SOUTH    | M&O Remove Debris from South Abutment  |
|                |                    | 0000000169       | MATNEY SOUTH    | Broken conduit   |
|                |                    | 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. |
|                |                    | 0000000326       | N.E. 2ND AVENUE | Remove moss from deck surface and sides.   |
|                |                    | 0000000211       | NONE            | Inspector noted debris collecting by rocks at NW abutment  |
|                |                    | 0000000205       | NONE            | clean deck drains  |
|                |                    | 0000000222       | NONE            | remove car door in main channel upstream from bridge   |
|                |                    | 00000330         | PADDEN          | Trip issue on side walk both sides, sidewalk settlement off structure. dirt in AC transition or rack sidewalk back to grade  |
|                |                    | 0000000056       | PIONEER         | Monitor NW retaining wall as the wall is leaning toward creek  |
|                |                    | 0000000056       | PIONEER         | Stabilize slope at SE, SW and NW corners of bridge with rip rap  |
|                |                    | 0000000033       | PLEASANT VALLEY | Old abutment needs stabilization or removal. Imminent danger of falling against South pier supports (Bent #2) .  |
|                |                    | 0000000033       | PLEASANT VALLEY | Remove loose gravel from sidewalk tripping hazard  |
|                |                    | 0000000033       | PLEASANT VALLEY | Repair Drain SE corner that is eroding the bank under the concrete debris  |
|                |                    | 0000000244       | ROCK CREEK      | Divert/clean ditch NE end eroding wingwall/abut  |
|                |                    | 0000000244       | ROCK CREEK      | Reinforce N. abutment due to scouring.   |
|                |                    | 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  |
|                |                    | 0000000275       | VAN ATTA        | Culvert upstream and to the south is half plugged, needs cleared.  |
|                |                    | 0000000275       | VAN ATTA        | Replace split Guard rail post see picture  |
|                |                    | 0000000275       | VAN ATTA        | Clean and repaint Girder E paint failing in addition to see previous inspection reports  |
|                |                    | 0000000217       | VENERSBORG      | Remove debris buildup on the north girder, outboard side.  |

| City ID | Agency Name   | Bridge No  | Name                 | Repair Description  |
|---------|---------------|------------|----------------------|---|
|         |               | 0000000217 | VENERSBORG           | approach guardrail needs to be raised   |
|         |               | 0000000217 | VENERSBORG           | Repair/replace the joint  |
|         |               | 0000000217 | VENERSBORG           | Remove excess material which is causing a bump at the joints.   |
|         |               | 0000000196 | WASHOUGAL RIVER      | Seal ac joint at SW corner of deck  |
|         |               | 0000000196 | WASHOUGAL RIVER      | Retrieve and place P marker on SE corner, Marker is over the bridge side near the concrete steps  |
|         |               | 0000000196 | WASHOUGAL RIVER      | remove bird nest grider A mid span  |
|         |               | 0000000011 | WHIPPLE CREEK        | NW corner traffic delineator is loose and needs reattachment.   |
|         |               | 0000000011 | WHIPPLE CREEK        | Minor crack opening at west deck joint.   |
|         |               | 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) |
|         |               | 000000036  | WILSON               | Clean growth on girders near weep holes.  |
|         |               | 000000036  | WILSON               | Cracks in ACP at each end o bridge need patched. (done by 4/4/05 inspection)  |
|         |               | 000000036  | WILSON               | Joint at south end of bridge deck needs resealing   |
| 0060    | BATTLE GROUND |            |                      |   |
|         |               | 0000000336 | WOODIN CREEK CULVERT | 8" diameter log across N. end of culvert needs to be removed. This tree is still accross the mouth of the culvert and should be removed.                  |
| 0145    | CAMAS         |            |                      |   |
|         |               | CAMAS-040  | CAMAS MEADOWS        | Terminal at NW corner needs repair/replace.   |

| City ID | Agency Name | Bridge No | Name                   | Repair Description  |
|---------|-------------|-----------|------------------------|---|
|         |             | CAMAS-010 | WASHOUGAL RIVER BRIDGE | Add downspouts to drains on north side of bridge to prevent runoff from falling onto north stringer top flange.   |
|         |             | 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 Norm Wurzer w/ COC 817-1561 |
|         |             | 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.  |
|         |             | CAMAS-010 | WASHOUGAL RIVER BRIDGE | Guardrail terminal on northeast is damaged; needs replacement   |
|         |             | CAMAS-010 | WASHOUGAL RIVER BRIDGE | Scour calculations should be completed as soon as possible.   |

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| 1350 | VANCOUVER |
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| 0000501/8E | BNRR OC            | Expansion joints need to be cleaned out.   |
| 0000501/8E | BNRR OC            | North pedestrian 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)         |
| 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.                                |
| 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.   |
| 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. .. |
| 0000501/8W | BNRR OC            | Sliding Expansion joints need cleaned out.   |
| 0000501/8E | BNRR OC            | Drains still plugged & need cleaned out.   |
| 00001352   | BURNT BRIDGE CREEK | Review settlement issues with geotechnical and structural experts for recommendations.   |
| 0000000162 | BURTON ROAD        | Seal transverse crack in AC at west end of bridge  |

| <b>City ID</b> | <b>Agency Name</b> | <b>Bridge No</b> | <b>Name</b>              | <b>Repair Description</b>  |
|----------------|--------------------|------------------|--------------------------|--|
|                |                    | 00000328         | CORPORATE WOODS BRIDGE   | Approach sidewalks on down stream side heaved and a tripping hazard  |
|                |                    | 00004236         | EVERGREEN BLVD. OVERPASS | Current gaurd rail on SW quad blocoks pedestrion access to the sidewalk  |
|                |                    | 00004236         | EVERGREEN BLVD. OVERPASS | Both approaches are starting to settle and crack. Will need to address this soon.  |
|                |                    | 00004236         | EVERGREEN BLVD. OVERPASS | Remove moss and vegetation from the structure and immediate vicinity   |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Clean debris from joints at both ends of bridge.<br>Verified complete, repair unnecessary (JED/RCD 2009).  |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Clean and unplug all drains.   |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Trees need trimming near NE corner of bridge that is blocking sidewalk.  |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Remove moss growth on approach sidewalks.  |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Wedge patch the north approach to eliminate potholes and provide a smooth transition for cars driving onto the bridge.                           |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Replace or repair Poured Joint Filler over Pier2.<br>(Removed repair as the joint over Pier 2 is a sliding plate joint, RGP 8/23/2005)           |
|                |                    | 0000004891       | FRUIT VALLEY RD OVERPASS | Repair impact damage to transition in SE corner.<br>Verified complete, repair unnecessary (JED/RCD 2009).  |
|                |                    | 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. |
|                |                    | 0000000005       | MINNEHAHA                | SE deck drain partially plugged  |
|                |                    | 0000000005       | MINNEHAHA                | Heavy graffiti and tagging throughout, including "NO TRESSPASSING" signs.  |

| City ID | Agency Name | Bridge No  | Name              | Repair Description   |
|---------|-------------|------------|-------------------|--|
|         |             | 0000000005 | MINNEHAHA         | East approach in eastbound lanes near joint - needs repair.  |
|         |             | 0000000005 | MINNEHAHA         | Sidewalk approaches need work to reduce a tripping hazard.   |
|         |             | 0000000005 | MINNEHAHA         | Replace the missing bolts in the guardrail end section at the concrete barrier   |
|         |             | 0000000005 | MINNEHAHA         | Drains on the deck need to be unplugged  |
|         |             | 0000000005 | MINNEHAHA         | Object marker at SW corner of bridge is down and needs to be reinstalled.  |
|         |             | 0000000005 | MINNEHAHA         | Vehicle damage to concrete bridge railing on south side - aprox 15' from east end of bridge. Handrail needs permanent replacement. |
|         |             | 0000001351 | PORT OF VANCOUVER | SE corner of concrete barrier transition has a triangle 12" long by 8" that should be patched.                                     |
|         |             | 0000001351 | PORT OF VANCOUVER | Clean out packed sand in both north and south expansion joints   |

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| 1385 | WASHOUGAL |
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| 0000001402 | BN/SF RR O/C           | Gurad rail on SE corner woudl direct errent vehicle into blunt end of bridge rail  |
| 0000001402 | BN/SF RR O/C           | NE Sidewalk needs repaired to fix tripping hazard, All sidewalks need to be fixed for triping hazard. Midspan spall could cause a fall into traffic. |
| 0000001402 | BN/SF RR O/C           | Drains need to be cleaned.   |
| 0000001402 | BN/SF RR O/C           | Repair approach settlement.  |
| 0000001402 | BN/SF RR O/C           | SW and SE sidewalks have trip hazards that could casue a pedestrian to fall in to traffic.   |
| 0000001404 | WASHOUGAL RIVER BRIDGE | Graffiti removal   |
| 0000001404 | WASHOUGAL RIVER BRIDGE | Differential settlemt on sidewlk south end tripping hazard   |
| 0000001404 | WASHOUGAL RIVER BRIDGE | BP rail missing verts  |