



# SKAGIT COUNTY DEPARTMENT OF PUBLIC WORKS

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## 2014 ANNUAL BRIDGE REPORT



*Completion of the Davis Slough Bridge on South Skagit Highway November 2014*

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**SUBMITTED FEBRUARY 2015**

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### SUBMITTED: FEBRUARY 2015

This bridge report is prepared annually by the Transportation Section of Skagit County Public Works Engineering Division to fulfill the requirements of the Washington Administrative Code (WAC) 136-20-060 which requires the County Engineer to report on the 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.”*

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## **ACRONYMS**

The following are a list of common acronyms widely used in the Bridge Inspection field:

ADT	Average Daily Traffic
BRAC	Bridge Replacement Advisory Committee
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FO	Functionally Obsolete
HBRRP	Highway Bridge Replacement and Rehabilitation Program
NBIS	National Bridge Inspection Standards
SD	Structurally Deficient
SID	Structure Identification Number
SR	Sufficiency Rating
UBIT	Under Bridge Inspection Truck
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
TIP	Transportation Improvement Program

## **EXECUTIVE SUMMARY**

The 2014 Annual Bridge Report is in compliance with WAC 136-20-060, which requires that each County Road Engineer furnish a written resume of the findings of the previous year's inspection effort. This report summarizes Skagit County's 2014 bridge inspection program, focusing on the Engineer's recommendations as to replacement, rehabilitation, repair, and load restrictions on the County's deficient bridges. This makes the Annual Bridge Report a very important resource in the preparation of the Six Year TIP and other short and long term planning tools. Bridge replacement, rehabilitation, and repair projects are prioritized by a rating system that's based on a combination of factors including, but not limited to, structural deficiency, functional obsolescence, sufficiency rating, ADT, safety factors, accident history, and funding availability.

To qualify as a Structurally Deficient (SD) bridge, an element of the bridge must have a condition rating of 4 (Poor Condition) in one of the following elements: deck, superstructure, substructure, culvert and retaining walls, or have an appraisal rating of 2 or less of the structural evaluation or waterway adequacy.

To qualify as a Functionally Obsolete (FO) bridge, an appraisal rating of 3 or less must be given for deck geometry, under clearance, approach roadway alignment, structural evaluation, or waterway adequacy.

There are four goals the report strives to attain:

1. Provide inspection findings ensuring safe use by the public.
2. Present proactive maintenance recommendations for maximizing the life of County assets.
3. Identify bridges that may need to be replaced or rehabilitated.
4. Satisfy the reporting requirements set forth by other government agencies.

**HIGHLIGHTS** from this bridge inspection season include:

- The bridge inspection crew received a new inspection vehicle
- Construction of the Davis Slough Bridge on South Skagit Highway was completed
- 50 routine inspections of Skagit County bridges
- 2 interim inspection of a Skagit County bridge
- 7 special inspections of Skagit County bridges (UBIT)



***Forrest and the new inspection truck.***

- 1 routine inspection of local agency (City) bridges
- 1 Damage inspection of a Skagit County bridge (UBIT)
- Federal funding was increased from \$10 million to \$12 million to replace the BNSF Railroad Overpass on Old Hwy 99; design is in progress
- Currently, Skagit County has 6 structurally deficient bridges:
  - BNSF Railroad Overpass sufficiency rating - 3.00
    - Deck, Superstructure, Substructure – Rated Poor
  - Anacortes Ferry Dock sufficiency rating – 22.86
    - Superstructure – Rated Poor
  - Guemes Island Ferry Dock sufficiency rating – 22.86
    - Superstructure – Rated Poor
  - Friday Creek Bridge sufficiency rating - 60.88
    - Deck – Rated Poor
  - Thomas Creek Bridge sufficiency rating - 62.85
    - Deck – Rated Poor
  - Samish River Bridge sufficiency rating - 63.18
    - Deck – Rated Serious
- 3 of the 6 SD bridges have funding allocated to have them repaired or replaced
- Currently, Skagit County has 15 Functionally Obsolete bridges
- The other local agency bridges inspected are all in good condition. The Town of Concrete's bridge, Baker River Bridge, is listed as Functionally Obsolete with a sufficiency rating of 20.67 and is load restricted at 10 to 28 Tons depending on axle layout

## **BRIDGE INVENTORY**

### **Skagit County Road Bridges:**

As of December 31, 2014, Skagit County has an inventory of 109 highway bridges.

The current inventory includes:

- 5 predominately made of timber
- 13 predominately made of steel
- 91 predominately made of concrete
- 11 of those are “High Cost Inspection” Bridges requiring a UBIT
- 6 of these are fracture critical bridges



*Completion of the Davis Slough Bridge on South Skagit Highway (November 21, 2014)*

Skagit County has 45 bridges that are at least 50 years old. Of those 45 bridges, 8 are 70 years or older and 2 are over 80 years old, built in 1930.

### **High Cost and Fracture Critical Bridges:**

If the underside of the bridge deck cannot be given close or adequate inspection from the ground (the bridge crosses a deep ravine, for example) or from the shore (the bridge crosses a wide body of water), then a special inspection using a boat or an **Under-Bridge Inspection Truck (UBIT)** is required.



*State UBIT Crew on Old Highway 99 Bridge over the Samish River*

In 2014, there were 9 UBIT inspections, and 1 underwater inspection. These special inspections were performed on the Baker River Bridge and Riverside Bridge for the Town of Concrete and the City of Mount Vernon respectively. (See our Master List of 2014 inspections and list of special inspections, attached as “Exhibit A,” for details on inspection frequencies and schedules for all of our UBIT and underwater bridge inspections).

### **Parks Department Bridges:**

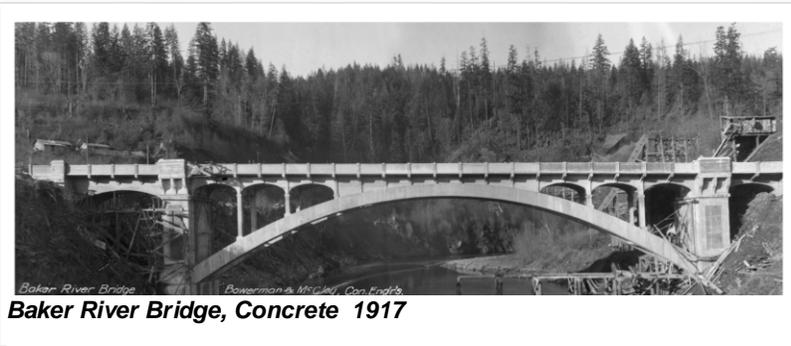
The County Parks and Recreation Department has approached Public Works and requested assistance with a growing inventory of pedestrian bridges (24 total). These have been acquired either through new trail construction or by acquisition of abandoned railroad rights-of-way. Due to staffing issues and work load, Public Works has not been able to provide inspection services at this time. Public Works will continue to work with the Parks and Recreation Department to inventory and inspect them when staffing and work load allows.

**Short Span Bridges:**

A bridge over 20-feet long is required to be inventoried and reported to the National Bridge Inventory, but what about the bridges or culverts less than 20-feet? There’s an effort right now in the Washington State Bridge Inspection Community to begin inventorying all short span bridges. A short span bridge is not well defined so this year Skagit County Public Works staff will be working towards an acceptable definition. Once defined, staff will begin locating and inventorying these spans to improve awareness of all public crossings.

**Other Local Agency Bridges:**

Public Works provides inspection services to cities upon request. The County works under agreements with cities within the conditions set forth in RCW Chapter 39.34, the Inter-local Cooperation Act. The County’s services are provided primarily to cities that lack resources and expertise to inspect and maintain their bridge inventory. In 2014 the County provided inspection services on 2 bridges for local agencies.



*Baker River Bridge* *Powerman & Mitchell, Con. Bridge*  
**Baker River Bridge, Concrete 1917**

**No. of Local Agency Bridges Served by Skagit County:**

- 1. City of Burlington – 2
- 2. Town of Concrete- 1
- 3. City of Mount Vernon – 12

**Load Restricted Bridges:**

In 2012, a load rating was performed on the Burlington Northern Santa Fe (BNSF) Overpass due to deteriorating pile caps. The load rating indicated that in its current state, the bridge should be load rated at 8 tons. Due to the importance of this route for freight and goods and the nearby quarries, Skagit County crews installed temporary shoring at the deteriorating pile cap locations. This allowed the overpass to remain open to handle legal loads; no overweight loads are permitted at this time. In addition, this bridge is inspected on a 6 month interim cycle to ensure the temporary shoring is in good condition.

The North Fork Bridge is a viable route for legal limit loads. However, due to various deficiencies with the bridge, overweight load permits are reviewed on a case by case basis. County staff reviews axle loading, number of axles, and how the load is distributed among those axles to determine if the load is safe to cross the bridge.



**An unpermitted overweight load that was ticketed after crossing the North Fork Bridge**

In the Town of Concrete, the Baker River Bridge is restricted to loads based on the AASHTO Vehicle Types ranging from 10 tons to 28 tons.

The Upper Finney Creek Bridge was damaged in 2012 due to a suspected overload crossing the bridge. A shear crack was found in the upstream girder in the mid-span of the bridge. The bridge girder was repaired and re-opened to traffic. However, the bridge remains restricted to loads of no greater than 60,000 LBS or 30 tons. This bridge was originally constructed to handle minimal loads and with the previous damage it is recommended by the Structural Engineer to limit loads crossing this bridge.

## **BRIDGE INSPECTION PROGRAM, FINDINGS and RECOMMENDATIONS**

Bridge inspections are performed in accordance with the National Bridge Inspection Standards (NBIS) and with 23 CFR 650.3. All bridges inspected to the NBIS in the United States are issued a structure identification number (SID). The standards mandate that all public agencies with a bridge inventory inspect and report the findings at a minimum of once every two years (routine inspection). The inspector uses these standards to document the current condition of each bridge element listed. The deficiencies are coded to the NBIS and show degree of deterioration in various elements. The three primary elements are the deck, superstructure, and substructure. As deterioration accelerates, the coding values drop. Work orders for repairs may be issued. In the case where the coding factors are extremely low, recommendations are made for replacement or rehabilitation. Bridges with identified deficiencies may be inspected or monitored at more frequent intervals.

The results of our inspection program are forwarded on to the Washington State Department of Transportation (WSDOT) for review. Once the report has been accepted by WSDOT it is available for the Federal Highway Administration (FHWA), Washington division bridge engineers use. A copy of all final inspection reports are kept on file with Skagit County Public Works.

There are other factors that go into developing the overall health of a bridge. Sufficiency Rating (SR) is a score calculated based on the number of all the factors that are reviewed by the inspector. The SR is a number from 0 to 100, with 100 being an entirely sufficient bridge, and 0 being an entirely insufficient or deficient bridge, as defined by FHWA. Items that go into the determination of the SR include load bearing capacity, average daily traffic, availability and length of detour, the geometry of the bridge, and the scour action of bridges passing over a waterway, among others. Normally, bridges with a SR less than 80 are eligible for federal rehabilitation funding and bridges with a SR less than 50 are eligible for federal replacement funding. In the latest BRAC call-for-projects, the criteria requires that only bridges with a SR less than 40 and listed as Structurally Deficient (SD) were eligible for federal replacement funds. As of December 31, 2014 the County has only 1 Structurally Deficient bridge with a Sufficiency Rating less than 40 that meets these criteria (the BNSF Railroad Overpass). There are also rehabilitation and resurfacing funds available for bridges through BRAC with a SR rating 80 or below.

The bridge inspection program recognizes that with limited funding, it is important to identify trends that are affecting the deficiencies of our bridge structures, such as age and materials used in construction. Skagit County Public Works will continue to apply for available funds to assist with deficient bridges that are eligible for Federal Highways Bridge Program funds and Surface Transportation Program funds. County bridges not eligible for Federal funds, such as short-span bridges (less than 20-feet in length), will have their replacement/rehabilitation needs prioritized by Public Works staff, based on structural deficiency, resource availability, and the Board of Skagit County Commissioners authorization to fund the project in the Annual Construction Program. Similarly, for maintenance, repair, and minor rehabilitation work, prioritization is based on County bridge maintenance funds and staff availabilities.

This report also points out projects that have been completed, those that are in the current Six Year TIP, and those bridges that are candidates for future replacement/rehabilitation.

## EXHIBIT A - Routine and Special Inspection Schedule

BRIDGE NAME	BRIDGE No.	LOCATION	LAST INSP	INSP FREQ	PROPOSED INSP	INSPECTION TYPE
<b>SKAGIT COUNTY BRIDGES</b>						
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	7/25/14	6	January-15	INTERIM (Temporary Shoring)
FRIDAY CREEK 2ND BR	40019	0.59 Miles N. of Old 99	5/3/13	24	May-15	ROUTINE
FRIDAY CREEK 3RD BRIDGE	40020	0.3 N. of JCT w/ Old 99	5/3/13	24	May-15	ROUTINE
FRIDAY CREEK 4TH BRIDGE	40021	.4 N JCT BURL ALG	5/3/13	24	May-15	ROUTINE
FRIDAY CREEK 5TH BR.	40022	FRIDAY CREEK 5TH BR	5/3/13	24	May-15	ROUTINE
FRIDAY CREEK IST BRIDGE	40018	.45 MI N OLD HWY 99 N	5/8/13	24	May-15	ROUTINE
FRIDAY CREEK 6TH BRIDGE	40023	.6 N JCT BURL ALG	5/8/13	24	May-15	ROUTINE
FRIDAY CREEK 7TH BRIDGE	40024	.7 N JCT BURL ALG	5/8/13	24	May-15	ROUTINE
FRIDAY CREEK 8TH BR	40025	1.59 Miles S. of Old 99	5/8/13	24	May-15	ROUTINE
FRIDAY CREEK BRIDGE	40115	4.3 N JCT COOK RD.	5/8/13	24	May-15	ROUTINE
BEAR CK-LK SAMISH	40106	2.0 MI NW JCT I-5	5/15/13	24	May-15	ROUTINE
FRIDAY CREEK-ALGER	40109	0.25 E JCT INTER 5	5/15/13	24	May-15	ROUTINE
SILVER CREEK BRIDGE	40116	Hwy 99, 0.1 S. of Alger	5/15/13	24	May-15	ROUTINE
SILVER CR. BRIDGE	40117	0.3 MI E OF OLD 99	5/15/13	24	May-15	ROUTINE
HARD CREEK BRIDGE	40076	MP 12.7	5/22/13	24	May-15	ROUTINE
FARM-TO-MARKET	40026	7.7 N JCT SR 20	6/12/13	24	June-15	ROUTINE
FARM-TO-MARKET	40032	7.5 N JCT SR 20	6/12/13	24	June-15	ROUTINE
FARM-TO-MARKET	40033	6.1 N JCT SR20	6/12/13	24	June-15	ROUTINE
FLINN ROAD BRIDGE	40161	300 Ft E Blanchard Rd	6/14/13	24	June-15	ROUTINE
MCELORY SLOUGH CULVERTS	40162	Blanchard Road	6/14/13	24	June-15	ROUTINE
SAMISH R	40034	5.9 N JCT SR 20	6/18/13	24	June-15	ROUTINE
FARM TO MARKET RD	40036	5.0 N JCT SR 20	6/18/13	24	June-15	ROUTINE
THOMAS ROAD (Samish R)	40030	0.3 N ALLEN WEST	6/19/13	24	June-15	ROUTINE
BLACK SLOUGH BRIDGE	40062	Utopia Rd 0.5 E of Hoehn	7/10/13	24	July-15	ROUTINE
SUTTER CREEK BRIDGE	40065	0.59 E JCT SR20	7/10/13	24	July-15	ROUTINE
CASCADE RIVER BRIDGE	40071	.04 S JCT CASC.RD	7/18/13	24	July-15	ROUTINE
BAYVIEW STATE PARK	40141	3.5 N JCT SR 20	7/18/13	24	July-15	ROUTINE
RED CREEK BRIDGE	40163	2 miles North of S.R. 20	7/18/13	24	July-15	ROUTINE
BAY VIEW EDISON	40029	5. N JCT SR 536	7/19/13	24	July-15	ROUTINE
BAY VIEW-EDISON (Indian)	40035	0.4 MI N OF SR20	7/19/13	24	July-15	ROUTINE
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	7/25/13	24	July-15	ROUTINE
NOOKACHAMPS BIG LAKE	40001	.25 S JCT SR9	8/14/13	24	August-15	ROUTINE
OTTER POND CREEK CULVERT	40005	.752 ml east of SR 9	8/14/13	24	August-15	ROUTINE
NOOKACHAMPS KNAPP RD	40054	0.1 E JCT SR 9	8/14/13	24	August-15	ROUTINE
SLOUGH BRIDGE	40009	0.5 E JUNCTION INTER 5	8/21/13	24	August-15	ROUTINE
BRICKYARD CREEK	40012	MP 5.38 COOK RD	8/21/13	24	August-15	ROUTINE
NEFFS CROSSING	40112	1.0 N JCT COOK RD.	8/21/13	24	August-15	ROUTINE
THOMAS CREEK BRIDGE	40113	1.4 N JCT COOK RD.	8/21/13	24	August-15	ROUTINE
SULLIVAN SLOUGH LACONNER	40038	3.83 S JCT SR 20	9/11/13	24	September-15	ROUTINE
E PETER JOHNSON RD	40041	1.0 Miles E. of Cedardale	9/11/13	24	September-15	ROUTINE
TEX PIPELINE BRIDGE	40126	1.6 N JCT SR 20	9/11/13	24	September-15	ROUTINE
F&S GRADE SAMISH RIVER	40013	F&S GRADE SAMISH R	9/18/13	24	September-15	ROUTINE
SAMISH R GRIPP & PRAIRIE	40014	GRIPP ROAD SAMISH R	9/18/13	24	September-15	ROUTINE
SAMISH R PRAIRIE ROAD	40015	SAMISH R PRAIRIE	9/18/13	24	September-15	ROUTINE
SAMISH RIVER PRAIRIE RD	40016	SAMISH R PRAIRIE	9/18/13	24	September-15	ROUTINE
PRAIRIE RD FRIDAY CK	40017	FRIDAY CK PRAIRIE	9/18/13	24	September-15	ROUTINE
SAMISH RIVER PRAIRIE RD	40055	.5 W JCT SR 9	9/18/13	24	September-15	ROUTINE
S LAVENTURE RD	40164	0.5 Miles East of I-5	10/30/13	24	October-15	ROUTINE
CAMPBELL LAKE OUTLET	40142	.39 miles W of SR 20	12/31/13	24	December-15	ROUTINE
PULVER ROAD @ JOE LEARY	40031	.6 S JCT SR 11	1/3/14	24	January-16	ROUTINE
LOOKOUT CRK BRIDGE	40073	7.04 E JCT SR 20	3/12/12	48	March-16	UBIT
GOVERNMENT BR	40099	7.5 N SNO CO BDRY	3/17/14	24	March-16	ROUTINE

BRIDGE NAME	BRIDGE No.	LOCATION	LAST INSP	INSP FREQ	PROPOSED INSP	INSPECTION TYPE
GOVERNMENT BR	40099	7.5 N SNO CO BDRY	3/17/14	24	March-16	FRACTURE CRITICAL
SAMISH RIVER BRIDGE	40114	2.6 N JCT COOK RD.	3/17/14	24	March-16	ROUTINE
SAMISH RIVER BRIDGE	40114	2.6 N JCT COOK RD.	3/17/14	24	March-16	FRACTURE CRITICAL
SOUTH FORK BRIDGE	40008	1. W JCT INTER 5	3/18/14	24	March-16	ROUTINE
NORTH FORK BRIDGE	40037	5.5 W JCT INTER 5	3/19/14	24	March-16	ROUTINE
NORTH FORK BRIDGE	40037	5.5 W JCT INTER 5	3/19/14	24	March-16	FRACTURE CRITICAL
DALLES BRIDGE	40090	1.5 S JCT SR 20	3/24/14	24	March-16	ROUTINE
DALLES BRIDGE	40090	1.5 S JCT SR 20	3/24/14	24	March-16	FRACTURE CRITICAL
SKAGIT RIVER MARBLEMOUNT	40070	.03 E JCT SR 20	3/25/14	24	March-16	ROUTINE
SKAGIT RIVER MARBLEMOUNT	40070	.03 E JCT SR 20	3/25/14	24	March-16	FRACTURE CRITICAL
LOOKOUT CRK BRIDGE	40073	7.04 E JCT SR 20	4/2/14	24	April-16	ROUTINE
UPPER FINNEY CREEK BR.	40093	04.6 W CONC SAUK RD	4/2/14	24	April-16	ROUTINE
RAINBOW BRIDGE	40039	SWIN SL @ LACONNER	4/22/14	24	April-16	ROUTINE
RAINBOW BRIDGE	40039	SWIN SL @ LACONNER	4/22/14	24	April-16	FRACTURE CRITICAL
BURMASTER ROAD	40060	1.2 E JCT MINKLER	5/7/14	24	May-16	ROUTINE
MINKLER RD at WISEMAN CK	40061	.5 W JCT SR 20	5/7/14	24	May-16	ROUTINE
NICHOLSON RD	40151	.1 S JCT SR 20	5/7/14	24	May-16	ROUTINE
MINKLER RD at COAL CK	40159	00.1 MI E SIMS ROAD	5/7/14	24	May-16	ROUTINE
LYMAN HWY at CHILDS CK	40063	0.8 E JCT SR 20	5/21/14	24	May-16	ROUTINE
LYMAN HWY at RED CABIN	40130	1.0 W HAMILTON	5/21/14	24	May-16	ROUTINE
LYMAN HWY at MANNSEY CK	40131	1.7 W HAMILTON	5/21/14	24	May-16	ROUTINE
LYMAN HWY at JONES CK	40132	2.3 W HAMILTON	5/21/14	24	May-16	ROUTINE
HAMILTON CEM at MUDDY CK	40066	.5 W JCT SR 20	5/28/14	24	May-16	ROUTINE
CAPE HORN RD at ALDER CK	40067	0.75 E JCT SR 20	5/28/14	24	May-16	ROUTINE
CAPE HORN RD at GRANDY	40068	2.25 W JCT SR 20	5/28/14	24	May-16	ROUTINE
LYMAN HAM at MUDDY CK	40129	0.3 M W HAMILTON	5/28/14	24	May-16	ROUTINE
CASCADE R RD at MONOGRAM	40072	7.37 E JCT SR 20	6/4/14	24	June-16	ROUTINE
CASCADE R RD at MARBLE	40074	8.3 E JCT SR 20	6/4/14	24	June-16	ROUTINE
CASCADE R RD at SIBLEY	40075	10 MI E MARBLEMOUNT	6/4/14	24	June-16	ROUTINE
CASCADE R RD at MINERAL	40077	16.02 E JCT SR 20	6/4/14	24	June-16	ROUTINE
BAYVIEW ED at SAMISH SL	40027	0.4 W JCT SR 537	6/11/14	24	June-16	ROUTINE
BAYVIEW ED at SAMISH R	40028	0.5 W JCT SR 537	6/11/14	24	June-16	ROUTINE
CONRAD RD at SWIFT	40069	0.2 E JCT SR 20	6/25/14	24	June-16	ROUTINE
CONC-SAUK VLY at MILLER	40092	CONCRETE-SAUK VALLEY ROAD	6/25/14	24	June-16	ROUTINE
ROCKPORT CASC at ILLABOT	40094	4.0 E JCT SR 530	6/25/14	24	June-16	ROUTINE
ROCKPORT CASC at JORDAN	40095	0.71 SW JCT CASC.	6/25/14	24	June-16	ROUTINE
BAKER LK RD at BEAR CK	40101	9.5 NE JCT SR 20	7/2/14	24	July-16	ROUTINE
BAKER LK RD at GRANDY W	40120	2. NE JCT SR 20	7/2/14	24	July-16	ROUTINE
BAKER LK RD at E GRANDY	40140	4. NE JCT SR 20	7/2/14	24	July-16	ROUTINE
LK CAVANAUGH RD at BEAR	40046	8.0 E JCT SR 9	7/11/14	24	July-16	ROUTINE
LK CAVANAUGH at PILCHUCK	40047	8.7 E JCT SR 9	7/11/14	24	July-16	ROUTINE
LK CAVANAUGH RD CULVERT	40048	MP 0.96 LK CAVANAUGH RD	7/11/14	24	July-16	ROUTINE
S SKAGIT HWY at O'TOOLE	40084	15. E JCT SR 9	7/16/14	24	July-16	ROUTINE
S SKAGIT HWY at MILL CR	40086	17. E JCT SR9	7/16/14	24	July-16	ROUTINE
S SKAGIT HWY @ PRESSENTN	40088	18.5 E JCT SR9	7/16/14	24	July-16	ROUTINE
S SKAGIT HWY @ FINNEY CR	40089	19. E JCT SR 9	7/16/14	24	July-16	ROUTINE
S SKAGIT HWY at PARKER	40080	7.5 MI E OF SR-9	7/23/14	24	July-16	ROUTINE
S SKAGIT HWY at DAY CR	40081	9. E JCT SR 9	7/23/14	24	July-16	ROUTINE
S SKAGIT HWY at LORETTA	40082	10. E JCT SR 9	7/23/14	24	July-16	ROUTINE
S SKAGIT HWY at CUMBERLA	40083	11.5 E JCT SR 9	7/23/14	24	July-16	ROUTINE
MILLTOWN @ BIG DITCH	40042	.02 E JCT SR 530	7/31/14	24	July-16	ROUTINE
CONWAY HILL @ CARPENTER	40043	0.5 E JCT INTER 5	7/31/14	24	July-16	ROUTINE
PIONEER @ BIG DITCH	40044	2.8 EAST JCT. SR 5	7/31/14	24	July-16	ROUTINE

BRIDGE NAME	BRIDGE No.	LOCATION	LAST INSP	INSP FREQ	PROPOSED INSP	INSPECTION TYPE
PIONEER @ FISHER SL	40045	1.5 EAST JCT. SR 5	7/31/14	24	July-16	ROUTINE
SWAN ROAD BRIDGE	40002	NOOKACHAMPS	8/8/14	24	August-16	ROUTINE
FRANCIS at NOOKACHAMPS	40003	2.8 W JCT SR9	8/8/14	24	August-16	ROUTINE
FRANCIS RD at SLOUGH	40004	2.0 W JCT SR9	8/8/14	24	August-16	ROUTINE
BEAVER LK RD at NOOKACHM	40051	3.0 SE JCT SR 9	8/28/14	24	August-16	ROUTINE
TAYLOR RD at WALKER CK	40052	4.3 E JCT SR 9	8/28/14	24	August-16	ROUTINE
CEDARDALE RD at CARPENTR	40156	0.75 S JCT SR534	8/28/14	24	August-16	ROUTINE
GREEN RD at THOMAS CK	40011	.01 S KELLEHER RD	9/17/14	24	September-16	ROUTINE
BENSON RIDGE LN	40157	1.2 E I-5	9/17/14	24	September-16	ROUTINE
ANACORTES FERRY DOCK	40152	ANACORTES	10/21/14	24	October-16	ROUTINE
ANACORTES FERRY DOCK	40152	ANACORTES	10/21/14	24	October-16	FRACTURE CRITICAL
ANACORTES FERRY DOCK	40152	ANACORTES	10/21/14	24	October-16	SPECIAL (Boat)
GUEMES ISLAND FERRY DOCK	40153	GUEMES ISLAND	10/21/14	24	October-16	ROUTINE
GUEMES ISLAND FERRY DOCK	40153	GUEMES ISLAND	10/21/14	24	October-16	FRACTURE CRITICAL
GUEMES ISLAND FERRY DOCK	40153	GUEMES ISLAND	10/21/14	24	October-16	SPECIAL (Boat)
ANACORTES FERRY DOCK	40152	ANACORTES	5/2/12	60	May-17	UNDERWATER
GUEMES ISLAND FERRY DOCK	40153	GUEMES ISLAND	5/3/12	60	May-17	UNDERWATER
NORTH FORK BRIDGE	40037	5.5 W JCT INTER 5	9/24/12	60	September-17	UNDERWATER
UPPER FINNEY CREEK BR.	40093	04.6 W CONC SAUK RD	3/27/12	72	March-18	UBIT
SOUTH FORK BRIDGE	40008	1. W JCT INTER 5	9/24/13	60	September-18	UNDERWATER
BAYVIEW ED at SAMISH R	40028	0.5 W JCT SR 537	9/24/13	60	September-18	UNDERWATER
<b>LOCAL AGENCY BRIDGES</b>						
BAKER RIVER	CONCRETE1	0.1 N MAIN ST	8/28/13	24	August-15	ROUTINE
BAKER RIVER	CONCRETE1	0.1 N MAIN ST	8/28/13	48	August-17	UBIT
NORTH BURLINGTON BLVD	BURLINN-2	1.02 MI SO OF COOK RD	9/4/13	24	September-15	ROUTINE
GOLDENROD BRIDGE	BURLINN-3	.3 N. of W. MCCORQUEDALE	9/16/13	24	September-15	ROUTINE
RIVERSIDE BRIDGE	000000001	0.7 N JCT SR 538	8/26/13	24	August-15	ROUTINE
Hoag Steward Overpass	000000002	Riverside Dr Jct. Hoag St	10/3/13	24	October-15	ROUTINE
Eleanor Lane A	000000003	0.1 E Jct Old Highway 99	10/3/13	24	October-15	ROUTINE
J off Beaver Pond Dr. S.	000000007	Off Beaver Pond Dr. S.	10/4/13	24	October-15	ROUTINE
Landmark Drive	000000005	Off S Waugh Rd	10/4/13	24	October-15	ROUTINE
Beaver Pond Dr North B	000000009	0.4 N Jct. Englemont Dr	10/4/13	24	October-15	ROUTINE
Skagit Highlands Parkway	000000004	0.4 N Jct. E Division St.	10/4/13	24	October-15	ROUTINE
Beaver Pond Dr North A	000000011	0.2 N Jct. Englemont Dr	10/4/13	24	October-15	ROUTINE
Beaver Pond Dr South	000000008	0.5 N Jct. Englemont Dr	10/4/13	24	October-15	ROUTINE
Olympic Lane	000000010	Off Beaver Pond Dr North	10/4/13	24	October-15	ROUTINE
Eaglemont Drive	000000006	0.1 S Jct Beaver Pond N	10/16/13	24	October-15	ROUTINE
LAVENTURE RD CULVERT	MV-12	NORTH OF BLACKBURN	9/17/14	24	September-16	ROUTINE
RIVERSIDE BRIDGE	000000001	0.7 N JCT SR 538	8/26/13	48	August-17	UBIT
RIVERSIDE BRIDGE	000000001	0.7 N JCT SR 538	9/24/12	60	September-17	UNDERWATER

## BRIDGE REPLACEMENT and REHABILITATION PLAN FOR DEFICIENT BRIDGES

The County’s current focus is to replace or rehabilitate bridges that are classified as Structurally Deficient or Functionally Obsolete per NBIS. Public Works staff is currently seeking funding for a number of bridges that are in need of replacement, rehabilitation and/or resurfacing including, but not limited to:

### Replacement

- Burlington Northern Overpass #40111
  - Structurally deficient, timber structure is deteriorating
  - Functionally obsolete, does not meet the geometry standard of the road system
  - Skagit County has secured \$12-million in Federal funding to replace the BNSF Railroad Overpass.
  - Design of the bridge is in progress and is currently nearing the 60% design level.



*Old Highwa y99 BNSF Overpass looking North*

### Rehabilitation

- Cascade River Road at Hard Creek #40076
  - The Hard Creek Bridge experienced heavy damage during a rock slide, reducing it to one lane
  - Skagit County received funding from Federal Highways to replace the existing structure with one that will more easily pass debris limiting future damage
  - This work is in cooperation with Federal Highways Administration and the US Forest Service
  - Design of the new bridge is at the 30% design level and is anticipated to be completed in 2015
  - Construction is scheduled to begin in 2016



*Damage to Hard Creek Bridge after rockslide*



*Section loss on girder with exposed rebar*

## Resurfacing

- Samish River Bridge on Old Hwy 99 #40114
  - Due to frozen rocker bearings, the bridge deck experiences compression stress which results in cracks and popouts in the concrete deck.
  - BRAC awarded Skagit County \$824,000 in Federal funding to replace the bearings, expansion joints, and resurface the deck/driving surface
  
- Friday Creek Bridge on Old Hwy 99 #40115
  - The bridge deck is deteriorating due to age and wear resulting in spalling and exposed rebar
  - BRAC awarded Skagit County \$360,000 in Federal funding to resurface the deck and level the approaches
  
- South Skagit Highway at Finney Creek Bridge #40089
  - The bridge deck is deteriorating due to age and wear resulting in spalling and exposed rebar
  - BRAC awarded Skagit County \$342,000 in Federal funding to resurface the deck and level the approaches



***Deck patching on South Skagit Highway's Finney Creek Bridge***

## MAINTENANCE AND REPAIRS

The majority of bridge repair and maintenance work is done by County crews. This includes cleaning, minor painting, deck repairs, and rehabilitation of bridges. The major projects completed in 2014 were:

Bank stabilization repair at the Taylor Road Bridge at Walker Creek: A large rain event increased flows on Walker Creek high enough to wash out the existing rip rap and gabions. The scour hole exposed the bottom of the abutment and threatened the subgrade of the bridge approach. County staff worked with State Fish & Wildlife on a permittable repair and completed the repairs in early October.



*Scour hole on Taylor Road Bridge*



*Completed scour hole repair*

Conveyance at Lyman Hamilton Highway at Childs Creek: County staff is looking at a regional solution to the aggradation problems the County and the State Department of Transportation experience from the Skagit River Tributaries. Currently, staff is focusing on the Childs Creek Basin and the crossing on Lyman Hamilton Highway. The bridge there has very little freeboard and continually becomes blocked from debris. The Drainage Utility permitted the removal of 50 cubic yards of material this last summer and will remove another 50 cubic yards this summer. Long term solutions are being evaluated including a Type Size and Location study to modify the bridge and improve the Childs Creek conveyance under Lyman Hamilton Highway.



*Lyman Hamilton Highway at Childs Creek*

**BNSF Railroad Overpass Inspection:** A follow up inspection was made last summer on the repairs made to BNSF Railroad Overpass pier caps that support the main span. With the aid and direction of our contracted bridge engineer, David Shearer, a high strength epoxy application was injected into the pier caps to strengthen the timber, prevent further rotting, and stop any further crushing from occurring. The inspection showed the epoxy injections holding well and no further crushing has occurred.

In addition to the above mentioned repairs, Skagit County's Bridge Crew preforms various minor repairs and maintenance throughout the year.



*Inspection of the BNSF Overpass main span pier cap.*

These repairs and maintenance include, but are not limited to:

- Patching the deck due to spalling or material loss
- Replacing the loss of armor/rock around the abutments
- Repairing Bridge Rail and guardrail
- Leveling approaches
- Spot painting
- Removal of vegetation encroaching or blocking access to the bridge for inspection purposes
- Replacing damaged or worn signing

### 2014 Bridge Maintenance List

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
ANACORTES FERRY DOCK	40152	ANACORTES	1	REPAIR: Grease the counterweight wire ropes on regular scheduled maintenance per the manufacturer's recommendations. 2012 findings: Lift cables and counterweight cables are dry.
			1	Girder 1G has cracks and delaminations in the bottom chord on most of the shore side half. Girders 1 H and 1 I (eastern most girders) also have some narrow cracking. Two options: Continue with the bulb T replacement of the three easternmost girders. Or, on Girder 1 G - Arrest the corrosion in the prestressing strands in the bottom flanges of the "bulb Tee" concrete girders. Remove delaminated concrete, clean rust off strands, paint with an epoxy base paint, patch concrete, carbon fiber wrap bottom flange. For Girders 1 H and 1 I, epoxy inject the bottom flange narrow cracks.
			1	Right side live load hanger pin bracket has a corrosion hole in the shore 10/3/2012 side channel, 1" x 3". Replace channel and paint.
			2	There is no hand rail on the apron and the lift span. These become difficult to navigate for some of the less mobile pedestrians when either lift span or apron are placed at low tide.
			2	Transfer span framing has scattered rust blooms in the floorbeams, stringer clip angles, and bottom diagonals. Steel headframe has bolt heads and nuts with rust blooms. Clean to bright steel, prime, and spot paint. 2014 JHL added photo and verbiage.
			3	Lift motor gear box leaks oil. Repair leaks.
BAKER LK RD at BEAR CK	40101	9.5 NE JCT SR 20	2	Dig out the approach road, repair and pave. Has settled on both ends, may have to place geotextile to slow down the migration of the fill below the abutments. Place gabions on the stream side of the right abutment.
			2	Concrete deck: Sweep deck and clean drains.
			3	Large tree fallen upstream across channel...monitor for channel movement and backup
BAKER LK RD at E GRANDY	40140	4. NE JCT SR 20	1	Replace upstream top rail - section loss and corrosion.
			1	Clean and patch spalls/popouts and rusty rebar.
			2	Previous patches are failing. Patch failed locations and new spalls.
			3	The SW rail and end treatment need to be raised. Currently top of rail is at 17"
BAKER LK RD at GRANDY W	40120	2. NE JCT SR 20	2	Repair: paint is peeling on approach rails.
			3	Upgrade transition rails to standard.
			3	Vegetation: Remove vegetation from around the ends of the bridge
BAY VIEW EDISON	40029	5. N JCT SR 536	1	brush and patch exposed rebar in deck
			3	Guardrail - block out missing in southwest leg.
			3	Plugged drains
			3	brush and patch exposed rebar and spalls in girders
BAY VIEW-EDISON (Indian)	40035	0.4 MI N OF SR20	M	Girders: Monitor the cracking in the girders at both north and south ends. Black pen in 05
BAYVIEW ED at SAMISH R	40028	0.5 W JCT SR 537	2	End treatment @ NE section is damaged. Needs repair or replacement
			2	Remove debris hung up on bank and pier 6
			3	Repair joint seals.
			M	Monitor undermining of gabion wall at Pier 1.
			2	Repair - paint posts
			2	Repair - clean drains
			2	Sweep Deck
			3	Missing a guardrail post on SE transition and the NW transition.
			1	D spalling south approach 4"x4". Patch approach road.
BAYVIEW STATE PARK	40141	3.5 N JCT SR 20	2	Paint or treat rail posts.
			2	Paint bridge rails and posts.
			3	Repair: Patch cracks in ends of beams.
			M	Monitor the shotcrete bank under the bridge, is undermined.
			M	Rails: upgrade to meet current standards.
BEAR CK-LK SAMISH	40106	2.0 MI NW JCT I-5	1	Patch spall on beam #5 right end.
			3	Paint bridge rail posts
BEAVER LK RD at NOOKACHAMPS	40051	3.0 SE JCT SR 9	2	Patch exposed rebar on deck.
			2	Settlement at western approach. AC level
			3	Brush and paint rusting "connection braces" at the girder/abutment joint.
			M	Losing material behind Abut #2
BENSON RIDGE LN	40157	1.2 E I-5	M	Channel migrating to the east upstream of bridge.
			2	Nuts are loose again on bolts that hold deck in place. These were recently tightened in 2010 so perhaps need to look at replacing nuts with locking nuts.
			3	Impact damage on guardrail, NW end.
BLACK SLOUGH BRIDGE	40062	Utopia Rd 0.5 E of Hoehn	1	Level the right approach in the east bound lane.
BRICKYARD CREEK	40012	MP 5.38 COOK RD	1	Remove vegetation at end of bridge
			1	Approach Roadway is settled and cracking at bridge joint.

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			2	Deck needs to be swept and drains cleaned
			2	Approach road: west upstream shoulder needs to be graded to drain standing water.
			2	Recommend sawcutting @ bridge seat and joint filling.
			3	Sweep sidewalk.
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	1	<p>Replace rotted or broken sway braces and tighten nuts/bolts.</p> <ul style="list-style-type: none"> <li>-Bent #07 Loose middle bolt &amp; nut on pile 2 and pile 3.</li> <li>-Bent #08 Missing nut on lowest way brace.</li> <li>-Bent #11 on pile 4 missing nut on sway brace.</li> <li>-Bent #30 RED tagged the upper sway brace between pile 5 and the cap, 1/2" shell.</li> <li>-Bent #30 RED tagged the lower sway brace on pile 3, rotten from pile to end.</li> <li>-Bent #40 RED tagged the upper sway brace between pile 5 and the cap, rotted thru.</li> <li>-Bent #62 RED tagged the lower sway brace on pile 1 west end brace is broken</li> </ul>
			1	Deck Soffits: Wire brush/paint exposed rebar and patch spalls throughout bridge soffits.
			1	Bolts/nuts holding the steel stringers/girders in place to the caps are all loose and contributing to the sway or movement of the bridge. They should be tighten as soon as possible. NOTE: BNSF Railroad will need to be contacted prior to any maintenance occurring in proximity of the railroad line!!!
			1	<p>Pack Rust has formed/forming on steel stringers at the ends of all of the stringers causing section loss. In addition, pack rust has formed along the upper top leg of the channel on the western most stringer. Rust should be removed and painted as soon as possible.</p> <p>NOTE: BNSF Railroad will need to be contacted prior to any maintenance occurring in proximity of the railroad line!!!</p>
			1	Check and re-shim Bent #53, appears to have loosened. also re-attach compression brace on outside (east) pile.
			1	Check and tighten T-Brace bolts if needed on Bent #55. Bolts appear to be pulling out on inside (west) pile to cap.
			1	Bent #61, compression brace has pulled away from the northwest pile and needs to be re-attached.
			1	CAP 38 crushing and red tagged. Inject with high strength wood epoxy per Structural Engineer's recommendation. David Shearer of Shearer Design. Completed on 8/28/2013
			1	Replace broken sway straps on south cap of temporary shoring on Bent #43. Three straps have broken, likely due to bridge movement.
			1	Replace missing nuts and washer on temporary shoring Bent #61. Missing nuts and washer is on the upper cross brace south side. bolt may be to short, may want to consider intalling longer bolt.
			2	Deck: patch spalls in the deck.
			2	Bridge Rail has been impacted at various areas of the bridge. Straighten and repair where needed
			M	Monitor shims on temporary shoring - slight movement when struck: Bent #61 - NW pile, Bent #67 east pile.
			M	Bent #55 - Monitor migrating shim on SW pile, out 8/10"
BURMASTER ROAD	40060	1.2 E JCT MINKLER	2	Remove vegetation from around ends of bridge.
			2	Repair: Level upstream approach @ west end of bridge.
			2	Sweep bridge deck.
			3	Repair spalls in concrete railing, approx. 2'.
			3	Utility line casing (PVC pipe) is broken.
			M	Left bank erosion downstream of bridge.
CAMPBELL LAKE OUTLET	40142	.39 miles W of SR 20	1	Repair: treat timbers for insect/ damage, pile cap and piles 3 and 4 that need to be scheduled for replacement.
			1	Pier caps 1 and 2 both need replacing. 3" of crushing on existing.
			2	Clean and patch the exposed rebar in the soffit.
			M	S.S. screen upstream of bridge
CAPE HORN RD at ALDER CK	40067	0.75 E JCT SR 20	2	Potholing on deck and at deck joints
			3	Upgrade guardrail to current standards.
			M	Upstream channel migration to the west. Stream approaching bridge at angle now with higher velocities at Abutment #2
CAPE HORN RD at GRANDY	40068	2.25 W JCT SR 20	2	Patch the 6 spalls in deck with exposed rebar.
			3	Upgrade guardrail to current standards
			M	Monitor the bank protection, check after high water.
CASCADE R RD at MARBLE	40074	8.3 E JCT SR 20	2	Wingwall: Joint seal is missing, gap between bridge and walls. Fill gap btw retaining walls and the abutments.
			2	Repair: fourth rail post from right D corner is bent from impact, base plate is still in place.
			2	NE End treatment isn't up to standard

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			2	SE Wrap around end treatment is damaged
			3	Patch potholes on West approach
CASCADE R RD at MINERAL	40077	16.02 E JCT SR 20	1	Repair abutment #1 armor.
			2	Patch potholes. Caused from scour of material behind abutment #1.
			3	Sweep gravel and debris off deck.
CASCADE R RD at MONOGRAM	40072	7.37 E JCT SR 20	1	Debris removal: remove debris under the bridge.
			2	Repair: deck has spall on R downstream edge.
			2	Concrete repair: patch left and right wingwalls; and abutment #2.
			M	Waterway: monitor bridge at high water, stream overtops the bridge and bypasses on the left end.
CASCADE R RD at SIBLEY	40075	10 MI E MARBLEMOUNT	1	Repair: 8 delineators missing (4 on each side of bridge)
CASCADE RIVER BRIDGE	40071	.04 S JCT CASC.RD	1	Repair - Left approach, large 24" x 4" spall at seat, see photo.
			1	Repair - Right approach has cracked and settled, see photo.
			1	Monitor- 6'x6'x5' sink hole- South of pier 2.
			1	Repair Spall on south roadway approach 3'x6"x2"
			2	Patch exposed rebar in deck near right end of bridge.
			2	Repair thrie beam transition at nw corner. Damaged from fallen tree.
			2	Sweep deck and shoulders
CEDARDALE RD at CARPENTR	40156	0.75 S JCT SR534	1	Re patch the deck
			2	Replace block outs with 6" blocks on rails
			2	Upgrade bridge rails / transition / guardrail / end treatments
			3	Sweet deck
CONRAD RD at SWIFT	40069	0.2 E JCT SR 20	2	Remove the BST overspray patches from the bridge deck.
			2	Sweep Deck
			2	Replace all 4 Type 3 Object Markers -
			M	Monitor the channel protection.
			M	Appears to be bridge movement causing abutments to rotate. This would explain the crushing occuring on the elastomeric bearings.
CONWAY HILL @ CARPENTER	40043	0.5 E JCT INTER 5	3	Clear vegetation from deck curb and joints.
			3	Guardrail post needs replaced - 2nd from east bank, downstream side.
DALLES BRIDGE	40090	1.5 S JCT SR 20	1	Clean debris from lower truss panel points over piers. (Repair Priority changed to '1', 3/29/2010, GAS/TJN)
			1	At the transverse restrainer block details over Piers 3 and 4, (L3 and L15) clean any existing drain holes or provide drilled holes for drainage.
			2	Replace poured joints over floorbeams with a Dow Corning pourable joint or equivalent. George Schultz has been provided phone numbers of suppliers.
E PETER JOHNSON RD	40041	1.0 Miles E. of Cedardale	2	Clean out deposited sediment on top of pier cap.
			2	Dig out asphalt patches on approach and rebuild
			3	Westbound guardrail - minor impact damage on one section.
F&S GRADE SAMISH RIVER	40013	F&S GRADE SAMISH	1	Patch in north bound lane has rebar showing
			2	South bound lane has two areas that are spalling - 2.5' x 3' & 1.3' x 1".
			2	Right approach has settled with spalling.
			2	Sweep deck
			2	Left upstream approach rail end treatment need replaced
			2	Downstream thriebeam rail and #5 post.
			M	Alder tree at right bank under bridge.
FARM TO MARKET RD	40036	5.0 N JCT SR 20	1	Vegetation needs to be cut around the ends of the bridge.
			3	Brush and patch spall in soffit
FARM-TO-MARKET	40033	6.1 N JCT SR20	1	Southern approach needs patch.
FARM-TO-MARKET	40032	7.5 N JCT SR 20	2	Bridge needs to be swept.
			2	Northbound approach needs asphalt patch.
FARM-TO-MARKET	40026	7.7 N JCT SR 20	2	Remove vegetation from ends of bridge.
FARM-TO-MARKET	40033	6.1 N JCT SR20	2	Bridge needs to be swept.
			2	Approad Rd: patch spall in north approach road.
FARM-TO-MARKET	40026	7.7 N JCT SR 20	3	Patch spall on outside of rail at connection (8th post from North)
			M	Monitor settlement on the road approaches.
FRANCIS at NOOKACHAMPS	40003	2.8 W JCT SR9	2	Repair: level approach roads and patch potholes.
			2	Clean Mud off of girders and caps at the east end of bridge
			2	Remove vegetation from ends of bridge
			3	Remove BST overspray
FRANCIS RD at SLOUGH	40004	2.0 W JCT SR9	1	Remove grass and sod from between edge of pavement and rail. Backfill with HMA.
			2	Shoulder/pavement edge drops off between edge of road and guardrail. - needs to be brought up to grade.
			2	Replace damaged guardrail at NE corner. Apprx 100' and 3 posts.
			3	Paint rail posts
			3	Clean drains
			3	Crack seal transverse cracks at the joints.
FRIDAY CREEK 2ND BR	40019	0.59 Miles N. of Old 99	2	Crack Seal north approach
			2	Repair Guardrail blockout #1 on southwest corner of bridge.
			2	Replace spacer blocks #4 and #12 of SE corner

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			2	Replace spacer blocks #8 and #12 of NE corner
			3	Remove vegetation from around bridge to allow for inspection access.
			3	Approach roadways have settled 3+ inches. Road markings indicate future dig out and/or A/C leveling.
			M	Monitor: north approach
			M	Monitor: erosion fo south abutment fill.
			M	Abut #1 - erosion undermining the corner of abutment. Probably the cause of settling approaches.
FRIDAY CREEK 3RD BRIDGE	40020	0.3 N. of JCT w/ Old 99	2	Drain: repair drain on bridge, has broken off.
			2	Brush and paint guardrail posts
			2	Pressure wash moss off girders
			3	Upgrade guardrail to current standards
			M	Waterway: monitor stream cutting on the right upstream bank, unstable slope - left bank.
FRIDAY CREEK 4TH BRIDGE	40021	.4 N JCT BURL ALG	2	Exposed rebar: wire brush and patch exposed rusty rebar on beams 1, 2, and 4
			2	Drain: Right downstream drain needs repair.
			M	bank erosion 30' upstream
FRIDAY CREEK 5TH BR.	40022	FRIDAY CREEK 5TH BR	2	Approach Road: level approach road
			2	Abutments: replace fill material under the left abutment.
			3	Remove vegetation from ends of bridge.
			3	Diaphragms rusty - need steel brushing and paint
FRIDAY CREEK 6TH BRIDGE	40023	.6 N JCT BURL ALG	3	Plugged Drains
			3	Bridge curbing, girders and soffits need pressure washed.
FRIDAY CREEK 7TH BRIDGE	40024	.7 N JCT BURL ALG	1	Dig out and A/C level North approach.
			3	Pressure wash curbs and girders
FRIDAY CREEK 8TH BR	40025	1.59 Miles S. of Old 99	2	NE guardrail, Post 4 is rotted and needs replaced.
			2	Weed whack around abutments and approach guardrail
			M	Repair: undermined riprap at D/S South abutment
FRIDAY CREEK BRIDGE	40115	4.3 N JCT COOK RD.	1	Repair: spalled areas in the deck.
			2	Unplug drains
			2	Scrub and patch exposed rebar in deck.
FRIDAY CREEK 1ST BRIDGE	40018	.45 MI N OLD HWY 99 N	1	Channel protection: both north and south abutments
			1	Level south approach westbound lane (Approach was leveled at last inspection)
			1	Patch exposed rebar in girders #1 #2 #3 & #4 and Soffits.
			1	1" > approaches - Dig out and pre-level scheduled
			3	Pressure wash conc. rails & girders
FRIDAY CREEK-ALGER	40109	0.25 E JCT INTER 5	1	Repair: Large spall at bridge seat in N bound lane.
			2	Repair: Posts need painting
			2	Deck needs swept and pressure washing
			2	Remove vegetation from around ends of bridge
			2	Replace damaged transition rail on SW section.
			2	Crack seal approaches, bst pulled apart at joint.
GOVERNMENT BR	40099	7.5 N SNO CO BDRY	1	Span 2, Panel 3 has a 6" broken piece of deck. Secure or remove section so it does not have potential to damage a tire.
			2	Repair or replace the blocking and support for the north side metal bridge railing, in Span 2 between Panel Points L1 and L2.
			2	Repair or replace the blocking and support for the transition railing at the southwest corner of the bridge.
			M	Monitor the steel deck and sleeper channels in areas of cracked welds and laminar tears. Noted defects are in Span 1, Span 2 curb and grate to channel connections primarily within Panels 1 and 9, Span 3 sleeper channels. (Repair re-written to focus on cracked welds and sleeper channels, 3/15/2010, GAS/TJN)
GREEN RD at THOMAS CK	40011	.01 S KELLEHER RD	1	Guardrail: Post 1, downstream end missing bolt and nut. Currently hanging on one bolt.
			2	Approach Road: level approaches settled >2" on both ends
GUEMES ISLAND FERRY DOCK	40153	GUEMES ISLAND	1	Replace the lower clevis bolt attachment to the hoisting block on the right girder. This bolt is yielding.
			1	Apron piano hinge type at end of transfer span has 1/2" of slop due to fretting . Per contract plans, double extra pipe inner diameter is 1.771" , rod is 1.625" , this should have only a 1/8" gap. These need to be greased on a regular basis to reduce section loss.
			1	Apron lips have worn through since photo #33 was taken in 2006. They are rusted through, knife edged and bent. Replace Apron lips.
			1	Left live load hanger is bent inboard. Straighten left live load hanger.
			1	Grease the upper and lower live load hanger pins.
			1	Clean and spot paint all steel areas which have corrosion.
			1	Restore the design edge distance of the gusset hole for the apron lift beam.
			2	Replace upper clevis pin on right hoist platform. This pin has insufficient grip length causing threads in bearing.
			2	Grease counterweight cables and hoist cables.
			2	Unplug drain holes in pit area of counterweights.

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			2	There is no hand rail on the apron and the lift span. These become difficult to navigate for some of the less mobile pedestrians when either lift span or apron are placed at low tide
			3	Lift motor gear box leaks oil. Repair leaks.
			M	Monitor deformed gusset holes for apron lift beam hydraulic ram clevis pin.
			N	Update WSBS Fields 74-53 & 74-63 (ADT)
HAMILTON CEM at MUDDY CK	40066	.5 W JCT SR 20	2	Small pot hole forming at the right bridge/approach road. Monitor and patch.
			3	Pressure wash curbs.
HARD CREEK BRIDGE	40076	MP 12.7	2	Repair: deck slab ties have been grouted over and both side have popped out, re-patch with grout.
			3	Sweep deck
LK CAVANAUGH at PILCHUCK	40047	8.7 E JCT SR 9	1	Repatch exposed rebar in the deck. Approximately 15' total.
			2	Material loss from behind abutment causing approach road to settle.
			2	Sweep deck
			3	Upgrade Bridge Rails
LK CAVANAUGH RD at BEAR	40046	8.0 E JCT SR 9	2	Existing patches need additional material added
			3	Upgrade bridge rails
			3	Patch spalls in deck
LK CAVANAUGH RD CULVERT	40048	MP 0.96 LK CAVANAUGH RD	2	Remove vegetation to create a path for inspection.
			2	Clear log jam at downstream end. Debris beginning to build up into culvert.
LYMAN HAM at MUDDY CK	40129	0.3 M W HAMILTON	1	Repair the leveling patches on girder #4.
			3	Clear vegetation growing in sandbar along bridge.
			3	Sections of failed chip seal exposing bridge deck.
LYMAN HWY at CHILDS CK	40063	0.8 E JCT SR 20	1	Dredge project planned this summer.
			3	Missing nut on guardrail post: 2nd post from the west end, downstream side.
			3	Guardrail post rotten: 3rd post from southwest end.
			3	Repair thrie beam, southwest end
			3	Pressure wash concrete rails and sides.
			M	Monitor: channel aggradation
			M	Scour hole on backside of guardrail at southwest end
LYMAN HWY at JONES CK	40132	2.3 W HAMILTON	2	Approaches: Both approaches have pot holes and need repair.
			3	Pressure wash concrete bridge rails
			M	Scour along Abutment 2
LYMAN HWY at MANNSEK CK	40131	1.7 W HAMILTON	2	Upgrade Guardrails
			3	Remove BST overspray
LYMAN HWY at RED CABIN	40130	1.0 W HAMILTON	2	Repair: left bridge seat approach road has a D spall in pavement 1' x 9".
			3	Brush cut vegetation around Northwest abutment
			3	Westbound guardrail end treatment damaged (NE quadrant)
MILLTOWN @ BIG DITCH	40042	.02 E JCT SR 530	1	AC level approaches
			2	Repair end treatment, west downstream end
			2	Previous patches in deck are wearing and need replacing
			2	sweep deck
MINKLER RD at COAL CK	40159	00.1 MI E SIMS ROAD	1	Remove cattle guard from downstream wingwalls
			1	Remove material and debris from underneath bridge
			2	Replace all rail posts that are damaged
			2	Repair spalls upstream side of bridge
			3	Fill deep pot hole in westbound lane.
			B	Brush cut around abutments
MINKLER RD at WISEMAN CK	40061	.5 W JCT SR 20	1	Need to remove vegetation from around bridge
			1	Repair scour at Abutment #1, upstream end.
			1	Remove debris from bridge, upstream end.
			1	Remove (dredge) material and debris under the bridge.
			2	Clean and patch spall in Beam #5.
			2	Remove Fence from downstream headwalls
			3	Patch the damaged areas on the curb.
NEFFS CROSSING	40112	1.0 N JCT COOK RD.	B	Repair south approach road damage.
NICHOLSON RD	40151	.1 S JCT SR 20	3	Rotten block out posts #'s 1 2 & 5 on downstream side, 6 & 7 on upstream side.
			3	Brush cut needed in NE corner.
NOOKACHAMPS BIG LAKE	40001	.25 S JCT SR9	1	Sidewalk: Level and patch settled area, tripping hazard.
			1	Signs: delineator is bent at north end. Salmon stream sign needs replacing.
			1	Deck: The deck has spalls showing through the sealer. Old patches are wearing off.
			2	Bank protection: armor missing upstream end on the right bank.
			2	Approach rails: upgrade approach rails to meet current standards.
			2	Deck: Refill patches that have fallen out.
			2	Sidewalk: Repair sidewalk approach where rebar is exposed (north end).
NOOKACHAMPS KNAPP RD	40054	0.1 E JCT SR 9	1	Sweep the bridge deck.

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			1	Level approaches to the bridge, have settled 1".
			1	Brush and patch spalls on deck.
			2	Cut and remove brush around the abutments for access under the bridge.
			2	Remove vegetation from SE corner of bridge deck. Grass us limiting drainage.
			3	Deck Repair : remove overspray BST on bridge deck.
			M	Woody Debris: monitor debris accumulation.
NORTH FORK BRIDGE	40037	5.5 W JCT INTER 5	0	Repair broken conduit in Spans 3 and 4 near Pier 4.
			1	Add steel plate extensions to the bearing base plates at Pier 8. 40% of the bearing area has been lost due to the pier rotation.
			1	Investigate the need to repair scour damage at Piers 3, 4 and 5 and complete repairs if required. DAG 2012 - unable to verify repair until new copy of dive report received, see REPAIR 12929.
			1	Incorporate the results of the latest dive inspection (scheduled in 2012), including 2005 scour repairs, into the 9 and 361 notes as appropriate, and update WSBS form to show underwater inspection date and inspector information. Currently, the last inspection shows as 2002, while it should be no later than 2007. DAG 2012 - Dive inspection has not been performed.
			1	Deck and Joints have spalling at Pier 2 joint, Span 3 in-span hinge joints, Pier 8 joint, and Span 8. Remove loose / delaminated concrete, clean exposed rebar, and patch using Urefast or Set 45. (Locations added in 2014, ABK/BTP)
			1	The sliding plate joint at Pier 7 has been retrofitted with an extension that is butt-welded to the original slide plate. Five of these skip welds are cracked near the centerline. Reweld the plate.
			1	Remove debris pile (logs) at the upstream nose of Pier 3.
			2	Repair damaged Span 2 north thriebeam
			2	Trees in Span 5 hinder UBIT inspection of the bridge. Remove trees before inspection in March of 2016.
			M	Monitor the movement of the piers at the east end of the structure including the tipping of Pier 8 to the east. DAG 2010 - no change.
PIONEER @ BIG DITCH	40044	2.8 EAST JCT. SR 5	1	Deck needs vegetation removal and sweep.
			2	Repair: pressure wash barrier rail - has lots of lichen / moss. See photo.
			3	Crack seal overlay
PIONEER @ FISHER SL	40045	1.5 EAST JCT. SR 5	1	Remove vegetation along concrete railing.
			2	Seal transverse cracks in deck.
			3	Fill and compact material around catch basin in northeast corner of bridge.
PRAIRIE RD FRIDAY CK	40017	FRIDAY CK PRAIRIE	1	Remove debris from left upstream bank and channel.
			2	Repair: Left approach has settled in the E bound lane 1/2".
			2	Spalls on upstream curb.
			2	Upstream # 7 post.
			2	Creek name sign is bent.
			3	Brush cut around abutments
			3	Minor settling in westerly approach. Dig out and/or patch.
			M	Clear debris upstream
PULVER ROAD @ JOE LEARY	40031	.6 S JCT SR 11	1	Paint bridge rails and posts. See photo.
			1	Seal deck with a membrane, to prevent further spalling and corrosion of the rebar. See photo.
			M	Monitor the south abutment soil migration, there is a gap between the abutment cap and the ground. Piles are showing.
			M	Numerous vertical cracks in all girders. Continue to monitor for spreading.
RAINBOW BRIDGE	40039	SWIN SL @ LACONNER	1	Clean all the open panel joints over the floor beams and re-seal them with poured rubber or other flexible joint compound. (Repair re-written, 4/21/14, GAS/PFK)
			1	Reposition the bronze bearing plates at Bearing 4-17C and Stringer Bearing 5A that extend beyond the bearing base plates. Add a keeper bar to the bearing plates to prevent the bronze plate from "walking out" after repositioning.
			1	Remove loose and delaminated concrete from spalled areas in the deck. Clean and paint exposed reinforcement, and patch with an epoxy based compound or other approved material. Do not use asphalt Spalled areas are located in: Span 4, Panel 2 southbound lane. Span 4, Panel 3 southbound lane.
			1	Remove loose and delaminated concrete from deteriorating patching and spalled areas in the open concrete joints. Clean and paint exposed reinforcement, and patch with an epoxy based compound or other approved material. Do not use asphalt Spalled areas are located in: Span 4 over Panel Point 11 centerline. Span 4 over Panel Point 16 southbound lane.
			1	Remove debris from around the bearings at Piers 4 and 5 and at Span 4, Panel Points 4 and 17. Clean and remove laminar and pack rust down to solid steel and paint with a rust inhibitor.

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			1	At the top rib of the east arch, between U6 and U7, locate the end of the crack that is extending into the rib with dye penetrant Stop drill a 13/16" diameter hole centered at the end of the crack. Provide a 3/4" A325 bolt
			1	At the following locations, drill out the broken or missing rivets and replace with a an A325 bolt: West arch south face of the Panel Point 3 strut connection. (Two rivets) West arch U10 to U11 south face splice. (Two rivets)
			2	Remove paint and dirt which is covering arch at the Pier 4 and 5 footings. Clean to bare steel and paint.
			2	Replace the missing bird screens at the following locations: U5W, U8W, U9W, U13W, U6E, U8E, U11E, and U12E ( U8W, U13W, U6E, U8E, and U11E added 4/13/2010, DAG/CRT).
			M	Monitor cracking of welds for connection of the lateral cross-bracing to the bottom flanges of the stringers in Panels 5, 8, and 15. If cracks propagatate into base metal, take corrective action to stop further propagation. DAG 2012: No change.
			M	Monitor cracking around welded access holes in top rib of arch. At the east arch between U6 and U7, the cracking has spread into the arch.
RED CREEK BRIDGE	40163	2 miles North of S.R. 20	M	Water flowing from abutment #2, below G5
ROCKPORT CASC at ILLABOT	40094	4.0 E JCT SR 530	1	Level right/east approach, road has settled. Patch spalls at bridge ends.
			3	Pothole on west end of bridge WB lane
			3	Replace rubber joints
S SKAGIT HWY @ FINNEY CR	40089	19. E JCT SR 9	1	Remove woody debris blocking conveyance through span 1
			1	Remove woody debris around pier 2, scour damage.
			2	Pier Protection: repair slipped riprap armor on Piers 2 and 3.
			M	Monitor channel migration: stream is unstable, and has switched rapidly from the R bank to the L bank. Consider installing river training devices. REPAIR.
S SKAGIT HWY @ PRESSENTN	40088	18.5 E JCT SR9	1	Paint rails and posts.
			2	Seal deck with a membrane.
			2	Resurface / rehabilitate bridge deck
			3	Cut back vegetation at abut #1
S SKAGIT HWY at CUMBERLA	40083	11.5 E JCT SR 9	1	Repair: right bank under bridge is scoured out 1 1/2 to 2 ft. under the abutment cap. Replace missing fill material under abutment with quarry spalls.
			2	Paint rail posts
			2	Replace 2 missing object markers on south end of bridge
			3	Guardrail - Replace missing blockout at NW quadrant transition section
S SKAGIT HWY at DAY CR	40081	9. E JCT SR 9	1	Dig out and repair both road approaches - appeared to be in the works during inspection.W
			1	Patch exposed rebar in deck - 2'
			2	Repair: patch rusty rebar in the deck.
			2	Replace missing nuts on guardrail left upstream approach rail.
			2	Repair failing deck patches.
			2	Remove vegetation from around abutments
			3	Remove debris from mid channel
			3	Wire brush and patch exposed rusty rebar in the girders
S SKAGIT HWY at LORETTA	40082	10. E JCT SR 9	2	Concrete deck : Sweep deck and clean drains.
			2	Remove BST overspray from the deck.
			2	Wire brush and patch or paint rusty rebar on girders.
			3	Paint rail posts
S SKAGIT HWY at MILL CR	40086	17. E JCT SR9	1	Remove woody debris from under bridge.
			2	Patch exposed rebar in the girders.
			2	Patch spalls in deck asphalt overlay.
			2	Fill scour hole at upstream end of Abut#1
			2	Replace damaged guardrail - End Treatment, Southeast quadrant
			3	Sweep deck
S SKAGIT HWY at O'TOOLE	40084	15. E JCT SR 9	1	Repair left upstream abutment, channel protection.Monitor
			1	Replace cabled rootwad
			2	Replace bridge sign/ missing.
			2	Rails need painting
			3	Level both approaches to bridge. 2012 - approaches marked for patching prior to chip sealing
			M	Monitor right bank repair upstream of bridge. Large rootwad cabled to riprap was installed in 9/2003.
			M	Huge group of Alders are being undercut just upstream of bridge. Monitor.
			M	Scour causing sloughing behind Abut #2. May be causing material loss and dips at the approaches.
S SKAGIT HWY at PARKER	40080	7.5 MI E OF SR-9	2	Vegetation : remove sapling trees at left upstream wingwall, see photos.
			3	Remove debris near the outlet

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
SAMISH R	40034	5.9 N JCT SR 20	1	Sand has accumulated, sweep deck.
			2	Waterway: Remove woody debris at bent 4 & 5.
			2	Remove moss from deck and rails.
			2	Remove vegetation from ends of bridge
			2	Deck has map cracking / small spalls. Repair spalls.
			2	Rails: Upgrade approach rails to meet current stds.
SAMISH R GRIPP & PRAIRIE	40014	GRIPP ROAD SAMISH R	1	MONITOR: Bridge is bypassable, right upstream channel protection is starting to slump into river and needs to be monitored after high water events.
			2	Repair: Thrie beams need to be painted, there is rust & the galvanized material is wearing off.
			2	Repair: patch spall in the wingwall.
SAMISH R PRAIRIE ROAD	40015	SAMISH R PRAIRIE	1	Repair - approach rail, the *SRT terminal cable is disconnected, nuts were removed.
			2	Repair; Salmon sign
			2	Add additional rip rap to north bank, downstream 15'.
			2	Tighten cable on NW ET guardrail.
			3	Clear vegetation around abutments. (watch out for bees!)
			3	Patch bridge deck
SAMISH RIVER BRIDGE	40114	2.6 N JCT COOK RD.	0	Feather patch south approach.
			1	Span 7 has a shallow spall and exposed rebar. Remove loose or delaminated concrete. Clean exposed rebar, and patch.
			1	WSDOT uses the most limiting height within 2 ft of the fogline for posting vertical clearances. The clearance WSDOT posts is 3" less than the minimum clearance measured.  Per WSDOT standards: Provide required minimum vertical clearance posting on the and advance of the bridge. Field verify clearance before posting clearance. The minimum clearance was measured to be 14' 8" under the truss portals at the curbs. Post for 14' 5".
			1	Remove trees at the SW corner of the bridge. They obstruct UBIT operation.
			1	Wash sand and debris from bottom cord. Coordinate cleaning before 2016 inspection date.
			1	Wash sand and debris from bottom chord. Bottom chord is not visible beneath sand piles at panel points.
			1	Reset or replace rocker bearings at Pier 3. Joint is closed and spalling the header.
			2	The south sliding joint is missing the top plate near the east curb line. There is approximately 5' of loose top plate adjacent to the missing section. Remove the loose section of top plate.
			3	Repair missing concrete balluster at NW corner of bridge. Recommend attaching additional rebar to top and bottom connection. Drill 5/8" diameter hole 6" deep for #4 rebar. Secure with epoxy resin. Lap splice #4 bars full height. (Rail designed with one #4 bar per post).
			M	Repair cope cracks at the following locations (lengths observed 4/14/10): Stringer 2A at FB 2: 1/2" crack. Stringer 7A at FB 6: 1/4" crack.  Recommended repair procedure: - Locate crack termination by dye penetrant testing - Install StopCrackEX bushing along the crack trajectory whenever practical, leaving 1/16" between crack top and bushing (refer to installation manual) - Paint  For crack length less than 1/4". - Grind out crack to 3/4" minimum diameter (grind min. 1/8" beyond identified tip) - Remove all sharp corners in vicinity of repair - Polish exposed surfaces - Paint  See attached file for typical details.
			SAMISH RIVER PRAIRIE RD	40016
1	Repair - both sides under bridge need bank protection (gabions or rip rap). Gabions are damaged and pulled up by large woody debris. High water has scoured under abutment.			
1	Northwest approach rail post 1&3 Broken - replace			
2	Repair - 2 popouts, 10 x 8" northbound lane (E) rebar showing 2" deep; 6" x 6" in southbound lane (W) no rebar showing.			
2	Remove tree at left upstream abutment.			
2	Sweep deck			
2	Sweep Deck			
2	NW section of guardrail damaged and post leaning.			
SAMISH RIVER PRAIRIE RD	40055	.5 W JCT SR 9	1	Repair Scour under gabbion north abutment westside, 1.5'

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
			2	Clear debris from piles and fallen tree just upstream.
			3	Bridge rails need to be upgraded to meet current standards
SILVER CREEK BRIDGE	40116	Hwy 99, 0.1 S. of Alger	1	Approach Road Settled at Utility Cut
			2	Remove broken delineator post.
SILVER CR. BRIDGE	40117	0.3 MI E OF OLD 99	2	Remove small trees underneath and from around bridge.
			3	Repair 3 guardrail sections damaged from impact
SKAGIT RIVER MARBLEMOUNT	40070	.03 E JCT SR 20	0	Replace split spacer block at NE corner.
			1	Remove debris from upstream face of Pier 4. This is a recurrent problem. Consider the installation of a shark or debris deflector.
			1	Repair or replace the 20 ft length of damaged guardrail at the NW corner
			1	Remove loose or spalled concrete from the spalled deck surface over Span 1. Clean and paint any exposed rebar and patch with an approved material.
			1	Remove debris and clean lower truss panel points prior to next inspection in 2016.
			1	Remove spalled and delaminated patching material from the spalled area at the south end over Panel Point 13. Patch back with an approved material.
			2	Small trees and brush need to be cut back and maintained at the SW corner.
			3	Clear brush and trees along south side of bridge for UBIT access.
SLOUGH BRIDGE	40009	0.5 E JUNCTION INTER 5	2	Repair: Monitor, settling on approaches.
			2	Sweep debris buildup on bridge
SOUTH FORK BRIDGE	40008	1. W JCT INTER 5	1	Remove the debris and logs at the upstream nose of the column at Pier 3. This is a recurrent problem. Debris on the pier encourages scour of the foundation. Consider installation of a shark or debris deflector to prevent future accumulation.
			1	Contact owner of utility and notify them of leak at east abutment
			2	Remove loose or deteriorated concrete at interface of PCBs and diaphragm over Pier 6. Start by exposing the existing diaphragm rebar in the area for repair in order to have repair material surround the rebar. Patch with epoxy grout or with non-shrink cement. If additional reinforcement is required, welded-wire fabric could be used tied to the diaphragm rebar. DAG 2010 - Repair unnecessary: rebar is not exposed; repair is cosmetic not structural.
			2	Girder 4C has delamination in the prestressing at Pier 4. Remove the loose concrete and apply a rust inhibitor to prevent further corrosion of prestressing strands.
			M	Monitor bolts at Girders 1C and 2A. Loose bolts in bottom laterals at Girder 2A were tightened, but not torqued. (No change in 2008 - RGP).
			M	Monitor movement of PCBs at diaphragms over Pier 4, Pier 5, Pier 7, Pier 8 and Pier 9.
SULLIVAN SLOUGH LACONNER	40038	3.83 S JCT SR 20	1	Remove vegetation from the bridge ends.
			1	Repair the approach road; has D spalls at bridge seat both ends & longitudinal cracks in the tire ruts. Ruts are worn and spalling.
			1	Deck needs sweeping.
			2	Paint the bridge rail posts, are peeling and rusty.
			2	End terminal on approach rail needs repair - north end.
SWAN ROAD BRIDGE	40002	NOOKACHAMPS	1	Raise approach rail to minimum height.
			2	Depression in deck over upstream pile. Monitor for settlement
			2	Repair west approach - settlement > 1"
			M	Two large trees fallen upstream of bridge. MONITOR
TAYLOR RD at WALKER CK	40052	4.3 E JCT SR 9	1	Repair scour hole upstream of bridge.
			M	Monitor bridge after high water event.
			S	Repair rip rap under bridge
TEX PIPELINE BRIDGE	40126	1.6 N JCT SR 20	2	Curb cracked and spalling at north/west corner.
			2	Sweep bridge deck
THOMAS CREEK BRIDGE	40113	1.4 N JCT COOK RD.	1	Replace rotten wood bridge rail post at southwest corner of the bridge.
			1	Remove and replace rotted abutment walls on both abutments.
THOMAS ROAD (Samish R)	40030	0.3 N ALLEN WEST	2	Rails need to be upgraded.
			2	Vegetation needs to be cut.
			M	Repair material loss at right abutment
UPPER FINNEY CREEK BR.	40093	04.6 W CONC SAUK RD	1	Post-tension splice zone or provide mechanical connection to develop positive moment steel. Install FRP on web to restore shear capacity. This is recommended for all locations where splice length is inadequate.
			2	Repair: sweep bridge deck
			2	Repair: Patch rail, see photo.
			2	Verify the load rating method for the Inventory and Operating WB 75-51 and WB 75-54. If the Load and Resistance Factor Method was used to calculate the Inventory and Operating ratings, then the code should be changed to "L" instead of "F".

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY CODE	REPAIR DESCRIPTION
<b>LOCAL AGENCY BRIDGES</b>				
BAKER RIVER	CONCRET E1	0.1 N MAIN ST	0	Install timber rail board at the SE approach.
			2	Remove ivy from pier wall at Pier 2.
			M	Monitor scour at Pier 2 which is undermined at the NE corner. Minor change in 2013
RIVERSIDE BRIDGE	000000001	0.7 N JCT SR 538	0	A utility bracket on the north side of Pier 5, supporting the 24" waterline, has slipped.
			0	Install access cover to luminaire in Span 4.
			1	Shear key at Pier 5 was not built as designed. Provide full support to Girder H at Pier 5.
			1	Remove timber debris accumulating around piers in water.
			2	Remove transient living area from Pier 2.
Hoag Steward Overpass	000000002	Riverside Dr Jct. Hoag St	1	Clean out debris from foins between bridge and slabs and replace joint fillers
			1	Replace missing pavement markings on bridge deck
			2	Pressure wash moss off sidewalks.
Eleanor Lane A	000000003	0.1 E Jct Old Highway 99	1	Pedestrian Rail on south side of bridge is damage and has come lose at the base due to broken welds in two places.
Eaglemont Drive	000000006	0.1 S Jct Beaver Pond N	2	Repair the settlement at South East corner at Roadway sidewalk (Photo SI-6)
			2	Repair uplifting of the sidewalk panels and spalls in curbing. (Photo SI-25)
			M	Monitor the shift of stream toward the South footing (Photo SI-5).
			M	Monitor the crushing and bulging of the gabions. (Photo SI-20)
J off Beaver Pond Dr. S.	000000007	Off Beaver Pond Dr. S.	2	Clean material from culvert
			2	Trim vegetation back from inlet and outlet to allow for conveyance and inspection.
Beaver Pond Dr South	000000008	0.5 N Jct. Englemont Dr	3	Tighten Utility Hangers on black sewer pipe and others.
Beaver Pond Dr North B	000000009	0.4 N Jct. Englemont Dr	2	Crack seal at deck/approach slab joints.
Beaver Pond Dr North A	000000011	0.2 N Jct. Englemont Dr	2	Crack seal at approach slabs.
NORTH BURLINGTON BLVD	BURLINN-2	1.02 MI SO OF COOK RD	2	Repair: Approach rail damage, rail posts tighten loose bolts that secure posts to box culvert on underside.
			2	Remove vegetation from bridge to gain access for inspection.
			2	Repair: Guardrail terminal on the southeast corner of bridge, appears to have been hit.
GOLDENROD BRIDGE	BURLINN-3	.3 N. of W. MCCORQUEDALE	1	Repair Guardrail Terminal South east corner of rail, appears to have been hit.
			2	Sweep deck and clean compression seals of debris

## GLOSSARY OF BRIDGE TERMINOLOGY

**Abutment**—a substructure supporting the end of a single span, or the extreme end of a multi-span super-structure 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.

**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 sewing 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.

**Culvert**—a pipe or small structure used for drainage under a road, railroad or other embankment. A culvert with a span length greater than 20-feet is included in the National Bridge Inventory and receives a rating using the NBI scale.

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

**Elastomeric pads**—rectangular pads made of neoprene, found between the substructures 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 multi-span 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**—these bridges span less than 20 feet, have a single span and are 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 distributes all bridge loads to the ground surface. 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.

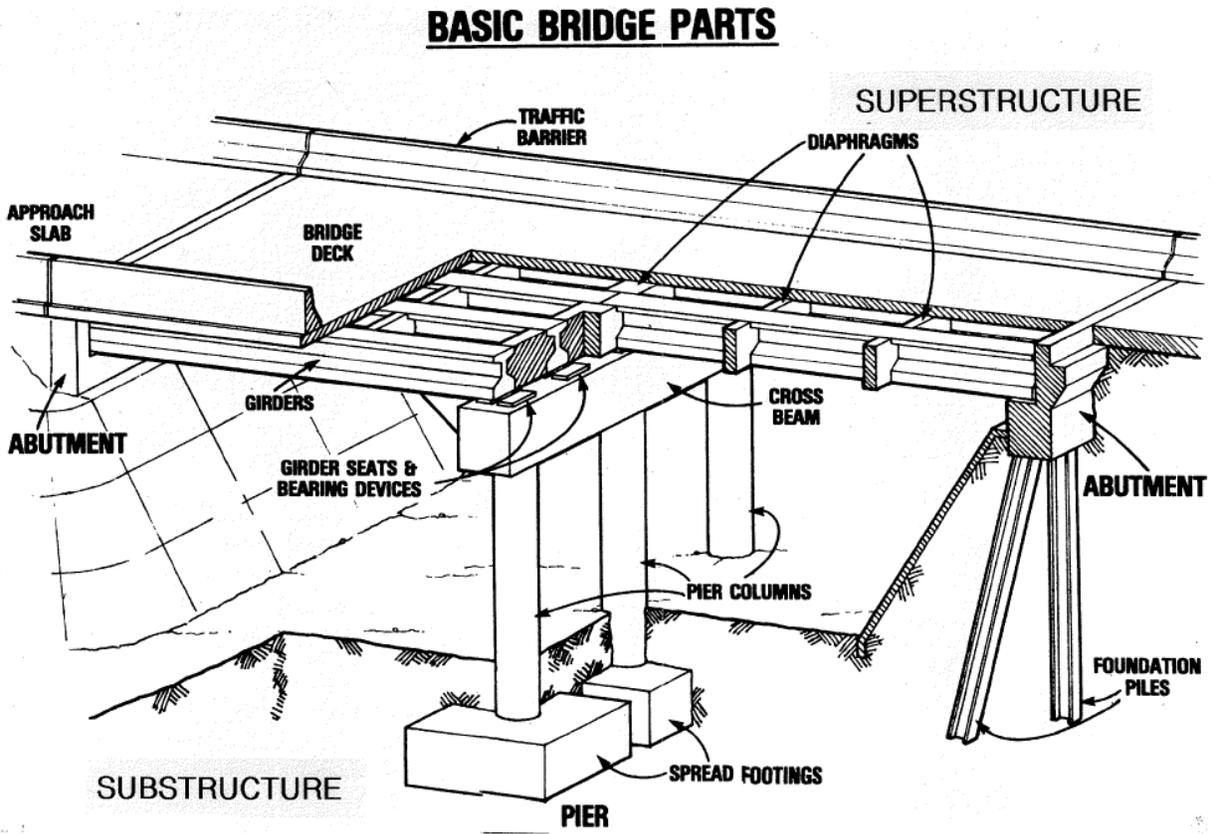
**Tension**—type of stress involving an action which pulls apart.

**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.

**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.

# ELEMENTS OF A BRIDGE



## Bridge Inventory by Sufficiency Rating

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
40111	BURL NORTHERN OVERPASS	08252700	OLD HWY 99 NORTH	1182	24	Timber	5700	1936	<b>3 (SD)</b>
40152	ANACORTES FERRY DOCK	08151100	GUEMES ISLAND ROAD	205	15	Steel	649	1925	<b>22.86 (SD)</b>
40153	GUEMES ISLAND FERRY DOCK	08152100	GUEMES ISLAND ROAD	165	15	Steel	600	1981	<b>22.86 (SD)</b>
40093	UPPER FINNEY CREEK BR.	08050200	FINNEY CREEK ROAD	217	14.9	Concrete	30	1952	<b>48.42 (FO)</b>
40070	SKAGIT RIVER MARBLEMOUNT	08228800	CASCADE RIVER RD	662	20	Steel	585	1930	<b>55.65 (FO)</b>
40142	CAMPBELL LAKE OUTLET	08153100	S. CAMPBELL LK RD	19	20	Concrete	58	1962	56.32
40039	RAINBOW BRIDGE	08484500	IRR PIONEER PARKWA	797	24	Steel	4967	1957	<b>56.42 (FO)</b>
40037	NORTH FORK BRIDGE	08119200	BEST ROAD	726	24	Steel	4645	1959	<b>57.08 (FO)</b>
40063	LYMAN HWY at CHILDS CK	08241500	LYMAN-HAMILTON HWY	32	24	Concrete	557	1948	57.88
40031	PULVER ROAD @ JOE LEARY	08336400	PULVER ROAD	39	24	Concrete	836	1955	58.86
40021	FRIDAY CREEK 4TH BRIDGE	08408200	FRIDAY CREEK ROAD	61	20	Concrete	214	1961	59.88
40020	FRIDAY CREEK 3RD BRIDGE	08408400	FRIDAY CREEK ROAD	61	20	Concrete	178	1961	59.89
40156	CEDARDALE RD at CARPENTR	08398500	CEDARDALE RD	83	36	Timber	533	1934	60.65
40115	FRIDAY CREEK BRIDGE	08425500	OLD HWY 99 NORTH	122	26	Concrete	2593	1956	<b>60.88 (SD)</b>
40018	FRIDAY CREEK IST BRIDGE	08409700	FRIDAY CREEK ROAD	61	20	Concrete	178	1962	60.9
40131	LYMAN HWY at MANNSEY CK	08209200	LYMAN HAMILTON HWY	52	26	Concrete	323	1954	61.81
40055	SAMISH RIVER PRAIRIE RD	08342200	PRAIRIE RD	75	24.4	Concrete	844	1956	61.88
40113	THOMAS CREEK BRIDGE	08239200	BURL ALGER ROAD	52	30	Timber	5746	1934	<b>62.85 (SD)</b>
40114	SAMISH RIVER BRIDGE	08050100	OLD HWY 99 NORTH	385	24	Steel	3894	1934	<b>63.18 (SD)</b>
40001	NOOKACHAMPS BIG LAKE	08331000	LAKE VIEW BLVD	77	25.5	Concrete	645	1954	63.89
40151	NICHOLSON RD	08229200	NICHOLSON RD	29	15	Concrete	33	1979	64.23
40090	DALLES BRIDGE	08203000	CONC SAUK VALLEY R	506	26	Steel	2365	1952	<b>65.73 (FO)</b>
40084	S SKAGIT HWY at O'TOOLE	08291000	SO SKAGIT HWY	66	24	Concrete	524	1959	66.09
40042	MILLTOWN @ BIG DITCH	08415700	MILLTOWN RD	50	24.2	Concrete	327	1957	67

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
40060	BURMASTER ROAD	08204900	BURMASTER ROAD	26	24	Concrete	265	1958	67.37
40008	SOUTH FORK BRIDGE	08236400	FIR ISLAND ROAD	908	28	Steel	4385	1972	67.96
40004	FRANCIS RD at SLOUGH	08004200	FRANCIS ROAD	50	24	Concrete	3970	1958	<b>68.4 (FO)</b>
40072	CASCADE R RD at MONOGRAM	08068500	CASCADE RIVER ROAD	22	26	Concrete	135	1945	69.37
40099	GOVERNMENT BR	08414100	CONC SAUK VALLEY R	304	14	Steel	135	1930	<b>69.37 (FO)</b>
40130	LYMAN HWY at RED CABIN	08191100	LYMAN HAMILTON HWY	22	26	Concrete	274	1954	69.47
40023	FRIDAY CREEK 6TH BRIDGE	08270100	FRIDAY CREEK ROAD	61	24	Concrete	166	1963	69.91
40132	LYMAN HWY at JONES CK	08224100	LYMAN HAMILTON HWY	52	26	Concrete	274	1955	70.47
40047	LK CAVANAUGH at PILCHUCK	08226900	LK CAVANAUGH ROAD	56	28	Concrete	522	1970	70.89
40024	FRIDAY CREEK 7TH BRIDGE	08269300	FRIDAY CREEK ROAD	61	24	Concrete	214	1964	70.9
40082	S SKAGIT HWY at LORETTA	08304400	SO SKAGIT HWY	85	24	Concrete	962	1961	71.43
40077	CASCADE R RD at MINERAL	08053900	CASCADE RIVER RD	71	18	Concrete	120	1986	<b>72.97 (FO)</b>
40109	FRIDAY CREEK-ALGER	08058200	ALGER-LK SAMISH RD	53	26	Concrete	4925	1965	<b>73.86 (FO)</b>
40101	BAKER LK RD at BEAR CK	08116400	BAKER LAKE ROAD	85	26	Concrete	289	1966	74.07
40076	HARD CREEK BRIDGE	08631300	CASCADE RIVER RD	46	20.7	Concrete	92	1997	76.17
40116	SILVER CREEK BRIDGE	08069100	OLD HWY 99 NORTH	38	25	Concrete	1862	1934	76.79
40038	SULLIVAN SLOUGH LACONNER	08417000	LACONNER WHITNEY R	68	26	Concrete	5204	1962	<b>76.92 (FO)</b>
40075	CASCADE R RD at SIBLEY	08631200	CASCADE RIVER RD	23	24	Concrete	120	1997	77.13
40003	FRANCIS at NOOKACHAMPS	08019100	FRANCIS ROAD	130	28	Concrete	3970	1979	77.16
40011	GREEN RD at THOMAS CK	08220400	GREEN ROAD	51	24	Concrete	100	1958	77.21
40081	S SKAGIT HWY at DAY CR	08385100	SO SKAGIT HWY.	160	24	Concrete	962	1961	78.17
40036	FARM TO MARKET RD	0003825A	FARM TO MARKET RD.	72	26	Concrete	1900	1950	78.37
40028	BAYVIEW ED at SAMISH R	08037600	BAYVIEW EDISON RD	223	26	Concrete	970	1965	79.28

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
40043	CONWAY HILL @ CARPENTER	08265500	CONWAY HILL ROAD	58	14	Concrete	61	1980	79.78
40083	S SKAGIT HWY at CUMBERLA	08316700	SO SKAGIT HWY	50	24	Concrete	524	1961	80.48
40026	FARM-TO-MARKET	0003939B	FARM TO MARKET RD.	32	26	Concrete	1900	1951	80.66
40141	BAYVIEW STATE PARK	08410000	BAYVIEW EDISON RD	62	26	Concrete	655	1969	<b>80.74 (FO)</b>
40088	S SKAGIT HWY @ PRESENTN	08165500	SOUTH SKAGIT HWY	85	27	Concrete	524	1966	80.97
40106	BEAR CK-LK SAMISH	07971600	ALGER-LK SAMISH RD	50	24	Concrete	328	1959	81.42
40034	SAMISH R	0007070A	FARM TO MARKET RD.	158	26	Concrete	963	1963	81.47
40052	TAYLOR RD at WALKER CK	08402000	TAYLOR ROAD	42	16	Concrete	64	1985	<b>81.81 (FO)</b>
40140	BAKER LK RD at E GRANDY	08424500	BAKER LAKE ROAD	41	28	Concrete	324	1968	82.79
40002	SWAN ROAD BRIDGE	08111100	SWAN ROAD	126	28	Concrete	879	1976	83.67
40046	LK CAVANAUGH RD at BEAR	08226300	LK CAVANAUGH ROAD	51	28.5	Concrete	522	1967	84.19
40017	PRAIRIE RD FRIDAY CK	08024500	PRAIRIE ROAD	78	28	Concrete	2047	1975	85.16
40032	Farm-To-Market	0003825C	FARM TO MARKET RD.	21	26	Concrete	1028	1950	85.66
40033	FARM-TO-MARKET	08631000	FARM TO MARKET RD	60	26	Concrete	1028	1950	85.66
40065	SUTTER CREEK BRIDGE	08832900	CONRAD ROAD	73	15.7	Concrete	50	2011	86.24
40027	BAYVIEW ED at SAMISH SL	08037700	BAYVIEW EDISON RD	38	26.8	Concrete	847	1965	86.27
40029	BAY VIEW EDISON	08240900	BAYVIEW EDISON RD	101	30	Concrete	475	1955	86.62
40126	TEX PIPELINE BRIDGE	08436600	MARCH POINT ROAD	44	28	Concrete	1313	1960	86.68
40061	MINKLER RD at WISEMAN CK	08177700	MINKLER ROAD	40	28	Concrete	945	1967	<b>86.72 (FO)</b>
40086	S SKAGIT HWY at MILL CR	08305200	SO SKAGIT HWY	41	28	Concrete	447	1969	<b>87.01 (FO)</b>
40157	BENSON RIDGE LN	08015200	BENSON RIDGE LANE	52	30	Timber	33	1983	87.15
40066	HAMILTON CEM at MUDDY CK	08128300	HAMILTON CEMETARY	50	26	Concrete	164	1965	87.72
40161	FLINN ROAD BRIDGE	08801300	Flinn Road	48	19.5	Concrete	15	2006	87.85
40016	SAMISH RIVER PRAIRIE RD	08451400	PRAIRIE ROAD	104	28	Concrete	1414	1975	88.38

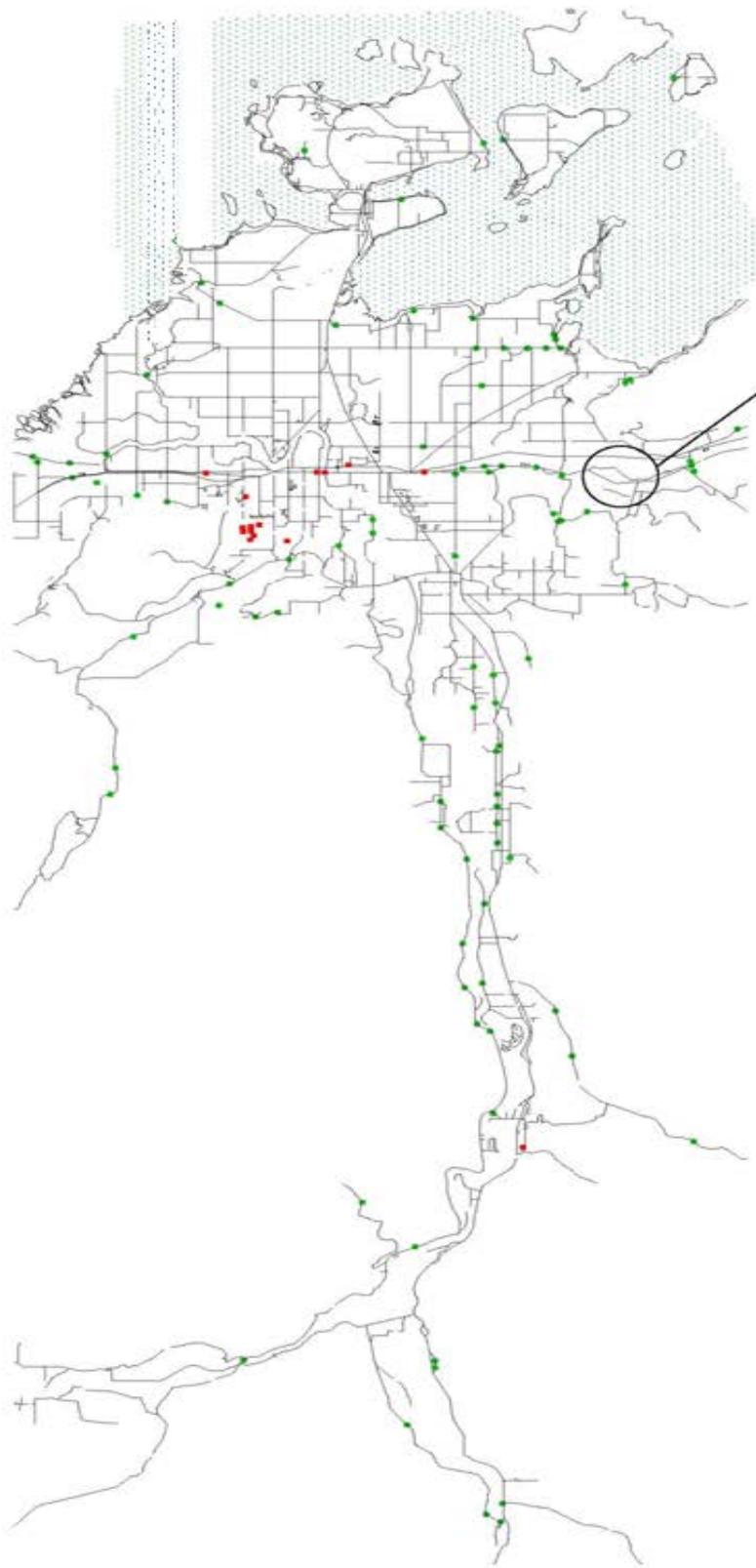
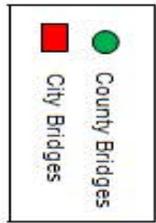
BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
40015	SAMISH R PRAIRIE ROAD	08018200	PRAIRIE ROAD	83	28	Concrete	1414	1974	88.54
40089	S SKAGIT HWY @ FINNEY CR	08165700	SOUTH SKAGIT HWY	120	26	Steel	524	1954	89.25
40035	BAY VIEW-EDISON (Indian)	08603000	BAYVIEW EDISON RD	71	34.1	Concrete	1069	1992	89.42
40062	BLACK SLOUGH BRIDGE	08169600	UTOPIA ROAD	141	28	Concrete	106	1984	<b>89.96 (FO)</b>
40067	CAPE HORN RD at ALDER CK	08234500	CAPE HORN ROAD	41	28	Concrete	186	1972	90.26
40117	SILVER CR. BRIDGE	08603100	ALGER CAIN LAKE RD	102	34.2	Concrete	4710	1992	90.31
40120	BAKER LK RD at GRANDY W	07985400	BAKER LAKE RD	61	28	Concrete	324	1968	90.75
40073	LOOKOUT CRK BRIDGE	08067900	CASCADE RIVER ROAD	191	28	Steel	120	1981	90.88
40074	CASCADE R RD at MARBLE	08083900	CASCADE RIVER RD	120	26	Concrete	120	1983	92.11
40041	E PETER JOHNSON RD	08079100	E PETER JOHNSON RD	54	24	Concrete	41	1981	92.62
40163	RED CREEK BRIDGE	08801200	Helmick Road	150	36	Concrete	609	2007	93.38
40012	BRICKYARD CREEK	08655400	COOK ROAD	54	44	Concrete	12462	2000	93.57
40005	Otter Pond Creek Culvert	08837400	Nookachamps Hills	30	0	Steel	150	2008	93.6
40045	PIONEER @ FISHER SL	0013135A	PIONEER HWY	114	37.2	Concrete	8383	1987	93.98
40009	SLOUGH BRIDGE	08655300	COOK ROAD	38	40	Concrete	12817	2000	94.14
40112	NEFFS CROSSING	08801100	OLD HWY 99	108	41	Concrete	4377	2006	94.35
40080	S SKAGIT HWY at PARKER	08630900	SO SKAGIT HWY	26	0	Concrete	1418	1996	94.36
40094	ROCKPORT CASC at ILLABOT	08467200	ROCKPORT CASCADE	93	28	Concrete	210	1970	94.63
40044	PIONEER @ BIG DITCH	0013135B	PIONEER HWY	81	37	Concrete	8383	1987	94.78
40129	LYMAN HAM at MUDDY CK	08631100	LYMAN-HAMILTON HWY	65	30	Concrete	201	1955	94.88
40068	CAPE HORN RD at GRANDY	08192000	CAPE HORN ROAD	51	28	Concrete	338	1967	95.34
40013	F&S GRADE SAMISH RIVER	08009600	F&S GRADE ROAD	102	28	Concrete	532	1974	95.4
40019	FRIDAY CREEK 2ND BR	08409300	FRIDAY CREEK ROAD	74	28	Concrete	178	1979	95.47
40030	THOMAS ROAD (Samish R)	08189000	THOMAS ROAD	91	28	Concrete	220	1973	96.16
40054	NOOKACHAMPS KNAPP RD	08306800	KNAPP ROAD	73	28	Concrete	357	1977	96.87
40092	CONC-SAUK VLY at MILLER	08655200	CONCRETE-SAUK VLY	25	0	Concrete	975	1999	97.16

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
40025	FRIDAY CREEK 8TH BR	08269100	FRIDAY CREEK ROAD	59	28	Concrete	178	1977	97.47
40014	SAMISH R GRIPP & PRAIRIE	07995800	GRIPP ROAD	84	28	Concrete	547	1976	97.48
40051	BEAVER LK RD at NOOKACHM	08256400	BEAVER LK RD 0511	73	28.6	Concrete	167	1977	97.62
40159	MINKLER RD at COAL CK	08191000	MINKLER ROAD 9350	29	36	Concrete	891	1984	97.79
40071	CASCADE RIVER BRIDGE	08213600	ROCKPORT CASCADE	180	26	Concrete	200	1967	97.91
40022	FRIDAY CREEK 5TH BR.	08395300	FRIDAY CREEK ROAD	69	28	Concrete	214	1977	98.11
40095	ROCKPORT CASC at JORDAN	08234400	ROCKPORT CASCADE	56	28	Concrete	198	1969	98.24
40048	LK CAVANAUGH RD CULVERT	08641500	LAKE CAVANAUGH RD	21	30	Steel	614	1998	98.83
40069	CONRAD RD at SWIFT	08403900	CONRAD ROAD	38	24	Concrete	91	1981	98.96
40164	S LAVENTURE RD	08856200	S LAVENTURE RD	80	50	Concrete	3500	2013	99.51
40162	MCELORY SLOUGH CULVERTS	08801400	Blanchard Rd.	28	26	Concrete	40	2007	99.99

### CITY BRIDGES

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
<b>CITY OF BURLINGTON</b>									
BURLINN-2	NORTH BURLINGTON BLVD	08641700	N BURLINGTON BLVD	26	34	Concrete	4119	1970	97.02
BURLINN-3	GOLDENROD BRIDGE	08814800	SOUTH GOLDENROD	116	40	Concrete	4338	2005	98.78
<b>TOWN OF CONCRETE</b>									
CONCRETE1	BAKER RIVER	08513500	OLD SR 20	269	18	Concrete	120	1916	<b>20.67 (FO)</b>
<b>CITY OF MOUNT VERNON</b>									
MV-12	LAVENTURE RD CULVERT	08848200	LAVENTURE ROAD	30	44	Concrete	4973	2010	99.53
000000001	RIVERSIDE BRIDGE	08725700	RIVERSIDE DRIVE	850	60	Concrete	35303	2004	89.63
000000002	Hoag Steward Overpass	08759300	Riverside Dr	60	65	Concrete	35303	2003	<b>86.21 (FO)</b>
000000003	Eleanor Lane A	08759400	Eleanor Lane	32	30	Concrete	300	2006	83.7
000000004	Skagit Highlands Parkway	08758900	Skagit Highlands P	37	0	Concrete	300	2003	96.96
000000005	Landmark Drive	08759600	Landmark Dr	51	28	Concrete	300	1994	97.22
000000006	Eaglemont Drive	08759000	Englemont Dr	20	0	Steel	300	1995	92.97
000000007	J off Beaver Pond Dr. S.	08759500	J Street	32	24	Aluminum	300	2006	81.05

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	ROADWAY	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
000000008	Beaver Pond Dr South	08759100	Beaver Pond Dr S	29	28	Concrete	300	2004	97.22
000000009	Beaver Pond Dr North B	08759200	Beaver Pond Dr N	54	28	Concrete	300	2002	97.22
000000010	Olympic Lane	08760000	Olympic Lane	67	22	Concrete	300	2004	80.96
000000011	Beaver Pond Dr North A	08759700	Beaver Pond Dr N	42	30	Concrete	300	2001	97.97



# Skagit County Bridge Locations

