



# SKAGIT COUNTY DEPARTMENT OF PUBLIC WORKS

## 2015 ANNUAL BRIDGE REPORT



*Baker River Bridge, Concrete, WA - Built in 1916*

**SUBMITTED APRIL 2016**

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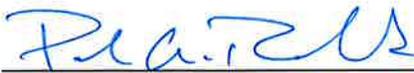
**SUBMITTED: APRIL 2016**

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 2015 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 2015 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:

- 48 routine inspections of Skagit County bridges
- 1 interim inspection of the Burlington Northern Overpass
- 15 routine inspections of local agency (City) bridges which 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.
- Currently, Skagit County has 7 structurally deficient bridges:
  - Burlington Northern 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
  - Bay View-Edison at Joe Leary sufficiency rating – 84.62
    - Deck – Rated Poor
- Currently, Skagit County has 15 Functionally Obsolete bridges – these are bridges that no longer meet the standard for either road users or waterway clearance.
  - Burlington Northern Overpass on Old Hwy 99 is scheduled for demolition in September and a new overpass will be erected in its place. The County has secured \$16 million of the \$19.2 million needed. Multiple avenues are being explored to cover the remaining \$3.2 million.
  - We received funds from the Bridge Replacement Advisory Committee to rehabilitate three of our bridges with poor deck ratings:
    - The Lower Finney Creek Bridge on South Skagit Highway is scheduled for deck rehab this summer, 2016.
    - Friday Creek Bridge on Old Hwy 99 is scheduled for deck rehab in 2017.
    - Samish River Bridge on Old Hwy 99 is scheduled for deck rehab in 2018.
  - The Hard Creek Bridge on Cascade River Road received funds from the Federal Lands Access Program to rebuild the bridge. Several landslides have severely damaged the bridge so construction will include some removal of the hillside and moving the bridge to the south which will increase vertical clearance underneath and reduce the amount of boulder strikes.

## BRIDGE INVENTORY

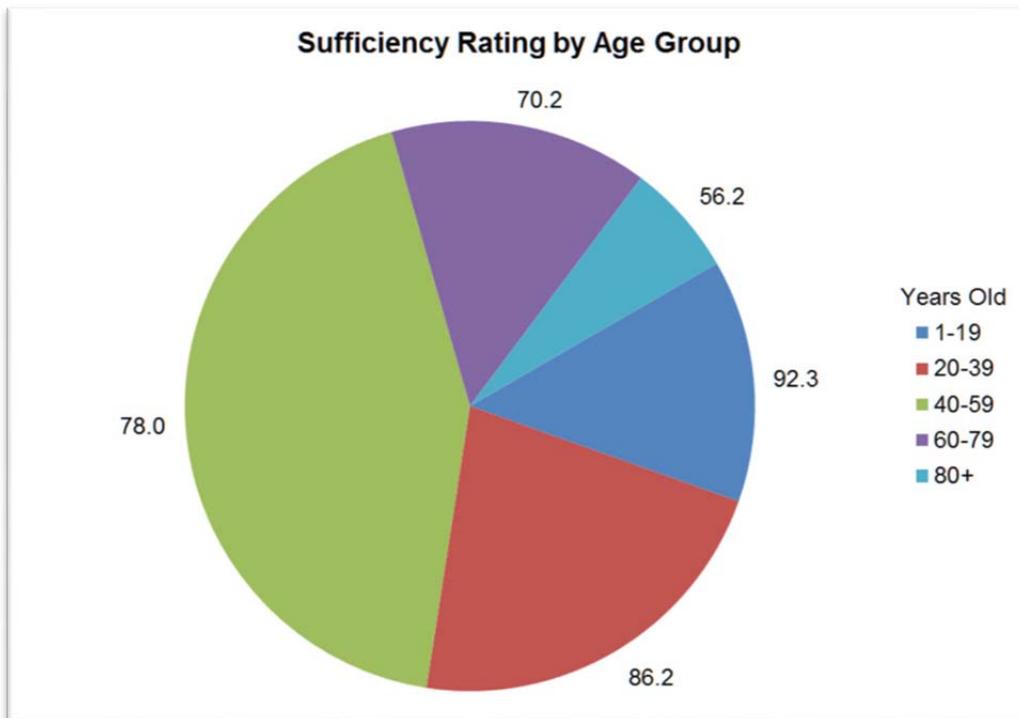
### Skagit County Road Bridges:

As of December 31, 2015, Skagit County has 109 bridges that are in the National Bridge Inventory and are required to inspect. The current inventory includes:

- 4 predominately made of timber
- 13 predominately made of steel
- 92 predominately made of concrete
- 11 of them are “High Cost Inspection” Bridges requiring a UBIT
- 6 of them are fracture critical bridges

To see a full listing of the Skagit County Bridge Inventory and their statistics, please refer to “Appendix A – Bridge Inventory”.

Skagit County has 46 bridges that are 40-59 years old, 18 are 60-79 years old and 8 are over 80 years old. The chart below shows the age distribution of our bridge inventory and the average sufficiency rating of that age category. Note the steady decline in the average sufficiency rating and the majority of bridges in the 40-59 range. Overall, we are pleased with the durability and longevity of our older concrete bridges.



### 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.

Skagit County did not have any high cost inspections in 2015 but there are 10 scheduled for 2016, including two specialty boat inspections for the Guemes Ferry Docks. (See “Appendix B – Routine & Special Inspection Schedule” for details on inspection frequencies and schedules for all of our UBIT and special bridge inspections).



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

#### **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:**

Short span bridges are defined as spans that are less than 20-feet long. They are not required to be reported to the National Bridge Inventory (NBI) and consequently they are not eligible for federal replacement funding. However, there still remains concern about their deterioration and performance just like any other critical infrastructure. Just recently, an update to the Washington State Bridge Inspection Manual was released and now provides guidance on defining short span bridges. Public Works staff will begin using this information to identify short spans throughout the County and incorporating them into the bridge inspection schedule.

#### **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 2015 the County provided inspection services on 15 bridges for local agencies.

#### **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 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 fracture critical status, like the County's other steel girder structures, overweight load permits are reviewed on a case by case basis. County staff (and at times contracted consultants) review 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 overweight load 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 64,000 LBS or 32 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. Efforts are being made to modify the bridge that will improve the load rating and better serve the logging industry beyond it.

### **Future Skagit County Bridges**

Hansen Creek Bridge Project - Located on Minkler Road, a new 70' long single span will replace two existing culverts that convey Hansen Creek. This is a stream channel restoration project that will also provide flood relief to nearby residents. The Engineering Division is the contract administrator for the Recreation Conservation Office funding received. Once the design is completed, Public Works will seek Salmon Recovery Funding Board money for construction.

Illabot Creek – This project is also being funded by the Salmon Recovery Funding Board which will consist of constructing two new bridges on Rockport Cascade Road in addition to the already existing crossing at Illabot Creek. The goal of the project is to restore natural processes of an alluvial fan setting rather than the straightened and steepened main channel that exists now. The bridge projects are on the Transportation Improvement Plan and are currently in design phase. Total project cost is estimated at over \$3 Million.

## INSPECTION PROGRAM, FINDINGS & 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. Bridges that show certain percentages of a failing area (deck, superstructure, substructure) are eligible for federal rehabilitation funding. Bridges with a SR less than 40 and are listed as Structurally Deficient (SD) were eligible for federal replacement funds. As of December 31, 2015 the County has only three bridges that meet these criteria including the Burlington Northern Overpass, which is planned for replacement.

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.

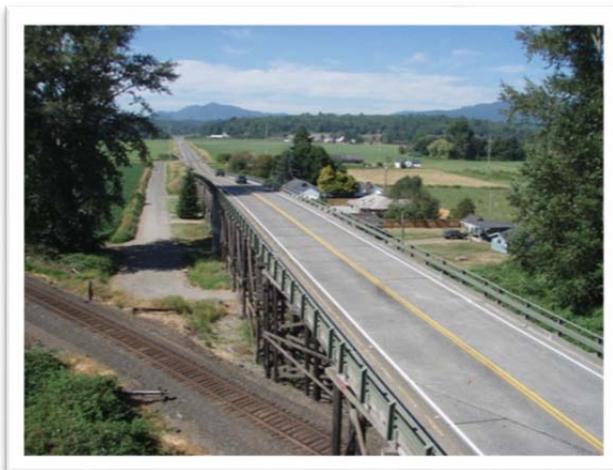
This report also points out projects that have been completed, those that are in the current Six Year TIP, and those bridges that are candidates for future replacement/rehabilitation.

## REPLACEMENT, & 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 have received or are 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, \$4-million from other sources, and active pursuing multiple avenues for additional funding.
  - Design is complete with a total project cost estimate of \$19-million. Construction is planned for this summer.



***Burlington Northern Overpass on Old Highway 99***

- 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
  - Construction is scheduled to begin in Spring of 2016



***Damage to Hard Creek Bridge after rockslide***



***Section loss on girder with exposed rebar***

## Rehabilitation

- 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.
  - Work is scheduled to begin in summer of 2018.
  
- 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.
  - Work is scheduled to begin in summer of 2017.
  
- Finney Creek Bridge on South Skagit Highway #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.
  - Work is scheduled to begin this summer of 2016.
  
- Upper Finney Creek Bridge on Finney Creek Road #40093
  - County Staff submitted a Federal Lands Access Application for funds to modify the bridge and increase its load carrying capacity. An increased load capacity could open the forest lands beyond it to logging trucks and heavy equipment loads.
  - The Program Decision Committee will make a final decision on the proposals by end of summer 2016.



***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 maintenance projects being worked on now include:

### Conveyance at Lyman Hamilton Highway at Childs Creek:

County staff is pursuing short term and longer term solutions to sediment aggradation at the Lyman Hamilton Highway bridge over Childs Creek. In the short term, the County is seeking permits for in-stream sediment removals to improve conveyance and reduce flood risk to properties impacted by backwatering. For a long term solution, the County is pursuing the acquisition of land adjacent to Childs Creek that could serve as a future sediment management site.

The County completed 100 cubic yards of sediment removal during the 2014 and 2015 allowable work windows. As mitigation, the County completed a Type, Size, and Location study to determine the costs of bridge replacement. These values ranged from \$2.6 million to \$2.9 million. The County also completed an alternatives analysis and conceptual design of the proposed sediment management project.



*Lyman Hamilton Highway at Childs Creek*



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

### Burlington Northern Overpass Inspection:

Interim and repair inspections are made every 6 months or sooner to check the temporary shoring and the repaired pier caps, ensuring the safety of the users. Most recently in 2014, under the direction of our contracted bridge engineer, David Shearer, a high strength epoxy application was injected into the pier caps under the mainspan to strengthen the timber and prevent further rotting and crushing from occurring. A recent 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 performs various minor repairs and maintenance throughout the year.

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 signage

2014 and 2015 have been a productive period for our bridge crew in regards to maintenance and deserve a lot of credit for the continued longevity and high sufficiency ratings of our bridges. Please refer to "Appendix C – Bridge Maintenance List" for a full listing of outstanding and recently completed repairs.

## 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.

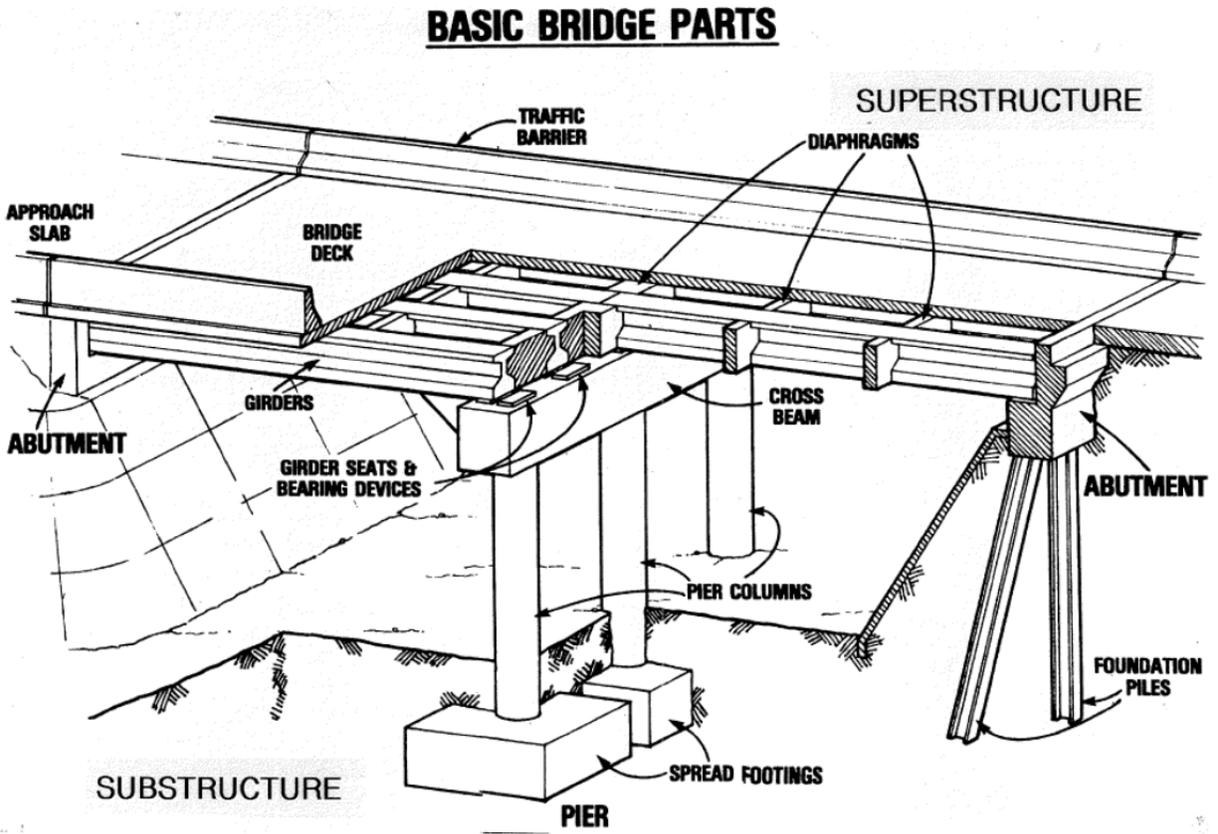
**Tension**—type of stress involving an action which pulls apart.

**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.

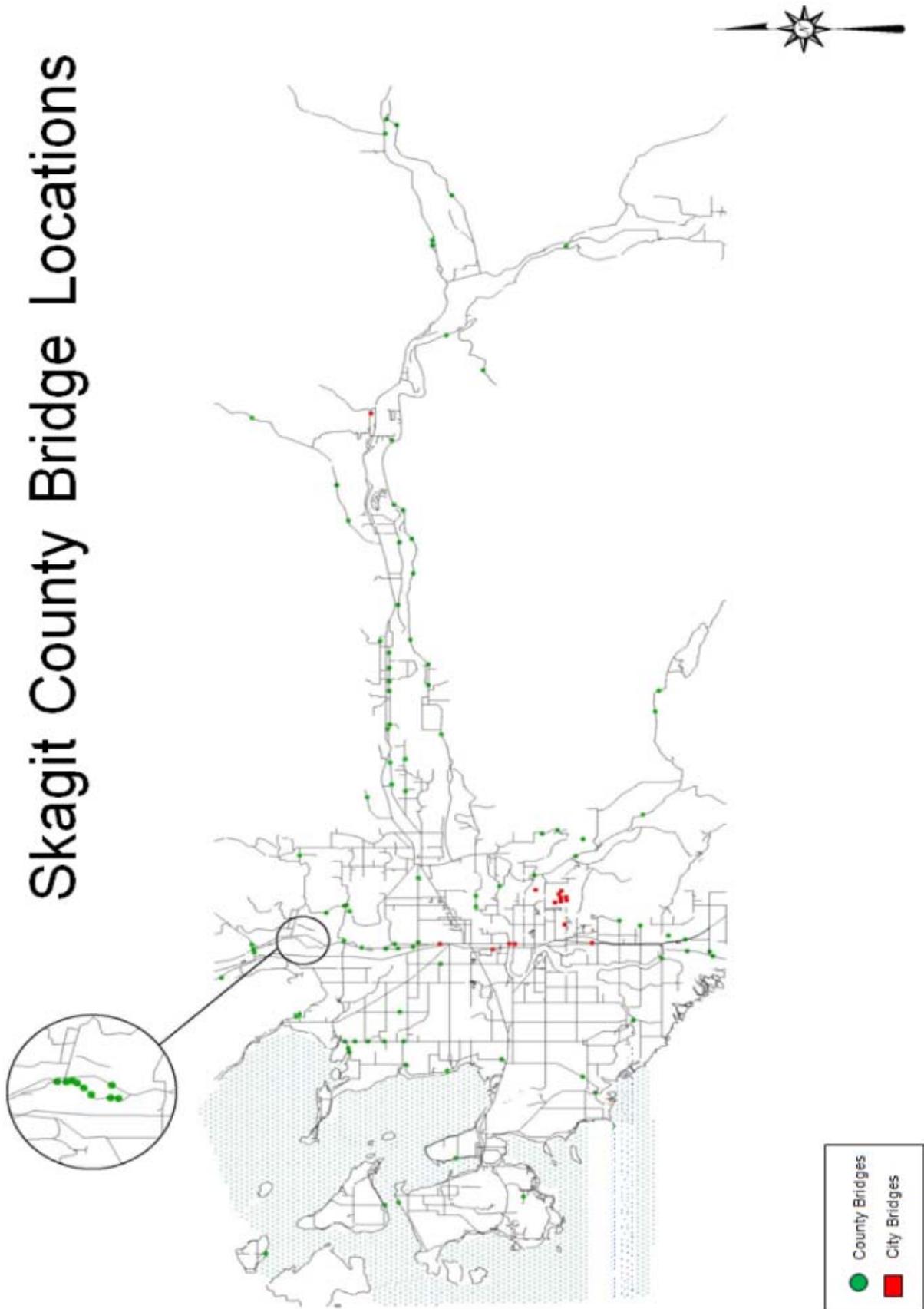
**Wheelrail**—a timber curb fastened directly to the deck, most commonly found on all-timber bridges.

**Wingwall**—walls that slant outward from the corners of the overall bridge that support roadway fill of the approach.

## ELEMENTS OF A BRIDGE



# Skagit County Bridge Locations



## APPENDIX A - BRIDGE INVENTORY

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT / REBUILT	SUFFICIENCY RATING
40111	BURL NORTHERN OVERPASS	08252700	1182	24	Timber	5700	1936	3 (SD)
40153	GUEMES ISLAND FERRY DOCK	08152100	165	15	Steel	600	1981	22.86 (SD)
40152	ANACORTES FERRY DOCK	08151100	205	15	Steel	649	1976	22.86 (SD)
40093	UPPER FINNEY CREEK BR.	08050200	217	14.9	Concrete	30	1952	48.42 (FO)
40070	SKAGIT RIVER MARBLEMOUNT	08228800	662	20	Steel	585	1930	55.65 (FO)
40142	CAMPBELL LAKE OUTLET	08153100	19	20	Concrete	78	1962	56
40039	RAINBOW BRIDGE	08484500	797	24	Steel	4967	1957	56.42 (FO)
40037	NORTH FORK BRIDGE	08119200	726	24	Steel	4645	1959	57.08 (FO)
40063	LYMAN HWY at CHILDS CK	08241500	32	24	Concrete	557	1948	57.88
40031	PULVER ROAD at JOE LEARY	08336400	39	24	Concrete	836	1955	58.86
40156	CEDARDALE RD at CARPENTR	08398500	83	36	Timber	533	1934	60.65
40115	FRIDAY CREEK BRIDGE	08425500	122	26	Concrete	2593	1956	60.88 (SD)
40018	FRIDAY CREEK 1ST BRIDGE	08409700	61	20	Concrete	134	1962	60.92
40131	LYMAN HWY at MANNSEK CK	08209200	52	26	Concrete	323	1954	61.81
40055	PRAIRIE RD E at SAMISH R	08342200	75	24.4	Concrete	844	1956	61.88
40021	FRIDAY CREEK 4TH BRIDGE	08408200	61	20	Concrete	134	1961	61.92
40020	FRIDAY CREEK 3RD BRIDGE	08408400	61	20	Concrete	134	1961	61.92
40114	SAMISH RIVER BRIDGE	08050100	385	24	Steel	3894	1934	63.18 (SD)
40001	LAKE VIEW BLVD at NCHMPS	08331000	77	25.5	Concrete	643	1954	63.89
40151	NICHOLSON RD	08229200	29	15	Concrete	33	1979	64.23
40113	OLD HWY 99 at THOMAS CK	08239200	52	30	Timber	4976	1934	65.08 (SD)
40090	DALLES BRIDGE	08203000	506	26	Steel	2365	1952	65.73 (FO)
40084	S SKAGIT HWY at O'TOOLE	08291000	66	24	Concrete	524	1959	66.09
40042	MILLTOWN at BIG DITCH	08415700	50	24.2	Concrete	327	1957	67
40060	BURMASTER ROAD	08204900	26	24	Concrete	265	1958	67.37
40008	SOUTH FORK BRIDGE	08236400	908	28	Steel	4385	1972	67.96
40004	FRANCIS RD at SLOUGH	08004200	50	24	Concrete	3970	1958	68.4 (FO)
40072	CASCADE R RD at MONOGRAM	08068500	22	26	Concrete	135	1979	69.37
40099	GOVERNMENT BR	08414100	304	14	Steel	135	1930	69.37 (FO)
40130	LYMAN HWY at RED CABIN	08191100	22	26	Concrete	274	1954	69.47
40132	LYMAN HWY at JONES CK	08224100	52	26	Concrete	274	1955	70.47
40047	LK CAVANAUGH at PILCHUCK	08226900	56	28	Concrete	522	1970	70.89
40082	S SKAGIT HWY at LORETTA	08304400	85	24	Concrete	962	1961	71.43
40024	FRIDAY CREEK 7TH BRIDGE	08269300	61	24	Concrete	170	1964	71.92
40023	FRIDAY CREEK 6TH BRIDGE	08270100	61	24	Concrete	170	1963	71.92
40077	CASCADE R RD at MINERAL	08053900	71	18	Concrete	120	1986	72.97 (FO)
40109	LAKE SAMISH RD at FRIDAY	08058200	53	26	Concrete	4925	1965	73.86 (FO)
40101	BAKER LK RD at BEAR CK	08116400	85	26	Concrete	289	1966	74.07
40076	HARD CREEK BRIDGE	08631300	46	20.7	Concrete	92	1997	75.17
40116	OLD HWY 99 at SILVER CK	08069100	38	25	Concrete	1862	1934	76.79
40038	LACONNER WHITNEY at SL	08417000	68	26	Concrete	5084	1962	77.01 (FO)
40075	CASCADE R RD at SIBLEY	08631200	23	24	Concrete	120	1997	77.13
40003	FRANCIS at NOOKACHAMPS	08019100	130	28	Concrete	3970	1979	77.16
40011	GREEN RD at THOMAS CK	08220400	51	24	Concrete	100	1958	77.21
40081	S SKAGIT HWY at DAY CR	08385100	160	24	Concrete	962	1961	78.17
40036	FARM-TO-MARKET JOE LEARY	0003825A	72	26	Concrete	1760	1950	78.39

## APPENDIX A - BRIDGE INVENTORY

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT / REBUILT	SUFFICIENCY RATING
40028	BAYVIEW ED at SAMISH R	08037600	223	26	Concrete	970	1965	79.28
40043	CONWAY HILL at CARPENTER	08265500	58	14	Concrete	61	1980	79.78
40083	S SKAGIT HWY at CUMBERLA	08316700	50	24	Concrete	524	1961	80.48
40141	BAYVIEW STATE PARK	08410000	62	26	Concrete	707	1969	80.72 (FO)
40088	S SKAGIT HWY at PRESSENTN	08165500	85	27	Concrete	524	1966	80.97
40026	FARM-TO-MARKET N DITCH	0003939B	32	26	Concrete	1206	1951	80.99
40106	LAKE SAMISH at BEAR CK	07971600	50	24	Concrete	328	1959	81.42
40052	TAYLOR RD at WALKER CK	08402000	42	16	Concrete	64	1985	81.81 (FO)
40034	FARM-TO-MARKET SAMISH R	0007070A	158	26	Concrete	963	1963	82.47
40140	BAKER LK RD at E GRANDY	08424500	41	28	Concrete	324	1968	82.79
40002	SWAN ROAD BRIDGE	08111100	126	28	Concrete	879	1976	83.67
40046	LK CAVANAUGH RD at BEAR	08226300	51	28.5	Concrete	522	1967	84.19
40029	BAY VIEW-EDISON J.LEARY	08240900	101	30	Concrete	475	1955	84.62 (SD)
40017	PRAIRIE RD FRIDAY CK	08024500	78	28	Concrete	2047	1975	85.16
40032	FARM-TO-MARKET S DITCH	0003825C	21	26	Concrete	1028	1950	85.66
40033	FARM-TO-MARKET at NEUMAN	08631000	60	26	Concrete	1028	1950	85.66
40065	CONRAD RD at SUTTER CK	08832900	73	15.7	Concrete	91	2011	86.23
40027	BAYVIEW ED at SAMISH SL	08037700	38	26.8	Concrete	847	1965	86.27
40126	MARCHS POINT PIPELINE	08436600	44	28	Concrete	1313	1960	86.68
40061	MINKLER RD at WISEMAN CK	08177700	40	28	Concrete	945	1967	86.72 (FO)
40086	S SKAGIT HWY at MILL CR	08305200	41	28	Concrete	447	1969	87.01 (FO)
40157	BENSON RIDGE LN	08015200	52	30	Timber	33	1983	87.15
40066	HAMILTON CEM at MUDDY CK	08128300	50	26	Concrete	145	1965	87.72
40161	FLINN ROAD BRIDGE	08801300	48	19.5	Concrete	15	2006	87.85
40016	PRAIRIE RD W at SAMISH R	08451400	104	28	Concrete	1414	1975	88.38
40015	PRAIRIE RD S at SAMISH R	08018200	83	28	Concrete	1414	1974	88.54
40089	S SKAGIT HWY at FINNEY CR	08165700	120	26	Steel	524	1954	89.25
40035	BAY VIEW-EDISON (Indian)	08603000	71	34.1	Concrete	1069	1992	89.42
40062	UTOPIA RD at BLACK SL	08169600	141	28	Concrete	89	1984	90.13
40067	CAPE HORN RD at ALDER CK	08234500	41	28	Concrete	186	1972	90.26
40117	ALGER CAIN LK at SILVER	08603100	102	34.2	Concrete	4710	1992	90.31
40120	BAKER LK RD at GRANDY W	07985400	61	28	Concrete	324	1968	90.75
40073	LOOKOUT CRK BRIDGE	08067900	191	28	Steel	120	1981	90.88
40074	CASCADE R RD at MARBLE	08083900	120	26	Concrete	120	1983	92.11
40041	E PETER JOHNSON RD	08079100	54	24	Concrete	58	1981	92.46
40005	NOOKACHAMPS HILL CULVERT	08837400	30	0	Steel Culvert	220	2008	92.95
40163	HELMICK RD at RED CK	08801200	150	36	Concrete	609	2007	93.38
40045	PIONEER at FISHER SL	0013135A	114	37.2	Concrete	8383	1987	93.98
40009	COOK RD at DD14 DITCH	08655300	38	40	Concrete	12296	2000	94.33
40112	NEFFS CROSSING	08801100	108	41	Concrete	4377	2006	94.35
40080	S SKAGIT HWY at PARKER	08630900	26	0	Concrete	1418	1996	94.36
40012	COOK RD at BRICKYARD CK	08655400	54	44	Concrete	10863	2000	94.4
40094	ROCKPORT CASC at ILLABOT	08467200	93	28	Concrete	210	1970	94.63
40044	PIONEER at BIG DITCH	0013135B	81	37	Concrete	8383	1987	94.78
40129	LYMAN HAM at MUDDY CK	08631100	65	30	Concrete	201	1997	94.88
40068	CAPE HORN RD at GRANDY	08192000	51	28	Concrete	338	1967	95.34

## APPENDIX A - BRIDGE INVENTORY

BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT / REBUILT	SUFFICIENCY RATING
40013	F&S GRADE SAMISH RIVER	08009600	102	28	Concrete	532	1974	95.4
40030	THOMAS RD at SAMISH R	08189000	91	28	Concrete	220	1973	96.16
40071	CASCADE RIVER BRIDGE	08213600	180	26	Concrete	241	1967	96.84
40054	KNAPP RD at NOOKACHAMPS	08306800	73	28	Concrete	340	1977	96.88
40092	CONC-SAUK VLY at MILLER	08655200	25	0	Concrete	975	1999	97.16
40025	FRIDAY CREEK 8TH BRIDGE	08269100	59	28	Concrete	170	1977	97.48
40014	GRIPP RD at SAMISH R	07995800	84	28	Concrete	547	1976	97.48
40019	FRIDAY CREEK 2ND BRIDGE	08409300	74	28	Concrete	134	1979	97.5
40051	BEAVER LK RD at NOOKACHM	08256400	73	28.6	Concrete	167	1977	97.62
40085	S SKAGIT HWY at DAVIS SL	08873900	63	34.9	Concrete	524	2014	97.71
40159	MINKLER RD at COAL CK	08191000	29	36	Concrete	891	1984	97.79
40095	ROCKPORT CASC at JORDAN	08234400	56	28	Concrete	198	1969	98.24
40048	LK CAVANAUGH RD CULVERT	08641500	21	30	Steel Culvert	614	1998	98.83
40069	CONRAD RD at SWIFT	08403900	38	24	Concrete	91	1981	98.96
40022	FRIDAY CREEK 5TH BRIDGE	08395300	69	28	Concrete	134	1977	99.15
40164	S LAVENTURE RD	08856200	80	50	Concrete	3500	2013	99.51
40162	MCELROY SLOUGH CULVERTS	08801400	28	26	Concrete	40	2007	99.99
<b>LOCAL AGENCY BRIDGES</b>								
BRIDGE NUMBER	BRIDGE NAME	STRUCTURE ID	BRIDGE LENGTH	BRIDGE WIDTH	MAIN MATERIAL	AVERAGE DAILY TRAFFIC	YEAR BUILT	SUFFICIENCY RATING
<b>CITY OF MOUNT VERNON</b>								
00000010	Olympic Lane	08760000	67	22	Concrete	300	2004	80.96
00000003	Eleanor Lane A	08759400	32	30	Concrete	400	2006	82.69
00000002	Hoag Steward Overpass	08759300	60	65	Concrete	21172	2003	89.73 (FO)
00000006	Eaglemont Drive	08759000	20	0	Steel Culvert	300	1995	92.97
00000001	RIVERSIDE BRIDGE	08725700	850	60	Concrete	21172	2004	92.98
00000007	J off Beaver Pond Dr. S.	08759500	32	24	Steel Culvert	50	2006	94.53
00000004	Skagit Highlands Parkway	08758900	37	0	Concrete	400	2003	96.94
00000008	Beaver Pond Dr South	08759100	29	28	Concrete	300	2004	97.22
00000009	Beaver Pond Dr North B	08759200	54	28	Concrete	300	2002	97.22
00000005	Landmark Drive	08759600	51	28	Concrete	300	1994	97.22
00000011	Beaver Pond Dr North A	08759700	42	30	Concrete	300	2001	97.97
MV-12	LAVENTURE RD CULVERT	08848200	30	44	Concrete	4973	2010	99.53
<b>CITY OF BURLINGTON</b>								
BURLINN-2	NORTH BURLINGTON BLVD	08641700	26	34	Concrete	4119	1970	97.02
BURLINN-3	GOLDENROD BRIDGE	08814800	116	40	Concrete	4338	2005	98.78
<b>TOWN OF CONCRETE</b>								
CONCRETE1	BAKER RIVER	08513500	269	18	Concrete	125	1916	20.67 (FO)

APPENDIX B - BRIDGE INSPECTION SCHEDULE

BRIDGE NAME	BRIDGE No.	LOCATION	LAST INSP	INSP FREQ	PROPOSED INSP	INSPECTION TYPE
PULVER ROAD @ JOE LEARY	40031	.6 S JCT SR 11	1/3/14	24	January-16	ROUTINE
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	7/13/15	6	January-16	INTERIM
SAMISH RIVER BRIDGE	40114	2.6 N JCT COOK RD.	3/17/14	24	March-16	FRACTURE CRITICAL
GOVERNMENT BR	40099	7.5 N SNO CO BDY	3/17/14	24	March-16	FRACTURE CRITICAL
SOUTH FORK BRIDGE	40008	1. W JCT INTER 5	3/18/14	24	March-16	ROUTINE - UBIT
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	FRACTURE CRITICAL
SKAGIT RIVER MARBLEMOUNT	40070	.03 E JCT SR 20	3/25/14	24	March-16	FRACTURE CRITICAL
UPPER FINNEY CREEK BR.	40093	04.6 W CONC SAUK RD	4/2/14	24	April-16	ROUTINE
LOOKOUT CRK BRIDGE	40073	7.04 E JCT SR 20	4/2/14	24	April-16	ROUTINE - UBIT
RAINBOW BRIDGE	40039	SWIN SL @ LACONNER	4/22/14	24	April-16	FRACTURE CRITICAL
MINKLER RD at COAL CK	40159	00.1 MI E SIMS ROAD	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 WISEMAN CK	40061	.5 W JCT SR 20	5/7/14	24	May-16	ROUTINE
BURMASTER ROAD	40060	1.2 E JCT MINKLER	5/7/14	24	May-16	ROUTINE
LYMAN HWY at JONES CK	40132	2.3 W HAMILTON	5/21/14	24	May-16	ROUTINE
LYMAN HWY at MANNSEK CK	40131	1.7 W HAMILTON	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 CHILDS CK	40063	0.8 E JCT SR 20	5/21/14	24	May-16	ROUTINE
CAPE HORN RD at GRANDY	40068	2.25 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
LYMAN HAM at MUDDY CK	40129	0.3 M W HAMILTON	5/28/14	24	May-16	ROUTINE
HAMILTON CEM at MUDDY CK	40066	.5 W JCT SR 20	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 MINERAL	40077	16.02 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 MARBLE	40074	8.3 E JCT SR 20	6/4/14	24	June-16	ROUTINE
BAYVIEW ED at SAMISH R	40028	0.5 W JCT SR 537	6/11/14	24	June-16	ROUTINE
BAYVIEW ED at SAMISH SL	40027	0.4 W JCT SR 537	6/11/14	24	June-16	ROUTINE
CONC-SAUK VLY at MILLER	40092	MP 9.0	6/25/14	24	June-16	ROUTINE
CONRAD RD at SWIFT	40069	0.2 E JCT SR 20	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
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	1/1/16	6	July-16	INTERIM
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 at PILCHUCK	40047	8.7 E JCT SR 9	7/11/14	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 RD CULVERT	40048	MP 0.96 LK CAVANAUGH RD	7/11/14	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 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 at O'TOOLE	40084	15. E JCT SR 9	7/16/14	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 DAY CR	40081	9. E JCT SR 9	7/23/14	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 CUMBERLA	40083	11.5 E JCT SR 9	7/23/14	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
PIONEER @ FISHER SL	40045	1.5 EAST JCT. SR 5	7/31/14	24	July-16	ROUTINE
MILLTOWN @ BIG DITCH	40042	.02 E JCT SR 530	7/31/14	24	July-16	ROUTINE
SWAN ROAD BRIDGE	40002	NOOKACHAMPS	8/8/14	24	August-16	ROUTINE
FRANCIS RD at SLOUGH	40004	2.0 W JCT SR9	8/8/14	24	August-16	ROUTINE
FRANCIS at NOOKACHAMPS	40003	2.8 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

APPENDIX B - BRIDGE INSPECTION SCHEDULE

BRIDGE NAME	BRIDGE No.	LOCATION	LAST INSP	INSP FREQ	PROPOSED INSP	INSPECTION TYPE
CEDARDALE RD at CARPENTR	40156	0.75 S JCT SR534	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
LAVENTURE RD CULVERT	MV-12	NORTH OF BLACKBURN	9/17/14	24	September-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
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	10/21/14	24	October-16	FRACTURE CRITICAL
ANACORTES FERRY DOCK	40152	ANACORTES	10/21/14	24	October-16	SPECIAL (Boat)
FRIDAY CREEK 1ST BRIDGE	40018	.45 MI N OLD HWY 99 N	5/6/15	24	May-17	ROUTINE
FRIDAY CREEK 4TH BRIDGE	40021	.4 N JCT BURL ALG	5/6/15	24	May-17	ROUTINE
FRIDAY CREEK 3RD BRIDGE	40020	0.3 N. of JCT w/ Old 99	5/6/15	24	May-17	ROUTINE
FRIDAY CREEK 2ND BRIDGE	40019	0.59 Miles N. of Old 99	5/6/15	24	May-17	ROUTINE
FRIDAY CREEK 7TH BRIDGE	40024	2.16 MI N JCT OLD 99 N	5/13/15	24	May-17	ROUTINE
FRIDAY CREEK 8TH BRIDGE	40025	2.24 MI N JCT OLD 99 N	5/13/15	24	May-17	ROUTINE
FRIDAY CREEK 5TH BRIDGE	40022	1.55 Mi N of Old 99 Jct	5/13/15	24	May-17	ROUTINE
FRIDAY CREEK 6TH BRIDGE	40023	.6 N JCT BURL ALG	5/13/15	24	May-17	ROUTINE
OLD HWY 99 at SILVER CK	40116	0.1 Mi South of Alger	5/20/15	24	May-17	ROUTINE
LAKE SAMISH at BEAR CK	40106	2.0 MI NW JCT I-5	5/20/15	24	May-17	ROUTINE
ALGER CAIN LK at SILVER	40117	0.3 MI East of Alger	5/20/15	24	May-17	ROUTINE
LAKE SAMISH RD at FRIDAY	40109	0.25 E JCT INTER 5	5/20/15	24	May-17	ROUTINE
FRIDAY CREEK BRIDGE	40115	4.3 N JCT COOK RD.	5/28/15	24	May-17	ROUTINE
HARD CREEK BRIDGE	40076	MP 12.7	5/28/15	24	May-17	ROUTINE
CASCADE RIVER BRIDGE	40071	.04 S JCT CASC.RD	6/3/15	24	June-17	ROUTINE
S SKAGIT HWY at DAVIS SL	40085	13.9 MI E OF SR-9 JCT	6/3/15	24	June-17	ROUTINE
FARM-TO-MARKET N DITCH	40026	7.7 N JCT SR 20	6/9/15	24	June-17	ROUTINE
FARM-TO-MARKET at NEUMAN	40033	6.1 N JCT SR20	6/10/15	24	June-17	ROUTINE
FARM-TO-MARKET S DITCH	40032	7.5 N JCT SR 20	6/10/15	24	June-17	ROUTINE
FARM-TO-MARKET SAMISH R	40034	5.9 N JCT SR 20	6/10/15	24	June-17	ROUTINE
FLINN ROAD BRIDGE	40161	300 Ft E Blanchard Rd	6/17/15	24	June-17	ROUTINE
MCELROY SLOUGH CULVERTS	40162	MP 2.5 BLANCHARD RD	6/17/15	24	June-17	ROUTINE
THOMAS RD at SAMISH R	40030	0.3 N ALLEN WEST	6/17/15	24	June-17	ROUTINE
FARM-TO-MARKET JOE LEARY	40036	5.0 N JCT SR 20	6/17/15	24	June-17	ROUTINE
BAY VIEW-EDISON (Indian)	40035	0.4 MI N OF SR20	7/8/15	24	July-17	ROUTINE
BAYVIEW STATE PARK	40141	3.5 N JCT SR 20	7/8/15	24	July-17	ROUTINE
BAY VIEW-EDISON J.LEARY	40029	5.8 MI N of SR-20 JCT	7/8/15	24	July-17	ROUTINE
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	7/13/15	24	July-17	ROUTINE
CONRAD RD at SUTTER CK	40065	0.59 E JCT SR20	7/22/15	24	July-17	ROUTINE
HELMICK RD at RED CK	40163	1.1 MI N of SR 20	7/22/15	24	July-17	ROUTINE
UTOPIA RD at BLACK SL	40062	Utopia Rd 0.5 E of Hoehn	7/22/15	24	July-17	ROUTINE
KNAPP RD at NOOKACHAMPS	40054	0.1 E JCT SR 9	8/5/15	24	August-17	ROUTINE
LAKE VIEW BLVD at NCHMPS	40001	.25 S JCT SR9	8/5/15	24	August-17	ROUTINE
NOOKACHAMPS HILL CULVERT	40005	.752 ml east of SR 9	8/5/15	24	August-17	ROUTINE
COOK RD at DD14 DITCH	40009	0.5 E JUNCTION INTER 5	8/12/15	24	August-17	ROUTINE
OLD HWY 99 at THOMAS CK	40113	1.4 N JCT COOK RD.	8/12/15	24	August-17	ROUTINE
NEFFS CROSSING	40112	1.0 N JCT COOK RD.	8/12/15	24	August-17	ROUTINE
COOK RD at BRICKYARD CK	40012	MP 5.38 COOK RD	8/12/15	24	August-17	ROUTINE
RIVERSIDE BRIDGE	000000001	0.7 N JCT SR 538	8/26/15	24	August-17	ROUTINE - UBIT
BAKER RIVER	CONCRETE1	0.1 N MAIN ST	8/26/15	24	August-17	ROUTING - UBIT
MARCHS POINT PIPELINE	40126	1.6 N JCT SR 20	9/3/15	24	September-17	ROUTINE
LACONNER WHITNEY at SL	40038	3.83 S JCT SR 20	9/3/15	24	September-17	ROUTINE
CAMPBELL LAKE OUTLET	40142	.39 miles W of SR 20	9/3/15	24	September-17	ROUTINE
F&S GRADE SAMISH RIVER	40013	0.14 Mi S of PRAIRIE RD	9/9/15	24	September-17	ROUTINE
PRAIRIE RD FRIDAY CK	40017	0.17 Mi E of OLD HWY 99	9/9/15	24	September-17	ROUTINE
PRAIRIE RD E at SAMISH R	40055	0.5 Mi W of SR 9	9/9/15	24	September-17	ROUTINE
GRIPP RD at SAMISH R	40014	0.1 Mi E of Prairie Rd	9/23/15	24	September-17	ROUTINE

APPENDIX B - BRIDGE INSPECTION SCHEDULE

BRIDGE NAME	BRIDGE No.	LOCATION	LAST INSP	INSP FREQ	PROPOSED INSP	INSPECTION TYPE
PRAIRIE RD W at SAMISH R	40016	3.8 Mi E of Old Hwy 99	9/23/15	24	September-17	ROUTINE
GOLDENROD BRIDGE	BURLINN-3	.3 N. of W. MCCORQUEDALE	9/23/15	24	September-17	ROUTINE
PRAIRIE RD S at SAMISH R	40015	2.21 Mi E of Old Hwy 99	9/23/15	24	September-17	ROUTINE
NORTH BURLINGTON BLVD	BURLINN-2	1.02 MI SO OF COOK RD	9/23/15	24	September-17	ROUTINE
E PETER JOHNSON RD	40041	1.0 Miles E. of Cedardale	9/30/15	24	September-17	ROUTINE
Skagit Highlands Parkway	000000004	0.4 N Jct. E Division St.	10/7/15	24	October-17	ROUTINE
S LAVENTURE RD	40164	0.5 Miles East of I-5	10/7/15	24	October-17	ROUTINE
Hoag Steward Overpass	000000002	Riverside Dr Jct. Hoag St	10/7/15	24	October-17	ROUTINE
Eleanor Lane A	000000003	0.1 E Jct Old Highway 99	10/7/15	24	October-17	ROUTINE
Beaver Pond Dr North B	000000009	0.4 N Jct. Englemont Dr	10/14/15	24	October-17	ROUTINE
Olympic Lane	000000010	Off Beaver Pond Dr North	10/14/15	24	October-17	ROUTINE
Landmark Drive	000000005	Off S Waugh Rd	10/14/15	24	October-17	ROUTINE
Beaver Pond Dr South	000000008	0.5 N Jct. Englemont Dr	10/14/15	24	October-17	ROUTINE
Beaver Pond Dr North A	000000011	0.2 N Jct. Englemont Dr	10/14/15	24	October-17	ROUTINE
J off Beaver Pond Dr. S.	000000007	Off Beaver Pond Dr. S.	10/14/15	24	October-17	ROUTINE

**APPENDIX C - BRIDGE REPAIRS LIST**

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED	
ALGER CAIN LK at SILVER	40117	0.3 MI East of Alger	2	Remove small trees underneath and around bridge.		
			3	Repair 3 guardrail sections damaged from impact		
			3	Patch eastern approach settlement.		
			3	Remove BST overspray at end of bridge		
ANACORTES FERRY DOCK	40152	ANACORTES	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.		
			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.		
			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.		
			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, ringer 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 ver		21-Nov-14
BAKER LK RD at BEAR CK	40101	9.5 NE JCT SR 20	2	Concrete deck: Sweep deck and clean drains.		
			3	Large tree fallen upstream across channel...monitor for channel movement and backup		02-Jul-14
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"		02-Jul-14
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.		02-Jul-14
BAKER RIVER	CONCRETE1	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		
BAY VIEW-EDISON (Indian)	40035	0.4 MI N OF SR20	3	brush and patch exposed rebar and spalls in girders		
BAY VIEW-EDISON J.LEARY	40029	5.8 MI N of SR-20 JCT	1	brush and patch exposed rebar in deck	06-Jul-15	
			1	Repair drainage structure in southwest corner.		
			1	Vegetation: Remove vegetation from around the ends of the bridge		
			3	Plugged drains		
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.		
BAYVIEW ED at SAMISH SL	40027	0.4 W JCT SR 537	2	Repair - paint posts	11-Jun-14	
			2	Sweep Deck		
			2	Repair - clean drains		
BAYVIEW STATE PARK	40141	3.5 N JCT SR 20	2	Paint bridge rails and posts.		
			3	Repair: Patch cracks in ends of beams.		
			M	Rails: upgrade to meet current standards.		
BEAVER LK RD at NOOKACHM	40051	3.0 SE JCT SR 9	2	Settlement at western approach. AC level		
			2	Patch exposed rebar on deck.		
			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	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.		
			3	Impact damage on guardrail, NW end.		
BURL NORTHERN OVERPASS	40111	0.2 North of Jct w/ Cook	1	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		
			1	Replace rotted or broken sway braces and tighten nuts/bolts.  -Bent #07 Loose middle bolt & nut on pile 2 and pile 3. -Bent #08 Missing nut on lowest way brace. -Bent #11 on pile 4 missing nut on sway brace. -Bent #30 RED tagged the upper sway brace bet		
			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		
			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	Check and re-shim Bent #53, appears to have loosened. also re-attach compression brace on outside (east) pile.		30-Jan-14
			1	Bent #61, compression brace has pulled away from the northwest pile and needs to be re-attached.		
			2	Bridge Rail has been impacted at various areas of the bridge. Straighten and repair where needed		
			M	Bent #55 - Monitor migrating shim on SW pile, out 8/10"		30-Jan-14
			M	Monitor shims on temporary shoring - slight movement when struck: Bent #61 - NW pile, Bent #67 east pile.		
			BURMASTER ROAD	40060		1.2 E JCT MINKLER
2	Remove vegetation from around ends of bridge.					

**APPENDIX C - BRIDGE REPAIRS LIST**

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED
			2	Repair: Level upstream approach @ west end of bridge.	07-May-14
			3	Repair spalls in concrete railing, approx. 2'.	
			3	Utility line casing (PVC pipe) is broken.	07-May-14
			M	Left bank erosion downstream of bridge.	
CAMPBELL LAKE OUTLET	40142	.39 miles W of SR 20	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	NE End treatment isn't up to standard	
			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	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.	04-Jun-14
			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	Concrete repair: patch left and right wingwalls; and abutment #2.	
			2	Repair: deck has spall on R downstream edge.	
			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	Asphalt cracking and settling at both approaches. A/C level.	
			2	Patch exposed rebar in deck.	
			2	Clean drains - plugged with debris	
			2	Sweep deck and shoulders	
			2	Repair thrie beam transition at nw corner. Damaged from fallen tree.	
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	Sweep deck	
CONRAD RD at SWIFT	40069	0.2 E JCT SR 20	2	Sweep Deck	
			2	Remove the BST overspray patches from the bridge 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 occurring on the elastomeric bearings.	
CONWAY HILL @ CARPENTER	40043	0.5 E JCT INTER 5	3	Guardrail post needs replaced - 2nd from east bank, downstream side.	
			3	Clear vegetation from deck curb and joints.	
COOK RD at BRICKYARD CK	40012	MP 5.38 COOK RD	2	Approach road: west upstream shoulder needs to be graded to drain standing water.	12-Aug-15
			2	Deck needs to be swept and drains cleaned	12-Aug-15
			2	Recomend sawcutting @ bridge seat and joint filling.	
			3	Clear vegetation from abutment ends	12-Aug-15
			3	Sweep sidewalk.	
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	Dig out asphalt patches on approach and rebuild	30-Sep-15
			2	Clean out deposited sediment on top of pier cap.	
			3	Westbound guardrail - minor impact damage on one section.	30-Sep-15
F&S GRADE SAMISH RIVER	40013	0.14 Mi S of PRAIRIE RD	2	Left upstream approach rail end treatment need replaced	09-Sep-15
			2	Patch spalls in deck and failing old patches.	
			M	Alder tree at right bank under bridge.	
FARM-TO-MARKET JOE LEARY	40036	5.0 N JCT SR 20	1	Vegetation needs to be cut around the ends of the bridge.	17-Jun-15
			3	Brush and patch spall in soffit	
FARM-TO-MARKET N DITCH	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.	
FARM-TO-MARKET S DITCH	40032	7.5 N JCT SR 20	3	A/C level approaches	
			2	Northbound approach needs asphalt patch.	
FARM-TO-MARKET SAMISH R	40034	5.9 N JCT SR 20	3	Repair object marker post - NE corner.	10-Jun-15
			1	Sand has accumulated, sweep deck.	
			2	Waterway: Remove woody debris at bent 4 & 5.	
			2	Rails: Upgrade approach rails to meet current stds.	10-Jun-15
			2	Remove vegetation from ends of bridge	10-Jun-15
			2	Deck has map cracking / small spalls. Repair spalls.	

**APPENDIX C - BRIDGE REPAIRS LIST**

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED
FLINN ROAD BRIDGE	40161	300 Ft E Blanchard Rd	3	Patch spall in deck at joint of Abut #1	
FRANCIS at NOOKACHAMPS	40003	2.8 W JCT SR9	2	Remove vegetation from ends of bridge	08-Aug-14
			2	Repair: level approach roads and patch potholes.	
			2	Clean Mud off of girders and caps at the east end 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.	09-Sep-14
			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	Crack seal transverse cracks at the joints.	
			3	Clean drains	
FRIDAY CREEK 1ST BRIDGE	40018	.45 MI N OLD HWY 99 N	1	Patch exposed rebar in girders #1 #2 #3 & #4 and Soffits.	06-May-15
			1	Level south approach westbound lane (Approach was leveled at last inspection)	
			1	1" > approaches - Dig out and pre-level scheduled	
			1	Channel protection: both north and south abutments	
			3	Pressure wash conc. rails & girders	
FRIDAY CREEK 2ND BRIDGE	40019	0.59 Miles N. of Old 99	2	Replace spacer blocks #4 and #12 of SE corner	06-May-15
			2	Crack Seal north approach	06-May-15
			2	Replace spacer blocks #8 and #12 of NE corner	06-May-15
			3	Remove vegetation from around bridge to allow for inspection access.	
FRIDAY CREEK 3RD BRIDGE	40020	0.3 N. of JCT w/ Old 99	2	Pressure wash moss off girders	
			2	Brush and paint guardrail posts	
			2	Drain: repair drain on bridge, has broken off.	
			M	Waterway: monitor stream cutting on the right upstream bank, unstable slope - left bank.	
FRIDAY CREEK 4TH BRIDGE	40021		2	Exposed rebar: wire brush and patch exposed rusty rebar on girders 1, 2, and 4	
			3	Remove overspray (chipseal) on deck.	
			M	bank erosion 30' upstream	
FRIDAY CREEK 5TH BRIDGE	40022		2	Approach Road: level approach road	
			3	Remove vegetation from ends of bridge.	
FRIDAY CREEK 6TH BRIDGE	40023		3	Plugged Drains	
			3	Replace missing down spout on drain	
			3	Bridge curbing, girders and soffits need pressure washed.	
FRIDAY CREEK 7TH BRIDGE	40024	2.16 MI N JCT OLD 99 N	1	Dig out and A/C level North approach.	13-May-15
			3	Pressure wash curbs and girders	
FRIDAY CREEK 8TH BRIDGE	40025	2.24 MI N JCT OLD 99 N	2	Weed whack around abutments and approach guardrail	13-May-15
			2	NE guardrail, Post 4 is rotted and needs replaced.	
			3	N approach settling. Dig out and level before next resurfacing.	
			3	Repair: undermined riprap at D/S South abutment	
FRIDAY CREEK BRIDGE	40115	4.3 N JCT COOK RD.	1	Post 4, SE rail, needs replaced	08-May-13
			1	Repair: spalled areas in the deck.	28-May-15
			2	Unplug drains	
			2	Replace failing patch in northbound lane near midspan.	
			2	Scrub and patch exposed rebar in deck.	
			M	Post 1, NW rail, soundy punky - check next inspection.	
GOVERNMENT BR	40099	7.5 N SNO CO BDRY	2	Repair or replace the blocking and support for the transition railing at the southwest corner of the bridge.	
			2	Repair or replace the blocking and support for the north side metal bridge railing, in Span 2 between Panel Points L1 and L2.	
			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.	
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	
GRIPP RD at SAMISH R	40014	0.1 Mi E of Prairie Rd	2	Repair: patch spall in the wingwall.	23-Sep-15
			2	Repair: Thrie beams need to be painted, there is rust & the galvanized material is wearing off.	
			M	MONITOR: Bridge is bypassable, right upstream channel protection is starting to slump into river and needs to be monitored after high water events.	
GUEMES ISLAND FERRY DOCK	40153	GUEMES ISLAND	1	Grease the upper and lower live load hanger pins.	
			1	Clean and spot paint all steel areas which have corrosion.	
			1	Left live load hanger is bent inboard. Straighten left live load hanger.	
			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	Restore the design edge distance of the gusset hole for the apron lift beam.	
			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	Replace the lower clevis bolt attachment to the hoisting block on the right girder. This bolt is yielding.	
			2	Unplug drain holes in pit area of counterweights.	
			2	Replace upper clevis pin on right hoist platform. This pin has insufficient grip length causing threads in bearing.	

**APPENDIX C - BRIDGE REPAIRS LIST**

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED
			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	Grease counterweight cables and hoist cables.	
			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	1	Install jersey barrier to keep live loads off damaged Girder B	28-May-15
			1	Extend temporary jersey barrier out to road and get everything off damaged girder.	
			2	Repair Joint - armor angle on west end.	
			3	Sweep deck	
HELMICK RD at RED CK	40163	1.1 MI N of SR 20	M	Water flowing from abutment #2, below G5	
KNAPP RD at NOOKACHAMPS	40054	0.1 E JCT SR 9	1	Sweep the bridge deck.	
			1	Brush and patch spalls on deck.	05-Aug-15
			2	Bridge approaches need to be A/C leveled.	
			2	Cut and remove brush around the abutments for access under the bridge.	05-Aug-15
			2	Remove vegetation from SE corner of bridge deck. Grass us limiting drainage.	
			3	Deck Repair : remove overspray BST on bridge deck.	
			M	Erosion in the NW corner under abutment.	
LACONNER WHITNEY at SL	40038	3.83 S JCT SR 20	1	Remove vegetation from the bridge ends.	
			2	Paint the bridge rail posts, are peeling and rusty.	
			2	End terminals on both northern approach rails need repairs.	
LAKE SAMISH at BEAR CK	40106	2.0 MI NW JCT I-5	3	Paint bridge rail posts	
			M	The banks have lost some armoring. Monitor	
LAKE SAMISH RD at FRIDAY	40109	0.25 E JCT INTER 5	1	Repair: Large spall at bridge seat in N bound lane.	
			2	Repair: Posts need painting	
			2	Crack seal approaches, bst pulled apart at joint.	
			2	Replace damaged transition rail on SW section.	
			M	Armoring sloughing along Abut #1 - Monitor	
LAKE VIEW BLVD at NCHMPS	40001	.25 S JCT SR9	1	Deck: The deck has spalls showing through the sealer. Old patches are wearing off.	
			1	Signs: delineator is bent at north end. Salmon stream sign needs replacing.	05-Aug-15
			1	Sidewalk: Level and patch settled area, tripping hazard.	
			2	Sidewalk: Repair sidewalk approach where rebar is exposed (north end).	
			2	Bank protection: armor missing upstream end on the right bank.	
			3	Upgrade rails to meet current standards.	
			3	Clear debris from submerged piles.	
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	Patch spalls in deck	
			3	Upgrade bridge rails	
LK CAVANAUGH RD CULVERT	40048	MP 0.96 LK CAVANAUGH RD	2	Clear log jam at downstream end. Debris beginning to build up into culvert.	
			2	Remove vegetation to create a path for inspection.	
LYMAN HAM at MUDDY CK	40129	0.3 M W HAMILTON	1	Repair the leveling patches on girder #4.	
			3	Sections of failed chip seal exposing bridge deck.	
			3	Clear vegetation growing in sandbar along bridge.	28-May-14
LYMAN HWY at CHILDS CK	40063	0.8 E JCT SR 20	1	Dredge project planned this summer.	
			3	Guardrail post rotten: 3rd post from southwest end.	
			3	Pressure wash concrete rails and sides.	
			3	Missing nut on guardrail post: 2nd post from the west end, downstream side.	
			3	Repair thrie beam, southwest end	
			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 MANNSEY CK	40131	1.7 W HAMILTON	2	Upgrade Guardrails	
			3	Remove BST overspray	27-May-14
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".	21-May-14
			3	Brush cut vegetation around Northwest abutment	
			3	Westbound guardrail end treatment damaged (NE quadrant)	
MARCHS POINT PIPELINE	40126	1.6 N JCT SR 20	2	Curb cracked and spalling at north/west corner.	
MCELROY SLOUGH CULVERTS	40162	MP 2.5 BLANCHARD RD	3	Re grout areas where grout is missing.	
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	3	Fill deep pot hole in westbound lane.	

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BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED
			1	Remove material and debris from underneath bridge	
			1	Remove cattle guard from downstream wingwalls	
			2	Replace all rail posts that are damaged	07-May-14
			2	Repair spalls upstream side of bridge	
			B	Brush cut around abutments	
MINKLER RD at WISEMAN CK	40061	.5 W JCT SR 20	1	Repair scour at Abutment #1, upstream end.	
			1	Remove debris from bridge, upstream end.	
			1	Remove (dredge) material and debris under the bridge.	
			1	Need to remove vegetation from around bridge	07-May-14
			2	Remove Fence from downstream headwalls	
			2	Clean and patch spall in Beam #5.	
			3	Patch the damaged areas on the curb.	07-May-14
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.	07-May-14
NORTH FORK BRIDGE	40037	5.5 W JCT INTER 5	0	Repair broken conduit in Spans 3 and 4 near Pier 4.	18-Mar-14
			1	Remove debris pile (logs) at the upstream nose of Pier 3.	18-Mar-14
			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	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.	18-Mar-14
			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	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.	18-Mar-14
			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 WSBIS form to show underwater inspection date and inspector information. Currently, the last inspe	
			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.	18-Mar-14
OLD HWY 99 at SILVER CK	40116	0.1 Mi South of Alger	2	Mill and fill failing asphalt over utility cut.	
			2	Remove broken delineator post.	
OLD HWY 99 at THOMAS CK	40113	1.4 N JCT COOK RD.	1	Remove and replace rotted abutment walls on both abutments.	
			1	Replace rotten wood bridge rail post at southwest corner of the bridge.	
			1	Multiple nuts loose along bridge rail	15-Sep-15
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	0.17 Mi E of OLD HWY 99	2	Spalls on upstream curb.	
			3	Minor settling in westerly approach. Dig out and/or patch.	09-Sep-15
			3	Brush cut around abutments	09-Sep-15
			M	Clear debris upstream	
PRAIRIE RD S at SAMISH R	40015	2.21 Mi E of Old Hwy 99	2	Tighten cable on NW ET guardrail.	
			2	Add additional rip rap to north bank, downstream 15'.	
			3	Clear vegetation around abutments. (watch out for bees!)	23-Sep-15
			3	Patch bridge deck	23-Sep-15
PRAIRIE RD W at SAMISH R	40016	3.8 Mi E of Old Hwy 99	2	NW section of guardrail damaged and post leaning.	
			2	Sweep Deck	23-Sep-15
			M	Scour protection damaged during high water event - Monitor stability	
PULVER ROAD @ JOE LEARY	40031	.6 S JCT SR 11	1	Seal deck with a membrane, to prevent further spalling and corrosion of the rebar. See photo.	
			1	Paint bridge rails and posts. 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	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.	
			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 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.	
			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 lan	

**APPENDIX C - BRIDGE REPAIRS LIST**

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED
			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)	
			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	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	
			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).	
			2	Remove paint and dirt which is covering arch at the Pier 4 and 5 footings. Clean to bare steel and paint.	
			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 propagate 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.	
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	25-Jun-14
			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	Replace 2 missing object markers on south end of bridge	
			2	Paint rail posts	23-Jul-14
			3	Guardrail - Replace missing blockout at NW quadrant transition section	
S SKAGIT HWY at DAY CR	40081	9. E JCT SR 9	3	Remove debris from mid channel	23-Jul-14
			1	Patch exposed rebar in deck - 2'	
			1	Dig out and repair both road approaches - appeared to be in the works during inspection.W	
			2	Remove vegetation from around abutments	
			2	Repair failing deck patches.	
			2	Repair: patch rusty rebar in the deck.	
			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.	24-Jul-14
			2	Remove BST overspray from the deck.	
			2	Wire brush and patch or paint rusty rebar on girders.	24-Jul-14
			3	Paint rail posts	
S SKAGIT HWY at MILL CR	40086	17. E JCT SR9	1	Remove woody debris from under bridge.	
			2	Replace damaged guardrail - End Treatment, Southeast quadrant	16-Jul-14
			2	Fill scour hole at upstream end of Abut#1	
			2	Patch exposed rebar in the girders.	16-Jul-14
			2	Patch spalls in deck asphalt overlay.	
			3	Sweep deck	
S SKAGIT HWY at O'TOOLE	40084	15. E JCT SR 9	1	Replace cabled rootwad	
			1	Repair left upstream abutment, channel protection.Monitor	
			2	Replace bridge sign/ missing.	
			2	Rails need painting	16-Jul-14
			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.	16-Jul-14
			M	Scour causing sloughing behind Abut #2. May be causing material loss and dips at the approaches.	16-Jul-14
			M	Huge group of Alders are being undercut just upstream of bridge. Monitor.	
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	
SAMISH RIVER BRIDGE	40114	2.6 N JCT COOK RD.	2	Feather patch south approach.	
			1	Wash sand and debris from bottom cord. Coordinate cleaning before 2016 inspection date.	
			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 an	
			1	Span 7 has a shallow spall and exposed rebar. Remove loose or delaminated concrete. Clean exposed rebar, and patch.	

**APPENDIX C - BRIDGE REPAIRS LIST**

BRIDGE NAME	BRIDGE NUMBER	LOCATION	PRIORITY	DESCRIPTION OF REPAIR	COMPLETED & VERIFIED
			1	Remove trees at the SW corner of the bridge. They obstruct UBIT operation.	17-Mar-14
			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 o	17-Mar-14
			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 a	
SKAGIT RIVER MARBLEMOUNT	40070	.03 E JCT SR 20	2	Replace split spacer block at NE corner.	
			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.	
			1	Repair or replace the 20 ft length of damaged guardrail at the NW 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	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.	
			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.	
SOUTH FORK BRIDGE	40008	1. W JCT INTER 5	1	Contact owner of utility and notify them of leak at east abutment	
			M	Monitor movement of PCBs at diaphragms over Pier 4, Pier 5, Pier 7, Pier 8 and Pier 9.	
SWAN ROAD BRIDGE	40002	NOOKACHAMPS	1	Raise approach rail to minimum height.	08-Aug-14
			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	
THOMAS RD at SAMISH R	40030	0.3 N ALLEN WEST	2	Vegetation needs to be cut.	
			2	Rails need to be upgraded.	
			M	Repair material loss at right abutment	
UTOPIA RD at BLACK SL	40062	Utopia Rd 0.5 E of Hoehn	1	Remove vegetation at end of bridge	22-Jul-15
			2	Patch spalling occurring at the outside girder joints over pier 2	
			3	Level the right approach in the east bound lane.	
Beaver Pond Dr North A	000000011	0.2 N Jct. Eaglemont Dr	2	Crack seal at abutment joints and approach slabs.	
Beaver Pond Dr North B	000000009	0.4 N Jct. Eaglemont Dr	2	Crack seal at deck/approach slab joints.	
Beaver Pond Dr South	000000008	0.5 N Jct. Eaglemont Dr	3	Tighten Utility Hangers on black sewer pipe and others.	
Eaglemont Drive	000000006	0.1 S Jct Beaver Pond N	2	Repair uplifting of the sidewalk panels and spalls in curbing. (Photo SI-25)	
			2	Repair the settlement at South East corner at Roadway sidewalk (Photo SI-6)	
			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)	
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.	
Hoag Steward Overpass	000000002	Riverside Dr Jct. Hoag St	1	Clean out debris from joints between bridge and slabs and replace joint fillers	
			2	Pressure wash moss off sidewalks.	
J off Beaver Pond Dr. S.	000000007	Off Beaver Pond Dr. S.	2	Trim vegetation back from inlet and outlet to allow for conveyance and inspection.	
			2	Clean material from culvert	
Landmark Drive	000000005	Off S Waugh Rd	3	Pressure wash sidewalks and remove weeds/vegetation	
Olympic Lane	000000010	Off Beaver Pond Dr North	3	Crackseal roadway over abutment joints and approach slab joints.	
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	Remove timber debris accumulating around piers in water.	
			1	Shear key at Pier 5 was not built as designed. Provide full support to Girder H at Pier 5.	
			2	Remove transient living area from Pier 2.	
			2	Remove material / debris from assembly joint seal	
			2	Remove debris around bearing pad under Girder 1A	
			3	Repair utility casing between Girder 5E & 5F	
NORTH BURLINGTON BLVD	BURLINN-2	1.02 MI SO OF COOK RD	2	Repair: Guardrail terminal on the southeast corner of bridge, appears to have been hit.	
			2	Repair: Approach rail damage, rail posts tighten loose bolts that secure posts to box culvert on underside.	
GOLDENROD BRIDGE	BURLINN-3	.3 N. of W. MCCORQUEDALE	1	Repair Guardrail Terminal South east corner of rail, appears to have been hit.	23-Sep-15 23-Sep-15
			2	Sweep deck and clean compression seals of debris	
			3	Tighten nuts on transition rails	