Skagit County

Public Works

Annual Report 2020

Board of Skagit County Commissioners

Ron Wesen
District 1

Peter Browning
District 2

Lisa Janicki
District 3

Skagit County Public Works
April, 2021

Skagit County Administrative Building
1800 Continental Place
Mount Vernon, WA 98273

Designed and Prepared by Jim Mickel

Skagit County Public Works Annual Report 2020

Dan Berentson, Director of Public Works

Getting stronger, moving forward, building and preserving

This was a year like no other. The Pandemic took a terrible toll around the world and affected the daily lives of us all. Classified as "essential workers" by the Governor, we were allowed to keep working, but at the same time, taking every precaution to keep our employees and the public safe.

The Guemes Ferry kept running. We dropped fares to reduce human contact. We made schedule changes and engaged in adaptive management to keep people safe but still providing an essential service to the islanders.

Our Solid Waste Transfer Station at Fredonia was overwhelmed with record amounts of garbage as citizens, confined to home, cleaned up, fixed up, and threw out in an incredible volume. Our staff provided incredible service, while taking every precaution to stay safe.

The Skagit County Department of Health and our Department of Emergency Management provided great leadership distributing valuable information, testing thousands of citizens and then providing vaccines. Many Public Works employees volunteered to help and implement safety precautions.

During the construction season, we chip sealed 90 miles of road, and performed a myriad of services to preserve and maintain our County roads and kept the traveling public moving forward; our Operations Division was up to the challenge.

In Engineering we hired a Licensed Surveyor and contracted to geo spatially locate all our assets in the County Road Right of Way. This raises the bar for future efficiencies and professionalism. Our County Engineer Paul Randall-Grutter was selected as "County Engineer of the Year" by the County Road Administration Board.

Our Equipment and Facilities Divisions, stepped up and helped all County departments retrofit vehicles, and coordinating transportation during COVID-19 to make people safe. From swapping out an engine in the ferry in the dark of night to keeping our Sheriff's fleet on the road, these dedicated employees keep the County rolling.

Our Natural Resources Division helped provide assistance at DEM during the pandemic and kept working on water quality, storm water and drainage issues. Another focus is building a strategy to address fish barriers blocking salmon habitat, protecting and enhancing critical areas through the Volunteer Stewardship Program, and preserving farmland through the Farmland Legacy Program.

And of course, our Accounting Division, kept track of it all and made sure we complied with all the principles and procedures to be good stewards of your trust and tax dollars.

When the word "works" is in our name, goal is to do just that; keep "working!"

Dan Berentson

Director of Public Works

This page is left intentionally blank.

Skagit County Public Works Department
Annual Report and
Guide to Activities by Fund

Table of Contents:

County Road Fund

Paul Randall-Grutter, P.E. County Engineer

The Road Fund has seven budget divisions responsible for the establishment, laying out, construction, alteration, improvement, repair, and maintenance of the County Road system.

- Division 3 Operations

- Division 4 Ferry Operations

- Division 5 Facilities

- Division 6 Administration

- Division 7 Development Review

- Division 8 Engineering

- Division 11 Transportation/Programs

Road Fund
Revenue and Expenditures

Revenues	2020
Taxes/Assessments	15,205,714
Intergovernmental	7,191,197
Licenses and Permits	85,410
Charges for Services	1,735,058
Miscellaneous	84,170
Other	18,077
Total Revenue	24,319,626

Expenditures	2020
Salaries and Wages	5,446,388
Benefits	2,821,590
Supplies	3,807,626
Other Services and Charges	10,152,730
Capital Outlays	771,203
Total Expenditures	22,999,537
Net Increase/Decrease in Fund Balance	1,320,089

Statutory Use of Road Funds:

In developing a response to the question "can we expend County Road Funds on _____", the following three principles must be applied:

1. Article II, Section 40 (18th amendment), of the state constitution restricts the use of motor vehicle fees and excise taxes (fuel tax) to only highway purposes.

2. The local Road Levy (property tax) is imposed only on properties in the unincorporated areas of the county, and must be used solely for the benefit of the unincorporated area.

3. The state grants authority to the county to exercise a governmental authority. A county may not create and implement any local code or take any action unless clearly permitted to do so by the state through RCW (including, but not limited to RCW 36.82.070).

Three additional factors that influence the application of the first three:

> Comingled revenue sources in the Road Fund - RCW 36.82.010:
> - "There is created in each county of the state a county fund to be known as the 'county road fund.' Any funds which accrue to any county for use upon county roads, shall be credited to and deposited in the county road fund"
> - Comingled funds - Each individual revenue deposited in the Road Fund receives the aggregated legal protections of every other revenue deposited in the fund. Within the context of principle #3, there is extremely limited permission in statue to create accounts in order to separate Road Fund revenues for different purposes. Other than these very specific statutory permissions, the Road Fund is to be managed as a single financial resource.
> - Access to and use of road related revenues are subject to ongoing compliance with all applicable laws, rules, and required procedures.

Other revenue sources, such as local option taxes, grants, and fees, all have unique rules, but they cannot be used in a way that would conflict with #1, #2, and #3.

RCW 36.80.010 - Employment of road engineer.

The county legislative authority of each county shall employ a county road engineer…

RCW 36.80.020 - Qualifications – Bond

He or she shall be a registered and licensed professional civil engineer under the laws of this state, duly qualified and experienced in highway and road engineering and construction. He or she shall serve at the pleasure of the board.

Before entering upon his or her employment, every county road engineer shall give an official bond to the county in such amount as the board shall determine, conditioned upon the fact that he or she will faithfully perform all the duties of his or her employment and account for all property of the county entrusted to his or her care. R20110143 waived that requirement.

RCW 36.75.020 - County Roads -- County legislative authority as agent of state

All of the county roads shall be established, laid out, constructed … and maintained by the legislative authority … Such work shall be … under the supervision and direction of the county engineer.

Due to the scope and scale of departmental and statutory responsibilities, the position of County Engineer within Skagit County's Public Works organizational structure oversees the following Divisions:

Engineering   Equipment

Ferry   Operations

Operations Division, John Davidson, Division Manager

Overview

The Road Operations Division maintains the roadway system and structures to the highest possible standards. Operations maintains approximately 800 miles of road and accompanying right of way. Currently, Operations consists of 56 employees and 58 activities to maintain our road system.

There are three Maintenance Districts within Skagit County; each district has one Supervisor and 10 team members. Each of these three teams is responsible for the maintenance within their assigned district of the County. Within each district there are cities, townships, and state routes that are out of our jurisdiction and maintained by their own governing agency.

In addition to the Maintenance Districts, our Special Operations consists of one Supervisor and 14 team members. Special Operations is responsible for overhead tree trimming and maintains all signs, guardrails and bridges within the County. They also take on many special projects such as installing fences around County property, performing maintenance on County owned pits and Solid Waste facilities, and helping with traffic control for special events such as the Tulip Festival and Big Lake Fire Works. Our Sign Shop team falls within the Special Operations area.

Environmental Services consists of 3 ½ team members. Although they are a small group, they perform many vital functions throughout the County. This group was created to work on off road right-of-way projects and those that contain "sensitive areas" such as within streams, wetlands, or other critical areas.

Our Administrative Office consists of one Supervisor and 2 team members. This group handles the payroll, accounts payable, service requests, budget, along with various reporting and recording processes and other behind the scenes office functions for the Operations Division. Many of these functions assist the Operations Division Manager in making informed financial decisions.

These five Supervisors, along with the Environmental Services team, report directly to the Division manager. The current Division Manager is working to improve the work environment, and as part of that, has chosen a personal approach of involvement, keeping in touch with as many employees throughout the day as possible, regardless of position, so that all employees feel valued.

Service Requests

In 2020, during normal operating hours, County employees responded to 471 service requests. These requests typically are phone calls or emails from the public. Depending on the nature of the request, they are routed to the appropriate supervisor who responds to the request and oversees that the job gets done. Skagit County strives to provide an exceptional level of service to our customers.

After Hours-911 Emergency Response

Road Operation's Maintenance District personnel are considered on call 24 hours, 7 days a week. After hours calls from 911 go directly to the on call Supervisor's phone. Supervisors rotate weekends and evenings to be on call. Calls are frequently responses to accidents, water over roadways, or other obstructions in the roadway such as trees or mud slides. Along with road repairs, Sign Shop team members are often dispatched to deploy emergency signs.

Operations Division Looking Forward

Despite all the challenges, 2020 was a very productive year for Road Operations. We could not have accomplished everything we did without our outstanding employees. We are looking forward to an even better 2021. We anticipate gearing up in 2021 for training on the new asset management program that is coming our way in the near future. We are excited about this advancement in technology, as it will enhance our asset tracking, as well as our ability to effectively maintain our Best Management Practices (BMP) cycle. Because of this, it is our vision that this will result in an improvement to Skagit County's Road infrastructure for both the citizens and visitors of Skagit County.

Road Operations Matrix of Activities

Chip Seal Program

Each year, Road Maintenance team members chip seal approximately 90 miles of roads. The roads selected to be chip sealed are based on a cycle from 7-10 years, depending on the condition of the roadway surface. Roads must be prepared properly before applying a seal coat, which includes removing sod and adding gravel to the shoulders, clearing brush, cleaning ditches, replacing culverts, and pre-leveling the road with asphalt and fog seal. The preparation work begins in March, but the actual chip seal typically starts in June or July when temperatures are right and rain is minimal. During the process, temporary raised pavement markers are used to mark the centerline and the speed limit is reduced to 25 MPH. A liquid coat of asphalt is applied, followed by a layer of rock chips that are rolled and left to cure for at least one week. After the road is cured, it is swept and striped. On roads that are not heavily traveled, a fog seal is added to help cure and keep rocks stabilized.

2020 Accomplishments

Activity	Description	Amount	Unit	Cost
Bituminous Surface Treatment	Adding liquid asphalt and aggregate over roadway to improve the texture of and waterproof an asphalt surface	82.15	Miles	$1,925,731
Asphalt Leveling	Placing Asphalt cement or emulsion mix to level surface irregularities or failures. Normally done prior to seal coating or overlay. To achieve 100% of surface rating when complete	11,829	Tons	$1,302,382
Shoulder Grading	Grading gravel shoulders when shoulder drop off exceeds 1" or when extensive rutting, erosion, or loss of material exists. Done to provide a uniform and level shoulder, matched to the edge of the paved surface	189	Miles	$21,776
Shoulder Graveling	Placing gravel or rock on shoulder to re-establish shoulder width, elevation and crown slope and to allow proper road drainage and prevent shoulder erosion	14,009	Tons	$573,397
Fog Seal	To seal and enrich the asphalt pavement surface, seal minor cracks and asphalt patches on roads to be chip sealed in same year, to prevent raveling, delineate shoulders, and reduce chip loss on B.S.T.	52,113	Gallons	$144,848

Road Operations Matrix of Activities

Snow and Ice Removal

During winter, road maintenance team members sand and plow roads during freezing temperatures. Each Road District has a list of priority areas that get plowed and sanded first. There are 17 snow plows with sanders in the fleet. In the beginning of 2020, we experienced a small snow event. During the second half of 2020, snowfall was minimal. District Supervisors were reviewing local weather reports for our region. This assists them with predicting ice and snowfall and allows them the ability to have team members on call when needed.

Activity	Description	Amount	Unit	Cost
Plowing & Sanding	Remove snow and distribute sand and salt mixture on roadway when snow accumulates 2-3" and frost conditions or compact snow occurs, with priority given to grades, intersections, curves, bridges and high volume roads	2,411	Man Hours	$602,088

Vegetation Management

Effective management of vegetation along the road not only improves the aesthetics of an area but also improves safety. When vegetation is controlled, sight distance to signs, curves and intersections are improved, off road emergency parking is available, fire potential is reduced, and bicyclists and pedestrians have an area to use. Skagit County uses both herbicides and non-chemical methods of vegetation control.

Non-chemical methods

Mowing, brush cutting, weeding and tree trimming, sod removal are all methods of vegetation control Skagit County Road Maintenance crews use on our roads.

Activity	Description	Amount	Unit	Cost
Sod Removal	Removal of sod to prevent roadway surface damage due to improper drainage and to provide a safe and stable shoulder	232	Miles	$203,289
Mowing	Mowing to maintain ungraded shoulders and intersections to a grass height below 12", 2-3 times during the season	1,774	Miles	$227,137
Brush Cutting	Brush is trimmed to prevent brush onto roadway and to provide sight distance on curves and intersections	2,596	Miles	$342,718
Tree Removal – Manual	Tree removal work is to be done from October to March on trees blocking site distance and signs	2,456	Man Hours	$148,009
Tree Trimming	Work is performed to maintain a vertical clearance of 20' - 30' over the right-of-way and a horizontal clearance adequate to provide site distance	152	Miles	$391,396

Road Operations Matrix of Activities

Herbicides

To make applications to the county road right-of-way a license is required with the Washington State Department of Agriculture. A license is necessary so applicators know the laws and safety around using chemicals that minimize risk to humans and the environment.

Chemical control on shoulders helps prevent the buildup of sod and allows proper drainage of the road surface. It controls the growth of brush along the fence lines, guardrail, bridge approaches, sign and other areas where mowers cannot reach. In the spring and summer herbicide is applied in the county right of way, approximately 4 feet of road side shoulders and guardrail. In the fall, herbicides are used to control the blackberries.

The County uses a NORSTAR herbicide truck that carries 800 gallons of water and has three chemical tanks. The herbicide truck uses a computer to record the spray data that is downloaded to the server every night. By law, these records must be retained for seven years. The chemical rates are also controlled by a computer so there is not any over-applications.

Activity	Description	Amount	Unit	Cost
Herbicides - Shoulders	Herbicides are applied annually to prevent vegetation on shoulders and to provide for shoulder drainage	381	Acres	$53,049
Herbicides – Brush & Noxious Weeds	Applying herbicide to brush, weeds and grass encroaching the road and other areas mowers cannot reach	80	Acres	$11,823

Environmental Services

Environmental Services team members often assist other Public Works sections such as Surface Water Management and other departments such as the Parks Department. In addition, this team partners with multiple outside agencies including Washington Department of Fish and Wildlife, as well as Tribal Agencies. In 2020, they partnered with Samish Indian Tribe while working with the Natural Resource Division on the Farrell Culvert project.
During 2020, the team worked diligently on Walberg Rd. erosion, South Skagit Highway 4 mile culvert, Eden's Rd. elevation, Fonk Rd. elevation, Mill Creek sediment removal, Hornbeck Lane dredging, Gallagher Rd., Lakeside Lane, Gunderson Rd. culvert repair, and Beaver Lake cross-culvert, which were all Road Operations projects. Environmental Services team members also completed 4 Drainage Utility projects, and 1 Natural Resource Stewardship Program project. In addition, they assisted the districts as needed, including work on the Finney Creek Bridge LWD removal, as well as Thomas LWD removal and Big Lake culvert repair. They also ensured compliance with our membership in the Regional Roads Maintenance Program by tracking and removing Best Management Practices (BMPs), and obtained all road maintenance project and emergency permits.

Road Operations Matrix of Activities

Signs and Pavement Markings

According to the Manual on Uniform Traffic Control Devices for Streets and Highway Signs and Object Markers, County signs must meet the standard requirement for shape, size and color, both day and night. Every year, our Sign Shop team members manage this requirement by performing a visual inspection of signs from a moving vehicle during nighttime conditions. For all signs that are visually identified to have reflectivity below the minimum level one of the following actions are taken: 1) Reflective failure replaced the sign, 2) Sign washed 3) Sign was missing and replaced 4) Brush trimmed around the sign. This year, the team inspected all 13,269 signs and found 343 signs (less than 3%) had failed to meet standard. In addition, the Sign Shop team does a Thermoplastic project, which involves evaluating all pavement markings to determine which ones need replacing, in addition to the markings that are covered over with the Chip Seal Program. In 2020, this team replaced 498 lineal feet of 18" (stop bars), 176.5 lineal feet of 24" (cross walk bars), 7 railroad markings and 3 Traffic arrows.

Activity	Description	Amount	Unit	Cost
Sign Maintenance	Maintain and replace regulatory signs, signals and warning signs. Install new signs as requested by an engineering study or requested by Traffic Engineer	4,147	Signs	$525,190
Striping Edge Line	Restore faded and worn edge line on existing and newly resurfaced roads	785	Miles	$241,833
Striping Centerline	Restore faded and worn centerline on existing or newly resurfaced roads with two lanes at least 16' or more in width and speed limit of 35 MPH or greater	560	Miles	$189,663
Pavement Markings	Work is normally done to mark or re-mark on pedestrian crossings, railroad crossings, directional arrows and stop bars, legends marked on road, school crossings, and raised pavement markers	210	Markings	$45,161

Other Maintenance

Throughout the year, Skagit County roadways require routine maintenance as needed. Below are some of the accomplishments for those activities that were achieved during 2020:

Activity	Description	Amount	Units	Cost
Ditch Maintenance	Open ditch to keep water flowing and minimize road damage. Environmental laws prohibit ditch maintenance without a permit if there is water in the ditch	68,225	Feet	$337,199
Culvert Install & Repair	Work is done to restore or improve roadway drainage. Normally done to enlarge existing culverts or catch basins, replace deteriorated pipes or to open up new drainage	1,505	Feet	$212,229
Pothole Patching	Repair edge breaks and pot holes on the roadway by filling them with premixed hot or cold asphalt	270	Tons	$113,892
Crack Sealing	Cleaning, filling, and sealing cracks in paved roadway surface to prevent passage of water into base of road	19,261	Pounds	$84,625
Grading Roadway	Grading and shaping gravel roads to level ridges, cut and fill holes and distribute existing gravel evenly over the surface	107.7	Miles	$66,042

Emergent Road Drainage Maintenance

ACCOMPLISHMENTS

Road	Description	Amount	Units	Cost
Fonk Road	Raise road due to flooding	397.5	Man Hours	$48,015.09
Edens Road	Raise road due to flooding	1690	Man Hours	$135,619.73

In addition to the Emergent Drainage Maintenance that was performed for the year, Road Maintenance teams performed a major asphalt leveling on the South Skagit Highway along with their yearly scheduled program.

Interlocal Agreements

Throughout the year Road Operations teams, upon request, will do work for our partnering local agencies. During 2020, we performed the following work for other agencies:

Agency	Description	Amount
Whatcom County	Snow plowing Baker Lake Rd.	$800.56
Whatcom County	Striping approximately 11.79 miles	$423.06
Skagit Co Facilities	Various projects as requested	$576.11
Port of Skagit	Cleaning catch basins	$2,443.33
Skagit Co Solid Waste	Various sign projects, and other requested work	$90.55
City of Sedro Woolley	Chip seal and Fog seal several roads and various projects	$28,200.55
Skagit Co Parks	Spray the Cascade Trail	$5,618.63
Skagit Co Parks	Trees in Grandy Lake Campground	$1,850.25
San Juan County	Striping multiple road miles of centerline and edge	$21,560.55
City of Anacortes	Chip seal and fog seal 5.62 miles of road	$159,279.50
Skagit Co Auditor	Various sign projects	$384.69
San Juan County	Clean Catch Basins	$11,177.79
Skagit Co Engineering and Drainage Utility	Fonk Rd elevation	$36,015.81
City of Sedro Woolley	Brickyard Creek bank erosion work	$4,689.89
Skagit Co Emergency Management	Manufacture various signs for the COVID testing site	$2,964.72
Skagit Co Natural Resources	Manufacture various signs	$90.36
Skagit Co Health Department	Manufacture signs for COVID test site	$1,145.24
Total		**$277,311.59**

Ferry Operations Division, Captain Rachel Rowe, Division Manager

Skagit County has operated a vehicle and passenger ferry service between Anacortes and Guemes Island, WA since the early 1960s. The current vessel, M/V GUEMES, is a 21-vehicle, 99-passenger, diesel-powered ferry that was built and put into service in 1979. Today, the ferry operates 365 days a year and transports roughly 200,000 vehicles and 400,000 passengers annually.

There is no alternative access by road to Guemes Island; as such, the Skagit County ferry system serves as a vital transportation link for its ridership. In addition to transporting commuters, the ferry also carries tourist traffic, construction and logging trucks, essential services trucks and emergency vehicles and personnel to and from the Island.

One of the challenges faced by Skagit County is the rising cost of maintenance for the 42-year old vessel. Since 2014, the Ferry Division has spent nearly half of its annual $2.5 million operating budget on maintenance of the vessel and associated machinery and repair projects. This has become increasingly burdensome on Skagit County's road fund with the annual subsidy from that fund contributing approximately $850,000 per year in the last few years.

Skagit County is currently planning to replace the current vessel with a new ferry with battery-electric propulsion. The route is well suited for this type of propulsion with its short 5/8 mile crossing and frequent trips.

Ferry Division Fund 117 Roads

Revenues	2020
Taxes/Assessments	-
Intergovernmental Revenue	272,798
Charges for Services	1,307,533
Miscellaneous	3,854
Other	
Total Revenue	1,584,185

Expenditures	2020
Salaries and Wages	850,544
Benefits	382,808
Supplies	192,333
Other Services and Charges	461,241
Capital	40,956
Total Expenditures	1,927,882
Net Increase/Decrease	(343,697)

Concept of New Ferry Vessel

The design

Skagit County Public Works hired Seattle-based naval architecture firm, Glosten, to develop the ferry design. An initial propulsion system selection showed favorable operational cost savings and a reduced life cycle cost with a battery electric propulsion system. With the Commissioners' decision to proceed with an electric ferry, Glosten developed the vessel design while PND Engineers developed the terminal improvements.

The new vessel is a U.S. Coast Guard-inspected double-ended vehicle and passenger ferry with a three-tiered deck-house. The design accommodates 28 vehicles and 150 passengers. There are four traffic lanes capable of supporting highway-rated trucks and emergency vehicles. A main deck passenger cabin provides shelter while enabling views of the beautiful scenery. Walk-on passengers and vehicles are segregated throughout the trip to enhance passenger safety. The vessel automated charging connection occurs on the upper deck, fully separated from the passenger spaces.

Capital cost

The estimated total capital acquisition cost of the vessel, shore side electrical, terminal modifications, and all associated construction management activities and taxes has a nominal cost of $19.5 million. Vessel construction is estimated at $13.5 million; $4 million is for the shore side electrical and $2 million is for the terminal upgrades.

Existing funding

Skagit County has used their own Road Fund to retain Glosten, PND Engineers, and other consultants for vessel, terminal and shore side electrical design. Approximately $2.5 million has been dedicated. This allocation will also cover bidding support and community outreach.

In 2018, the County Road Administration Board (CRAB) awarded Skagit County Public Works $7.5 million for the ferry replacement project through the County Ferry Capital Improvement Program. This funding will be distributed over 20 years in annual installments of $375,000 per year.

Effective August 1, 2018, Skagit County placed a surcharge on ticket sales for the sole purpose of future vessel replacement. While the surcharge does help with the immediate replacement need, the main purpose is to streamline the funding of a new ferry in another 40 years, without the need for substantial federal and state funding requests.

In 2019, the Washington State Capital Construction Budget allocated $1.5 million for shore side charging infrastructure design and construction. While it cannot be used for vessel construction, it covers a significant portion of the shore side electrical equipment and installation.

In 2020, the Washington State Department of Commerce awarded Skagit County $989,521 from the Clean Energy Fund 3 Electrification of Transportation Systems grant program.

During the 2020 legislative session, the bill to extend the sales tax exemption on marine batteries was amended to include the Shoreside charging batteries and related equipment, resulting in a cost savings to the project of approximately $300,000.

In 2021, during the legislative session, Skagit County requested $470,000 from the WA Capital Construction budget to fully fund the shore side charging infrastructure and $7 million from the transportation package to complete the funding package for the vessel.

Skagit County has also applied to several federal grants including the 2018 and 2019 BUILD grant and the 2019 INFRA grant. To date, the County has not been awarded any federal funding through either of these programs. The project team will continue to seek funding through state and federal avenues.

Charting the course ahead

Permitting for the terminal improvements and shore side charging infrastructure kicked off in April, 2021. Permitting is expected to take 12-18 months to complete. Once permitting is complete, Glosten and PND will develop the bid specifications for the terminal modifications and shore side charging infrastructure.

The vessel, electrical and terminal modifications are currently under design, with preliminary design completed February, 2021.

A fully funded project will enable the project team to proceed with contract design and develop bid specifications for the vessel. Vessel construction (including contract design and procurement) is estimated to take 21 months. The new vessel is slated to enter service in 2024.

Advantages of going all-electric

An electric ferry for Skagit County will:

- Reduce fuel/energy costs by 41%
- Reduce maintenance and repair costs by 53%
- Reduce carbon dioxide output by 34%
- Reduce local diesel particulate matter by 95%
- Reduce airborne noise significantly

For more information and to track our progress visit https://skagitcounty.net/departments/publicworksferryreplacement

Engineering Division, Paul Randall-Grutter, Acting Division Manager

The Engineering Division is budgeted for a staff of 19 full-time technical, administrative, and professional employees as well as one on-call construction inspector who are all responsible for capital projects from initiation and funding through design, construction, contract administration, and close out as well as development review and survey. This Division is one of four within Public Works that works under the supervision and direction of the County Engineer.

The Engineering Division also houses the Transportation/Programs Section which is responsible for preliminary research, data compilation, pavement rating, and preliminary scoping of projects until established as a County Road Project, as well as the various grant programs, grant applications, programmatic functions, bridge inspections, and other items associated with transportation planning, and initial project planning and scoping. The Section is also responsible for preparation of County Road Administration Board (CRAB) and Washington State Department of Transportation (WSDOT) statutory and other reports, traffic investigations and studies, road database management and asset inventory, pavement management and traffic-count programs, bridge inspection program, traffic control service requests, over legal permits, traffic safety coordination, crash documentation, crash response/investigations, concurrency assessments, and in some instances is also responsible for right-of-way acquisition.

Projects often start when a citizen or County staff see a deficiency developing in the road or bridge, and report it to the Office of the County Engineer. At other times, our routine inspections reveal developing deficiencies, or we see a history of collisions in a certain area. Concurrency assessments, priority array report, and the annual bridge report are annual reports that help us determine prospective projects that we can undertake. Another way that a project may be identified is when a culvert fails or becomes a fish passage barrier, by either becoming perched or by being undersized.

Once a project is identified, appropriate Engineering staff will define (or scope) the project. During this time, we determine the extents of the project, and start to think about likely solutions to the problem. We also start thinking about potential funding sources. This is where we provide our initial estimate, and the preliminary budget is established. The project gets a County Road Project (CRP) number to authorize and track spending. The project may also be put on the County's 6-Year Transportation Improvement Program (6-Year TIP), dependent on its regional significance or funding source. If the project is to be designed or constructed in that year, it is added to the Annual Construction Program.

The next step is the actual design on the project. The design process is undertaken in three distinct phases; geometric design, general plan set, advertisement-ready plans, specifications, and estimate (PS&E). Some projects are designed entirely in-house, whereas consultants may be utilized for projects that require design in areas that we lack expertise (such as bridges or retaining walls), or when our staffing levels are insufficient to complete the work. There may also be times that we utilized consultants for portions of the work, but maintain the bulk of the work in-house. Some cases where we use this approach are for structural design, geotechnical investigations, and for right-of-way acquisition. Engineering Division staff manage the consultant contracts and coordinate the work.

We start by developing the geometric, or conceptual design (sometimes this is referred to 30% design.). The geometric design is the phase in the project delivery process where we analyze the existing conditions, state any assumptions, establish any and all standards that are to be followed, and preliminarily lay out the alignment. This information is used in efforts to secure final design and construction funding, acquire right-of-way, and to obtain the necessary environmental permits. It is important to begin the permitting and right-of-way acquisition process early, as either may take up to 18 months.

Funding primarily comes from the County Road Fund or through state and federal grants. The Road Fund comes from the County Road Levy, which is a property tax, and Skagit County's portion of the State's Motor Vehicle Fuel Tax. There are strict limitations within the State Constitution that define where Road Fund dollars can be spent. The Road Fund also includes an amount that is diverted to the Current Expense fund for Traffic Law Enforcement as prescribed in State Law. Road Fund money can either fully fund a project, or is often used as a match for grants.

The next phase of the design is the general plan set (sometimes referred to the 60% design) . This phase of the design is where the majority of engineering calculations are performed and alternatives are analyzed. We develop all the line work for our drawings and determine the final alignment and preliminary begin to write specifications that will be used to construct the project.

We then finalize the design by adding all the labeling and notes to complete the ad-ready construction plans set and complete the specifications and estimate. These are the documents used in the bidding of the project, the contract documents. The Board of County Commissioners authorizes to issue a Call for Bids, inviting contractors to submit bids for the project. The typical bidding period is two to three weeks, followed by the Bid Opening. The lowest responsive and responsible bidder is selected after review of all bids, or the bids may all be rejected. If one of the bidders is selected, the bid is awarded and the contract is then executed with the contractor.

Once the contract is executed, a pre-construction meeting is held to discuss the schedule, method of construction, and potential issues with the contractor, and a Notice to Proceed is sent to them. The contractor will start sending their submittals, and Engineering staff will review them for compliance with the contract documents. Unless otherwise negotiated, the construction will start within 10 working days. Engineering staff will manage the construction contract, review submittals, manage change orders, monitor the budget, inspect the construction, and process pay estimates. For large projects, a construction management company may provide some of these services. At the completion of the project, we close the project out and process final payment.

Development Review and the Right-of-Way/Utility permit process ensures that developments and work performed within the County right-of-way by others complies with Skagit County ordinances, codes, and standards regarding roadways and drainage. This group is also responsible for right-of-way vacations and securing the appropriate easements or other right-of-way dedication related to frontage improvements brought about through the development process.

The Survey group performs topographic and right-of-way surveys in support of County projects. They also support other divisions and departments within the County, as well as private surveyors and engineers, by researching right-of-way deeds and dedications. The group also supports construction of County Forces construction projects by providing construction staking services.

2020 was a challenging year with the pandemic and looking forward the future looks bright for the Engineering Division. We started our asset management program by having our contractor drive our roads and spatially locate our road assets: signs, striping, guardrail, etc. We are utilizing technology to a greater extent in most areas of our day to day work life, from remote working capabilities to e-signing and many other areas that will make production more effective and efficient.

 Projects Constructed in 2020:

- 2020 HMA Overlay — McLean Road from Best Road to Beaver Marsh Road

- Colony Mountain Drive Culvert Replacement

- Martin Ranch Road Culvert Replacement

- Ferry Terminal Maintenance

- Guardrail Safety Project — Install and upgrade guardrail on Bow Hill Road and South Skagit Highway

- Projects Planned for Construction in 2021:

- 2021 HMA Overlay — Old Hwy 99N from Samish River Bridge to Bow Hill Road

- Bow Hill Road

- Farm to Market/Josh Wilson Road Intersection Improvement

- Guardrail Safety Project — Install and upgrade guardrail on South Skagit Highway and Concrete Sauk Valley Road

- Illuminate Intersections — Havekost & Marine, Best/Chillberg/Calhoun, Concrete Sauk Valley Road & South Skagit Hwy

- Josh Wilson Phase 1

- North Shore Road — Lake Cavanaugh

- Upper Finney Creek Bridge Seismic Retrofit

2020 Accomplishments:

- Initiated data gathering exercise in relation to our asset management program.
- Right-of-Way Acquisition and Vacations
- Franchise Agreements
- Vehicle Collision Reporting
- Service Requests from public, staff, WSDOT and other local agencies
- Priority Array Report
- Concurrency Report
- County Safety Report
- ADA Transition Plan (working)
- Traffic Count service for County and various local agencies
- Maintained County Freights and Goods System
- Bridge inspection of County's 110 bridges biennially as well as 25 owned by local agencies
- Development review of plats for layout and drainage
- Permit review for fill and grade, access, utilities, administrative variance requests, special use applications, and technical input for Code Enforcement Action
- Administration of Contracts in compliance with County Policy and State and Federal laws and regulations.
- Responsible for Procurement and Requirements to Federally Funded Grants and Projects
- Environmental Permitting
- Plan, Design, Coordinate, and Oversee a Wide Variety of Projects involving the Construction of Maintenance of Facilities, Buildings, Roadways, Bridges and Ferry System.

Submitted CRAB reports required for receipt of Certificate of Good Practice, including: indent items

- Annual Certification
- Demonstrates county's level of compliance with RCW/WAC
- Six Year Transportation Improvement Plan
- Road Levy Certification
- Annual Construction Program
- Annual Construction Report
- County Arterial Preservations Program (CAPP)
- Annual County Arterial Preservation Program (CAPP) Report
- Pavement Management Condition Ratings
- Pavement Management System (PMS) Certification
- County Budget Summary
- Work Plan and Budget for MMS (Maintenance Management System)
- Maintenance Management Annual Certification
- Road-log Update
- Traffic Law Enforcement Certification
- Fish Passage Barrier Expenditures
- Outside of the county right of way

Road Reconstruction Projects
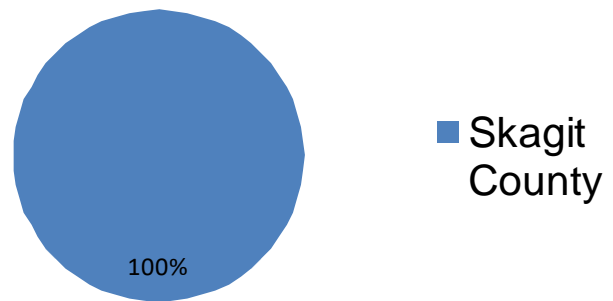
2020 HMA (Hot Mix Asphalt) Overlay

Before & After

02/03/2020 12:24

09/14/2020 14:43

Project Funding:

Total project costs was $418,146. Skagit County utilizes Capital Arterial Preservation Program (CAPP) funding for surfacing improvements to the county road system.

Project Funding Graph

100%

■ Skagit County

Project Narrative: The 2020 HMA Overlay Project is part of an annual program for improving Skagit County's arterial roadways by preserving the asphalt wearing surface. The western section of McLean Road between Beaver Marsh Rd., and Best Road was selected as this years project. The project involved grinding approximately 2-inches of asphalt from the road and replacing it with a new 2-inch layer of hot mix asphalt. This provides a new wearing course and extends the life of the road before deterioration reaches a point where complete reconstruction of the roadway is required.

The project was advertised for bid on June 4, 2020, with bid opening occurring on June 22, 2020. Four bids were received with Lakeside Industries, Inc. emerging as the low bidder. Construction began August 17th with Substantial Completion achieved on October 2, 2020, and Physical Completion achieved on October 2, 2020.

SKAGIT COUNTY

Placing the Asphalt

Road Reconstruction Projects
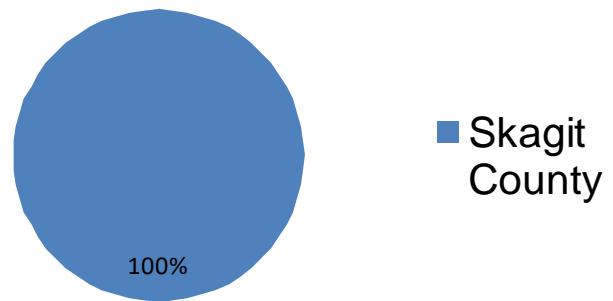
Colony Mountain Drive Culvert Replacement

Before & After

Project Funding:

Total project costs was $464,267. This project was funded by the County Road Fund.

Project Funding Graph

100%

■ Skagit County

Project Narrative: The Colony Mountain Drive Culvert Replacement Project was initiated after severe weather caused the existing 2-foot culvert to back up and allow water to run over the road. Elements of the project included, surveying, removal of the existing asphalt road surfacing, roadway excavation, removal of the existing culvert, coordination with utilities, erosion control, clearing and grubbing, installation of the new 11-foot culvert, streambed restoration, asphalt paving, erosion control, and other work,

The project was advertised for bid on July 2, 2020, with bid opening occurring on July 20, 2020. Twelve bids were received with Konnerup Construction, Inc. emerging as the low bidder. Construction began September 21, 2020 with Substantial Completion achieved on October 7, 2020, and Physical Completion achieved on October 22, 2020.

SKAGIT COUNTY

Installing the Culvert

Fish Passage Barrier Removal Projects

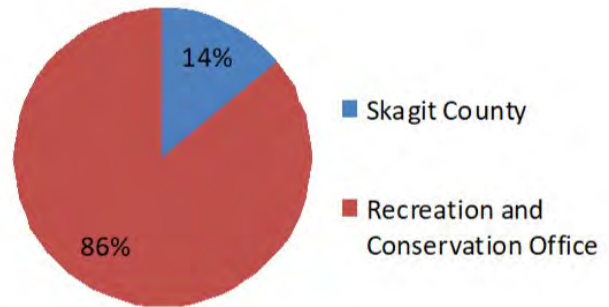Martin Ranch Road Culvert Replacement

Before & After

Project Funding:

Total project costs was $267,100. $229,842 through a Recreation and Conservation Office (RCO) grant and the remaining $37,258 County Road funds.

Project Funding Graph

14%
■ Skagit County

86%
■ Recreation and Conservation Office

Project Narrative: The Martin Ranch Road culvert project near Rockport replaced an existing culvert. This culvert had been identified as a fish passage barrier that was not meeting fish passage standards. The replacement of the culvert will restore unobstructed fish access in the stream. The new culvert is larger than the existing with a natural stream bed material base. The larger culvert caused the road to be raised a couple feet. The road was closed during construction with a temporary bypass road constructed on an old logging road near by.

The culvert was pre-purchased by the county in early 2019. The project was advertised for bid on July 27, 2020. Skagit County received eight bids with Williamson Construction, LLC as the low bidder. Construction started on August 31, 2020 with substantial completion achieved on September 14, 2020 and physical completion on September 18, 2020.

SKAGIT COUNTY

Installing the Culvert

Ferry Maintenance Project
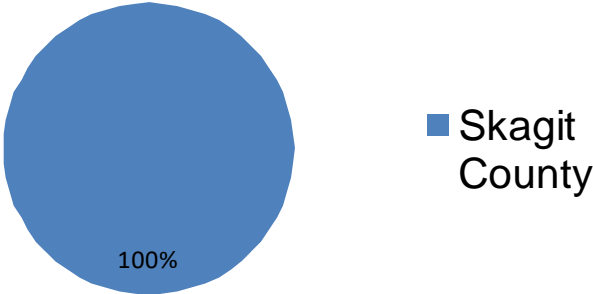
Guemes Ferry Terminal Maintenance

Before & After	Project Funding:
	Total project costs was $427,976 ($18,999 of this was expended in 2021). This project was funded by the County Road Fund.

Project Funding Graph

■ Skagit County

100%

Project Narrative: The Ferry Terminal Maintenance Project was initiated to provide preventative maintenance on the Anacortes and Guemes Island ferry docks. Elements of the project included, removal and replacement of the existing counterweight cables and sheaves, replacement of the apron hinge pins, replacement of the apron shoes, replacement of the transfer span hoist sheave block connection links, replacement of the counterweight tower planks and handrails, replacement of the transfer span flaps and pins, replacement of the apron actuator mounts, replacement of the apron hinge pin grease lines, and other work.

The project was advertised for bid on December 12, 2019, with bid opening occurring on January 6, 2020. Six bids were received with Combined Construction, Inc. emerging as the low bidder. Construction began June 29, 2020 with Substantial Completion achieved on August 6, 2020, and Physical Completion achieved on March 3, 2021.

SKAGIT COUNTY	Installing the Catwalk

Guardrail Projects

Guardrail Installation/Upgrade Various Locations
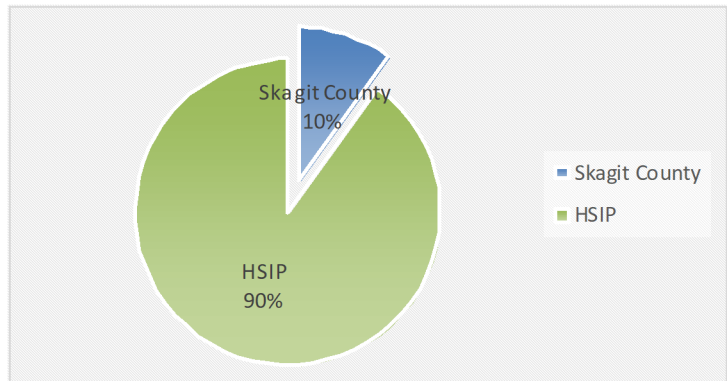
Before & After

Project Funding:

Total project cost was $240,321. We utilized FFY 2017 County Safety Selections Federal Funding (HSIP) for installation and replacement of guardrail to the county road system.

Project Funding Graph

Skagit County 10%

HSIP 90%

- Skagit County
- HSIP

Project Narrative: The Guardrail Installation/Upgrade project is part of a safety program to reduce fatal and disabling injury crashes, property damage, and societal cost along with the overall number and severity of the crashes. In addition address the local community's concerns for safety of the roadway.

Bow Hill Road (MP 2.74 to MP 2.90) Installation of approximately 0.16 miles of traffic barrier guardrail along Bow Hill Road. The work performed included, removal of 692 linear feet of existing guardrail; installation of approximately 725 linear feet of Beam Guardrail Type 31, non-flared terminal.

South Skagit Highway (MP 5.82 to MP 6.22) Installation of approximately 0.40 miles of traffic barrier guardrail along South Skagit Hwy. The work performed included, installation of approximately 1,851 linear feet of Beam Guardrail Type 31, non-flared terminal and anchors.

SKAGIT COUNTY

Installing the Guardrail

Solid Waste Division, Margo Gillaspy, Division Manager

The Solid Waste Division was very busy in 2020! After an average start to the year, we saw a large increase in customers to our transfer station and in materials disposed as "stay at home" orders began. People took advantage of their time at home to work on spring cleaning and disposal. Solid Waste staff were able to maintain COVID safe procedures in requiring masks and physical distancing to keep customers and themselves safe. Solid Waste was able to provide full service throughout all of 2020.

The Solid Waste Division is responsible for the removal of all solid waste in Skagit County. The Skagit County Transfer Station on Ovenell is the final collection point for all solid waste generated in Skagit County. Material is brought to the Transfer station by commercial truck or self-hauler. Transfer Station staff direct traffic to ensure safety of all customers while they unload material. After the waste has been dumped on the tipping floor, Transfer Station staff will use a loader to push the waste into the compactor located below the tipping floor. There the waste is compacted to decreased volume and increase shipping efficiency. The material is pushed into a bin, and each bin holds approximately 30 tons of material. Once a bin has been filled and fully compacted, one of the transfer station drivers will drive the full bin over to the rail yard close to the Transfer Station. The bin will then be loaded onto a train and taken to the Roosevelt Landfill in Klickitat County where the waste is landfilled.

In addition to the Skagit County Transfer and Recycling Station on Ovenell, the Solid Waste Division operates two satellite sites to support solid waste disposal needs throughout Skagit County. These other sites include:
Sauk Transfer Station in Concrete;
Clear Lake Compactor Site in Clear Lake;

Each of these sites offers drop-off services for garbage disposal and household recycling as well as household appliances, used motor oil, batteries, and antifreeze. Recycled materials collected at all three transfer stations are taken to Skagit River Steel and Recycling for further sorting and processing. The Sauk Transfer Station and Clear Lake Compactor Site took in approximately 2% of the total waste collected in Skagit County.

In 2020, the three Skagit County sites collected 123,620 tons of solid waste and 3,030 tons of recycling. This is a 5% increase in solid waste and 41% increase in recycling over 2019 tonnages!

The Solid Waste Division has a staff of 22 full-time and regular part-time administrative and operational employees as well as two on-call employees. The Division is responsible for Transfer Station operations, Household Hazardous Waste collection, Litter Crew program, Recycling Education, and Environmental monitoring programs for the County's closed and abandoned landfills.

Throughout the year the Solid Waste Division focused on improving the operation of the System ensuring that waste was handled as efficiently as possible and maintaining our traditionally high level of customer service while ensuring that customers and staff followed COVID-19 protocols.

The Solid Waste Division had a rate increase for disposal in June 2020, increasing the disposal fee to $99 a ton with a $16 minimum for disposal at the Transfer Station and Sauk Transfer Site. Clear Lake maintained its rate of $7 a can for disposal.

Litter Crew Program

The Litter Crew Program is an effective way to keep the County jail from becoming overcrowded by offering out-of-custody inmates the chance to show up for a job every morning and pay restitution to their community. Due to COVID-19 protocols, this program was unable to run from mid-March until June 1, 2020. Even with reduced hours and eligible participants, the Litter Crew was still able to clean-up roadsides and illegal dumps in Skagit County.

In 2020, the litter crew:
    Completed 5,296 supervised Community Services Hours;
    Cleaned 304 miles of county roads;
    Responded to 164 illegal dump sites; and
    Collected 52,480 pounds of trash.

Household Hazardous Waste Program
The Skagit County Household Hazardous Waste (HHW) Facility is operated within the grounds of the Skagit County Transfer and Recycling Station on Ovenell Road in Mount Vernon. The HHW facility is free for Skagit County residents to dispose of their household generated hazardous materials. Household hazardous waste includes such items as household cleaners, used motor oil, herbicides, fertilizers, air fresheners, and fluorescent lightbulbs.

The HHW Facility was able to maintain full service in 2020.

The facility assisted 5,996 households in 2020 and disposed of approximately:

    7,694 pounds of fluorescent lights;
    17,947 gallons of used motor oil;
    10 pounds of elemental mercury;
    32,420 pounds of automobile batteries;
    45,450 pounds of oil paint/solvents; and
    61,166 pounds of poison/pesticide materials.

In addition to County households, businesses that qualify as Small Quantity Generators (SQGs) of hazardous waste use the Facility for their hazardous waste disposal needs. Some examples of these businesses are dental offices, machine shops, tanning salons, and water treatment plants along with local cities. To qualify as a SQG, the business must produce less than 220 pounds of hazardous material per month.

In 2020, the Skagit County SQG program helped 165 local businesses dispose of approximately:

    4,225 pounds of fluorescent lights;
    427 gallons of used motor oil;
    8,550 pounds of oil paints/solvents; and
    6,834 pounds of poison/pesticide materials.

The Skagit County HHW Facility ensures the safe disposal of these materials out of our general waste stream which keeps the Transfer Station staff safe and helps to keep our land, air, and waters safe from contamination.

Solid Waste Outreach and Education

In 2020, the Solid Waste Division had to change its outreach strategy to be able to engage county residents on issues of waste reduction, recycling, and compost education. Instead of in-person community events, this outreach shifted online to social media. An active Facebook page and Nextdoor account were used to interact with Skagit County residents and answer questions. Good old-fashioned phone calls are also a great way to stay in touch and to get help with any recycling or waste question.

The Waste Reduction and Recycling Education Specialist began a series of online webinars over a variety of waste reduction and recycling topics. This outreach will continue through 2021.

Solid Waste Fund
Fund 401

Revenues	2020
Taxes/Assessments	
Intergovernmental Revenue	182,264
Charges for Services	12,964,638
Miscellaneous	547,556
Other	
Total Revenue	13,694,458

Expenditures	2020
Salaries and Wages	1,547,582
Benefits	522,850
Supplies	111,143
Other Services and Charges	8,725,693
Debt Service	323,980
Capital	342,065
Total Expenditures	11,573,313
Net Increase/Decrease	2,121,145

Cash Basis Statement, for GAAP, see County's CAFR for 2021

Landfill Environmental Monitoring Program

The County Hydrogeologist manages the Environmental Monitoring Program for the Solid Waste Division. The Environmental Monitoring Program includes groundwater and landfill gas (LFG) monitoring and maintenance of landfill caps and appurtenances at three closed landfills: Gibraltar, Inman, and Sauk, and the operation and maintenance of the LFG extraction and leachate collection system at Inman Landfill. The Environmental Monitoring Program also includes the investigation and management of several older landfills located throughout the County, including the environmental investigation of Whitmarsh Landfill.

The Solid Waste Division made major strides towards the remediation of Whitmarsh/March Point Landfill in 2020. A consent decree was finalized and a contract was set up with an environmental consultant, Wood Environmental, to develop the remediation plan. Looking forward to 2021, Solid Waste is planning on conducting a Pre-Design Field Investigation as well as initial monitoring of the March Point Heronry located next to the landfill. Construction is tentatively planned for Summer 2023. Work will include regrading of the site, installation of landfill gas vents, and installation of a synthetic clay liner that will prevent future rainfall from seeping into the landfill. The liner will be covered with soil and planted with grass to provide a natural look to the site, and to continue to provide natural habitat.

Equipment, Rental and Revolving Fund, Rick Owens, Division Manager

The Equipment Division
Also known as "ER&R" or the "County Shop"

Staff

Rick Owens	Division Manager	Jeff White	Shop Supervisor
Kyle Fink	Inventory Clerk	Katrina Hadlock	Staff Assistant II
Travis Serna	Maintenance Mechanic III	Andrew Brown	Maintenance Mechanic III
Rex Elliott	Maintenance Mechanic III	Casey Haveman	Maintenance Mechanic II
Jesse Breckenridge	Maintenance Mechanic II	Conner Christie	Maintenance Mechanic II
Brandon Murdock	Shop Aide		

What is ER&R?

Equipment Rental and Revolving funds, also known as ER&R, was established by resolution #8059 on July 24, 1979 to provide equipment rental service within our local government. Per RCW 36.33A all Counties shall establish an ER&R fund to be used for the purchase of equipment, materials and supplies needed by the county Operations Division. It is the duty of the County Engineer or other appointee to administer the ER&R fund. The County Engineer is responsible for determining how rental rates are calculated and is held accountable by the County Road Administration Board (CRAB) for all equipment purchases.

ER&R Mission

ER&R strives to provide safe, cost efficient and reliable transportation that adequately meets our County's needs while being environmentally conscious. We also provide County Departments with responsive, cost effective, maintenance and repair, purchasing and storage of materials, and supplies necessary for operation.

ER&R Fleet

With over 395 units in our fleet, ER&R rents vehicles and equipment to 29 different county departments or divisions. Our four biggest customers are Operations, Solid Waste, Parks, and the Sheriff Department. We currently have six mechanics with diverse backgrounds to maintain and repair our wide variety of equipment. ER&R is putting extra emphasis into purchasing the most current emission vehicles, while staying within our budget, to improve our fleets environmental impact. In addition to enhanced emissions we are using eco-friendly oils whenever possible. Here are a few types of equipment that we purchase and maintain:

Dump Trucks	Front End Loaders
Tractors with Boom Mowers	Road Graders
Excavators	Sweepers (kick off & vacuum)
Rollers	Chip Spreader
Sod Picker	Paint Striper Truck
Vactor Truck	Road Oil Distributors
Roadside Vegetation Management Truck	One Ton Trucks
Garbage Bin Hauling Trucks	Vans
Pickups & Cars (gas & hybrid)	SUV's
Riding Mowers	Ballfield Equipment
All-Terrain Vehicles	Patrol Vehicles
Communicable Disease Van	Impact Sheriff Vehicles
Tractors with Loaders and Attachments	Small Equipment like Pumps, Plate Compactors, Jumping Jacks

Reimbursable Customers

We also have several Reimbursable customers, these customers have equipment not owned by ER&R, but choose to have our shop maintain their vehicles and equipment. Parts and labor are then billed to these accounts on a quarterly basis. We have worked with many of these organizations for several years including the Sheriff Task Force and Search and Rescue. In the last two years we have entered into Inter-local agreements with Public Utility District No. 1 of Skagit County and the City of Sedro-Woolley Equipment. Due to the similar scope of work much of the equipment is familiar to our shop.

Other Activities of the Equipment Division

The ER&R Division coordinates an annual surplus auction which includes: creating a list from ALL Departments , hold a public hearing, facilitating transportation to the auction, and report ALL sales to Washington State Department of Licensing. The ER&R Division also performs a variety of work for other County Departments. The following are just a few examples:

· Engine swaps and many other maintenance activities for the Guemes Island Ferry
· Repair work to 30 yard roll-off dumpsters for the Solid Waste Division
· Fabrication and installation of large steel gates for Operations Division
· Assisting with the demolition of large RV's for Operations Division
· Assisting Environmental Services with fish passage projects

Central Stores

Our Division purchases and inventories a variety of parts and materials for the maintenance of our fleet, as well as supplies for the Operations Division including: Road salt for snow and ice remediation, Culvert, Guardrail, Paint for striping center lines and fog lines on County roads, Road oil and tack used for the annual chip sealing.

For years Central Stores has overseen and managed 3 fuel depots owned and operated by Skagit County. Due to age and increased liability we have found it to be in the best interest of Skagit County to decommission these sites. Skagit County entered into contract with Reisner Distributor Inc. for our fleets fueling needs. With multiple product options, increased theft protection, report access, close proximity to existing locations and the addition of alternate locations, switching to an outside vendor was a great decision for our fleet. Central Stores still monitors transactions and allocates fuel purchases to equipment monthly using reports created by our vendor.

Fuel Depots

Skagit County has three fuel sites, Burlington Shop, Concrete Shop and Sheriff's Office. All of these sites have been pumped out and the fuel dispensers have been drained and locked. As these systems have aged the costs for updating and maintaining as well as the increased liability has lead ER&R to move to an outside vendor for our fueling needs. All tanks have cathotic protection that is active and is inspected every three years by the Department of Ecology. In the upcoming year we are working on getting a plan in place to permanently decommission these sites, until this is completed we will maintain our tank insurance.

Maintenance Materials

Each year we advertise a call for bids for the following products: Liquid Asphalt, Gravel Products, Rock Products, Specialty and Mixed Asphalt Products, and Concrete Products. All of these products are used by the Operations Division to complete a variety of projects. We enter into contract with all vendors who Operations plans to exceed $25,000 in a one-year period.

Pits and Quarries

ER&R manages inventory at the following pits: Butler Pit, Duke's Hill Pit, and Eagle Hill Pit. All pits are permitted and have approved reclamation plans from the DNR. At the end of the 2019/2020 snow season the Operations Division depleted our road sand stockpile. During the summer of 2020 ER&R rented the equipment needed to screen approximately 9 years of sand from our waste fines at Butler Pit.

Facilities in Burlington and Concrete

The facility maintenance is a team effort between ER&R, Operations, and Facilities Divisions: At both facilities we maintain a variety of buildings, structures, and roadways. We also service and winterize the Burlington wash rack and yard. Included in our yearly maintenance is the cleaning out of the oil/water separators as well as parking lot up keep.

Burlington Yard Includes:
- Mechanic Shop
- Road Oil Tanks
- Wash Rack
- 2 Truck Sheds
- Sign Shop
- Old Shop along HWY 20
- Operations Office

Concrete Yard Includes:
- Admin Building (offices and crew room)
- Shop/Truck Shed
- Sand/Salt Storage Building

Leonard Ridge Radio Tower

The County has over 200 mobile and portable radios. The radio system is not used nearly as much as it once was because cell phones are the primary form of communication. However, cell phones stop working during some emergencies so it is important for us to keep radios in all the emergency response vehicles and in construction equipment so that crews can communicate. Our crew installs and programs the radios that go into new equipment.

We maintain the repeater site at Leonard Ridge. This site is powered off of 20 solar batteries.

Two other repeater sites (Lyman Hill and Devil's Mountain) are maintained by a contractor.

Equipment Rental & Revolving Fund 501

Revenues	2020
Taxes/Assessments	-
Grants	-
Charges for Services	2,001,824
Miscellaneous	5,156,509
Other	167,266
Total Revenue	7,325,599

Expenditures	2020
Salaries and Wages	713,154
Benefits	337,668
Supplies	2,176,732
Other Services and Charges	1,104,962
Intergovernmental Services	
Capital	1,757,548
Interfund Payment for Services	
Total Expenditures	6,090,064

Net Increase/Decrease in Fund Balance	1,235,535

2020 Vehicle and Equipment Purchases

(Total Cost Includes all Outfitting)

New Vehicle	Total Cost	Department
Oil Distributor	$ 286,693.00	Ops
Communicable Disease Van	$ 98,665.00	Health Pool
12 passenger van E350	$ 32,584.00	Transfer
Ford F150 4X2 Reg Cab	$ 27,000.00	Ops
Ford F150 4X2 Reg Cab	$ 27,000.00	Ops
Ford F150 4X2 Reg Cab	$ 28,000.00	Transfer
Ford F150 4x4 Dbl Cab	$ 39,000.00	Water Res.
Ford F150 4X2 Reg Cab	$ 37,100.00	Engineering
Ford F150 4x4 Dbl Cab 6.5' box	$ 47,000.00	DEM
Ford F250 4x4 Dbl Cab 6' Box	$ 35,400.00	Ops
Ford F250 4X4 reg cab	$ 34,000.00	Ops
Ford F250 4X4 reg cab	$ 46,500.00	Ops
Ford F350 4X4 reg cab	$ 46,500.00	Ops
Chevy 1500 4x4	$ 42,800.00	Ops
Ford Escape 4x2	$ 22,200.00	Health Pool
Ford Escape 4x4	$ 31,800.00	Planning
Ford Escape 4x4	$ 36,000.00	Water Res.
Ford Escape 4x4	$ 35,700.00	Planning
Ford Escape 4x4	$ 28,500.00	Planning
Ford Interceptor	$ 39,525.00	EMS
Dodge 5500 Service Truck	$ 145,200.00	Shop
Ford 1-Ton	$ 40,600.00	Parks
1 Ton Sander Plow Truck	$ 100,015.00	Ops
Rail Truck	$ 190,500.00	Transfer
Brushcutter	$ 157,976.00	Ops
Kick off broom- towable	$ 73,400.00	Ops
672G Grader	$ 302,700.00	Ops
JDEERE 1570	$ 29,200.00	Parks
JDEERE GATOR 615	$ 12,700.00	Parks
JOHN DEERE 997	$ 17,200.00	Parks
Cracksealer	$ 56,200.00	Ops
Pup Trailer	$ 81,600.00	Ops
Small Trailer, Tandem Axle	$ 6,500.00	Ops
Forklift - Cat GP25	$ 34,500.00	Shop
Tahoe - Patrol	$ 69,735.00	Sherriff
Tahoe - Traffic	$ 69,735.00	Sherriff
Interceptor - Traffic	$ 60,135.00	Sherriff
Interceptor - Traffic	$ 60,135.00	Sherriff
Interceptor - Patrol x11	$ 661,485.00	Sherriff
TOTAL	$ 3,191,483.00	

Natural Resources Division, Michael See, Division Manager

The Natural Resources Division of Skagit County Public Works includes two primary groups; Surface Water (Drainage Utility Fund 402) and Water Resources (Clean Water Fund 120). Farmland Legacy, Lake Management Districts, and the Noxious Weed program are also managed under the Natural Resources Division. A highly-trained staff of 14 manages a number of programs to provide clean water, effective drainage, flood damage reduction and restoration. Partnering with dike and drainage districts, tribes, state and federal agencies, Skagit Conservation District and local non-profit agencies, Skagit County effectively leverages local funding sources and resources for maximum efficiency and results. The Natural Resources Division works closely with:

- Engineering Division
- Operations Division
- Solid Waste Division
- Skagit County Planning and Development Services Department
- Skagit County Environmental Health
- Skagit County Parks Department

Natural Resource Division Looking Forward

- Continue to decrease the average levels of bacteria in the Samish River
- Develop a long range strategic plan for the Natural Resources Division
- Increase the presence of Skagit County's Natural Resources Stewardship Program in our priority watersheds
- Continue to expand the Pollution Identification and Correction program to the Padilla, Nookachamps, and other priority watersheds.
- Explore the potential to collect a special assessment for the Noxious Weed Program to increase its value for the public.
- Modify special assessments as needed to continue management of aquatic noxious weeds at our four established Lake Management Districts.
- Support the Skagit County Marine Resources Committee and projects that benefit marine habitat.
- Revise the goals of our ambient Water Quality Monitoring Program to reflect current needs.
- Seek grant funding to support removing priority salmon barriers under County roads.
- Utilize the County's Drainage Utility Fund to help address regional drainage concerns outside of County Right of Way.
- Coordinate with other County Departments to ensure all of our NPDES Phase II Stormwater Permit requirements are fulfilled.

Clean Water Fund 120

The Clean Water Program (Fund 120) developed from the Clean Water (Shellfish Protection) District (CWD) created in 1995, which was originally designed to reduce bacterial pollution in Samish Bay by correcting failing septic systems in Edison and Blanchard.

From 1999 – 2005, Skagit County monitored water quality throughout the Samish Watershed. This monitoring revealed an ongoing fecal coliform pollution problem. Fecal coliform indicates the presence of bacterial organisms that can cause diseases such as typhoid fever, viral and bacterial gastroenteritis, hepatitis, and norovirus.

As a result of the continued high bacterial levels, Skagit County created the Clean Water Program (CWP) to strengthen non-point pollution reduction measures, educate the public, control non-point pollution, and develop a more thorough water quality monitoring program.

All of the programs listed below are wholly or partially funded by the CWP and are dedicated towards improving Skagit County's water quality.

Clean Water Fund 120 Revenue and Expenditures

Revenues	2020
Taxes/Assessments	1,723,895
Grants	251,188
Charges for Services	
Miscellaneous	1,761
Other	
Total Revenue	1,976,844

Expenditures	2020
Salaries and Wages	415,916
Benefits	183,787
Supplies	18,089
Other Services and Charges	851,244
Intergovernmental Services	
Capital Outlays	
Total Expenditures	1,469,036
Net Increase/Decrease in Fund Balance	507,808

Skagit County Marine Resources Committee

Established in 1999, the Skagit County Marine Resources Committee (SMRC) is one of seven citizen-based advisory committees formed under the congressionally-authorized Northwest Straits Initiative (NWSI). SMRC has been primarily supported by federal grant funding through the NWSI and the Northwest Straights Commission, and partly by the CWP. Although many of the regular outreach events had to be cancelled due to the COVID Pandemic, below are some of the 2020 highlights:

Education and Outreach
Fidalgo Bay Day: Fidalgo Bay Day is a free, fun, educational event for citizens of all ages who want to learn about the marine environment and what they can do to help protect it. For 2020, the MRC pivoted to a virtual event and focused on developing and distributing the 2020 Fidalgo Bay Day Activity Guide for families to take advantage of.

Salish Sea Stewards: SMRC's signature Salish Sea Stewards program provides over 40 hours of classroom and some field-based training for volunteers. The classes are taught by qualified experts and cover marine science-related topics and important issues impacting the Salish Sea. For 2020, the MRC pivoted to an online course which was very successful and well attended. Twenty one volunteers completed training in 2020.

Kids on the Beach: Kids on the Beach program is designed to increase literacy in marine science in Skagit County middle schools with real, relevant, local experience in marine science and restoration. The goal is to provide school kids with a variety of hands-on authentic marine conservation research in the classroom and on the beach. The program went virtual in 2020 with 580 students, 11 teachers, and 8 different schools participating.

Marine Habitat Protection and Restoration
Nearshore Restoration Monitoring: SMRC partnered with the Northwest Straits Foundation in a coordinated effort to continue post-construction monitoring at SMRC's Bowman Bay and March's Point nearshore restoration sites using trained volunteers. Nearshore monitoring parameters include forage fish spawning surveys, beach seining, intertidal monitoring, and beach wrack and large woody debris surveys. In 2019, 72 volunteers logged over 824 hours of nearshore monitoring.

Bowman Bay Nearshore Restoration: Skagit MRC partnered with the Skagit Fisheries Enhancement Group, Northwest Straights Foundation, and Deception Pass State Park to recruit volunteer stewards to weed and water the nearshore vegetation at the Bowman Bay restoration site. In 2020, only small groups of volunteers were allowed to help in order to comply with COVID-19 safety guidelines.

Marine Species Protection and Restoration
Pinto Abalone Recovery: Since 2009, as part of an ongoing collaborative effort to recover the serious declining pinto abalone population, over 13,700 hatchery-raised juvenile abalone have been introduced to 8 different outplant sites in Skagit County. In 2019, SMRC partnered with the Puget Sound Restoration Fund (PSRF) to conduct diver surveys. Survey data indicates that abalone are growing larger in size and density and spreading beyond the four original restoration sites.

Olympia Oyster Restoration: Since 2002, SMRC has been working collaboratively with PSRF and other partners to establish several sustainable native Olympia oyster beds in Fidalgo Bay. We now have an estimated 3 million oysters in Fidalgo Bay. Even though volunteer work and monitoring was reduced in 2020, over 42 volunteer hours were logged and 20 annual recruitment bags were collected and monitored for oyster settlement.

Questions about Skagit County's Marine Resources Committee can be directed to Tracy Alker at:

tracya@co.skagit.wa.us or (360) 416-1462.

Pollution Identification and Correction Program

The mission of Skagit County's Pollution Identification and Correction (PIC) program is to protect the public from waterborne illness and other related water-quality hazards. Skagit County's PIC program has been operating since 2010 and has successfully reduced levels of fecal coliform bacteria in the Samish Bay and Padilla Bay watersheds.

Water quality monitoring is the core of any PIC Program. Sampling sites are identified near the confluence of streams and are monitored on a regular basis. Where high levels of pollutants are found, source identification sampling occurs upstream to identify where the pollution is coming from. Staff then follow up with site visits to property owners to identify the source of pollution, working with them to correct any problems that are found. Common sources include pets, leaking septic systems, and livestock such as horses, cows, and pigs.

Thanks to partnerships with other organizations, the PIC program is able to offer resources to property owners who may have problems on their property that need to be solved. With the help of partners like the SCD, the Skagit County Health Department, and the SFEG, we can offer low interest loans and grants for septic system repairs or replacements, free and confidential farm assessments by trained farm planners, assistance with farm management, and financial assistance for fencing, invasive plant removal, native plantings, and other projects.

Clean Samish Initiative

The Clean Samish Initiative (CSI) is a partnership established in 2008 between state and local agencies, tribes, and volunteers to identify and correct sources of bacterial pollution in the Samish Bay watershed. Led by Skagit County, the CSI partners work to reduce bacteria levels in the watershed to meet state water quality standards and protect commercial shellfish beds from pollution.

2020 Progress in Samish & Padilla

4 livestock problems identified
6 livestock problems fixed

Livestock best management practices survey 60% complete

112 septic system deficiencies found
84 deficiencies fixed
4 failed septic systems found
2 failures fixed

22 total source identification investigations, 9 new in 2020

12+ pet waste stations maintained

Due to strong community participation and stewardship activities, we are continuing to make progress, and we are closer to our goal than ever.

Table 1. Onsite septic system failures and deficiencies found and fixed in 2020*

Area of interest	Failures Found	Failures Fixed	Deficiencies Found	Deficiencies Fixed
Samish Bay	2	1	83	63
Padilla Bay	2	1	29	21
South Skagit Bay	3	2	100	77
Greater Skagit County	11	2	174	125

*Data for fixes are only for those problems found in 2020. Limited staff availability has reduced staff's ability to track repairs and replacements completed for problems found in previous years.

Water Quality Monitoring Program

Skagit County's Water Quality Monitoring Program (SCMP) was initiated as part of the Monitoring and Adaptive Management component of the current Critical Areas for Ongoing Agriculture (SCC 14.24.120)(Ag-CAO). The monitoring program began in October 2003 and consists of 40 sites throughout western Skagit County, located both within and outside of areas zoned Agricultural Natural Resources Lands (Ag-NRL) and Rural Resource.

Each sampling site is visited biweekly (26 times per year), and staffers measure such parameters as dissolved oxygen, temperature, pH, turbidity, conductivity, and salinity. Samples are also obtained for laboratory analysis of FC bacteria (each visit) and nutrients (quarterly).

The intent of the SCMP is to assess current water quality conditions and determine if positive or negative trends in water quality are occurring in areas affected by the Ag-CAO, and to determine if those trends are unique to agricultural areas or widespread throughout the county. Data analysis indicates that for the length of the study, there are several statistically significant trends in water quality in Skagit County. As of the end of 2019 (latest data available), positive trends outnumbered negative trends across the 16-year length of the study, although there are vastly more positive trends than negative in the last five years. Positive and negative trends   occurred in both agricultural and non-agricultural locations.

Several years ago, SCMP monitoring revealed FC problems in the Samish River. This finding led to the formation of the CSI. Part of the CSI's effort is the PIC program, designed to locate and remediate sources of pollution through cooperative, common-sense measures.

Water quality monitoring remains an important component of the Skagit County Public Works – Natural Resource Division's functions. Water quality is an important barometer of natural resource conditions as we seek to protect and restore our aquatic resources.

Statistically significant trends observed across 40 sites in Skagit County

Last 16 years		Last 10 years		Last 5 years	
Positive	Negative	Positive	Negative	Positive	Negative
158	154	42	33	109	11

* At each site, 18 trends were analyzed during the 16 year period, while only 6 trends were analyzed during the 10 and 5-year periods.
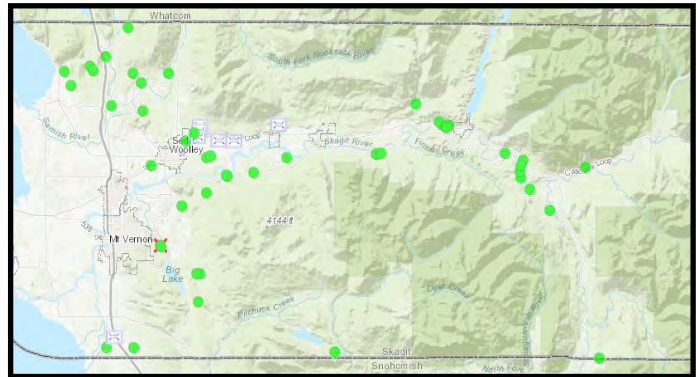
Questions about Skagit County's Annual Water Quality Monitoring program can be directed to Kevin Jackman at kevinj@co.skagit.wa.us or (360) 416-1443.

Fish Habitat Restoration Program

The Fish Habitat Restoration Program (FHRP) is an ongoing County program dedicated to protecting water quality and fish habitat and is guided by the Habitat Improvement Plan (HIP). The mission of the HIP is to create and advance restoration strategies that support Skagit County goals for promoting the health of our watershed, improved water quality, and enhanced habitat for salmon. The HIP provides a road map for restoring salmonid habitat and improving water quality by identifying short, medium, and long-term project goals while allowing flexibility to work on opportunistic projects.

Projects designed to improve fish habitat also have water quality benefits. Riparian vegetation acts as a filter by removing pollutants before they reach streams, while at the same time providing distance between pollutant sources and streams, and stabilizing banks. Riparian habitat restoration therefore results in improved stream temperatures, reduced pollution levels, and can improve sediment transport.

Skagit County has more than 800 miles of roads with hundreds of culverts. Since 1999, the County has replaced about 50 small, inefficient, and/or failing culverts with larger culverts or other fish-friendly crossings. Smaller, older culverts act as barriers for fish attempting to make the upstream migration while also easily plugging, causing erosion, or flooding upstream. Small culverts often present a velocity barrier for fish attempting to migrate through them, and perched culverts prevent fish from jumping into the culvert, meaning they can't access habitat available upstream. Conversely, large culverts and bridges allow water to flow through at a more natural rate while also passing debris associated with streams. This provides a more stable stream environment for fish that also reduces flooding problems on private properties and on County infrastructure. Reducing flooding and erosion problems also improves downstream water quality throughout Skagit County.

The County routinely applies for grants from various agencies including the State Recreation and Conservation Office, Salmon Recovery Funding Board, Department of Ecology, National Fish and Wildlife Foundation, and private sources. Additionally, we partner with various organizations throughout the County, including local Tribes, SFEG, Skagit Land Trust, and others.

Some of the completed Fish Habitat projects:

1. Completion of South Fork off-channel habitat design
2. County culvert analysis and optimization
3. Value Engineering for the Ovenell Slough project
4. Maddox Creek final design
5. Natural Resource Stewardship Program

Drainage Utility Fund 402

Skagit County's Drainage Utility started in 1997 to address drainage concerns within unincorporated Skagit County. Drainage concerns in the County are innumerable, and often fall within the categories of ditch maintenance/grading, culvert maintenance, lack of infrastructure, failing infrastructure, inadequate conveyance, and sedimentation. The source of a drainage issue is often from surface water or runoff that has traveled from other parts of the County, so staff examine concerns on a watershed scale.

Drainage Utility staff coordinated with Drainage Districts, Cities, WSDOT, Road Operations, Stormwater, and Planning staff to develop solutions to drainage concerns. The Drainage Utility financially partnered with Drainage District 14 to implement the Joe Leary Slough outlet, a significant infrastructure improvement project in the delta, pictured here.

Joe Leary Slough Outlet (Freshwater Side) Ribbon Cutting

In 2020, Drainage Utility staff responded to drainage concerns, investigated the source of the issue, developed projects to remedy the drainage concerns, and addressed regional drainage concerns through watershed planning efforts.

Skagit County Staff at South Similk Pump Outlet

Joe Leary Slough Outlet (Saltwater Side) Ribbon Cutting

For information about the Skagit County Drainage Utility, contact Kara Symonds at (360) 416-1447

Successful Partnerships

The Drainage Utility covers most of the county, with some exceptions including drainage districts, cities, tribal lands, and forest lands. However, it was recognized that watersheds may overlap both Drainage Utility properties and exempt properties. Because of the mutual impact, Drainage Utility projects have been constructed in partnership with many groups, including:

- Dike, Drainage and Irrigation Improvement District 5
- Dike, Drainage and Irrigation Improvement District 12
- Drainage and Irrigation Improvement District 14
- Drainage and Irrigation Improvement District 15
- Drainage and Irrigation Improvement District 16
- Drainage and Irrigation Improvement District 17
- Drainage and Irrigation Improvement District 19

- Drainage District 21
- Consolidated Diking Improvement District 22
- Dike, Drain and Irrigation Improvement District 25
- Skagit River System Cooperative
- Sauk-Suiattle Indian Tribe
- Swinomish Indian Tribe
- Upper Skagit Indian Tribe

Partnerships have enabled the completion of dozens of mutual benefit projects over the years, including some of the projects shown below:

No Name Slough Bypass Culverts

Maupin Road Conveyance Improvement

Dike & Drainage District 22 (2008)

Red Creek Culvert Replacement

Bay View Padilla Bay Culvert Extension

Brown Slough Pipe Lining

Samish Flood Return Pipe Lining

Joe Leary Slough Bridges

Chilberg Pump Discharge Pipe Lining

Drainage Utility
Fund 402

Revenues	2020
Taxes/Assessments	1,692,864
Grants	683,933
Charges for Services	
Miscellaneous	34,987
Other	
Total Revenue	2,411,784

Expenditures	2020
Salaries and Wages	433,991
Benefits	325,407
Supplies	8,362
Other Services and Charges	2,039,950
Other	(300)
Capital Outlays	375,531
Total Expenditures	3,182,941
Net Increase/Decrease in Fund Balance (Cash Basis)	(771,157)

Conservation Futures/Farmland Legacy Program Fund 122

Conservation Futures/Farmland Legacy Program Fund 122
The Skagit County Farmland Legacy Program is a County initiative that purchases agricultural easements on Skagit farmland, and works to support policies, programs, and plans that enhance the protection of farmland. Funding comes from the conservation tax and is often leveraged with federal and state grants and private donations. The Farmland Legacy Program became part of Skagit County Public Works in 2014.

Responsibilities

The Skagit County Conservation Futures Advisory Board is responsible for administering the Farmland Legacy Program, which purchases development rights and places perpetual conservation easements on agricultural lands.
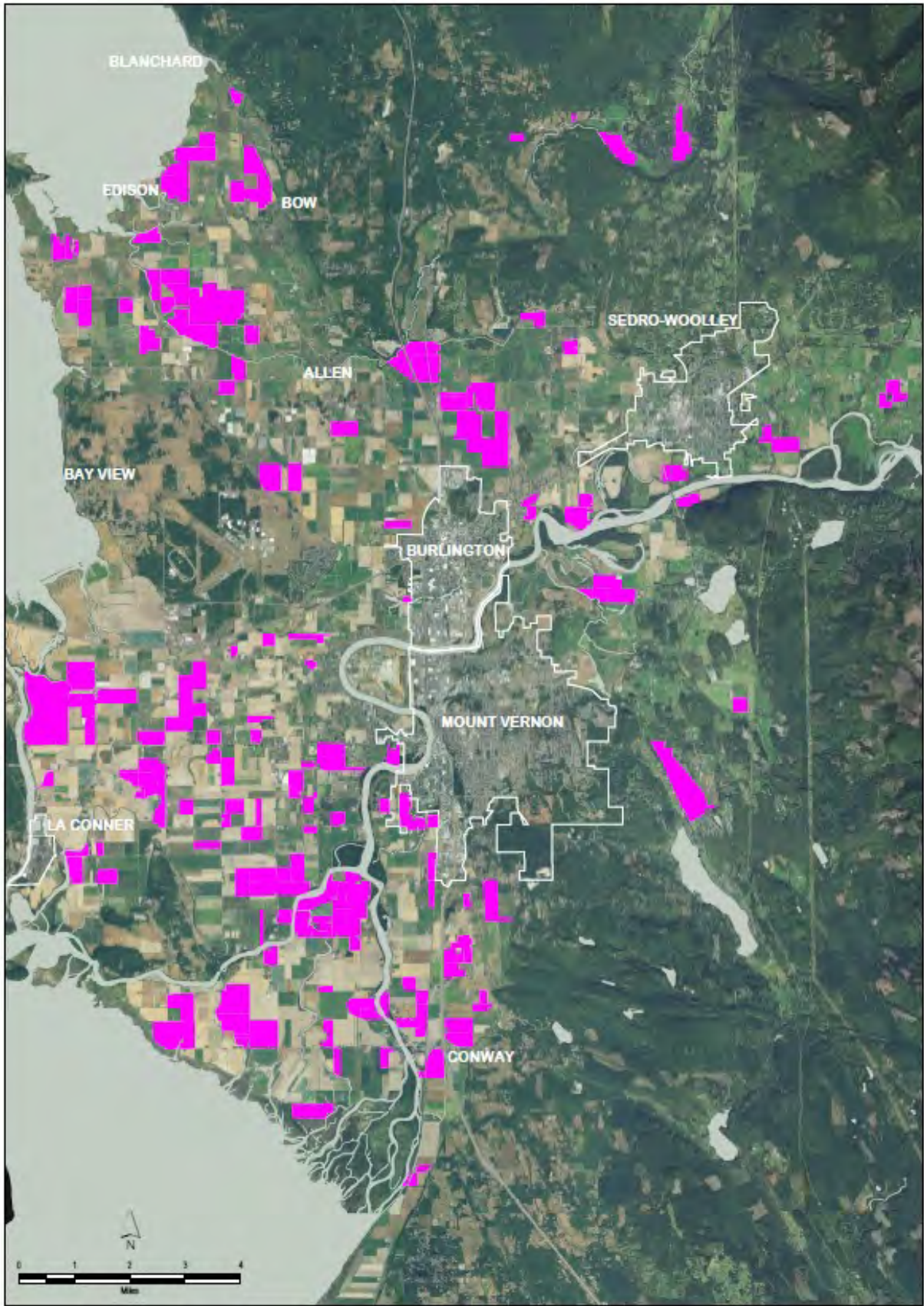
Program Concept

Easements are held by the County in perpetuity. The property owner continues to own the land and may sell or lease the farm if he or she chooses but the development restrictions run with the land. The intention is to maintain the farmland in a productive manner allowing uses that support that goal.

The Farmland Legacy Program is a purchase of development rights program designed to preserve agricultural lands through conservation easements. The program is primarily supported by the County's Conservation Futures tax and is often leveraged against federal, state, and non-profit dollars. It is a voluntary program which enables landowners to sell their development rights to the County, while holding fee simple title to the land and continuing to farm. The easement places permanent restrictions on future use and development of the land in order to protect its agricultural character and productivity.

The principles of the Farmland Legacy Program are to preserve and enhance a critical mass of farmland to sustain the farm-related agricultural industry, to target key farmlands that are under pressure from development, to coordinate with other farmland preservation programs, and to provide for ongoing easement monitoring and enforcement.

Conservation Future/Farmland Legacy Revenue and Expenditures

Revenues	2020
Taxes/Assessments	953,727
Grants	40,734
Charges for Services	
Miscellaneous	41,213
Other	
Total Revenue	1,035,674

Expenditures	2020
Salaries and Wages	53,925
Benefits	12,631
Supplies	
Other Services and Charges	71,045
Capital Outlays	1,395,248
Interfund Payment for Services	-
Total Expenditures	1,532,849
Net Increase/Decrease in Fund Balance	(497,175)

PROTECTED FARMLAND IN WESTERN SKAGIT COUNTY

Map Area

Farmland Legacy Protected Properties

Map Print Date: October 27, 2016

Noxious Weed Program, Joseph Shea, Program Manager

Skagit County Commissioners called for a public hearing to activate a Noxious Weed Board on December 04, 1979 (Doc# 8229) and was activated by Resolution on April 04, 1980 (Doc# 8392). Initially the Board's activities were directed at providing public information concerning one weed, tansy ragwort but now has grown to over 150 listed Noxious Weeds.
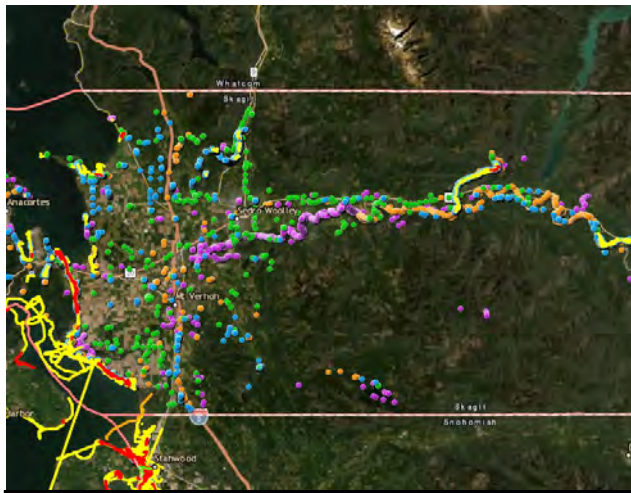
Board Composition	Member	Expiration of term
District 1	Jim Sullivan	(8/6/2021)
District 2	Henry Gohrman	(4/16/2024)
District 3	Vacant	N/A
District 4	Jason Kleinhouzen	(4/16/2024)
District 5	Vacant	N/A

Improvements - Additional FTE

In 2020 The Skagit County Noxious Weed Control Board employed their Second full time employee Christie Turner to facilitate and coordinate our WSDA grant Programs for Spartina Anglica as well as Japanese Knotweed Control in the Skagit and Samish watersheds. We receive $50,000.00 annually from WSDA making our total annual Budget $238,734.00.

Image 1 . Christie Turner With Tansy Ragwort (*Jacobaea vulgaris*)

The introduction of Collector and Iform in 2016 has been a huge improvement to the overall data collection and monitoring of Noxious Weed populations in Skagit County. This data collection process put together by WSDA is now being used by almost every County in Washington State as well as various other state, federal and Non-Profit agencies to track and monitor invasive species. Since its incorporation into our programs we have collected over 17,867 individual noxious weeds detections throughout Skagit County(Map .1) . With this data enhancement we have been able to coordinate systematic treatments of Noxious Weed Species using a comprehensive top down approach to eradication .

Map 1. Noxious Weed Detections and Track lines from 2015-2020

Education and Outreach

In 2020 we were unable to continue much of our education and outreach events but we were able to participate in the Virtual WSU Livestock Advisory Class as well as the virtual WSU Country Living expo. Much of our community outreach has been through public mailings and notifications sent for our Knotweed and Spartina Programs. Overall we have sent upwards of 300 Letters to various landowners on the Samish and Skagit River as well as Grandy Creek and coastal residents in Samish and Skagit Bay.

Image 2 . Monica Vickers on site on the Samish River 2020 (Knotweed)

WSDA Grant Programs

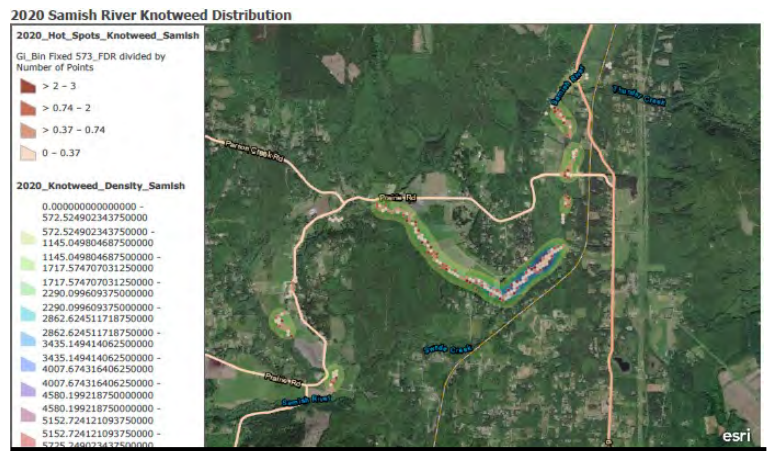**Skagit Cooperative Weed Management Area Group (CWMA))**

The Skagit County Noxious Weed Control Board helps facilitate the Skagit CWMA and works closely with Skagit Fisheries Enhancement Group, Skagit Land Trust, Washington Department of Natural Resources, Washington Conservation Corps, Sauk Suattle Tribe, Upper Skagit Tribe, Swinomish Tribe, Samish Tribe, Whatcom County , Snohomish County, Island County, The National Parks Service, Seattle City Light , Washington Department of Agriculture and others to Coordinate Knotweed *Spp.* Control in Skagit County. We all work cooperatively to treat Knotweed on the Samish, Sauk and Upper Skagit River Systems. As well as Meet bi annually to coordinate our efforts.

Samish River Knotweed Program

From July to September 2020 for a total of 10 days, SCNWCB employees, surveyed approximately 6.5 river miles and 80 acres of riparian and upland habitats of the Samish River (Map.2). This effort resulted in the treatment of 5 solid acres of knotweed while assisting 28 different landowners. From 2019 to 2020, eight additional private properties were treated, this equated to a 138% increase in knotweed treated. These additional treatment agreements help with the continuity of knotweed treatment and limit skipped properties along the Samish River. Overall in our treatment areas we have seen a great reduction in Knotweed density. We continue to increase our programs range and total acreages being controlled.

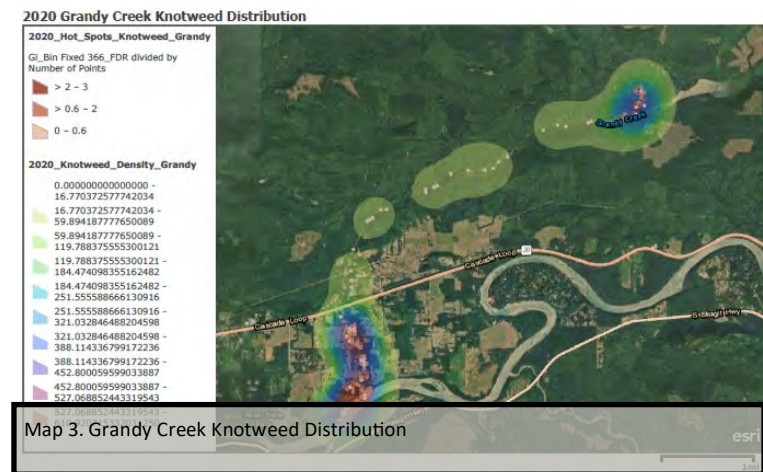Map 2. Samish River Knotweed Distribution

Skagit River Program

Since 2017 Skagit County has put increased efforts to control Knotweed in the Skagit River. After our initial surveys in 2017 and 2018, our CWMA extended their treatment area from the confluence of the Sauk River to the Town of Concrete. In 2020, over a total of 4 days, SCNWCB employees, with assistance from Earth Corps crews surveyed approximately 3.2 river miles and 250 acres of riparian and upland habitats of the Skagit River watershed. This area is known as Howard Miller Steelhead Park and Mixmaster's Sandbar. Skagit County will continue their work on the Skagit River and continues to work with landowners downstream to gain treatment agreements to assist our CWMA partners.

Map 3. Grandy Creek Knotweed Distribution

Grandy Creek Program

In 2020 for a total of 12 days, SCNWCB employees surveyed approximately 6.8 river miles and 220 acres of riparian and upland habitats of the Grandy Creek watershed (Map .3). This resulted in the treatment of 0.25 solid acres of knotweed.   The efforts to control knotweed within the Grandy Creek watershed allowed SCNWCB employees to assist 21 different landowners. In four seasons (2017-2020) knotweed acreage has plunged from 3.1 acres to 0.23 acres resulting in a nearly 92.6% reduction in infestation along Grandy Creek.

Skagit County Spartina Program

SCNWCB crew members surveyed for and treated *S. anglica* in Skagit County for a total of 41 days. During this time, SCNWCB crew members surveyed roughly 1000 acres of salt marsh, mudflat, and estuarine habitat which resulted in the treatment of 0.0844 solid acres of *S. anglica*. Skagit County cooperating agencies have been controlling Spartina Anglica in the tidelands since the early 2000s.

In 2020 Skagit County crew members surveyed for a total of 41 days as compared to 2019 where we only surveyed for 27 days. The additional days allowed SCNWCB to survey and treat additional sites which were not thoroughly surveyed before. After discovering the high density sites in these areas an increased effort was needed to increase cooperation between entities to ensure yearly adequate control efforts for all locations that may provide habitat for *Spartina* spp.
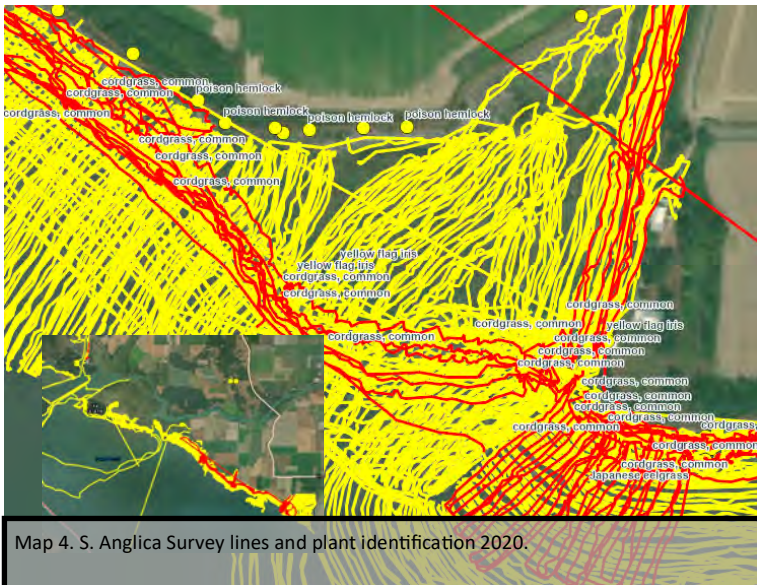
Overall, *S. anglica* concentrations in Skagit County are decreasing. In 2019, crews treated 0.019 solid acres of *S. anglica* while in 2020 crews treated 0.016 solid acres within Skagit County sites. This represented a 16% decrease in treated plants from 2019 to 2020. Furthermore, the decrease in *S. anglica* concentrations found yielded a large drop in herbicide spray solution used. In 2019, 6 gallons of herbicide solution was applied to *S. anglica* across Skagit County. In 2020, only 4.6 gallons of herbicide solution was applied, resulting in a 23% decrease in gallons of herbicide solution applied across yearly treated SCNWCB sites.

Image 3. Monica Vickers treating *S. Anglica* on the Swinnomish Channel

The addition of the year-round position has helped greatly with the coordination efforts with other counties and land owners. With more focused surveying and the ability to identify potential habitat by the new year-round position, the concentrations of *S. anglica* should continue to decline and the goal of eradication can be achieved perhaps at a faster rate.

Map 4. S. Anglica Survey lines and plant identification 2020.

Overall the number of plants and size of clones is decreasing within Skagit County. With focused efforts and more cooperative events, the concentrations of S. anglica should continue to decline and the goal of eradication can be achieved. As shown (Map .4) we have very consistent Survey lines and data tracking processes that help ensure complete survey and control of the Spartina in Skagit County. This allows multiple agencies to be working the field simultaneously and gives them the ability to facilitate search grids in real time. With these features we have been extremely efficient and effective with our S. anglica treatments. With positive landowner relationships and effective multiagency cooperation and coordination we believe we can eradicate S. anglica in Skagit Bay.

Lake Management Districts Funds 141-144

The purpose of the Lake Management Districts is to manage aquatic plants, particularly invasive plants, in cooperation with the lake communities. The districts are authorized for a term of ten years. Funding is through Lake Management Property Tax Assessments.

Lake Management District Fund 141 Revenue and Expenditures

Revenues	2020
Taxes/Assessments	59,330
Grants	
Charges for Services	
Miscellaneous	
Other	
Total Revenue	59,330

Expenditures	2020
Salaries and Wages	2,661
Benefits	1,235
Supplies	
Other Services and Charges	63,085
Total Expenditures	66,981

Net Increase/Decrease in Fund Balance	(7,651)

Lake Management District Fund 142 Revenue and Expenditures

Revenues	2020
Taxes/Assessments	15,544
Grants	
Charges for Services	
Miscellaneous	
Other	
Total Revenue	15,544

Expenditures	2020
Salaries and Wages	1,370
Benefits	643
Supplies	
Other Services and Charges	10,000
Intergovernmental Services	
Capital Outlays	
Interfund Payment for Services	
Total Expenditures	12,013

Net Increase/Decrease in Fund Balance	3,531

Lake Management District Fund 143 Revenue and Expenditures

Revenues	2020
Taxes/Assessments	28,494
Grants	
Charges for Services	
Miscellaneous	
Other	
Total Revenue	28,494

Expenditures	2020
Salaries and Wages	5,069
Benefits	2,512
Supplies	
Other Services and Charges	34,527
Intergovernmental Services	
Capital Outlays	
Interfund Payment for Services	
Total Expenditures	42,108

Net Increase/Decrease in Fund Balance	(13,614)

Lake Management District Fund 144 Revenue and Expenditures

Revenues	2020
Taxes/Assessments	20,670
Grants	
Charges for Services	
Miscellaneous	
Other	
Total Revenue	20,670

Expenditures	2020
Salaries and Wages	66
Benefits	30
Supplies	
Other Services and Charges	22,000
Intergovernmental Services	
Capital Outlays	
Interfund Payment for Services	
Total Expenditures	22,096

Net Increase/Decrease in Fund Balance	(1,426)

Skagit County Public Works

Active Grants

December 2020

Skagit County Public Works Department has 34 active grants as of December 2020.

The total amount of active grants is $27,726,259. This amount does not include grants that have not received final approvals including the State CRAB Ferry Capital improvement grant of $7.5 million.

County match requirements vary from 0% to 20% depending on the source of the funding.

Skagit County partners with multiple governmental, tribal, and private agencies to provide assistance in meeting mutual public program goals.

Some of these partnerships include:

    US Environmental Protection Agency
    US Department of Commerce NOAA
    Washington State Departments of Health, Ecology, Transportation, and County Road Administration Board
    The Cities of Anacortes, Burlington, and Mount Vernon
    The Upper Skagit Indian Tribe
    Skagit Conservation District

Maddox Creek Culvert Removal and Stream Enhancement   **450,647**
  State Dept of Ecology
    2018-2021

Martin Slough CREP   **6,519**
  Federal Dept of Agriculture/State RCO
    2004-2019

Martin Slough Riparian Restoration   **166,231**
  Federal Dept Commerce NOAA
    2014-2019

Puget Sound Partnership   **32,572**
  State Dept of Ecology
    2017-2018

Puget Sound Partnership   **41,428**
  Federal Environmental Protection Agency
    2017-2018

Puget Sound Partnership Northwest Straits MRC   **75,000**
  Federal Environmental Protection Agency
    2018-2019
  State Dept of Ecology
    2018-2019

Puget Sound Pollution Identification and Correction Program   **386,800**
  Federal Environmental Protection Agency
    2017-2019

Regional Conservation Partnership Program   **100,000**
  State Recreation and Conservation Office
    2017-2019

South Fork Delta Final Design   **200,000**
  State Recreation and Conservation Office
    2018-2019

County Roads Grants

BNOP Federal Hwy Bridge Program and Connecting Washington   14,668,613
     Federal Department of Transportation
     2013-2020

Bow Hill Reconstruction   2,306,700
     County Road Administration Board
     2013-2021

County Road Arterial Preservation   532,246
     County Road Administration Board
     Annual

DOT Federal Highway Admin BNOP Project (Upper Skagit Tribe Pass Through)   900,000
     Federal Department of Transportation
     2017-2019

Fiscal Funding Year 2014 Bridge Selection Friday Creek Bridge   357,200
     Federal Department of Transportation
     2015-2020

Fiscal Funding Year 2014 Bridge Selection Lower Finney Creek Bridge   356,308
     Federal Department of Transportation
     2015-2019

Fiscal Funding Year 2014 Bridge Selection Samish River Bridge   821,200
     Federal Department of Transportation
     2015-2019

Francis Road Reconstruction   900,000
     State RATA funds
     2018-2020

Highway Safety Improvement Program Cook Road Signal Advance Warning   58,400
     Federal Department of Transportation
     2015-2017

Josh Wilson Phase 1   87,221
     County Road Administration Board
     2014-2020

Martin Ranch Culvert Fish Passage   221,000
     Federal Department of Commerce NOAA
     2018-2019

Surface Transportation Block Grant Centennial Trail   314,750
     Federal Department of Transportation
     2014-2018

Surface Transportation Program Block Grant Francis Road Reconstruction Section 3   395,888
     Federal Department of Transportation
     2018-2025

Surface Transportation Rural Funds Josh Wilson Phase 1   284,135
     Federal Department of Transportation
     2014-2020

Surface Transportation Rural Roads Bow Hill Reconstruction   216,135
     Federal Department of Transportation
     2013-2018

Title I Federal Forest Yield   227,118
     Federal Department of Agriculture
     Annual

WSDOT Francis Road Reconstruction Section 1   248,270
     Federal Department of Transportation
     2018-2020

WSDOT Prevedell Road Repairs   298,000
     Federal Department of Transportation
     2018-2020

Drainage Utility Fund

Lyman Property Acquisition	**1,008,807**
Federal Emergency Management Agency	860,557
2018 to Completion	
State Military Department	148,250
2018 to Completion	
Voluntary Stewardship Program	**220,000**
State Conservation Commission	
2017-2019	

Noxious Weeds

Knotweed Control	**27,000**
State Dept of Agriculture	
2017-2019	
Spartina Eradication	**43,054**
State Dept of Agriculture	
2017-2019	

Solid Waste Fund

Remedial Action Grants Waste 2 Resources	**55,000**
State Dept of Ecology	
2015-2020	
Waste 2 Resources Coordinated Prevention Grant Program	**220,017**
State Dept of Ecology	
2017-2020	

This page is left intentionally blank.