

Lake Whatcom Right-of-Way Retrofits

Project Overview: EV-0104

This project implements Low Impact Development (LID) retrofits to mitigate for, or eliminate sources of, nutrient and bacteria loading in stormwater runoff from untreated public rights-of-way into Lake Whatcom. The project is located along Northshore Drive from Britton Road to the city limits, and in alleys south of Academy St. between Pullman and Flint streets. Stormwater treatment efficiency will be increased through infiltration and flow attenuation. Funding for this work comes in part from the Department of Ecology. Work will be scheduled during the 2014 construction season. Additional information is located on the [Stormwater Projects](#) webpage or [public meeting notice](#).

Project Details

- Status - Construction
- Contract Awarded - 8/11/14
- Contract Amount - \$294,419.26
- Contractor - Faber Construction
- Bid tabs
- Completion Date: 10/15/2015
- Final Contract Amount: \$375,929.04
- Vicinity Map

Affected Neighborhoods

- Silver Beach

Participating Departments

- Public Works

contacts

Larry Scholten, P.E.

Project Engineer

Phone: (360) 778-7923

Public Works Contacts

Northshore Drive Water Quality Improvements

July 2014

Community Update

Questions? Please call us or attend the informational meeting on July 30th at Bloedel-Donovan Park. Details on back.

As one of Lake Whatcom's neighbors, you are an important partner in our community's work to protect the lake. We want to make sure we keep you informed about **upcoming construction projects** in your neighborhood.



Lake Whatcom is the drinking water source for over 100,000 people in the Bellingham area, and an important natural habitat for countless plants and animals.



Media filter drains, similar to the one shown here, will filter water running off into Lake Whatcom, removing algae-producing phosphorus. Because grass is a known source of phosphorus, the filters we install around the lake will not contain the grass strip shown above.

Our complicated challenge...

As you've likely heard, **the health of Lake Whatcom is suffering** due to excess nutrient-rich runoff that enters the lake. The nutrient of concern is phosphorus, which acts like a fertilizer that causes algae to grow to unhealthy levels, ultimately leading to oxygen deprived waters that are dangerous to aquatic life. The extra algae can also clog up water treatment plant filters, reducing our capacity to provide drinking water to the Bellingham community.

The **tricky thing about phosphorus** is that it's found everywhere in nature. Fallen leaves, grass clippings, and exposed soils, when carried into ditches and stormwater pipes by rain, can leach phosphorus into the water. So we're removing the grass from our ditches and replacing them with something better - filters that will absorb phosphorus rather than leaching phosphorus.

...requires creative solutions.

We're installing a **new kind of filter** that not only physically removes the phosphorus, but also applies cutting-edge chemistry and biology to remove more phosphorus than we've been able to capture in the past. To us, it will simply look like any other strip of gravel, but underneath our feet there will be more at work.

Water will flow through a layer of sand which acts as a net to **physically trap** 50% of the phosphorus and keep it from getting dissolved in water.

Any phosphorus that's already dissolved in the water will be removed through a **chemical process**. Calcium and magnesium added to the sand will trade places with the phosphorus, creating stable molecules that won't leach nutrients into the water. The calcium and magnesium will dissolve harmlessly into the ground and water or form other molecules and repeat the process during the next rainstorm.

We have one more line of defense - a **living biofilm**. Organic materials inside the filter nurture the growth of microbes which will use any remaining phosphorus as food, breaking it down into harmless forms.

While a simple sand filter can effectively remove 50% of the phosphorus in water, these "media filter drains" should be able to remove more than 86% of the phosphorus!

City of Bellingham
Public Works Natural Resources
2221 Pacific St. Bellingham, WA 98229
360-778-7800
www.cob.org

*A legacy of people benefitting
from clean, abundant waters
and intact natural resources.*



Northshore Drive Water Quality Improvements

July 2014

Community Update

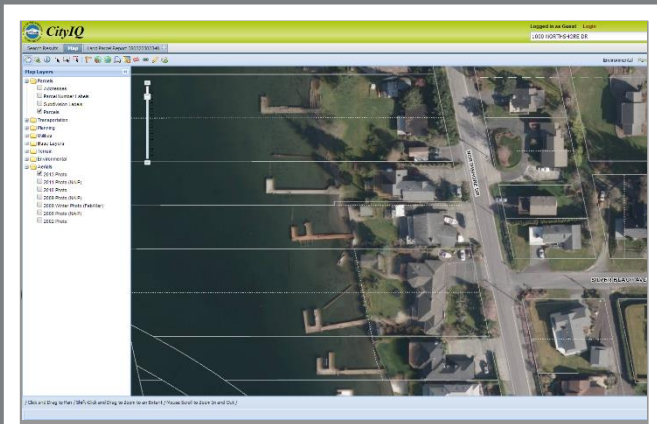
How will this project impact you?

This summer, in July and August, you may see contractors and surveyors looking around, taking pictures, making measurements, and marking utilities. Surveyors and contractors may not know all of the specific details of the project, so please call us directly with questions as they arise.

Work will begin during the last week of August and will take approximately one month to complete. You can expect one-way traffic, detours and temporary removal of some street parking during construction.

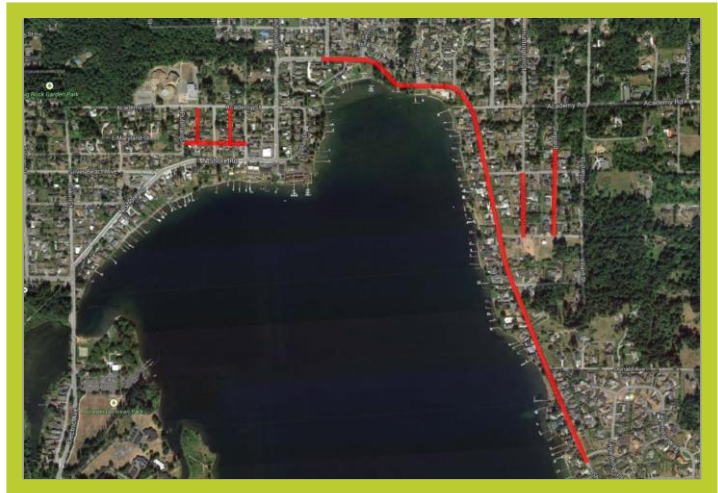
If you live along one of the sections of Northshore Drive where the project will take place, keep in mind that the public right-of-way typically extends 30 feet each way from the center of the road. It may feel like work is being done right in your front yard.

If you'd like to see exactly how far the project will extend out from the road neighboring your house, we can show you on the plans at **the upcoming public meeting**. Or, you can find an aerial photo showing the approximate edge of your property by using the CityIQ map online at www.cob.org. Select an aerial photo and check "parcels" to see the approximate location of property lines.



You can help on your property!

If you're interested in finding creative ways to reduce the phosphorus runoff from your property, like reducing your lawn, adding native plants, or filtering runoff, call or email us. The Homeowner Incentive Program (HIP) offers free technical assistance and financial incentives! For more information, please visit our website at www.cob.org and type the word "HIP" into the search bar.



This summer, work will focus on the ditches and road shoulders along the uphill side of Northshore Drive between Britton Road and the city limits and the center of alleys between Pullman Street and Flint Street.

Next year, in 2015, ditches along sections of Huntington Street and Shepardson Street will be similarly retrofit.

These areas are shown in red on the map above.

Curious for more info?

Public Meeting

Wednesday, July 30, 2014

6:00 p.m. - 7:30 p.m.

Bloedel Donovan Park Beach Pavilion

Contact Us

Bill Reilly, Stormwater Manager

360-778-7955

breilly@cob.org

Project Partially Funded by a Stormwater Retrofit Grant from:



DEPARTMENT OF
ECOLOGY
State of Washington



DEPARTMENT OF PUBLIC WORKS
210 Lottie Street, Bellingham, WA 98225
Telephone (360) 778-7900 Fax (360) 778-7901

LJS 7/31/2014

BID TABULATION (Bid #37B-2014)

BIDS OPENED: JULY 31, 2014; 11:00 AM

PROJECT: EV104 - LK. WHATCOM ROW RETROFITS WATER QUALITY (WQ) IMPROVEMENTS

				ENGINEER'S ESTIMATE		FABER CONSTRUCTION CORP	
ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENSION	UNIT PRICE	EXTENSION
S-1	MOBILIZATION	1	LS	\$30,023.50	\$30,023.50	\$38,229.12	\$38,229.12
S-2	PROJECT TEMPORARY TRAFFIC CONTROL	1	LS	\$54,000.00	\$54,000.00	\$7,480.71	\$7,480.71
S-3	SHORING	76	LF	\$5.00	\$380.00	\$50.98	\$3,874.48
S-4	TEMP EROSION & SEDIMENT CONTROL	1	LS	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00
S-5	CATCH BASIN INSERT	13	EA	\$65.00	\$845.00	\$66.92	\$869.96
S-6	PROJECT WARRANTY	1	LS	\$5,000.00	\$5,000.00	\$3,893.73	\$3,893.73
S-7	UNDERDRAIN PIPE 6" DIAMETER	280	LF	\$9.00	\$2,520.00	\$19.14	\$5,359.20
S-8	UNDERDRAIN PIPE 8" DIAMETER	687	LF	\$13.00	\$8,931.00	\$17.47	\$12,001.89
S-9	UNDERDRAIN PIPE 12" DIAMETER	1829	LF	\$26.00	\$47,554.00	\$17.23	\$31,513.67
S-10	STORM SEWER PIPE 12" DIAMETER	250	LF	\$30.00	\$7,500.00	\$28.02	\$7,005.00
S-11	CATCH BASIN TYPE 1	16	EA	\$1,300.00	\$20,800.00	\$1,285.31	\$20,564.96
S-12	CB TYPE 2, 48", 4' Tall, w/ Restrictor, Viewport	1	EA	\$5,000.00	\$5,000.00	\$4,741.00	\$4,741.00
S-13	BALLAST	730	TON	\$45.00	\$32,850.00	\$23.76	\$17,344.80
S-14	CRUSHED SURFACE TOP COURSE	5	TON	\$50.00	\$250.00	\$105.30	\$526.50
S-15	CEMENT CONCRETE CURB & GUTTER	40	LF	\$30.00	\$1,200.00	\$55.87	\$2,234.80
S-16	CEMENT CONCRETE SIDEWALK	23	SY	\$55.00	\$1,265.00	\$111.12	\$2,555.76
S-17	HOT MIX ASPHALT CL 1/2" PG 64-22	40	TON	\$150.00	\$6,000.00	\$259.17	\$10,366.80
S-18	RESTORE LANDSCAPING	1	EST	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
S-19	SOD LAWN REUSE	100	SY	\$18.00	\$1,800.00	\$20.65	\$2,065.00
S-20	POTHOLING FOR EXISTING UTILITIES	1	EST	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
S-21	CLEARING & GRUBBING	1	LS	\$10,000.00	\$10,000.00	\$12,994.48	\$12,994.48
S-22	MEDIA FILTER DRAIN MIX	234	TON	\$60.00	\$14,040.00	\$103.14	\$24,134.76
S-23	STRUCTURE EXCAVATION CL B	700	CY	\$54.00	\$37,800.00	\$16.67	\$11,669.00
S-24	GEOTEXTILE CHECK DAM	300	EA	\$3.00	\$900.00	\$32.79	\$9,837.00
S-25	Construction Geotextile-Underground Drainage	5800	SY	\$2.00	\$11,600.00	\$4.30	\$24,940.00
S-26	CONTRACTOR SURVEYING	1	LS	\$2,000.00	\$2,000.00	\$8,719.04	\$8,719.04
S-27	SAWCUT PAVEMENT	1440	IN-FT	\$0.50	\$720.00	\$1.04	\$1,497.60
TOTALS					\$332,978.50		\$294,419.26

CITY OF BELLINGHAM

BID TABULATION (Bid #37B-2014)

BIDS OPENED: JULY 31, 2014; 11:00 AM

PROJECT: EV104 - LK. WHATCOM ROW RETROFITS WATER QUALITY (WQ) IMPROVEMENTS

				SRV CONSTRUCTION INC		COLACURCIO BROTHERS INC	
ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENSION	UNIT PRICE	EXTENSION
S-1	MOBILIZATION	1	LS	\$33,500.00	\$33,500.00	\$33,000.00	\$33,000.00
S-2	PROJECT TEMPORARY TRAFFIC CONTROL	1	LS	\$24,000.00	\$24,000.00	\$18,000.00	\$18,000.00
S-3	SHORING	76	LF	\$10.00	\$760.00	\$28.00	\$2,128.00
S-4	TEMP EROSION & SEDIMENT CONTROL	1	LS	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00
S-5	CATCH BASIN INSERT	13	EA	\$93.00	\$1,209.00	\$75.00	\$975.00
S-6	PROJECT WARRANTY	1	LS	\$100.00	\$100.00	\$500.00	\$500.00
S-7	UNDERDRAIN PIPE 6" DIAMETER	280	LF	\$12.00	\$3,360.00	\$10.00	\$2,800.00
S-8	UNDERDRAIN PIPE 8" DIAMETER	687	LF	\$19.00	\$13,053.00	\$14.00	\$9,618.00
S-9	UNDERDRAIN PIPE 12" DIAMETER	1829	LF	\$21.00	\$38,409.00	\$16.00	\$29,264.00
S-10	STORM SEWER PIPE 12" DIAMETER	250	LF	\$42.00	\$10,500.00	\$67.00	\$16,750.00
S-11	CATCH BASIN TYPE 1	16	EA	\$1,725.00	\$27,600.00	\$2,000.00	\$32,000.00
S-12	CB TYPE 2, 48", 4' Tall, w/ Restrictor, Viewport	1	EA	\$5,500.00	\$5,500.00	\$5,500.00	\$5,500.00
S-13	BALLAST	730	TON	\$61.00	\$44,530.00	\$45.50	\$33,215.00
S-14	CRUSHED SURFACE TOP COURSE	5	TON	\$100.00	\$500.00	\$120.00	\$600.00
S-15	CEMENT CONCRETE CURB & GUTTER	40	LF	\$64.00	\$2,560.00	\$65.00	\$2,600.00
S-16	CEMENT CONCRETE SIDEWALK	23	SY	\$142.00	\$3,266.00	\$90.00	\$2,070.00
S-17	HOT MIX ASPHALT CL 1/2" PG 64-22	40	TON	\$265.00	\$10,600.00	\$262.00	\$10,480.00
S-18	RESTORE LANDSCAPING	1	EST	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
S-19	SOD LAWN REUSE	100	SY	\$65.00	\$6,500.00	\$50.00	\$5,000.00
S-20	POTHOLING FOR EXISTING UTILITIES	1	EST	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
S-21	CLEARING & GRUBBING	1	LS	\$7,500.00	\$7,500.00	\$10,000.00	\$10,000.00
S-22	MEDIA FILTER DRAIN MIX	234	TON	\$127.00	\$29,718.00	\$120.00	\$28,080.00
S-23	STRUCTURE EXCAVATION CL B	700	CY	\$10.00	\$7,000.00	\$45.00	\$31,500.00
S-24	GEOTEXTILE CHECK DAM	300	EA	\$38.50	\$11,550.00	\$30.00	\$9,000.00
S-25	Construction Geotextile-Underground Drainage	5800	SY	\$2.50	\$14,500.00	\$2.50	\$14,500.00
S-26	CONTRACTOR SURVEYING	1	LS	\$4,000.00	\$4,000.00	\$3,000.00	\$3,000.00
S-27	SAWCUT PAVEMENT	1440	IN-FT	\$1.00	\$1,440.00	\$1.20	\$1,728.00
TOTALS					\$331,655.00		\$332,308.00

CITY OF BELLINGHAM

BID TABULATION (Bid #37B-2014)

BIDS OPENED: JULY 31, 2014; 11:00 AM

PROJECT: EV104 - LK. WHATCOM ROW RETROFITS WATER QUALITY (WQ) IMPROVEMENTS

				STREMLER GRAVEL INC	
ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENSION
S-1	MOBILIZATION	1	LS	\$12,000.00	\$12,000.00
S-2	PROJECT TEMPORARY TRAFFIC CONTROL	1	LS	\$24,000.00	\$24,000.00
S-3	SHORING	76	LF	\$1.00	\$76.00
S-4	TEMP EROSION & SEDIMENT CONTROL	1	LS	\$20,000.00	\$20,000.00
S-5	CATCH BASIN INSERT	13	EA	\$70.00	\$910.00
S-6	PROJECT WARRANTY	1	LS	\$1.00	\$1.00
S-7	UNDERDRAIN PIPE 6" DIAMETER	280	LF	\$28.50	\$7,980.00
S-8	UNDERDRAIN PIPE 8" DIAMETER	687	LF	\$42.00	\$28,854.00
S-9	UNDERDRAIN PIPE 12" DIAMETER	1829	LF	\$45.00	\$82,305.00
S-10	STORM SEWER PIPE 12" DIAMETER	250	LF	\$37.50	\$9,375.00
S-11	CATCH BASIN TYPE 1	16	EA	\$1,600.00	\$25,600.00
S-12	CB TYPE 2, 48", 4' Tall, w/ Restrictor, Viewport	1	EA	\$4,100.00	\$4,100.00
S-13	BALLAST	730	TON	\$48.00	\$35,040.00
S-14	CRUSHED SURFACE TOP COURSE	5	TON	\$94.00	\$470.00
S-15	CEMENT CONCRETE CURB & GUTTER	40	LF	\$59.00	\$2,360.00
S-16	CEMENT CONCRETE SIDEWALK	23	SY	\$87.00	\$2,001.00
S-17	HOT MIX ASPHALT CL 1/2" PG 64-22	40	TON	\$250.00	\$10,000.00
S-18	RESTORE LANDSCAPING	1	EST	\$5,000.00	\$5,000.00
S-19	SOD LAWN REUSE	100	SY	\$11.00	\$1,100.00
S-20	POTHOLING FOR EXISTING UTILITIES	1	EST	\$5,000.00	\$5,000.00
S-21	CLEARING & GRUBBING	1	LS	\$1,800.00	\$1,800.00
S-22	MEDIA FILTER DRAIN MIX	234	TON	\$165.00	\$38,610.00
S-23	STRUCTURE EXCAVATION CL B	700	CY	\$13.00	\$9,100.00
S-24	GEOTEXTILE CHECK DAM	300	EA	\$13.00	\$3,900.00
S-25	Construction Geotextile-Underground Drainage	5800	SY	\$1.45	\$8,410.00
S-26	CONTRACTOR SURVEYING	1	LS	\$1,550.00	\$1,550.00
S-27	SAWCUT PAVEMENT	1440	IN-FT	\$0.55	\$792.00
TOTALS					\$340,334.00

City of Bellingham

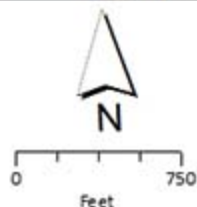
EV-0104

Lake Whatcom Right of Way Retrofits



Legend

- Project Area
- City Limits
- Urban Growth Area



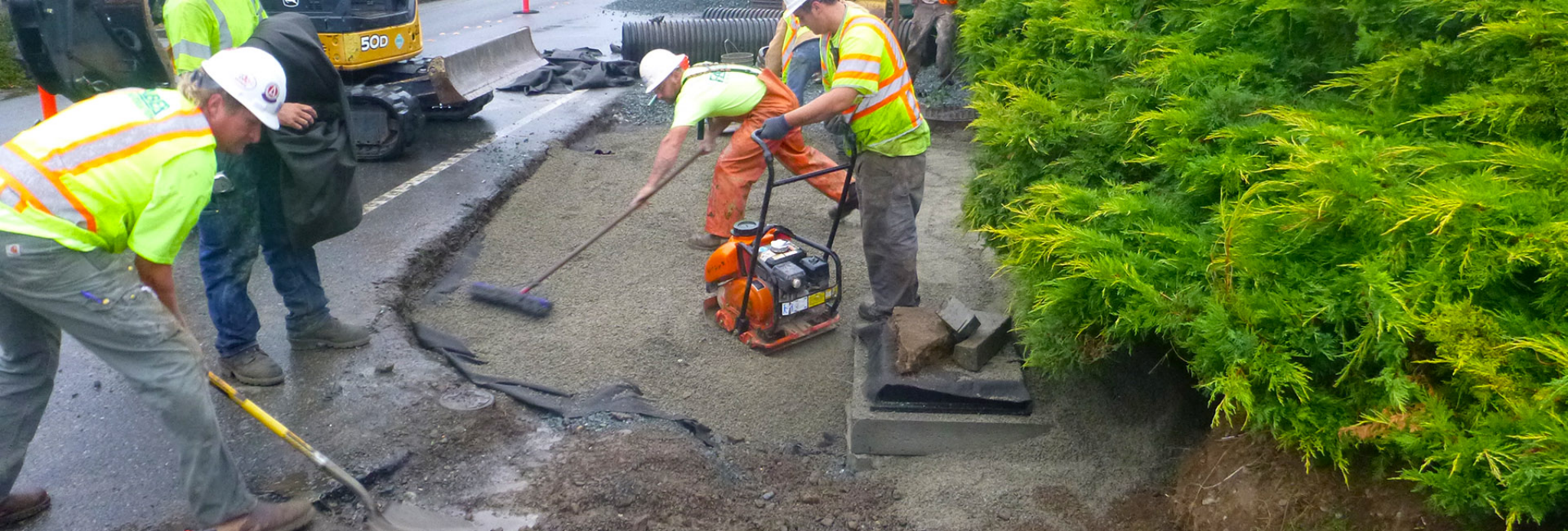




SEP/16/2014



SEP/22/2014







SEP/12/2014