

Engineering



Engineering is responsible for water and sewer, transportation and environmental services

First Quarter Report, 2019

Kerr Avenue Sanitary Pump Station and Forcemain Project

The project includes the construction of a sanitary pump station and the installation and upgrade of a forcemain which are being constructed to convey high-strength wastewater to the pre-treatment facility (HSWWTF) at the wastewater treatment plant (WWTP). The Kerr Avenue Sanitary Pump Station will include a 30L/s capacity duplex submersible sanitary pump station with a pump house building to house electrical controls, a backup generator and other appurtenances. Kerr Avenue Sanitary Forcemain is a dedicated sanitary forcemain to convey wastewater flows from the new sanitary pump station to the HSWWTF at the WWTP. The project was substantially completed in March 2019 by Jakes Construction Ltd.



Well #5 Pilot Testing Study



This study is needed to determine the treatment requirements to ensure that Well #5 can be brought online while providing continuous, stabilized water of acceptable quality that meets discharge parameters.

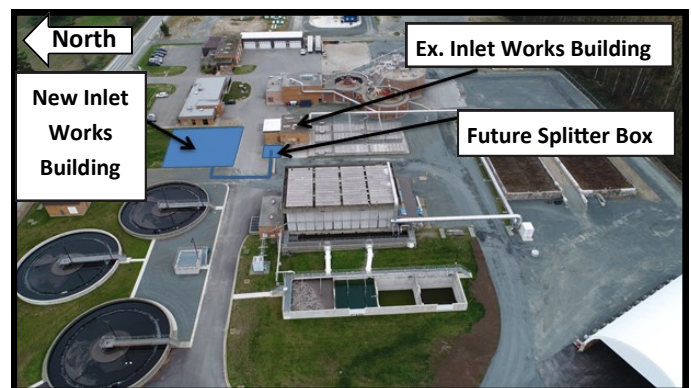
Well pumping commenced in late July 2018, after obtaining necessary approval from the Province and it is planned to continue for an extended period of time to determine groundwater quality variations. The pilot testing phase of the project began in late March and is scheduled to be completed after four (4) weeks to determine the optimal water

treatment process for aquifer groundwater. Associated Engineering is providing the consulting services for this \$250,000 project. The project is scheduled to be completed in the fall of 2019.

Wastewater Treatment Plant Inlet Works Upgrade Project

The existing Wastewater Treatment Plant (WWTP) inlet works, originally constructed in 1973, have no redundancy and need expansion to accommodate increased flows and loads due to growth in the city. The objective of this project is to upgrade the WWTP inlet works to meet current and future capacity to service the increase in sewered population within the next 30 years. The project includes the new Inlet Works Building, containing efficient and high-performance screening units including screenings processing, a high-performance induced vortex grit removal system and allocated space for a future truck septage receiving and screening station.

The Request for Proposals (RFP) stage for this \$7.5 million design-build project is currently underway. The project is scheduled to be completed in December 2020.



Mechanical Systems Replacement Project

The project is a combination of four sanitary pump station (SPS) upgrades and one pressure reducing valve (PRV) upgrade throughout Chilliwack that have been combined to increase scope and economy of scale. The proposed SPS #5, 6 and 7 replacement is to increase pump station capacity to meet future flow conditions, upgrade to continue to meet current WorkSafeBC regulations and to replace aging infrastructure which has reached the end of its serviceable lifespan. The proposed SPS #10 upgrade is to meet future flow conditions and to improve operational reliability. The proposed Goldspring PRV is to upgrade the PRV station to continue to meet current WorkSafeBC standards and to improve operational reliability.

Timbro Contracting Ltd./Onsite Engineering Ltd. design-build team completed the replacement of SPS #6 in March 2019 and are in the final stages of SPS #5 replacement work. They have completed detailed design work for SPS #7, Goldspring PRV station and SPS #10. Those three (3) remaining projects will enter the construction phases beginning with the Goldspring PRV replacement in May, followed by SPS #7, and finally SPS #10 in August. This \$2.8 million overall project is scheduled to be completed in October 2019.

The following table shows water and sewer infrastructure upgrade projects:

Name of Project	Description of Work	Contract Value	Project Status
Upgrade LS 5	Complete replacement of Sanitary Pump Station	\$744,000	Construction Completed
Upgrade LS 6	Complete replacement of Sanitary Pump Station	\$832,000	Completed
Upgrade LS 7	Complete replacement of Sanitary Pump Station	\$792,000	Design Completed
Goldspring PRV	Complete replacement of Pressure Reducing Valve Station	\$240,000	Design Completed
SPS #10 2 nd Submersible Pump	Installation of second submersible pump	\$176,000	Design Completed



2019 Utilities Upgrade Project

The project is a combination of six water main installations, two sewer main upgrades, one storm sewer main upgrade, one road rehabilitation work, one pressure reducing valve (PRV) installation and a landfill gas collection system throughout Chilliwack. These upgrades have been combined to increase scope and economy of scale. The road rehabilitation works will improve the condition of the roadway, drivability and safety for users. The proposed water main installation will increase supply, fire flow capacity and improve water quality of the existing water system in the local area. The proposed sewer main replacements and upgrades will replace aging infrastructure and increase capacity to satisfy increased flow from new and future developments. The proposed storm sewer main upgrade will replace aging infrastructure and increase capacity to satisfy increased flow from downtown developments. The proposed Jinkerson PRV station will facilitate current and future development activities in the area. The proposed Bailey Landfill gas system will improve landfill gas collection within the landfill.

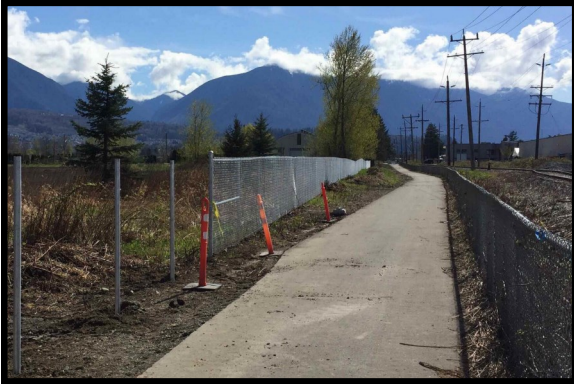


This \$3.85 million overall project was awarded to Timbro Contracting Ltd./Onsite Engineering Ltd. design-build team after successful conclusion of the design-build procurement process. The design development is currently underway and the project is scheduled to be completed in September 2020.

The following table shows road rehabilitation, and water and sewer infrastructure upgrade projects:

Name of Project	Description of Work	Contract Value
Lewis Avenue Water Main	470m of 200mm diameter ductile iron water main installation	\$313,300
Crestwood / Leary Water Main	855m of 200mm diameter ductile iron water main installation	\$578,800
South Sumas Sanitary Sewer	440m of 450mm diameter PVC sanitary sewer installation	\$751,600
Nowell / Yale Sanitary Sewer	280m of 450mm diameter PVC sanitary sewer installation	\$514,400
Nowell / Yale Storm Sewer	50m of 250mm diameter PVC storm sewer installation	\$98,600
Fletcher Street Water Main	320m of 200mm diameter ductile iron water main installation	\$292,500
Mellard Avenue Water Main	210m of 200mm diameter ductile iron water main installation	\$173,900
Cleveland Avenue Water Main	280m of 200mm diameter ductile iron water main installation	\$256,900
Banford Road Water Main	200m of 200mm diameter ductile iron water main installation	\$115,300
Banford Road Paving Works	Widening 200m of road, placement of level course and full road asphalt overlay	\$186,400
Jinkerson Road PRV Installation	Complete installation of new Pressure Reducing Valve Station	\$256,700
Bailey Landfill Gas System	Supply and install landfill gas collection pipes	\$311,800

Valley Rail Trail South



Lighting, fencing and visibility enhancements occurred along the existing section of the Valley Rail Trail between Knight Road and Luckakuck Way.

The majority of the work was finished in March with completion scheduled in April.

Lickman Interchange

Road construction, drainage works and utility relocations began halfway through the first quarter with construction continuing through to completion in the fourth quarter. Key improvements on the north side include additional turning lanes at the Yale Road / Industrial Way intersection and an additional southbound climbing lane to the westbound on-ramp.



Key improvements on the south side include an additional northbound lane and an additional southbound lane, removal of eastbound off-ramp / on-ramp signal to allow right-turn only at off-ramp, and construction of a two-lane roundabout at the Yale Road / Luckakuck Way intersection.

Filming

The first quarter was popular for filming in Chilliwack. CBS filmed a pilot for the series *Republic of Sarah* at the Chilliwack Museum and surrounding grounds. A made for television movie titled *Letter From My Mother* was also filmed downtown on Wellington Avenue using the Book Man and the Royal Hotel as backdrops. Productions such as these bring business to Chilliwack by booking into our hotels and supporting local stores and businesses. The City and the Chilliwack Creative Commission will continue to encourage different areas for filming in Chilliwack while minimizing the impact on residents and businesses.



Asphalt Rehabilitation

2018 asphalt rehabilitation projects continued in the first quarter as the weather improved.

Roadways at substantial completion are:

- Elk View Road – Ryder Lake Road to Wincott Road
 - 5 geotechnical reinforcement sections, asphalt overlay and road markings
 - Snowplowable reflectors will be installed to complete the project in early second quarter
- Sunshine Drive – north of Wells Road to end of roadway
 - Resurfacing the roadway and widening to increase on-street parking capacity and pedestrian walkway

Roadways underway are:

- McGuire Road – east of Gibson Road to end of roadway
- Chapman Road – Castleman Road to Yale Road



Elk View Road



Sunshine Drive

Winter Wind Storm

Extreme winds, freezing conditions and a number of collisions led to emergency repairs on a number of traffic signals throughout the City over a two week period in mid-February. Most notable were the loss of the traffic signal at the entrance to Cottonwood Mall and the beacon heads at Vedder Road and Luckakuck Way.

Most of the repairs have been completed. However, further work is anticipated for the mall entrance signal in the second quarter.

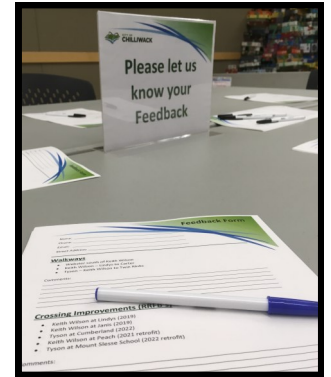


Public Engagement



Safer City hosted a booth at the annual All About Kids and Family Expo at Heritage Park in February. The two-day event enabled Safer City staff to showcase the programs available through the Safer City program and spread knowledge regarding road safety in the community. Visitor turnout this year was high, with each day of the event seeing over 1,000 people.

The Engineering Department organized a public participation opportunity for road safety improvements for a number of Sardis neighbourhoods. Over 1,700 invitations went out asking residents to attend the open house for an opportunity to provide for their feedback on pedestrian control devices, walkways, sidewalks, intersection changes and road markings in their neighbourhoods. Engineering staff spoke with nearly 200 residents throughout the evening and received detailed and insightful feedback on the projects presented.



Projects

Roundabout Education



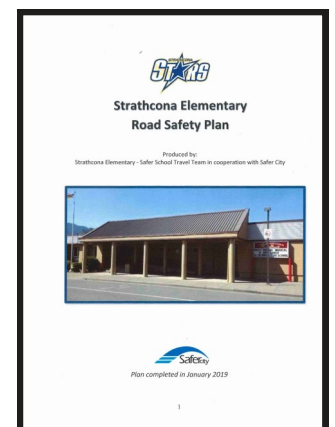
The spring roundabout education session was held at Cottonwood Mall on Saturday, March 30. City staff and the RCMP were pleased to have the opportunity to speak with 150 visitors who had questions and comments regarding the rules of navigating roundabouts. The rationale behind these sessions is to broaden knowledge of roundabout rules for all road users.

Safer School Travel Program

Strathcona Elementary completed the Safer School Travel Program in January. The school now has an updated Road Safety Plan and Best Walking Routes Map that will assist in spreading road safety knowledge throughout the school population for the years ahead. In addition, the Road Safety Plan has assigned tasks to specific agencies or organizations which will prove to be a valuable reference document as road safety concerns need to be addressed moving forward.

School Meetings

Safer City presented the final version of the Safer School Travel Program and Best Walking Routes Map at PAC meetings at Strathcona Elementary School. Safer City also met with the PAC at Vedder Elementary School to discuss their concerns and questions regarding the upcoming road improvements planned for Promontory Road.



3-Strikes



The Safer City team's first 3-Strikes of 2019 was held on Keith Wilson Road near Tyson Road during the first quarter. The two-hour project was supported by Speed Watch volunteers and the RCMP. The 3-Strikes program will run throughout 2019. The framework of this program is: Strike 1 is the posted speed limit; Strike 2 is Speed Watch with their digital reader board; Strike 3 is the RCMP location where tickets may be issued.

Transportation Association of Canada

Safer City presented the details of its program via a webinar titled "Community Road Safety in BC" through the Transportation Association of Canada's Learning Program. Nearly 100 participants from across the country joined the webinar, asked questions of the program and provided feedback. Staff looks forward to future opportunities to share details of the City's road safety program with other municipalities considering implementing a similar program.



Hey Neighbour, Slow Down



The first deployment of the Hey Neighbour, Slow Down program ran in the Elk Creek Estates neighbourhood. There were 30 participants that erected the signage for two weeks in March and the feedback received indicated appreciation for the program and the notable change in traffic speeds throughout the neighbourhood. There are other neighbourhoods signed up for the program with deployments planned in the second quarter.

Winner of Sustainability Excellence Award

Every year the City of Chilliwack sponsors the Sustainability Excellence Award as part of the Chilliwack Chamber of Commerce's Business Excellence Awards event. The winner of the 2018 Sustainability Excellence Award was PickEco Refills Ltd.

PickEco Refills Ltd. won the award for reducing retail packaging, helping customers to reduce their waste and supporting a company and community culture for more sustainable living.



Christmas Tree Composting

The City's annual curbside Christmas tree collection program began in the New Year with Emterra Environmental collecting trees from curbside customers for composting. Residents also dropped off almost 170 trees for free at the Parr Road Green Depot.

These two annual options provide Chilliwack residents with convenient ways to compost Christmas trees and help to reduce illegal dumping and burning.

Fraser River Cleanup

A record setting 700 volunteers showed up on March 23 for the 12th annual cleanup of the Gill Bar area on the Fraser River. Woodtone, Fraser Valley Illegal Dumping Alliance and Fraser Riverkeeper hosted the event. Renovation materials, appliances and camping debris were among the 6.5 metric tonnes of waste removed during the event.

Volunteers, ATV groups, 4X4 clubs and local businesses collaborated to carry, drag, and winch out waste from the Fraser River's riparian area. The City provided free disposal for the collected waste, parking lot grading, and had staff on site to assist during the event.



Curbside Glass Collection



In late March, Grey Bins were distributed to the 21,890 homes on the City's curbside collection program in preparation for the new glass collection program. Bi-weekly collection of glass commenced on April 1.

Extensive outreach and education were carried out in the lead up to the program, including a Council presentation, newspaper ads, website and social media updates, an information mail-out, information display, notification through the Curbside Collection App and information stickers on the delivered Grey Bins.

Parr Road Green Depot Scale Modification

A new scale foundation was installed at the Parr Road Green Depot throughout the month of March, to convert the inbound scale from temporary to permanent status as required by Measurement Canada. The scale was reused and placed on the new foundation to minimize costs. The outbound scale was utilized to receive inbound and outbound traffic throughout the modification process and delays were kept to a minimum.

Western Scale was the prime contractor for the project, and the civil work portion was sub-contracted to the Green Depot Operator, Timbro Contracting.



McGillivray Pump Station Upgrade

Construction by the design-build team of Gerry Enns Contracting Ltd. / Urban Systems Ltd. on the \$4.7 million project is nearing completion.

The work includes construction of a new electrical building with Standby Generator and Motor Control Centre, plus upgrades to the pump intake structure, pump discharge piping and new 600 HP pump/motors. Also completed was a retrofit to the floodbox to include a new automated slide gate.



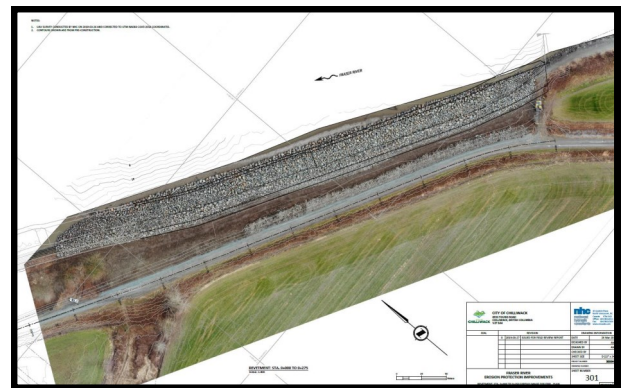
\$4.2 million of the project is being funded by the Province of BC and project substantial completion was achieved on March 8, 2019.

2019 Fraser River Erosion Protection

The City of Chilliwack received provincial funding in the amount of \$750,000 through the Union of BC Municipalities (UBCM) to complete Fraser River Erosion protection under the Community Emergency Preparedness Fund (CEPF). This funding approval included two (2) sites:

1 - CHIP Area (\$663,000 budget)

The area downstream of CHIP has been tendered through public procurement. Summit Earthworks Inc. was awarded the contract in the amount of \$560,200. Work began in early February and was completed by mid-March 2019.



2 - Orchard Slough Check Dam (\$87,000 budget)

The engineering design work for the Check Dam relocation is complete, and the construction portion has been tendered through public procurement. Seven bids were received with Cutline Contracting Ltd. submitting the successful bid and being awarded the contract in the amount of \$44,447. Work is scheduled to take place during the summer environmental work window of August – September.