

Engineering



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

First Quarter Report, 2015

McConnell to Standeven Water Main Upgrade

The construction of McConnell to Standeven water main upgrade Local Area Service project commenced in May 2014 after completing the Local Area Service petition process. The project includes installation of 4,510m of 200mm diameter DI water main to provide adequate fire protection and reliable water supply, as well as 4,780m of new asphalt overlay and additional road rehabilitation work to improve drivability and safety. Strohmaier's Excavating Ltd./Aplin & Martin Consultants Ltd. design build team completed the water main installation work and a portion of road rehabilitation work in fall of 2014. The remaining paving portion of the project is planned to be completed in the spring of 2015.



Annis Road and Weeden Drive Pump Station Upgrades



The Annis Road Booster Pump Station provides water service to the Falls development in the Eastern Hillside area. Currently, it has reached its capacity due to the ongoing development activities. Major mechanical and electrical upgrades including high capacity pumps are required to facilitate future growth in the area.

The Weeden Drive booster pump station serves a high elevation residential area of Promontory. The pump station requires an upgrade to provide backup fire flow pumping capacity. Major mechanical and electrical upgrades including BC Hydro service connection are required to accommodate the additional fire pump. Associated Engineering was hired to provide engineering services for the project and has currently

completed the detailed design work.

The construction of the project is scheduled to be completed by the end of September 2015.

Ford-Nevin Water Main Installation



The Rosedale area of East Chilliwack is experiencing low water pressure and water quality issues. Water Model Analysis completed identified that water main looping from Chilliwack Central Road to Nevin Road through Ford Road will improve water quality in the area and increase fire flow for Rosedale Middle School and commercial / industrial properties in Rosedale. The project consists of installation of approximately 2,430m of 200mm diameter watermain and appurtenances. This \$880,000 project was awarded to Sandpiper Contracting LLP / Wedler Engineering LLP design build team to be completed by summer of 2015.

Camp River Road Water Main Installation

Camp River Road between Reeves Road and Standeven Road requires road rehabilitation works to improve the condition of the failing roadway. The performance review of the Camp River Road water main revealed that the 60 year old cast iron water main was prone to frequent breakages and should be replaced to avoid road repair work in the future and to improve water quality and reliability of the existing water supply in the local area.

The project consists of approximately 2,780m of water main installation along Camp River Road from Reeves Road to Standeven Road South and approximately 2,750 meters of asphalt overlay to a maximum width attainable within the restrictions of private property, geometry, heritage trees and river bank. The RFP process for this design build project is currently underway to select a team to complete the construction of this \$1.3 million project to be completed by end of September 2015.



Biological Treatment System Expansion Phase 1



The existing biological treatment system at the Wastewater Treatment Plant (WWTP) needs expansion to accommodate increased flows and loads due to growth as well as to meet discharge quality requirements in the future. The objective of this project is to construct a new Bioreactor Tank with associated equipment, a splitter Box and a third Clarifier to increase WWTP capacity and to maintain regulatory effluent quality requirements. The NAC Constructors Ltd. / Opus DaytonKnight Ltd. design build team is currently proceeding with the construction work of this \$7.5 million project to be completed by the end of November 2015.

Digester Gas Boiler Installation



The Wastewater Treatment Plant Sludge digestion process was recently upgraded by constructing a third Digester along with a boiler room to house two (2) dual fuel bio-gas boilers and associated mechanical and electrical equipment. AECOM has currently completed the detailed design work of the project which consists of supply and installation of a dual fuel boiler complete with corresponding mechanical and electrical appurtenances.

The construction portion of this \$500,000 project is scheduled to commence in spring of 2015 with a completion date set by the end of October 2015.

2015 Asphalt Rehabilitation and Shoulder Paving

The Asphalt Rehabilitation and Shoulder Paving tender closes on April 15th.

The base asphalt rehabilitation work is planned on the following roads:

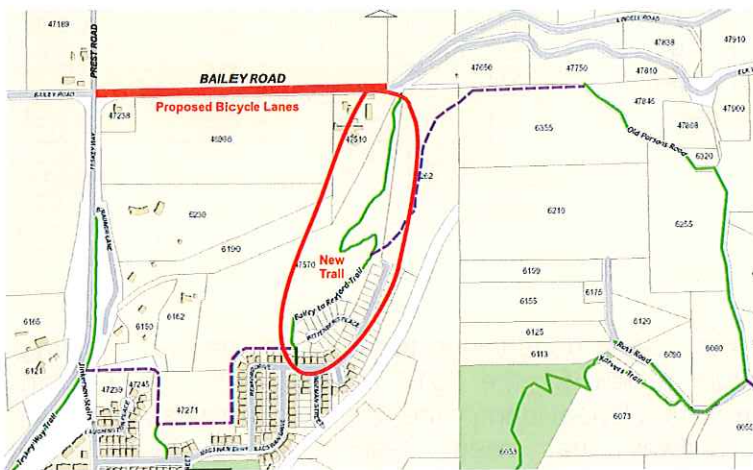
- Upper Prairie Road from south end of pavement to Chilliwack Central Road
- Ballam Road from McSween Road to Kitchen Road
- Lindell Road from Bailey Road to Banford Road
- Edward Street from end of pavement to Bernard Avenue
- Gillanders Road from Yale Road to south of McConnell Road
- Ryder Lake Road from Extrom Road to Huston Road
- Upper Prairie Road from south end of pavement to Prairie Central Road
- Sumas Prairie Road from Adams Road to #6905
- Sumas Prairie Road from #6905 to Elementary School
- Thornton Road from Sparrow Road to Sylvan Drive
- Airport Road from Young Street to Cessna Road
- Yale Road at Broadway Street
- Young Street from Five corners to Lewis Avenue
- First Avenue from Cheam Road to Young Street
- Bailey Road from Prest Road to Lindell Road
- Yale Road at Lickman Road
- Luckakuck Way in front of Superstore



2015 Shoulder Paving

Shoulder paving is planned on Sumas Prairie Road from Adams Road to just north of Sumas Prairie Road. The Provincial Cycling Infrastructure Partnerships Program (CIPP) will contribute up to 50% of the funding for the northern half of this project.

Bicycle lanes will also be constructed on Bailey Road between Prest Road and Elk View Road so cyclists and hikers can make a loop from the Promontory area using the "Bailey to Rexford Trail". Since this facility has more of a recreational purpose an application for shared funding under the BikeBC program, will be submitted.

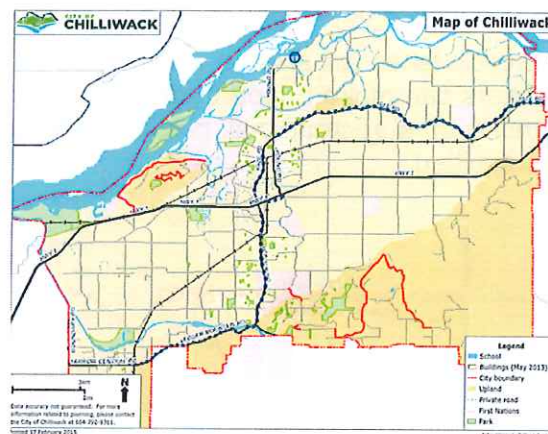


Roadway Reflectors

Sealtec Industries has been awarded the contract for roadway reflector installation for 2015. The work should be completed prior to April 30, 2015.

Roadways reflectors on the following:

- Vedder Road
- Yale Road
- Vedder Mountain Road
- Old Orchard Road
- Grandview Drive
- Bracken Drive
- Chilliwack Mountain Road
- Luckakuck Way
- Promontory Road
- Elkview Road
- Ryder Lake Road
- Extrom Road
- Thornton Road
- Ballam Road



Roadway Markings



Staff have been undertaking the detailed roadway marking inventory review for the 2015 Roadway Marking Tender. The results will help identify the specific quantities of items in our roadway that need re-application. Stop Bars, Crosswalks, Arrows, School Zones and Railway Crossings are all critical to the safe use of our roadways. The tender will be released in April 2015.

Hope River Trail



Hope River Road east of Young Road in the Fairfield Island Area has been identified as a roadway that could benefit from pedestrian/cyclist improvements connecting the Hope River Rotary Trail to the Kinsmen Park Trail. A report was received by Council for the conceptual design of this trail.

The conceptual design report was provided by McElhanney Consulting Services Ltd with the objective of increasing user comfort, safety and enjoyment for this infrastructure link.

Their creative thinking has resulted in recommendations of a boardwalk type system with future pedestrian bridge crossing at Williams Street. The project is identified in 2022 of the CMP.

Message Board

Safer City is pleased to announce the deployment of a portable message board during the first quarter of 2015. The purchase of the board was made possible through the generous partnership with School District No. 33; Mertin Auto Group; ICBC; and the City of Chilliwack.

The total cost of the device was just over \$18,000 with each partner committing 25% towards the total cost of the device. Deployment locations will primarily be in school zones; known commercial vehicles routes, and other problematic areas identified by the Safer City team throughout the year.

Early feedback on the deployment locations indicate that the sign is having a positive effect on driver's behaviour. Both residents and school locations have asked when they can have the sign back in their area. A calendar has been set to ease with deployment priorities.



Yale/Vedder/Kerr Intersection Improvement Project



Crown Contracting was awarded the Yale Vedder Kerr Intersection Improvement project. Work on site began in March and will continue into the second quarter of 2015.

This location underwent a comprehensive Traffic Operation and Safety Review in partnership with the Insurance Corporation for British Columbia (ICBC) and the City of Chilliwack. Traffic related issues at this intersection were identified for potential road safety improvement to reduce the risk of collisions and injuries.

The safety improvements to the intersection will include:

- Installation of an advanced warning signal for eastbound traffic which will warn approaching motorists that the signal is changing to red;
- Overhead lane use signs for both southbound and eastbound motorists;
- Eastbound right turn lane modifications to correct poor merge visibility; and
- Realignment of one of the east/west crosswalks.

The intersection improvements are intended to reduce the severity and frequency of collisions at this intersection.

Curbside Collection Program—Christmas Tree Composting



Our annual curbside Christmas tree collection campaign started off the New Year. To improve service for 2015, Emterra Environmental added a dedicated tree-truck, rather than having the yard trimmings collection crews also collecting all of the Christmas trees.

Also new for 2015 was the ability for residents to make a cash or canned food donation to the Salvation Army in exchange for dropping off their tree for free at the Parr Road Green Depot. BioCentral, the site operators, collected close to \$300 in donations.

Combined, these annual options provide Chilliwack residents with convenient ways to compost Christmas trees and help to reduce illegal dumping and burning.

Habitat Enhancement

Staff from Environmental Services was on hand to help the Fraser Valley Young Naturalists Club install 21 nesting boxes they had built and decorated for tree swallows, wood ducks, and bats at the Browne Creek Wetlands near the Vedder River. Riparian vegetation was also planted by the volunteers along newly created salmon rearing and spawning channels.



Nest box installation at
Browne Creek Wetlands



Decorated bat box



Planting riparian vegetation

March 28 Clean-Up: Gill Bar Area



Mattresses, piles of sheet-glass, and household garbage were among the 10.5 tonnes of waste removed from the Fraser River near Gill Road on March 28. The event saw anglers, ATV riders, 4X4 groups, and concerned citizens gather to push, pull, and drag the dumped waste into separate bins for garbage and metal recycling. The City of Chilliwack supported their efforts by providing free disposal at the landfill for the garbage they collected. The volunteers were treated to a BBQ lunch by the event organizers, Fraser Riverkeeper, Rotz Disposal, and Woodtone.

Fraser River Clean-Ups

The Fraser Valley Salmon Society organized a clean-up along the river between Old Orchard Road and Island 22 on March 21.

Volunteers used boats to access various locations along the river and collected 700 kg of garbage, removing the waste from the river before it could get washed downstream during the spring freshet. Volunteers were treated to a shore lunch for their efforts. The City of Chilliwack supported the event by providing free disposal of the collected garbage at the Bailey Landfill.



March 21 Clean-Up
Old Orchard to Island 22

Bailey Landfill Leachate Control Project



During the month of March, the Chilliwack Bailey Landfill underwent a project carried out by Tervita Corporation to improve leachate drainage in the east cell where the filling of solid waste is currently taking place.

The scope of work involved exposing a previously installed drainage system along the north end of the east cell by digging a trench up to 5 meters deep, and then placing additional drainage rock into the trench to allow leachate to drain more efficiently into the leachate collection system. All leachate collected at the Bailey Landfill is conveyed to the City's Wastewater Treatment Plant.

Bailey Landfill Gas Collection System



March 2015 marked the first year of operation of the new Landfill Gas Extraction System at the Bailey Landfill. The system significantly reduces greenhouse gas emissions by converting the methane in landfill gas to carbon dioxide. In its first year of operation, the system collected 806,600 cubic metres of methane, which resulted in a reduction of 11,300 tonnes of greenhouse gas.

Collinson Pump Station Upgrade Project

The Province announced in early 2014 that the City of Chilliwack application for grant funding under the Building Canada Fund – Flood Protection Program was approved in the amount of 2.5 million dollars with 2/3 contribution from the Federal and Provincial governments. The upgrades to the Collinson Pump Station will increase pumping capacity by almost double to accommodate a 1:100 year return period rainfall event. This will benefit over 750 hectares of agricultural land plus associated homes and outbuildings. The addition of automated trash rakes and a standby generator will improve the reliability of the pump station.

Gerry Enns Contracting has been awarded the \$899,000 contract to construct the new electrical building and install owner supplied equipment which includes the following:

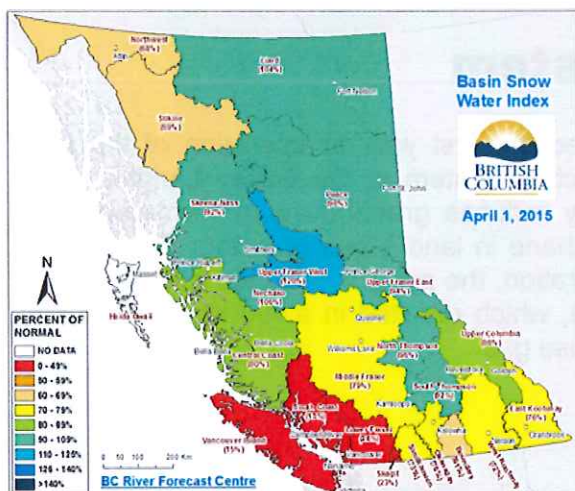
- 2-450 HP Pump/Motors in the amount of \$550,000;
- Standby Generator in the amount of \$85,000;
- Motor Control Centre (electrical equipment) in the amount of \$190,000; and
- Automated trash rakes was in the amount of \$282,000.

Urban Systems Ltd. has been retained as the owners engineer for project design and construction inspection and BC Hydro is providing a new underground 600V hydro service from Keith Wilson Road to the Collinson Pump Station.

The project start date was March 30, 2015 and is scheduled for substantial completion by October 2015.



2015 Snowpack Report



The BC River Forecast Centre has issued the snowpack report for April 1, 2015, most of the snowpack within the Fraser River watershed was below normal:

Upper Fraser West: 120% of normal
 Upper Fraser East: 94% of normal
 Nechako: 106% of normal
 Middle Fraser: 79% of normal
 Lower Fraser: 26% of normal
 North Thompson: 96% of normal
 South Thompson: 92% of normal

Declines in snow basin indices were observed in almost all basins between the March and April surveys.

The average of all provincial snow water equivalent measurements for April 1st is 73% of normal. This is the second lowest provincial average snow water equivalent in the past 31 years of record.