

## CAPITAL PROJECT NARRATIVE

<b>Program Area:</b>	Sewer Pump Stations
<b>Project Name:</b>	Pump Station #15 Decommission
<b>CIP #:</b>	80PS15-R1 (revised September 15, 2021)

### **PURPOSE and DESCRIPTION OF THE PROJECT**

This project decommissions the existing pump station (including wet well) and installs approximately 590 linear feet of new 8" PVC gravity main from the manhole (MH 3701) upstream of the existing pump station to an existing gravity manhole west on West Smith Rd. It needs to be verified that the service connection for the home at 5300 Bellaire Drive connects to the main on Bellaire Drive (to the west of the home) and not to the main to the south, which would be abandoned with this project. The force main downstream from the pump station is a combined force main with PS#5 Northwest Rd / County Planning and must remain active, OR it may be possible to modify PS#5 force main to discharge to MH3701 or the new downstream manhole. The current force main alignment is approximately in the edge of the sidewalk, which is apparently very close or abutting the right-of-way. Thus, if the entire force main remains active the new gravity main would need to be installed entirely within the roadway. Alternate routing may be possible if there is an existing utility easement, or one could be obtained, to the north of the roadway (however, the connection of the wet end of the sewer to the existing manhole at Saratoga Drive is in the road center). The force main discharge location and method also needs to be verified prior to determining tie-in alternatives and potential partial abandonment. Approximately 490 feet of sewer is within County and 100 feet of sewer is within City limits.

The new gravity main depth would be approximately 12-14 feet. There are several well logs in the area indicating sandy soils and groundwater levels typically between 6-10 ft below grade, even in the summer-early fall months. Thus, dewatering is expected to be significant. The design phase services would include a hydrogeologist to provide analysis and recommendations on dewatering.

### Budget Estimate

Design Phase (Engineering; Permitting)	\$	55,100.00
Construction Phase (including Contingency)	\$	345,400.00
Total:	\$	400,500.00

Cost estimate in 2021 dollars.

### Comment:

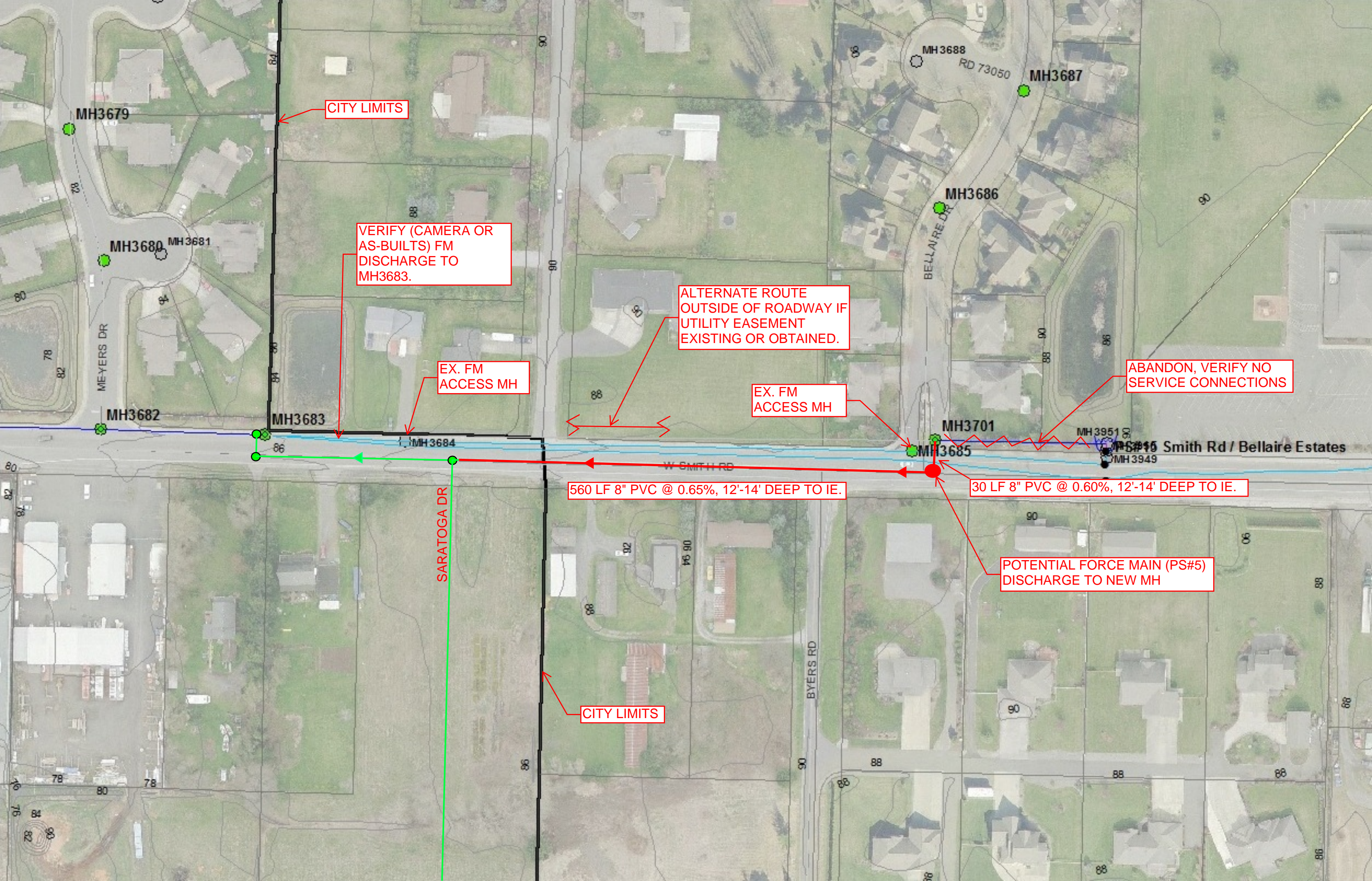
Decommissioning the pump station would eliminate existing and long-term operation and maintenance costs related to the station. It also reduces peak slug flows from the pump station discharge, which is currently significantly oversized, and adversely impacts downstream capacity during modeled peak hourly flows.

## CAPITAL PROJECT NARRATIVE

### Revision History

- Created 8/5/2014
- Revised 1/9/2015 – updated cost estimates and construction schedule
- Revised 1/20/2015 – retrofit project replaced with decommission project
- Revised 3/24/2015 – decommission project plan and cost estimate updated
- Revised 9/15/2021 – decommission project plan and cost estimate updated (length of sewer reduced by 240 LF)





CITY LIMITS

VERIFY (CAMERA OR AS-BUILTS) FM DISCHARGE TO MH3683.

ALTERNATE ROUTE OUTSIDE OF ROADWAY IF UTILITY EASEMENT EXISTING OR OBTAINED.

EX. FM ACCESS MH

EX. FM ACCESS MH

ABANDON, VERIFY NO SERVICE CONNECTIONS

560 LF 8" PVC @ 0.65%, 12'-14" DEEP TO IE.

30 LF 8" PVC @ 0.60%, 12'-14" DEEP TO IE.

POTENTIAL FORCE MAIN (PS#5) DISCHARGE TO NEW MH

CITY LIMITS



## CIP 80PS15: Pump Station #15 Decommission (and Install New Gravity Line to West)

Item	Description	Unit	Unit Price	Quantity	Total
<b>INCIDENTALS</b>					
	Mobilization & Demobilization	LS	10% of Total	1	\$21,907.80
	Trench Safety & Excavation Provisions	LF	\$ 25.00	590	\$14,750.00
	Traffic Control	HR	\$ 140.00	120	\$16,800.00
	Temporary Erosion and Sediment Control	LS	\$ 3,000.00	1	\$3,000.00
<b>PUMP STATION</b>					
	Demolition of Existing Equipment incl. Electrical/Control Panels	LS	\$ 7,000.00	1	\$7,000.00
	Demo & Remove Existing Wet Well, Lid & Hatch, Pumps and Misc.	LS	\$ 14,000.00	1	\$14,000.00
	Backfill w/ Bank Run Gravel	TON	\$ 18.00	92	\$1,656.00
	Topsoil (top 2 ft)	TON	\$ 120.00	8	\$960.00
	Hydroseeding	AC	\$ 8,000.00	0.10	\$800.00
	Misc. Site Work; Grading, Restoration	LS	\$ 2,000.00	1	\$2,000.00
<b>MISC.</b>					
	Dewatering	HR	\$ 190.00	120	\$ 22,800.00
<b>SURFACE WORK</b>					
	Pothole Existing Utility	EA	\$ 600.00	8	\$ 4,800.00
	Sawcut Existing Pavement	LF	\$ 3.00	1180	\$ 3,540.00
<b>AGGREGATE &amp; SURFACE RESTORATION</b>					
	Pipe Zone Bedding	INCLUDED IN PIPING COST		\$	-
	Trench Bank Run Gravel	INCLUDED IN PIPING COST		\$	-
	Crushed Surfacing Top Course	TON	\$ 36.00	62	\$ 2,232.00
	Hot Mix Asphalt PG 64-22	TON	\$ 370.00	62	\$ 22,940.00
	Cement Concrete Curb & Gutter	LF	\$ 50.00	10	\$ 500.00
	Cement Concrete Sidewalk	LF	\$ 70.00	10	\$ 700.00
<b>PIPING</b>					
	Sanitary Sewer Pipe 8" PVC, 7'-15' Deep	LF	\$ 140.00	590	\$ 82,600.00
	Connect to existing manholes	EA	\$ 3,000.00	2	\$ 6,000.00
<b>MANHOLES</b>					
	Manhole Box	EA	\$ 400.00	2	\$ 800.00
	Manhole 48" 8-16' Deep	EA	\$ 9,200.00	1	\$ 9,200.00
	Manhole Rehabilitation/Channeling	EA	\$ 1,000.00	2	\$ 2,000.00
<b>SUB TOTAL</b>					<b>\$240,985.80</b>
<b>CONTINGENCIES (20%)</b>					<b>\$ 48,197.16</b>
<b>SALES TAX (8.7%)</b>					<b>\$ 25,158.92</b>
<b>TOTAL EST CONSTRUCTION COSTS</b>					<b>\$ 314,000.00</b>
<b>ENGINEERING DESIGN FEES (15%)</b>					<b>\$ 47,100.00</b>
<b>HYDROGEOLOGIC INVESTIGATION FEES</b>					<b>\$ 8,000.00</b>
<b>CONSTRUCTION ADMINISTRATION (10%)</b>					<b>\$ 31,400.00</b>
<b>TOTAL EST PROJECT COSTS</b>					<b>\$ 400,500.00</b>

**City of Ferndale  
Sewer Pump Station No.15 Decommission  
Engineering Fee Estimate**

03/25/2015

Task Description	Fixed Expense	Principal Engineer	Senior Project Engineer	Engineer III	Engineer I (EIT)	Senior CAD Tech	CAD Design Tech	Inspector	Survey PLS	Senior Survey Tech	Survey Tech	2-person Survey Crew	Cost
Rate (\$/hr) =	L.S.	\$ 174	\$ 168	\$ 145	\$ 102	\$ 110	\$ 92	\$ 97	\$ 160	\$ 122	\$ 97	\$ 215	
<b>Project Management</b>													
Track and report progress and expenditures monthly			2										\$ 336
Coordinate/communicate with City			3	2									\$ 794
Coordinate/communicate with subconsultants			4										\$ 672
Meetings (assume 2)			8										\$ 1,344
<b>Sub-Total</b>	\$ -	0	17	2	0	0	0	0	0	0	0	0	\$ 3,146
<b>Phase 1 - Pre-design</b>													
<b>1.01 Survey</b>													
Control (Assumes local/on-site control)			2								2	2	\$ 960
Topographic Survey (roadway b/w tie-ins, MHs)											4	8	\$ 2,108
Road right-of-way, easements									2		4		\$ 708
Drafting						8							\$ 880
Travel											2		\$ 194
<b>Sub-Total</b>	\$ -	0	2	0	0	8	0	0	2	0	12.0	10	\$ 4,850
<b>1.02 Hydrogeological Investigation*</b>													
Hydrogeologic Investigation and Report - Dewatering	\$ 8,000.00		2	2									\$ 8,626
<b>Sub-Total</b>	\$ 8,000.00	0	2	2	0	0	0	0	0	0	0	0	\$ 8,626
<b>Phase 2 - Permitting</b>													
(assume permitting work, if needed, will be included in City's scope)													
Prepare a SEPA Categorical Exemption Memo., if needed (by City)													\$ -
Prepare County Right of Way Encroachment permit applic., if needed (by City)													\$ -
<b>Sub-Total</b>	\$ -	0	0	0	0	0	0	0	0	0	0	0	\$ -
<b>Phase 3 - Design Phase</b>													
<b>3.01 Design</b>													
Prepare Site Plan													
Background information compiling, review of existing facilities			4	6		6							\$ 2,202
Design			10	12		14							\$ 4,960
Plan & profile			4	10		20							\$ 4,322
Prepare Construction Detail drawings			4	10		12							\$ 3,442
Prepare contr docs, technical specifications, cost estimates			24	24		16							\$ 9,272
<b>Sub-Total</b>	\$ -	0	46	62	0	68	0	0	0	0	0	0	\$ 24,198
<b>3.02 Traffic Control Plan &amp; Erosion Control Plan</b>													
Traffic control plan(s)			4	7		8							\$ 2,567
Site erosion control plan(s)													
Devise Best Management Practices (BMP) strategy			2	4									\$ 916
Design and Prepare Stormwater Pollution Prevention Plan (SWPPP)				2		6							\$ 950
QA/QC			4										\$ 672
<b>Sub-Total</b>	\$ -	0	6	6	0	6	0	0	0	0	0	0	\$ 5,105
<b>3.03 Project Milestones</b>													
50% Design Development-Package, copy, transmit	\$ 50.00		2				2						\$ 570
90% Plans & Specs Submittal-Package, copy, transmit	\$ 50.00		2				2						\$ 570
Bid Documents- Package, copy, transmit	\$ 50.00		2				2						\$ 570
QA/QC			4										\$ 672
<b>Sub-Total</b>	\$ 150.00	0	10	0	0	0	6	0	0	0	0	0	\$ 2,382
<b>Phase 4 - Bidding Phase Services</b>													
<b>4.01 Bid Phase &amp; Contract Award</b>													
Admin, Correspondence & Coordination			6	16									\$ 3,328
Preparation of Addenda (includes Hydrogeologist support)	\$ 500.00		4	4			5						\$ 2,212
Pre-Bid Meeting			4	4									\$ 1,252
<b>Sub-Total</b>	\$ 500.00	0	14	24	0	0	5	0	0	0	0	0	\$ 6,792
<b>Project Total</b>	\$ 8,650.00	0	101	103	0	90	11	0	4	0	24	20	\$ 55,099

\* Services to be provided only if needed