



Engineering & Public Works Department

SUBJECT: 2019 Sewer Repair and Valve Installation Program

MEETING DATE: August 27, 2019

FROM: [Brigitte Berger-Raish](#), P.E., Director of Engineering and Public Works
[Dan Manis](#), P.E., Village Engineer
[Danielle Horn](#), P.E., Project Manager

BUDGET IMPACT:	Available Budget	\$360,949
	This Contract	\$304,645
	Over/(Under) Budget	(\$56,304)

Recommended Motions

Move to approve a contract in the amount not-to-exceed \$304,645 with Suburban General Construction, Inc. of LaGrange Park, Illinois, for the 2019 Sewer Repair and Valve Installation Program.

Background

On an annual basis, the Engineering and Public Works Department crews televise and inspect sewers on streets scheduled for resurfacing as part of an upcoming annual road program. Using this system, Village staff can identify potential issues with the sewer system and schedule repairs that require street openings prior to constructing new pavement. Additionally, the Engineering and Public Works Department performs sewer televising in sewers that surcharge during rain events. This investigation is necessary to ensure that the surcharging was not a result of pipe blockages or failures that could result in reduced flow.

The televising results are used to determine segments of the sewer system that are in need of repair as part of the annual Sewer Repair Program. Some of the more common sewer defects which warrant repair are cracked and collapsed pipe, pipe with large holes and voids, poor service connections with voids, and pipe which has settled. In addition to increasing flow, many of the repairs also reduce inflow and infiltration which can contribute to sewer back-ups.

The scope of work for this project includes sanitary sewer repairs, backfilling of excavations, and pavement patching. This contract also includes replacing broken shutoff valves on the water distribution system. Operational valves are an important component of a reliable and efficient water distribution system. The new valves will reduce the number of residents impacted by water main shut downs during maintenance or emergency repairs in the event of a water main break.

Discussion

The 2019 Sewer Repair and Valve Installation Program was advertised for construction on the Village's website, DemandStar.com and PublicPurchase.com on July 29, 2019. Project plans and specifications were developed by engineering staff. The project has three qualified bidders. Bids were opened on August 15, 2019, and are summarized below.

Bidder	Sewer Repairs	Valve Improvements	Base Bid	Sum of Alternates¹	Base Bid + Alternates
Suburban General	\$255,453	\$49,192	\$304,645	\$106,175	\$410,820
DiMeo Brothers	\$304,997	\$54,785	\$359,782	\$146,710	\$506,492
Lenny Hoffman	\$365,940	\$68,966	\$434,906	\$171,253	\$606,159
Engineer's Estimate	\$284,190	\$59,980	\$344,170	\$128,740	\$472,910

¹ Four alternates were included with the bid. While the alternates are value added work, given the current condition of the Sewer Fund Reserve, it is not recommended to proceed with the additional work at this time.

Suburban General provided the lowest qualified base bid of \$304,645. Suburban General Construction was the contractor for the Village on several past projects and most recently the 2012, 2013, 2015, 2016 and 2017 Sewer Repair and Valve Installation Programs. Suburban General has been a responsible contractor and has performed well for the Village. For these reasons, the Engineering & Public Works Department recommends awarding the 2019 Sewer Repair and Valve Installation Program to Suburban General Construction, Inc.

The 2019 Sewer Repair and Valve Installation Program will begin in early September and be complete by early November.

Budget Impact

The 2019 Sewer Repair and Valve Installation Program will be paid for as follows:

Account Name	Account	Budget Amount	Available Budget¹	Project Amount	Over/ (Under) Budget
Sewer Main Repairs	40807090-470400-80707	\$327,500	\$301,876	\$255,453	(\$46,423)
Valve Installations	41838090-470550-80900	\$67,600	\$59,073	\$49,192	(\$9,881)
Total Program		\$395,100	\$360,949	\$304,645	(\$56,304)

¹ Some budget funds have been used for soil borings and environmental services.

Documents Attached

1. Bid Tabulation for the 2019 Sewer Repair & Valve Installation Program
2. CIP Detail Sheets

**2019 Sewer Repair & Valve Installation Program
Bid No. 19091**

				Engineer's Estimate		Suburban General		DiMeo Brothers		Lenny Hoffman	
NO.	ITEM	TOTAL QUANTITY	UNIT	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1	TRENCH BACKFILL, SPECIAL	323	CY	40	\$ 12,920.00	25	\$ 8,075.00	14	\$ 4,522.00	71	\$ 22,933
2	COMBINATION CONCRETE CURB AND GUTTER (B-4.12, B-6.12, B-6.18) R & R, SPECIAL	85	LF	60	\$ 5,100.00	25	\$ 2,125.00	100	\$ 8,500.00	85	\$ 7,225
3	PCC SIDEWALK, 5" & 6", R & R, SPECIAL	20	SY	25	\$ 500.00	15	\$ 300.00	50	\$ 1,000.00	185	\$ 3,700
4	PCC DRIVEWAY, 6", R & R, SPECIAL	30	SY	120	\$ 3,600.00	290	\$ 8,700.00	125	\$ 3,750.00	146	\$ 4,380
5	HMA DRIVEWAY, 3",R & R, SPECIAL	50	SY	120	\$ 6,000.00	157	\$ 7,850.00	75	\$ 3,750.00	101	\$ 5,050
6	PAVEMENT PATCHING, CLASS C, 9-INCH, SPECIAL	80	SY	160	\$ 12,800.00	109	\$ 8,720.00	180	\$ 14,400.00	196	\$ 15,680
7	PAVEMENT PATCHING, CLASS D, 9-INCH, SPECIAL	142	SY	130	\$ 18,460.00	155	\$ 22,010.00	140	\$ 19,880.00	118	\$ 16,756
8	PAVEMENT PATCHING, COMPOSITE / PCC WITH HMA OVERLAY, SPECIAL	36	SY	190	\$ 6,840.00	200	\$ 7,200.00	225	\$ 8,100.00	187	\$ 6,732
9	REMOVE AND RESET BRICK PAVERS, SPECIAL	144	SF	50	\$ 7,200.00	20	\$ 2,880.00	45	\$ 6,480.00	30	\$ 4,320
10	GREEN ALLEY REPAIR, SPECIAL	25	SY	150	\$ 3,750.00	320	\$ 8,000.00	325	\$ 8,125.00	325	\$ 8,125
11	TEMPORARY COLD PATCH	45	TON	150	\$ 6,750.00	150	\$ 6,750.00	150	\$ 6,750.00	150	\$ 6,750
12	SAN/STM/COM SEWER R & R, SPECIAL, 8" PVC, SDR-26 [ASTM D-3034] (Repair 5'-90' length)	65	LF	350	\$ 22,750.00	450	\$ 29,250.00	320	\$ 20,800.00	423	\$ 27,495
13	SAN/STM/COM SEWER R & R, SPECIAL, 10" PVC, SDR-26 [ASTM D-3034] (Repair 5'-90' length)	200	LF	300	\$ 60,000.00	300	\$ 60,000.00	350	\$ 70,000.00	300	\$ 60,000
14	SEWER SERVICE R & R, SPECIAL	11	EA	1,300	\$ 14,300.00	1,150	\$ 12,650.00	1,750	\$ 19,250.00	1,600	\$ 17,600
15	MANHOLE CONNECTION	4	EA	800	\$ 3,200.00	250	\$ 1,000.00	1,600	\$ 6,400.00	1,600	\$ 6,400
16	ADDITIONAL CONNECTION TO MANHOLE, CATCH BASIN OR OTHER STRUCTURE, SPECIAL	1	EA	1,400	\$ 1,400.00	350	\$ 350.00	800	\$ 800.00	1,600	\$ 1,600
17	CATCH BASIN TYPE A, 48" DIA., TYPE 1 FRAME, OPEN LID, SPECIAL	1	EA	5,200	\$ 5,200.00	5,000	\$ 5,000.00	6,000	\$ 6,000.00	8,100	\$ 8,100
18	CATCH BASINS TYPE C, 24" DIA., TYPE 1 FRAME, OPEN LID, SPECIAL	2	EA	2,500	\$ 5,000.00	2,500	\$ 5,000.00	3,000	\$ 6,000.00	5,700	\$ 11,400
19	MANHOLE TYPE A, 48" DIA., TYPE 1 FRAME, CLOSED LID, SPECIAL	2	EA	10,000	\$ 20,000.00	15,000	\$ 30,000.00	6,000	\$ 12,000.00	8,200	\$ 16,400
20	ADDITIONAL SAN/STM/COM SEWER PIPE R&R, 4" OR 6" OR 8" PVC, SPECIAL	40	LF	85	\$ 3,400.00	25	\$ 1,000.00	150	\$ 6,000.00	73	\$ 2,920
21	ADDITIONAL SAN/STM/COM SEWER PIPE R&R, 10" OR 12" PVC, SPECIAL	20	LF	100	\$ 2,000.00	55	\$ 1,100.00	250	\$ 5,000.00	185	\$ 3,700
22	NEW GATE 10" VALVE WITH 48" VAULT, SPECIAL	1	EA	15,000	\$ 15,000.00	12,000	\$ 12,000.00	12,500	\$ 12,500.00	15,000	\$ 15,000
23	NEW BUTTERFLY 10" VALVE WITH VALVE BOX, SPECIAL	1	EA	15,000	\$ 15,000.00	20,000	\$ 20,000.00	10,000	\$ 10,000.00	13,000	\$ 13,000
24	INVESTIGATORY ALLOWANCE FOR VALVE INSTALLATION, SPECIAL	1	UNIT	6,000	\$ 6,000.00	6,000	\$ 6,000.00	6,000	\$ 6,000.00	6,000	\$ 6,000
25	REMOVAL AND DISPOSAL OF EXCAVATED MATERIAL, SPECIAL	50	CY	30	\$ 1,500.00	30	\$ 1,500.00	25	\$ 1,250.00	40	\$ 2,000
26	REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES, NON-SPECIAL WASTE, SPECIAL	35	CY	80	\$ 2,800.00	25	\$ 875.00	85	\$ 2,975.00	86	\$ 3,010
27	SOIL DISPOSAL ANALYSIS	1	EA	2,000	\$ 2,000.00	2,000	\$ 2,000.00	5,000	\$ 5,000.00	1,900	\$ 1,900
28	BYPASS PUMPING, SPECIAL	1	LS	300	\$ 300.00	200	\$ 200.00	15,000	\$ 15,000.00	1,000	\$ 1,000
29	EXPLORATORY EXCAVATION, SPECIAL	2	HR	300	\$ 600.00	250	\$ 500.00	750	\$ 1,500.00	960	\$ 1,920
30	STORM DRAIN INLET PROTECTION, SPECIAL	1	LS	1,500	\$ 1,500.00	5,000	\$ 5,000.00	250	\$ 250.00	1,775	\$ 1,775
31	TREE PROTECTION, SPECIAL	1	LS	500	\$ 500.00	260	\$ 260.00	7,500	\$ 7,500.00	1,225	\$ 1,225
32	SEEDING, SPECIAL	230	SY	60	\$ 13,800.00	15	\$ 3,450.00	10	\$ 2,300.00	47	\$ 10,810
33	TRAFFIC CONTROL AND PROTECTION, SPECIAL	1	LS	50,000	\$ 50,000.00	18,400	\$ 18,400.00	50,000	\$ 50,000.00	100,000	\$ 100,000

34	PRE- AND POST SEWER VIDEO INSPECTION, SPECIAL	1	LS	14,000	\$ 14,000.00	6,500	\$ 6,500.00	8,000	\$ 8,000.00	20,000	\$ 20,000
TOTAL BASE BID:					\$ 344,170.00		\$ 304,645.00		\$ 359,782.00		\$ 434,906.00
ALTERNATE BID 1: Parkview Point Repair											
1-1	TRENCH BACKFILL, SPECIAL	18	CY	40	\$ 720.00	10	\$ 180.00	45	\$ 810.00	71	\$ 1,278.00
1-2	PAVEMENT PATCHING, CLASS D, 5-INCH, SPECIAL	15	SY	100	\$ 1,500.00	10	\$ 150.00	60	\$ 900.00	171	\$ 2,565.00
1-3	SAN/STM/COM SEWER R & R, SPECIAL, 8" PVC, SDR-26 [ASTM D-3034] (Repair 5'-90' length)	15	LF	350	\$ 5,250.00	650	\$ 9,750.00	300	\$ 4,500.00	481	\$ 7,215.00
1-4	SEWER SERVICE R & R, SPECIAL	2	EA	1,300	\$ 2,600.00	435	\$ 870.00	1,750	\$ 3,500.00	1,600	\$ 3,200.00
1-5	PRE- AND POST SEWER VIDEO INSPECTION, SPECIAL	1	LS	1,200	\$ 1,200.00	650	\$ 650.00	1,500	\$ 1,500.00	6,450	\$ 6,450.00
SUBTOTAL ALTERNATE BID 1:					\$ 11,270.00		\$ 11,600.00		\$ 11,210.00		\$ 20,708.00
ALTERNATE BID 2: Maple Valve											
2-1	NEW GATE 6" VALVE WITH 48" VAULT, SPECIAL	1	EA	9,500	\$ 9,500.00	11,670	\$ 11,670.00	10,000	\$ 10,000.00	21,000	\$ 21,000.00
SUBTOTAL ALTERNATE BID 2:					\$ 9,500.00		\$ 11,670.00		\$ 10,000.00		\$ 21,000.00
ALTERNATE BID 3: Ridge Structure Replacement											
3-1	CATCH BASIN TYPE A, 48" DIA., TYPE 1 FRAME, OPEN LID, SPECIAL	4	EA	5,200	\$ 20,800.00	6,500	\$ 26,000.00	6,000	\$ 24,000.00	5,600	\$ 22,400.00
3-2	COMBINATION CONCRETE CURB AND GUTTER (B-4.12, B-6.12, B-6.18) R & R, SPECIAL	60	LF	60	\$ 3,600.00	25	\$ 1,500.00	65	\$ 3,900.00	63	\$ 3,780.00
3-3	PAVEMENT PATCHING, COMPOSITE / PCC WITH HMA OVERLAY, SPECIAL	77	SY	190	\$ 14,630.00	20	\$ 1,540.00	200	\$ 15,400.00	185	\$ 14,245.00
3-4	TRAFFIC CONTROL AND PROTECTION (RIDGE), SPECIAL	1	LS	3,000	\$ 3,000.00	5,960	\$ 5,960.00	7,500	\$ 7,500.00	15,000	\$ 15,000.00
SUBTOTAL ALTERNATE BID 3:					\$ 42,030.00		\$ 35,000.00		\$ 50,800.00		\$ 55,425.00
ALTERNATE BID 4: Ashland Structure Replacement											
4-1	MANHOLE TO BE RECONSTRUCTED WITH NEW FRAME AND LID, TYPE A, 48" DIA., TYPE 1 FRAME, CLOSED LID, SPECIAL	2	EA	10,000	\$ 20,000.00	6,500	\$ 13,000.00	4,000	\$ 8,000.00	5,600	\$ 11,200.00
4-2	CATCH BASINS TYPE A, 48" DIA., TYPE 1 FRAME, OPEN LID, SPECIAL	2	EA	5,200	\$ 10,400.00	4,000	\$ 8,000.00	6,000	\$ 12,000.00	5,600	\$ 11,200.00
4-3	VORTEX RESTRICTOR, SPECIAL	2	EA	1,200	\$ 2,400.00	60	\$ 120.00	3,000	\$ 6,000.00	4,500	\$ 9,000.00
4-4	INLETS TO BE RECONSTRUCTED, TYPE C, 24" DIAMETER, TYPE 1 FRAME, OPEN LID, SPECIAL	2	EA	3,000	\$ 6,000.00	2,500	\$ 5,000.00	4,000	\$ 8,000.00	2,500	\$ 5,000.00
4-5	REMOVE AND RESET BRICK PAVERS, SPECIAL	880	SF	28	\$ 24,640.00	20	\$ 17,600.00	35	\$ 30,800.00	23	\$ 20,240.00
4-6	PAVING BRICKS R & R, SPECIAL	40	SF	25	\$ 1,000.00	25	\$ 1,000.00	60	\$ 2,400.00	37	\$ 1,480.00
4-7	TRAFFIC CONTROL AND PROTECTION (ASHLAND), SPECIAL	1	LS	1,500	\$ 1,500.00	3,185	\$ 3,185.00	7,500	\$ 7,500.00	16,000	\$ 16,000.00
SUBTOTAL ADD ALTERNATE 4:					\$ 65,940.00		\$ 47,905.00		\$ 74,700.00		\$ 74,120.00
TOTAL AMOUNT BASE BID:					\$ 344,170.00		\$ 304,645.00		\$ 359,782.00		\$ 434,906.00
SUM OF ALTERNATES:					\$ 128,740.00		\$ 106,175.00		\$ 146,710.00		\$ 171,253.00
TOTAL BASE BID + ALTERNATES:					\$ 472,910.00		\$ 410,820.00		\$ 506,492.00		\$ 606,159.00

Differend from the contractor's submitted bid

Sewer Main Repairs	2019	\$ 327,500	Operating
Sewer Fund-Sewer Improvements-Sewer	2020	\$ 337,000	
Collection System	2021	\$ 346,000	
	2022	\$ 355,500	
	2023	\$ 367,000	

X	Critical
-	Recommended
-	Contingent on Funding



Failed Sewer

Failed Sewer

Sewer in Good Condition

Original Purchase Date & Cost

N/A

Funding History

2018	\$421,270	Operating
2017	\$309,000	Operating
2016	\$197,305	Operating
2015	\$280,483	Operating
2014	\$275,298	Operating
2013	\$202,785	Operating
2012	\$366,486	Bond

Project Description & Justification

The sewer repair program includes excavating and replacing portions of the sewer system, including addressing defective manholes and sewer service connections as necessary.

These funds will be used to repair deteriorated sewer mains and service connections as identified by the annual sewer televising program. It has been the Engineering Department’s practice to televise, review, and repair all sewers beneath the streets selected for the annual road program to minimize future disruptions to the new pavement. In addition, with the prevalence of rain events the past several years, many additional sewers were televised because of poor system performance.

This project focuses on repairing sewers which show signs of collapse, excessive cracking, voids or gaps between pipes, and faulty service connections which may prove problematic to the functioning of the sewer main and have to be repaired before the sewers can be eligible for sewer lining. In addition, this annual expenditure will address the deterioration of the sewer system by increasing sewer capacity, reducing sewer backups, improving the pipe’s structural integrity, and protecting the investment in the newly paved streets.

Project Update

Funding projections for FY 2023 have been added.

Project Alternative

The alternative to the sewer replacement program is to repair sewers on an emergency basis. Reacting to sewers that have already collapsed will result in sewer backups and street sinkholes and cost the Village more than through a proactive main repair program.

Operating Budget Impact

Is this purchase X routine or non-routine?

ROUTINE	
Department Budget	Sewer Capital
Account Number Description	Sewer Main Repairs
Account Number	40807090-470400-80707

Distribution System Valve Improvements	2019	\$ 82,000	Operating
Water Fund- Distribution Improvements	2020	\$ 88,000	
	2021	\$ 90,500	
	2022	\$ 93,000	
	2023	\$ 95,500	

X Critical
- Recommended
- Contingent on Funding

Original Purchase Date & Cost

N/A

Funding History

2018	\$ 67,600	Operating
2017	\$62,500	Operating
2016	\$62,500	Operating
2015	\$62,500	
2014	\$123,000	
2013	\$122,000	
2012	\$71,000	
2011	\$61,800	
2010	\$60,000	

Project Description & Justification

This project is for the installation of new gate valves and the replacement of broken existing valves on the water distribution system as selected by Public Works. The new valves are installed to comply with Village Code (18-1.1).

The Village had been installing approximately four or five new valves each year at locations determined by the Public Works Department, however, only three valves were installed in 2016 due to both pricing increase and larger valve sizes, and only 3 valves were installed in 2017 due to pricing increases. Additionally, approximately 30 inoperable valves were identified by the valve exercise program in 2017, which is nearly 60% complete. It is anticipated a total of 60 inoperable valves will need to be addressed as the valve exercise program continues. Staff recommends replacing 4-5 valves annually.

Project Update

The 2019-2022 budgets have been changed to reflect a 4-5 valve annual replacement program. Budget projections for FY 2023 have been added.

Project Alternative

If new valves are not installed, water main breaks will require larger shut downs than allowed by Village Ordinance. In addition, not upgrading broken valves will make the valve exercising program more difficult to administer.

Operating Budget Impact

Is this purchase *routine* X or *non-routine*?

ROUTINE	
Account Number/Description	41838090-470550-80900 Valve Installations
Maintenance Costs	Public Works/ Water Fund
Personnel Costs	Valve Installations
Training Costs	41838090-470550