



ENGINEERING AND PUBLIC WORKS
DEPARTMENT

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Date: December 9, 2017
To: Timothy Frenzer, Village Manager
From: Brigitte Berger-Raish, P.E., Director of Engineering and Public Works
Subject: Summary Fact Sheets

To help organize and summarize all of the project information and data associated with the four stormwater alternatives, President Bielinski asked that the attached summary tables be developed. The information is divided into "Alternative Characteristics" (first page) and "Alternative Performance" (second page).

The Alternative Characteristics table provides a quick and easy to understand comparison of the four alternatives and the "do nothing" option. The Alternative Performance table takes the data from the charts and maps reviewed at the November 27 meeting and puts it in table form.

These tables will hopefully be valuable to the Trustees as they continue discussing the alternatives and to residents interested in comparative information on each alternative.



ALTERNATIVE REVIEW
SEPARATE STORM SEWER SYSTEM STUDY
ALTERNATIVE CHARACTERISTICS

	Existing Condition	Relief Sewer	Reduced Relief Sewer plus Neighborhood Storage	Reduced Relief Sewer	Neighborhood Storage
Description	No major stormwater infrastructure improvement	New large diameter relief storm sewer to serve full west side of Village	Reduced length of large diameter relief storm sewer plus neighborhood storage in Thornwood Park	Reduced length of large diameter relief storm sewer south and west	Neighborhood storage facilities in Thornwood, Centennial, Hibbard Parks plus related storm sewer
- New Storm Sewer (ft)	0	44,000	29,000	22,000	17,500
- Maximum Storm Sewer Size	N/A	10 ft x 7 ft	10 ft x 7 ft	10 ft x 7 ft	5 ft diameter
- New Storage (ac-ft)	0	0	10	0	32
- No. of Storage Sites	0	0	1	0	3
- SWPS Improvements	No	Yes	No	No	No
Project Cost Range (\$ millions - 2017 Dollars)	\$0	\$80 - \$95	\$70 - \$80	\$55 - \$65	\$48 - \$55
Est. Median Sewer Bill Increase (2017 Dollars)	\$0	\$366 - \$428	\$320 - \$366	\$248 - \$294	\$219 - \$248
Inflationary Project Cost (High End; \$ millions)	\$0	\$108	\$91	\$73	\$60
Inflationary Est. Median Sewer Bill Increase	\$0	\$487	\$416	\$336	\$265
Impacts					
- Streets affected by Construction (miles)	0	7.8	4.9	3.7	3.3
- Parks affected by Construction	0	0	1	0	3
Vulnerable Structures Protected					
- Number (10-yr Storm)	0	295	253	231	220
- Percentage (10-yr Storm)	0%	95%	81%	74%	71%
- Number (100-yr Storm)	0	475	461	387	162
- Percentage (100-yr Storm)	0%	36%	35%	30%	12%
Vulnerable Properties Protected					
- Number (10-yr Storm)	0	1226	997	771	855
- Percentage (10-yr Storm)	0%	97%	79%	61%	67%
- Number (100-yr Storm)	0	578	603	398	169
- Percentage (100-yr Storm)	0%	21%	22%	14%	6%
Cost per Structure Protected (\$ 1000's - 2017 Dollars)					
- 10-yr Storm (10% Annual Risk)	\$ -	\$270 - \$320	\$280 - \$320	\$240 - \$280	\$220 - \$250
- 100-yr Storm (1% Annual Risk)	\$ -	\$170 - \$200	\$150 - \$170	\$140 - \$170	\$300 - \$340
Cost per Property Protected (\$1000's - 2017 Dollars)					
- 10-yr Storm (10% Annual Risk)	\$ -	\$65 - \$80	\$70 - \$80	\$70 - \$85	\$55 - \$65
- 100-yr Storm (1% Annual Risk)	\$ -	\$140 - \$165	\$115 - \$135	\$140 - \$165	\$285 - \$325
Cost per West Side Wilmette Property (\$1000's - 2017 Dollars)	\$ -	\$16 - \$19	\$14 - \$16	\$11 - \$13	\$10 - \$11
Schedule Flexibility	N/A	Limited	Moderate	Limited	Significant
Major Risks	Structures and properties remain vulnerable to flooding	- Utility Conflicts - ROW Impacts - IDOT, Cook Co Coordination - IDNR Permitting	- Utility Conflicts - ROW Impacts - IDOT, Cook Co Coordination - Park District Coordination	- Utility Conflicts - ROW Impacts - IDOT, Cook Co Coordination	- Park District Coordination - Subsurface Conditions - Utility Conflicts

Note: All figures are estimates developed based on conceptual design data and available mapping. Values may change during final design.



ALTERNATIVE REVIEW SEPARATE STORM SEWER SYSTEM STUDY ALTERNATIVE PERFORMANCE

	Existing Condition	Relief Sewer	Reduced Relief Sewer plus Neighborhood Storage	Reduced Relief Sewer	Neighborhood Storage
10-year Design Storm (2.86 inches/3 hours)					
Inundation Area - Total (acres)	134	5	27	43	40
- Inundation: Right-of-Way	79	3	16	29	25
- Inundation: Outside Right-of-Way	55	2	11	15	16
Maximum Depth of Flooding (feet)					
- Beechwood, East of Hunter	1.7	0.0	0.0	1.4	0.0
- Greenleaf, West of Hibbard	1.7	0.0	0.4	0.4	1.1
- Thelin cul-de-sac	2.3	0.0	0.3	0.3	0.4
- Orchard/Locust/Hawthorn	1.4	0.0	1.3	1.4	1.4
- Meadow	1.8	0.0	0.0	0.0	0.0
Duration of Flooding (hours)					
- Beechwood, East of Hunter	6.5	0.0	0.0	4.5	0.0
- Greenleaf, West of Hibbard	6.0	0.0	0.5	0.5	3.0
- Thelin cul-de-sac	5.0	0.0	0.5	0.5	0.5
- Orchard/Locust/Hawthorn	6.5	0.0	4.5	5.0	6.0
- Meadow	6.0	0.0	0.0	0.0	0.0
25-year Design Storm (3.53 inches/3 hours)					
Inundation Area - Total (acres)	261	107	119	148	170
- Inundation: Right-of-Way	127	64	63	79	93
- Inundation: Outside Right-of-Way	133	43	56	69	78
Maximum Depth of Flooding (feet)					
- Beechwood, East of Hunter	2.2	1.6	0.4	2.1	1.6
- Greenleaf, West of Hibbard	2.1	1.1	1.3	1.3	1.8
- Thelin cul-de-sac	2.7	1.5	1.5	1.5	1.5
- Orchard/Locust/Hawthorn	1.7	0.9	1.7	1.7	1.7
- Meadow	2.1	1.3	1.6	1.7	1.0
Duration of Flooding (hours)					
- Beechwood, East of Hunter	10.0	3.0	1.0	8.0	5.0
- Greenleaf, West of Hibbard	9.0	2.0	3.0	3.0	6.0
- Thelin cul-de-sac	8.0	3.0	2.0	2.0	5.0
- Orchard/Locust/Hawthorn	9.5	2.5	7.5	8.0	9.0
- Meadow	9.0	3.0	2.5	2.5	2.0
50-year Design Storm (4.14 inches/3 hours)					
Inundation Area - Total (acres)	364	216	231	263	283
- Inundation: Right-of-Way	164	110	116	128	137
- Inundation: Outside Right-of-Way	200	106	115	135	146
Maximum Depth of Flooding (feet)					
- Beechwood, East of Hunter	2.5	2.1	1.0	2.4	2.2
- Greenleaf, West of Hibbard	2.4	1.5	1.7	1.7	2.2
- Thelin cul-de-sac	3.0	2.1	2.0	2.0	1.9
- Orchard/Locust/Hawthorn	1.8	1.4	1.8	1.8	1.8
- Meadow	2.3	1.7	2.1	2.1	1.5
Duration of Flooding (hours)					
- Beechwood, East of Hunter	13.0	4.0	4.5	11.0	8.0
- Greenleaf, West of Hibbard	12.0	3.0	4.0	4.0	8.5
- Thelin cul-de-sac	10.0	4.0	3.0	3.0	7.5
- Orchard/Locust/Hawthorn	11.5	3.5	8.5	9.0	11.0
- Meadow	12.0	4.0	4.0	4.0	6.0
100-year Design Storm (4.85 inches/3 hours)					
Inundation Area - Total (acres)	479	345	341	383	414
- Inundation: Right-of-Way	199	157	155	168	181
- Inundation: Outside Right-of-Way	279	187	186	215	232
Maximum Depth of Flooding (feet)					
- Beechwood, East of Hunter	2.9	2.5	1.9	2.9	2.6
- Greenleaf, West of Hibbard	2.7	2.0	2.2	2.2	2.7
- Thelin cul-de-sac	3.3	2.5	2.5	2.5	2.3
- Orchard/Locust/Hawthorn	1.9	1.7	1.9	1.9	1.9
- Meadow	2.6	2.0	2.4	2.4	1.9
Duration of Flooding (hours)					
- Beechwood, East of Hunter	17.0	5.5	7.5	14.5	11.5
- Greenleaf, West of Hibbard	15.0	4.5	5.0	5.5	12.0
- Thelin cul-de-sac	13.0	5.5	4.0	4.0	10.5
- Orchard/Locust/Hawthorn	14.0	6.5	10.5	11.0	13.0
- Meadow	16.0	5.5	5.5	5.5	9.5

Notes: Flooding duration is approximate time that predicted water level is above street elevation.
All figures are estimates developed based on conceptual design data and available mapping. Values may change during final design.