

Drainage and Flood Prevention Improvements Project Storm-20-002

December 1, 2020
City Council Meeting



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COMMUNITY PRIDE SINCE 1857

City of Shakopee | 485 Gorman St., Shakopee MN 55379 | 952-233-9300 | www.ShakopeeMN.gov

Description

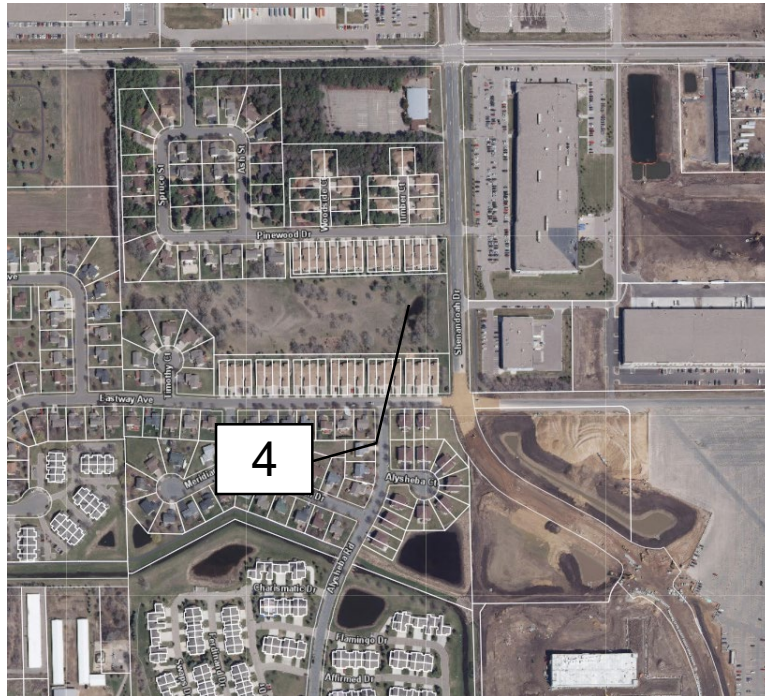
Drainage and flood prevention improvements.

This project includes improvements to drainage and flooding issues at the following locations:

1. Larkspur Court dry pond flooding.
2. The alley northeast of the intersection of 6th Avenue East and Spencer Street South.
3. The alley southeast of the intersection of 7th Avenue West and Apgar Street South.
4. Pinewood Estates near Pinewood Drive and Shenandoah Drive.
5. South and west of Boiling Springs Lane and east of Stagecoach Road.



PROJECT LOCATION



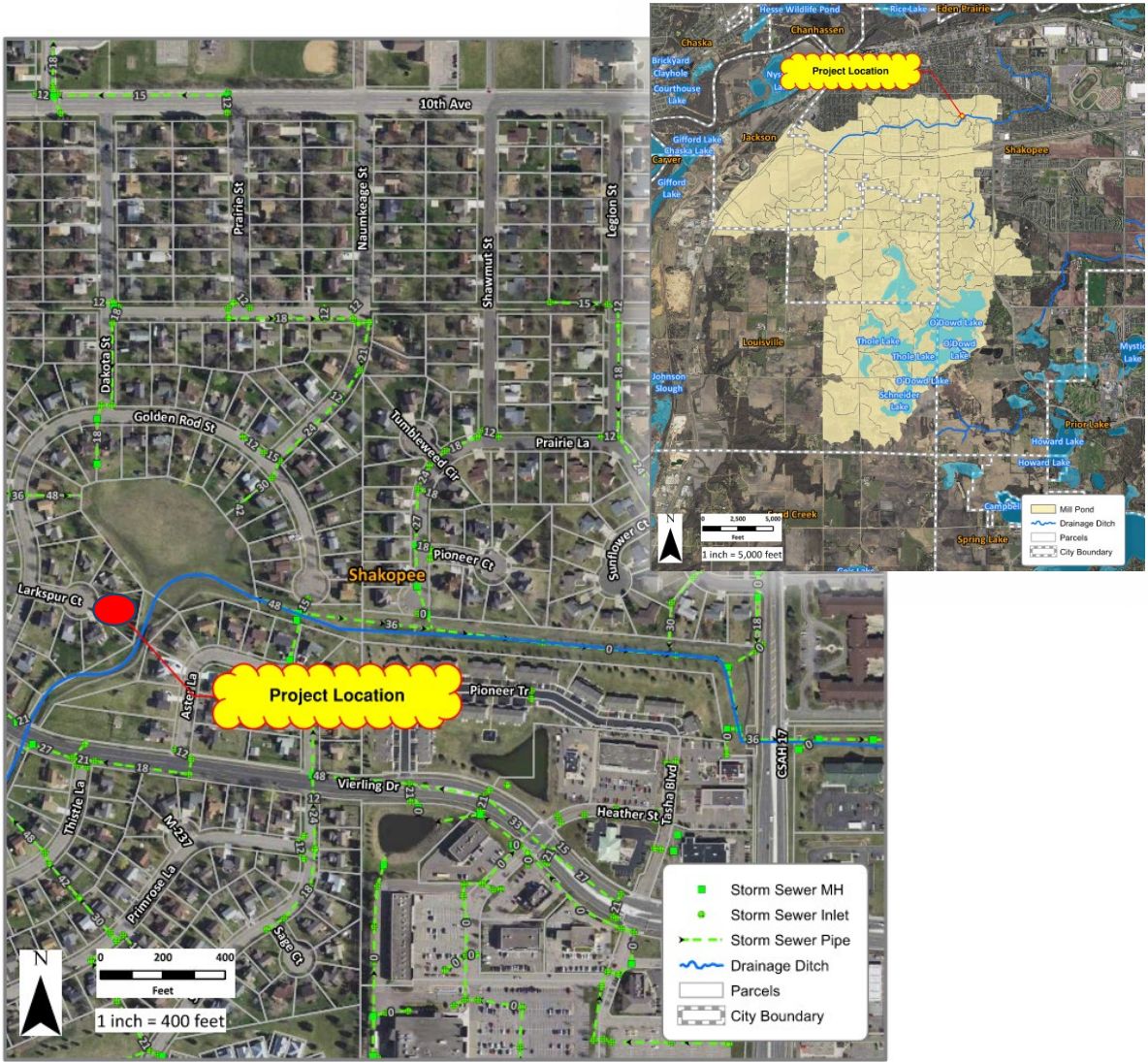
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Project 1 – Larkspur Court Flooding

www.ae2s.com | Advanced Engineering and Environmental Services, Inc.



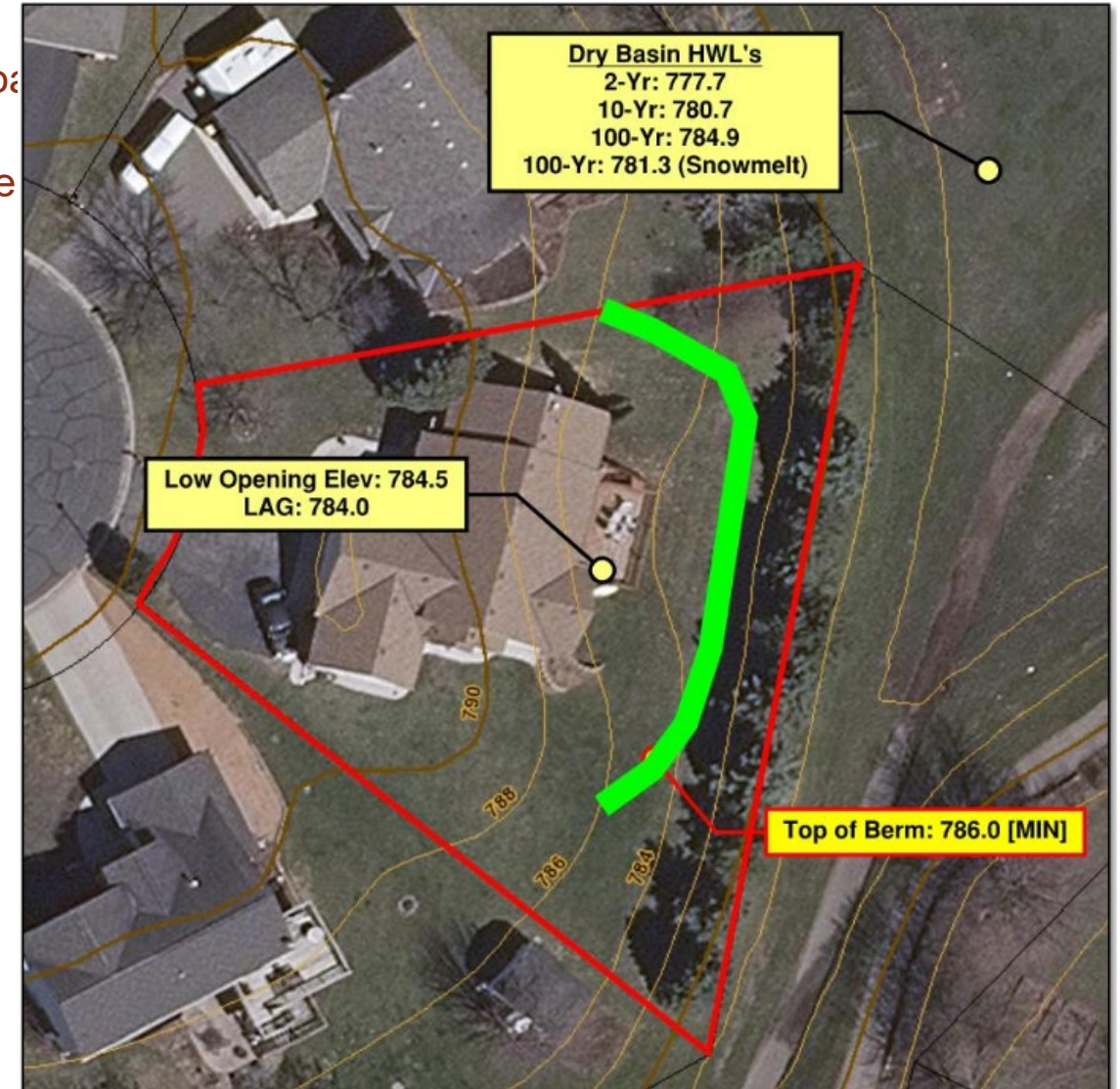
2014 Rainfall Event



2019 Rainfall Event

Project 1 – Larkspur Court Flooding

- **Issue**
 - Planned as lookout, built as walkout. As a result, less freeboard and more susceptible to flooding.
 - When large rainfall occurs, frequent assistance/maintenance by public works to construct temporary flood protection.
 - Public drainage contributes to the flooding.
- **Goal**
 - Identify permanent improvements to reduce risk of flooding.
 - Reduce assistance/maintenance needs for PW.
- **Improvement (Total cost estimate \$40,000)**
 - Install permanent rear yard berm. Need easement to construct.
 - Alternate evaluated– convert from walkout to a lookout (higher cost \$70,000).



Project 2 – Alley Flooding Near 6th Ave East and Spencer Street South



2017 Rainfall Event



2019 Snowmelt Event



Project 2 – Alley Flooding Near 6th Ave East and Spencer Street South

- Issue

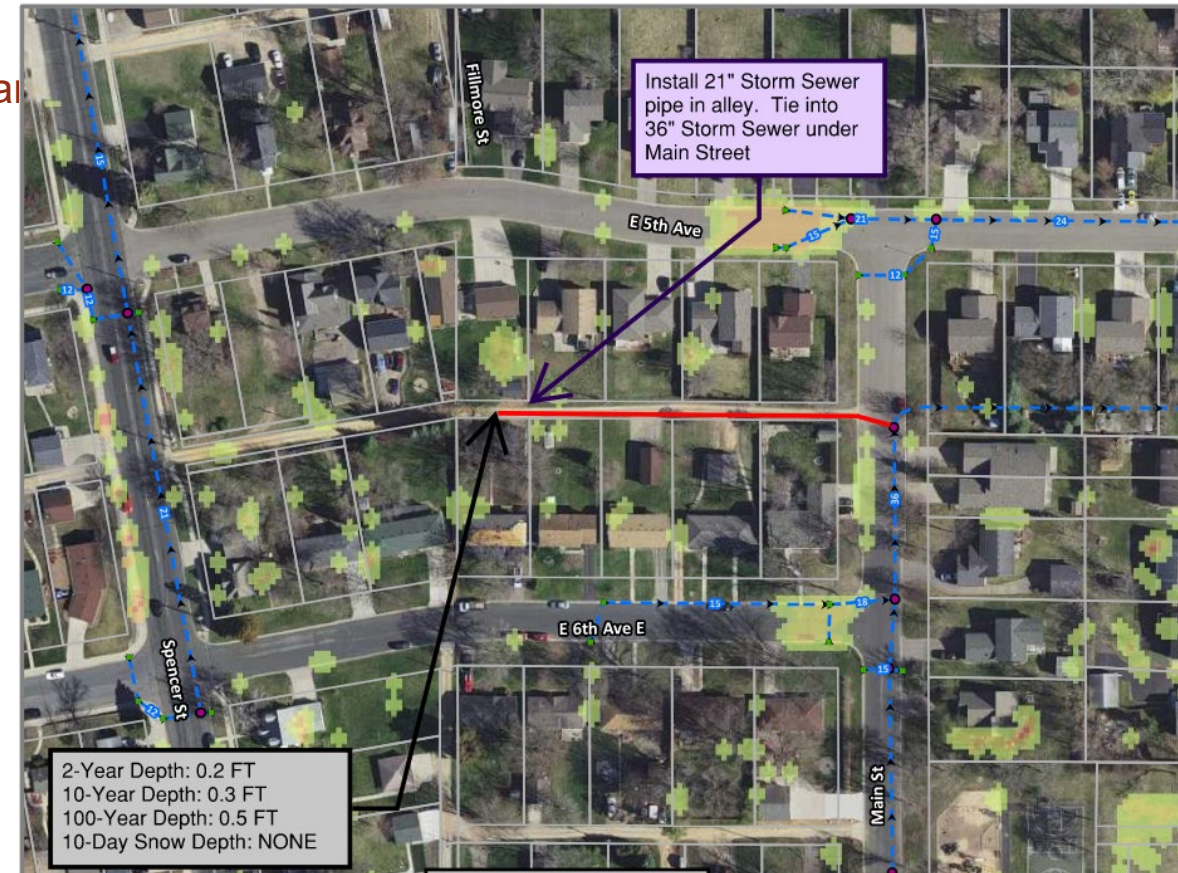
- Resident property and alley is prone to flooding due to low area without overland flow path.
- Garage structure flooding during large rainfall and snowmelt events. Vehicle access is also impacted. Assistance with pumping/maintenance by public works to draw down water levels.

- Goal

- Reduce ponding and risk of flooding.
- Reduce assistance/maintenance needs for PW.

- Improvement (Total cost estimate \$110,000)

- Install storm sewer system
- Doesn't solve all flooding risk.
- Improves drainage for snowmelt conditions and smaller frequent events currently also causing issues.



Project 3 –Alley Flooding Near 7th Ave West and Apgar Street South



2019 Snowmelt Event



2019 Snowmelt Event



Project 3 –Alley Flooding Near 7th Ave West and Apgar Street South

- **Issue**

- Resident property and alley is prone to flooding due to low area without overland flow path.
- Garage structure flooding during large rainfall and snowmelt events. Assistance/maintenance by public works with temporary trench and berm to intercept and divert runoff. Also, pumping/maintenance draw down water levels.

- **Goal**

- Reduce ponding and risk of flooding.
- Reduce assistance/maintenance needs for PW.

- **Improvement (Total cost estimate \$60,000)**

- Install storm sewer system
- Doesn't solve all flooding risk.
- Improves drainage for snowmelt conditions and smaller frequent events currently also causing issues.

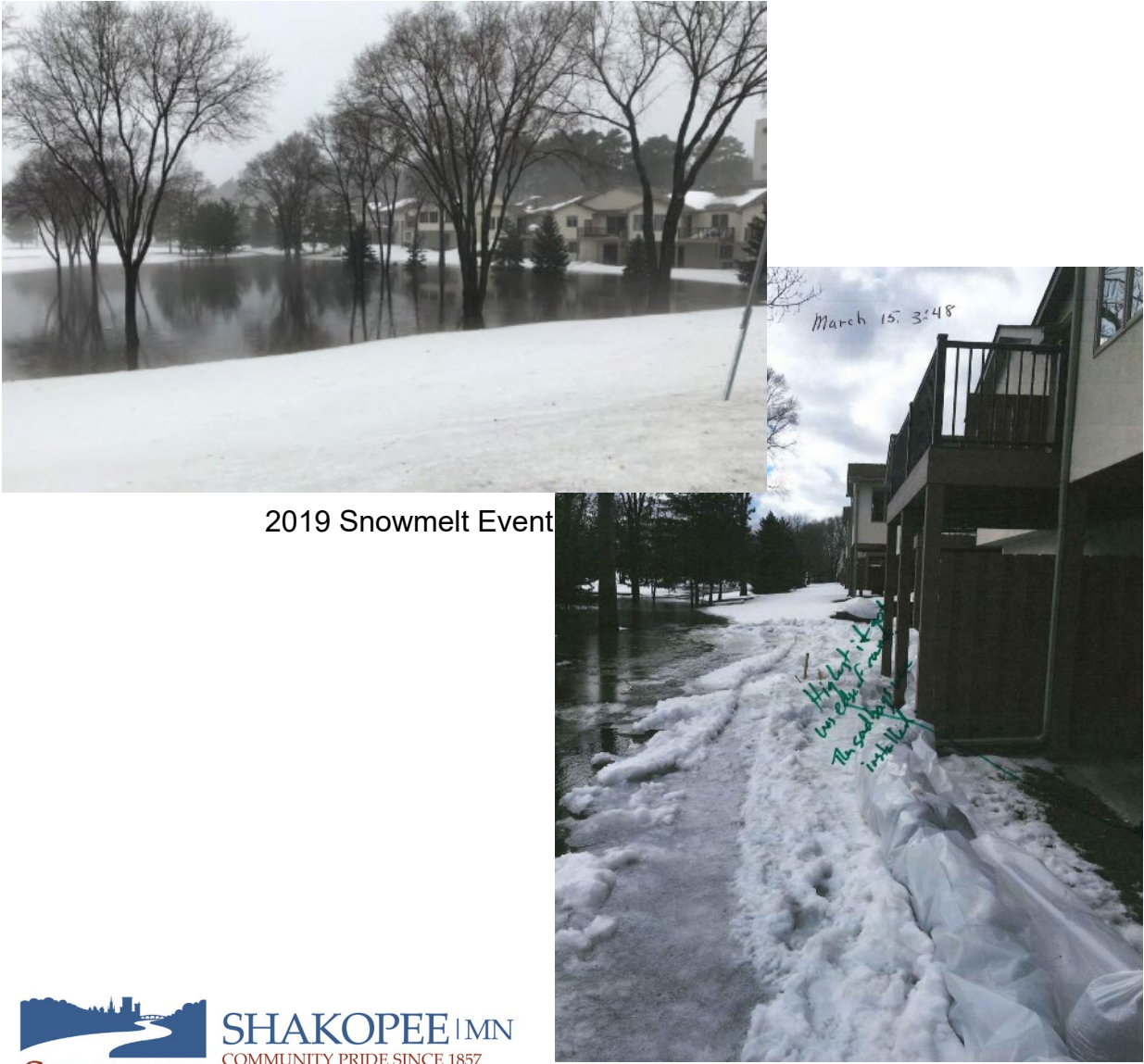


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Project 4 – Pinewood Estates Flooding Near Pinweed Drive and Shenandoah Drive



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Project 4 – Pinewood Estates Flooding Near Pinweed Drive and Shenandoah Drive

- Issue

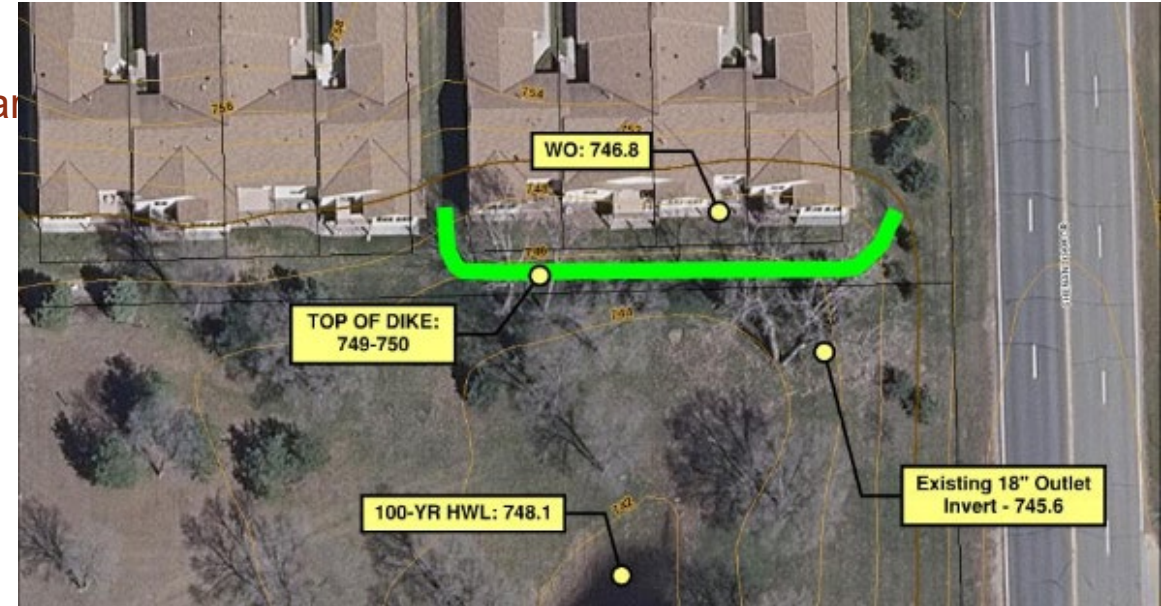
- Planned as lookouts, built as walkouts. As a result, less freeboard and more susceptible to flooding.
- When large rainfall or significant snowmelt occurs, assistance/maintenance by public works to construct temporary flood protection.
- Public drainage contributes to the flooding.

- Goal

- Identify permanent improvements to reduce risk of flooding.
- Reduce assistance/maintenance needs for PW.

- Improvement (Total cost estimate \$130,000)

- Install permanent rear yard berm. Identified to provide most protection and lowest cost. Need easement to construct.
- Alternatives evaluated
 - lower/install new outlet (didn't eliminate flooding risk, higher cost \$180,000)
 - expand basin (high cost \$320,500)
 - converting walkout to a lookout (higher cost \$195,000)



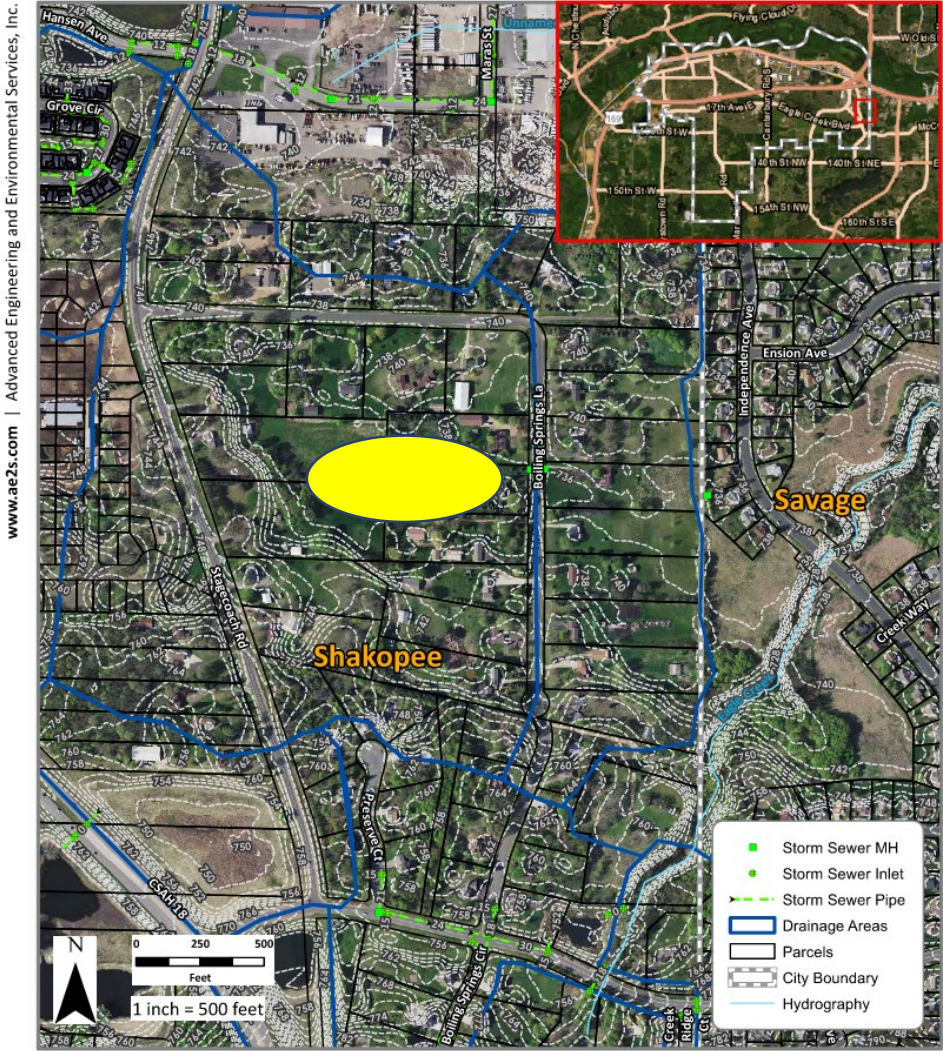
Project 5 – Flooding Near Boiling Springs Lane



2019 Snowmelt Event



2019 Rain fall Event



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Project 5 – Flooding Near Boiling Springs Lane

• Issue

- Landlocked area near Boiling Springs Lane with residential property prone to flooding.
- Structure flooding estimated with modeling. Landlocked runoff/ponding impacts residential water/well and sanitary/septic systems. One resident was unable to use for several weeks in 2019.

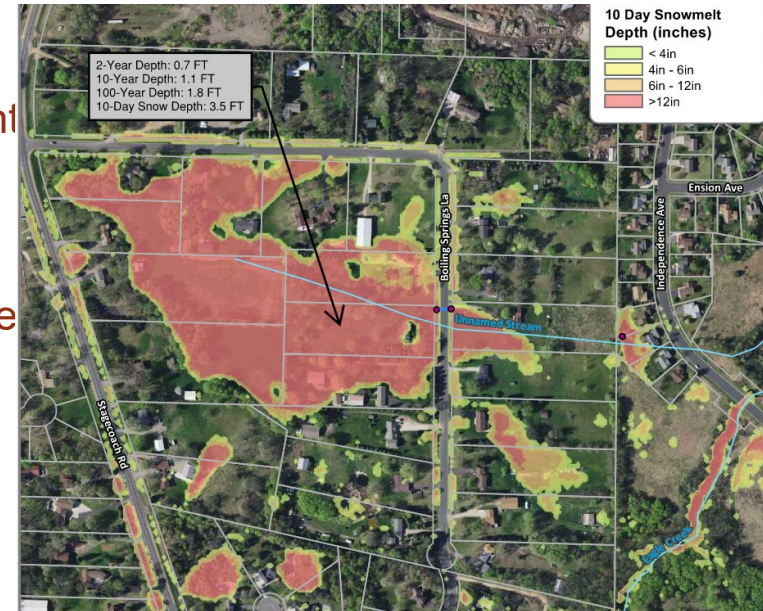
• Goal

- Reduce ponding and risk of flooding.
- Reduce assistance/maintenance needs for PW.

• Improvement (Total cost estimate \$185,000)

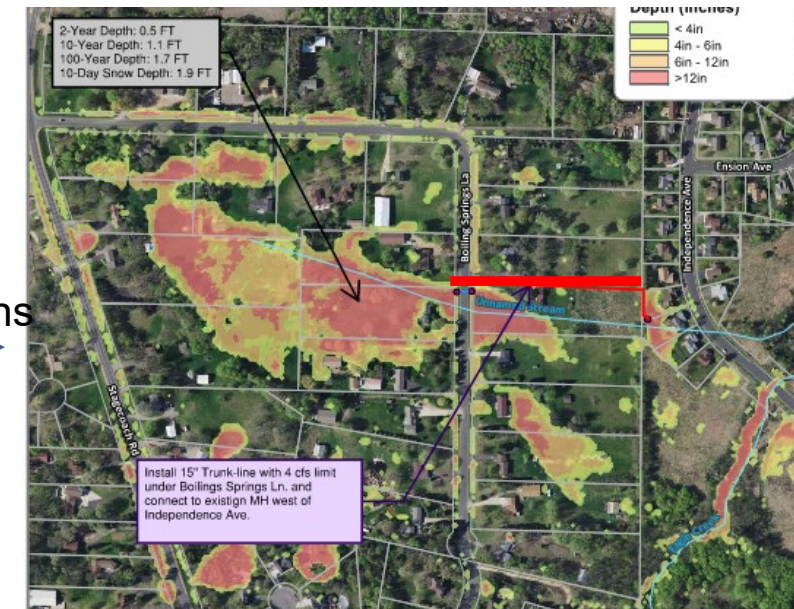
- Install storm sewer system
- Doesn't solve all flooding risk.
- Improves drainage for snowmelt condition and smaller frequent events currently also causing issues.
- Will require easements (not in cost estimate) and coordination with City of Savage.

• Update CIP to separate this project for 2022



Existing conditions

Proposed conditions



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Next Steps

- Projects 2, 3 Hire AE2S to complete design, and assist with bidding and construction
- Project 1, 4- Discuss project options with homeowners. Once there is project agreement, update city council and hire AE2S to complete design, and assist with bidding and construction.
- Project 5- Meet with City of Savage and landowners to coordinate project. Once there is project agreement, update city council and hire AE2S to complete design, and assist with bidding and construction. Move project in CIP for construction in 2022.
- Budget Update (Projects-~~5~~)
 - CIP total cost estimate \$555,000
 - Updated cost estimate \$525,000

Description
Drainage and flood prevention improvements. This project includes improvements to drainage and flooding issues at the following locations: 1. Larkspur Court dry pond flooding. 2. The alley northeast of the intersection of 6th Avenue East and Spencer Street South. 3. The alley southeast of the intersection of 7th Avenue West and Apgar Street South. 4. Pinewood Estates near Pinewood Drive and Shenandoah Drive. 5. South and west of Boiling Springs Lane and east of Stagecoach Road.



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Questions?



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