Greensboro

2/12/2025 Wilson Street Flood Alternatives Presentation

Presented by:

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With Funding from:

Hazard Mitigation Program Advance Assistant Grant from the Vermont Emergency Management Division of the VT DEC

Purpose of this Meeting

- Introduce the project
- Present Existing Conditions
- Present Preliminary Alternatives to mitigate ongoing flood damage within the Wilson Street Area.
- Solicit community feedback





Project Summary

- Town of Greensboro won a Hazard Mitigation Program Advance Assistance Grant from the Vermont Emergency Management Division of the VTDEC.
- Project Purpose
 - Evaluate Wilson Street flood conditions by performing hydrologic and hydraulic analyses of the project study area.
 - Identify and conceptually design potential solutions to mitigate the flood conditions for the locations impacted by recent flooding events.

Project Study Area



Project Study Area

- Total watershed studied is approximated 45 acres contributing runoff from the north of the Greensboro Village.
- Particular Properties of Focus:
 - The Town Hall Property
 - 72 Lauredon Ave (James C Cook Trust)
 - 96 Wilson Street (Cindy Rose)
 - 70 Wilson Street (Wilson, etal)
 - 42 Wilson Street (Burgess and Virden)
 - Town Green, and Willeys Store
 - 29 East Street (Nancy Riege)
 - 32 East Street (Sims & Schultz)

Prior Repeated Flood Damage

42 Wilson Street





Prior Repeated Flood Damage

Willey's Parking Lot

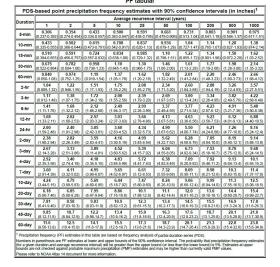


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Dates of Prior Flood Damage Incidents

- 2. 8/29/16 (no rainfall data)
- 3. 10/23/16 (no rainfall data)
- 4. 3/15/17 1.82" (rain on snow event with frozen ground)
- 5. 6/30/17 1.55" (2.84" of rain the 7 days prior, saturate ground)
- 6. 7/1/18 1.73" (1.06" of rain the 7 days prior)
- 7. 6/22/19 2.72" (relatively dry the 7 days prior)
- 8. 10/2/19 1.89" (2.25" the 7 days prior, saturate ground)
- 9. 8/2/21 1.73" (1.12" the 7 days prior)
- 10. 5/15/22 2.23" (dry conditions prior)
- 11. 7/10/23 7.33" over 2 day on saturated ground, 300 year event
- 12. 6/24/24 2.45" (1.65" the 7 days prior, saturate ground)
- 13. 7/11/24 4.06" (saturated ground)

Point Precipitation Frequency Data



Hydrology (Contributing Watershed)

Watershed Characteristics:

•Hilly Terrain in upper watershed, confined urban Village area in lower watershed;

•Significant wetland areas located north and east of the Town Hall, north of 96 Wilson Street;

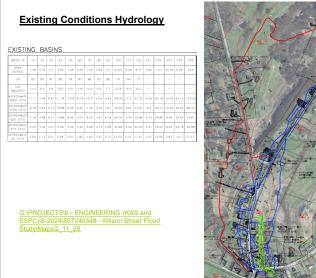
•Watershed soils are poorly drained, which reduced available soil storage capacity

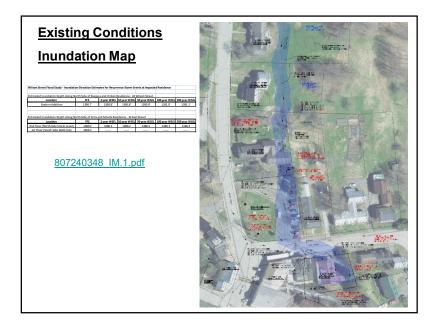
•Overall Study Area Watershed = 45 acres

•Total Drainage Area to Wilson Street Area of Concern = 12 acres

Hydrologic Analysis Results – 32 East Street Existing Conditions Hydrology

Recurrence Interval	Peak Flow Rate Cubic Feet/Second (CFS)				
2-Year	14.1 CFS				
10-Year	26.6 CFS				
50-Year	39.3 CFS				
100-Year	45.4 CFS				
500-Year	63.1 CFS				





Proposed Design Solutions

Design Solution Goals:

 Mitigate ongoing repeat flood damage to 42 Wilson Street, Willeys Parking Area, 29 East Street, and 32 East Street.

General Strategy:

Remove any historic upstream diversions to the extent possible away from the Wilson Street Village Area;
Seek opportunities for temporarily stormwater storage prior to the

Wilson Street Village Area; •Provide stormwater improvements within the Village Area with capacity for anticipated flooding events.

Upstream Proposed Alternatives 3 & 4

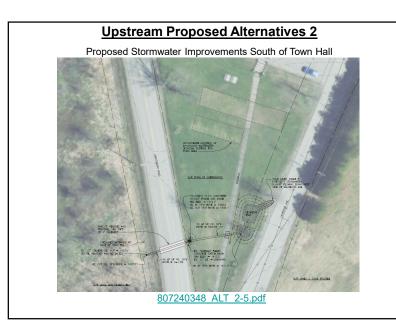
Proposed Stormwater Improvements North of Town Hall



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Environmental/Cultural Resources

- Environmental Resources
 - Wetlands will be impacted, which will require wetland permitting from the VTDEC
- Historical/Cultural Resources
 - No known historical or cultural impacts.
 - Could impact redevelopment of Town Hall Property, but would help divert stormwater around the site.



Environmental/Cultural Resources

• Environmental Resources

- Wetlands will be impacted, but the work will be contained within areas of prior disturbance and a wetland permit is not anticipated.
- Location of septic system for Town Hall will have to be confirmed to endure proper separation distances.
- Historical/Cultural Resources
 - No known historical or cultural impacts.
 - Could impact potential redevelopment of Town Hall



Environmental/Cultural Resources

- Environmental Resources
 - Wetlands will be impacted, and obtaining a wetland permit will be an uphill battle with the VTDEC.
- Historical/Cultural Resources
 - There will be impacts to the 96 Wilson Street
 Property, and stormwater easements will be required.



Alternative 1 Environmental/Cultural Resources

- Environmental Resources
 - Stormwater improvements will be in close proximity to existing wastewater disposal systems.
 - Measures will need to be taken to prevent wastewater from flowing along the stormwater improvements. KAS has proposed anti-seep collars in the conceptual design.
 - · Additional review needed by VTDEC
 - Potential Wetlands impacts near the Greensboro Brook.
 - Potential impacts to the Greensboro Brook.
 - Energy dissipater proposed to mitigate erosion.

Alternative 1 Environmental/Cultural Resources

- Historical/Cultural Resource
 - Impacts to 42 Wilson Street, 29 East Street, Town Green Parking Area, 32 East Street
 - Stormwater Easements required from 42 Wilson, 29 East Street and 32 East Street.

Alternatives – Cost Estimates

Conceptual Alternative	Construction Costs	Engineering Costs	Construction Inspection and Bid Support	5% Contingency	Total
Alternative 1	\$325,500	\$35,000	\$40,000	\$20,000	\$420,500
Alternative 2	\$70,600	\$7,500	\$10,000	\$4,400	\$92,500
Alternative 3	\$89,000	\$11,500	\$12,500	\$5,600	\$118,600
Alternative 4	\$59,500	\$14,000	\$11,500	\$4,300	\$89,300
Alternative 5	\$43,500	\$11,000	\$9,000	\$3,200	\$67,200

NOTE: THESE ESTIMATES ARE A PRELIMINARY ESTIMATE PREPARED FOR THE CONDUCT OF

THIS PRESENTATION AND SHALL BE USED FOR PLANNING PURPOSES ONLY.

COSTS ARE BASED ON ASSUMPTIONS FOR EASEMENT ACQUISITION

