

Village of Cross Plains

Bill Chang
Village Administrator
December 9, 2021



Quick Facts

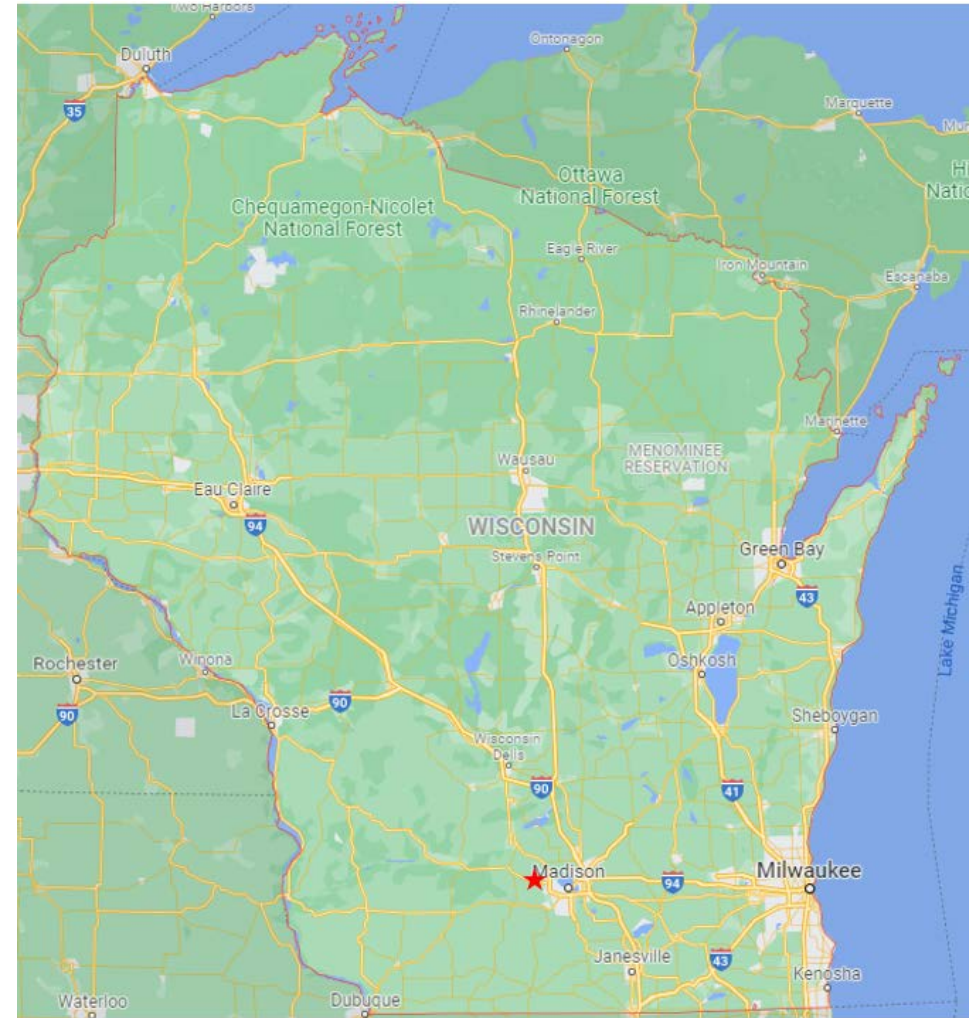
15 miles west of Madison and included in the Greater Madison Area

Surpassed 4,100 in population (2020 census)

Gateway from the Madison Area to the Driftless Area

Attractions are trout fishing, hiking, school district

Primarily a residential community for which residents travel to other communities for work.

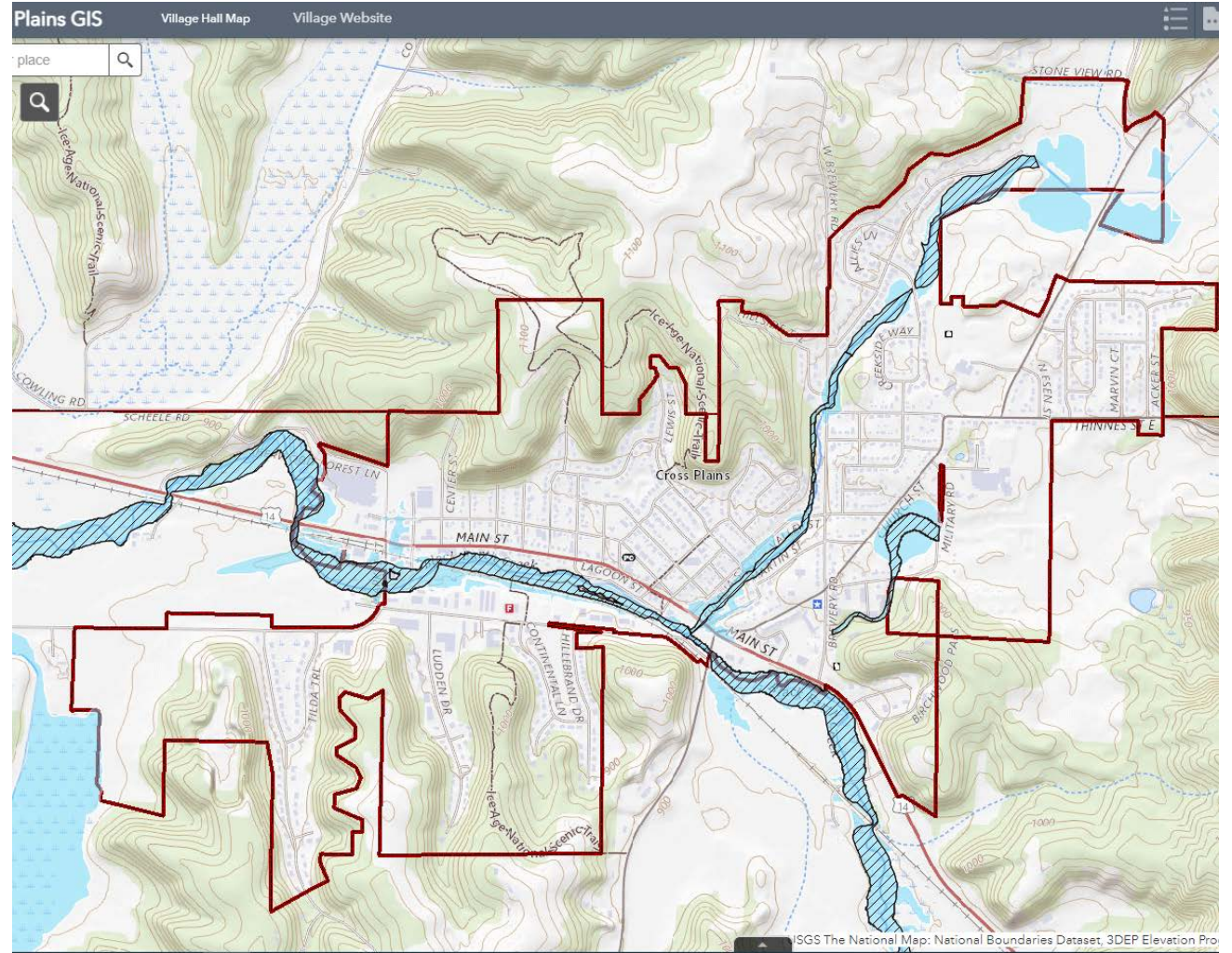


Landscape and Terrain

Most development have been in valley bottoms.

Black Earth Creek is a Class I trout stream.

Brewery Creek is a tributary to Black Earth Creek and confluences in the Village's downtown.



Climate and Threats

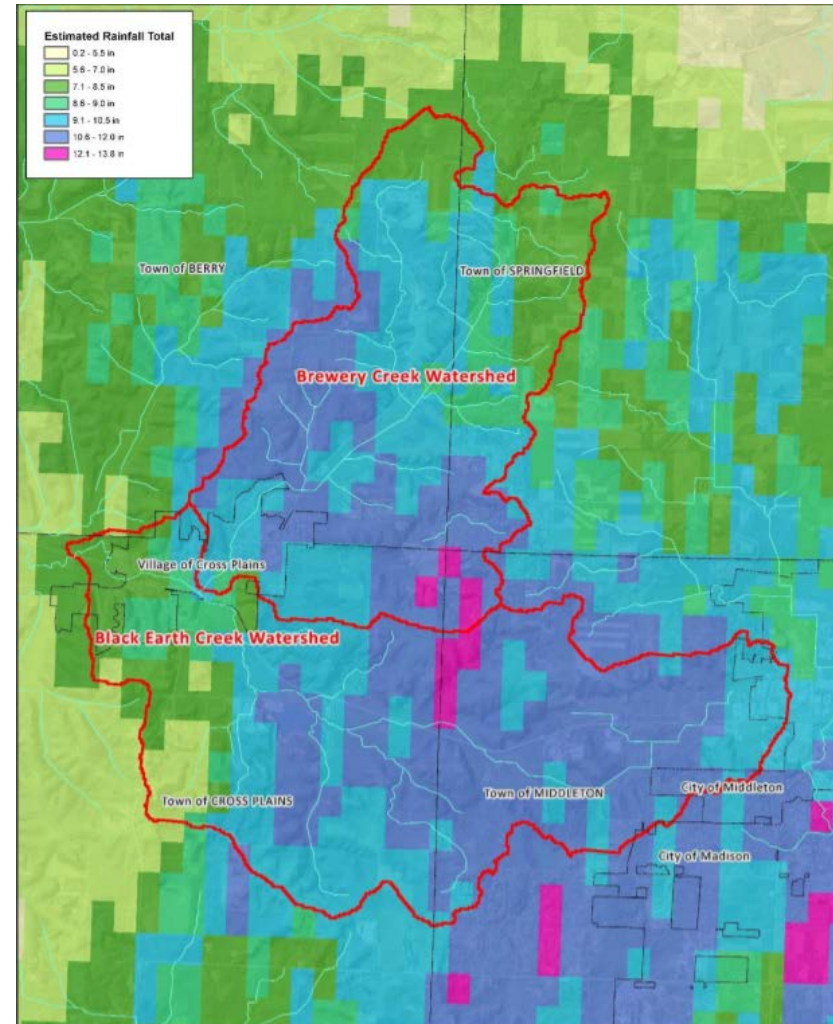
More intense rain fall in short increments.

Saturated farmlands and high ground water

Historic Flooding in 2018

Flooding from snow melt in 2019

Jewell Associates Engineers and MARS- EOR conducted flood study in 2020.



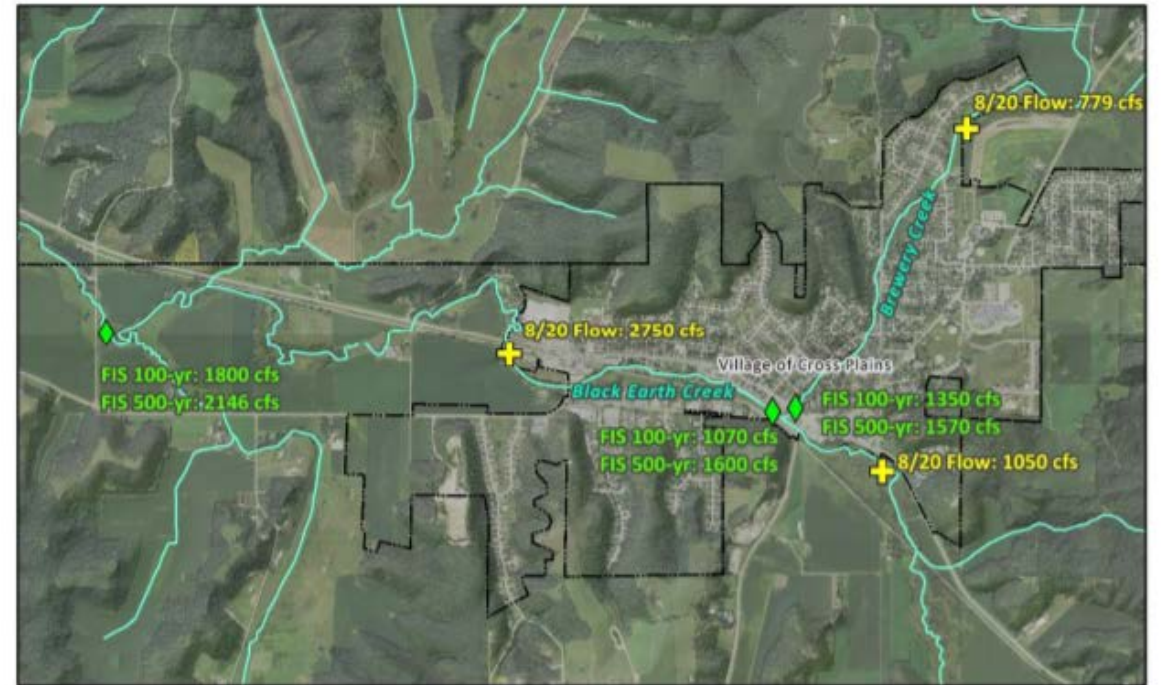
Radar Estimated Rainfall Depths in the Black Earth Creek Watershed on August 20, 2018



Figure 1. Aerial Map of Inundated Areas as a Result of the August 2018 Flooding in Cross Plains. (Town and Country)

Location	Aug 2018 USGS Gage Peak	Flood Insurance Study	
		100-yr	500-yr
USGS Brewery Creek Upstream of Village	779	-	-
Brewery Creek at Confluence with Black Earth Creek	-	1,070	1,600
USGS Black Earth Creek at Brewery Rd	1,050	-	-
Black Earth Creek at Confluence w/ Brewery Creek	1,652*	1,350	1,570
USGS Black Earth Creek at Treatment Plant	2,750	-	-
Black Earth Creek at Confluence with Garfoot Creek	-	1,800	2,146

*- Peak flow estimate from adding hydrographs from USGS gages at Brewery Creek Upstream of Village and Black Earth Creek at Brewery Rd.



Study Recommendations

- Flood Conveyance Improvements
 - Bridges, culverts, and impediments
 - Overflow routes
- Brewery Creek Floodplain Storage
- Watershed Hydrologic Restoration

Opportunities

- CARPC – Black Earth Creek Watershed Green Infrastructure Project - <https://becw-greenplan-silvernail.hub.arcgis.com/>
- Hazard Mitigation Planning and other grant opportunities
 - Dane County
- Development Pressure and Outdoor Recreation Opportunities
 - Residential Development
 - Commercial/Main Street Redevelopment
 - Recreational Opportunities

Development Opportunities

- 173 residential lots approved in last two years
- Currently have an approved preliminary plat for 116 additional residential lots.
- Requiring developers to show 500 year flood event on plats.
- Ribbon curb and drainage ways instead of traditional piping.
- Requiring dedication for lands for stormwater projects outside of the development stormwater plan.
- Requiring that restrictive covenants encourage and allow for rain gardens and other green infrastructure in each lot.
- Exploring reservation of key valley bottoms to maximize flood storage or hydrologic restoration.
- Being green infrastructure conscious whenever the Village makes a policy decision (street reconstruction, purchasing, business development, etc.)

Key Takeaways

- The natural amenities (creeks, terrain/bluffs) promulgate flood hazards but are also amenities to the Village and part of the reason why people live here.
- Flooding is a regional issue and it needs to be resolved with that mindset
 - What we do in the Village will impact others, what others do will impact us.
- Learn from others, there are plenty of examples and case studies.

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