



### **Mission Statement**

*To provide exemplary experiences, services & spaces that create opportunities for everyone to learn, engage and thrive.*

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## **YANKTON BOARD OF CITY COMMISSIONERS**

Work Session Meeting beginning at 5:30 P.M.

**Monday, September 27, 2021**

**City of Yankton Community Meeting Room**

Located at the Career Manufacturing Technical Education Academy formerly known as Technical Education Center • **1200 W. 21<sup>st</sup> Street • Room 114**

**If you would like to watch the City Commission meeting you can do so by accessing the City of Yankton's YouTube Live Channel.**

<https://www.youtube.com/channel/UCD1a1hf1dIkiLVSXnmdRQg/live>

Rebroadcast Schedule: Tuesday @ 7:30pm, on channels 3 & 45

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- 1. Roll Call**
- 2. Public Appearances**
- 3. FEMA Risk Map**
- 4. Other Business**

*Other business is a time for City Commissioners to address the commission regarding matters not on the agenda. These items will be deliberated by the governing body and will not be acted upon at this time. Items mentioned may be added to a future City Commission meeting or work session for deliberation or action.*

- 5. Adjourn the Work Session of September 27, 2021**

# FEMA Risk Map Update



City Commission Work Session 09/27/2021

## Background and Process

The Federal Emergency Management Agency (FEMA) in the midst of a multi-year study in 28 eastern South Dakota counties and communities. City staff has been communicating regularly with FEMA Region VIII and their contractors to try to incorporate the most accurate information about our community since 2016 when the process started. The ultimate goal of the update will be to adopt a new effect Flood Insurance Rate Map (FIRM). Our most recent FIRM update was 2010. Updates are supposed to occur by FEMA's own rules every five years.

Participation in the National Flood Insurance Program (NFIP) is voluntary, but a community must participate for property owners to be eligible to purchase flood insurance and access federally backed mortgages. As a part of participating we agree as a community to adopt and enforce floodplain development ordinances and periodically adopt updated maps provided by FEMA. Our staff administers the rules and issues permits.

## Technical Problems

City staff has expressed concerns through the process that mapping efforts were not accurately mapping the terrain of the community or accurately reflecting the risk. FEMA agreed to do a detailed study of our community to try to address those concerns. Rather than improve the situation the maps added new inaccuracies.

The work maps as City of Yankton staff understand them have the potential to include 433 additional properties in the Special Flood Hazard Area (SFHA) and 139 additional properties in the floodway. Under the effective map, 425 properties are currently impacted by the SFHA, which doubles to 858 in the work maps. In the work maps, the SFHA increases by approximately 200 additional acres, and the total acreage of the floodway increases from 60 acres to 202 acres resulting in a floodway area increase of more than 300%. While staff shares FEMA's goal of adopting maps that accurately represent true risk, these maps seem more like a worst possible scenario rather than designed to make properties "reasonably safe from flooding," which is FEMA's own stated goal. It is in everyone's best interest, including FEMA, to regulate using accurate maps.

For many reasons, we don't want to be put in a situation where we are regulating using a map we don't have confidence in. At that point, we could end up spending most of our regulating efforts on working with individual property owners through expensive, time-intensive amendment processes.

## Investment

In our conversation with engineers who specialize in floodplain mapping, it appears that FEMA may be using data for mapping and assumptions in their model that are technically incorrect or of lower data quality than FEMA's own requirements. Arguments from historical experience or personal observations are not considered by FEMA, so staff has contracted with an engineering firm with extensive mapping experience to prepare technical questions and comments about the flaws in the data and assumptions. To further support that effort staff has ordered a new LiDAR, an airplane-based data gathering method to accurately measure ground elevations.

## What does this mean for Yankton?

Technical questions and comments submitted prior to the issuance of a Preliminary Map are addressed by FEMA and their contractors prior to moving to the next step in the process. Challenges to the map during the appeal process after issuing the Preliminary Map are much more difficult.

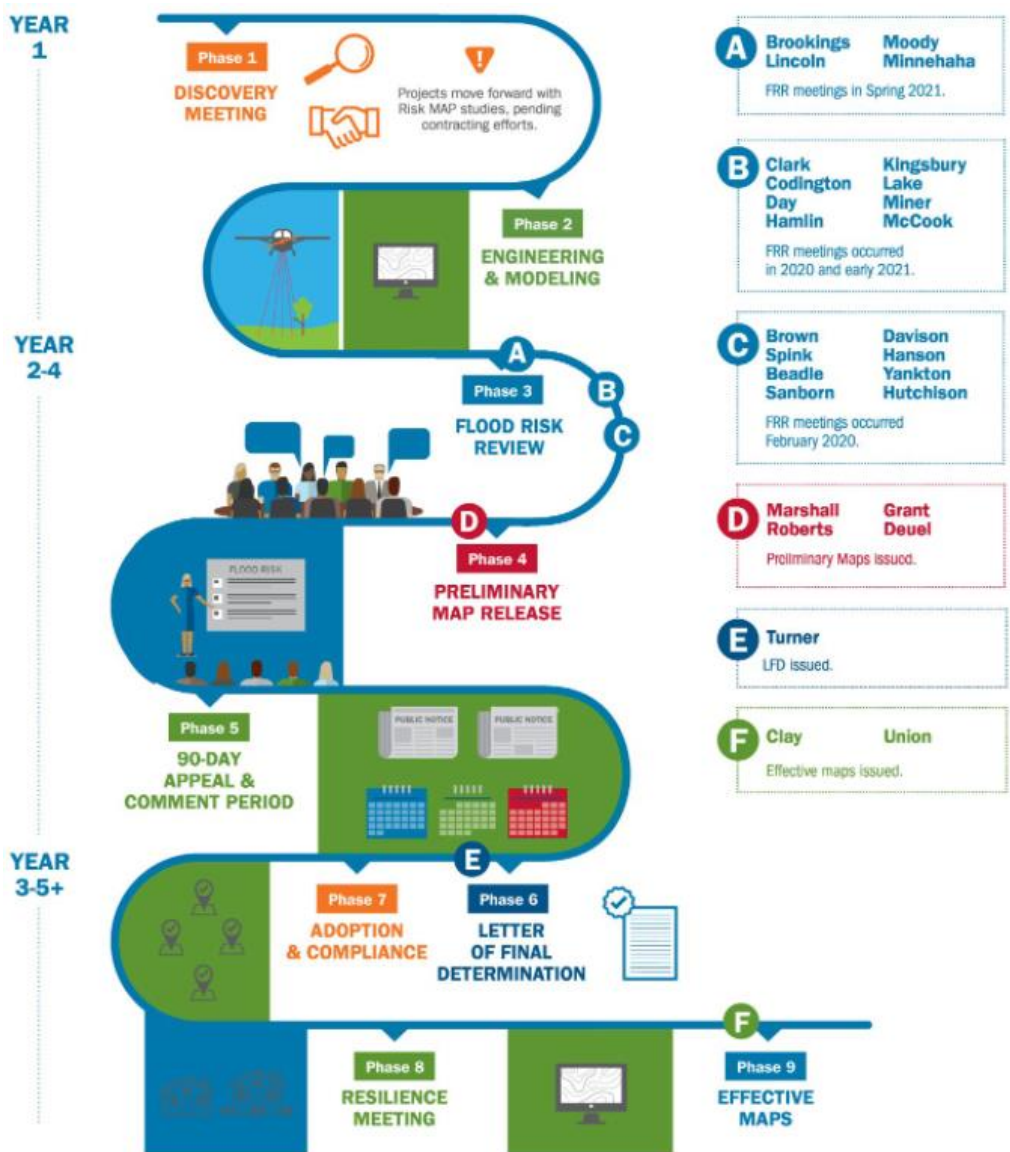
This is a FEMA driven process that gives the City limited options. The mapping is a requirement for continued participation in the National Flood Insurance Program. Therefore, our options include:

- Discontinue participation in the NFIP. This solution is unattractive because it would have the effect of eliminating any federally backed mortgages from being issued for properties in the City of Yankton and property owners would no longer be able to purchase flood insurance to protect their assets. Additionally the City of Yankton would be ineligible for most FEMA grant programs.

- Accept maps as generated by FEMA. Accepting the map in the current form does not correct for mapping or modeling errors and would result in increased regulatory costs as well as new insurance requirements on federally backed mortgages, and in some cases will curtail future development/redevelopment.
- Work with an engineering firm at our own cost to try to identify the flaws and errors in the mapping and modeling to more accurately reflect the risk and propose changes to FEMA. Potentially using that data to support future map revisions if this effort to correct the errors in advance is unsuccessful.

The reality is that any new floodplain mapping will cost Yankton’s property owners a substantial amount of money. The process could add somewhere in the neighborhood of 433 properties to the regulatory floodplain. The cost of flood insurance varies widely so it is difficult to calculate the real impact. However, if we conservatively estimate that insurance will cost an average of \$1,000 per site in yearly premiums, an additional \$400,000+ annually could be paid by property owners to FEMA through the National Flood Insurance Program. Not all changes impact structures so the cost is difficult to estimate.

This analysis is not a reaction by FEMA to something they think that the City of Yankton has done wrong. In 2015, FEMA conducted a Community Assistance Visit. That visit is an audit of our flood plain management performance. The audit found that the City of Yankton is in compliance with the National Flood Insurance Program. The results of this audit show that we have excelled in the management of our floodplains since the inception of the program. Prior to the flood of 2019 we have not had a substantial flood insurance claim since 1978. As a result of the 2019 event the NFIP paid claims to only 3 properties, only one of which was substantial.





# Floodplain Management in our Community

Brad Bies  
Local Floodplain Administrator



# National Flood Insurance Program (NFIP)

- We are a “Participating Community”
- City of Yankton Floodplain Ordinance
  - [Chapter 11, Article IV](#)
- We enforce our ordinance....but that also means we enforce FEMA regulations in the process.
- Citizens can only purchase flood insurance if their community participates.
- Federally backed mortgages have a mandatory insurance purchase requirement.
- Participation is necessary for the City of Yankton to access most FEMA grant programs.



# Floodplains vs. Special Flood Hazard Areas (SFHA)



- **Floodplain:** Areas of low-lying ground typically adjacent to a river or coast which are subject to flooding. Floods continuously alter the landscape.
  - We all live and work in the floodplain.
- **Special Flood Hazard Area (SFHA):** The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on NFIP maps. Floodways are contained within SFHA (stay tuned for more on that).
  - Only some of us live and work in a SFHA.
- **Base Flood:** The flood having a one percent chance of being equaled or exceeded in any given year. The base flood is the national standard used by the National Flood Insurance Program (NFIP).
- **Confusing terms that mean almost the same thing:**
  - Base Flood--AKA: 100 Year Flood, 1% Annual Flood, A/AE Zone, BFE, Regulatory Floodplain....

# Higher Risk Areas



In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.

# Floodway

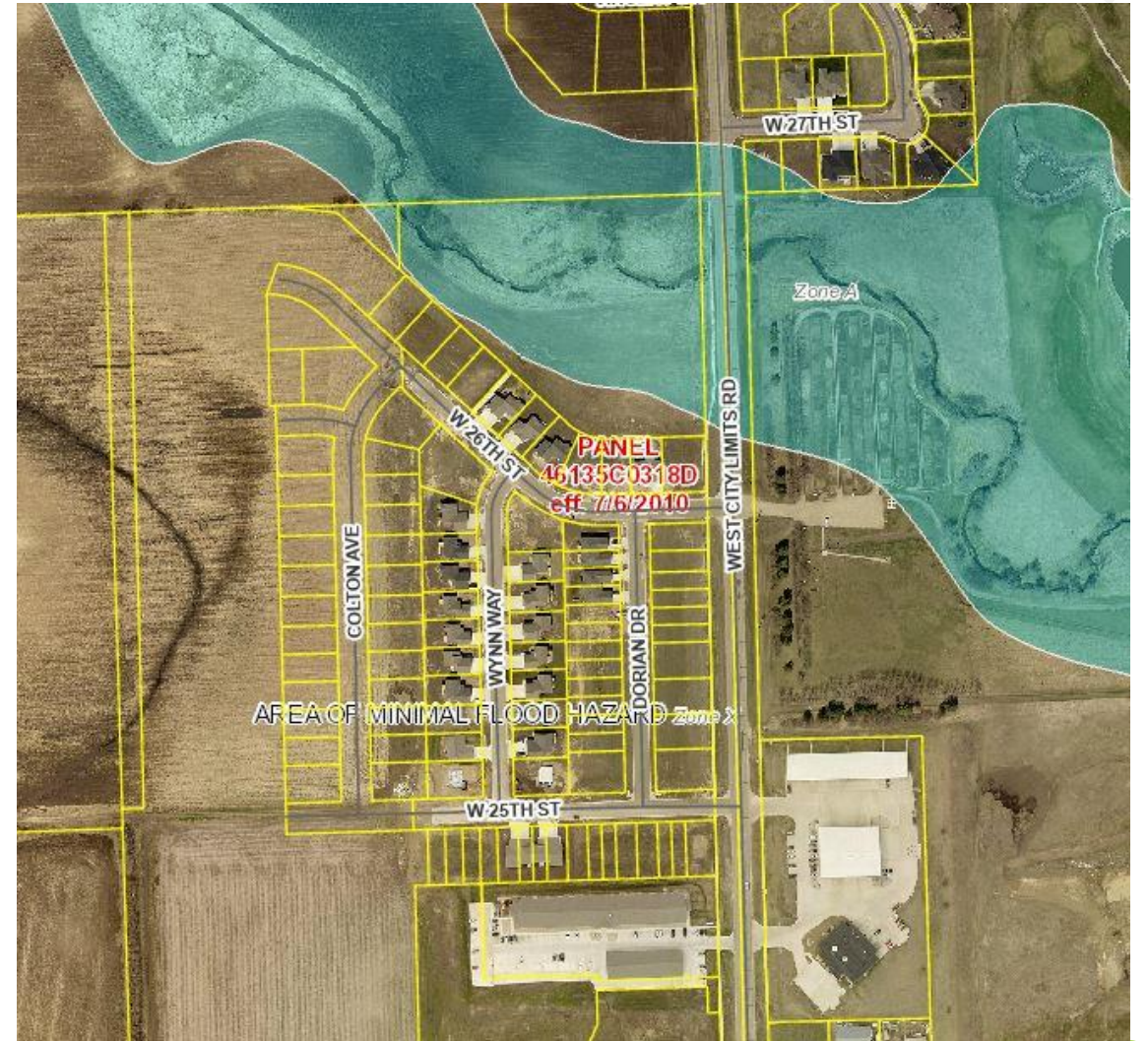
- Mostly highly regulated area.
- All projects in floodway must be reviewed to determine if they will cause an increase in flood height and must:
  - Have a no-rise certification.
  - Be supported by technical data.
  - Be signed by a registered professional engineer.





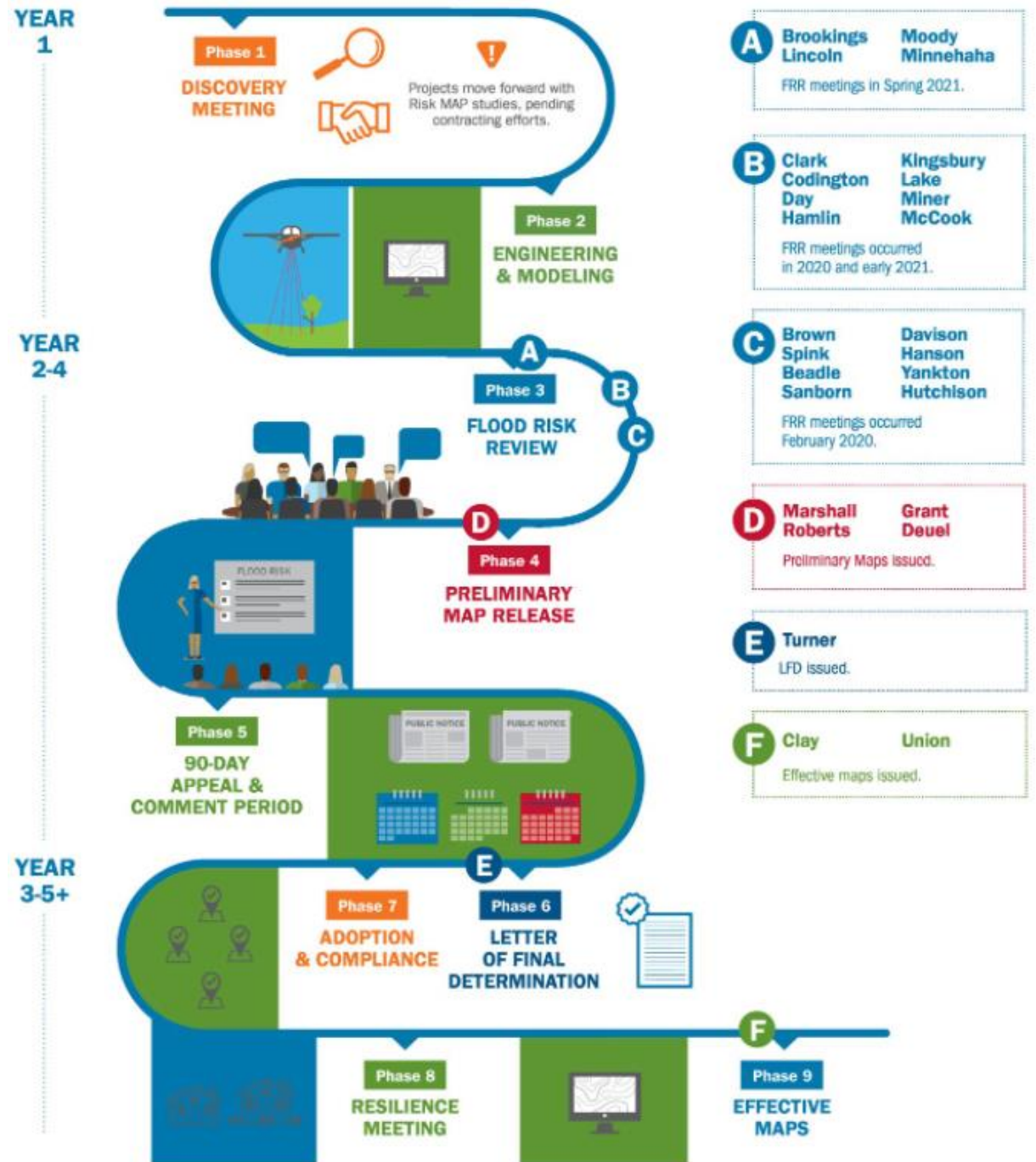
# Development in the SFHA

- **Development:** Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials
- Once a FIRM has been issued for the community, it must require permits within the designated Special Flood Hazard Area (SFHA).
- Currently regulating the effective map (2010).



# Map Update Process

- Process begun in 2016 across 28 counties in eastern South Dakota.
- Ongoing conversation and detailed study
- Multiple Work Map revisions
- Currently in the Work Map Phase. Maps are not official nor must we use them to regulate, but are a source of “information.”
- Next step: Preliminary Maps
- Communities must regulate to the Preliminary Maps
- Whatever the final outcome it will be the City of Yankton’s program to administer and map work with.
- FEMA doesn’t have a day-to-day administrative role with floodplain development questions or permitting.



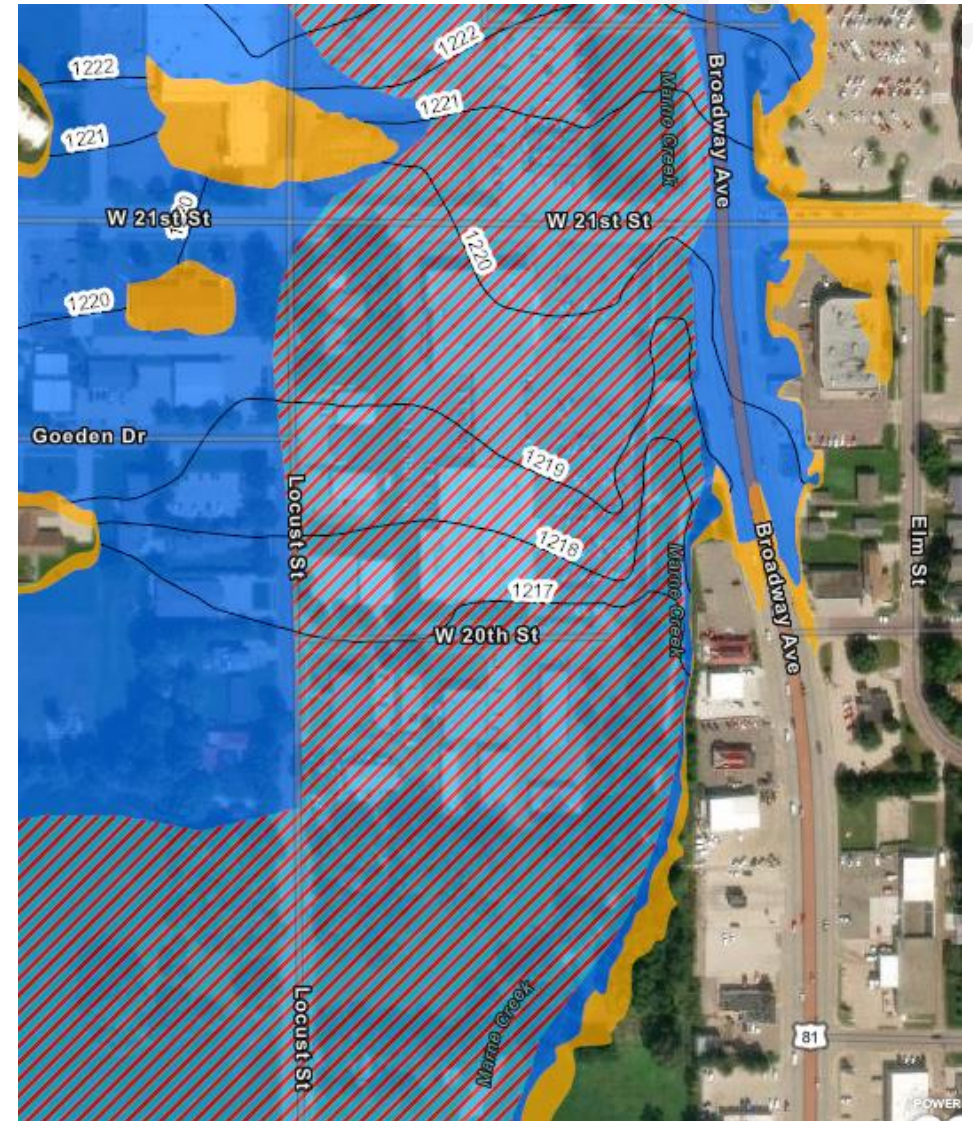
# Technical Problems and Investment

- Incorrect model data and assumptions
  - Elevation data standards
  - Culverts and crossings
  - Modeling assumptions
- “Data” vs. observation and experience
- Updated LiDAR to new standard
- Consulting engineers
- An accurate map is in everyone’s interest.



# Impact

- 433 new properties (approx. 200 additional acres) in the SFHA
- 139 new properties (approx. 140 additional acres) in the floodway. A floodway area increase of more 300%+ (60 acres to 202 acres).
- Under the current maps 425 properties are impact by the SFHA, that doubles to 858 in the work maps.
- The reality is that any new floodplain mapping will cost Yankton's property owners a substantial amount of money.
- The cost of flood insurance varies widely so it is challenging to calculate the real impact. If we conservatively estimate that insurance will cost an average of \$1,000 per site in yearly premiums, an additional \$400,000+ annually could be paid by property owners to FEMA through the NFIP. Not all changes impact structures so the true cost is difficult to estimate.
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# Options

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- 2. Accept maps as generated by FEMA.** Accepting the map in the current form does not correct for mapping or modeling errors and would result in increased regulatory costs as well as new insurance requirements on federally backed mortgages, and in some cases will curtail future development/redevelopment.
- 3. Technical Response.** Work with an engineering firm at our own cost to try to identify the flaws and errors in the mapping and modeling to more accurately reflect the risk and propose changes to FEMA. Potentially using that data to support future map revisions if this effort to correct the errors in advance is unsuccessful.

# Map Journal & Next Steps

- [Map Journal](#) showing the process and slider with before and after for Yankton County and various other counties at different stages in the process The Yankton County map is several pages down in the Journal.
- Anticipate Preliminary Maps in late 2021 or early 2022
  - Preliminary Maps are quasi-official and must be taken into account in permitting.
  - 90 day comment period followed by a 6 month window to adopt by ordinance.
- Technical comments submitted before 90-day period have the greatest likelihood to help correct the modeling and technical errors in the map.

