PROJECT UPDATE MEETING

Three Forks

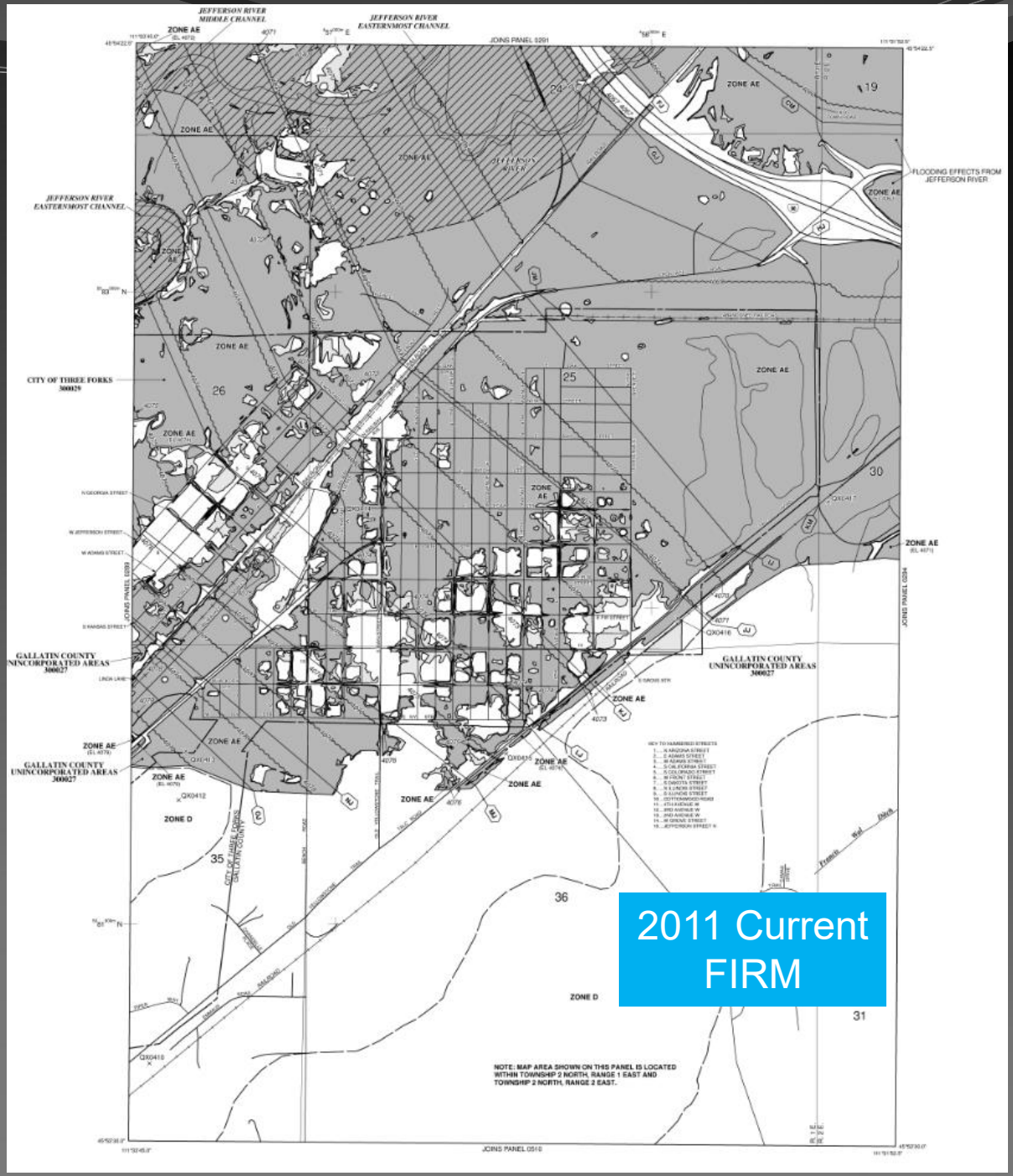
February 11, 2020

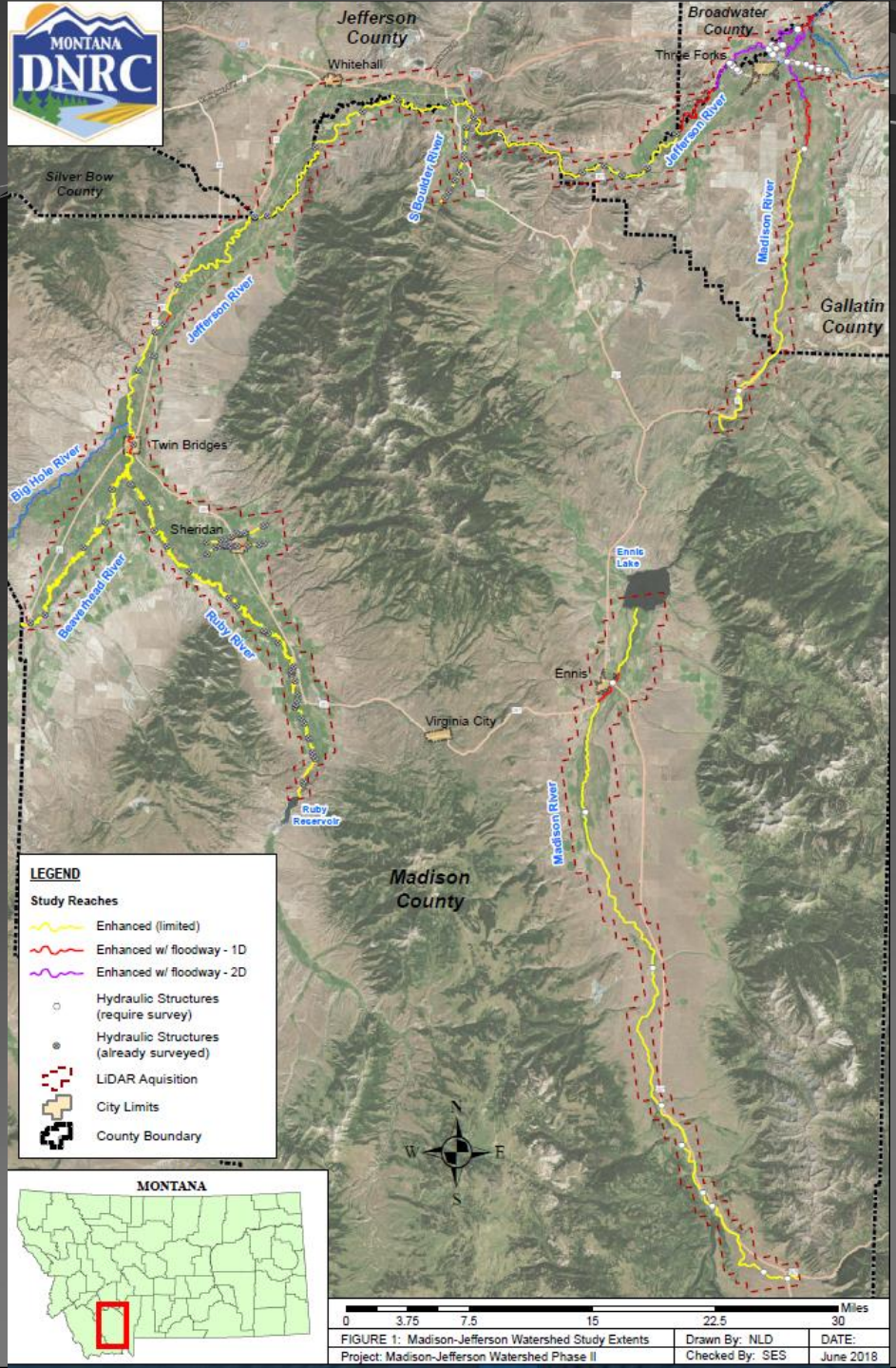
Purpose:

- Project Overview
- Review Project Team, Scope & Schedule
- Questions & Discussion

Three Forks- Floodplain Maps

- 1975 Flood Hazard Boundary Maps (by HUD)
- 1980 – Detailed study conducted by FEMA Flood Insurance Rate Maps issued
- 2004- Detailed study conducted
- 2011- Study from 2004 included in Gallatin County digitization





262 stream miles
- -33 miles w/ floodway
- -229 miles no floodway

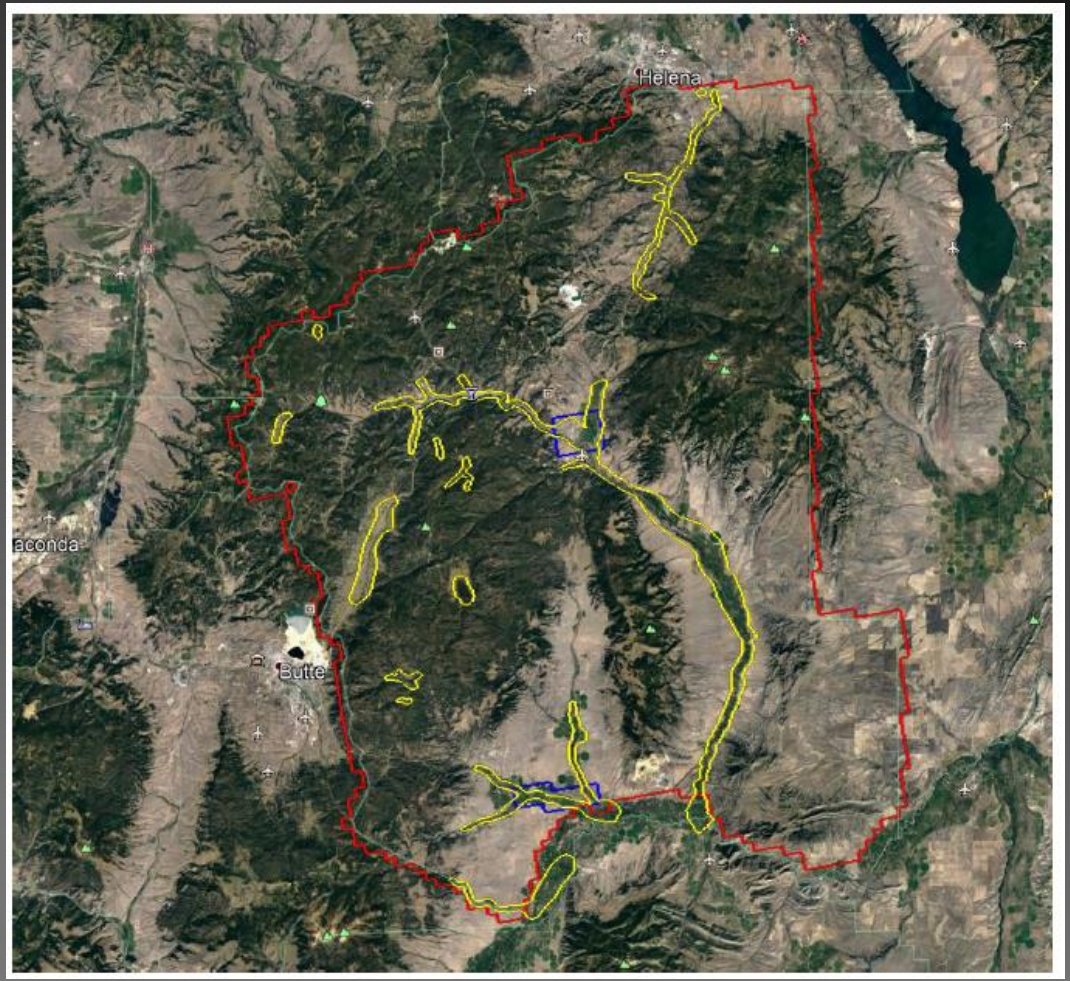
66 miles will update existing studies

195 miles new studies for unmapped areas

Project Scope

Topographic Data Collection

- Lidar Data Acquisition:
  - Provides data needed for hydraulic modeling and floodplain mapping.
  - ~1,677 square miles



quantum SPATIAL

Project Scope

Survey Work

Provides in-stream and bridge/crossing data needed for hydraulic modeling and floodplain mapping.

PIONEER TECHNICAL SERVICES, INC.

Engineering and Environmental Services

September 2018

Dear Landowner along Prickly Pear Creek and tributaries,

We are writing to inform you that the Montana Department of Natural Resources and Conservation (DNRC) has hired our firm to complete a bridge and diversion structure inventory and conduct limited survey along Prickly Pear Creek and select tributaries. The work will ultimately help produce new and updated floodplain mapping along selected reaches of these rivers. We will collect basic information on bridges and diversion structures for Prickly Pear Creek and select tributaries to develop a hydraulic structure inventory. The inventory will cover the entire 18.7 miles of Prickly Pear Creek and 8.1 miles of tributaries in Jefferson County (area noted in the image below).

We are sending you this courtesy notice because you have been identified as a landowner along the river channel in the study area. Our survey personnel will start the work October 1, 2018 and continue working as long as weather permits. If we do not get to your property before cold weather shuts down the work, we will send a follow up letter in the spring to inform you that work has started again. We plan to survey or collect information approximately 50 feet beyond the water's edge at each cross section, bridge, or diversion structure. If you do not wish for our survey personnel to enter your property, please notify us using the contact information below. If you would like to be contacted on your cell phone or via email prior to the survey personnel accessing your property, please provide that contact information to one of the project contacts listed below.

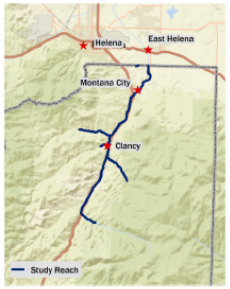
Thank you for your time. If you have any questions or comments, please direct all correspondence to the following:

Department of Natural Resources and Conservation (DNRC)

Tiffany Lyden, Outreach Specialist
DNRC Floodplain Management Program
1424 9th Ave.
Helena, MT 59601
tlyden@mt.gov (406) 444-0599

Pioneer Technical Services, Inc.

George Austiguy P.E., Senior Project Manager
106 Pronghorn Trail
Bozeman, MT 59718
gaustiguy@pioneer-technical.com (406) 723-1981

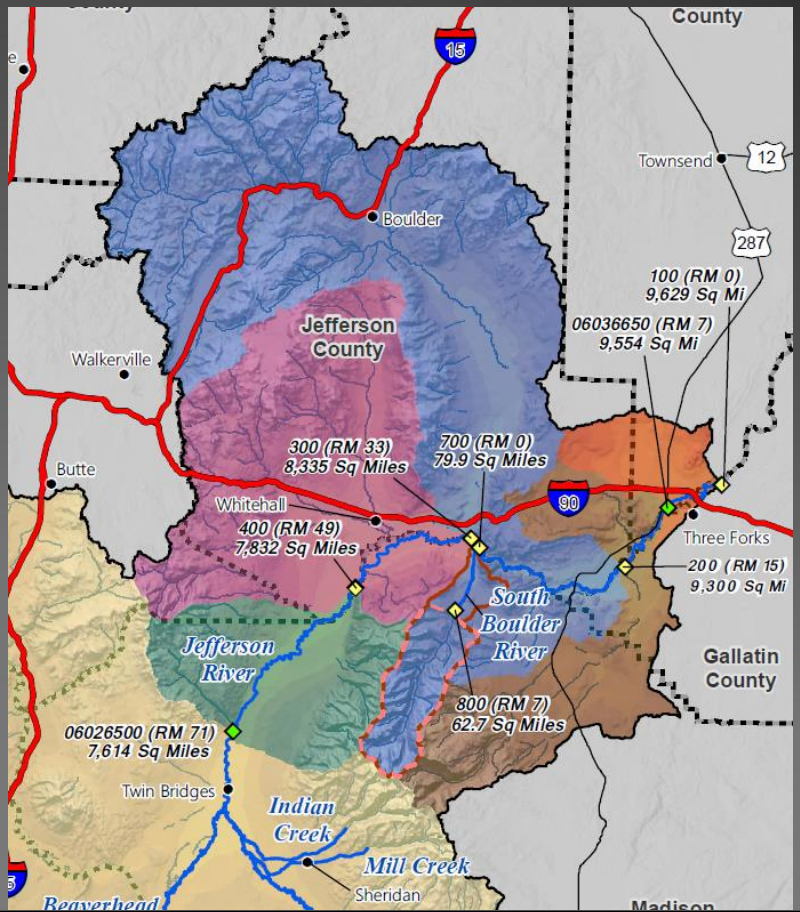


HEADQUARTERS: PO BOX 1445 • BUTTE, MT 59702 | PH: 406.782.1177 • FX: 406.782.1066 | WWW.PIONEER-TECHNICAL.COM
ANACONDA • BILLINGS • BOZEMAN • HELENA • MISSOULA • LAS VEGAS, NV • KELLOGG, ID

Project Scope

Hydrology

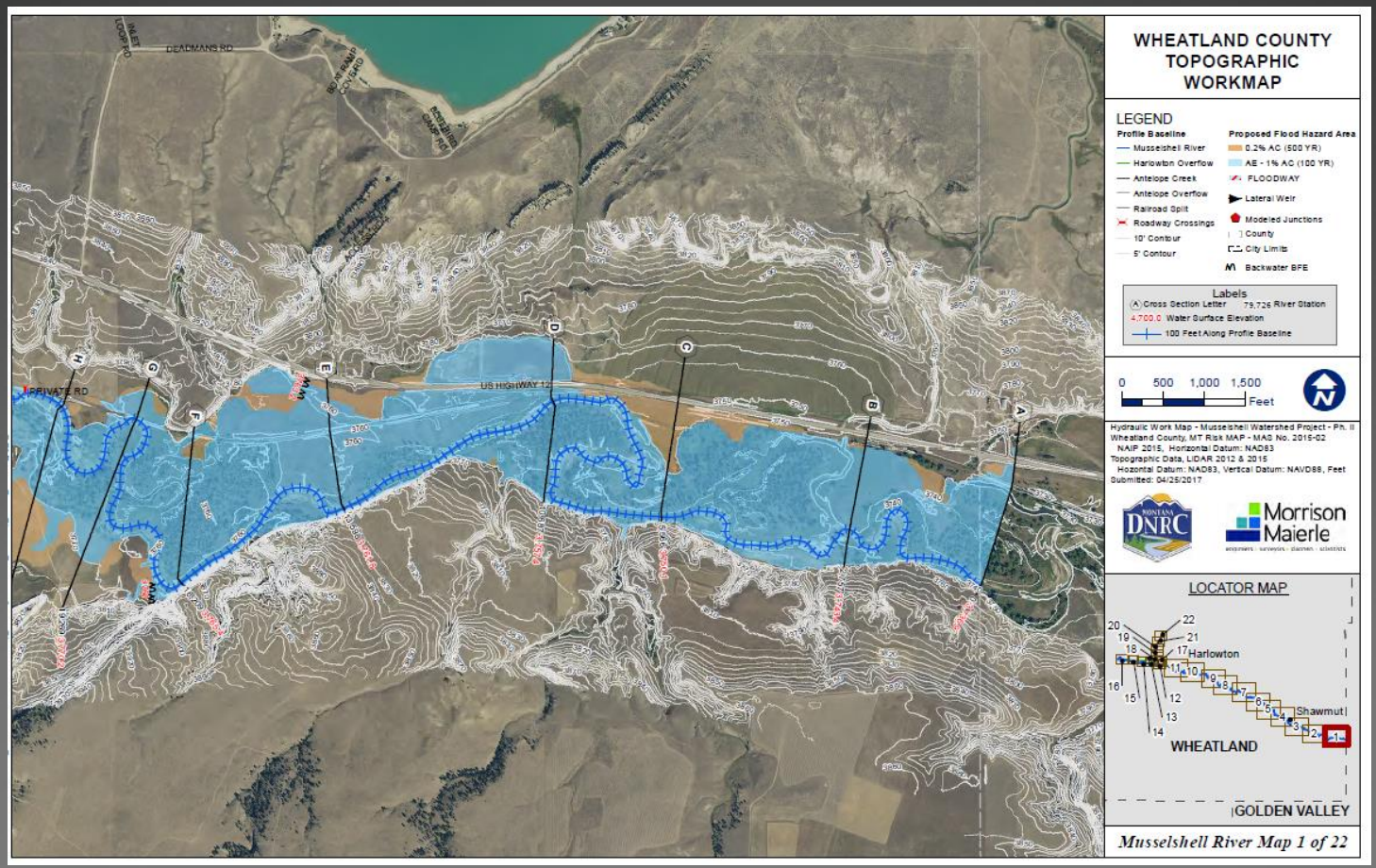
Provides flow data needed for hydraulic modeling and floodplain mapping.



Project Scope

Hydraulic Analysis and Floodplain Mapping

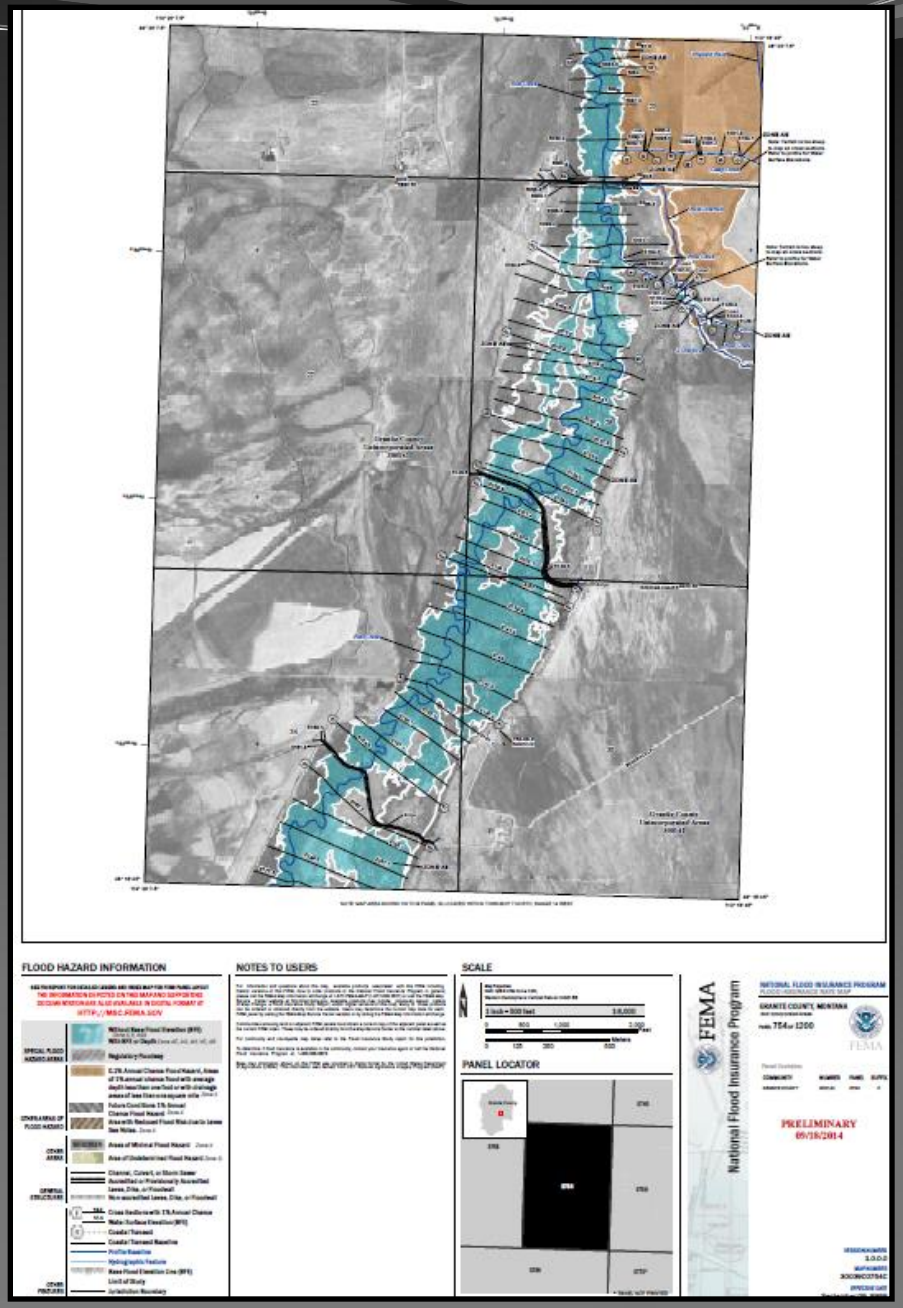
Hydraulic modeling and engineering to produce draft maps



Project Scope

FEMA Map Production

- Preliminary Maps
- Public Review
- Maps Finalized



MADISON COUNTY
MONTANA

Project Timeline

Madison & Jefferson Watershed Floodplain Maps Update

Completed in 2019	Summer 2020	Fall 2020 (est.)	2021 (est.)	2022 (est.)
Measurements are made of the topography around the river, along with any culverts, bridges, and road crossings. LiDAR uses an airplane to collect ground elevation over a large area, and ground survey supplements the airborne data. Flood flow data determine how much water there will be in a river during a flood event.	The elevation and survey data are combined with the flood flow data to determine where the water will go when it overflows the channel and how far it will spread out. The area shown to be underwater and at high risk is mapped as the regulatory floodplain.	Draft data is delivered to the communities. Public open houses will be conducted for landowners to review the information.	FEMA Preliminary Maps are produced and ready for public review and comment period. A second public open house is usually conducted to review the information. 90 day official comment & appeal period held.	FEMA Flood Insurance Rate Maps finalized.
Data gathering	**Engineering and floodplain modeling**	**Draft Data available public review**	**Preliminary Data public comment and appeal period**	**Flood Insurance Rate Maps become effective**

Flood Study Conducted

4 steps of a flood study.

1) Survey & LiDAR
2) Hydrology (flood flow)
3) Hydraulics (engineering)
4) Mapping (delineation)

Public Review

2 public open houses are usually held during this time. Once at draft map stage and again at preliminary map stage.

During this time public comments are encouraged. There will be a official 90 day appeal period after the maps become preliminary.

Resiliency and Mitigation efforts

Once new maps become effective the community can determine what mitigation efforts it would like to pursue to reduce flood risks.