Oak Creek Low Water Crossing Capstone

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Gantt Chart Tasks

- ~~Research~~
- Modeling
  - ~~Project Survey~~
  - USGS Data
  - Gauge Data
  - HEC-RAS
- ~~Impacts~~
  - ~~Political~~
  - ~~Social~~

- Analysis
  - Geomorphology
  - AutoCAD
  - Hydraflow Express
  - Bentley Water Gems
  - Culvert Master
- Design
- Reports & Presentation
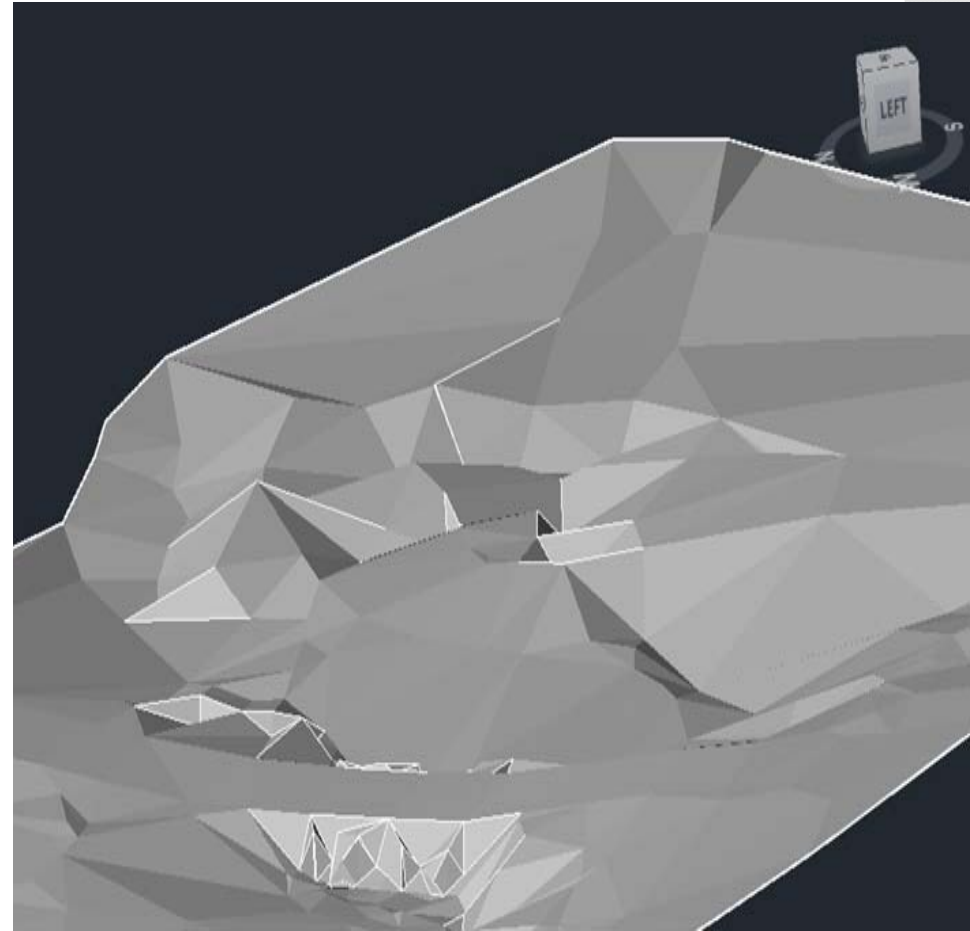 - 50% Design Report

Past 2 Weeks (01/27-02/11)

- Finished Surveying Points
- Created Cross Sections for HEC-RAS
- Gathered Sedona Gage Data
  - Not using HEC-HMS
- Delineated Watershed
- Impacts
  - Social
  - Political

Finished Survey Topography
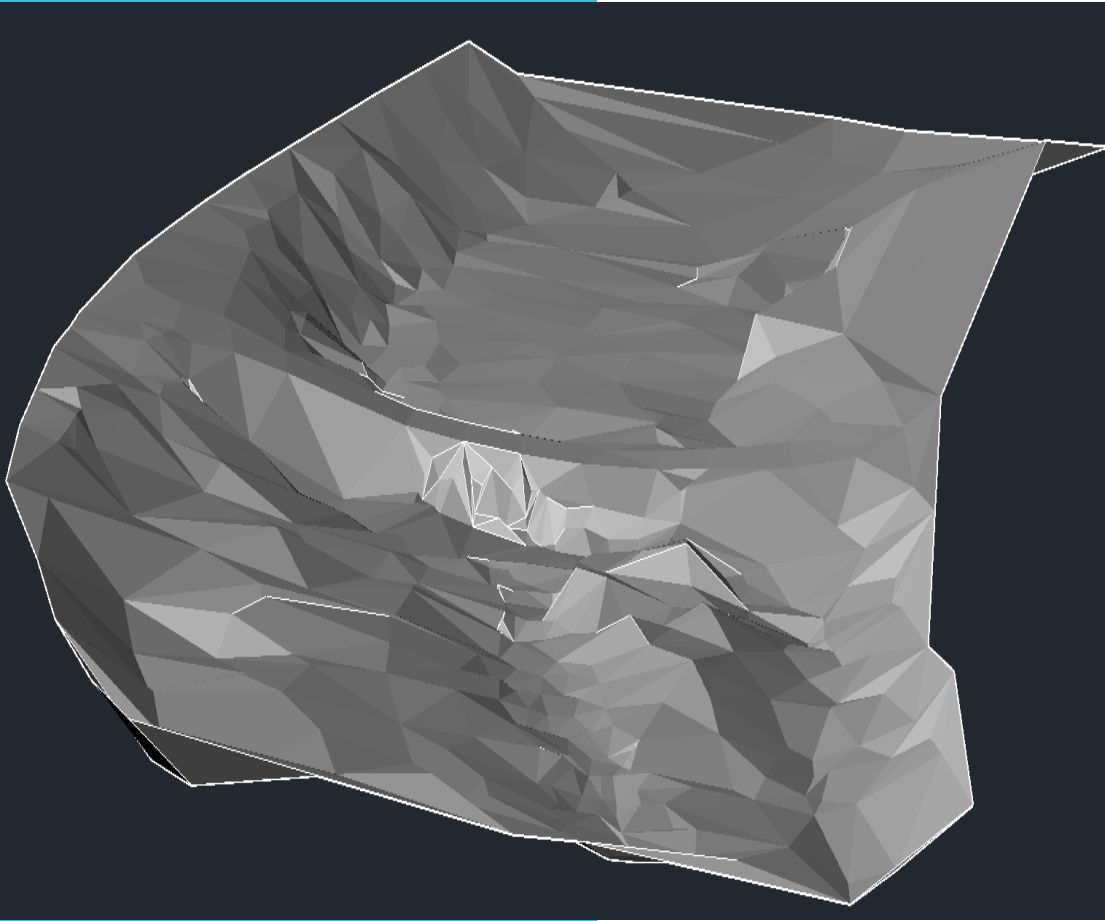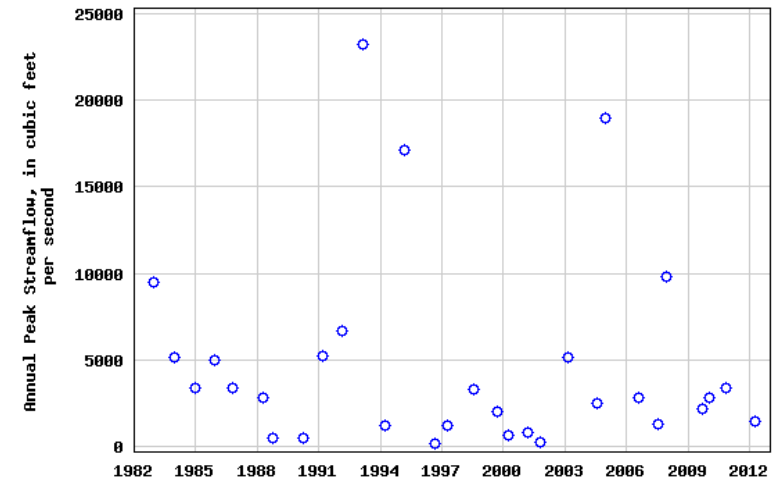

Looking Up Stream - Completed

Looking Down Stream - Incomplete
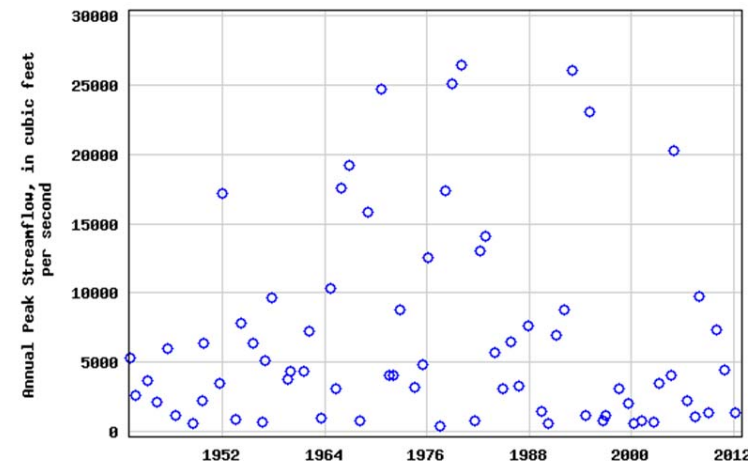
Sedona Gage Data

- Sedona gage station is below Shangri La low water crossing
- Gage data is available

- Removal of HEC-HMS
  - Possibility of errors
  - More convenient
  - Simple Area Regression
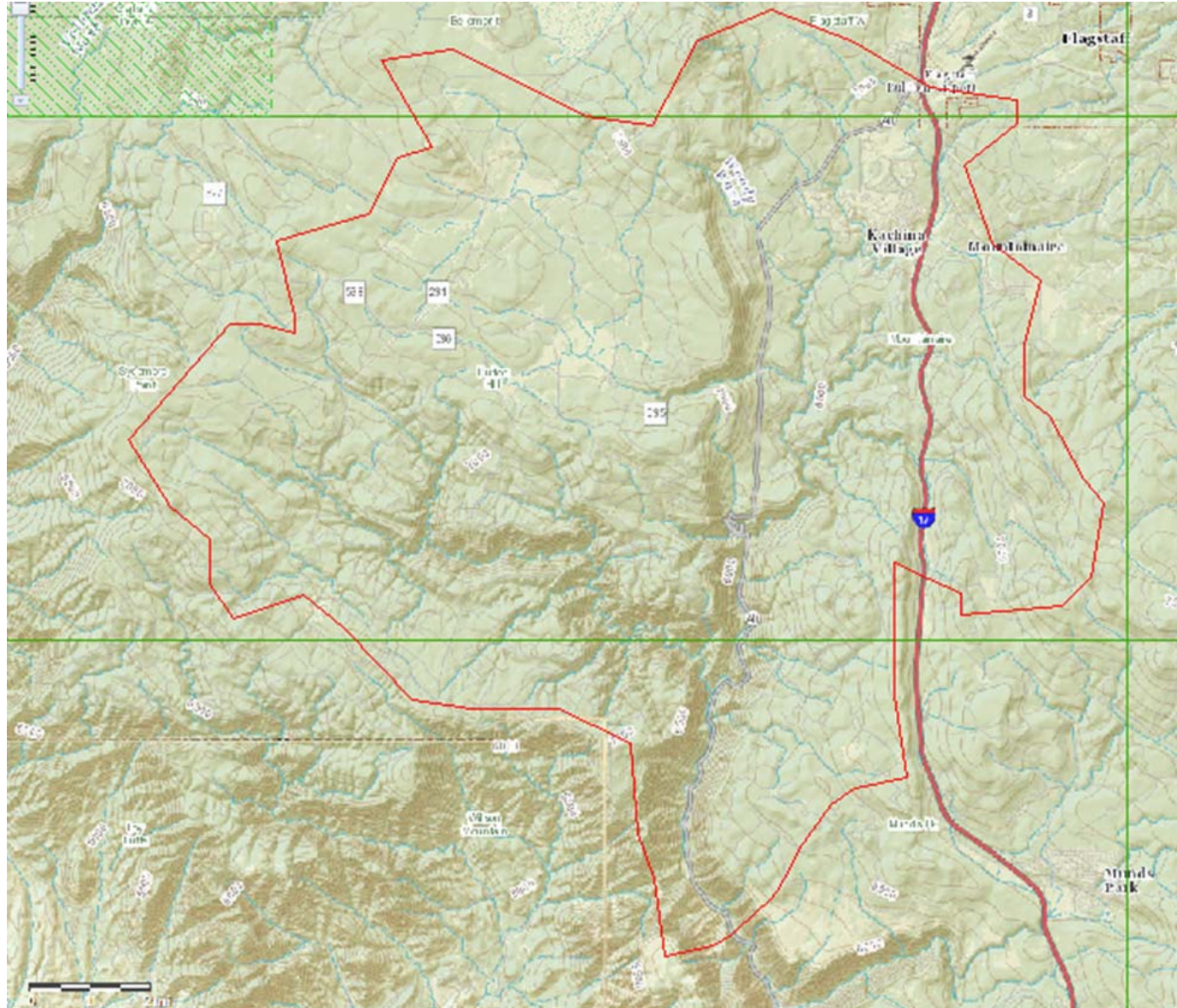

USGS 09504420 OAK CREEK NEAR SEDONA, AZ

USGS 09504500 OAK CREEK NEAR CORNVILLE, AZ

Watershed Delineation

- Area = 140 sq. mi.
- Area Regression from Gage Data
  - ~ 60% from Sedona gage
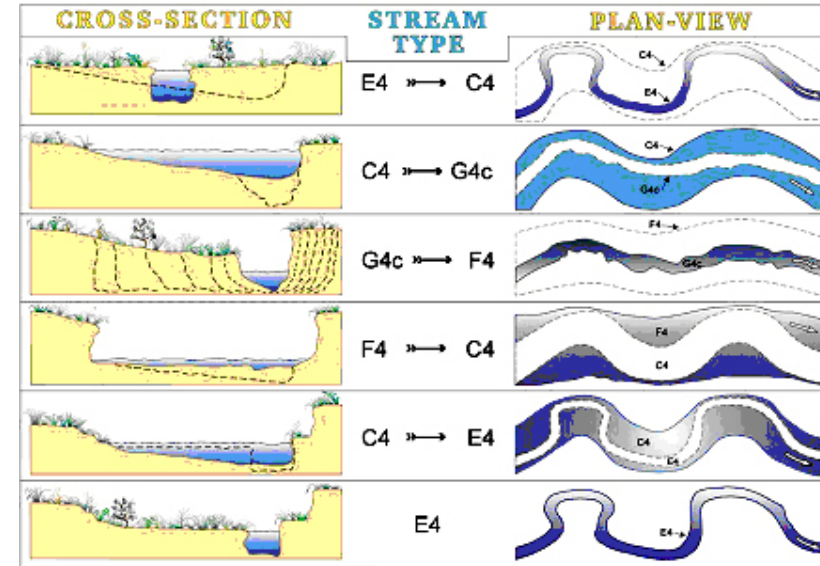
Impacts

Social

- Improved dependability on the crossing
- Higher property values
- Constant access
- Potential for safe working conditions in Oak Creek

Political

- Negligence and major changes to Oak Creek could result in legal actions taken by the community

Next 2 Weeks (02/11-02/24)

- Finish Interpreting Gage Data
- Finish HEC-RAS Model
- Start Analysis
  - Geomorphology
  - Culvert Master
  - AutoCAD
- Begin 50% Design Report

Rain and Snowmelt