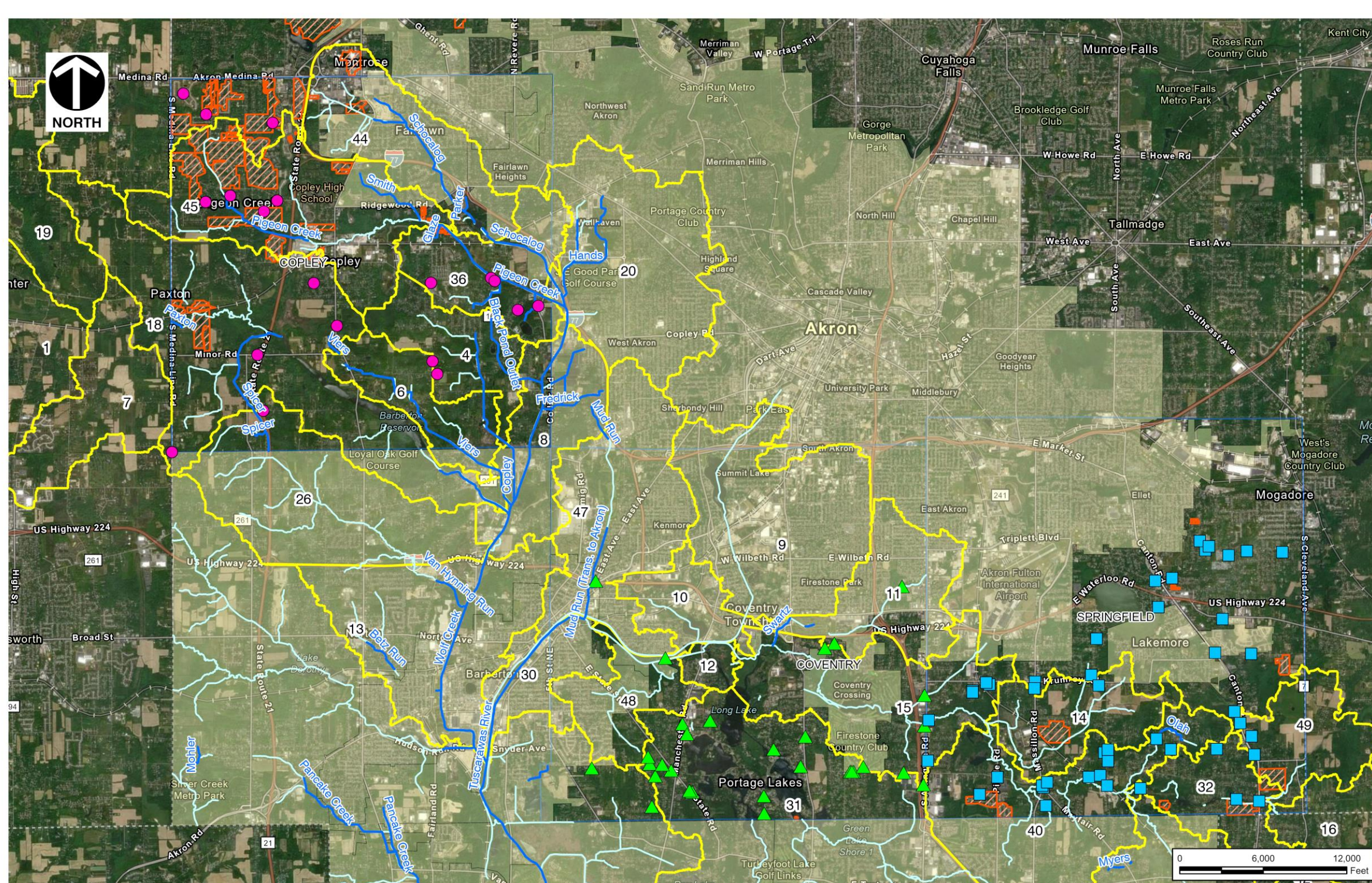


## Background

- CEC was commissioned to conduct a watershed study on the Tuscarawas River to identify areas of potential remediation that would reduce flooding and increase water quality
- Desktop study was conducted collecting FIRM, FIS, USGS StreamStats, National Wetland Inventory, and Watershed study information
- GeoHECHMS was used to delineate watershed and subbasins for the Tuscarawas River



## GIS Database

- County requested interactive point file of drainage complaints collected
- File contains: location of flooding, township, subbasin, name of individual making the complaint and where they are located, as well as a PDF attached to each location that can be opened by clicking on the point

## Field Reconnaissance

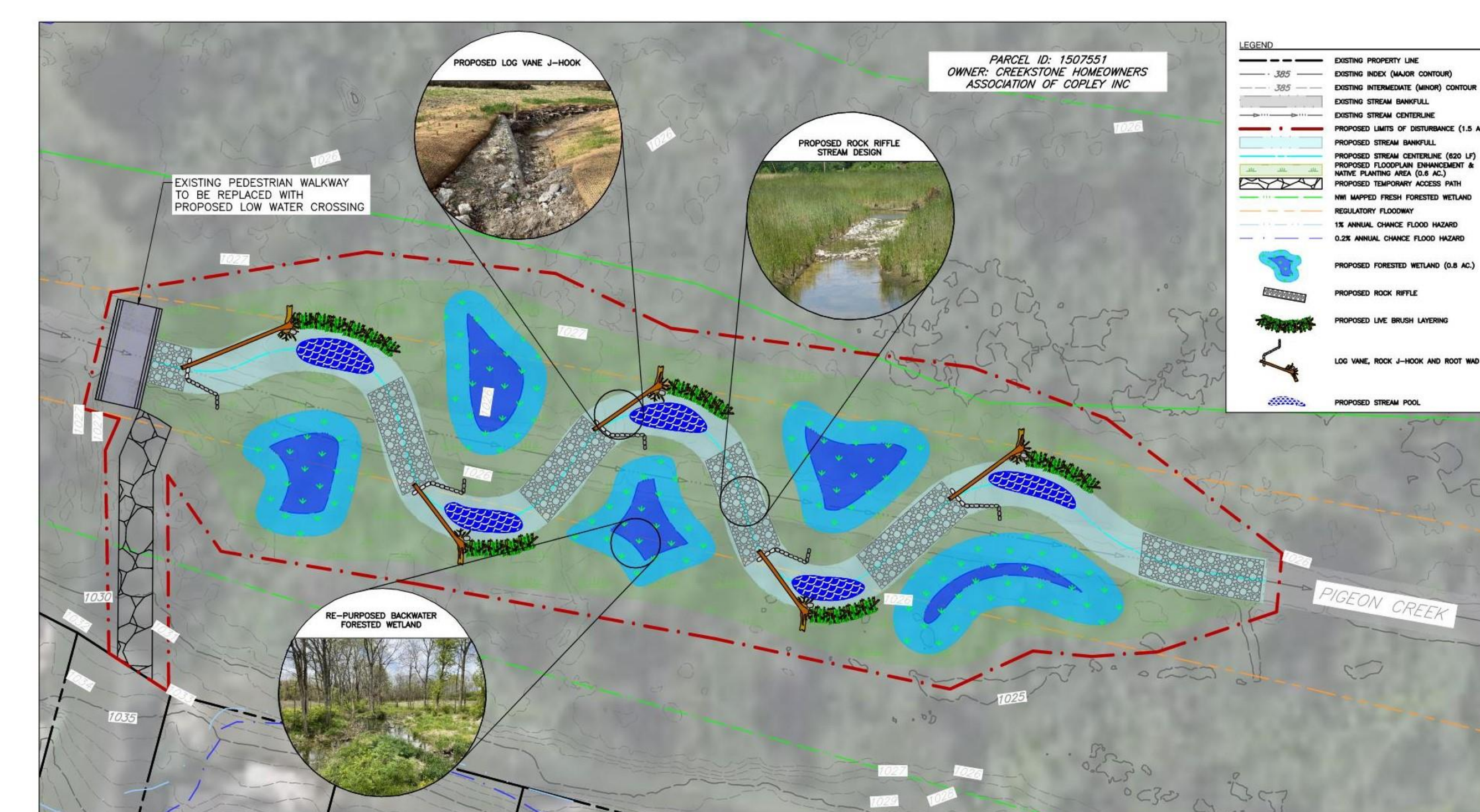
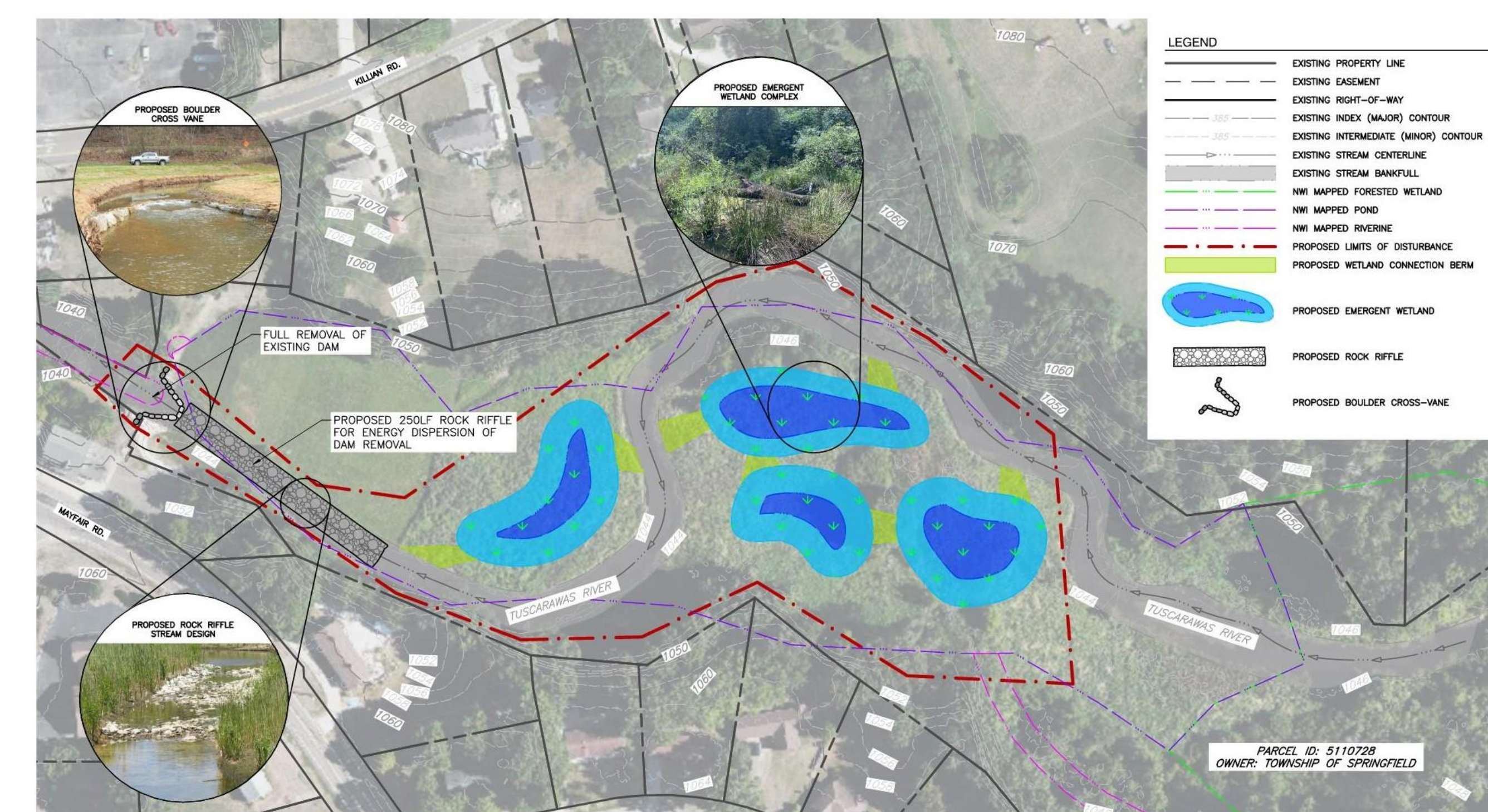
- A walking assessment was conducted on the streams and ditches identified in the desktop analysis
- Survey 1-2-3 forms were filled out during these assessments, a general and a detailed form
- General Forms were filled out every time there was a change to the stream:
  - Channel Type: natural or not channelized, slightly channelized, moderately channelized, or channelized
  - Surrounding Land Use: forested, agricultural, industrial, commercial, or residential
  - Channel Substrate: muck, silt or fines, sand, gravel, cobbles or boulders, or well graded
  - Invasive species of plants
  - Degree of erosion along banks
  - Photos and descriptions



- Detailed Forms were filled out anytime there was a significant point or segment on the stream
  - Bank erosion, illicit discharge, sediment/debris, structures, or some other factor worth noting
  - Photos and descriptions

## Concept Project Plans

- Using all the information collected 12 sites were chosen as areas of interest
- Concept plans for each site were created containing:
  - Stream diversions to wetlands
  - Stream restorations including structures like rock riffles, cross vanes and j-hooks, live brush layering, and stream plugs
  - Inundated areas to increase stormwater storage area
  - Floodplain benching



## Future Development

- The county will review the concepts created, selecting six of the plans for further design and development
- These plans will be implemented reducing flooding for the area and increasing water quality