



# MAKING CONNECTIONS: ANALYSIS & DESIGN



## Social Sustainability

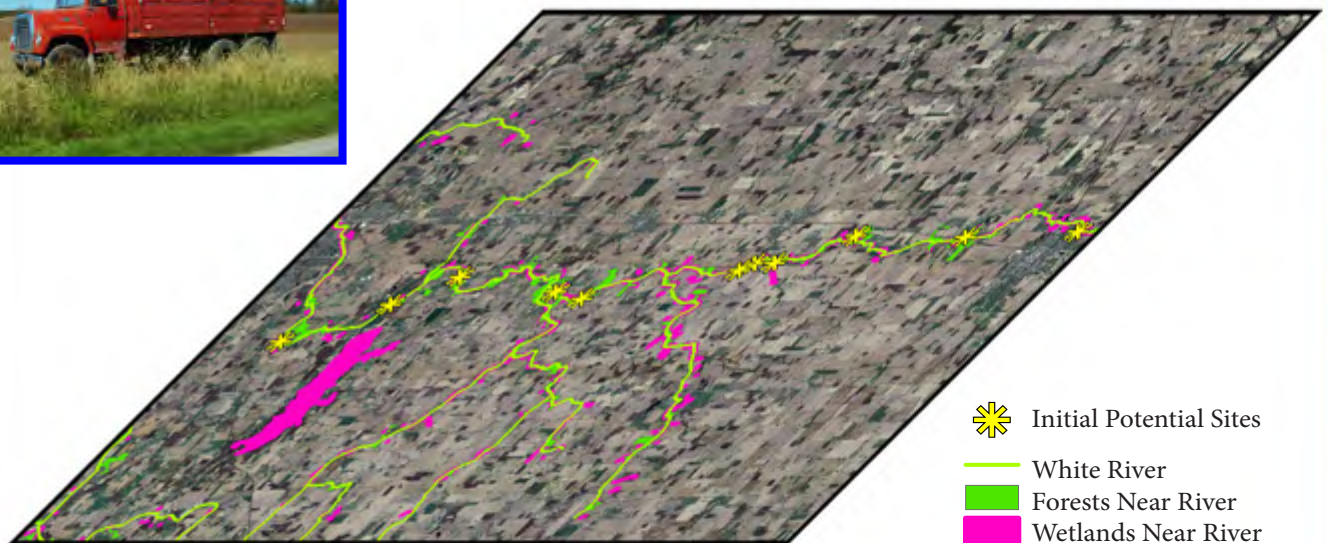
The focus of this project was social sustainability and making connections from place to place, person to person, and person to nature. The proposed extension of the Cardinal Greenway would allow members of different communities in the watershed to visually see that they are connected to each other as well as to the White River. The trail itself physically connects Muncie, IN to Winchester, IN and the few small towns and communities in between. The seven trail heads help to connect the north and south portions of the watershed with the help of farmers markets, bike shops, and recreational areas. These trail heads provide a reason from people in the watershed to come closer to the river and appreciate it for what it is. Once people start to see the river as an asset to the community, they will in turn begin to be more conscience about what they are doing to the watershed and how that affects the quality of water in the river.

## Big Idea

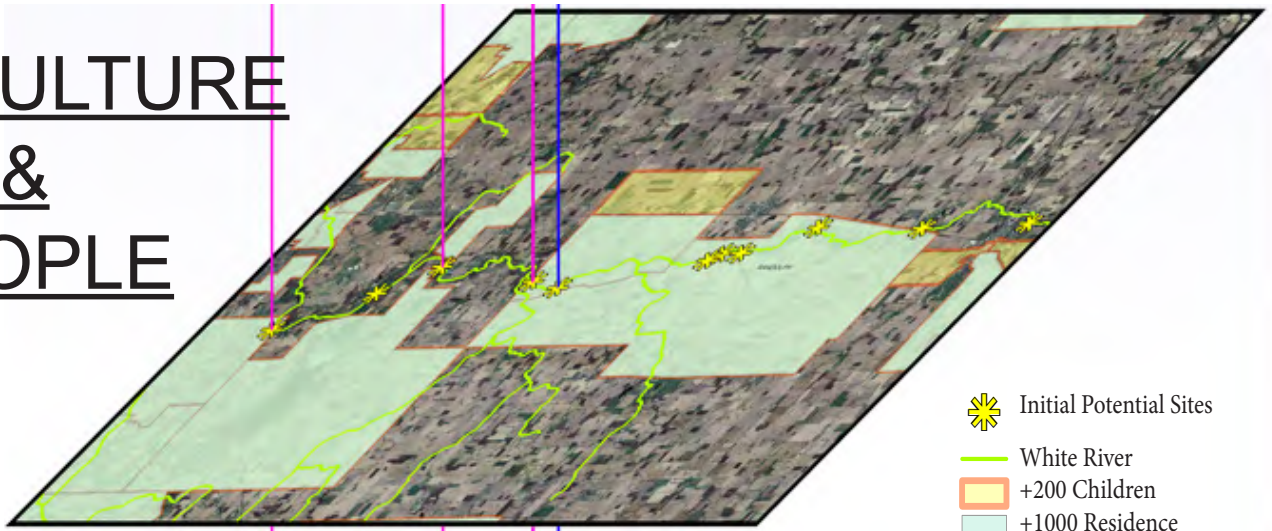
Reconnect the rural towns and people to the Wapihanne River (White River) and program seven stopping points along a bike trail from Muncie to Winchester with an emphasis on rural agriculture, historical influence, and environmental sustainability.







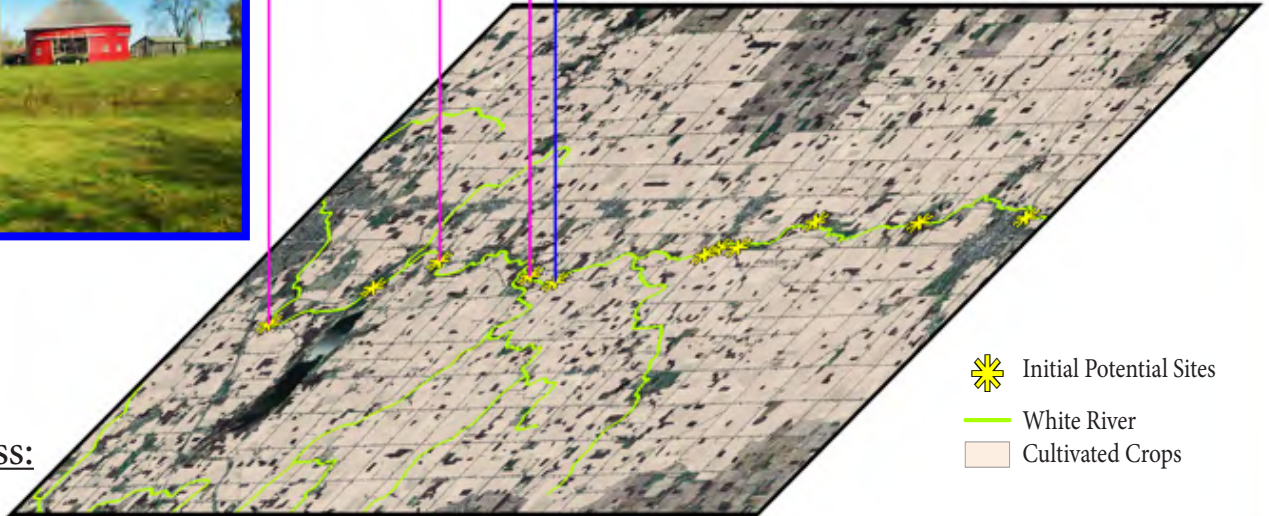
## ENVIRONMENTAL INVENTORY






# AGRICULTURE & PEOPLE



-  Initial Potential Sites
-  White River
-  +200 Children
-  +1000 Residence



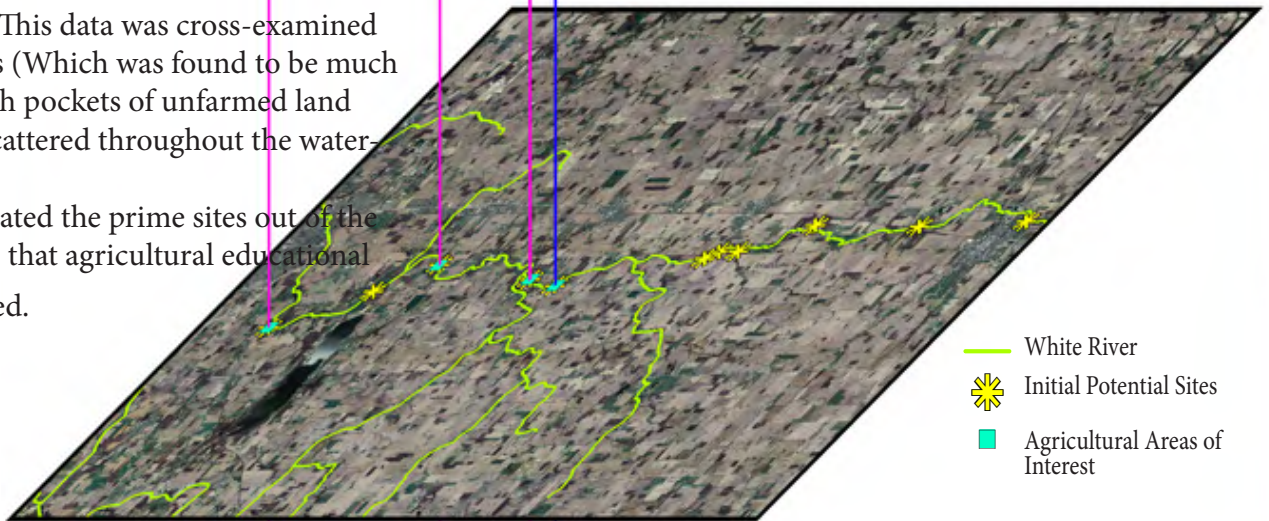
-  Initial Potential Sites
-  White River
-  Cultivated Crops




## Analysis Process:




In order to connect distant farmers from the surrounding communities, it is important to incorporate agricultural educational areas into the design of the Cardinal Greenway extension.

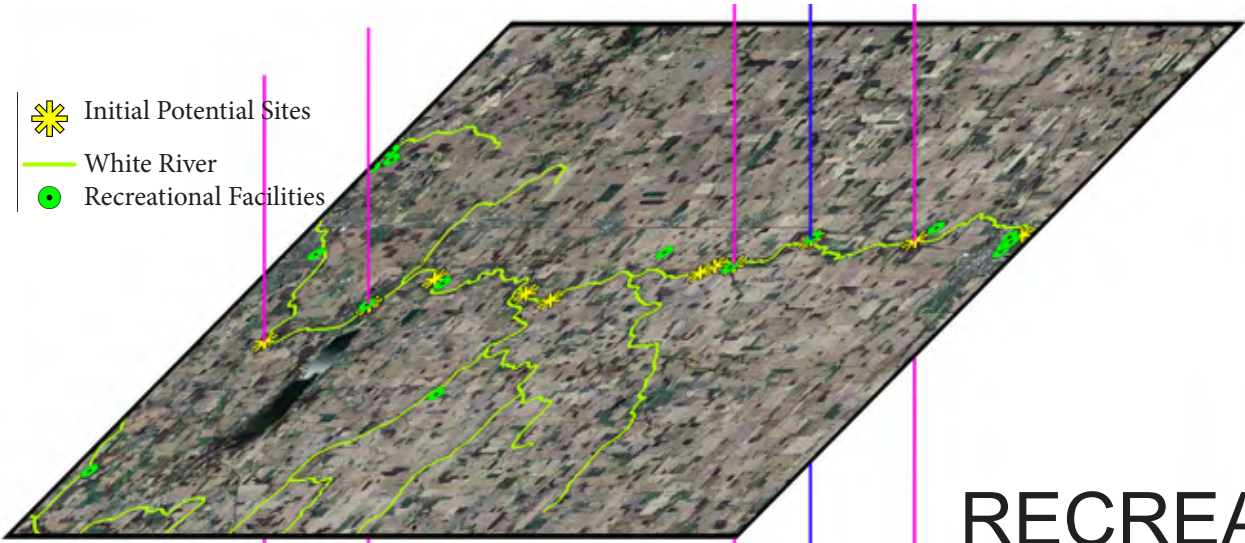
To do this, the population densities were found to mark areas with areas of +1000 residence and +200 children. This data was cross-examined with cultivated areas (Which was found to be much of the watershed with pockets of unfarmed land near the river and scattered throughout the watershed).

This data located the prime sites out of the initial potential sites that agricultural educational areas could be located.






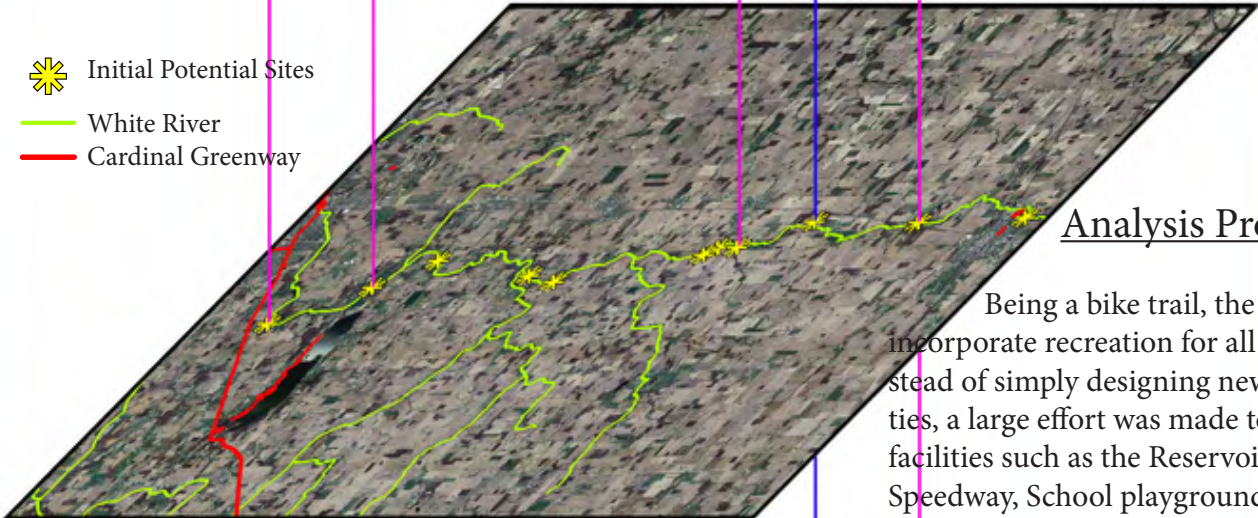
-  White River
-  Initial Potential Sites
-  Agricultural Areas of Interest

-  Initial Potential Sites
-  White River
-  Recreational Facilities



# RECREATION




-  Initial Potential Sites
-  White River
-  Cardinal Greenway

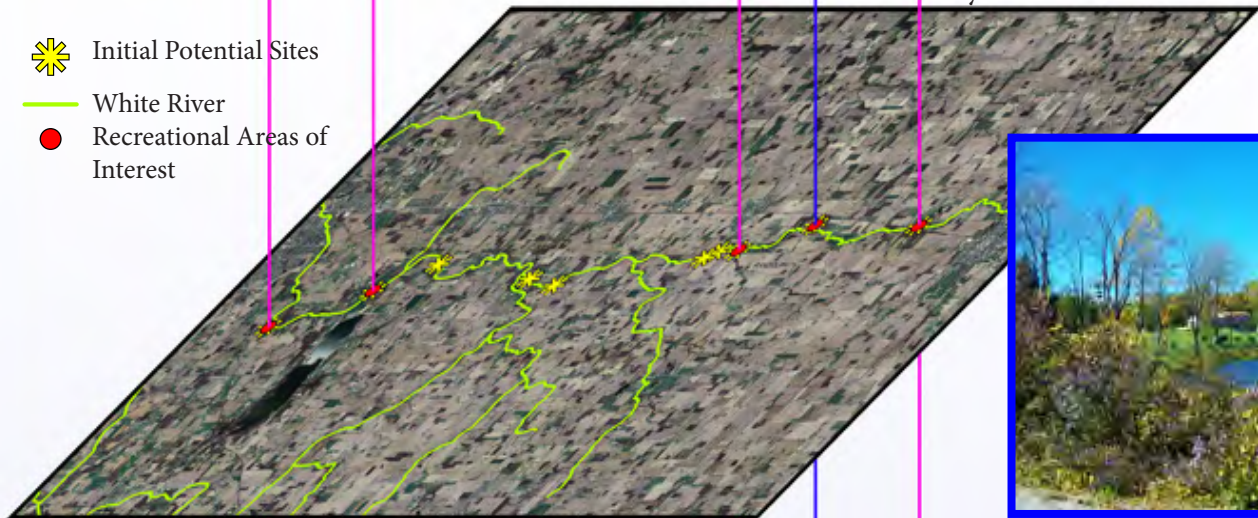


## Analysis Process:

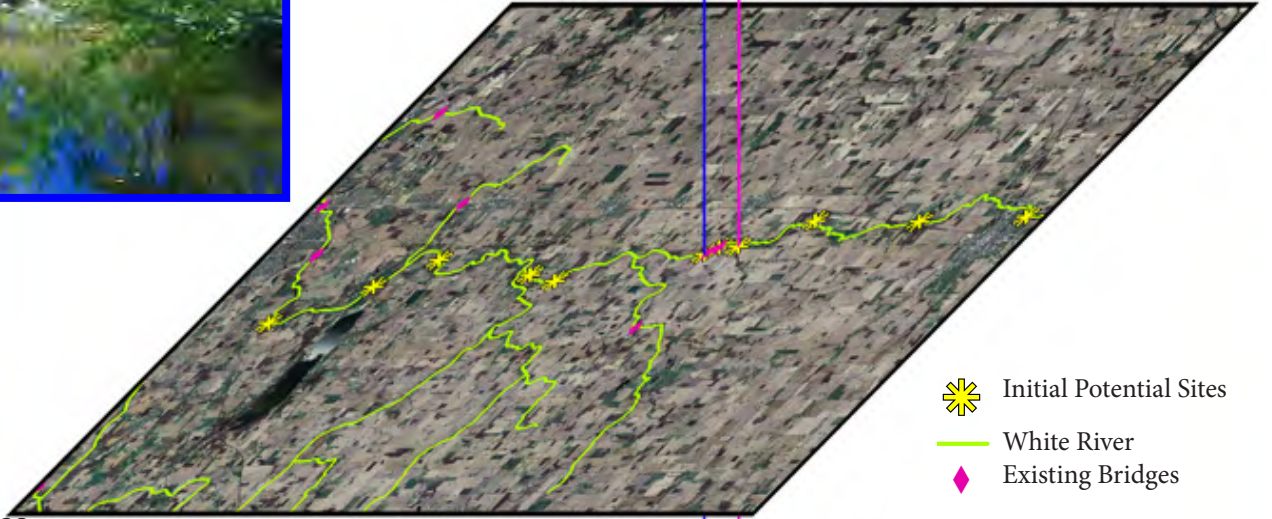
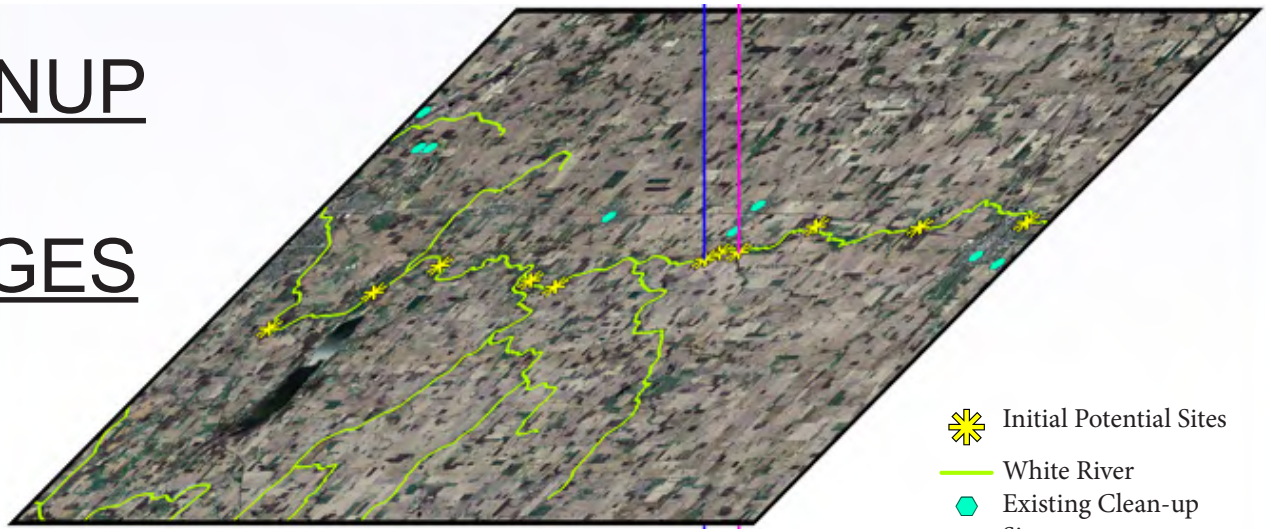
Being a bike trail, the design needed to incorporate recreation for all users to enjoy. Instead of simply designing new recreation facilities, a large effort was made to connect to existing facilities such as the Reservoir, the Winchester Speedway, School playgrounds, etc.

GIS was used to first find all the existing recreational facilities in the area and that data was cross examined with the initial potential sites to find the best three sites to promote recreational activity off the bike trail.

-  Initial Potential Sites
-  White River
-  Recreational Areas of Interest



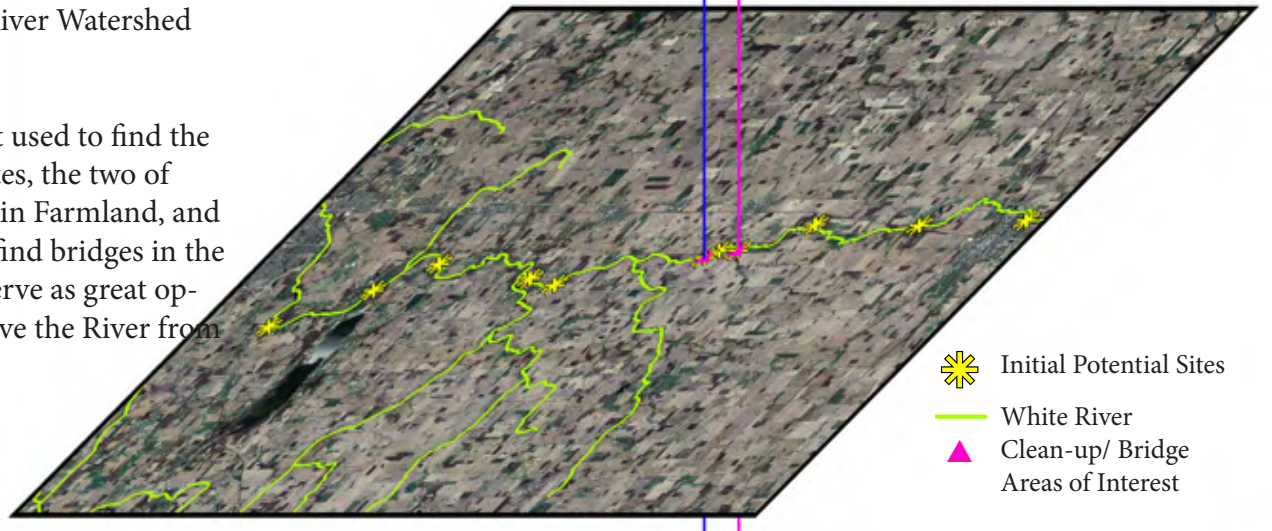
# CLEANUP & BRIDGES






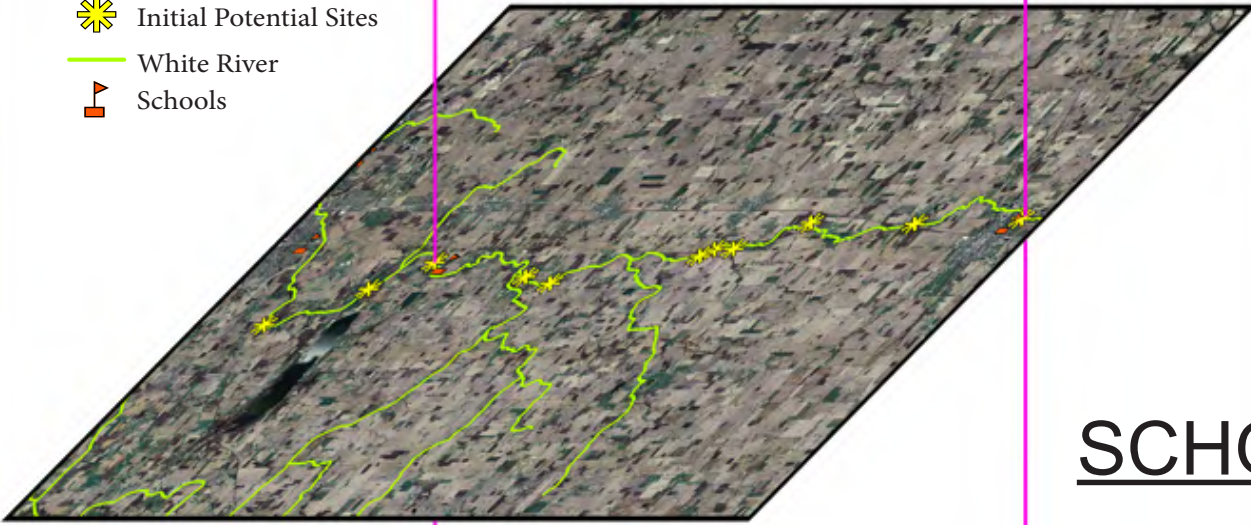
## Analysis Process:

The design needed to incorporate a form of educational interaction/ observation for community members to learn more about how to keep the White River Watershed Clean.




GIS was first used to find the existing clean-up sites, the two of interest were found in Farmland, and it was then used to find bridges in the area because they serve as great opportunities to observe the River from a birds-eye view.

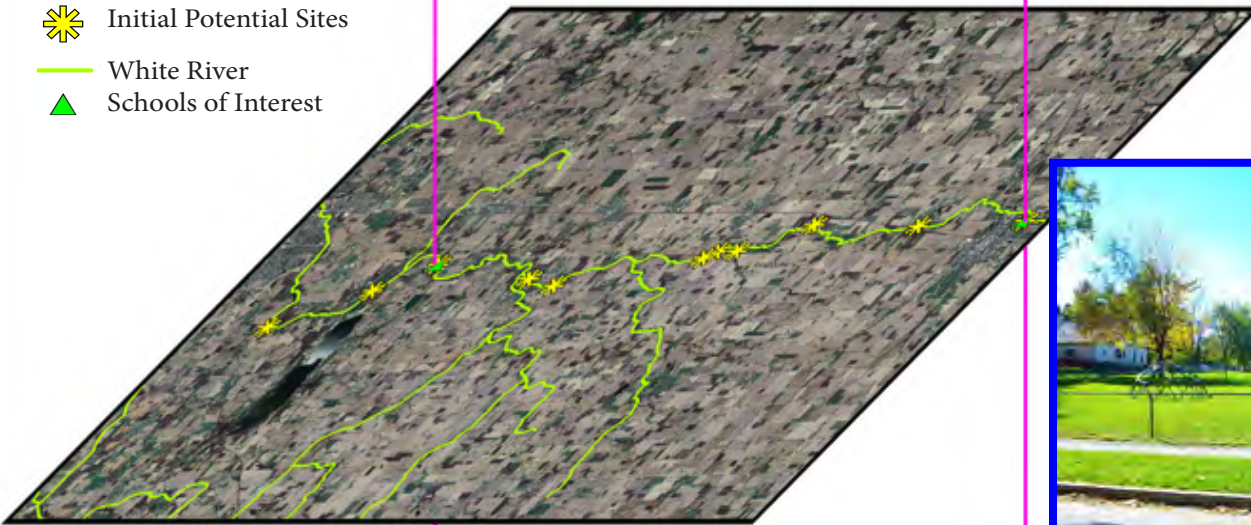


-  Initial Potential Sites
-  White River
-  Schools



# SCHOOLS

-  Initial Potential Sites
-  White River
-  Schools of Interest



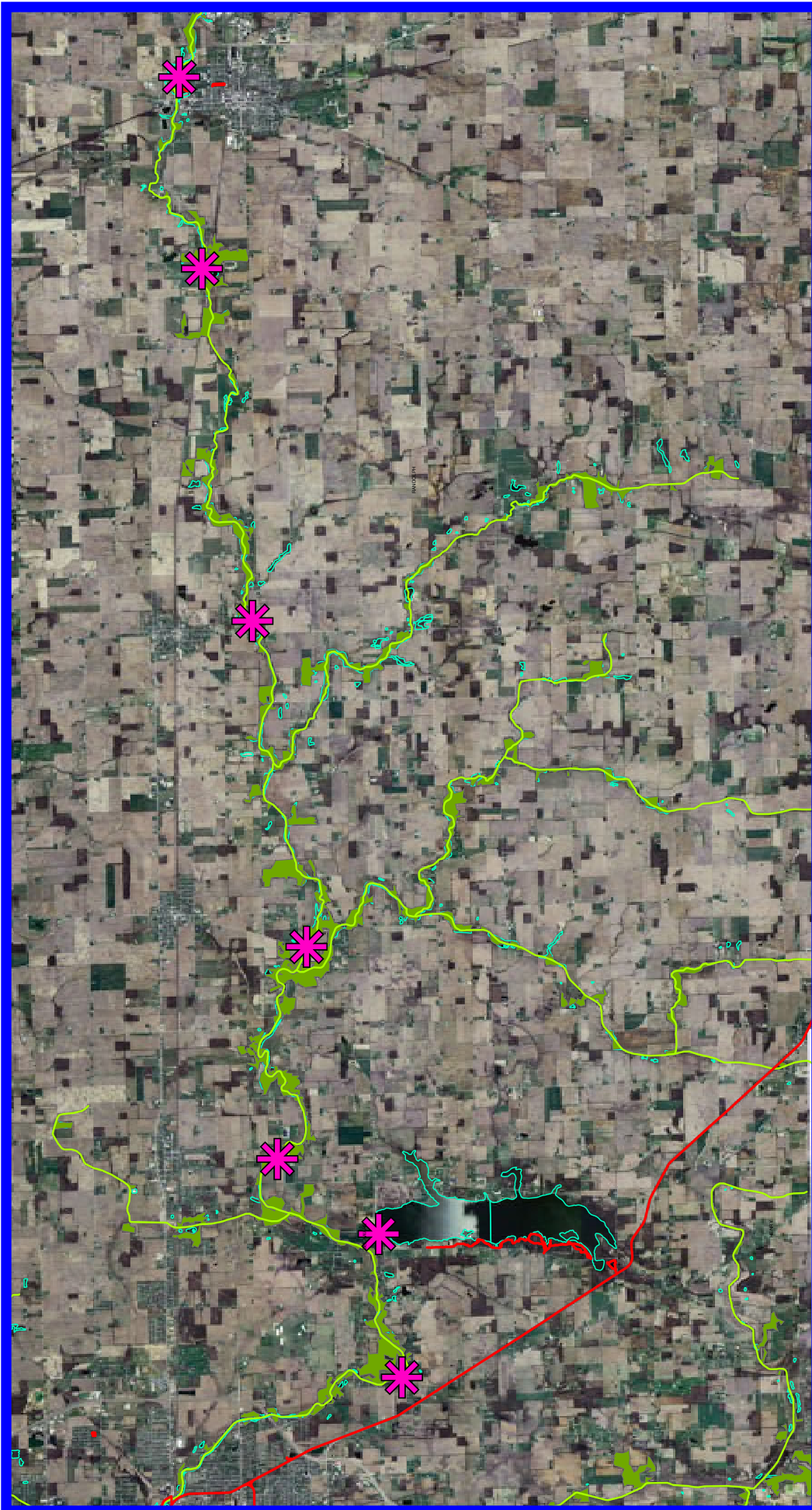
## Objectives:

- Focus on how to connect cities, towns, and families in a cohesive, organized, fun, artistic manner.
- Design potential economic booster sites such as farmers market, pumpkin patch, blueberry path, corn maze, bike shops, campgrounds, etc.
- Educate the Muncie, Winchester, and the communities in between on the watershed, why it is important, and how we are all connected by it.

## Goals:

- Connect the trail to schools sites where the trail can pause and students can interact with agriculture, recreation, and nature.
- Locate an observation tower on one of the seven sites to allow students and other community members to observe their watershed and rural landscape.
- Provide safe pedestrian access across streets, railroad tracks, and the White River.
- Use historical barn designs for buildings located on site to maintain the classic midwestern rural character.

# FINAL SITES



## Legend



Potential\_Sites

Existing\_trails

White\_river

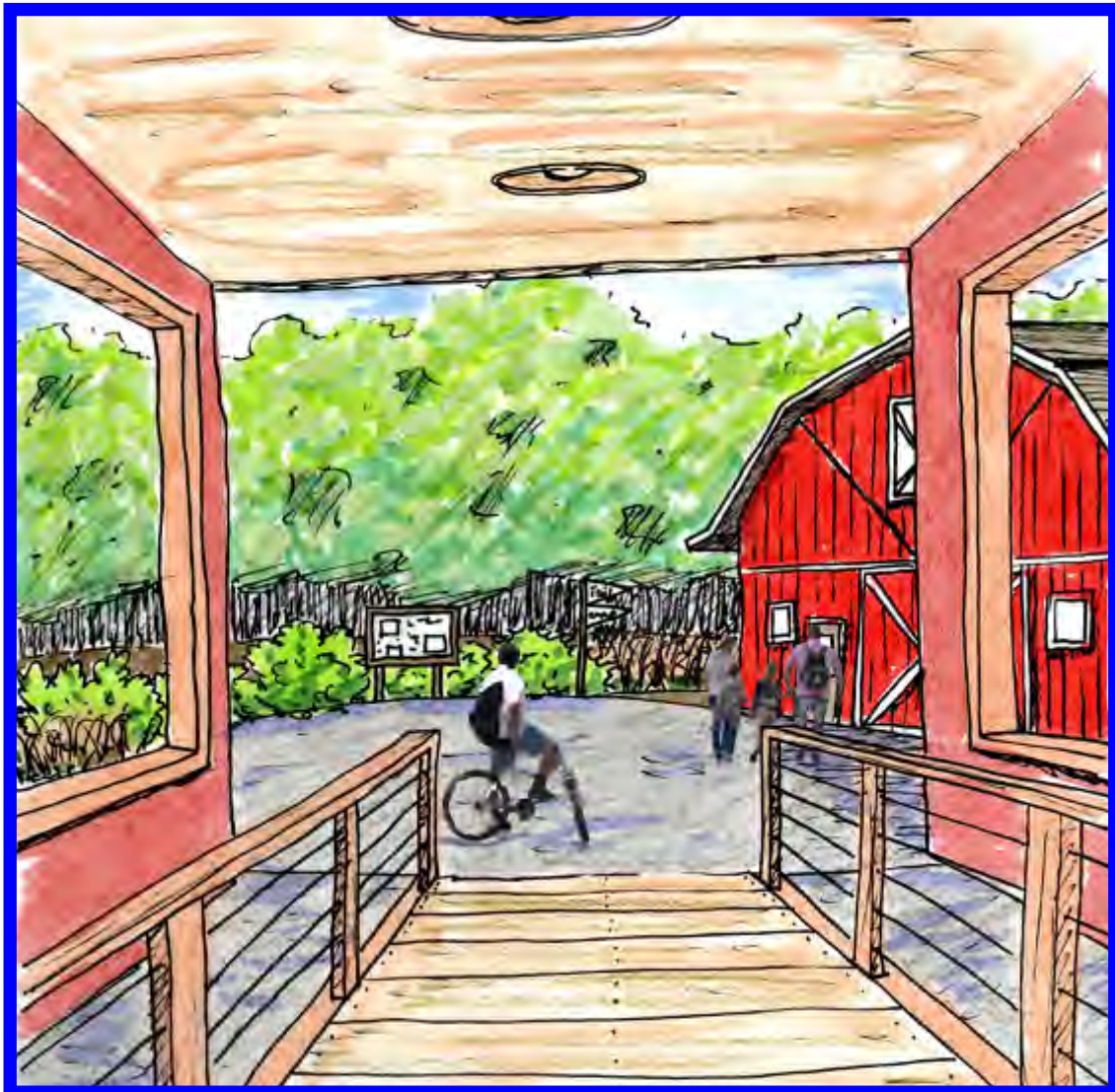
Forest\_200ft\_From\_River

Wetlands

# TRAIL HEAD #1

## Site Program

- Connect to existing trail
- Provide information and signage about trail addition
- Bike station/ shop for bike repair and general goods.
- Connect to Camp Redwing.
- Involve people in agriculture practice in some way.
- Rural character bridge over the river





# TRAIL HEAD #2

## Site Program

- Trail split connecting to reservoir
- Provide safe pedestrian crossing at the street



# TRAIL HEAD #3

## Site Program

- Use sub trails to connect to Green Hills country club and Wapahani high school/ Selma middle school.
- Schools are connected to agriculture sites. Could be used for education.
- Establish additional recreation facilities.



# TRAIL HEAD #4

## Site Program

- Create a farmers market location
  - o Include a structure for rainy occasions.
  - o Include seating and eating areas
  - o Include areas for entertainment
  - o Provide signage-displaying information about where the food is coming from and how it was grown.



# TRAIL HEAD #5

## Site Program

- Advertise clean up initiatives in farmland.
- Educate visitors on renewable energy, storm water management, biogas, algae to biofuel and complete streets.
- Propose trail connection to farmland.
- Provide views of the White River



# TRAIL HEAD #6

## Site Program

- Connection to speedway
- Bike repair/ tune up shop and convenient shop that trail and speedway users can use.
- Connection to railroad tracks
- Establish additional recreation facilities.



# TRAIL HEAD #6



## Site Program

- Connect to Goodrich park
- Connect to Winchester Community high school
  - o Make educational area for agriculture studies.
  - o Use space for farmers market as well
- Establish addition recreation facilities for high school students.
- Utilize an observation tower for community members and students to view the area.



# Precedence Studies



The Burke-Gilman Trail - Seattle WA. - 27 miles



Creekside Trail - Dayton OH. - 17 miles



## CONCLUSION:

After analyzing the White River Watershed and finding several points of interest along the White River for recreation, education, observation, and exploration, it was clear to see that many of these points were disconnected and segregated.

The extension of the Cardinal Greenway, as a bike trail, not only physically connect Muncie to Winchester, but it also symbolically connects all of the smaller communities in between and north and south of the White River. There are

several farming communities in the White River Watershed, yet they do not seem to be connected by much more than rural streets. By providing these trail heads, they now have a place to educate community members and get them involved with farmers markets and other social events.

The designed Greenway is an extravagant, peaceful experience through a classic mid-west landscape, and it literally and metaphorically connects the people of this watershed.

