

## CHAPTER 3

### KEY FACTORS



## GREENWAYS:

**Map 3-1** illustrates portions of the study area where tree cover has been identified for preservation in the BACE<sup>1</sup> study, hillsides and areas along Banklick Creek and its tributaries.

The BACE study identified forested areas that contribute significantly to protecting water quality and moderating water quantity in the watershed and that should be the focus of protection efforts. A scoring system to analyze areas with forest canopy cover used the following metrics:

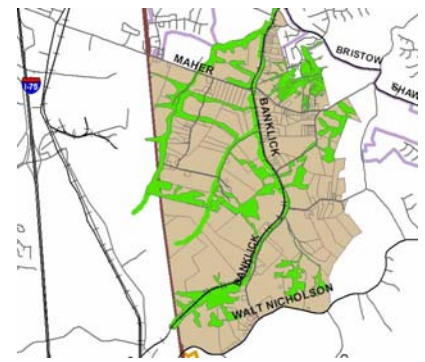
- location within the floodplain;
- location within the riparian corridor;
- runoff potential; and
- proximity to impervious surfaces.

The areas shown on the map should be used as a starting point in determining areas that are appropriate for protection. The extent of actual greenway boundaries will be determined as individual properties are proposed for development.

***The intent of this study's recommendation for pursuing greenways is to create a system of interconnected green spaces throughout the study area that will act as a buffer between land uses and protection for viewsheds and the natural environment of the area.***

### RECOMMENDATIONS:

- ✓ Whole properties should not be subjected to greenway development thereby enabling owners to exercise their right to develop their properties.
- ✓ Portions of areas identified for protection in the BACE study were used to derive the proposed greenway system.
- ✓ Riparian buffer areas—vegetated areas along the Banklick Creek—should be an integral part of the proposed greenway system. A riparian buffer ordinance should be prepared and adopted to preserve these areas in their natural state and protect these areas from sedimentation and erosion.
- ✓ Property owners should be encouraged to protect these areas through conservation easements and/or other preservation tools. Easements donated to the Kenton Conservancy or similar land protection groups provide owners with tax benefits.
- ✓ Discussions should be pursued with property owners to educate and inform them of greenway benefits before they make development decisions for their property.
- ✓ Development other than trails, walkways, and utilities should not be permitted in dedicated greenway areas.
- ✓ Development of easy-to-develop sites should be conducted in a manner to protect greenway linkage or to re-create the linkage through such actions as



### ***Importance of greenways in the area –***

- ✓ *A greenway system will serve as a buffer between land uses; this is particularly important where single family residential uses are adjacent to a more intensive use such as mixed residential or Eco Commerce Park (See Chapter 4: Sub Area Recommendations).*
- ✓ *Through this study's public process, viewsheds were identified as an element to protect in the area. Greenways will protect existing tree cover thereby protecting views in the area.*
- ✓ *The study area is located in the upper reaches of the Banklick Creek Watershed which has been designated as 'impaired' for several uses. Protection of greenways will reduce the impact of future development on areas adjacent to Banklick Creek.*
- ✓ *Interconnected greenway areas will provide a unique opportunity to create an area-wide system of trails for recreational purposes.*
- ✓ *Protection of identified stands of trees will help protect the Banklick Creek and its tributaries from sedimentation and erosion.*

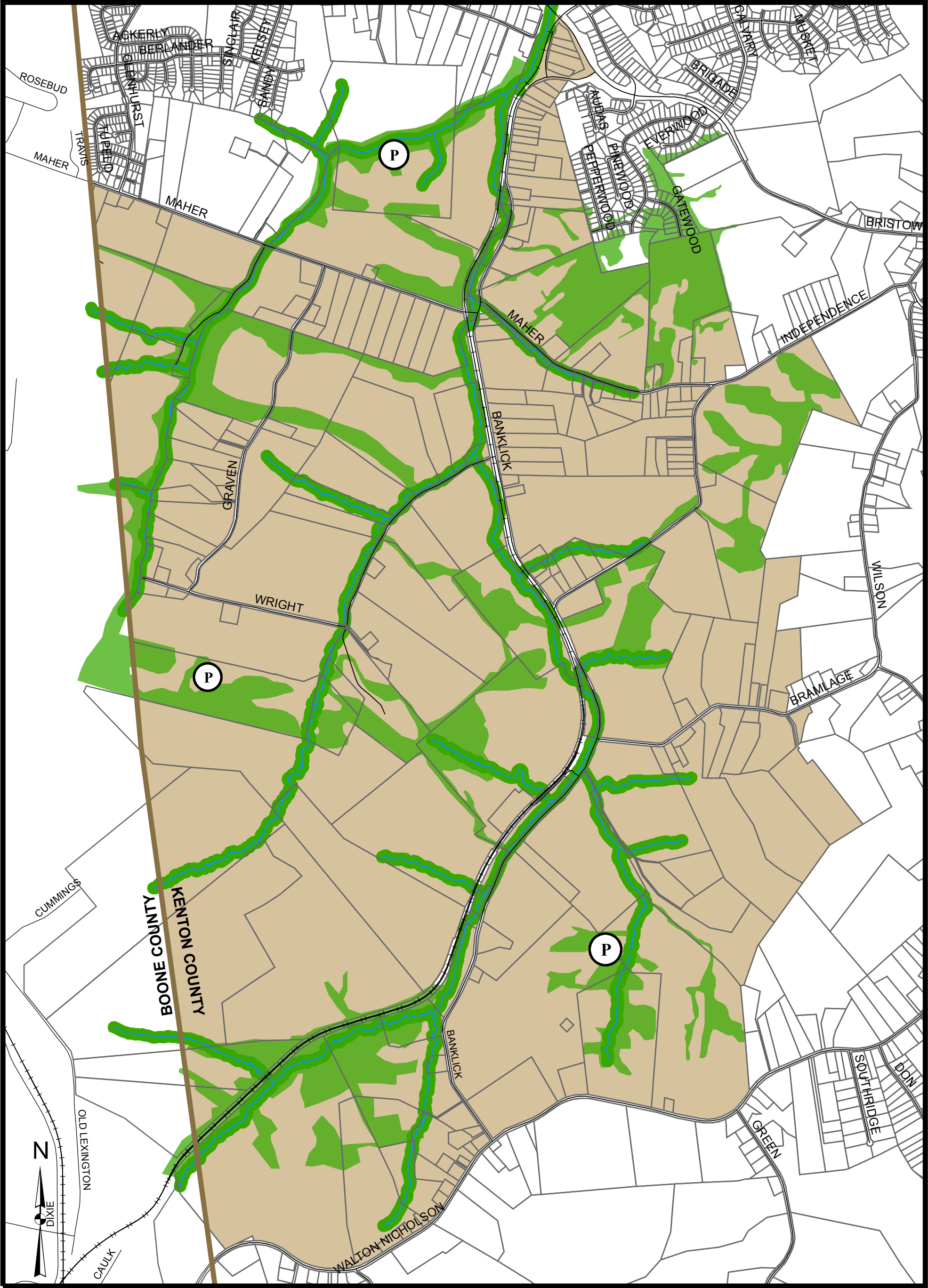


<sup>1</sup> Banklick Creek Watershed Analysis and Issues Characterization for education and Outreach study. December 2004. Copies available at NKAPC for reference.

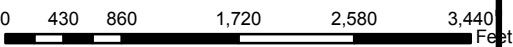
reforestation. Property owners/developers should be required to demonstrate the need to remove large stands of existing trees or to provide a plan for alternative linkage.

- ✓ The greenway system should provide a linkage between the three proposed parks identified in the study.

MAP 3-1 : GREENWAYS



South Banklick Small Area Study



LEGEND

- Study Area
- Property Boundary

- Streams
- Greenway

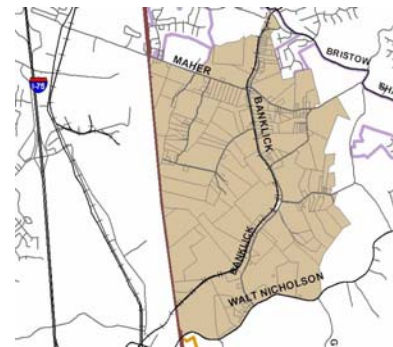
- P Potential Future Parks



## HILLSIDE PROTECTION:

Topography in the study area includes rolling hills and wooded areas that impact the Banklick Creek and its tributaries and viewsheds in the area. Development of these areas can have a significant potential impact on both the creek and viewsheds if care is not taken to protect natural vegetation.

For the purpose of this study, hillsides are defined as those areas with slopes over 20 percent. Most of the study area contains slopes of less than 20 percent. In the event more detailed analysis reveals sites with slopes over 35 percent, development should not be permitted.



***The intent is to protect hillsides with slopes over 20 percent as these have a direct impact on viewsheds and streams in the area.***

### RECOMMENDATIONS:

- ✓ Development should be pursued on ridge tops and relatively flat land to minimize grading and erosion.
- ✓ Hillside regulations requiring a geotechnical investigation for development proposed on slopes greater than 20 percent should be incorporated into new zoning regulations for the area.
- ✓ Conservation subdivisions that require clustering of residential uses should be encouraged so that land disturbance will be kept within concentrated areas.
- ✓ Vegetated hillsides with slopes over 20 percent should hold a higher priority for protection when they lay adjacent to streams so as to minimize erosion and sedimentation.

When hillsides with slopes over 20 percent are disturbed to accommodate development:

- stream banks and hillsides should be reforested;
  - residential lots should be platted/graded to minimize disturbance of the natural vegetation;
  - fewer residential lots should be planned; and
  - consideration should be given to minimizing street widths, setbacks, and other dimensions to accommodate hillside protection.
- ✓ Development's impact on viewsheds should be evaluated as part of the review process.
  - ✓ Vegetated areas on hillsides along Banklick Creek and its tributaries should be protected and kept in a natural state to protect the creek from sedimentation and erosion. A riparian buffer ordinance should be adopted to protect these areas.
  - ✓ Hillside protection areas should be addressed in conjunction with development in the area. Innovative designs that involve terracing and development that compliments the surrounding topography should be encouraged.
  - ✓ Roads and driveways should be aligned to follow natural contours where feasible. Houses on individual house lots should be located closer to the street to avoid long driveways that may require grading on hillsides.



View from Walton Nicholson Road.

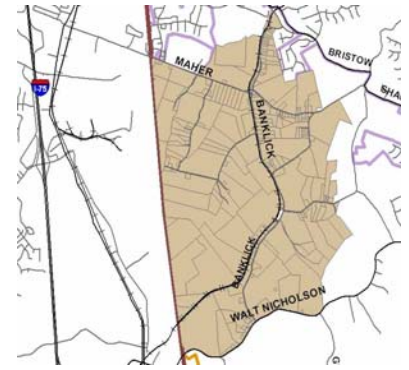
The following is a summary of data extracted from a report was prepared by the Hillside Trust entitled "A Hillside Protection Strategy for Greater Cincinnati."

- The study area is identified for moderately high to high value as an **ecological corridor** (areas found along the lower edges of hillsides adjacent to undeveloped drainage courses).
- The study area has high to very high **visual quality** (areas in high proximity to water, natural undeveloped conditions, a viewing combination of forest, vegetation, agriculture, pasture, water, and/or parks, and location along sensitive hillside rim edge).
- The study area has a very low to moderately low **hazard for landslides**.

The study area has a moderately high **overall visual and environmental sensitivity** (a combination of visual quality, prone to landslides and ecological quality).

## VIEWSHEDS:

Viewsheds are areas visible from a point due to the topography which allows a longer and wider range of vision than might otherwise be afforded. One of the identifying characteristics of the South Banklick area is that its topography enables views for long distances from many points. A result is that most future development will likely be visible from numerous locations throughout the study area. Comments received throughout the public input process consistently included protecting the rural feel and the views of the area. In order to protect the unique scenic quality of this area, several recommendations to protect viewsheds are outlined below.



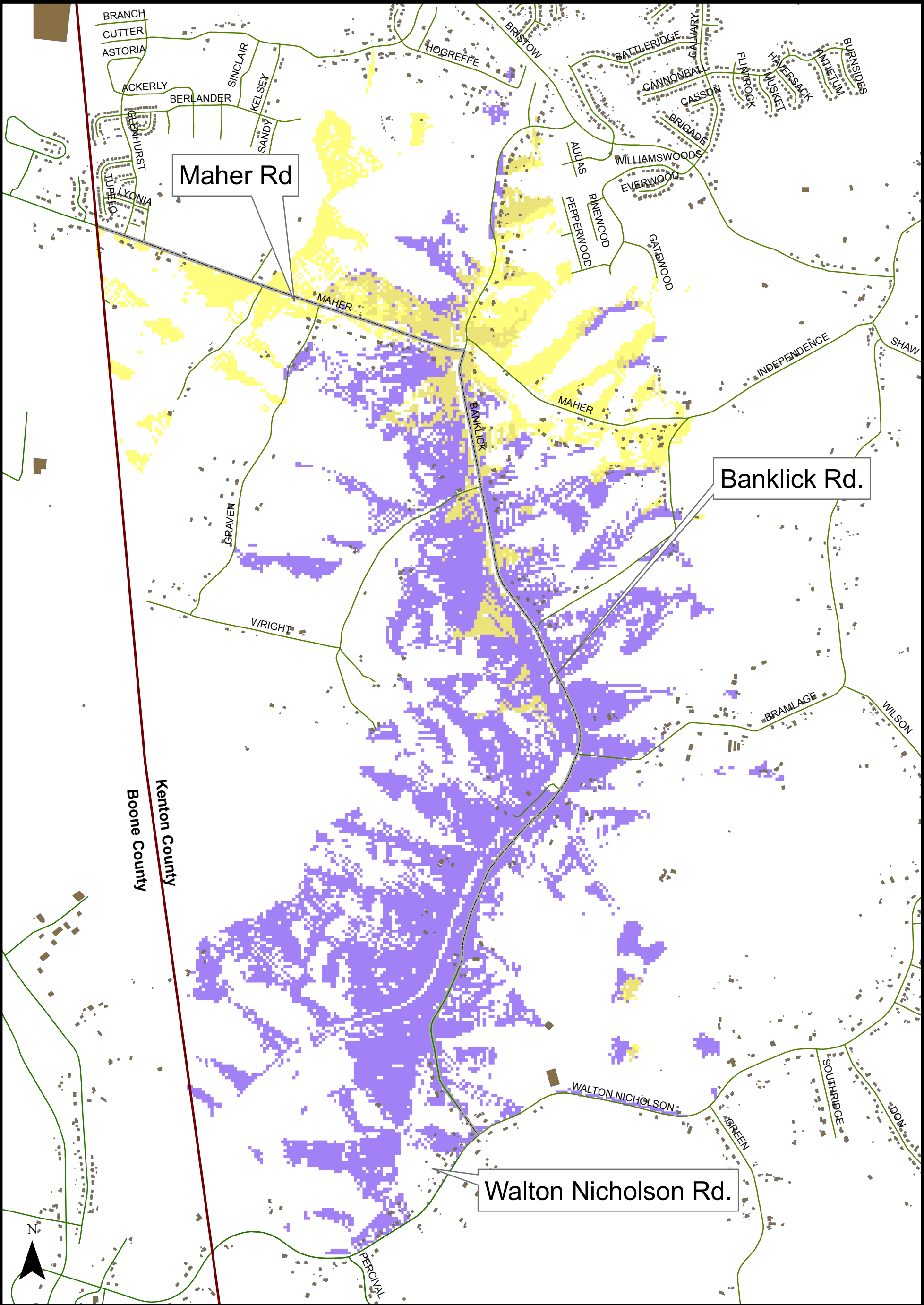
The purpose of viewshed protection is to enhance and/or maintain as much existing scenic qualities as possible through the use of existing vegetation and landscaping to enhance all development that occurs in areas that are highly visible.

## RECOMMENDATIONS:

- ✓ A viewshed overlay zoning district should be pursued to protect the views from collector and arterial streets. Areas along Banklick, Maher, and Walton-Nicholson Roads (see **Map 3-2**) are areas that will be visible to motorists, bikers, and pedestrians that use these roads. The boundary of the viewshed overlay should be based on the topography of the areas adjacent to the roads and those that will be visible from the roads without vegetation. The following site design options or combinations thereof should be used to protect the viewsheds along these scenic corridors.
  - Protection of existing vegetation where applicable would be the most viable and cost effective option.
  - Providing an increased setback of 150 feet along arterial or collector roadways would enhance the rural feel of the area.
  - Providing landscaped earthen berms in areas where land adjacent to the road is lower or level with the road would protect the views. The height of the berms should be high enough to act as a visual buffer for pedestrian and motorists.
  - While not always the best option due to the length of time required for plants to reach maturity, pursuing reforestation or landscaping would be an option where there is no existing landscaping and other options will not protect the views.
- ✓ The viewshed overlay zoning district should be used to protect or minimize the visual impact of proposed land uses on existing and future residential uses.
  - The three areas shown on **Map 3-3** represent areas that can be seen from five different points in existing residential areas. While all areas on the map are visible, three categories based on visibility are inferred: highly visible areas; moderately visible areas; and, low visible areas (seen from only one point). These are the areas that will create the most visual impact if all vegetation buffering them from residential is removed. Protection of greenway areas with canopy cover will minimize the visual impact of land uses particularly the Eco Commerce Park (See Chapter 4: Sub Area Recommendations) buildings on residential uses. The size and height of buildings in the proposed Eco Commerce Park should be considered during the review and approval process. Additional perimeter or parking lot landscaping should be required to buffer the views.



# MAP 3-2: VIEWSHED ANALYSIS FROM BANKCLICK, MAHER & WALTON NICHOLSON ROADS



South Banklick Small Area Study



0 340 680 1,360 2,040 2,720 Feet

## Legend

Existing Buildings



Area Visible from Maher



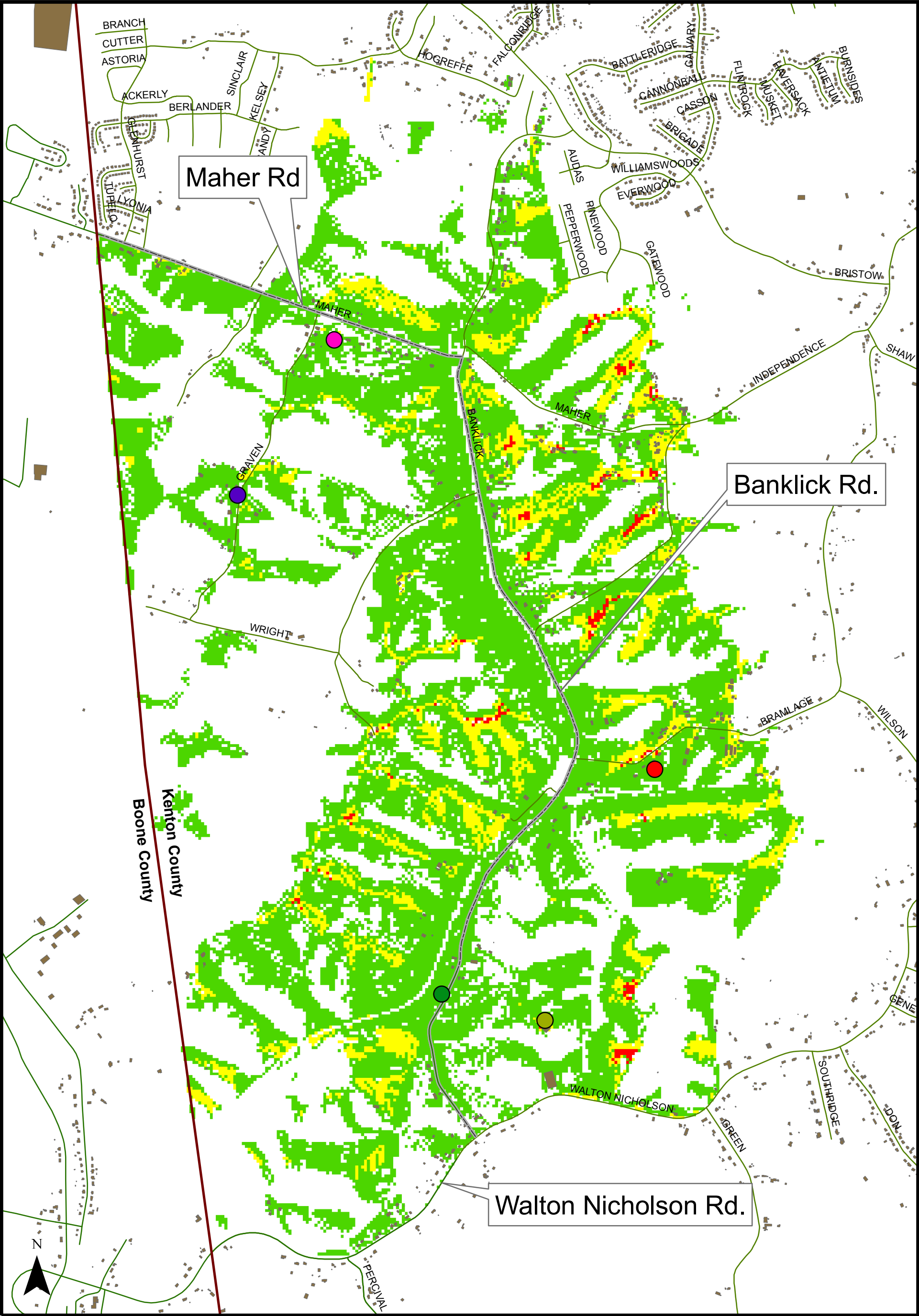
Areas Visible from Bankclick Rd



Areas Visible from  
Walton Nicholson Rd



MAP 3-3: VIEWSHED ANALYSIS FROM EXISTING RESIDENTIAL



South Banklick Small Area Study



0 335 670 1,340 2,010 2,680 Feet

**Legend**

|                  |                  |                    |
|------------------|------------------|--------------------|
| Viewshed Point 1 | Viewshed Point 3 | Viewshed Point 5   |
| Viewshed Point 2 | Viewshed Point 4 | Existing Buildings |

**Areas visible from**

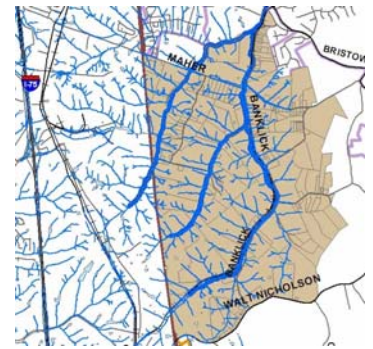
|                           |
|---------------------------|
| All 5 viewshed points     |
| 3-4 viewshed points       |
| 2 viewshed points or less |



## RIPARIAN PROTECTION:

The study area is located in the upper reaches of the Banklick Creek Watershed. The Banklick Creek flows south to north with tributaries branching throughout the study area.

Kentucky's designated uses for Banklick Creek include warmwater aquatic life and primary and secondary contact recreation including wading and fishing. These uses are, however, currently impaired by nutrients, siltation, habitat alterations, organic enrichment/low dissolved oxygen and pathogens. (*Banklick Watershed Action Plan*, November 2005)



The study area contains several perennial streams (flow more than 90 percent of the time), intermittent streams (flow only during wet periods, approximately 30 to 90 percent of the time in a continuous, well defined channel) and ephemeral streams (flow only during storms and may or may not have a well defined channel) as depicted on a USGS topographic map.

### RECOMMENDATIONS:

- ✓ Areas along perennial and intermittent streams should be protected through safeguarding of existing vegetation or reforestation.
  - Most areas along Banklick Creek and its tributaries have a good stand of vegetation. Protection of these vegetated areas will help improve the water quality of the stream by filtering sediments and preventing erosion.
  - These areas may be reserved as open space areas and protected as recreational corridors.
- ✓ The width of riparian buffers should be reviewed carefully in conjunction with existing property lines so as not to infringe on property owners' right to develop a significant portion of their property.
  - The intent is to protect the stream while allowing for development.
  - The width of the riparian buffer should be based on adjacent slopes, floodplains, or vegetation that collectively have a significant impact on the quality of the stream.
- ✓ Encouragement should be provided to property owners and developers to donate these areas to a land protection group such as the Kenton Conservancy or the Kenton County Conservation District.
- ✓ Stream restoration projects should be encouraged and property owners educated about the importance of riparian protection.
  - The Banklick Watershed Council (BWC) can provide information on riparian buffers and their contribution to the natural environment and help property owners' select ideal locations for stream restoration projects and available funding options.

#### ***Riparian areas***

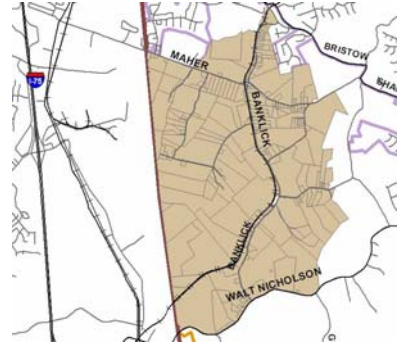
Riparian areas are vegetated areas along stream banks that help protect the stream from erosion and sedimentation. This protection helps improve the quality of the stream and protects its habitat.

Riparian areas along the Banklick Creek are shown on **Map 3-1**. These areas are particularly essential to protect since the study area is located in the upper reaches of the Banklick Creek Watershed where upstream activities can cause a significant impact on those downstream in urban areas.



## TRANSPORTATION:

Rural roads in the study area have served the needs of the sparsely populated agricultural community for generations. In the last decade, however, residential growth in Independence to the north and Walton to the south has increased traffic volumes through the study area. In particular, traffic on Maher Road is problematic due to the road's offset intersection with Banklick Road. Further, the at-grade railroad crossing just under 250 feet from this intersection creates potential problems for long-term access to the area. Sight distances and the abundance of residential driveway curb cuts are also issues that must be considered. So too must accommodating pedestrian and bicycle movements and connecting developments to encourage use of local streets whenever possible.



## RECOMMENDATIONS:

- ✓ As collectors, Maher and Banklick Roads provide major access to the study area. Access to these roads should be minimized. Creation of shared driveways and construction of new streets to serve multiple residences should be encouraged. Sufficient rights of way should be dedicated during development review and approval to accommodate appropriate cross-sections.
- ✓ Banklick Road should be reclassified as an arterial in the comprehensive plan in keeping with its anticipated role as a primary north-south route connecting Walton-Nicholson Road with Mt. Zion/Bristow Road and Turkeyfoot Roads.
- ✓ Access to proposed Eco Commerce Park areas should be provided through Boone County because of topographic constraints and railroad right of way in Kenton County. An exception to this is the area identified for Eco Commerce Park along Walton-Nicholson Road. Agencies in Kenton County should work closely with their counterparts in Boone County and Tri-ED to coordinate planning for these connections.
- ✓ The following transportation improvements and considerations should be given high priority status.
  - Align the Banklick Road/Maher Road intersections and provide adequate turn lanes to accommodate anticipated traffic. Improve at-grade crossings to include adding storage lanes to preclude traffic from backing up onto Banklick Road.
  - Connect new developments for all types of transportation to minimize the use of collector roadways for local trips.
  - Prohibit access from Maher, Graven, and Wright Roads into Eco Commerce Park areas so as to eliminate potential conflicts with business traffic and increased traffic generated by proposed Eco Commerce Park uses.
  - Require traffic impact studies for all new developments within the study area to help ensure that proper planning minimizes impacts on existing and future roadways.
  - Accommodate provisions for pedestrian, bicycle, and mass transit movements through the use of shared paths, bus pullouts on major roads and so forth to help insure safe and convenient access to all modes of transportation.

### ***Traffic concerns:***

Traffic was one of the biggest concerns expressed by study area residents. The advisory committee expressed a similar concern.

Railroad crossings, topography and offset intersections create an unsafe situation for motorists in the area.



**View of railroad crossing**

- Require dedication of sufficient rights of way along existing collector and arterial roadways to accommodate planned road cross-sections.
- Pursue appropriate cross sections and improvements for Banklick, Wright and Graven, and Maher Roads to help improve the traffic flow in the area and create a safer environment for pedestrians and bikers. A description of those roads and the recommended improvements follows.

The Banklick Road right of way is undersized, averaging 52 feet in width. The roadway surface is 22 to 24 feet wide and constrained by slopes to the east, and utility poles, railroad tracks, and the Banklick Creek on the west. The road is listed as a bicycle-touring route in the *Kenton County Bicycle Plan* and has no sidewalks. The road's corridor is scenic with a limited number of driveways and homes along it.

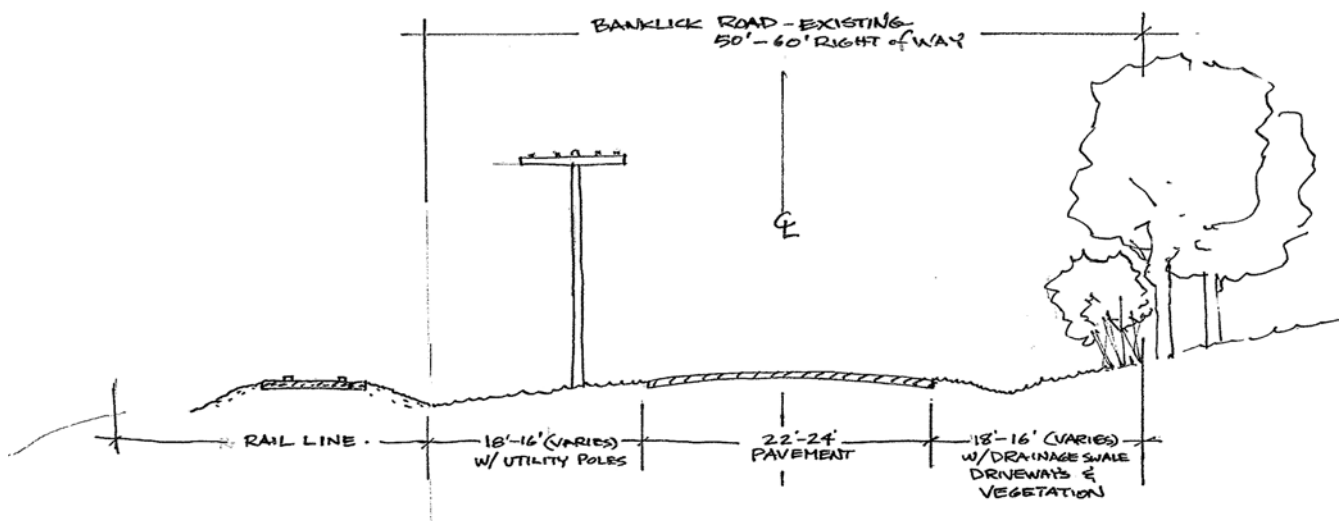
View of Banklick Road.



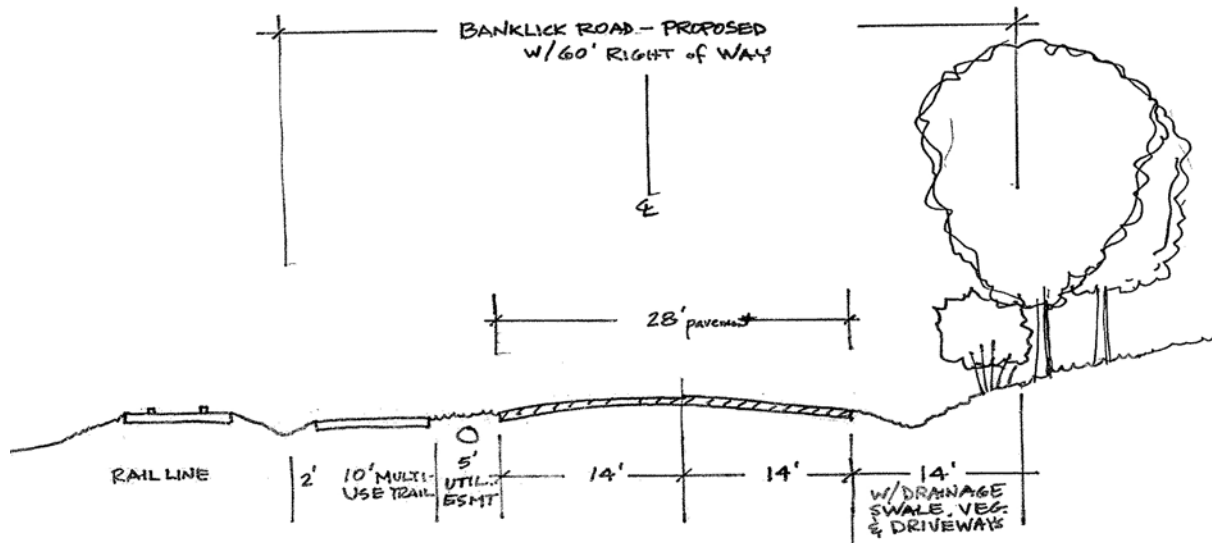
Recommended cross section improvements should include:

- traffic calming techniques such as gentle curves versus long straight stretches;
- a right of way of 60 feet and a roadway of 28 feet to allow for shared uses;
- relocating overhead utility wires to underground;
- a ten-foot multi-purpose trail for pedestrians and bicyclists on the west side of Banklick Road adjacent to the creek; and
- shade trees and/or riparian planting along the corridor.

### Existing Cross Section



### Proposed Cross Section



Wright and Graven Roads have the most scenic views in the study area. They are very narrow ranging from 12 to 19 feet wide. The existing right of way is narrow, averaging 50 feet in width. The roads frequently have adjacent steep slopes, large trees, and creeks. No pedestrian and bike accommodations exist currently.

View of Graven Road.

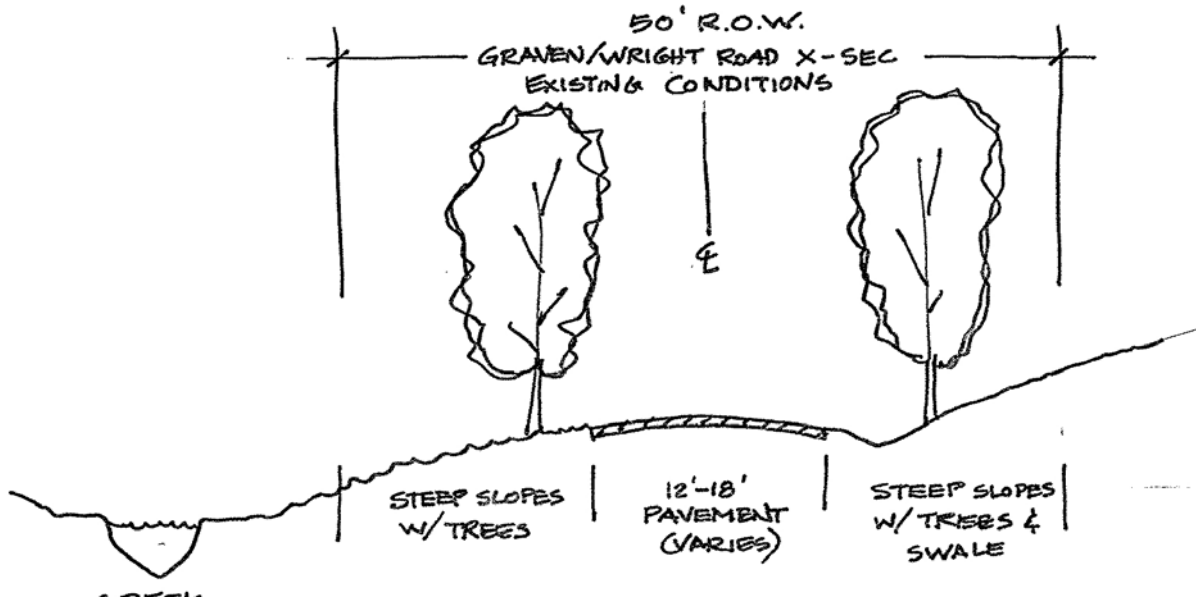


Recommended cross section improvements should include:

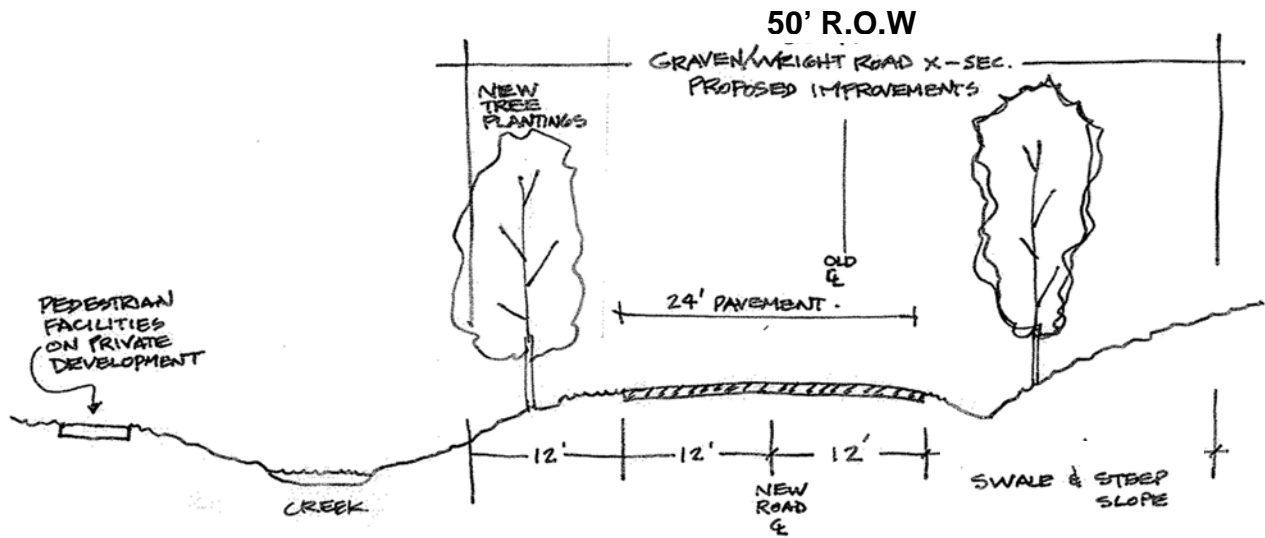
- a right of way of 50 feet and a roadway of 24 feet in width;
- shade trees and/or riparian planting along the creek;
- a four feet wide sidewalk should be required on the downhill; a sidewalk feasibility study should be undertaken to determine the best and most feasible location; and
- sidewalk facilities may need to be placed on the right of way of private development depending on the results of the sidewalk feasibility study.



### Existing Cross Section



### Proposed Cross Section



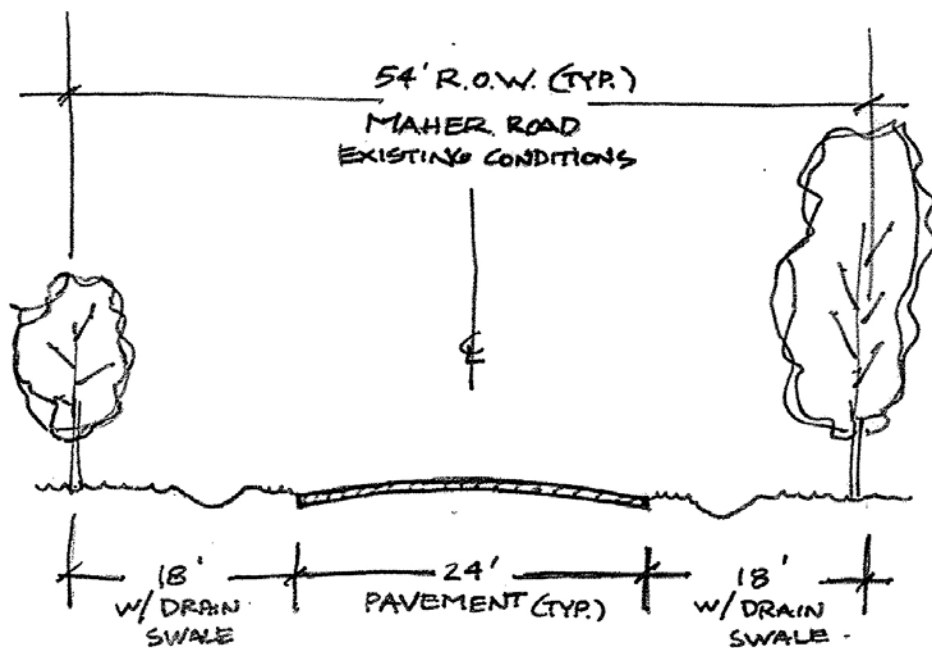
MaHer Road includes a minimal number sidewalks and no bike facilities. The right of way is undersized at between 52 and 54 feet in width. There is a lack of trees, vegetation or landscaping along the road.

Recommended cross section improvements should include:

- an urban-type cross section with curb, gutter and storm water inlets;
- a right of way of 60 feet and a pavement width of at least 28 feet;
- a ten-foot multi-use path to serve the existing and future subdivisions on the north side of Maher Road;
- streetscape improvements within the right of way such as shade trees or landscaping to help preserve the rural character of the area;
- pedestrian facilities on the south side of Maher Road (off the right of way) as part of a connected pedestrian system;
- a minimized number of curb cuts; and
- an improved at-grade railroad crossing close to the intersection of Maher with Banklick Roads.



#### Existing Cross Section



Proposed Cross Section

