US 62 Intermediate Planning Study

FROM KY 189 TO KY 181 IN MUHLENBERG COUNTY

Kentucky Transportation Cabinet
Six-Year Highway Plan
Item No. 2-138.00

Prepared for:
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EXECUTIVE SUMMARY

The Kentucky Transportation Cabinet (KYTC) Division of Planning sponsored US 62 Intermediate Planning Study was agreed upon to observe different solutions to the current and future needs of the facility from KY 189 to KY 181. The state highway is a two-lane major collector that carries traffic to and from Greenville in Muhlenberg County, as well as through-traffic travelling from other areas. The segment of US 62 being studied is an integral part of the Greenville Community, it provides access to downtown Greenville, the Muhlenberg Community Hospital, and numerous other businesses and residences.

Establishment of the goals for the project included an active public involvement process. This involved inclusion of a variety of project stakeholders, such as local public officials, area residents, Transportation Cabinet staff from the Central Office, District 2, and planning personnel from the Pennyrile Area Development District. Collectively these groups agreed upon the following Project Goals:

- **Reduce the number of crashes along the route.**
- **Provide improved capacity where practical along the route to support Design Year 2025 traffic volumes.**
- **Provide improved connectivity from KY 189 to KY 181.**
- **Provide pedestrian facilities along the route.**
- **Improve access to the hospital.**
- **Provide improved drainage along the route.**

Based upon these project goals, the following three alternate actions were considered:

- **Do Nothing**
- **Widening of US 62 to a 3-lane facility**
- **Spot Improvements at the US 62/KY 181 intersection, the US 62/KY 171 intersection, and the rural section near the west end of the project**

Each of the alternatives provides adequate capacity for Design Year 2025 traffic. The Do Nothing alternative does not meet any of the other project goals. Widening of US 62 carries a cost of $8,100,000, as well as having potential impacts to cultural historical sites, particularly the Cherry Street Historic District. The Spot Improvements meet some of the project goals, while having fewer potential impacts to cultural-historic properties than the widening alternative. The public did not overwhelmingly support any alternative, although the US 62/KY 181 intersection spot improvement did receive modest support. The recommendation for the study was to proceed with spot improvements at three locations along the corridor. No major issues and concerns that would impact the implementation of the recommendation were discovered and no commitments were made regarding future phases of this project.

The KYTC 2003 – 2008 Six-Year Highway Plan (SYP) has identified funding for the design, right of way and utilities phases of this project. No construction funds have been identified. Anticipated funding and costs, by phase, for implementation of the recommended alternative are shown in **Table 1.** These estimates of probable costs indicate the adequate funding is available in the SYP for design, right-of-way and utilities.

TABLE 1: IDENTIFIED FUNDING AND IMPLEMENTATION COSTS

	Identified Funding And Year of Funding	Implementation Costs for Spot Improvements Alternative
Design	$500,000 (2003)	$279,000
Right of Way	$800,000 (2005)	$750,000
Utilities	$500,000 (2005)	$422,000
Construction	Not Funded	$3,105,000
TOTAL	**$1,800,000**	**$4,556,000**

1.0 INTRODUCTION

The US 62 Intermediate Planning Study, sponsored by the Kentucky Transportation Cabinet (KYTC) Division of Planning, was undertaken to determine improvement strategies to address both the current and future needs of the facility. Located in the southwestern part of the state, the study portion of US 62 travels through the community of Greenville in Muhlenberg County. The project limits are from KY 189 to KY 181, as shown in **Figure 1.**

US 62 is functionally classified as a Rural Major Collector and is a State Secondary Road in the State Maintained Highway System. It provides a connection between KY 189 and KY 181, as well as providing access to the central part of the City of Greenville, the Muhlenberg Community Hospital, and KY 171. Speed limits vary from 25 miles per hour (MPH) to 45 MPH, and there are numerous commercial establishments and residences in the corridor.

KYTC recommended that an Intermediate Planning Study be conducted for this project based on a FY 2003 design start in the KYTC *Approved 2000-2002 Biennial Highway Construction Program and Identified Preconstruction Program Plan for Fiscal Year 2003 Through 2006,* also known as the 2000 Six-Year Highway Plan. Funding was identified for design ($500,000 for Fiscal Year 2003), right-of-way acquisition ($800,000 for Fiscal Year 2005), and utility relocation ($500,000 for Fiscal Year 2005). The 2002 Six-Year Highway Plan maintained this same funding schedule. In late 2001, the study was initiated with an assessment of existing conditions. This included a review of existing reports and plans, an analysis of the existing and future year 2025 traffic conditions, and an analysis of the accident history of the road. An environmental review/footprint was developed highlighting known environmental resources in the area. Due to the nature of the potential impacts to historic properties, a detailed historic property research was subsequently completed.

1.1 PURPOSE OF THE STUDY

The purpose of this Intermediate Planning Study is to identify and gather critical information about the project corridor prior to the initiation of the design phase, and to help define the scope and location of possible roadway improvements that might better serve the residents of Muhlenberg County. It will also aid the Kentucky Transportation Cabinet in consideration of environmental issues, as defined in the National Environmental Policy Act (NEPA). The ultimate objectives of this study include the following:

- Defining project issues and goals
- Identifying the beginning and ending points of the project, as well as potential improvements and concepts
- Discussing project issues and goals with public officials, government agencies, concerned citizens, and other groups with interest in the project
- Identifying known environmental concerns
- Exchanging information with the public

The successful completion of these objectives should assist the Cabinet in developing final recommendations for this project.

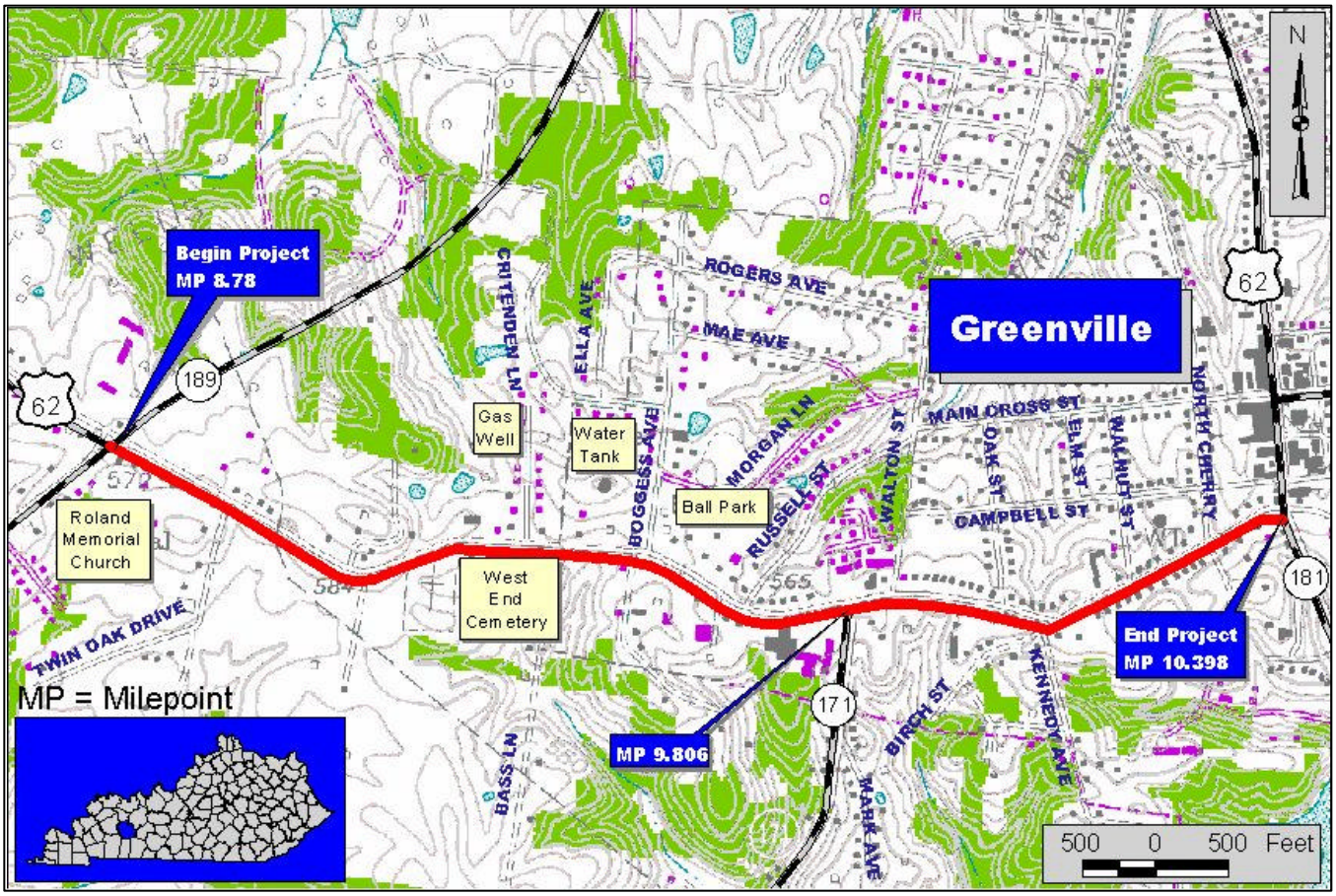


FIGURE 1: PROJECT LIMITS

1.2 FIRST PROJECT TEAM MEETING

The initial corridor issues and a draft Statement of Project Goals were agreed upon at the first Project Team Meeting on September 24, 2001. The Project Team, consisting of the KYTC Division of Planning, KYTC Division of Highway Design, KYTC Division of Operations, Highway District 2 personnel, the Pennyrile Area Development District, and HNTB, also discussed several environmental issues at the meeting. Minutes of the first Project Team Meeting are included in **Appendix A**

The Project Team discussed the issue of logical termini for the study. After reviewing maps of the project area, and recognizing proximity and historic resource issues, it was suggested that, in most locations, improvements would likely be restricted to areas within the existing right-of-way. An alternate corridor or rerouting of US 62 would not solve the congestion and safety problems on the existing route. Utility and right-of-way costs are expected to be quite high, in order to accommodate any improvements to the route. It was also agreed that, due to the urban nature of the study area, an acceptable Level of Service (LOS) for the corridor would be a LOS of D.

The critical issues identified along the US 62 corridor include perceived safety problems and increasing traffic volumes. Some of the most evident safety issues are narrow lanes, lack of turning lanes, and a lack of pedestrian facilities. A significant proportion of the crashes are the result of rear end and angle collisions. Other issues identified along the corridor are as follows:

- US 62 is a major link between KY 189 and KY 181.
- Traffic within the corridor is heavy and expected to grow.
- Turning lanes may be needed at intersections to provide safe storage for drivers wanting to make left turns (to minimize the possibility of rear end and angle collisions as drivers turn onto the side roads and commercial entrances).
- The section of US 62 near KY 181 is characterized as urban residential with a curb and gutter section, with little existing right of way available for widening.
- Right of way and utility impacts, particularly on the south side, could be significant.
- Older homes, churches, gas stations, a cemetery, a hospital, a funeral home, and a former school are located along the corridor.
- The lanes are relatively narrow and there are sight distance concerns.
- There are numerous access points along the corridor.
- Traffic at the intersection of US 62/KY 181 is congested.
- Vehicles avoid the US 62/KY 189 intersection by using neighborhood streets north of the project area.

1.3 LOCAL OFFICIALS AND STAKEHOLDERS MEETINGS

Upon completing the review of existing conditions along the US 62 corridor, HNTB and KYTC personnel held meetings with local officials, project stakeholders, and media representatives on November 7, 2001. At these meetings, the Project Team presented the draft Corridor Issues and Project Goals. Minutes of the Local Officials Meeting and minutes of the Stakeholders and Media Meeting are included in **Appendix A**

Attendees at the Local Official's Meeting expressed specific concerns and raised additional corridor issues to be considered in the study. They include congestion problems during peak PM hours at the US 62/KY 181 intersection, the use of Crittenden Drive (a residential street) by motorists to bypass the US 62/KY 189 intersection, and the desire to minimize right-of-way impacts. As a result of these concerns, the draft Project Goals were refined to include the following:

Project Goals

- Reduce the number of crashes along the route.
- Provide improved capacity where practical along the route to support Design Year 2025 traffic volumes.
- Provide improved connectivity from KY 189 to KY 181.
- Provide pedestrian facilities along the route.
- Improve access to the hospital.
- Provide improved drainage along the route.

Several other items of concern were discussed during the course of those meetings. It was suggested that the Project Team consider a bypass to US 62, as it is the perception that most

traffic along the route is through traffic, with a considerable amount of truck traffic generated by coal and rock quarry companies. It was also suggested that there is a need to widen US 62 at the KY 181 intersection to accommodate three (3) lanes of traffic and to allow for easier turns. As sight distance is a concern on US 62, alignment improvements are necessary along the corridor, especially at the horizontal curve at Philly's Restaurant and west of the cemetery.

Attendees at the joint meeting for the stakeholders and media representatives were informed of the additional issues raised by the local officials. It was suggested that a three-lane section on US 62 would eliminate many of the existing problems. However, there was some concern over the safety of a continuous left-turn lane.

1.4 RESOURCE AGENCY COORDINATION

After the project limits and draft project goals were established, the Division of Planning mailed letters to several agencies asking for input and comments on the US 62 Intermediate Planning Study in order to address their concerns early in the project development process. Twelve agencies responded, and their responses are included in **Appendix B**. The agencies responding to this request, as well as their general comments, are as follows:

UNITED STATES GOVERNMENT

- ***Department of the Interior, Fish and Wildlife Service*** – Erosion and sediment control measures should be implemented on all vegetatively denuded areas. Concrete box culverts should be placed in manners that prevent any impediment to low flows or to movement of indigenous aquatic species. Channel excavations required for pier placement should be restricted to the minimum necessary for that purpose. Overflow channel excavations should be confined to one side of the channel, leaving the opposite bank and its riparian vegetation intact. All fill should be stabilized upon placement. Stream banks should be stabilized with riprap or other accepted bioengineering techniques. Existing transportation corridors should be used in lieu of temporary crossings where possible. Good water quality should be maintained during construction.

- ***United States Environmental Protection Agency*** – Provided preliminary scoping comments pertaining to the contents of a National Environmental Policy Act (NEPA) document as well as specific information regarding significant and priority ecological areas, environmental justice areas of concern, and general land cover types for the project area.

- ***United States Department of Energy, Office of Environmental Management, Office of Integration and Disposition*** – no comment

- ***United States Coast Guard*** – no comment

- ***Federal Aviation Administration*** – There are no public use airports in the immediate vicinity of the proposed project. As long as construction activities do not exceed 200 feet in height above ground level, there will be no impacts.

COMMONWEALTH OF KENTUCKY

- ***House of Representatives, Brent Yonts – 15th Legislative District*** – Representative Yonts believes that a widening project is not possible, because of the intensity of utilities along the roadway and the proximity of houses to the streets. Widening US 62 would destroy the neighborhood. He suggests that a southern by-pass be built around Greenville. However, spot improvements can be made along the existing corridor by adding turning lanes at the intersection of US 62 West, KY 181 South and South Main Street, and by correcting horizontal deficiencies across from Philly's Restaurant. Representative Yonts stated that widening of US 62 is much more possible once out of the city, and that Russell Street, which joins US 62 from West Main Cross Street, could be improved to help alleviate some traffic congestion.

- ***Kentucky Transportation Cabinet, Division of Materials, Geotechnical Engineering*** – Non-durable shale or clay shales are present throughout the corridor. There are no indications of strip-mines or underground mines present. Embankment benches will be necessary in sidehill locations and limestone or sandstone should be placed on the benches for drainage. The project is in a classified Seismic Risk Zone 3, which is defined as an area of high damage due to earthquake activity.

- ***Cabinet for Workforce Development*** – no comment

- ***Kentucky Transportation Cabinet, Division of Multimodal Programs*** – Bicycle and pedestrian facilities are important and should be constructed along the US 62 corridor.

- ***Kentucky Transportation Cabinet, Permits Branch*** – The Permits Branch urges the Cabinet to classify the project as a partially controlled access facility. With this classification, new deeds for all adjoining property owners would need to be executed to identify access control, even if no new right-of-way is acquired. The Permits Branch would like the design speed to be the same as the anticipated posted speed, and would also like to see access control fencing installed with the project.

- ***Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection*** – This office serves as the State Clearinghouse for review of environmental documents, and solicited and received responses from the following agencies:
  - ***Department of Fish and Wildlife Resources*** – The Department has determined that potential negative impacts to the aquatic resources can occur in the project area. Construction is recommended in or near streams during low flow periods with proper placement of erosion control structures and replanting of disturbed areas.
  - ***Division of Waste Management*** – All solid waste generated by this project must be disposed at a permitted facility. Old regulated and non-regulated underground storage tanks must be properly reported and remediation documented or undertaken.
  - ***Department of Agriculture*** – Careful consideration should be given to the loss of prime farmland along with any economic and other impacts to area farms.

- — ***Department for Natural Resources, Division of Conservation*** – There are no agricultural districts within or adjacent to the project area. The Division of Conservation expressed concern with controlling erosion and sedimentation during and after earth-disturbing activities.
- — ***Division of Water*** – Requires mitigation for stream loss (if more than 250 acres are involved above the construction impact) and for wetland loss (if more than one acre). Consult U.S. Army Corps of Engineers prior to construction to determine if a water quality certification for dredge or fill material will be required.
- — ***Department of Surface Mining Reclamation & Enforcement*** – no comment
- — ***Department of Parks*** – no comment
- — ***Nature Preserves Commission*** – no comment
- — ***Department for Military Affairs*** – no comment

The above information was incorporated into an Environmental Overview of the project area.

1.5 PUBLIC INVOLVEMENT

The Project Team then presented the overview, the corridor issues and the draft Statement of Project Goals to the public on November 26, 2001 at Muhlenberg North High School. The public was encouraged to comment on the corridor issues and/or the project goals. The purpose of the meeting was to accomplish the following:

- To seek input from the community about the project
- To identify and address community concerns and issues
- To identify sensitive areas that should be avoided
- To explore alternatives and discuss impacts
- To create a project that benefits the community and gains its support

Local officials and area residents attended the meeting. They participated in the study development process by watching a presentation, discussing options with the Project Team, and submitting written comments on the provided questionnaires. Their efforts included confirmation of existing conditions and participation in the development of potential improvement options.

In general, the comments received from the public supported those of local officials and stakeholders, in that all of these groups expressed a desire to see improvements made to the existing roadway to ensure safer travel on US 62. Minutes of the local officials, stakeholders, and project team meeting are included in **Appendix A**. The Public Information Meeting Summary is included in **Appendix C.**

Once comments were received, the Project Team began the process of development of alternatives, preparation of cost estimates, finalization of project goals, and determination of recommendations. These are described in **Section 2.0** through **5.0**.

1.6 SECOND TEAM MEETING

On December 19, 2001, the second Team Meeting was held to discuss the results of the public meeting, the environmental overview, geotechnical considerations, possible typical sections,

crash analysis, and traffic analysis. It was determined at that time that significant cultural-historic resources were located within the corridor, and a cultural historic reconnaissance survey was undertaken. The minutes of the second Project Team Meeting are also included in **Appendix A**

The results of the cultural historic reconnaissance survey indicated that the corridor did indeed contain homes that are part of a historic district, and it was recommended that the Project Team avoid impacts to those homes.

1.7 FINAL TEAM MEETING

At the final Project Team Meeting, a revised traffic analysis was discussed. (See minutes of the final Project Team Meeting in **Appendix A.**) The Highway Capacity Software methodology for analyzing two-lane roads had changed over the course of the project, requiring an update to the original traffic analysis. The 2025 projected traffic volumes indicated that the corridor traffic was not expected to increase beyond its capacity. Given the existence of the historic district and the result of the new traffic analysis, the Project Team determined that the Preferred Alternative(s) should be recommended based upon its effectiveness at addressing safety issues in the corridor. This is addressed further in **Sections 4.0** and **5.0**.

2.0 EXISTING CONDITIONS

The project is located in Muhlenberg County, Kentucky in the City of Greenville. **Figure 1** shows the general location of the project, which begins at KY 189 and extends east to the intersection with KY 181. Prominent traffic generators along this roadway are the Muhlenberg Community Hospital**,** Wesley Chapel A.M.E. Church, South Cherry Street Historic District, numerous commercial developments, and private residences. Photographs of portions of the project area appear in **Appendix D**.

2.1 ROADWAY CHARACTERISTICS

Much of the data on existing conditions was taken from the Cabinet's Highway Information System (HIS) database. This data was checked, verified, and/or updated through field surveys, as appropriate. US 62 is a two-lane, undivided State Secondary Rural Major Collector in the State Maintained Highway System, with lane widths varying from 10 feet (west of KY 171) to 12 feet (east of KY 171). The terrain is rolling, and as a result there are several sharp horizontal curves creating sight distance problems in various locations. There are both areas with shoulders and ditches as well as curbed sections, which exist east of Birch Street. There is one traffic signal in the study area, located at the intersection of US 62 and KY 189. HIS does not list any state-maintained bridges within the project limits. **Table 2** details the existing roadway characteristics.

2.2 CRASH ANALYSIS

One of the primary goals of any highway improvement is to provide a safe and efficient roadway. Crash locations from 1996 through June 2001 were retrieved from HIS for the project area, and are shown in **Figure 2**. The data was analyzed to determine if crashes in the project area exceeded the average rate of similar type roadways in Kentucky. Analysis indicated that the majority of the crashes on US 62 were rear-end and angle collisions. Roadway segments, as defined by the HIS route log, were analyzed to determine if the Critical Rate Factor (CRF) exceeded 1.0. The CRF is calculated by dividing the actual crash rate along a particular roadway segment by the critical rate, which is the maximum crash rate for which it can be said that crashes are occurring randomly. A CRF less than 1.0 indicates that crashes occur at random, and greater than 1.0 suggests that conditions may exist that contribute to non-random occurrences. The segments from KY 189 to Boggess Avenue and from Boggess Avenue to KY 171 had a CRF of 0.93 and 0.98 respectively, indicating that crashes are likely random occurrences. Since the CRF in both locations was close to 1.0, further analysis of the accidents was warranted. In both locations it was determined that roadway geometrics are adequate for the area and did not likely contribute to the crash rate. Driver error (driving too fast for the conditions) is a more likely cause of these crashes. Additionally, the segment of roadway from Boggess Avenue to KY 171 has over 20 driveways, and poor access management could add to driver confusion in the area. The segment of US 62 from KY 171 to KY 181 had a CRF of 0.76, indicating that crashes in this location are random occurrences. The results of this analysis, as well as locations of the crashes, are also shown in **Figure 2**.

TABLE 2
EXISTING ROADWAY CHARACTERISTICS

Type of Roadway	Functional Classification	Rural Major Collector
	State System Class	State Secondary
	Type Road *	Divided (MP8.78-MP8.938), Undivided (MP8.938-MP10.398)
	Coal Haul (Annual Tons)	99,536
	Scenic Byway System	No
	National Highway System	No
	National Truck Network	No
	Defense Highway	No
	Extended Weight System	No
	Truck Weight Class	AA
Crashes	Number of Crashes (1996-2001)	91
	Number of Injury Crashes (1996-2001)	19
	Number of Injuries (1996-2001)	27
	Number of Fatal Crashes (1996-2001)	0
	Number of Fatalities (1996-2001)	0
Geometrics	Corridor Length (miles)	1.618
	Average Right-of-Way Width (Feet)*	60 (MP8.78-MP9.806), 50 (MP9.806-MP10.398)
	Lane Width (Feet)	10
	Driving Lanes	2
	Shoulder Type*	Paved (MP8.78-MP10.1), Curbed (MP10.1-MP11.3)
	Shoulder Width (Feet)*	6 (MP8.78-MP9), 1 (MP9-MP10.1)
	Percent Passing Sight Distance	80
	Number of Bridges	0
	Type of Terrain	Rolling
Volumes	Current Volume (Vehicles per Day)*	6000 (MP8.78-MP9.806), 8000 (MP9.806-MP10.398)
Speeds	Speed Limit (Miles per Hour)*	45 (MP8.78-MP9.527), 35 (MP9.527-MP10.324), & 25 (MP10.324-MP10.398)
Pavement	Surface Type	High Flexible
	Last Year Surfaced	1999

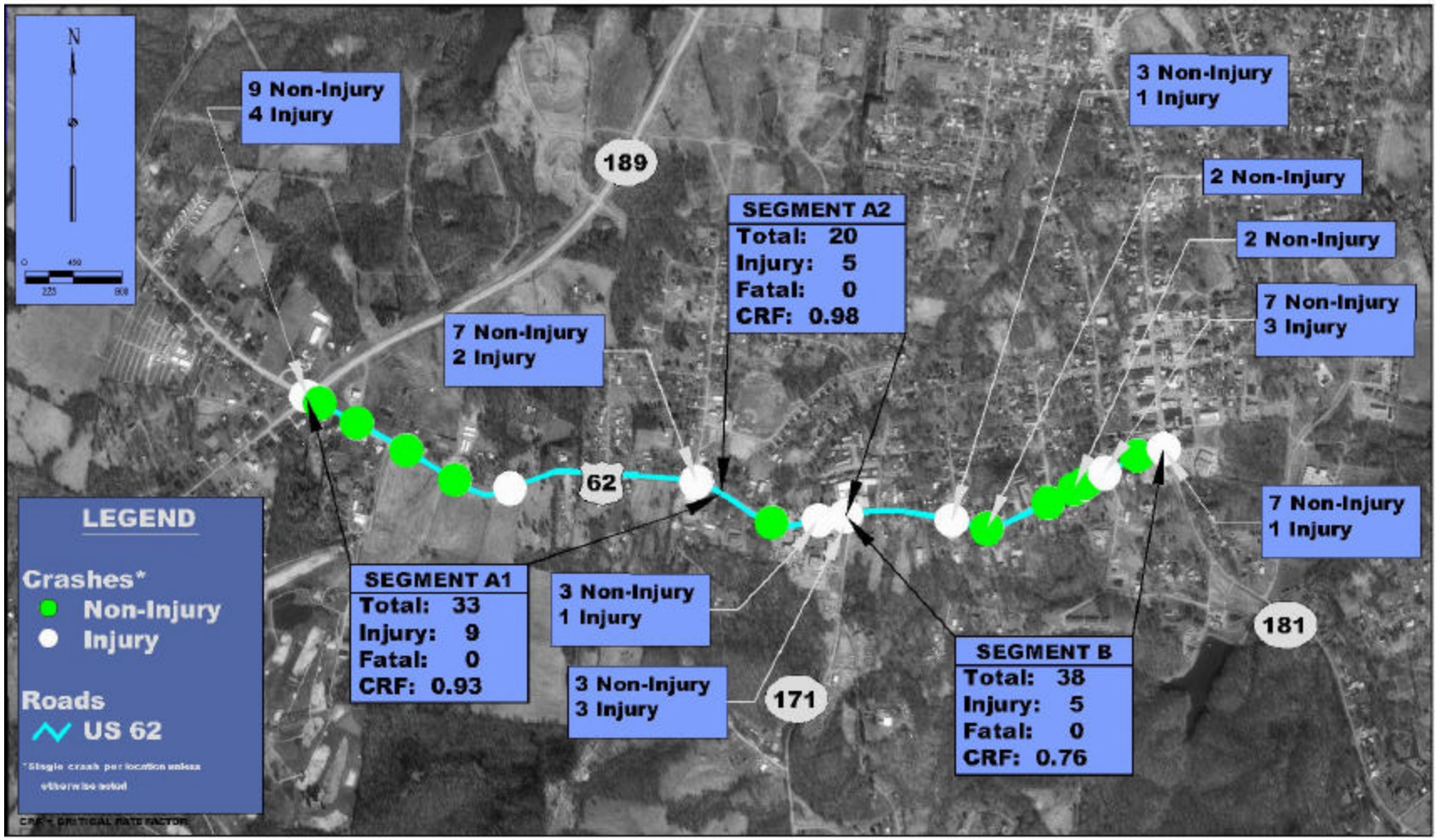


FIGURE 2: CRASH LOCATIONS AND RATES (January 1, 1996 to June 30, 2001)

2.3 TRAFFIC AND LEVEL OF SERVICE

Based on available HIS data, US 62 was divided in two segments (KY 189 to KY 171 and KY 171 to KY 181) for the purpose of evaluating existing and future year (2025) traffic volumes, and for performing a Level of Service (LOS) analysis. The future year traffic methodology involved the use of a 2% per year growth rate factor. This factor was derived from automatic traffic recorder data and from statewide historical portable traffic counter data.

Table 3 shows the results of the travel forecasting process used for the segment of US 62 between KY 189 and KY 181. Existing (Year 2001) traffic volumes were obtained from counts conducted by the Kentucky Transportation Cabinet Division of Planning between October 1 and October 7, 2001.

TABLE 3
US 62 EXISTING AND DESIGN YEAR (2025) TRAFFIC

US 62: 2025 Forecasts

Segment	2001 Actual Count	2025 Forecast HNTB Revised	2001-2025 Annual Compounded Growth Rate
A: KY 189 - KY 171	6,000	9,660	2.00%
B: KY 171 - KY 181	8,000	12,800	1.98%

Methodology: Growth rate percentages obtained from KYTC.
Source: KYTC, HNTB

The functional class growth rate percentages were provided by the Kentucky Transportation Cabinet in a memo dated June 1, 2001. These factors provided were derived from automatic traffic recorder (ATR) data and statewide historical portable count data. The growth rate percentages used in this study were based on the functional class information obtained from the Highway Information System (HIS) database. For both of these segments, the functional class is Rural Major Collector with a corresponding growth rate factor of 2.00%. Given the 24-year time-span (2001 to 2025), a 2.00% annual growth rate yields a 1.61 multiplier. The 2025 forecasts listed in the table are based upon the most recent traffic counts observed for US 62.

Table 4 shows census-derived population and household data for Muhlenberg County for 1990 and 2000. The population of Muhlenberg County grew at a rate of 1.7% between 1990 and 2000, for an annualized, linear growth rate of approximately 0.17%. Historical analysis of traffic counts downloaded from the Transportation Cabinet's traffic count software (CTS) indicates that US 62 has experienced a decline in traffic between 1991 and 2001, with Segment A decreasing by 6% and Segment B by 20% over the ten year period. However, much of that trend can be attributed to the opening of the KY 189 Greenville bypass in 1989. This is evidenced by the fact that traffic on KY 189 increased by over 35% between 1990 (4,260 vpd) and 1997 (5,770 vpd), resulting in an approximate annual growth rate of 4.4% (assuming linear growth over the seven-year period). Computer estimates since the last traffic count in 1997 indicate that the growth

rate is decreasing to approximately 3.5% (again assuming a linear growth rate) to 6,630 vpd in 2001. Thus, it is assumed that traffic on US 62 will see a rebound in the near future. In addition, should the Wendell H. Ford National Guard training center (north of the Western Kentucky Parkway on KY 181) grow as expected and the proposed Peabody Energy power plant in Muhlenberg County get constructed, traffic along US 62 will increase as the corridor provides a primary connection to downtown Greenville and the majority of the facilities within the county (including the Muhlenberg Community Hospital).

TABLE 4
MUHLENBERG COUNTY CENSUS DATA

Muhlenberg County	**1990**	**2000**
Population	31,493	31,839
Households	11,683	12,357
Pop per HH	2.62	2.58

Source: University of Louisville Kentucky State Data Center

Thus, it is reasonable to assume that the 2.0% growth factor adequately captures the traffic-related impact of the county's small population increase since 1990. Given the historically negative trend for traffic volumes on US 62 between 1991 and 2001, assuming more than a 2.0% annual increase would likely indicate a higher than expected traffic volume for the 2025 design year.

Level of service analysis was performed using Highway Capacity Software Version 4.1b on both existing traffic conditions and the future year (2025) traffic forecasts. LOS is an indicator of the quality of traffic flow and ranges in alphabetic values from A to F, with A representing free-flow travel conditions and F representing severe congestion. Existing LOS is a C for the entire corridor, indicating that the roadway is currently operating with sufficient capacity, with little delay. The 2025 traffic is predicted to increase, resulting in a LOS of D for the entire corridor. This means that the roadway is experiencing slightly more delays but is operating at a LOS consistent with the urban nature of the corridor. See **Figure 3** for traffic volumes and LOS values each of the two segments for both existing and future traffic.

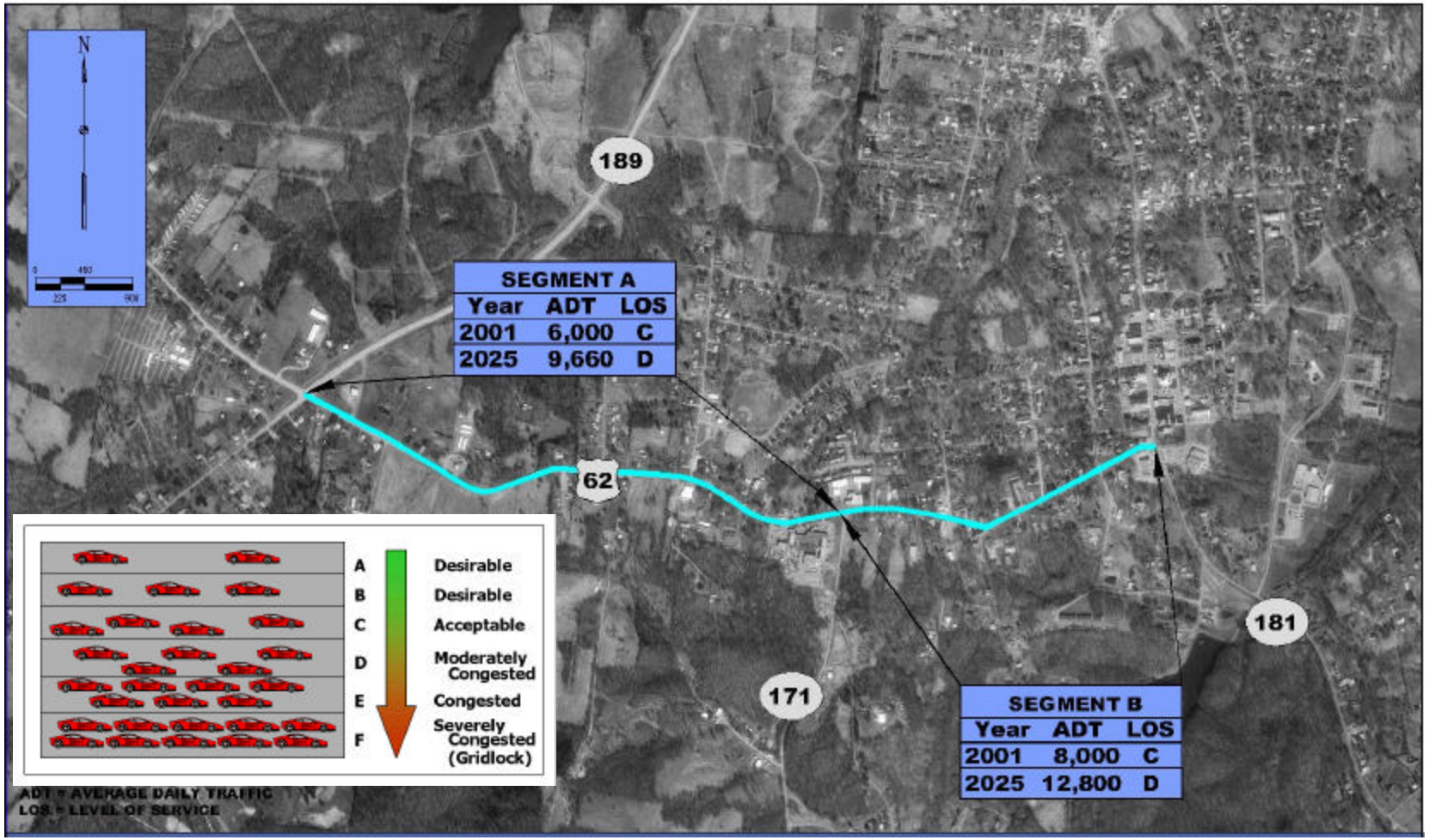


FIGURE 3: TRAFFIC VOLUMES AND LEVEL OF SERVICE

3.0 ENVIRONMENTAL AND GEOTECHNICAL OVERVIEWS

This section of the report presents a general overview of the social, economic, geotechnical and environmental framework of the proposed project area. It identifies key issues that may affect project alternatives within the study corridor. Also, preliminary evaluations of community impact, environmental justice, and other socioeconomic factors have been conducted to determine the need for avoidance considerations. The information presented is based on readily available public records and archival research supplemented with field reconnaissance and "windshield surveys." The resources identified as part of the environmental overview are shown in **Figure 4.**

3.1 SOCIOECONOMIC

The project area is predominantly residential with small areas of commercial development located along US 62. Community cohesion for the residential units or small clusters along the project area would not likely be adversely affected by relocations, and it is expected that these crossroad clusters would continue to thrive. It is also expected that some residents to be displaced may be able to relocate their homes and structures on the same property and continue to maintain established social groups. It is currently expected that most of the right-of-way required for the project would be frontage strips along US 62 and relocations held to a minimum. However, each of these issues should be examined in more detail through specific studies and public involvement in subsequent project phases.

With respect to Environmental Justice considerations, the corridor encompasses identifiable minority and low-income neighborhoods; however, relocation requirements are expected to be minimal with approximately three residents and one business. An in-depth look at community cohesion and environmental justice will need to be addressed in future phases of the environmental process. An Environmental Justice Study was prepared by the Pennyrile ADD and is included in **Appendix E.**

There are currently no airports or schools that are adversely affected in the proposed project corridor. Muhlenberg Community Hospital is located in the corridor but is expected to benefit from improved accessibility. The Greenville Baptist Church appears in the project corridor and on the National Register Criteria for historical significance, and is not anticipated to be impacted. The Cultural Historic Resource Section 3.6 discusses the criteria for historical significance in further detail.

There are several existing businesses in the project area located along US 62. Since the proposed project is an expansion of US 62, it would not bypass any businesses. The only negative issue with existing business is related to construction activities. Businesses that rely on drive-by traffic may have difficulty during construction activities; however, those impacts are short-term. Residential housing is predominantly the land use within the project area with scattered commercial areas. Even though no farms are affected in the project corridor, coordination with the Natural Resources Conservation Service and development of *Farmland Protection Policy Act of 1981* (FPPA) farmland impact assessment evaluations will be required because federal funds may be used for construction and design.

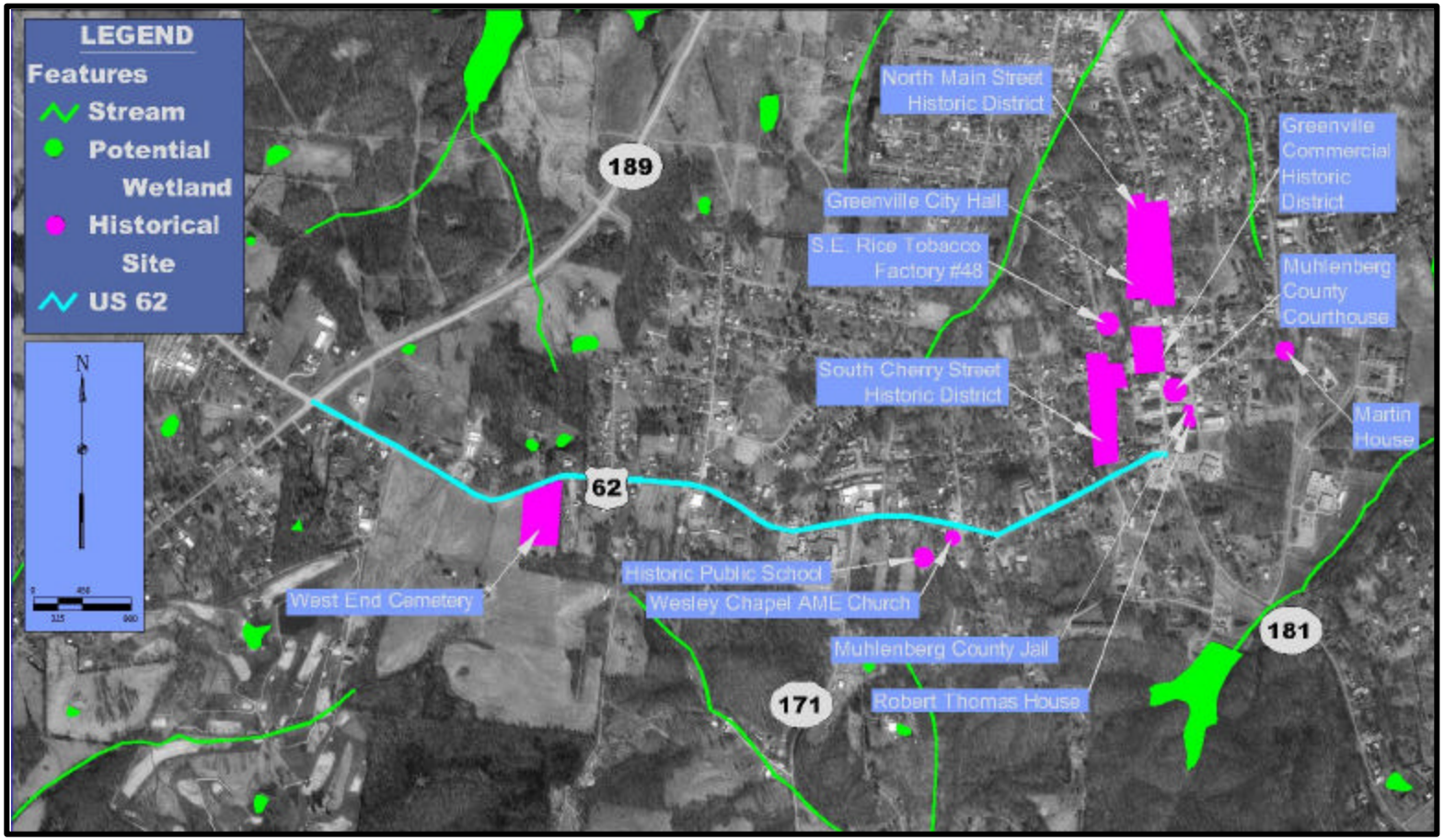


FIGURE 4: ENVIRONMENTAL OVERVIEW

3.2 GEOTECHNICAL OVERVIEW

KYTC's Division of Geotechnical Engineering prepared a preliminary geotechnical overview of the project area. Available mine maps indicated that the US 62 corridor has no strip-mines or underground mines. Embankment benches with lift heights of 1 foot were recommended for any future construction.

The Division of Geotechnical Engineering also noted that the project is in Seismic Risk Zone 3, indicating that this is an area with a propensity for high damage due to earthquake activity. More detailed information about the existing geotechnical conditions along the study corridor, as well as recommendations concerning future construction on US 62, is found in **Appendix F.**

3.3 AIR QUALITY

Pursuant to the 1990 Clean Air Act Amendments, the project area has been designated an attainment area for all transportation-related pollutants (CO, HC, NOX, and particulates). This project is in an area that does not require transportation control measures. Therefore, the Amended Final Conformity Guidelines issued by the U.S. Environmental Protection Agency and the U.S. Department of Transportation will not apply to this project.

In accordance with KYTC/DEA Position Paper 006-2000, a microscale analysis following the guidance specified in *Air Quality Guidance for Project Level Analysis*, revised October 2000, will be required for this project.

3.4 HIGHWAY NOISE

Highway noise levels, at this time, are not expected to be major. However, a project specific noise impact analysis will be required to verify noise impact conditions using the procedure for conducting field monitoring based on FHWA requirements and the KYTC Noise Abatement Policy.

3.5 AQUATIC AND TERRESTRIAL ECOLOGY

No perennial streams exist within the project area. Surface streams near the project area are limited to several unnamed, intermittent, and headwater tributaries of Caney Creek, Halls Creek, Sandlick Creek, and Whiskey Run. These streams are all part of the Green River watershed.

No wild and scenic rivers or Outstanding Water Resources, as reported by the Kentucky State Nature Preserves Commission (KNREPC) are found in the project study area. There are no exemplary natural communities or registered natural areas.

National Wetland Inventory (NWI) mapping was reviewed for the presence of wetlands within the project corridor. A total of four wetlands was indicated by NWI mapping and are POWHh (Palustrine Open Water/Unknown Bottom Permanently Flooded Diked/Impounded) type. A fifth

wetland (or pond) indicated by topographic mapping appeared to be a farm pond and is undermined at present. A field inspection of each of these areas is necessary to determine their jurisdictional status. According to Federal Emergency Management Agency (FEMA) Q3 flood data, no floodplains exist in the project area.

According to Correspondence from the Kentucky Department of Fish & Wildlife Resources (KDFWR), no federally threatened and endangered fish and wildlife are known for the Greenville 7.5 minute USGS quadrangle.

Potential summer roosting habitat for the federally endangered Indiana bat (*Myotis sodalis*) exists in forested areas that contain the appropriate size and species of trees. A thorough examination of the project area during subsequent project phases is needed to determine if this habitat exists.

According to the KSNPC, the running buffalo clover (*Trifolium stoloniferum*) habitat consists of partially shady areas that has moderate, periodic disturbance (e.g., occasional mowed historical sites, lawns, cemeteries, and fencerows). Potential habitat for this species occurs within the project corridor in at least one location.

3.6 CULTURAL HISTORIC RESOURCES EVALUATION

The original Environmental Overview completed for the project identified three historic districts and six individual properties in Greenville that are listed in the National Register. Only one National Register district, the South Cherry Street Historic District, is in the project vicinity. The Environmental Overview located the boundaries for this district north of US 62 (Hopkinsville Street). However, when the boundaries from the National Register file were field checked for accuracy, it was determined that the southern edge of the district crosses US 62. Following the 106 specifications (instructions for completing cultural resource assessment reports issued by the Kentucky Heritage Council), the boundaries of the district were reexamined for potential expansion. It was determined that a section on the north and south sides of US 62 between Main Street and Walnut Street is eligible as an expansion of the existing district.

Thomason and Associates previously documented five other sites located within the project area during the 1984 survey of the City of Greenville: MUG-4, MUG-5, MUG-25, MUG-26, and MUG- 41. ("MUG" reflects the Smithsonian designation the Heritage Council uses for designating site numbers where "MU" represents Muhlenberg County and "G" means the site is in Greenville.) These sites and other undocumented properties that met the 50-year age criteria were documented and examined for eligibility for the National Register. Site MUG-5 would be eligible as part of the proposed expansion to the South Cherry Street Historic District. Sites MUG-4, 25, 26, and 41 meet the National Register Criteria as individual sites.

In addition, three other sites within the project area appeared to meet National Register Criteria as individual sites: the West End Cemetery (Site A), Greenville Baptist Church (Site B), and Colonial Revival House (Site C). These sites are shown in **Figure 5**. The entire project area is shown in **Figure 6**. The entire Cultural Historic Reconnaissance Survey is included in **Appendix G**.

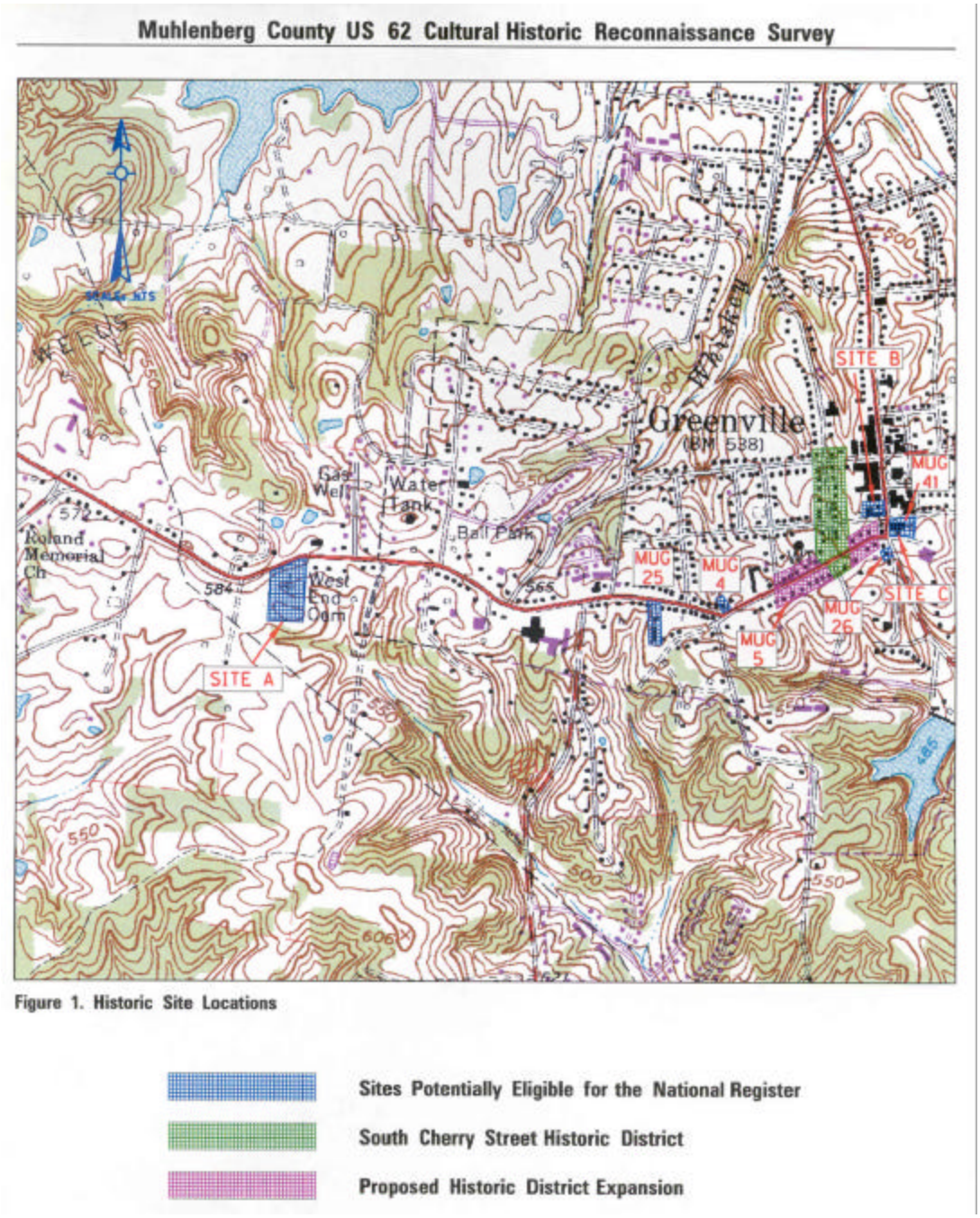


Figure 1. Historic Site Locations

FIGURE 5: CULTURAL HISTORIC SITE LOCATIONS

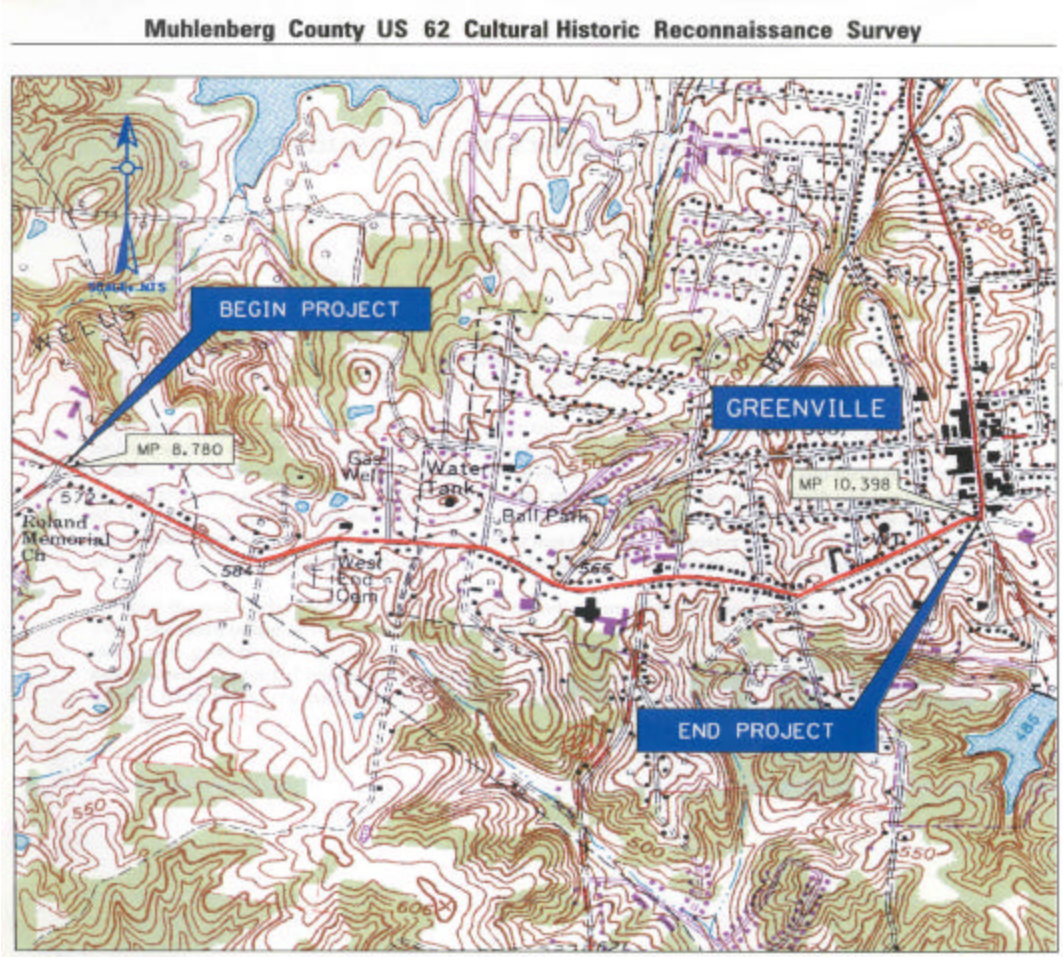


FIGURE 6: CULTURAL HISTORIC OVERVIEW PROJECT AREA

3.7 ARCHAEOLOGICAL RESOURCES EVALUATION

A search of the National Register of Historic Places, the Kentucky Heritage Council (KHC) and the Office of State Archaeology (OSA) records and analysis of historic maps were performed for the overview information. Based on this search, no recorded archaeological sites were located within the study area. Any unrecorded sites would most likely be prehistoric open habitation sites without mounds, historic farms, cemeteries, or residences.

The presence of suspected historic archaeological sites within the area of potential effect (areas where physical, visual, auditory, economic, social, or other effects may occur as a result of any alternative), suggest that unrecorded archaeological sites will be encountered. Additionally, it is likely that intact cultural deposits will exist on sites located during an archaeological survey of the corridor because of the land usage within the study area. Since there is a strong possibility that archaeological sites could be encountered on this undertaking, the Native American Coordination process should be initiated, in accordance with KYTC/FHWA procedures, as soon as practicable. The KYTC Division of Environmental Analysis should be consulted for appropriate action.

3.8 UNDERGROUND STORAGE TANKS/HAZMAT CONSIDERATIONS

Several research and survey methods were utilized to complete the Phase 1 Assessment (records review, site reconnaissance, interviews with owners, occupants, and local officials and evaluation and report) for this project. Record research of State and Federal databases revealed six sites of potential environmental concern in the project corridor. An Environmental Site Assessment of the project area conducted in accordance with ASTM Practice E 1527 and KYTC Guidance should be accomplished during future phases of the project to formally confirm Underground Storage Tanks (UST)/Hazmat findings.

No unregistered or abandoned UST locations, abandoned or illegal waste sites or other suspicious areas that could harbor hazardous materials were observed during the pedestrian survey. No above ground gasoline/diesel storage tanks (AST) were observed. Any AST's encountered during the right-of-way acquisition phase that are not identified in this report should be accounted for during normal right-of-way acquisition procedures and should be decommissioned in accordance with ASTM standard practices.

The removal of propane tanks should be accommodated routinely during the right-of-way acquisition phase. The records review and site reconnaissance did not reveal the existence of any industrial sites, unpermitted dumps or waste sites, refuse, garbage, waste disposal, mine spoil, treatment areas, hazardous materials, or any additional sites of environmental concern.

4.0 STUDY ALTERNATIVES/IMPROVEMENT OPTIONS

The study alternatives/improvement options for the US 62 Intermediate Planning Study evolved throughout the course of the project. Projected traffic volumes and cultural historic concerns affected selection of possible improvements for the corridor.

At Project Team Meeting #1, it was decided that potential impacts on historic properties would most likely dictate that improvements be made, in most locations, within the existing right-of-way. Since the local officials felt that a considerable amount of the US 62 traffic consists of coal and rock quarry trucks, a bypass to US 62 was discussed at the Local Officials Meeting. Attendees at the Stakeholders and Media Meeting also inquired about a bypass to US 62 as a viable option for this study. While a bypass is an option, it does not address the Project Goals defined in **Section 1.2** and is beyond the scope of this study. Furthermore, a bypass to the north is not feasible due to existing development, and a southern bypass route that would be close enough to US 62 to draw substantial traffic would encounter potentially difficult terrain.

A compressed 3-lane section was mentioned to improve capacity and to reduce the right-of-way impacts. It was discussed at the Stakeholders and Media Meeting that a 3-lane section on US 62 would eliminate many of the existing traffic and safety problems. However, some concern was expressed over the safety of a continuous left-turn lane at 45MPH. As a result, the study looked at incorporating traditional turning lanes at specific locations, as well as, using a continuous two-way left-turn lane in some areas.

It was also determined that an acceptable future year Level of Service (LOS) for the corridor would be in the D-E range, and that context-sensitive design criteria would be critical elements in future project development.

Based on discussions from these meetings, the traffic forecasts, and public input through surveys and a Public Meeting, several alternatives were presented to the Project Team at Team Meeting #2. These alternatives included 3-lane, 4-lane, and 5-lane sections (see **Figures 7a & 7b**), with curb and gutter proposed through the urbanized section of roadway. Based on the initial projections for traffic levels of service, a 4-lane section appeared to be required to meet future year LOS goals.

The concept of a new bypass was re-visited by the Project Team at that meeting. It was determined that since a bypass would involve a study in greater detail, further justification would be needed to pursue that or any other alternate route. Also, while a bypass probably would not divert local traffic from the existing route, it would help reduce some truck traffic on US 62.

The Project Team determined that impact on historic properties could potentially play a very important role in the determination of possible improvement options. The decision was made to pursue this issue in greater depth, and it was determined that an historical overview and property research should be conducted before any final decision could be made on preferred alternatives. Based on the results of the overview, the Project Team speculated that spot improvements and/or a new bypass could be possible recommendations. Three locations were

noted for possible spot improvements at Team Meeting #2. They were the US 62/KY 181 intersection, the US 62/KY 171 intersection, and the section of the roadway just west of the cemetery. Left-turn lanes were recommended for all approaches at the US 62/KY 181 and US 62/KY 171 intersections. A horizontal curvature correction was recommended at the third location. (See **Figure 8**.)

Prior to Team Meeting #3, a cultural historic reconnaissance survey was conducted, and potential impacts to the historic properties for each of the improvement options were examined. Also, the latest version of the Highway Capacity Manual (as well as version HCS-4.1b 2000) was released, and the traffic analysis was updated using the new software.

The results of the historic survey and traffic analysis were discussed at Team Meeting #3. The historic survey determined that options for widening the road would very likely depend on the degree of impact to historic properties. The Project Team discussed possible mitigation for the environmentally sensitive areas, including traffic calming methods to make the corridor more user-friendly, added signage, and possible brick sidewalks and/or pedestrian crossings.

Using the current version of the Highway Capacity Manual, a new analysis determined that the roadway does not require additional capacity to accommodate Design Year 2025 traffic. However, improvements to the corridor are still required in order to address the Project Goals.

A summary of the improvement options considered in the study is included in **Table 5**. For the purpose of comparing alternatives the “No Build” option was labeled Alternative 1. The potential benefits and impacts of providing spot improvements at the three locations discussed above is shown in the Table under Alternative 2. Finally Alternative three depicts the benefits and impacts of widening the existing corridor to a 3-lane section. Estimates of Probable Costs for both of the build alternatives are included in **Appendix H**.

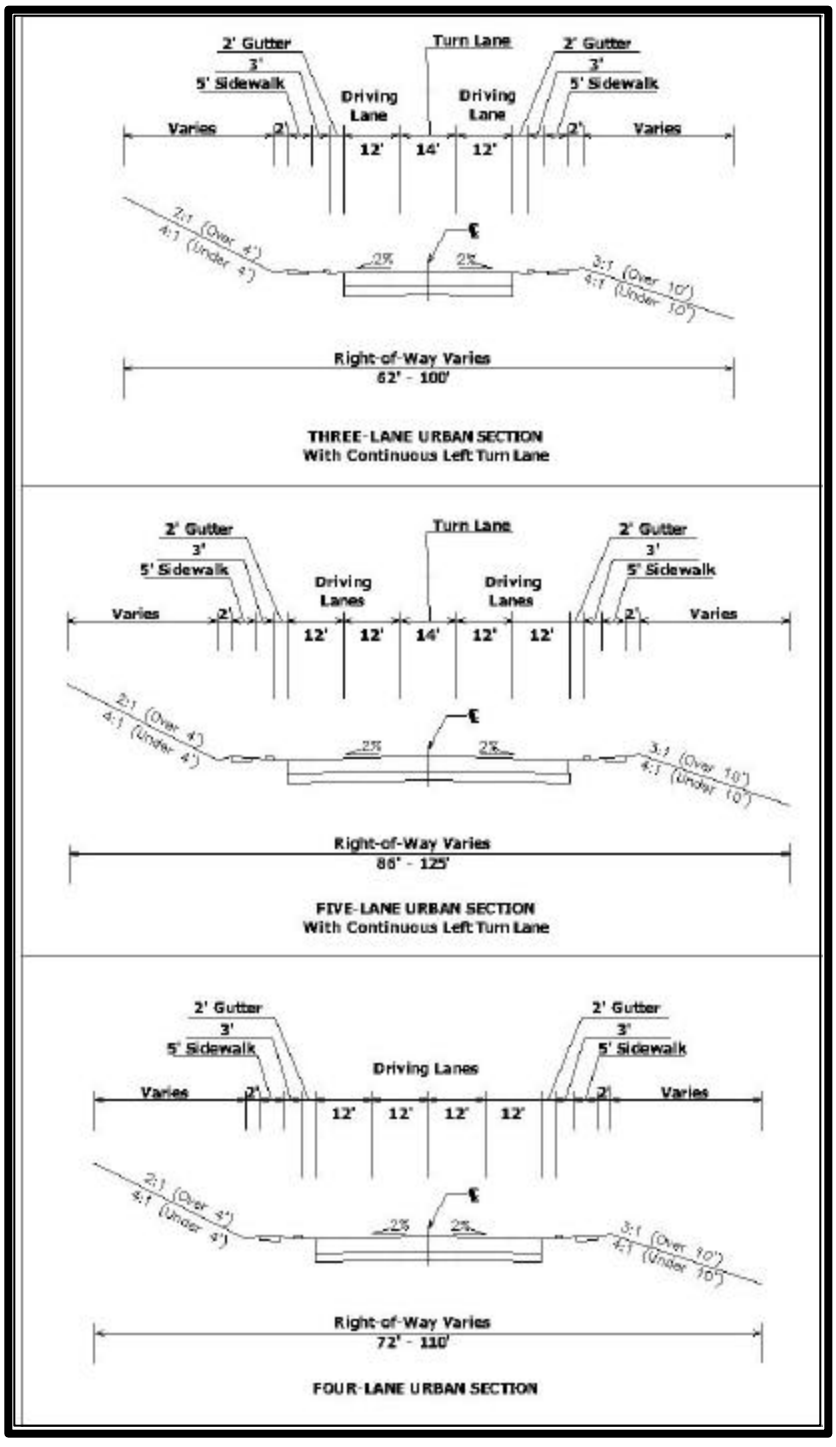


FIGURE 7a: TYPICAL CROSS SECTIONS

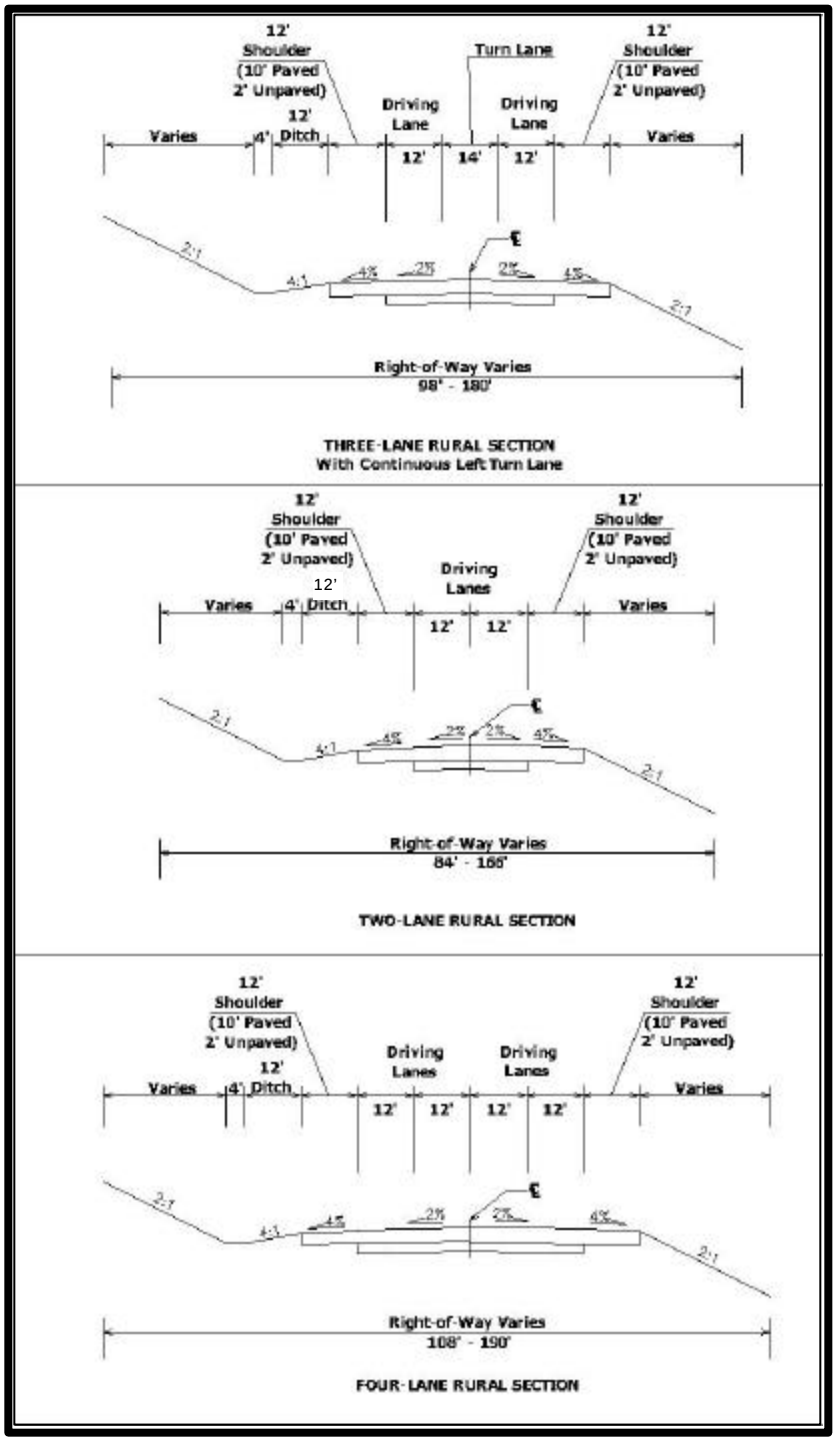


FIGURE 7b: TYPICAL CROSS SECTIONS

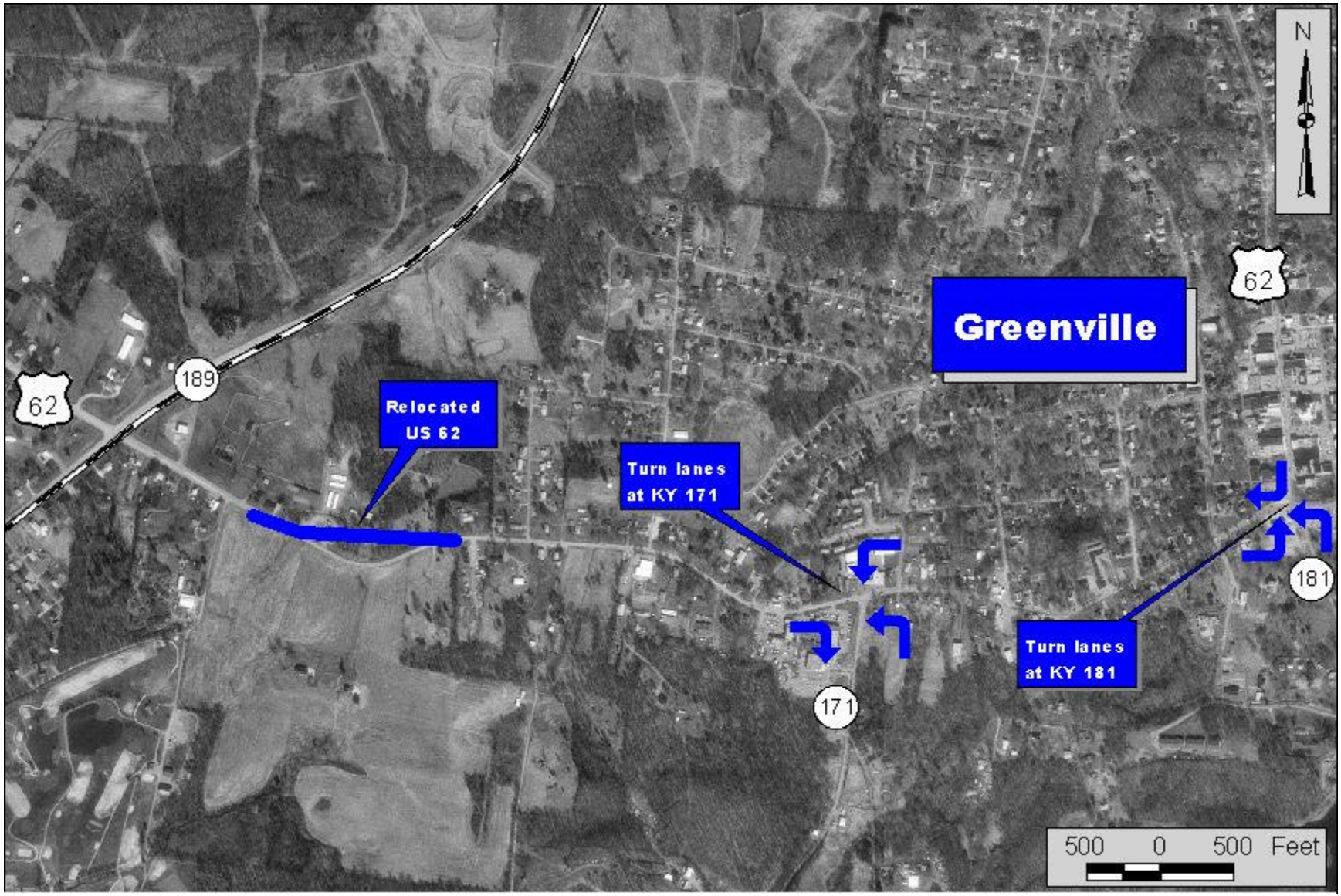


FIGURE 8: SPOT IMPROVEMENT LOCATIONS

TABLE 5: POTENTIAL IMPACTS AND COST COMPARISON OF ALTERNATIVES

	Alternatives		
	1	**2**	**3**
Length (miles)	1.6	1.6	1.6
Description	No Build; Make no changes to the existing 2-lane roadway.	Spot Improvements: US 62/KY 181 intersection, the US 62/KY 171 intersection, and the section of the roadway just west of the cemetery (horizontal curvature correction)	3-Lane Road with curb and gutter and sidewalks.
Potential Relocation Impacts	None	Approximately 3 residences and 1 business	Approximately 3 residences and 1 business
Potential Right of Way Acquisition	None	Approximately 2.95 acres	Approximately 4.04 acres
Potential Geotechnical Impacts	None	Benching should be anticipated to avoid slides in deep cut areas.	Benching should be anticipated to avoid slides in deep cut areas.
Potential Environmental Impacts	Potential impact to air and noise quality.	Potential impact to air and noise quality. Possible impact to potential cultural historic site at US 62/KY 181 intersection.	Possible impact to significant cultural historic district and sites.
Future Level of Service	D	D	D*
Conceptual Cost Estimate by Phase **Design** **Right of Way** **Utilities** **Construction** **Total**	 $0 $0 $0 $0 $0	 $279,000 $750,000 $422,000 $3,105,000 $4,556,000	 $531,000 $870,000 $888,000 $5,900,000 $8,189,000
Relation to Project Goals	◆ Likely will not reduce the number of crashes along the route. ◆ Does provide sufficient capacity. ◆ Does not improve connectivity from KY 189 to KY 181. ◆ Does not provide pedestrian facilities along the route. ◆ Does not improve access to the hospital. ◆ Does not improve drainage along the route.	◆ May reduce the number of crashes along the route. ◆ Does provide sufficient capacity. ◆ May improve connectivity from KY 189 to KY 181. ◆ Provides improved pedestrian facilities at various locations along the route. ◆ May improve access to the hospital. ◆ Improves drainage at various locations along the route.	◆ May reduce the number of crashes along the route. ◆ Does provide sufficient capacity. ◆ Does improve connectivity from KY 189 to KY 181. ◆ Provides improved pedestrian facilities at various locations along the route. ◆ Does improve access to the hospital. ◆ Improves drainage at various locations along the route.

* LOS cannot be calculated for a three-lane section; however, it would be expected to perform equal to or better than a two-lane section.

5.0 RECOMMENDATION

In light of the historical reconnaissance survey and new traffic analysis discussed at Project Team Meeting #3, the Project Team determined that spot improvements, instead of widening throughout the study area, are recommended for the US 62 Intermediate Planning Study. The three projects to be investigated as spot improvements (shown on **Figure 8**) are the addition of left-turn lanes for all approaches at the US 62/KY 181 intersection and the US 62/KY 171 intersection, and the reconstruction of the horizontal curve west of the West End Cemetery. Both intersection improvements should include sidewalks to accommodate pedestrian traffic. A separate traffic study of the US 62/Boggess Avenue intersection area, as well as the Boggess Avenue-Critenden Lane corridor, is recommended to investigate reducing traffic volumes in the corridor and potentially the crash rate at the US 62 intersection. The approximate costs of the Preferred Recommended Alternative, (spot improvements at three locations), are listed in **Table 6** below.

TABLE 6 – PREFERRED ALTERNATIVE COSTS

Phase	Spot Improvements: US 62/KY 181 intersection, the US 62/KY 171 intersection, and the section of the roadway just west of the cemetery (horizontal curvature correction)
Design	$279,000
Right of Way	$750,000
Utilities	$422,000
Construction	$3,105,000
TOTAL	**$4,556,000**

No major issues and concerns that would impact the implementation of the recommendation were discovered, and no commitments were made regarding future phases of this project. The Project Study Team wishes to acknowledge the following organizations for their contributions to this study:

- Muhlenberg County
- City of Greenville
- Muhlenberg Economic Enterprises
- Pennyrile Area Development District

6.0 CONTACT INFORMATION

For further information about this project the following persons may be contacted:

Mr. Daryl Greer, PE
KY Transportation Cabinet
Division of Planning
125 Holmes Street
Frankfort, KY 40622

Mr. David Martin, PE
Project Manager
KY Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

APPENDIX A – Meeting Minutes

STATEWIDE CORRIDOR PLANNING SERVICES

US 62 - TEAM MEETING #1

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: September 24, 2001

SUBJECT: Statewide Corridor Planning
Muhlenberg County
US 62 from KY 189 to KY 181
Item No. 2-0138.00

The first Team Meeting for the US 62 Intermediate Planning Study was held in the District 2 Conference room at 12:30 p.m. CDT on September 24, 2001. Those in attendance were:

Bruce Siria	Division of Planning
David Martin	Division of Planning
Daryl Greer	Division of Planning
Stephen Hoefler	Division of Highway Design
Shari Greenwell	Division of Operations
Nick Hall	District 2 Planning
Everett Green	District 2 Design
Kevin McClearn	District 2 Design
Joe Plunk	District 2 Design
Melvin Hicklin	District 2 Design
Doug Taylor	District 2 Environmental
Mark Allen	District 2 Utilities
Kenny Potts	District 2 Traffic
T. C. Chambers	District 2 Construction
Jeff Skaggs	District 2 Operations
Karen Mohammadi	HNTB Corporation
Larry Chaney	HNTB Corporation

Daryl Greer opened the meeting explaining that this would be a “quick hit” project where the study team would collect information quickly. This information would include hot spots and other general concerns, but would not necessarily determine specific corridors and issues.

Karen Mohammadi then discussed the handouts, which included project termini, HIS data, existing and projected traffic volumes, and accident history. The team had no changes to make to the information presented. The team then reviewed the draft study purpose, also without making changes.

Numerous environmental issues were discussed. These were as follows:

- The recent (within 6 months) removal of USTs at the Marathon station
- Predominately low income and African-American neighborhoods
- African-American church and school
- Historical homes, including one which was likely part of the Underground Railroad
- No public recreation areas effected
- Hospital, health care centers and Social Security office along the corridor
- Duncan Cultural Center in the corridor

The Team next returned to the issue of logical termini, and decided after reviewing area maps that the project must be built, in most locations, within existing rights-of-way. An alternate corridor or rerouting of US 62 would not solve the congestion and safety problems on the road. Concern was expressed over spending a considerable amount of money to obtain little improvement. Utility and right-of-way costs are expected to be quite high to accommodate any improvements to the route. A compressed 3-lane section was mentioned to improve capacity and to reduce right-of-way impacts. It was also decided that an acceptable Level of Service for the corridor would be in the D-E range. Sidewalks would not necessarily be needed on both sides of the road (although preferable), utilities would not likely be buried, and flexible, context-sensitive criteria should most definitely be considered.

The environmental footprint should be 500' total width. Resource agency coordination will include the African-American church, hospital, quarry and asphalt plant, lumberyard, school board, historical society, Duncan Cultural Center (on the corner of Cherry Street), and emergency services. There are apparently no chambers of commerce, planning and zoning boards, or business associations in Greenville that need to be included.

Public involvement will consist of one set of meetings with the local officials, stakeholders and the general public. A location for the US 62 public meeting different from that for the KY 181 public meeting will be selected to keep the projects separate. This project will also be discussed with the local newspapers. Since this is a low-income neighborhood, door-to-door handouts announcing the public meeting will be used. The team may also attend church, business or other meetings to discuss the project.

The best location for the meeting is probably the Circuit Court Room. There are about 40 parking spaces at that location. The church or hospital may also have a place to meet. It was decided to let the Mayor guide the team as to the best location, however, the location selected should be within walking distance of the low-income neighborhood.

STATEWIDE CORRIDOR PLANNING SERVICES
US 62
LOCAL OFFICIALS MEETING

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: November 24, 2001

SUBJECT: Statewide Corridor Planning
Muhlenberg County
US 62 from KY 189 to KY 181
Item No. 2-138.00

A Local Officials Meeting on the US 62 Intermediate Planning Study was held on Wednesday, November 7, 2001, at the Muhlenberg County Career Advancement Center. The attendees had gathered to discuss this project, as well as the KY 181 Scoping Study (see separate minutes). Those in attendance were:

Daniel Bowles	Muhlenberg County Fiscal Court
Phil O'Neal	Muhlenberg County Fiscal Court
Rodney Kirtley	Muhlenberg County Judge Executive
Harold Sumner	Greenville City Administration
Brent Yonts	State Representative
Barbara Williams	Muhlenberg Economic Enterprises
Nick Hall	District 2 Planning
Everett Green	District 2 Design
Doug Taylor	District 2 Environmental
Bruce Siria	Division of Planning
David Martin	Division of Planning
Jim Simpson	Division of Planning
Craig Morris	Pennyrile ADD
Karen Mohammadi	HNTB Corporation
Susan Rich	HNTB Corporation
Larry Chaney	HNTB Corporation

Bruce Siria opened the meeting by explaining that even though the KY 181 and US 62 projects were separate projects, the local officials were being given the opportunity to discuss both at this meeting. Mr. Siria then turned the meeting over to HNTB to explain the handouts.

Karen Mohammadi explained the project termini (KY 189 to KY 181), the Highway Information System Data, traffic volumes and accident history. The existing Levels of Service (LOS) on US 62 are at a LOS of E, and expected to worsen to a LOS of F by 2025. The accident critical rate factors (CRF) on the road were all less than 1.0, indicating that the number of accidents are less than or similar to what would be expected on any road of this type in Kentucky.

The last item on the agenda was discussion of the Study Purpose, Corridor Issues and Project Goals. Some additional issues raised were congestion problems at the intersection of US 62 and KY 181, and the use of Crittenden Drive (a residential street) by motorists to bypass the intersection of US 62 and KY 189. It was also suggested that, due to the number of properties located close to the road and the desire to minimize right of way impacts, that the goal to provide capacity be altered to state "Provide improved capacity where practical along the route." An additional goal to examine alternatives other than US 62 that might address future traffic was also suggested.

Judge Executive Kirtley suggested that most of the traffic on US 62 is through traffic, and asked the team to consider a bypass to US 62. Representative Yonts stated that a considerable amount of the US 62 traffic is coal trucks and rock quarry trucks that might use a bypass. Larry Chaney noted that the team has looked at this issue, and feels that a bypass to the north would not be feasible due to existing residential development. A southern bypass route would encounter potentially difficult terrain. Craig Morris added that the design of a bypass would require funds not yet identified in either the ADD or the KYTC transportation plans. The officials indicated where they felt a bypass would be beneficial, and stated that it should connect beyond KY 181 over to KY 176.

It was noted that traffic congestion at the intersection of US 62 and KY 189 was also a problem, but only during peak PM hours. Doug Taylor asked if there was a need to study the upgrade of Crittenden Drive as an alternate route. The officials agreed that this type of improvement would be beneficial, and added that the upgrading of Russell Street would also help.

Harold Sumner suggested that one of the most pressing needs on US 62 is at the US 62/KY 181 intersection. According to Mr. Sumner, it needs to be widened to accommodate three lanes and to allow for wider turns. Trucks and buses have a difficult time making the turns. Rep. Yonts added that the tanks at the gas station on the northwest corner have been removed, and that the Cabinet should purchase the entire lot since its commercial viability would be gone if even minimal right of way were purchased.

Judge Kirtley added that the curve at Philly's Restaurant is another critical point to address. It is a blind intersection in need of spot improvements. Mr. Sumner added that a bus stop is located there, and there is a condemned property on one side of the intersection and an adjacent property that will likely be condemned. The Judge continued by saying the bank west of the hospital also causes sight distance problems on US 62.

The meeting ended with Mr. Siria informing the attendees that the next step would be to plan a public meeting on the project. The Judge suggested that the meeting be held concurrently with the KY 181 meeting. He was informed that this would be considered. The officials also suggested that the hospital newsletter, cable television, schools and newspapers be used to spread notice of the meetings. They did not feel that the radio stations would be effective. The South Middle School was named as a potential site for the meetings.

STATEWIDE CORRIDOR PLANNING SERVICES
US 62
STAKEHOLDERS AND MEDIA MEETING

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: November 24, 2001

SUBJECT: Statewide Corridor Planning
Muhlenberg County
US 62 from KY 189 to KY 181
Item No. 2-138.00

A joint meeting for the Stakeholders and Media representatives for the US 62 Intermediate Planning Study was held on Wednesday, November 7, 2001, at the Muhlenberg County Career Advancement Center. The attendees had gathered to discuss this project as well as the KY 181 Scoping Study (see separate minutes). Those in attendance were:

Jody Hawkins	Muhlenberg County Government
Deanna Nolfinger	Muhlenberg County Board of Education
Barbara Williams	Muhlenberg County Enterprises
John Stovall	Road Builders, Inc.
Jerry Southhard	Road Builders, Inc.
Tom Hensen	Leader-News
David Blackburn	Owensboro Messenger-Inquirer
Mark Stone	Times-Argus
Nick Hall	District 2 Planning
Everett Green	District 2 Design
Doug Taylor	District 2 Environmental
Bruce Siria	Division of Planning
David Martin	Division of Planning
Jim Simpson	Division of Planning
Craig Morris	Pennyrile ADD
Karen Mohammadi	HNTB Corporation
Susan Rich	HNTB Corporation
Larry Chaney	HNTB Corporation

Bruce Siria opened the meeting by explaining that even though the KY 181 and US 62 projects were separate projects, the local officials were being given the opportunity to discuss both at this meeting. Mr. Siria then turned the meeting over to HNTB to explain the handouts.

Karen Mohammadi explained the project termini (KY 189 to KY 181), the Highway Information System Data, traffic volumes and accident history. The existing Levels of Service (LOS) on US

62 are at a LOS of E, and expected to worsen to a LOS of F by 2025. The accident critical rate factors (CRF) on the road were all less than 1.0, indicating that the number of accidents is less than or similar to what would be expected on any road of this type in Kentucky.

The last item on the agenda was discussion of the Study Purpose, Corridor Issues and Project Goals. Ms. Mohammadi explained that some additional issues raised during the Local Officials meeting were congestion at the intersection of US 62 and KY 181, traffic using Crittenden Drive to bypass the KY 189/US 62 intersection, and the need for a bypass to take traffic off of US 62 through Greenville. Ms. Mohammadi also noted that the goal to provide capacity was altered at the Local Officials Meeting to "Provide improved capacity where practical along the route." An additional goal to examine alternative routes other than US 62 that might accommodate future traffic was also suggested.

The attendees asked if a bypass was an option. Bruce Siria indicated that it was an option, but that short-term improvements on US 62 should also be considered. Some of the other comments received were that the shortcut through Crittenden Drive was dangerous, and that a three-lane section on US 62 would eliminate many of the existing problems. Some concern was expressed over the safety of a continuous left-turn lane. It was suggested that the study look at incorporating traditional turning lanes as well as the continuous left-turn lanes.

The meeting ended with Mr. Siria informing the attendees that the next step would be a public meeting on the project. It was suggested that the meeting could take place on November 29, 2001 at the South Middle School, if available. Craig Morris asked the members of the media if they would be willing to print a copy of a survey form in the newspaper to increase public input on the project. All reporters indicated that this would be possible.

HNTB
The HNTB Companies

STATEWIDE CORRIDOR PLANNING SERVICES
US 62
TEAM MEETING #2

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: November 30, 2001

SUBJECT: Statewide Corridor Planning
Muhlenberg County
US 62 from KY 189 to KY 181
Item No. 2-0138.00

Team Meeting #2 on the US 62 Intermediate Planning Study was held on Wednesday, December 19, 2001, at the new Muhlenberg County Career Advancement Center. The attendees gathered to discuss this project as well as the KY 181 Scoping Study (see separate minutes). Those in attendance were:

David Martin	Division of Planning
Jim Simpson	Division of Planning
Carl Dixon	Division of Planning
Stephen Hoefler	Division of Highway Design
Kevin McClearn	District 2 Planning
Nick Hall	District 2 Planning
Everett Green	District 2 Pre-Construction
Doug Taylor	District 2 Environmental
Craig Morris	Pennyrile ADD
Doug Smith	HC Nutting Company
Susan Rich	HNTB Corporation
Larry Chaney	HNTB Corporation

The meeting began with distribution of handouts containing the study purpose, corridor issues, a draft statement of project goals, and miscellaneous project exhibits. A brief environmental overview and review of existing conditions along the route followed. It was pointed out that there are traffic problems at the intersections with KY 181, KY 171, and KY 189, especially during peak hours.

Alternatives considered for the US 62 Intermediate Planning Study were then presented by HNTB, with an indication that both safety and capacity issues were addressed. The alternates include 3-, 4-, and 5-lane sections (with curb and gutter through the urbanized section of roadway). Based on the traffic forecasts alone, a 4-lane section would be required.

Cost estimates were distributed for the alternates, and were reviewed by the Team. The cost estimates included the reconstruction of US 62 at KY 181. The impacts from widening the route would be potentially devastating to the community. Everett Green stated that the right of way and utility costs will be significantly greater than what is shown on the estimates. District 2 personnel will review the right of way and utility costs.

Public comments were reviewed, and it was noted that three surveys have been received. Areas of public concern include the lack of sidewalks along the route and the desire for a new bypass. Craig Morris stated that public comment generally indicates that major widening would be not be the preferred solution by the community.

The attendees then discussed the concept of a new bypass route. Both Jim Simpson and Doug Taylor stated that we need justification to pursue the bypass or any other alternate route. Kevin McClearn stated that a bypass is a completely different study. It was noted that a bypass probably would not deter local traffic from using the existing route, but would help alleviate truck traffic from the US 62 route. Mr. Green stated that historic properties will dictate whether or not the project can be built.

An historical overview and property research will be conducted before this project is finalized. No decision on preferred alternates will be made until after the historical research is complete. Carl Dixon asked HNTB to submit a fee proposal to the Cabinet for a complete historic overview and property research. An additional team meeting will be held after the historical research is complete.

Depending on the results of the historic property research, spot improvements and a new bypass could be possible recommendations. Three locations for spot improvements were noted during the meeting:

- KY 181 Intersection
- KY 171 Intersection
- Rural section near the west end of the project (horizontal curvature corrections)

David Martin mentioned drainage issues within the project area, noting that the draft statement of project goals includes improved drainage along the route. It was agreed that even addressing some of the maintenance-type issues along the road could potentially have impacts on historic properties.

STATEWIDE CORRIDOR PLANNING SERVICES

TEAM MEETING #3

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: June 17, 2002

SUBJECT: Statewide Corridor Planning
Item No. 2-138.00
US 62 Intermediate Planning Study

The third team meeting was held Thursday, June 6, 2002, at the Muhlenberg County Career Advancement Center. A list of those in attendance is attached.

The purposes of the meeting was:

- To provide a project overview including a review of project goals and objectives, accident locations, traffic volumes and levels of service
- To discuss the alternatives
- To provide an environmental overview including results of the cultural historic reconnaissance survey and associated impacts to the alternatives

The meeting began at 10:00 AM CST with Karen Mohammadi reviewing the project goals and objectives, accident locations, traffic volumes and levels of service. Ms. Mohammadi stated that the latest version of the Highway Capacity Manual, version HCS-4 2000, was released this spring and has been used to update the traffic analysis on this project. Upon using the current version, it has been determined that the roadway does not need added capacity to accommodate Design Year 2025 traffic. However, this does not mean that no improvements are needed. The Do Nothing/No-Build alternate does not address the project goals outlined for the project which include reducing the number of accidents, improving drainage and improving pedestrian facilities.

Ms. Mohammadi introduced Jane Fiegel of Palmer Engineering who discussed the cultural historic reconnaissance survey and its impacts to the alternatives. Ms. Fiegel stated that widening the road depends on the amount of impact to historical properties. The only way to determine these impacts is by walking the corridor. Historic concern is not necessarily a “fatal flaw” to this project.

Ms. Fiegel discussed possible mitigation in the historically sensitive area. This included traffic calming methods to make the corridor more user friendly, added signage, and possible brick sidewalks and/or pedestrian crossings. Also, if tree removal is necessary in the project area, trees of similar species should be considered for replacement.

Currently, this project is funded in the KYTC's Recommended Six-Year Plan for design (2003), right of way (2005) and utilities (2005) with no money designated for construction. Since state money is allocated for use on this project with no anticipated federal funding, a Section 4(f) evaluation and Section 106 with public involvement are not required. Ms. Fiegel stated that a 4(f) statement could add 2-4 years to the life of a project.

In light of the historical renaissance survey and traffic analysis, it was determined that spot improvements instead of corridor widening will be the suggested action for the US 62 intermediate planning study. The three locations to be investigated for spot improvement are the US 62/KY 181 intersection, the US 62/KY 171 intersection and the deficient horizontal curve west of the West End Cemetery.

Some concern was expressed regarding the changed scope of the project. As a result, HNTB will prepare the draft report (documenting the changed scope and spot improvements) for submittal to the KYTC by the end of June 2002. Concurrently, Ms. Fiegel will meet with Kentucky Historical Council representatives to solicit input regarding historically eligible properties.

Upon KYTC approval of the draft report, a second public meeting will be held. District 2 will prepare a story for release in the local newspaper containing project details and map(s) prior to the public meeting.

APPENDIX B – Resource Agency Responses

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

James C. Codell, III
Secretary of Transportation

Clifford C. Linkes, P.E.
Deputy Secretary

Paul E. Patton
Governor

December 18, 2001

(See Attached List)
«Name»
«Title»
«Organization»
«Address»
«City_State_Zip_Code»

«Salutation»:

The Kentucky Transportation Cabinet is requesting your agency's input and comments on the needs and potential impacts of a proposed highway project. We are asking for you to notify us of specific issues or concerns of your agency that could affect the development of project alternatives for future phases of the project described below.

We respectfully ask that you provide us with your comments by January 15, 2002, to ensure timely progress in this planning effort.

We believe that early identification of issues or concerns in your area of interest can help us select highway project alternatives that avoid or minimize negative impacts. The Intermodal Surface Transportation Efficiency Act (ISTEA) and Transportation Efficiency Act for the 21st Century (TEA-21) encourage early coordination between government agencies in order to streamline environmental reviews during the project development process. The Federal Highway Administration is partnering with us in these efforts.

The Kentucky Transportation Cabinet has assembled a study team to evaluate the effectiveness and environmental consequences resulting from the reconstruction of US 62 from KY 189 to KY 181 in Greenville, Muhlenberg County, Kentucky. The study is currently in the initial data-gathering stage. This request is intended to address public and agency concerns early in the project development process.

We have enclosed the following project information for your review and comment:

- A draft statement of Study Purpose and Project Goals
- Project Location Map

- Existing Traffic
- Accident Locations
- Environmental Overview (to date)

We understand that you may not be able to provide extensive detail at this time within the time requested, but we would like to receive enough information to identify the general nature and relative magnitude of each issue or concern. More detailed information will be gathered in the future phases, if any, of project implementation. Any input and/or insight you can provide concerning this proposed improvement would be welcomed.

We are also emphasizing the issue of environmental justice. The purpose of this emphasis is to ensure equitable environmental protection regardless of race, ethnicity, age, disability, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental impacts attributable to a proposed project. Therefore, if you have any information on this issue, please let us know if you are aware of any such groups or individuals in the project area that could possibly be impacted either positively or negatively.

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to David Martin of the Division of Planning at 502/564-7183 or at charles.martin@mail.state.ky.us. Please address all written correspondence to Annette Coffey, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 125 Holmes Street, Frankfort, KY 40622.

Sincerely,

Annette Coffey

Annette Coffey, P.E.
Director
Division of Planning

AC:CDM:RC

Enclosures

c: Jose Sepulveda (w/a)
Ted Merryman (w/a)
Nick Hall (w/a)
Steve Hoefler (w/a)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

January 10, 2002

Ms. Annette Coffey
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

Re: FWS# 2002-0709

Dear Ms Coffey:

Thank you for your letter and enclosure of December 18, 2001, concerning the proposed reconstruction of US 62 in Muhlenberg County, Kentucky. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and the following comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act (48 State.401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The Service is concerned that highway projects frequently accelerate erosion and sedimentation in streams, resulting in adverse effects to the aquatic environment. The use of heavy equipment to move earth and existing vegetation disrupts natural drainage patterns and exposes large areas of disturbed soil to erosion. Excessive sedimentation can clog stream channels and contribute to increased flooding. It can also increase water temperatures and cause oxygen demands which can damage or destroy fish and invertebrate populations. Deposition of sediment on the channel bottom also degrades aquatic habitat by filling in substrate cavities, burying demersal eggs, and smothering bottom organisms. In addition, turbidity, as induced by accelerated erosion and sedimentation, results in further damage to aquatic systems. Increased particulate matter suspended in the water column may drive fish from the polluted area by irritating the gills, concealing forage, and/or destroying vegetation that may be essential for spawning and cover habitat for particular species. Turbidity also degrades water quality by reducing light penetration, pH and oxygen levels, and the buffering capacity of the water. Degraded water quality may continue far downstream from the point where the erosion occurs.

Prevention of excessive sedimentation can occur only through application of Best Management Practices during daily construction activities. Rigid application of your agency's construction erosion control standards can preclude most sedimentation problems; however, in some cases, additional measures will need to be taken by on-site inspectors and construction representatives.

Information available to Service biologists does not indicate that wetlands exist in the vicinity of the proposed project. Our wetlands determination has been made in the absence of a field inspection and does not constitute a wetlands delineation for the purposes of Section 404 of the Clean Water Act or the wetlands conservation provisions of the Food Security Act. The Corps of Engineers of the Natural Resources Conservation Service should be contacted regarding the presence of regulatory wetlands and the requirements of wetlands protection statutes. We also recommend that any necessary stream channel work be held to a minimum and that Best Management Practices be utilized and enforced, effectively controlling erosion, sedimentation, and other potential hazards. The following conditions are specifically recommended:

1. Erosion and sediment control measures, including but not limited to the following, should be implemented on all vegetatively denuded areas:

   A. Preventive planning: A well-developed erosion control plan which entails a preliminary investigation, detailed contract plans and specifications, and final erosion and sediment control contingency measures should be formulated and made a part of the contract.

   B. Diversion channels: Channels should be constructed around the construction site to keep the work site free of flow-through water.

   C. Silt barriers: Appropriate use should be made of silt fences, hay bale and brush barriers, and silt basins in areas susceptible to erosion.

   D. Temporary seeding and mulching: All cuts and fill slopes, including those in waste sites and borrow pits, should be seeded as soon as possible.

   E. Limitation of instream activities: Instream activities, including temporary fills and equipment crossings, should be limited to those absolutely necessary.

2. Concrete box culverts should be placed in a manners that prevents any impediment to low flows or to movement of indigenous aquatic species.

3. Channel excavations required for pier placement should be restricted to the minimum necessary for that purpose. Overflow channel excavations should be confined to one side of the channel, leaving the opposite bank and its riparian vegetation intact.

4. All fill should be stabilized immediately upon placement.

5. Streambanks should be stabilized with riprap or other accepted bioengineering technique(s).

6. Existing transportation corridors should be used in lieu of temporary crossings where possible.

7. Good water quality should be maintained during construction.

Efficient management practices can minimize adverse impacts associated with construction. It is important that these and other measures be monitored and stringently enforced. This will aid in preserving the quality of the natural environment.

Endangered species collection records available to the Service do not indicate that federally listed species or proposed endangered or threatened species occur within the impact area of the proposed project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that additional protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the requirements of Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under Section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you the opportunity to comment on this project. If you have any questions, please contact Sherry Williams of my staff at 931/528-6481, ext. 203.

Sincerely

Lee A. Barclay, Ph.D.
Field Supervisor

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

January 22, 2002

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Ky 40622

SUBJECT: Early Coordination - EPA comments on US 62 Intermediate Planning Study

Dear Ms Coffey:

The Environmental Protection Agency (EPA), Region 4, received your December 31, 2001 Initial Coordination document concerning the proposed highway improvement project. The document gives a general outline of the project, provides information general and project-specific environmental impacts and analysis procedures, and requests our input with regard to identifying potential issues of concern within the project area.

EPA's review of the NEPA document will consist of looking at environmental affects of the project on the water, air, land, wildlife habitat in the area. For your assistance, enclosed are preliminary scoping comments pertaining to the contents of a National Environmental Policy Act document. In addition, we also enclosed specific information regarding significant and priority ecological areas, environmental justice areas of concern, and general land cover types for the project area.

We appreciate your the opportunity to provide these preliminary comments. We look forward to reviewing the NEPA document that you develop for the proposed project.

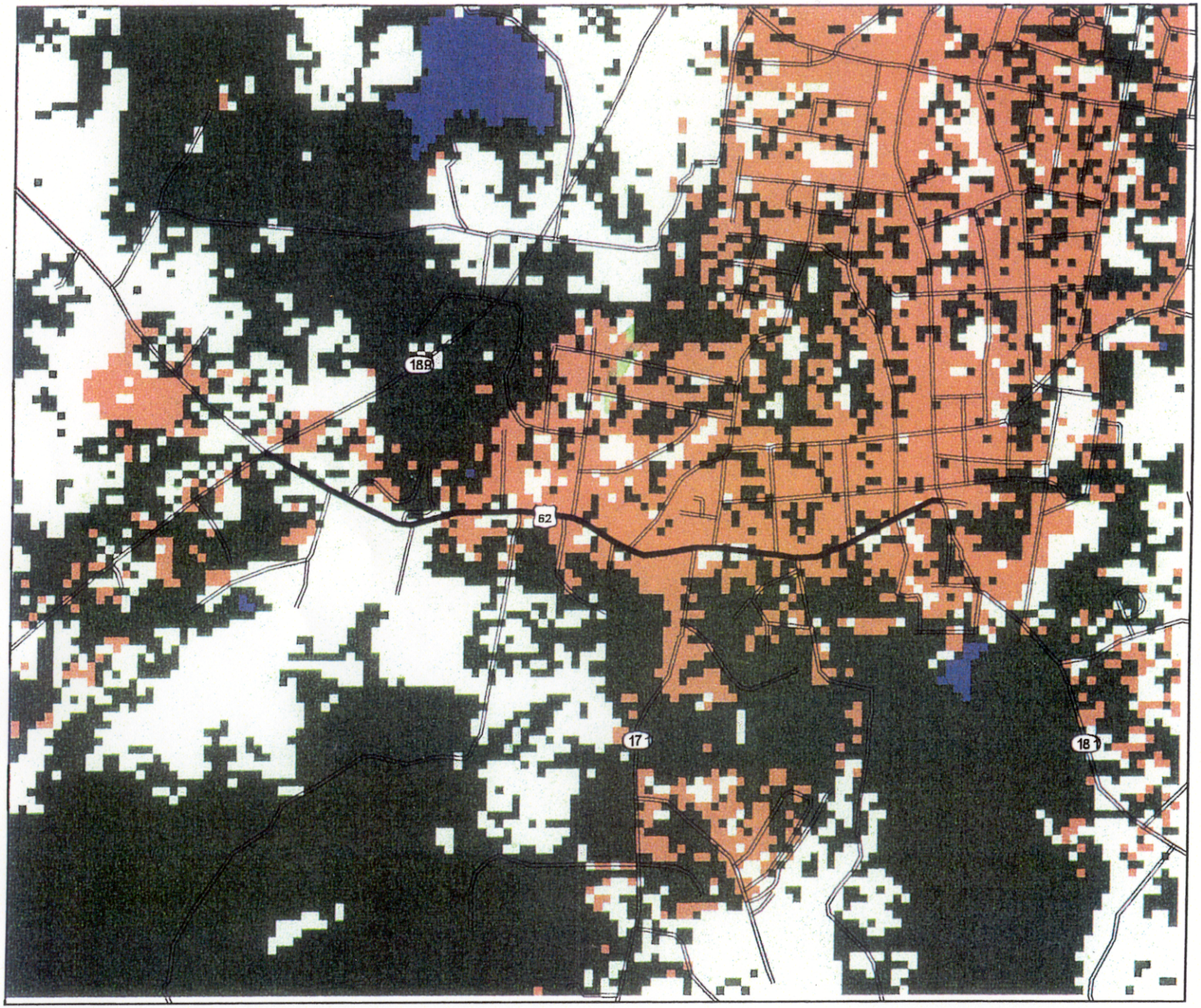
If you have any further questions or concerns, please contact Ntale Kajumba of my staff at (404) 562-9620.

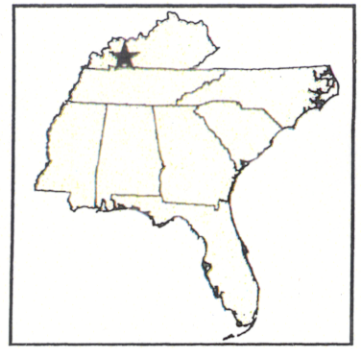
Sincerely,

Heinz Mueller

Heinz Mueller, Chief
Office of Environmental Assessment
Environmental Accountability Division

Enclosure:





GENERAL LAND COVER TYPES AROUND PROJECT AREA

- Project Location
- Roads
- County Boundaries

General Land Cover Types

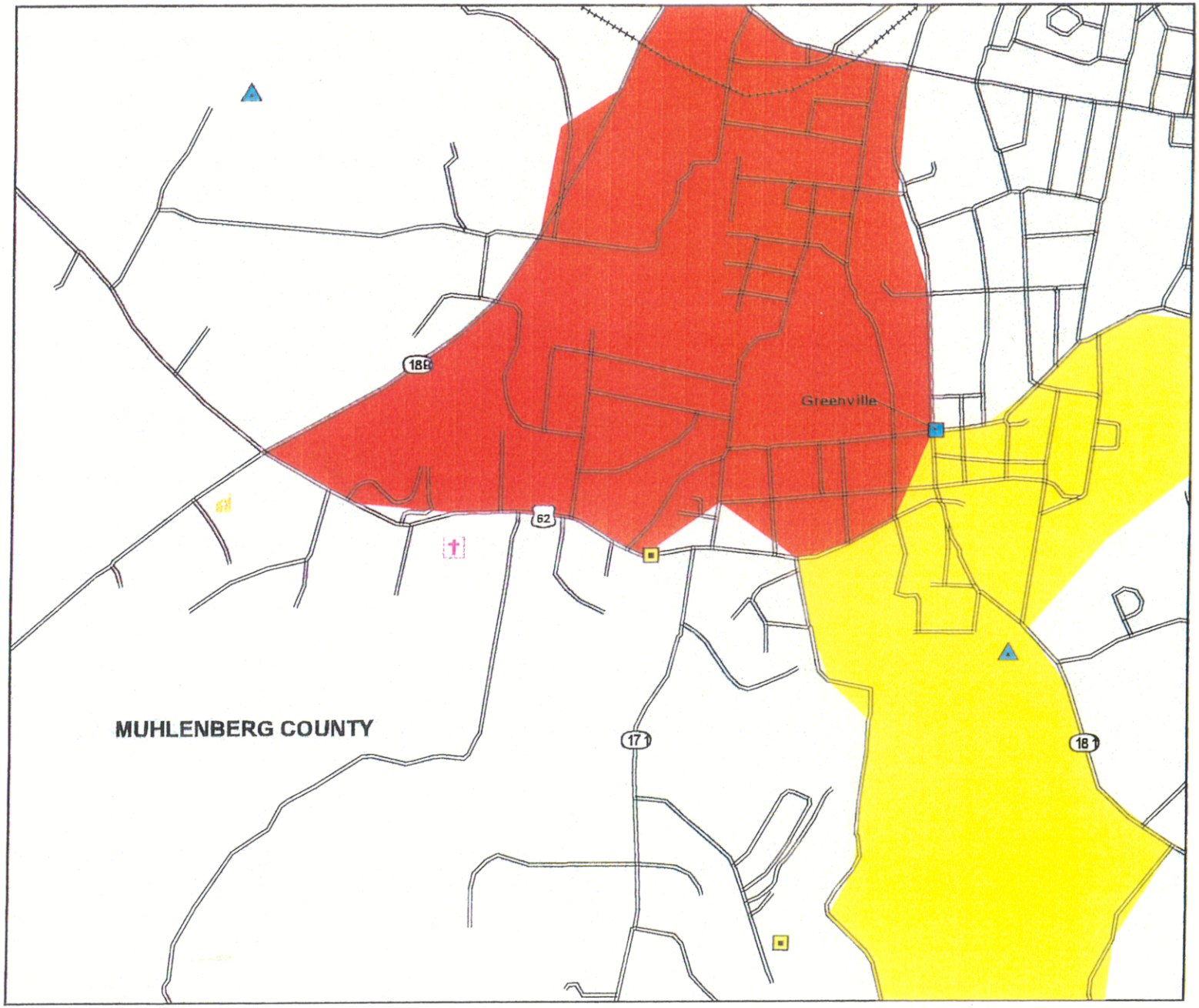
- Bare Rock/Soil
- Forest Land
- Grass Land/Row Crops
- Urban Areas
- Water
- Wetlands

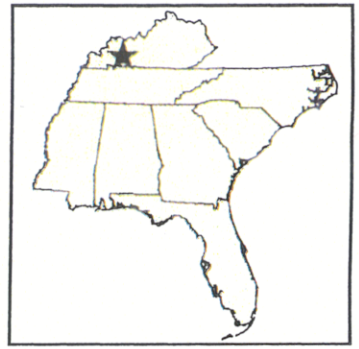
N

0.1 0 0.1 0.2 0.3 Miles

Source: National Land Cover Data 1992 (NLCD 92).
Resolution of the data is 30 meters.
Derived from the early to mid-1990s Landsat Thematic Mapper satellite data.
21 Original land cover clasess grouped into 6 general classes.

EPA REGION 4
ENVIRONMENTAL ACCOUNTABILITY DIVISION





POTENTIAL EJ AREAS AROUND PROJECT AREA

- Populated Places
- Churches
- Cemeteries

EPA Sites

- PCS
- RCRIS
- Railroads
- Roads
- Major Streams
- County Boundaries

Potential EJ Areas

- Low Income
- Minority
- Minority/Low Income
- Non-EJ Areas

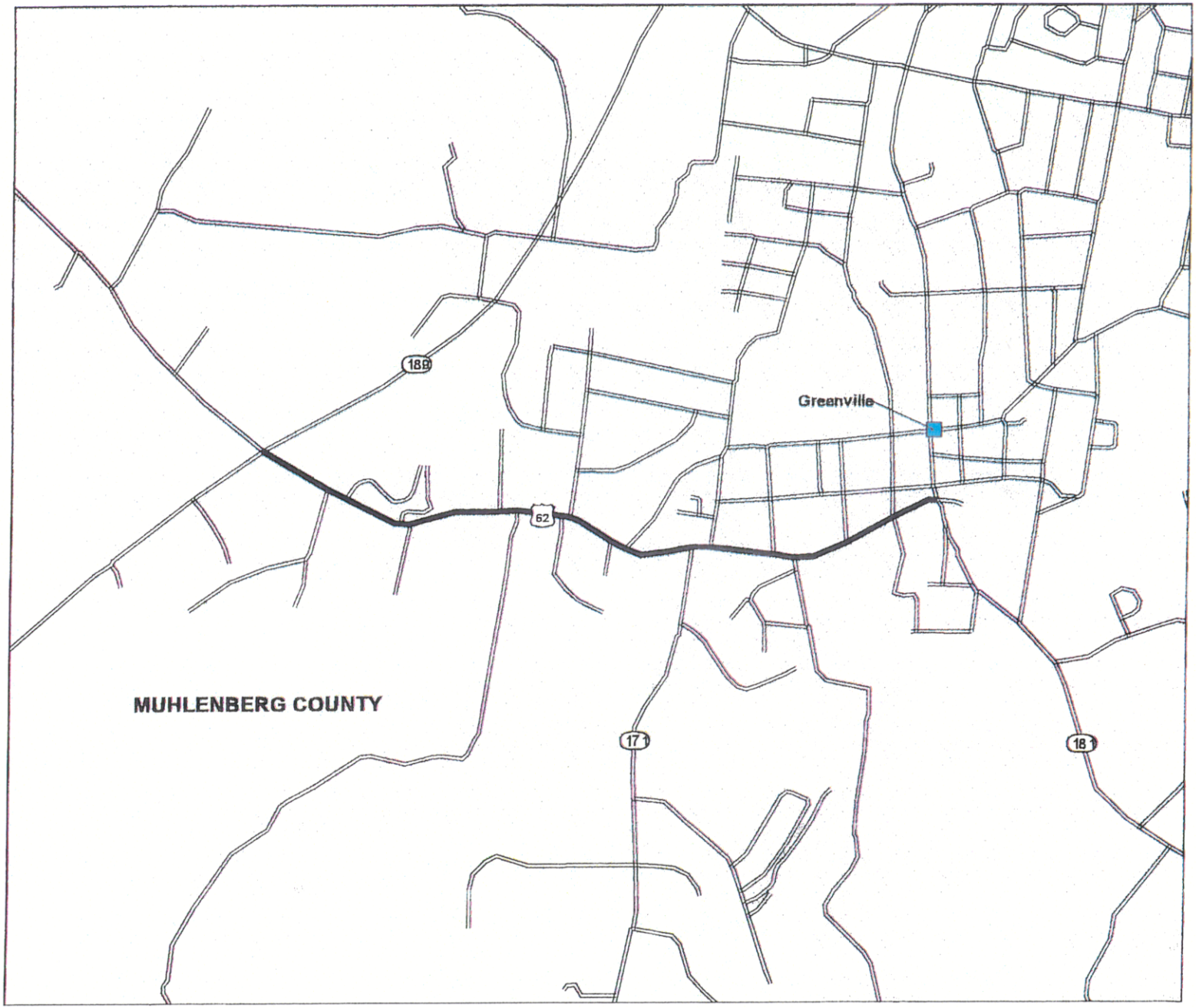
N

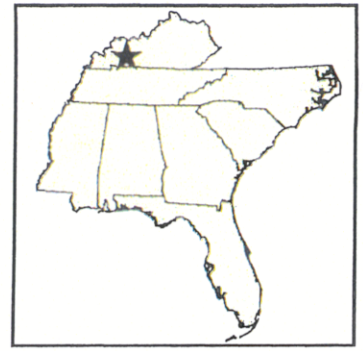
0.1 0 0.1 0.2 0.3 Miles

Source: 1990 U.S. Census Population and Housing Summary Tape File 3.
Aggregated to Block Group Level ~800-2000 People.

Relative State Minority Threshold: TN = 20.89% and MS = 44.30%
Relative State Low Income Threshold (15K): TN = 36.59% and MS = 47.09

EPA REGION 4
ENVIRONMENTAL ACCOUNTABILITY DIVISION





SIGNIFICANT AND PRIORITY ECOLOGICAL AREAS AROUND PROJECT AREA

- Populated Places
- Project Location
- Roads
- Major Streams

Priority Areas

Significant Areas

N

0.1 0 0.1 0.2 0.3 Miles

Source:
1. Southern Ecological Framework (SEF): U.S. Environmental Protection Agency and University of Florida, 2000.
2. 303d Listed Waters (TN and MS, 1998)

EPA REGION 4
ENVIRONMENTAL ACCOUNTABILITY DIVISION

ELEMENTS OF A NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENT FOR TRANSPORTATION PROJECTS

Project Need - The need, potential benefits and adverse effects of the proposed project should be clearly stated. Project impacts and impact mitigation are evaluated in the context of project need.

The document should identify the basic underlying transportation problems (deficiencies) or needs between the two logical termini for the SIU under consideration. Traditional traffic data or analysis should be presented to substantiate each identified need. For example: if the problem is congestion, then Level of Service (LOS) data should be presented to substantiate this issue. In addition, traffic numbers [e.g., LOS, vehicle miles of travel (VMT), vehicle hours of travel (VHT), etc.], if applicable, for existing (current) and future (20 year) forecasts should also be presented. The traffic analysis should include projected traffic volumes that would utilize the facility from the connecting roadways.

Any local need identified and substantiated should have measurable objectives that will be used to assess whether an alternative or combination of alternatives would reasonably meet (i.e., solve) the problems or needs identified in the document. The overall purpose and need statement, including these objectives, should be developed with input and concurrence from cooperating regulatory and resource agencies, as project alternatives, impacts, and impact mitigation are all evaluated in the context of project need.

Alternatives - If an Environmental Assessment (EA) is prepared, a minimum of one feasible action alternative as well as the No-Action Alternative should be considered. A draft Environmental Impact Statement (DEIS) should include a minimum of two feasible action alternatives which should be fully considered, in addition to the No-Action Alternative. Other alternatives that should be considered include Transportation System Management/Travel Demand Management alternatives which maximize the efficiency of existing highways or transportation networks. The analysis of alternatives is the *core* of the NEPA process.

(The NEPA document should also discuss the status of the adjacent roadways and identify and provide an analysis of different alternative termini locations within the Study Area in relation to the termini of the neighboring roadways.) EPA recommends that the Draft EIS should identify a preferred alternative. This minimizes some of the issues associated with rating every action alternative and enables us to provide a thorough review of the environmental issues associated with the selected alternative. The selected alternative should avoid or minimize adverse impacts, so that the need for mitigation of impacts will be lessened or eliminated. A critical factor of the analysis of alternatives is the avoidance or minimization of adverse impacts. When alternatives are rejected, a rationale for rejection should be provided. The rationales should include environmental reasons, along with other considerations.

Wetlands -The NEPA document should discuss the location, amount, type, and quality of waters of the U.S., including wetlands, in the study area, how they were delineated (i.e., U.S. Army

Corps of Engineers (COE), contractor, lead agency, etc.), and impacts to these resources for each action alternative. All discussions of waters of the U.S. should be broken out by rivers/streams and wetlands. Include maps, text, and tables that feature areas occupied by wetlands, aquatic systems, and non-wetland riparian habitat. Specific wetland and other waters of the U.S. requirements are as follows:

NEPA/404 Merger: If waters of the United States may be impacted by activities regulated by Section 404 of the Clean Water Act, EPA strongly recommends that the NEPA document contain a thorough discussion of the proposed project's consistency with Federal Guidelines for specification of disposal sites for dredged or fill materials [the 404(b)(1) Guidelines found at 40 CFR Part 230]. In order to demonstrate compliance with the 404(b)(1) Guidelines, the NEPA document should meet the following criteria to the extent possible:

- The proposed action must be the practicable alternative which would have the least adverse impact on the aquatic ecosystem [40 CFR 230.10(a)]. If wetlands would be filled, then the NEPA document should explain why there are no practicable alternatives to locating the project outside jurisdictional wetlands and demonstrate how the project has been designed to minimize harm to existing wetlands.

- The proposed action must not cause or contribute to significant degradation of waters of the United States including wetlands and other special aquatic sites [40 CFR 230.10(c)]. Significant degradation includes the loss of fish and wildlife habitat and the loss of other wetland habitat values and functions. Significant degradation also includes cumulative impacts.

- The proposed project does not violate state-adopted, EPA-approved water quality standards or jeopardize the continued existence of any species listed as threatened or endangered under the Endangered Species Act [40 CFR 230.10(b)].

- Minimize the number of acres subject to Section 404 jurisdiction that would be permanently lost or degraded due to impacts other than the placement of fill (e.g., the impacts of erosion, sedimentation and runoff of pollutants on wetland habitats; diversion of water from wetland habitats).

- Direct, indirect and cumulative impacts to these resources should be fully described.

Avoidance and Minimization: Impacts to wetlands and stream resources should be avoided and minimized to the maximum extent practicable. As described above, feasible alternatives that avoid wetland impacts should be evaluated consistent with the Section 404(b)(1) Guidelines. In addition, further fragmentation of remaining large contiguous undeveloped wetland or riparian areas should also be avoided. Special attention should also be given to avoidance and minimization of impacts in areas assigned special regional, state, or local designation or recognition (i.e. Scenic Rivers, wildlife management areas, etc.).

Characterization: Wetland types should be characterized using the hydrogeomorphic (HGM)

classification for wetlands (Brinson 1993) and augmented with vegetation and hydroperiod modifiers, such as those utilized nationally by Cowardin et al. (1979)[Citation information is included in Appendix A below]. Where sufficient documentation exists, wetland types and descriptors should follow regional or local protocol, such as those found in the Tennessee Wetlands Conservation Strategy (GIWC 1998). Stream types should be delineated according to the Rosgen classification of natural rivers (Rosgen 1994, 1996) which is based on the fluvial geomorphic condition of rivers and their valleys.

Where rivers and streams are not adequately evaluated by the wetland functional assessment methodology utilized, impacts to river and stream channels should be evaluated utilizing appropriate local or State conservation plans or strategies (i.e., KDOW 2001) or regional guidelines, such as the North Carolina Stream Mitigation Guidelines (NCWRC 1996, NCDENR 2001) or the Compensatory Stream Mitigation Standard Operating Procedure developed by the COE Savannah District (COESD 2000).

The NEPA document should also identify farmed wetlands (FW) and prior converted wetlands (PCW) in the project study area. The Natural Resources Conservation Service (NRCS) has determined which areas are PCW and which areas are considered FW. If the State DOT, NRCS, or private landowners cannot verify a PCW or FW designation (which happens often since these determinations were made many years ago), then a delineation should be completed based on the current conditions at the site. Mitigation will be required for impacts to farmed wetlands.

Quality: The quality of the wetland resources proposed for impact should be evaluated using a wetland functional assessment methodology. Where the appropriate guidebooks have been developed (e.g., Kentucky, Mississippi, and Tennessee), HGM should be utilized (Ainslie et al. 1999, Smith and Klimas 2000, Wilder and Roberts 1999). Where the appropriate HGM guidebooks have not been developed, equivalent functional assessment methodologies should be utilized.

Quantity: Impacts to wetlands and other waters should be appropriately quantified for each alternative considered in the EIS. For example, the amount of impacts to wetlands should be characterized in terms of acreage, while impacts to stream channels should be characterized in terms of linear feet of stream and stream order. Impacts for each alternative should be compiled to facilitate comparison.

Mitigation: A draft mitigation plan should be developed during the NEPA process to compensate for predicted wetland and stream losses that remain following efforts to avoid and minimize such impacts.

Wetlands: Wetland restoration is EPA's preferred mitigation option for impacts to wetlands. Wetland restoration is normally considered an action that successfully restores all three wetland parameters (hydric soils, hydrophytic vegetation, and wetland hydrology) to an area that was formerly a wetland, but where at least one of the aforementioned parameters has been removed. At a minimum, any restored site must meet the criteria outlined in the 1987 COE wetland delineation manual for a jurisdictional wetland (or the Clean Water Act

definition of a water of the U.S.). However, site selection and the specific restoration measures employed should be designed to replace the aquatic ecosystem functions lost or impaired due to the proposed project, and this may entail more than simply the three parameters.

Enhancement is the second preference for mitigation for impacts to wetlands. Enhancement measures must address a suite of functions, as opposed to only a single function, and the enhancement measures themselves must not adversely affect other wetland functions currently performed or capable of being performed by the mitigation site. EPA does not view the conversion of one wetland type to another as enhancement. As with wetland restoration, it is important to establish a baseline condition for a wetland prior to any action, and then establish measurable performance criteria to quantify the level of enhancement. The results of the aforementioned wetland functional assessment will assist in determining the appropriate type, location and amount of mitigation for impacts to wetlands.

Streams: Stream restoration is EPA's preferred mitigation option for impacts to streams. Stream restoration includes actions taken to correct previous alterations that have destroyed, diminished, or impaired the character and function of streams or rivers. Restoration is the process of converting an unstable, altered, or degraded stream channel to its natural or referenced stable condition, with consideration of recent and future watershed conditions. This process may include restoration of the stream's geomorphic dimension, pattern and profile and/or biological and chemical integrity, including transport of water and sediment produced by the streams' watershed in order to achieve dynamic equilibrium. Other components of stream mitigation may include riparian buffer restoration and preservation of appropriately buffered streams. The results of the aforementioned wetland functional assessment will assist in determining the appropriate type, location and amount of mitigation for impacts to stream assessment.

Location: While mitigation for otherwise disparate impacts may be clustered to provide the maximum level of ecological benefit, impacts in "special designation" areas or watersheds may require mitigation in the subject watersheds.

The mitigation proposal should include the proposed mitigation replacement ratio, the habitat value and proposed location of replacement habitats, general grading and revegetation plans and a biological maintenance and monitoring program. Clear mitigation goals and objectives and quantifiable criteria by which to judge the success or failure of mitigation should be provided. The proposal should include commitments to ensure the restoration, creation, and protection of wetland habitats of equal or greater resource value.

Water Quality - EPA is concerned about degradation of water quality in various waterways from erosion, siltation and other pollutants associated with road construction and operations. The NEPA document should discuss potential impacts to water quality, designated uses and biological resources from construction and operations of the proposed project. The discussion in the document should be of sufficient detail to determine which alternatives are environmentally preferable. Site-specific water quality problems need to be assessed in greater detail, if

applicable, including the adoption of site-specific mitigation measures to protect water quality and designated uses.

Protecting water quality ensures the protection of its designated uses. Especially critical is the protection of several sensitive uses. It is important to protect water quality in order to maintain freshwater and wildlife habitats, since many species are sensitive to the introduction of pollutants or the adverse modification of their habitats. It is also important to protect groundwater recharge and freshwater replenishment, particularly if public drinking water supplies could be adversely affected. These sensitive beneficial uses should be carefully considered when evaluating potential impacts caused by the placement of fill, erosion, sedimentation, the runoff of pollutants, and the accidental discharge of hazardous waste or toxic substances.

Characterization: The NEPA document should identify all surface waters that may be affected by the proposed project, as well as current drainage patterns in the project study area. The document should identify the existing and potential designated uses of these surface waters. Protected designated uses for streams, creeks, lagoons, tidal areas and other surface waters may include one or more of the following: cold and warm freshwater habitat; marine habitat; fish spawning and migration; shellfish habitat; wildlife habitat; preservation of rare, threatened or endangered species; groundwater recharge; freshwater replenishment; public drinking water supplies; agricultural supply; and water contact and non-contact recreation. Individual waterbodies in the vicinity of the project not meeting designated uses should be identified in the NEPA document. The causes and sources of the impairments should also be identified.

Critical habitat areas (wildlife feeding and drinking areas; fishery migration, spawning or rearing areas; sensitive aquatic habitats such as wetlands; riparian resources; critical habitat for threatened and endangered species) should be identified in the study area, including a description of the existing designated uses and resource values of these critical areas.

Impacts and Coordination: The document should discuss any proposed crossings of water bodies. In general, crossings should be minimized. Unavoidable crossings should be strategically placed to reduce harm by avoiding fish spawning areas, avoiding fringe wetlands, approaching at right angles to streams, etc. Impacts to critical habitat areas, described previously, that cannot be avoided should be discussed. The document should assess how altering drainage patterns and characteristics will affect drainage hydrology, surface runoff, erosion potential, soils vegetation, and water quality. The document should include an analysis of project effects on floodplains in the study area. This includes using maps prepared by the Federal Emergency Management Agency, National Flood Insurance Program, and other appropriate agencies to determine whether the proposed action is located in or will likely affect a floodplain. The document should discuss these impacts and also describe the alternatives considered. Compliance with Executive Order 11988 on floodplain management should be documented. EPA strongly recommends bridging of floodplains whenever feasible. Any wetland loss or other impacts contributing to loss of floodwater storage or retention functions should be appropriately mitigated with in-kind replacement of those functions.

The NEPA document should discuss how the project will comply with state and local water

quality management plans, state water quality objectives; and state-adopted, EPA-approved water quality standards. We encourage the DOTs to work closely with state water pollution control agencies, state fish and game agencies, the U.S. Fish and Wildlife Service (USFWS), and/or the National Marine Fisheries Service on issues related to water quality standards; the protection of water quality, designated uses and biological resources; mitigation and monitoring for adverse impacts. If the proposed project includes disturbance of five or more acres of land during construction, and point source discharges into waters of the United States (i.e., water bodies such as rivers, lakes, wetlands, etc.), coverage under an EPA stormwater National Pollutant Discharge Elimination System (NPDES) General Permit or state equivalent may be required. The state DOT should contact the appropriate state environmental agency for further information on the NPDES program.

In addition, Section 319 of the CWA requires states to assess nonpoint source water pollution problems, develop nonpoint source pollution management programs, and implement controls to protect and improve water quality and beneficial uses. The state DOT should work closely with appropriate state water pollution control agencies to determine what pollution control measures should be adopted to advance the state's nonpoint source management plans in the project area. Specifically, the status of development of Total Maximum Daily Loads (TMDLs) for any waterways in the study area should be identified and how the proposed project could affect implementation of restoration efforts in these watersheds.

Mitigation: The NEPA document should discuss what mitigation measures (e.g., nonpoint source controls) will be implemented to protect or improve water quality, designated uses, and biological resources. Mitigation measures related to protection of water quality should be tailored depending on the condition of the specific water resource as well as the severity of the potential impacts. Best Management Practices (BMPs) should be used to reduce erosion during construction and operation of the facility. In the vicinity of impaired surface water resources in the project area, all storm water runoff from the proposed roadway should be collected and treated before being discharged to surface waters. In other areas, typical BMPs, including the use of staked hay bales, silt fences, mulching and reseeding, and use of buffer zones along water bodies, are appropriate. The document should include an erosion control plan or reference the State erosion control regulations and a commitment to compliance. Compliance should include both BMP application and long-term maintenance.

Groundwater: For each alternative under consideration, the NEPA document should:

- Describe current groundwater conditions in the project area. Any likely impacts to groundwater quality and quantity from the proposed action should be assessed.

- Identify mitigation measures to prevent or reduce adverse impacts to groundwater quality and discuss their effectiveness. EPA encourages state DOT to work closely with state and local agencies which regulate the protection of groundwater resources (i.e., state health departments and water pollution control agencies.)

Sole Source Aquifers: Pursuant to Section 1424(e) of the Safe Drinking Water Act of 1974, all

Federal financially assisted projects which have the potential to contaminate designated sole source aquifers (SSA) are subject to EPA review. The NEPA document should identify if there is a designated sole source aquifer in the vicinity of the project and the potential for impacts to this sensitive resource. Transportation projects should be designed in a manner that will prevent the introduction of contaminants into the SSAs in quantities or concentrations which may create a significant hazard to public health. The document should determine whether the proposed project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health, or which may require a public water system to install additional treatment to prevent such adverse effect.

Public Water Supply Systems: A concerted effort should be made to avoid locating capacity adding transportation projects within water supply recharge of defined critical areas associated with water supply impoundments and intakes. If unavoidable, any projects that are located in these areas should be carefully designed to avoid or minimize any adverse effects from accidental spills and runoff. Source water protection areas are areas defined and delineated by each state for the purpose of geographically identifying the surface and ground waters currently used as a source of public drinking water. States are required by the Safe Drinking Water Act, through EPA-approved Source Water Assessment Programs (SWAPs), to conduct a source water assessment at every public water supply in each State. State deadlines for completing source water assessments are dependent upon each state's SWAP approval date.
Best Management Practices (BMPs) should be used to reduce erosion during construction. Typical BMPs include the use of staked hay bales, silt fences, mulching and reseeding, and appropriate buffer zones along water bodies. The document should include an erosion control plan or reference the State erosion control regulations and a commitment to compliance. Compliance should include both BMP application and maintenance.

The document should discuss any proposed crossings of water bodies. In general, crossings should be minimized. Unavoidable crossings should be strategically placed to reduce harm by avoiding fish spawning areas, avoiding fringe wetlands, approaching at right angles to streams, etc. If the proposed project includes disturbance of five or more acres of land during construction, and point source discharges into waters of the United States (i.e., water bodies such as rivers, lakes, wetlands, etc.), coverage under an EPA storm water National Pollutant Discharge Elimination System (NPDES) General Permit may be required. Contact your state environmental agency for further information on the NPDES program.

Noise -*Construction Noise:* The NEPA document should document construction noise attributable to the project. Typical noise levels produced by construction equipment (e.g., trucks, front end loaders, pile drivers, etc.) within 50 feet, which are available in the literature, should be disclosed. The total project construction time (months, years) should also be estimated in order to help assess the magnitude of the construction noise impact. Attempts should also be made to estimate the temporary construction time associated with any one feature along the ROW or section thereof. For example, how long is construction expected to take near any given affected residence or for an average mile of roadway? This information will allow affected residents to approximate their degree of noise disturbance during construction.

Although temporary, construction noise should be reasonably mitigated in the vicinity of residential areas or other noise-sensitive land uses. Preferably, construction should not start before 7:00 AM or continue after 7:00 PM during the work week (5-6 days) and should be discontinued on Sundays and on locally-observed federal and/or state holidays. In addition, the use of "hush houses" should be considered around any stationary equipment to shield noise at its source, and all motorized equipment should be properly tuned to the manufacturer's specifications for additional source reduction. All construction equipment should be equipped with noise attenuation devices, such as mufflers and insulated engine housings. Such mitigative methods should be made a contractual obligation that is periodically reviewed in the field by FHWA/DOT or third-party inspectors.

Highway Noise: The NEPA document should predict what noise levels can be expected from the project, and the distance to the closest residence/receptor. Background (ambient) noise levels should also be included in the document. EPA prefers that noise impacts are measured using the Leq(h) metric since it provides an average level during peak traffic periods as opposed to the L10 metric which provides a less specific level that is not exceeded more than 10 percent of the time. The noise analysis should also estimate the projected incremental increase of noise. EPA considers increases over 10 dBA from existing levels as a significant increase. Comparisons to any noise guidelines (e.g., FHWA, HUD) or city ordinances are also appropriate. EPA has a *target* noise level (not a guideline or standard) of DNL 55 dBA for outdoor areas where people spend a varying amount of time (such as residences). In addition, OSHA regulations apply for all employees affected by job noises.

Noise abatement should be considered by FHWA when project noise impacts meet or exceed the existing noise levels by 10 dBA (especially if the existing noise levels are 50 dBA and above). Forms of noise and/or visual mitigation include, but are not limited to, vegetative screens, vegetated earthen berms (suburban areas), fabricated noise barriers, and alignment shifts. Avoiding noise impacts via alignment shifts is frequently more effective than mitigation.

Environmental Justice (EJ) - *Background:* Executive Order 12898: (*Federal Actions to Address in Minority and Low-Income Populations)* requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of federal programs on minority or low-income populations. The general purpose is to foster non-discrimination in federal programs and to provide minority and low-income communities greater opportunities for public participation in, and access to public information regarding human health and environmental issues.

In an effort to determine whether there are potential environmental justice (EJ) areas of concern (areas that have high levels of minority and/or low-income populations relative to the reference area), the demographic characteristics of the proposed project area are examined. Information regarding potential EJ areas identified in the screening process is used to ensure that these communities have access to both concise and clear information sufficient to effectively participate in the public involvement process and to ensure that these communities/areas are not disproportionately adversely affected by this project area. Consistent with Executive Order 12898, potential EJ impacts should be considered in the NEPA document. The following items

should be incorporated into all EJ analyses related to the proposed project

Demographic Characterization: The NEPA document should identify potential EJ areas of concern. Appropriate geographic boundaries surrounding the communities that may be potentially impacted by the proposed project must be identified. General screening to identify potential EJ areas involves comparing the minority and low-income characteristics of smaller geographic areas (project area) with those of a larger geographic areas (reference area). U.S. Census data for 1990 (or more recent data if possible) should be used for the minority and low-income analysis. Data should be collected at the block group level for the project area and the county, metropolitan statistical area, or state for the reference area. The block group data level should be used because it provides the best combination of demographic accuracy and data accessibility. The appropriate reference area should be selected based on the scope and intent of the project. The NEPA document should indicate what demographic threshold or methodology was used to determine whether low-income and/or minority populations exist in the study area. EPA recommends the use of a relative threshold in EJ analyses for determining significant minority and low-income populations. The relative threshold recommended for use is at least 1.2 times the State Average of minority populations and low-income populations.

The following information includes some data sources or tools that may be used to identify low-income and minority communities:.

- Maps provide by state, county and local agencies that delineate political and population boundaries
- U.S. Census Bureau geographic data
- Sources such as Chambers of Commerce, civic groups, trade associations and commercial organizations
- Standard demographic surveys that identify minority and low-income populations
- Local resources such as community and public outreach groups, community leaders, state universities
- Tools such as maps, aerial photographs and geographical information systems
- EPA Enviro mapper

Environmental Characterization and Impact Assessment: If percentages of low-income or minority populations are elevated within the project area, alternatives should be considered that avoid or minimize impacts to potential EJ areas. The issue of disproportionately high and adverse impacts should also be evaluated in the document by comparing environmental impact data to EJ information for highway segments. Adverse effects are defined as "disproportionate" if the risk of adverse environmental impacts are predominately borne in areas with minority or low-income populations or if the impacts are greater in magnitude in areas with minority or low-income populations than in other areas. When analyzing these impacts, it is important to assess both the negative and positive impacts, consider both the short and long-term effects as well as the secondary and cumulative impacts. One of the most detrimental aspects of controlled access can be to divide defined communities regardless of whether they are EJ communities. This potential impact must be assessed.

Public Involvement: If impacts are unavoidable, EPA recommends that coordination with these affected populations be conducted to determine the affected population's concerns and comments regarding the proposed project. This coordination should include a clear discussion of the project, project updates or expansions, environmental impacts, any economic benefits (job opportunities, etc.) of the project to the affected population, and the opportunity for informal and/or formal comments (e.g., EIS scoping meetings, public hearings, or other public meetings). Because public involvement is an important part of the NEPA process, we recommend early coordination and involvement with potential EJ communities that may be impacted by the project. Regardless of the makeup of the affected population, impacts of the project should be controlled so that significant effects on human health are avoided and/or minimized.

Maps: The NEPA document should contain maps of potential EJ areas of concern within the proposed project corridor. Maps for the route should evaluate population density, minority status, and low-income status.

Example (Segment 9) - Based on preliminary EJ screening analysis using 1990 Census data

Air Quality - The NEPA document should contain a discussion of the regulatory transportation air quality requirements, regional air quality concerns in the project area, and a localized carbon monoxide (CO) analysis. The document should assess existing air quality conditions in terms of National Ambient Air Quality Standards (NAAQS), Federal Prevention of Significant Deterioration (PSD) increments, and state air quality standards (particularly if they are more stringent than the federal regulations). Any aspects of the project that could adversely affect air quality, in terms of creating new violations of Federal air quality standards, increasing the frequency and severity of existing violations of the standards, or delaying attainment of the standards should be identified. All emissions resulting from the project must be in compliance with applicable air quality regulations, particularly the NAAQS for criteria air pollutants [e.g., ozone, carbon monoxide (CO), nitrogen oxides, sulfur dioxide, lead and particulate matter (PM)] in designated non-attainment or maintenance areas.

Mesoscale Concerns: Ozone, hydrocarbons, and nitrogen oxides air quality concerns are regional in nature and as such meaningful evaluation on a project-by-project basis is not possible. Therefore, the EIS should include a discussion of regional air quality conditions, depending on the location of the project, as described below:

Non-attainment/Maintenance Areas: If the project is located in a nonattainment or maintenance area, the EIS must document that provisions of 40 CFR Part 93 Subpart A, Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Project Development, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws, have been satisfied. For example, the project should be included in a Long Range Transportation Plan (LRTP) and/or Transportation Improvement Program (TIP) that is in conformance with an approved State Implementation Plan (SIP). The relationship of the project to the SIP should be described in the EIS. Specifically, the EIS must show that the project (without significant changes to the scope and/or design) has been included in the LRTP and/or TIP, and that FHWA has issued a conformity determination for the most recent

SIP.

Attainment Areas: If the project is not located in a nonattainment or maintenance area, the EIS should make a negative declaration for Section 176(c) of the Clean Air Act. In this case, the provisions of 40 CFR Part 93 Subpart A, Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Project Development, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws, will not apply.

Microscale (Project-level) Concerns: The primary pollutant that is analyzed at the project stage is carbon monoxide. Therefore, CO emissions must be addressed by a localized hot spot analysis. The locations and level of detail for conducting analyses should be collectively determined by the affected agencies. The requirements of 40 CFR Part 93 Subpart A for carbon monoxide emissions must be satisfied. A localized PM-10 quantitative hot spot analysis will not be required until EPA releases modeling guidance in the Federal Register.

The document should indicate whether coordination with state/local/regional air pollution control agencies on air quality planning, air quality modeling, compliance with federal/state air quality standards, the need for air permits, air quality monitoring, and mitigation for adverse impacts has occurred. Parties which will be responsible for implementing air quality mitigation measures should be identified in the document.

Construction: The documentation should indicate that construction equipment will be tuned to manufacturer's specifications to reduce air emissions. In addition, open burning should be avoided or minimized since such emissions are precursors to ozone. If open burning occurs, coordination with the state and/or county regarding permitting needs should documented in the NEPA document. The NEPA document should also discuss the types and effectiveness of any mitigation measures that will be used to protect air quality (e.g., vapor recovery systems, fumes incinerators, and dust control measures) during the construction phase. We recommend water for fugitive dust control during construction, instead of oils and other chemicals.

Archeological and Historic Property - Pursuant to the Historic Preservation Act, federal agencies should identify and determine the effect of the action on any district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places. The NEPA document should demonstrate that proper coordination with the State Historic Preservation Office (SHPO) has occurred. EPA encourages use of the NEPA process as a mechanism for compliance with Section 106 of the National Historic Preservation Act. A thorough cultural resource survey should be conducted that identifies existing and potential historic properties in the area of potential effects (APE). The APE should include areas with potential secondary and cumulative impacts associated with the project. The NEPA document should discuss mitigative procedures for events such as unearthing archaeological sites during prospective construction. Such procedures should include work cessation in the area until SHPO approval of continued construction.

Consideration of Tribal Interests: If it appears a project has the potential to affect a site to which a tribe "attaches religious and cultural significance", regardless of the location of the property,

there needs to be consultation with the tribe. The property does not have to be located on the current "tribal land," according to the revised 36 CFR Part 800. It should also be determined whether or not the tribe involved has a designated Tribal Historic Preservation Officer (THPO). If so, the THPO will have assumed the responsibilities of the SHPO for Tribal lands.

Biodiversity/Natural Areas - Biodiversity is defined as the variety of plants and animals (biota) of a site or region, and is typically measured by the number of different species and number of individuals per species. In general, the more diverse an area (number of habitat types and animal inhabitants) and the better represented these components are (population counts), the more rigorous (resistant, undisturbed, natural, "healthy") the area is considered. Consistent with CEQ guidance, the NEPA document should discuss biodiversity aspects of the proposal as appropriate. For example, will the project increase, restore, or decrease biodiversity of the area or region? Coordination with the USFWS and the state fish and wildlife agency is recommended regarding the design of any project mitigation areas to enhance or restore biodiversity.

In addition to important natural areas, other critical environmental resources may exist in the project area, such as national and state parks/refuges, wildlife management areas, and other important habitat and greenspace areas on private lands. However, successful protection of natural resources requires more than "spot" conservation of isolated highly valuable and sensitive ecological areas, but also the links between them. One of the biggest threats to the environment is loss of ecosystem functionality due to fragmentation. Roads, agriculture and other development often lead to cutting natural systems into smaller pieces. Large, contiguous tracts of natural land are required not only for species habitat range, such as migratory birds or black bears, but for ecosystem function. Many ecological processes require large areas of land, often crossing more than one land cover type. Viable landscape linkages are needed to connect these different land types, or the processes are disrupted and their capabilities to function healthily are compromised. For these reasons, conservation must take on the new challenge of not only protecting pristine areas, but ecological connectivity as well.

EPA strongly encourages utilization of existing roads and discourages placement of new interchanges in the vicinity of these areas to minimize potential direct and indirect impacts to these important conservation areas and other important connecting ecological areas. Any proposed routing of new alignment should be sited to minimize fragmentation of forested areas or other important natural resources in the project areas. Appropriate compensatory mitigation for impacts to these resources or loss of critical ecosystem functions should be addressed in the NEPA document. Coordination between the appropriate EPA Regional Office and other natural resource agencies in the project area is encouraged to identify important areas, habitat connections, and potential mitigation opportunities.

Endangered Species - EPA defers to USFWS regarding assessments of federally-protected endangered species because the USFWS is the responsible agency for endangered species compliance. However, the NEPA document should demonstrate adequate coordination with the USFWS as part of the identification of any listed species in the project area, the potential for adverse effects, and any measures taken to avoid and minimize these impacts. "Adequate coordination" includes either a concurrence letter from USFWS or a biological opinion from

USFWS for the species concerned. Mitigation measures (including reasonable and prudent measures) should be incorporated in the appropriate places in the NEPA document. Early coordination with the USFWS is recommended.

Cumulative Impacts - NEPA requires the analysis and disclosure of the direct, secondary and cumulative impacts of major federal actions on the environment. While the direct impacts of transportation projects may or may not be significant, the secondary or indirect effects of the project on land use and the subsequent environmental effects can be both temporally and geographically more extensive. Similarly, there could be cases where the cumulative impacts would be great due to existing environmental conditions or other projects planned in an area. With respect to transportation projects, which both serve and induce land use changes, the analysis of these changes and the subsequent environment impacts is important to understand the total impact of the federal action on the natural, cultural and socioeconomic environment. Consideration of secondary and cumulative impacts requires the assessment of an area's ability to absorb additional development, the loss of businesses or residences, or if the watershed can absorb the loss of additional wetlands.

The NEPA document should examine the relative impacts of the various alternatives on potential land use changes. It should not only identify areas for development potential in the project study area, specifically in the vicinity of proposed interchanges, but also the secondary environmental impacts of the projected land use change associated with improved access and economic development. For example, what will be the secondary impact on service-related businesses along existing roadways through towns that will be bypassed? The specific environmental impacts at these areas should be quantified and compared between alternatives, as much as possible. In particular, if there are important existing natural resources, such as high quality wetlands or wildlife habitat, in the vicinity of proposed access points for any of the alternatives, these areas should be identified for potential acquisition as mitigation sites.

The NEPA document should estimate the cumulative impacts associated with the proposed project. Cumulative impacts include the additive effects of a given parameter for all contributing projects in the area, as well as the cumulative impact of all parameters for all projects in the area. The document should define what cumulative impacts would result from implementation of the proposed project. Existing or future projects (federal and non-federal projects) with attendant pollutants should also be considered. EPA also suggests that the spacial/temporal criteria of the analysis be given and that they be uniform throughout the analyses of the interstate highway project, if appropriate given the varied terrain.

As an organizational approach, EPA recommends discussion of the secondary and cumulative impacts of each of the alternatives within each impact section, as opposed to a separate section at the end of the "Environmental Consequences" section. A specific break-out of the direct, indirect (secondary), and cumulative effects is suggested.

Martin, David (KYTC)

From: Canterbury, Brenda [Brenda.Canterbury@em.doe.gov]
Sent: Friday, February 22, 2002 11:25 AM
To: 'charles.martin@mail.state.ky.us'
Cc: Brown, Patricia (EM-20)

Dear Mr. Martin:

This message is in response to a letter dated December 18, 2001, to David Huizenga, Deputy Assistant Secretary for Integration and Disposition, Office of Environmental Management, U.S. Department of Energy. The letter was forwarded to me for a response. I apologize for the delay in responding; like other Federal offices in the D.C. area our incoming mail is sanitized, and this sometimes results in substantial delays in receipt. In a recent conversation with a member of my staff, Mr. Daryl Greer of your office indicated an electronic mail response would be appropriate.

We have evaluated the material you sent regarding the reconstruction of US 62 from KY 189 to KY 181, and we have no specific comments at this time. However, the Department of Energy does have an interest in roadway safety and upgrades, as they benefit shippers and usually pose no problems to the Department's shipments during construction, assuming appropriate detours are available if necessary.

If you have any questions, or if we can provide you with any further information, please contact me on (301) 903-2102.

Sincerely,

J. Kent Hancock, Director
Office of Transportation
Office of Integration and Disposition
Office of Environmental Management
U.S. Department of Energy

U.S. Department of Transportation
United States Coast Guard

Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314) 539-3900, Ext 382
FAX: (314) 539-3755

16593.22
3 January 2002

Ms. Annette Coffey, P.E.
Director, Division of Planning
Commonwealth of Kentucky
Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Subj: RECONSTRUCTION OF US 62 FROM KY 189 TO KY 181 IN GREENVILLE, MUHLENBERG COUNTY, KENTUCKY

Dear Ms. Coffey:

Please refer to your letter of December 18, 2001. After reviewing the plans that you submitted we have determined that this project does not cross waterways over which the Coast Guard exercises jurisdiction for bridge administration purposes. A Coast Guard bridge permit is not required.

I appreciate the opportunity to comment on the proposed improvement project. Should you have any questions, contact Mr. David Orzechowski at (314) 539-3900 Ext. 382.

Sincerely,

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

U.S. Department
of Transportation
**Federal Aviation
Administration**

Airports District Office, FAA
3385 Airways Blvd., Suite 302
Memphis, Tennessee 38116-3841
(901) 544-3495 FAX: (901) 544-4243
Email: 9.aso-mem-ado@faa.gov

January 8, 2002

Ms. Annette Coffey, P. E., Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Dear Ms. Coffey:

This is in response to your letters to Ms. LaVerne Reid of this office dated December 18, 2001 requesting information on any impacts to Federal Aviation Administration (FAA) facilities or public use airports resulting from:

1. the reconstruction of KY 30 from US 421 near Tyner, KY to KY 11
2. the reconstruction of US 62 from KY 189 to KY 181 in Greenville, KY.

There are no public use airports in the immediate vicinity of this proposed project. As long as construction activities do not exceed 200 feet in height above ground level, there will be no impacts on FAA programs and no Notice of Proposed Construction will be required.

Thank you for the opportunity to review the proposal.

Sincerely,

Michael L. Thompson
Program Manager

COMMONWEALTH OF KENTUCKY
HOUSE OF REPRESENTATIVES

BRENT YONTS
15TH Legislative District

January 14, 2002

Ms. Annette Coffey, Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

Mr. Ted Merryman, Chief Engineer
District Two, Kentucky Transportation Cabinet
1840 North Main Street, Drawer D
Madisonville, Kentucky 42431

Dear Ms. Coffey and Mr. Merryman:

I am writing you concerning the KY 189 Scoping Study and the HWY 62 Scoping Study that was recently presented to Muhlenberg County.

The Scope of the proposed HWY 62 project I believe, is non-doable because of the intensity of the utilities along the right-of-way, and the closeness of the houses to the streets. To widen this road would essentially destroy this neighborhood. The obvious answer is to build a southern by-pass around Greenville extending from the exterior of the city in the west and joining it on the east at HWY 176.

Nevertheless, improvements can be made by making additional turning lanes at the intersection of US 62 West, KY 181 South, and South Main Street, Greenville. Further, the very sharp turn there just a short distance into HWY 62 West, across from Philly's restaurant should be straightened and the telephone pole taken out of the street.

EDUCATION PAYS

Committees: Chair - Government Contract Review, Vice Chair - Judiciary, Natural Resources and Environment, Labor and Industry
Frankfort Office: Room 313C, State Capital Annex, Frankfort, Kentucky 40601, (502) 564-8100, Ext. 686
Greenville Office: P.O. Box 370, Greenville, Kentucky 42345, (270) 338-0816

Finally, widening once one is out of the city is possible, and this would increase the flow out of the city. I believe that this is all that can be done in this area do to the housing situation. There is, however, the possibility that Russell Street, which joins HWY 62 West from West Main Cross, could be improved and this would alleviate some of the traffic congestion on the street.

In regard to HWY 181 from the West Kentucky to HWY 601, I believe that there should not be too much difficulty in widening this road and providing turning lanes at intersections. This is dangerous territory with the high impact of school buses and school traffic each day. It is also compounded by trucks which travel to the West Kentucky and also by military vehicles in the area. Widening this road and adding turning lanes would greatly enhance it.

I hope this letter answers the concerns you had in your December 12, 2001, letter and this information will be helpful as you make your final decisions.

Sincerely,

Brent Yonts
State Representative

BY:rm

C-17 Geotech
WILSON

RECEIVED
TRANSPORTATION CABINET
DIVISION OF PLANNING
JAN 15 9 43 AM '02

MEMORANDUM P-3-2002

TO: Annette Coffey, P.E.
Director
Division of Planning

FROM: William Broyles, P.E.
Geotechnical Engineering
Branch Manager
Division of Materials

BY: R.T. Wilson, P.G. R.T. Wilson
Geotechnical Branch

DATE: January 10, 2002

SUBJECT: Muhlenberg County
US 62, From KY 189 to KY 181@ Greenville
Intermediate Planning Study
Item No. 2-138.00

At your request, personnel from the branch have completed a preliminary office review of the subject project.

Pennsylvanian age rocks of the Carbondale Formation consist of an alternating series of sandstone, shales, and coals. Sandstones are generally characterized as brown in color, fine to medium grain size, in beds from 1 inch to greater than 30 feet in thickness and friable. Friable sandstones are not suitable for rock roadbed and lift heights of 1 foot for embankment construction is recommended for stable fills. Non-durable shale or clay shales are present throughout the project. Subgrades constructed from non-durable shales can be improved using type III filter fabric and aggregate in urban areas and cement stabilization in rural areas.

A review of available mine maps indicates the proposed corridor has no strip-mines or underground mines present. A mineral evaluation study will not be required after a preferred alignment is selected.

Embankment benches will be necessary in sidehill conditions. Limestone or sandstone (2.0' minimum) should be placed on the benches for drainage.

Regional dip is from the south to the north, making saturated soil conditions possible on the south side of hollows. Wet embankment foundations can be corrected using type III filter fabric and 2-3 feet of aggregate.

This project is in a classified Seismic Risk Zone 3, which is defined as an area of high damage due to earthquake activity.

If there are questions please advise.

PAUL E. PATTON
GOVERNOR

CABINET FOR WORKFORCE DEVELOPMENT
OFFICE OF THE SECRETARY
CAPITAL PLAZA TOWER, 2nd FLOOR
500 MERO STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-6606 FAX (502) 564-7967

ALLEN D. ROSE
SECRETARY

January 14, 2002

Ms. Annette Coffey, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40601

Dear Ms. Coffey:

The Cabinet for Workforce Development appreciates the opportunity to comment on the possible reconstruction of US 62 from KY 189 to KY 181 in Greenville; reconstruction of KY 181 from KY 189 to the Western Kentucky Parkway in Muhlenberg County; and reconstruction of KY 30 from US 421 near Tyner to KY 11 in Booneville. At this time, the proposed projects do not affect the Cabinet and its agencies.

Again, thank you for the opportunity to comment.

Sincerely,

Allen D Rose

Allen D. Rose
Secretary

ADR/SGS

Martin, David (KYTC)

From: Juett, Kalem (KYTC)
Sent: Tuesday, January 22, 2002 1:28 PM
To: Coffey, Annette (KYTC)
Cc: Bourne, Vickie (KYTC); Mayeux, Gail (KYTC)
Subject: Proposed Highway Project Item No. 2-183.00

Ms. Coffey,

Please be advised that the Subject project will not have an adverse impact on Public Transit.

Reference: Reconstruction of U.S. 62 Intermediate Planning Study
From KY 189 to KY 181
Muhlenberg County
Item No. 2-138.00

Thank you,

Kalem W. Juett
Program Coordinator
Transportation Delivery
kjuett@mail.kytc.state.ky.us
Buckle Up

Martin, David (KYTC)

From: Dixon, Carl (KYTC)
Sent: Wednesday, January 23, 2002 9:59 AM
To: Jimmy Wilson; Daryl Greer; Ted Grossardt; Jim Simpson; Charles Martin
Subject: FW: Words from Transportation Delivery - no impact on Transit

For your info and files ... but they didn't say if there might be a positive impact.

-----Original Message-----
From: Coffey, Annette (KYTC)
Sent: Tuesday, January 22, 2002 2:37 PM
To: Dixon, Carl (KYTC)
Subject: Words from Transportation Delivery - no impact on Transit


Proposed Highway Project Item ...


Proposed Highway Project Item ...


Proposed Highway Project Item ...


Proposed Highway Project Item ...


Proposed Highway Project Item ...

Annette Coffey, Director
Division of Planning
KY Transportation Cabinet
125 Holmes Street
Frankfort, KY 40601
502-564-7183
502-564-2865 (fax)
http://www.kytc.state.ky.us\planning\index.htm

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

James C. Codell, III
Secretary of Transportation

Clifford C. Linkes, P.E.
Deputy Secretary

Paul E. Patton
Governor

MEMORANDUM

TO: Annette Coffey, Director
Division of Planning

FROM: Michael L. Hill, Director
Division of Multimodal Programs

DATE: January 23, 2002

SUBJECT: Item No. 2-138.00
Reconstruction of US 62
Muhlenberg County

Thank you for the opportunity to comment on this Muhlenberg County project.

The coordination and connectivity of bicycle and pedestrian facilities is important in the early planning and design stages of projects. Design Guidance from the United States Department of Transportation in February, 2000, states "bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist."

The section of US 62 under consideration for reconstruction is almost entirely within the corporate city limits of Greenville. In order to provide connectivity within the city limits, pedestrian facilities should be constructed along this corridor. Greenville has a history of being a pedestrian-friendly city with the development of the longest rail trail (6 miles) in Kentucky.

Please contact Paula Nye of this Division, at (502) 564-7686, for information or questions about bicycle and pedestrian concerns.

We look forward to working with your Division to facilitate your study efforts in our SUA and MPO areas, and by increasing awareness of bicycle and pedestrian issues.

MLH/LJS/PEN/AJT

EDUCATION PAYS

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

James C. Codell, III
Secretary of Transportation

Clifford C. Linkes, P.E.
Deputy Secretary

Paul E. Patton
Governor

MEMORANDUM

TO: **Annette Coffey, P.E.**
Director
Division of Planning

FROM: **Edward Sue Perkins, P.E.**
Branch Manager
Permits Branch

DATE: **February 5, 2002**

RE: **Muhlenburg County Study Team of US 62 from KY 189 to KY 181**

The Permits Branch has reviewed the data provided for subject study site and wish to offer the following.

1. **We urge the Cabinet to classify this project and all new projects as partially controlled access facilities.**

2. **Assuming the project is partial control access, we encourage all possible access points be set on the plans in accordance with 603 KAR 5:120, even if they are not to be constructed at that time.**

3. **When buying R/W for this and all reconstruction routes, assuming the access control is partial control, new deed for all adjoining property owners need to be executed to identify the access control even if no new R/W is acquired,**

4. **In addition, we would like to make every effort possible to have the design speed to be the same as anticipated posted speed when the project is complete.**

5. **We would like to see access control fence installed with the project.**

6. **If the proposed roadway is to be on the N. H. S., early notification of the final line and grade is needed. This enables us to monitor outdoor advertising devices prior to road construction being completed.**

7. **Please notify this office if the proposed roadway is to be placed on the National Highway System. This information is needed to assist this office in regulating the installation of any outdoor advertising device.**

Thank you for the opportunity to verbalize our concerns.

ESP/elc

EDUCATION PAYS

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

March 11, 2002

Annette Coffey, P. E.
Director, Division of Planning
Kentucky Transportation Cabinet
Frankfort KY 40622

Re: Scoping Study on reconstruction of US 62 from KY 189 to KY 181 in Greenville, Muhlenberg County, Kentucky. (SERO 2001-115)

Dear Ms. Coffey:

The Natural Resources and Environmental Protection Cabinet (NREPC) serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection **coordinates** the review for Kentucky State Agencies.

The Kentucky agencies listed on the attached sheet have been provided an opportunity to review the above referenced report. Responses were received from 9 (also marked on attached sheet) of the agencies that were forwarded a copy of the document. Attached are the comments from the Kentucky Divisions of Water, Waste Management, and Conservation, and the Departments of Agriculture and Fish and Wildlife Resources.

If you should have any questions, please contact me at (502) 564-2150, ext. 112.

Sincerely,

Alex Barber
State Environmental Review officer

Enclosure

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
ENVIRONMENTAL REVIEW

Scoping Study on reconstruction of US 62 from KY 189 to KY 181 in Greenville, Muhlenberg County, Kentucky.

The following agencies were asked to review the above referenced project. Each agency that returned a response will appear below with their comments and the date the project response was returned.

C denotes Comments
NC denotes No Comment
IR denotes Information Request
NR denotes No Response
NS denotes Not Sent for Review

REVIEWING AGENCIES:

Division of Water	comments
Division of Waste Management	comments
Division for Air Quality	
Department of Health Services	
Economic Development Cabinet	ns
Division of Forestry	
Department of Surface Mining Reclamation & Enforcement	nc
Department of Parks	nc
Department of Agriculture	comments
Nature Preserves Commission	nc
Kentucky Heritage Council	
Division of Conservation	comments
Department for Natural Resources	ns
Department of Fish & Wildlife Resources	comments
Transportation Cabinet	ns
Department for Military Affairs	nc

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF FISH AND WILDLIFE RESOURCES
C. THOMAS BENNETT, COMMISSIONER

January 8, 2002

Alex Barber
Commissioner's Office
Department for Environmental Protection
14 Reilly Road
Frankfort, KY 40601

RE: Scoping Study on Reconstruction of US 62 from KY 189 to KY 181 in Greenville, Muhlenberg County, Kentucky

Dear Mr. Barber:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicates that no federally threatened or endangered species are known to occur in the Greenville 7.5 minute USGS quadrangle(s). Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

KDFWR has determined that potential negative impacts to the aquatic resources can occur in the project area and offers the following recommendations:

1) development in or near streams only during low flow periods to minimize disturbances;
2) proper placement of erosion control structures below disturbed areas to minimize entry of silt to stream, and;
3) replanting of disturbed areas after construction, including stream banks and right-of-ways, with native vegetation for soil stabilization and enhancement of fish and wildlife populations.

Additionally, if the applicant is going to relocate/realign portions of any streams, KDFWR request the stream channel be put back to original stream profile with placement of instream habitat such as riffles, runs, and pools, etc. The recontoured stream banks should have a well defined riparian area, including herbaceous species, shrubs and trees. The plantings should consist of native vegetation indigenous to the area and be a minimum of 100 feet in width on each side of the channel.

I hope this information will be helpful to you. Should you require additional information, please contact me at (502) 564-7109, ext. 367..

Sincerely,

Marla T. Barbour
Fisheries Biologist III

cc: Environmental Section File

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

January 18, 2002

Division of Waste Management

Comments for Project #SER02001-115

The Division of Waste Management would be concerned that all solid waste generated by this project be disposed at a permitted facility.

Another concern is that during this type of project, old regulated and non-regulated underground storage tanks may be encountered, as well as other contamination. Should tanks or contamination be encountered they must be properly reported and remediated.

Sincerely, Linda Howard

BILLY RAY SMITH
COMMISSIONER

OFFICE TELEPHONE
(502) 564-4696
FAX: (502) 564-2133
TTY: (502) 564-2075

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF AGRICULTURE
500 MERO STREET, 7TH FLOOR
FRANKFORT, KY 40601

January 14, 2002

Mr. Alex Barber
State Environmental review Officer
Department for Environmental Protection
14 Reilly Road
Frankfort, KY 40601

Reference: Scoping Study SERO-115
Reconstruction of US 62
Greenville, Kentucky

Dear Mr. Barber:

As in all construction and relocation projects, the Kentucky Department of Agriculture wants to make sure that loss of prime farmland and the economic and other impact to area farms is given careful consideration.

Thank you for the opportunity to comment on this and other projects.

Sincerely,

Ira Linville
Executive Director
Office of Environmental Services

James E. Bickford
Secretary

Paul E. Patton
Governor

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR NATURAL RESOURCES
DIVISION OF CONSERVATION
663 TETON TRAIL
FRANKFORT, KENTUCKY 40601

MEMORANDUM

TO: Alex Barber
Department of Environmental Protection

FROM: Mark Davis MD
Division of Conservation

DATE: January 28, 2002

SUBJECT: Environmental Review of Project #SERO2001-115

As requested, the Division of Conservation has reviewed the scoping study for the reconstruction of US 62 from KY 189 to KY 181 in Greenville, Kentucky.

There are no agricultural districts established within or adjacent to the project area. Therefore, impacts to land enrolled in the Agricultural District Program will not have to be mitigated by the Department of Transportation.

We would, however, like to see the issue of loss of Prime Farmland and Farmland of Statewide Importance addressed in the planning study. There are two publications that could be utilized to identify these farmland designations: *The Soil Survey of McLean and Muhlenberg Counties* (NRCS 1980), and *Important Farmland Soils of Kentucky* (NRCS 1985). Both publications are available through this office.

One other concern we would like to comment on is that of controlling erosion and sedimentation during and after earth-disturbing activities once this project begins. We strongly recommend best management practices (BMPs) be utilized to prevent nonpoint source water pollution. The manual, *Best Management Practices for Construction Activities,* contains information on BMPs appropriate for this project and is available through the Muhlenberg County Conservation District, the Division of Water, or this office.

We appreciate the opportunity to comment on this project. If you have any questions please contact this office anytime.

MJD

Phone (502) 564-3080 Fax (502) 564-9195

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

MEMORANDUM

TO: Alex Barber
State Environmental Review Officer
Department for Environmental Protection

FROM: Timothy Kuryla TK
EIS Coordinator
Division of Water

DATE: September 28, 2001

SUBJECT: SN, US62, KY189 to KY181, Greenville (Muhlenberg County), SERO 011227-115

IN GENERAL

The Division of Water has reviewed the Scoping Notice prepared by the Transportation Cabinet regarding the construction of US62, KY189 to KY181, Greenville (Muhlenberg County). The Division comments on matters the Division desires considered in the Environmental Assessment.

The applicant needs to consult, before construction can begin, with the U.S. Army Corps of Engineers to ascertain if a 33 USC § 1341 ("401") water quality certification by the Division of Water, or a 33 USC § 1344 ("404") dredge or fill material permit, or both, are required. Any impact to 200 linear feet or more of any stream or stream bank (below ordinary highwater) (as shown on U.S. Geological Survey 7.5 minute topographical maps for the project area) or one acre or more of any wetland, will require a "401" water quality certification. This includes excavations and impoundments. Thus, impacts to streams and wetlands must be considered in the EA.

Stream crossings except for Outstanding Resource Waters (ORWs), Cold water Aquatic Habitats (CAHs), and high quality waters are covered by a general certification. ORW, CAH, and high quality water stream crossings require an individual water quality certification and mitigation.

The Division of Water will require mitigation for stream loss (if more than 250 acres are involved above the construction impact) and for wetland loss (if more than 1 acre).

If a floodplain outside the right of way is involved, prior approval must be obtained from the Division of Water before construction may begin. The EA needs to address the impacts on flooding of each stream crossing, all fills in floodplains, and any channel relocation or alteration.

The submitted data are general. With specific data as are found in the Transportation Cabinet Land and Water Ecology Section "404" checklist, plus Corps of Engineers or Coast Guard Public Notice, the Division of Water may find a problem relating to floodplain construction and water quality. Therefore, the Division requests an opportunity to review, at the Preliminary Design stage, the land and water ecology checklist for the proposed project should it be funded. (If a Public Notice is prepared for the proposed project, the Division will review it).

The Division of Water notes the relevant portions of the Transportation Cabinet's Standard Specifications for Road and Bridge Construction are Sections 212 and 213. Section 212 governs the protection and stabilization of those areas exposed to erosion as the result of construction practices. Section 213 protects water quality by governing construction practices that can result in nonpoint source pollution.

The Division of Water finds that these guidelines adequately address possible highway construction impacts on aquatic habitat and propose appropriate mitigation measures that insure minimal sediment and other damage to water quality. These sections need to be cited in the EA.

The Division of Water recommends that the Transportation Cabinet use the Groundwater Sensitivity Regions of Kentucky map published by the Kentucky Geological Survey (KGS) to determine sensitive groundwater areas. These areas must be considered in the EA.

If sinkholes are modified for drainage, the Division of Water notes U.S. Environmental Protection Agency (EPA) requires an Underground Injection Control Permit (40 CFR §§ 144.11, 144.25, 146.51). The activity is classified as a Class V well (40 CFR § 144.6).

The Division of Water has data and maps regarding wellhead protection areas located throughout the Commonwealth. The EA and highway design must take into account these areas.

Owners of onsite wastewater disposal systems must have Groundwater Protection Plans (GPP). Purchasing right of way lands on which these systems are located means assuming the obligations imposed by 401 KAR 5:037.

Deep road cuts can act as "French" drains. These cuts could drain aquifers that are used as domestic and public water supply sources. Highway design needs to take into account the location of these aquifers. The Division of Water maintains data on wells drilled since 1985 and of all wells it inspects. The EA needs to consider the effect on domestic and public water supplies.

APPENDIX C – Public Information Meeting Summaries

Public Information Meeting Summary

Monday, November 26, 2001

Statewide Corridor Planning
Item No. 2-0138.00
US 62

A Public Information Meeting was held on Monday, November 26, 2001. The meeting was held at the Muhlenberg North High School cafeteria, in Greenville, KY from 4:00 p.m. to 7:00 p.m. There were 21 citizens who attended the meeting. A sign in sheet was posted, and handouts were given to the attendees. The handouts included the following information:

- The Study Purpose
- Corridor Issues
- Draft Statement of Project Goals
- Contacts
- A postage-paid Public Comment Survey Form
- A map showing Project Limits

Information about the project was presented with an audio/video presentation that ran on a continuous loop in the rear of the cafeteria, as well as through maps and other data displayed throughout the room.

The meeting was conducted in an "open house" format. Attendees were directed to an exhibit area where thirteen representatives from the Cabinet, the Pennyrile Area Development District, and HNTB were on hand to answer questions and to receive input from the attendees. The attendees were given a postage-paid Public Comment Survey form that they could either complete at the meeting or return to the KY Transportation Cabinet, Division of Planning by December 10, 2001. The exhibits provided the attendees the following information:

- Maps of the Project Area
- Accident Locations
- Traffic Volumes
- Levels of Service
- Environmental Overview (to date)

Attendees were encouraged to write any comments they had on flipcharts near the display area. The following are the comments they expressed:

- A bypass is needed on the South side of Greenville
- How may accidents occurred on Tuesday morning from Flea Market traffic
- The issue of drainage is addressed in design
- A stoplight is needed at the intersection of 171 and 62 with a turning lane if possible

- A south by-pass is needed beginning at 189 and crossing 171, 181, and ending at 176
- Two new lanes are all that is needed. Twelve foot lanes with no curb and gutter with turn lanes in a few areas.

Five (5) Public Comment Surveys were completed and returned. The survey asked what benefits would occur if US 62 were improved. Only one (1) person responded to this question by saying that the benefit would be improved visibility of curves and better traffic flow.

Question 2 asked to identify and discuss any critical issues or concerns they had about the project area. All five (5) people responded to this question. Their comments are as follows:

- Adding more lanes to Highway 62 will not solve the problem. It will increase traffic and the speeding problem
- It will make getting on and off the highway more difficult
- Businesses and churches will have to relocate and people will lose their homes
- Will the curve at the African American Cemetery be improved
- Drainage needs to be improved
- The addition of emergency or walking lanes are need for pedestrians traveling on this road

Question 3 asked whether or not they feel improvements to US 62 are needed. Four (4) respondents said, "Yes" and one (1) said "No". It went on to ask what specific areas needed improvement. The responses were:

- A stoplight is needed where highway 171 joins US 62
- A bypass from Highway 189 crossing 171, then from 181 to 176
- Keep large truck traffic from coming into town from 171
- Hopkinsville street should be by-passed
- A turning-lane into the hospital would be a benefit
- Fix large curve near US 62
- A stoplight or 4-way stop at US 62 and 181

The next section asked whether or not there were any sites along the project area that should be avoided. The combined responses were:

- Many historic homes, businesses, a school, and a church are very close to the street
- The 4-way stop at Hopkinsville Street and Main Street (or 181)
- The African American Cemetery, the funeral home, and the church

The public was asked how they heard about this Public Information Meeting. Three(3) said from the newspaper. One (1) said from a friend, and one (1) from another meeting.

Respondents were asked to make any additional comments they may have about the project. Two (2) people chose to do so. Their comments and concerns are as follows:

- Their family lives on this street and they also own two properties.
- Want the coal truck traffic to be routed somewhere else
- Don't want buildings and homes torn down
- A southern bypass is the only rational answer to ease the traffic burden
- The curve at the African American Cemetery needs improving ASAP
- Road improvement is way overdue, don't wait another 10 years to start improvements
- The roadway cannot handle the current traffic volume

The following comment was made by State Representative Brent Younts regarding the project: "The Scope of the proposed HWY 62 project I believe, is non-doable because of the intensity of the utilities along the right-of-way, and the closeness of the houses to the streets. To widen this road would essentially destroy this neighborhood. The obvious answer is to build a southern by-pass around Greenville extending from the exterior of the city in the west and joining it on the east at HWY 176."

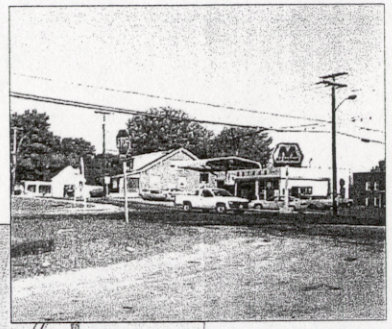
APPENDIX D – Photographs of Project Area

US 62 Intermediate Planning Study

From KY 189 to KY 181, Muhlenberg County, Item No. 2-0138.00

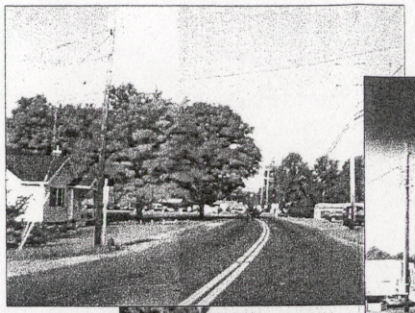
PROJECT PHOTOS

At intersection of KY 181 and US 62 looking west

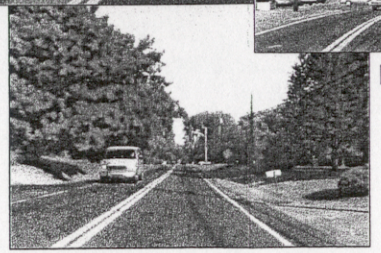


Near Project Start Point looking north on KY 181

Between Hospital and Russell looking west

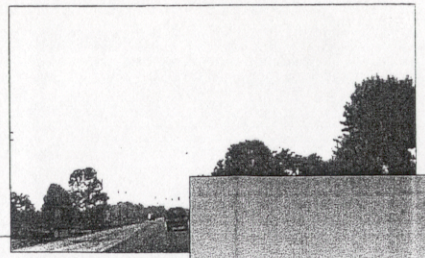


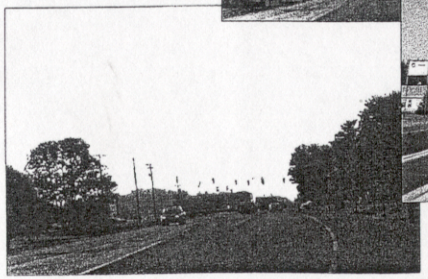
Near Boggess looking west

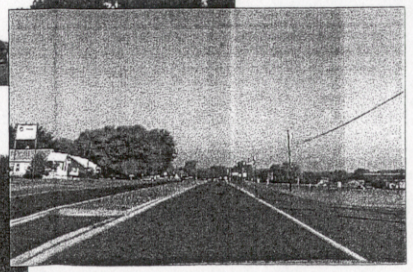


Near intersection with Bass looking West

Just west of Project End Point at KY 189 looking east







Just east of Project End Point at KY 189 looking west

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

HNTB

APPENDIX E – Environmental Justice

Environmental Justice Study
Reconstruction of US 62 from KY 189 to KY 181
Muhlenberg, Kentucky

July 8, 2002

Prepared For:

The Kentucky Transportation Cabinet

Prepared By:

The Pennyrile ADD
300 Hammond Drive
Hopkinsville, KY 42240

Environmental Justice Study
Reconstruction of US 62 from KY 189 to KY 181
Muhlenberg, Kentucky

Purpose

The Pennyrile Area Development District has prepared the following report for the Kentucky Transportation Cabinet, Division of Planning, to demonstrate environmental justice and community impact issues for the project area in the reconstruction of US 62 from KY 189 to KY 181. This study is a review of the findings for environmental justice and community impact issues that best reflect the census boundaries of the project area and surrounding census boundaries.

Sources

Data for this report was compiled from a number of sources including the U.S. Census Bureau, Kentucky State Data Center, Kentucky Transportation Cabinet - Division of Planning, Local Elected Officials, Southeast Kentucky Industrial Authority, Community Leaders, Field Study, and the Pennyrile Area Development District. This information is intended to assist the Kentucky Transportation Cabinet's Intermediate Planning Process to ensure equal environmental protection to all groups potentially impacted by this project.

Included in this report:

- Census Data Review
- Maps of the proposed project area - U.S. Census Tract and Block Group boundaries for the project area and surrounding areas (1990 and 2000 Census)
- Data tables displaying Population by Race, Population by Age, and Persons Below Poverty Level for the United States, Kentucky, Muhlenberg County, and all Census Block Groups within and surrounding the project area
- Lists of Census 2000 Total Population Figures for all Census Block Groups in Muhlenberg County
- 2000 Census Profiles from the US Census web site.
- Contact List of Stakeholders compiled by the Pennyrile ADD

Census Data

The project area directly involves two (2) census tracts and three (3) block groups within those tracts. All of the tracts and block groups are located in Muhlenberg County. The US 62 highway is the dividing line between these two (2) census tracts as indicated in *Exhibit 1, Census Block Group Boundaries.*

There is some evidence of a minority neighborhood located in the City of Greenville. The minority neighborhood's boundaries are indicated in *Exhibit 2, U.S. 62 E.J. Study Minority Neighborhood.* This minority neighborhood is mixed racially with white and African American residents. The Muhlenberg County Judge Executive who is familiar with the residents in the neighborhood drew the boundaries of the neighborhood outlined in Exhibit 2. There appears to be no evidence of any other ethnic groups or any other cluster of racial groups within the study boundaries.

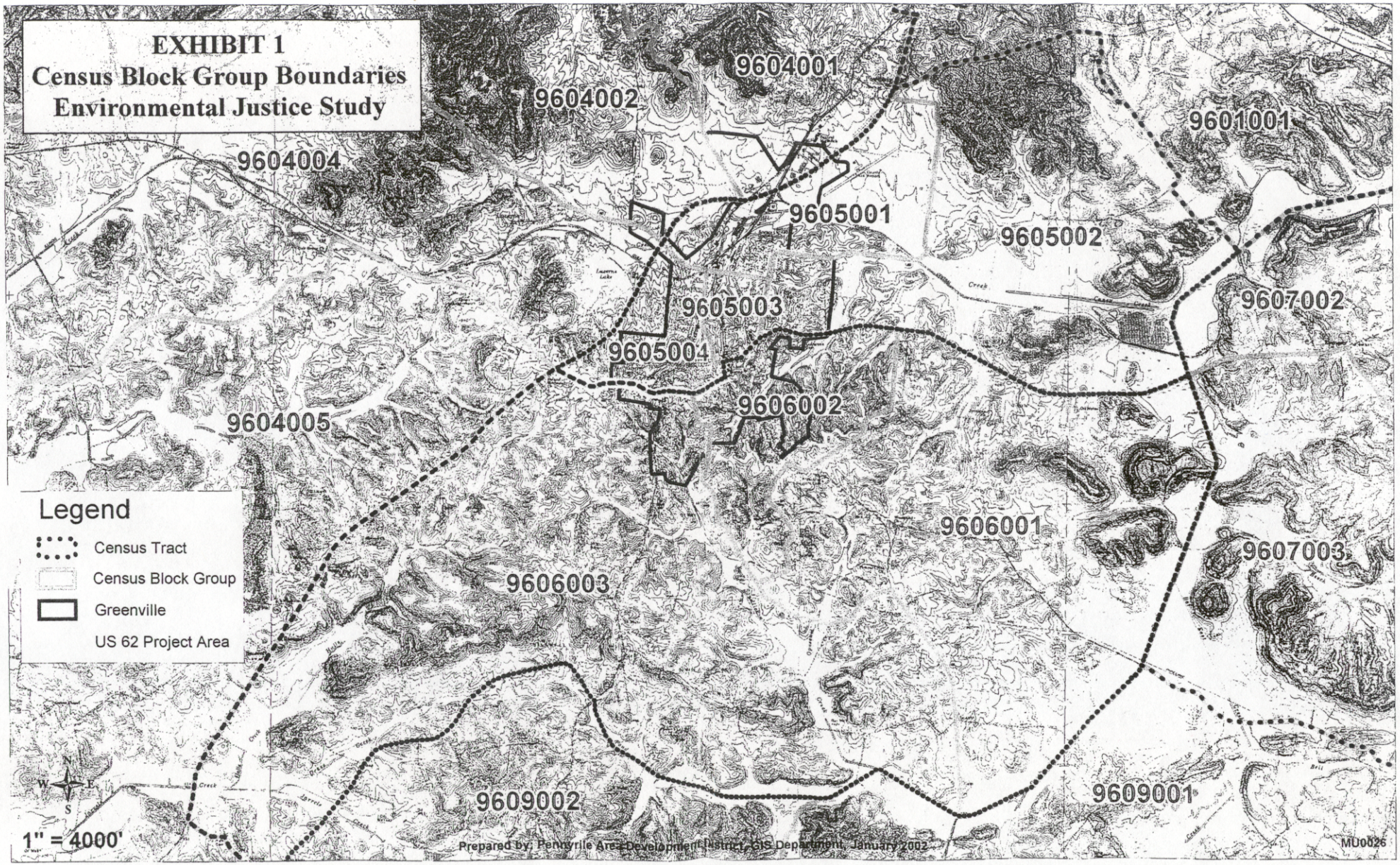


EXHIBIT 1
Census Block Group Boundaries
Environmental Justice Study
9604001
9604002
9601001
9604004
9605001
9605002
9607002
9605003
9605004
9606002
9604005
9606001
9607003
9606003
9609002
9609001
Legend
Census Tract
Census Block Group
Greenville
US 62 Project Area
N
W
E
S
1" = 4000'
Prepared by: Pennyrile Area Development District, GIS Department, January 2002
MU0026

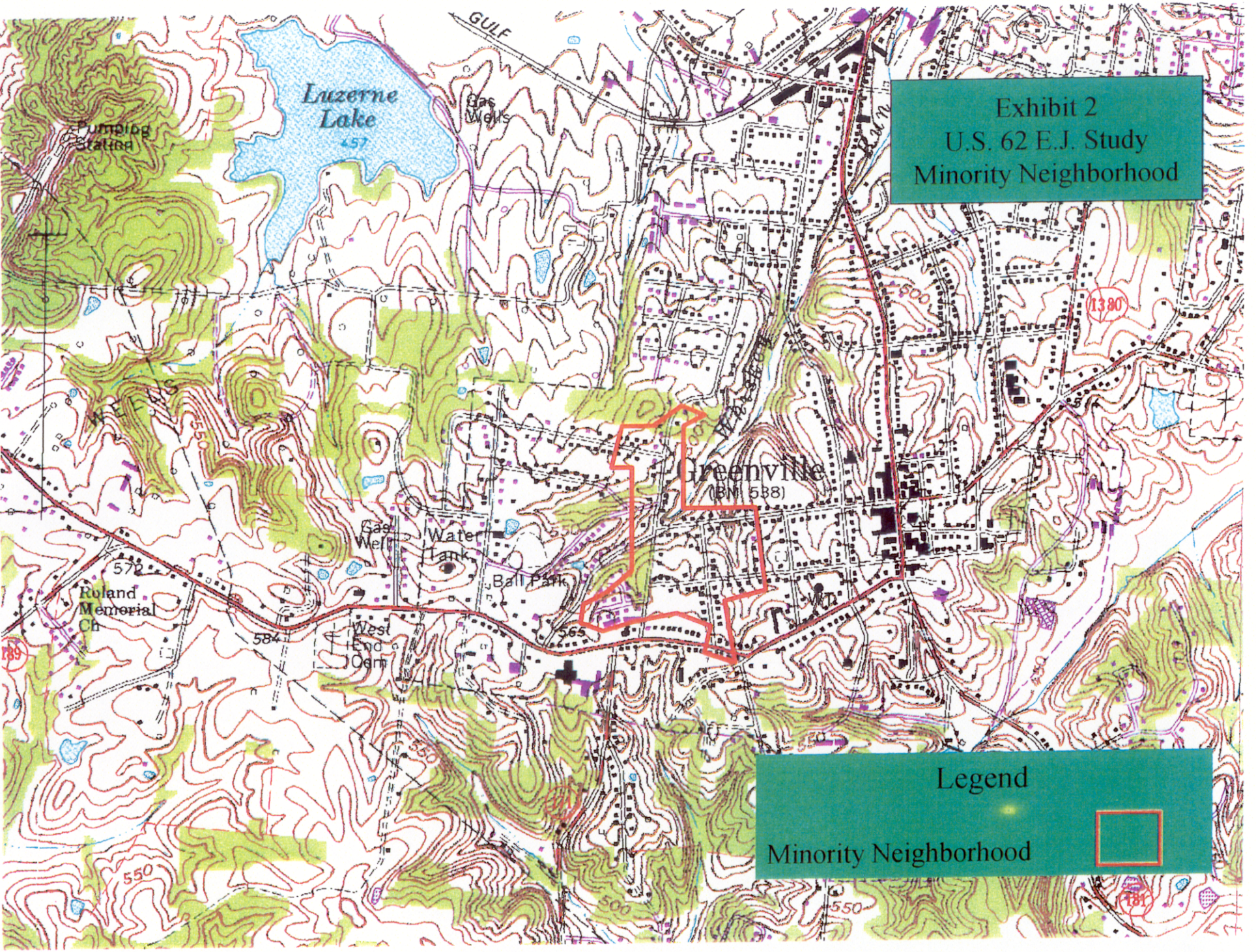
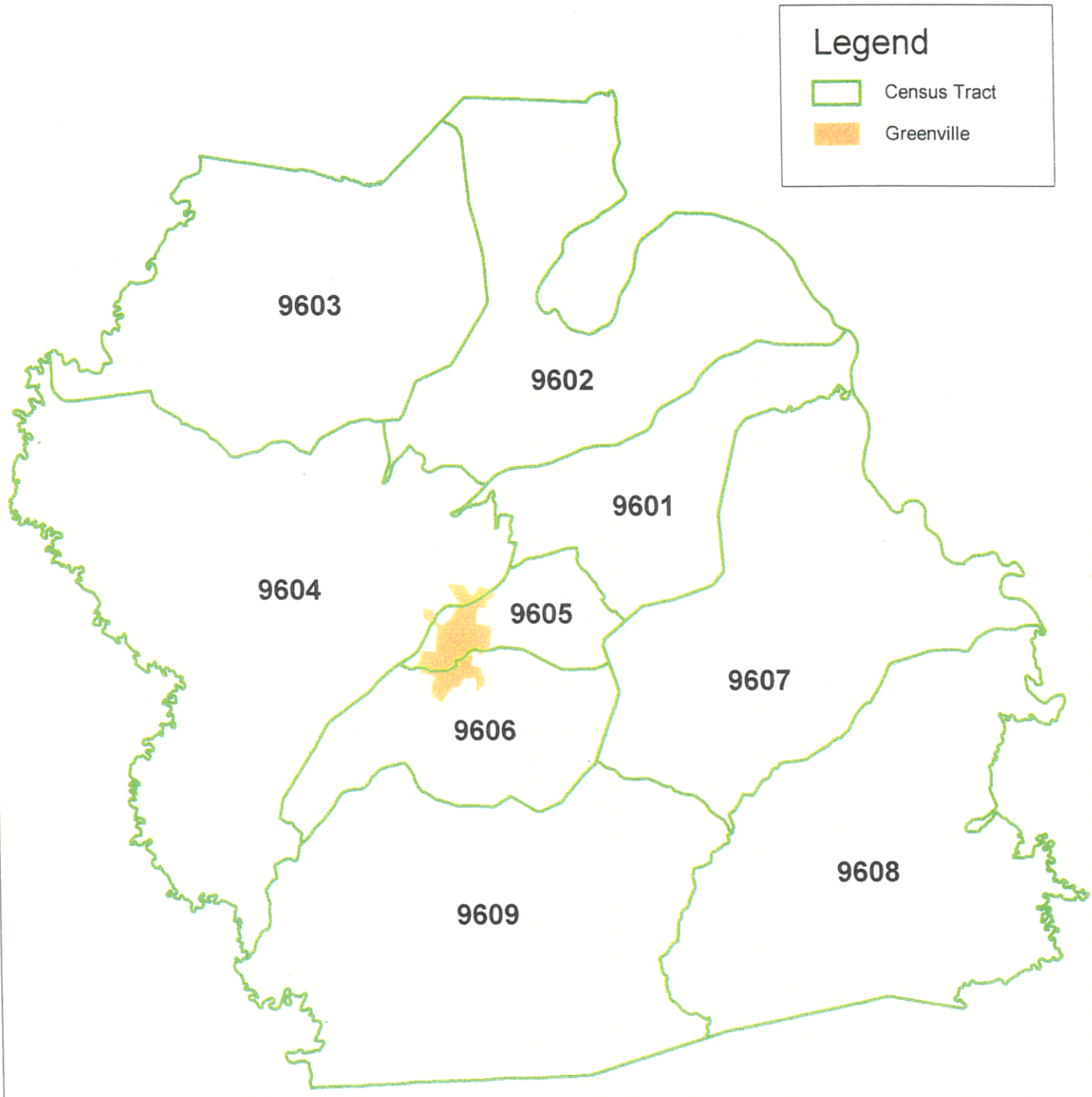


Exhibit 2
U.S. 62 E.J. Study
Minority Neighborhood
Luzerne Lake
457
GULF
Gas Wells
Pumping Station
Greenville
(BM 538)
Water Tank
Gas Well
Ball Park
West End Dam
Roland Memorial Ch
1380
Legend
Minority Neighborhood

EXHIBIT 3
Census Tracts
Environmental Justice Study



Prepared by: Pennyrile Area Development District, GIS Department, January 2002

MU0026

US 62 Reconstruction
Muhlenberg County, Kentucky

Environmental Justice Statistics

Table 1

**2000 Population Composition of Race
at Census Block Group, County and State Levels**

	Block Groups Adjacent to Existing Corridor								Block Groups Adjacent to Existing Corridor								Muhlenberg County		US and Kentucky		
Race	Block Group 9606 003	% of Block Group	Block Group 9606 [illegible]	% of Block Group	[illegible]	% of Block Group	[illegible]	% of Block Group	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] Population [illegible]
White	1,245	83	696	97	1,091	81	914	99	622	98	805	96	664	99	1,397	98	885	99	29,989	94%	90%	75.1
Hispanic																						
Black	219	15	19	3	258	19	8	1	0	0	20	2	3	0.4	23	2	2	0.2	1,480	5%	7%	12.5
American Indian, Eskimo or Aleut																						
Asian or Pacific Islander	4	0.3	2	0.2	0	0	0	0	0	0	3	0.3	1	0.1	2	0.1	1	0.1	40	0.1%	.02	3.3
Other race																						
Total	1,508	100	718	100	1,354	100	923	100	636	100	837	100	668	100	1,427	100	894	100	31,839			

Source: US Census Bureau, 1990 US Census Data

Table 2

1989 Population Composition

Persons Below Poverty Level.

Region	Population Below Poverty Level	Percent of Population
Block Group 9606-001	76	9%
Block Group 9606-002	61	15%
Block Group 9605-001	109	21%
Block Group 9605-002	68	12%
Block Group 9604-001	38	6%
Block Group 9604-002	468	49%
Block Group 9604-004	0	0%
Block Group 9604-005	158	18%
Muhlenberg County	6,381	20%
Kentucky	683,327	18.7%
United States	31,742,864	12.7%

Source: US Census Bureau, 1990 US Census Data.

Table 3

1989 Population of Persons

Below Poverty Level by Age

Area	Total Population	Persons Below Poverty	Percent of Population	Population Below Poverty	Percent of Population	Population Below Poverty	Percent of Population
Block Group 9606-002	416	0	0%	27	6%	34	8%
Block Group 9605-002	564	18	3%	50	9%	0	0%
Block Group 9604-002	949	132	14%	336	35%	0	0%
Block Group 9604-005	897	78	9%	80	9%	0	0%
Muhlenberg County	31,318	1,994	6.4%	3,600	11.5%	787	2.5%
United States	248,709,873	11,428,916	4.6%	16,533,363	6.7%	3,780,585	1.5%

Source: US Census Bureau, 1990 US Census Data

Table 4

1990 Population Composition
For Persons Age 65 and Over

Region	Total Population	65 Years and Over Population	Percent 65 Years and Over Population
Block Group 9606-001	[illegible]	[illegible]	[illegible]
Block Group 9606-002	416	122	29%
Block Group 9606-003	[illegible]	[illegible]	[illegible]
Block Group 9605-001	[illegible]	[illegible]	[illegible]
Block Group 9605-002	564	102	18%
Block Group 9604-001	[illegible]	[illegible]	[illegible]
Block Group 9604-002	949	95	10%
Block Group 9604-004	[illegible]	[illegible]	[illegible]
Block Group 9604-005	897	58	6%
Muhlenberg County	31,318	4,743	15%
Kentucky	[illegible]	[illegible]	[illegible]
United States	248,709,873	31,195,275	13%

Source: US Census Bureau, 1990 US Census Data.

APPENDIX A

KY 181/US 62 Highway Project
Key Stakeholders Mailing List
Muhlenberg County, KY

KY 181/US 62 Highway Project
Key Stakeholders Mailing List
Muhlenberg County, KY

1. CSM, Greg Armstrong
WHFRTC
Box 4675
S.R. 181 N.
Greenville, KY 42345
(270) 338-8900

2. Gary Jones
Muhlenberg County Career Development Center
3875 S.R. 181 N.
Greenville, KY 42345
(270) 338-8900

3. Clay Jones
Clay's Trucking
43 Bradford St.
Beechmont, KY 42323
(270) 476-8283

4. Ray Jones
Ray Jones's Trucking
3296 S.R. Hwy. 181 S.
Greenville, KY 42345
(270) 338-2417

5. Dale Todd, Superintendent
Muhlenberg County Board of Education
P.O. Box 167
Greenville, KY 42345
(270) 338-2871

6. Sgt. Ricky Allen, State Trooper
470 Henderson Lane
Greenville, KY 42345
(270) 676-3313 (w)

7. Albert Pilkington, CEO
Muhlenberg County Hospital
P.O. Box 387
Greenville, KY 42345
(270) 338-8000

8. Danny Lassiter
Muhlenberg County Ambulance Service
P.O. Box 387
Greenville, KY 42345
(270) 338-8000

9. Minister Roscoe Linton
Wesley Chapel A.M.E. Zion Church
402 Hopkinsville St.
Greenville, KY 42345
(270) 338-3397

APPENDIX B

U.S. CENSUS DETAILED TABLES

U.S. Census Bureau

American FactFinder

Detailed Tables

C

P1. TOTAL POPULATION [1] - Universe: Total population
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total	31,839

U.S. Census Bureau
Census 2000

P2. URBAN AND RURAL [6] - Universe: Total population
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	31,839
Urban:	0
Inside urbanized areas	0
Inside urban clusters	0
Rural	0
Not defined for this file	31,839

U.S. Census Bureau
Census 2000

P3. RACE [71] - Universe: Total population
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	31,839
Population of one race:	31,611
White alone	29,989
Black or African American alone	1,480
American Indian and Alaska Native alone	40
Asian alone	40
Native Hawaiian and Other Pacific Islander alone	1
Some other race alone	61
Population of two or more races:	228
Population of two races:	214
White; Black or African American	68
White; American Indian and Alaska Native	91
White; Asian	20
White; Native Hawaiian and Other Pacific Islander	1
White; Some other race	20
Black or African American; American Indian and Alaska Native	2
Black or African American; Asian	2

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total races tallied:	32,081
White alone or in combination with one or more other races	30,201
Black or African American alone or in combination with one or more other races	1,567
American Indian and Alaska Native alone or in combination with one or more other races	148
Asian alone or in combination with one or more other races	70
Native Hawaiian and Other Pacific Islander alone or in combination with one or more other races	6
Some other race alone or in combination with one or more other races	89

U.S. Census Bureau
Census 2000

P10. HISPANIC OR LATINO BY RACE (TOTAL RACES TALLIED) [15] - Universe: Total races tallied
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total races tallied:	32,081
Not Hispanic or Latino:	31,831
White alone or in combination with one or more other races	30,035
Black or African American alone or in combination with one or more other races	1,557
American Indian and Alaska Native alone or in combination with one or more other races	145
Asian alone or in combination with one or more other races	66
Native Hawaiian and Other Pacific Islander alone or in combination with one or more other races	6
Some other race alone or in combination with one or more other races	22
Hispanic or Latino:	250
White alone or in combination with one or more other races	166
Black or African American alone or in combination with one or more other races	10
American Indian and Alaska Native alone or in combination with one or more other races	3
Asian alone or in combination with one or more other races	4
Native Hawaiian and Other Pacific Islander alone or in combination with one or more other races	0
Some other race alone or in combination with one or more other races	67

U.S. Census Bureau
Census 2000

P11. HISPANIC OR LATINO [1] - Universe: People who are Hispanic or Latino
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total	232

U.S. Census Bureau
Census 2000

Standard Error/Variance documentation for this dataset:
Accuracy of the Data: Census 2000 Summary File 1 (SF 1) 100-Percent Data (PDF 44KB)

Black or African American; Native Hawaiian and Other Pacific Islander	1
Black or African American; Some other race	4
American Indian and Alaska Native; Asian	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Some other race	1
Asian; Native Hawaiian and Other Pacific Islander	1
Asian; Some other race	3
Native Hawaiian and Other Pacific Islander; Some other race	0
Population of three races:	14
White; Black or African American; American Indian and Alaska Native	8
White; Black or African American; Asian	0
White; Black or African American; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Some other race	0
White; American Indian and Alaska Native; Asian	4
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander	0
White; Asian; Some other race	0
White; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	2
Black or African American; American Indian and Alaska Native; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; Asian; Some other race	0
Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Asian; Some other race	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of four races:	0
White; Black or African American; American Indian and Alaska Native; Asian	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Asian; Some other race	0
White; Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Asian; Some other race	0
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0

Black or African American; American Indian and Alaska Native; Asian; Some other race	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of five races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Asian; Some other race	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of six races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0

U.S. Census Bureau
Census 2000

P4. HISPANIC OR LATINO, AND NOT HISPANIC OR LATINO BY RACE [73] - Universe: Total population
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	31,839
Hispanic or Latino	232
Not Hispanic or Latino:	31,607
Population of one race:	31,397
White alone	29,836
Black or African American alone	1,472
American Indian and Alaska Native alone	39
Asian alone	40
Native Hawaiian and Other Pacific Islander alone	1
Some other race alone	9
Population of two or more races:	210
Population of two races:	196
White; Black or African American	68
White; American Indian and Alaska Native	91
White; Asian	19
White; Native Hawaiian and Other Pacific Islander	1
White; Some other race	8
Black or African American; American Indian and Alaska Native	1
Black or African American; Asian	1
Black or African American; Native Hawaiian and Other Pacific Islander	1
Black or African American; Some other race	4
American Indian and Alaska Native; Asian	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0

American Indian and Alaska Native; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander	1
Asian; Some other race	1
Native Hawaiian and Other Pacific Islander; Some other race	0
Population of three races:	14
White; Black or African American; American Indian and Alaska Native	8
White; Black or African American; Asian	0
White; Black or African American; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Some other race	0
White; American Indian and Alaska Native; Asian	4
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander	0
White; Asian; Some other race	0
White; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	2
Black or African American; American Indian and Alaska Native; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; Asian;Some other race	0
Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Asian; Some other race	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of four races:	0
White; Black or African American; American Indian and Alaska Native; Asian	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Asian; Some other race	0
White; Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Asian; Some other race	0
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; American Indian and Alaska Native; Asian; Some other race	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0

American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of five races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Asian; Some other race	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of six races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0

U.S. Census Bureau
Census 2000

P5. RACE FOR THE POPULATION 18 YEARS AND OVER [71] - Universe: Total population 18 years and over
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	24,633
Population of one race:	24,506
White alone	23,228
Black or African American alone	1,175
American Indian and Alaska Native alone	32
Asian alone	33
Native Hawaiian and Other Pacific Islander alone	1
Some other race alone	37
Population of two or more races	127
Population of two races:	119
White; Black or African American	9
White; American Indian and Alaska Native	76
White; Asian	12
White; Native Hawaiian and Other Pacific Islander	1
White; Some other race	11
Black or African American; American Indian and Alaska Native	2
Black or African American; Asian	2
Black or African American; Native Hawaiian and Other Pacific Islander	1
Black or African American; Some other race	2
American Indian and Alaska Native; Asian	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander	1
Asian; Some other race	2
Native Hawaiian and Other Pacific Islander; Some other race	0
Population of three races:	8
White; Black or African American; American Indian and Alaska Native	5
White; Black or African American; Asian	0

White; Black or African American; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Some other race	0
White; American Indian and Alaska Native; Asian	1
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander	0
White; Asian; Some other race	0
White; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	2
Black or African American; American Indian and Alaska Native; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; Asian; Some other race	0
Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Asian; Some other race	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of four races:	0
White; Black or African American; American Indian and Alaska Native; Asian	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Asian; Some other race	0
White; Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Asian; Some other race	0
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; American Indian and Alaska Native; Asian; Some other race	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of five races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Asian; Some other race	0

White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of six races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0

U.S. Census Bureau
Census 2000

P6. HISPANIC OR LATINO, AND NOT HISPANIC OR LATINO BY RACE FOR THE POPULATION 18 YEARS AND OVER [73] - Universe: Total population 18 years and over
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	24,633
Hispanic or Latino	153
Not Hispanic or Latino:	24,480
Population of one race:	24,362
White alone	23,123
Black or African American alone	1,172
American Indian and Alaska Native alone	31
Asian alone	33
Native Hawaiian and Other Pacific Islander alone	1
Some other race alone	2
Population of two or more races:	118
Population of two races:	110
White; Black or African American	9
White; American Indian and Alaska Native	76
White; Asian	11
White; Native Hawaiian and Other Pacific Islander	1
White; Some other race	6
Black or African American; American Indian and Alaska Native	1
Black or African American; Asian	1
Black or African American; Native Hawaiian and Other Pacific Islander	1
Black or African American; Some other race	2
American Indian and Alaska Native; Asian	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander	1
Asian; Some other race	1
Native Hawaiian and Other Pacific Islander; Some other race	0
Population of three races:	8
White; Black or African American; American Indian and Alaska Native	5
White; Black or African American; Asian	0
White; Black or African American; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Some other race	0
White; American Indian and Alaska Native; Asian	1

White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander	0
White; Asian; Some other race	0
White; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	2
Black or African American; American Indian and Alaska Native; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; Asian; Some other race	0
Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
American Indian and Alaska Native; Asian; Some other race	0
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of four races:	0
White; Black or African American; American Indian and Alaska Native; Asian	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; Asian; Some other race	0
White; Black or African American; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; American Indian and Alaska Native; Asian; Some other race	0
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
Black or African American; American Indian and Alaska Native; Asian; Some other race	0
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of five races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	0
White; Black or African American; American Indian and Alaska Native; Asian; Some other race	0
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some other race	0
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0

Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0
Population of six races:	0
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some other race	0

U.S. Census Bureau
Census 2000

P7. RACE [8] - Universe: Total population
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	31,839
White alone	29,989
Black or African American alone	1,480
American Indian and Alaska Native alone	40
Asian alone	40
Native Hawaiian and Other Pacific Islander alone	1
Some other race alone	61
Two or more races	228

U.S. Census Bureau
Census 2000

P8. HISPANIC OR LATINO BY RACE [17] - Universe: Total population
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

	Muhlenberg County, Kentucky
Total:	31,839
Not Hispanic or Latino:	31,607
White alone	29,836
Black or African American alone	1,472
American Indian and Alaska Native alone	39
Asian alone	40
Native Hawaiian and Other Pacific Islander alone	1
Some other race alone	9
Two or more races	210
Hispanic or Latino:	232
White alone	153
Black or African American alone	8
American Indian and Alaska Native alone	1
Asian alone	0
Native Hawaiian and Other Pacific Islander alone	0
Some other race alone	52
Two or more races	18

U.S. Census Bureau
Census 2000

P9. RACE (TOTAL RACES TALLIED) [7] - Universe: Total races tallied
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

APPENDIX F – Summary of Geotechnical Findings

C-17 Geotech
WILSON

A-2

MEMORANDUM P-3-2002

TO: Annette Coffey, P.E.
Director
Division of Planning

FROM: William Broyles, P.E.
Geotechnical Engineering
Branch Manager
Division of Materials

BY: R.T. Wilson, P.G. R.T. Wilson
Geotechnical Branch

DATE: January 10, 2002

SUBJECT: Muhlenberg County
US 62, From KY 189 to KY 181@ Greenville
Intermediate Planning Study
Item No. 2-138.00

At your request, personnel from the branch have completed a preliminary office review of the subject project.

Pennsylvanian age rocks of the Carbondale Formation consist of an alternating series of sandstone, shales, and coals. Sandstones are generally characterized as brown in color, fine to medium grain size, in beds from 1 inch to greater than 30 feet in thickness and friable. Friable sandstones are not suitable for rock roadbed and lift heights of 1 foot for embankment construction is recommended for stable fills. Non-durable shale or clay shales are present throughout the project. Subgrades constructed from non-durable shales can be improved using type III filter fabric and aggregate in urban areas and cement stabilization in rural areas.

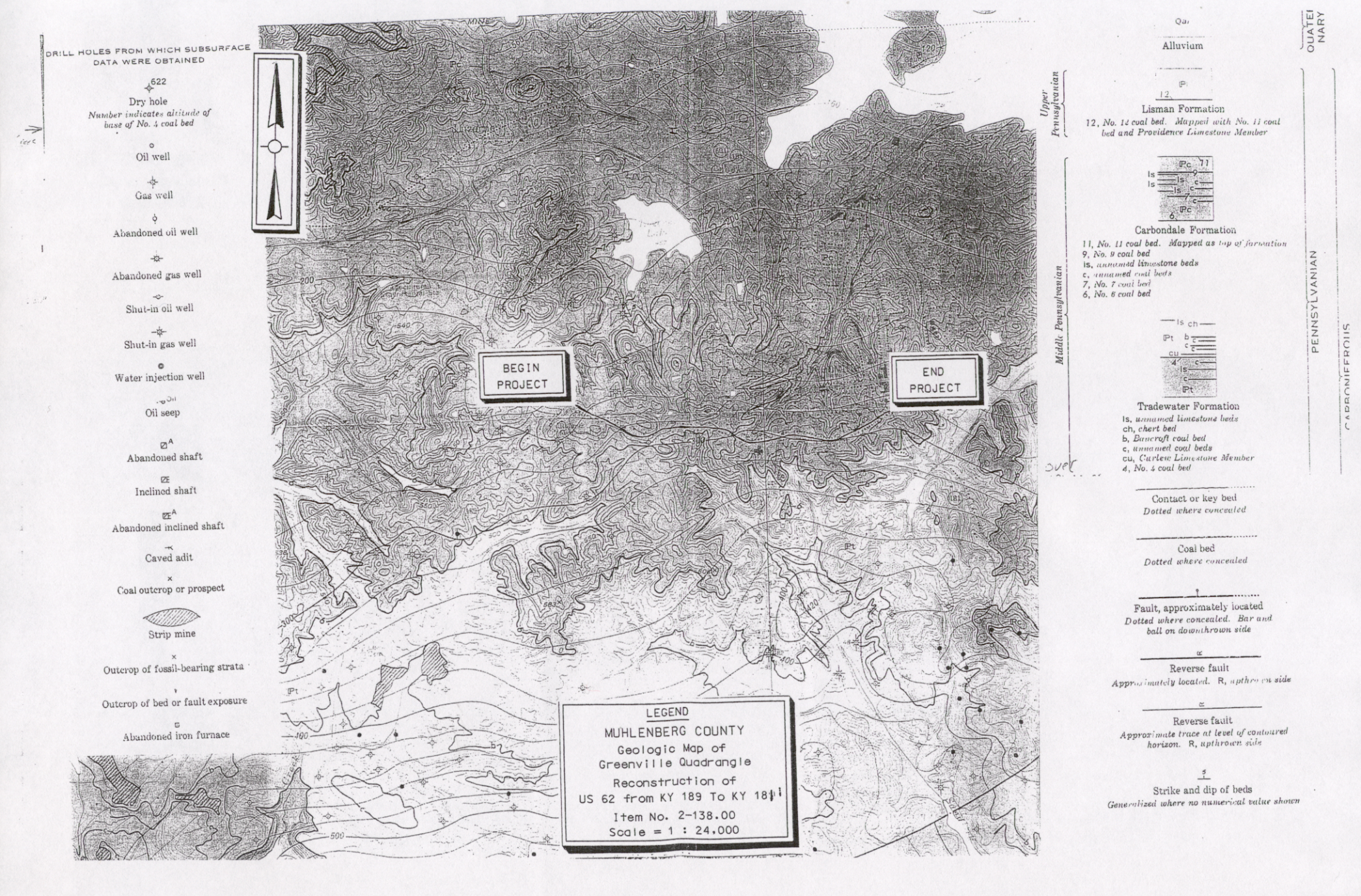
A review of available mine maps indicates the proposed corridor has no strip-mines or underground mines present. A mineral evaluation study will not be required after a preferred alignment is selected.

Embankment benches will be necessary in sidehill conditions. Limestone or sandstone (2.0' minimum) should be placed on the benches for drainage.

Regional dip is from the south to the north, making saturated soil conditions possible on the south side of hollows. Wet embankment foundations can be corrected using type III filter fabric and 2-3 feet of aggregate.

This project is in a classified Seismic Risk Zone 3, which is defined as an area of high damage due to earthquake activity.

If there are questions please advise.


DRILL HOLES FROM WHICH SUBSURFACE DATA WERE OBTAINED
622
Dry hole
Number indicates altitude of base of No. 4 coal bed
Oil well
Gas well
Abandoned oil well
Abandoned gas well
Shut-in oil well
Shut-in gas well
Water injection well
Oil seep
Abandoned shaft
Inclined shaft
Abandoned inclined shaft
Caved adit
Coal outcrop or prospect
Strip mine
Outcrop of fossil-bearing strata
Outcrop of bed or fault exposure
Abandoned iron furnace
BEGIN PROJECT
END PROJECT
LEGEND
MUHLENBERG COUNTY
Geologic Map of
Greenville Quadrangle
Reconstruction of
US 62 from KY 189 To KY 181
Item No. 2-138.00
Scale = 1 : 24,000
QUATERNARY
Qal
Alluvium
PENNSYLVANIAN
CARBONIFEROUS
Upper Pennsylvanian
Middle Pennsylvanian
Lisman Formation
12, No. 12 coal bed. Mapped with No. 11 coal bed and Providence Limestone Member
Carbondale Formation
11, No. 11 coal bed. Mapped as top of formation
9, No. 9 coal bed
ls, unnamed limestone beds
c, unnamed coal beds
7, No. 7 coal bed
6, No. 6 coal bed
Tradewater Formation
ls, unnamed limestone beds
ch, chert bed
b, Baneroft coal bed
c, unnamed coal beds
cu, Curlew Limestone Member
4, No. 4 coal bed
Contact or key bed
Dotted where concealed
Coal bed
Dotted where concealed
Fault, approximately located
Dotted where concealed. Bar and ball on downthrown side
Reverse fault
Approximately located. R, upthrown side
Reverse fault
Approximate trace at level of contoured horizon. R, upthrown side
Strike and dip of beds
Generalized where no numerical value shown

APPENDIX G – Cultural Historic Reconnaissance Survey

A CULTURAL HISTORIC RECONNAISSANCE SURVEY FOR THE US 62 IMPROVEMENT PROJECT FROM KY 189 TO KY 181 AT GREENVILLE MUHLENBERG COUNTY, KENTUCKY

Item No. 2-138

Prepared by
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May 9, 2002

I ABSTRACT

This report is being prepared for use as part of the Intermediate Planning Study for the reconstruction of US 62 between KY 189 and KY 181 in Greenville in Muhlenberg County, Kentucky. The purpose is to identify and document those properties within the project area that are listed on the National Register of Historic Places, or those that appear to meet the National Register Criteria. The findings in this report are subject to change as further research is conducted for the base line report.

HNTB Corporation contracted with Palmer Engineering to conduct this study in the Spring of 2002. An Environmental Overview previously completed for the project identified three historic districts and six individual properties in Greenville that are listed in the National Register. Only one National Register district, the **South Cherry Street Historic District** is in the project vicinity. The Environmental Overview located the boundaries for this district north of US 62 (Hopkinsville Street). However, when the boundaries from the National Register file were field checked for accuracy, it was determined that the southern edge of the district crosses US 62. Following the 106 specifications for cultural historic surveys issued by the Kentucky Heritage Council, the boundaries of the district were reexamined for potential expansion. It was determined that a section on the north and south sides of US 62 between Main Street and Walnut Street is eligible as an expansion of the existing district (**See Figure 1**).

Five other sites located within the project area were previously documented during the 1984 survey of the City of Greenville by Thomason and Associates: **MUG-4, MUG-5, MUG-25, MUG-26, and MUG- 41.** These sites and other undocumented properties that met the 50 year age criteria were documented and examined for eligibility for the National Register (See Figure 1). Site **MUG-5** would be eligible as part of the proposed expansion to the South Cherry Street Historic District. Sites **MUG-4, 25, 26, and 41** meet the National Register Criteria as individual sites.

In addition, three other sites within the project area appeared to meet National Register Criteria as individual sites: the **West End Cemetery (Site A), Greenville Baptist Church (Site B), and Colonial Revival house (Site C).** (See Figure 1)

VI INVENTORY OF SITES

This section will identify and evaluate those individual sites considered potentially eligible for the National Register of Historic Places. The proposed expansion to the South Cherry Street Historic District will be documented.

SITE A/West End Cemetery
Hopkinsville Street
Photos 1-3
Figure 1

DESCRIPTION AND HISTORY

The West End Cemetery is located on the south side of US 62, approximately one mile east of the intersection with KY 189. There appear to be approximately 2-300 graves located in this facility with the oldest dating to the late 19th century. Several Civil War military markers with interments are located very near the present right-of-way.

EVALUATION

The oldest part of this cemetery sits adjacent to the south side of US 62. Approximately 10 Civil War burials were noted within this area. These burials would be considered historically significant within the Greenville community. Although little is know about the later interments in this cemetery, it is being determined potentially eligible for the National Register. The boundaries would include all known plots within the present cemetery limits.

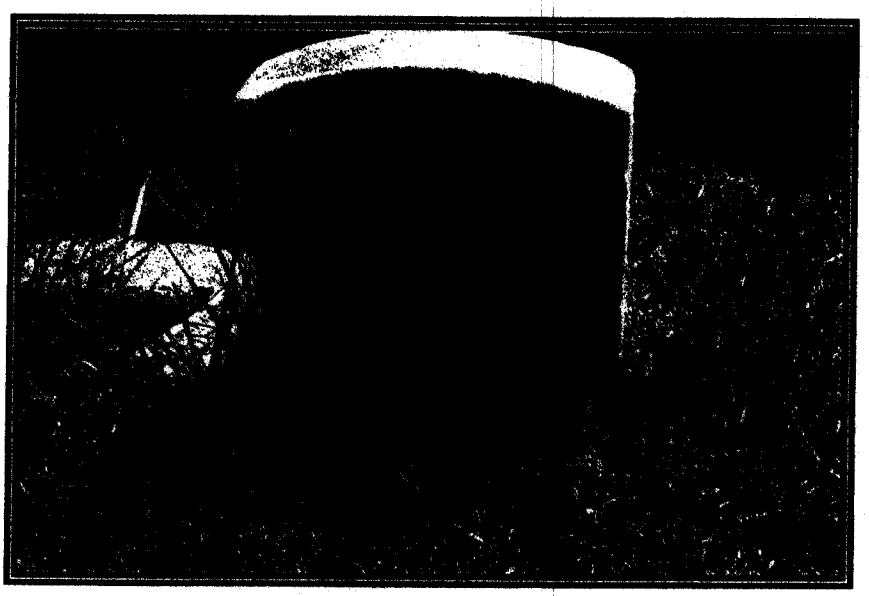

Photo 1 Civil War Marker-East End Cemetery

II TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PHOTOS

III PROJECT DESCRIPTION
(Taken from the US 62 KYTC Planning Website)

The purpose of the Intermediate Planning Study is to identify and gather critical information about the project corridor prior to the initiation of the design phase, and to help define the location of possible roadway improvements that might better serve the residents of Muhlenberg County. It will also aid the Kentucky Transportation Cabinet in addressing the Federal requirements regarding consideration of environmental issues, as defined in the National Environmental Policy Act (NEPA). The ultimate objectives of the Intermediate Planning Study are:

- Defining project needs and goals
- Identifying the beginning and ending points of the project, as well as potential project locations and design concepts
- Discussing project needs and issues with public officials, government agencies, concerned citizens, and other groups with interest in the project
- Identifying known and potential environmental concerns
- Exchanging information with the public

Corridor Issues

Critical issues currently identified along the existing US 62 corridor include perceived safety problems and increasing traffic volumes. Some of the most evident safety issues are narrow lanes, lack of turning lanes and a lack of pedestrian facilities. A significant number of the accidents are the result of rear end collisions and angle collisions. Other issues are as follows:

- US 62 is a major link between KY 189 and KY 181.
- Traffic within the corridor is heavy and expected to grow.
- The existing traffic volumes do not support construction of a four-lane facility.
- Turning lanes may be needed at intersections to provide safe storage for drivers wanting to make left turns, and to lessen the possibility of rear end and angle collisions as drivers turn onto the side roads and commercial entrances.
- The section of US 62 near KY 181 is urban residential with a curb and gutter section and little right of way available.
- Right of way and utility impacts, particularly on the east side, could potentially be significant.
- Older homes, churches (3, with one being African-American), gas stations, an African-American cemetery, a hospital, an African-American funeral home, and a former African-American school are located along the corridor.
- The lanes are relatively narrow and there are sight distance problems.
- There are numerous access points along the corridor.

Draft Statement of Project Goals

US 62 is functionally classified as a Rural Major Collector and is a State Secondary in the State Maintained Highway System that provides access between KY 189 and KY 181, as well as access to the hospital. The project limits are from KY 189 east to KY 181. US 62 is a high volume road with speed limits varying from 25 MPH to 45 MPH and numerous commercial establishments and residences. Several goals have been identified for the US 62 project, including:

- Reduce the number of accidents along the route by improving turning opportunities and geometrics.
- Provide improved connectivity from KY 189 to KY 181.
- Provide improved capacity to support Design Year 2025 traffic volumes.
- Provide improved drainage along the route.
- Provide pedestrian facilities along the route.
- Improve access to the hospital.

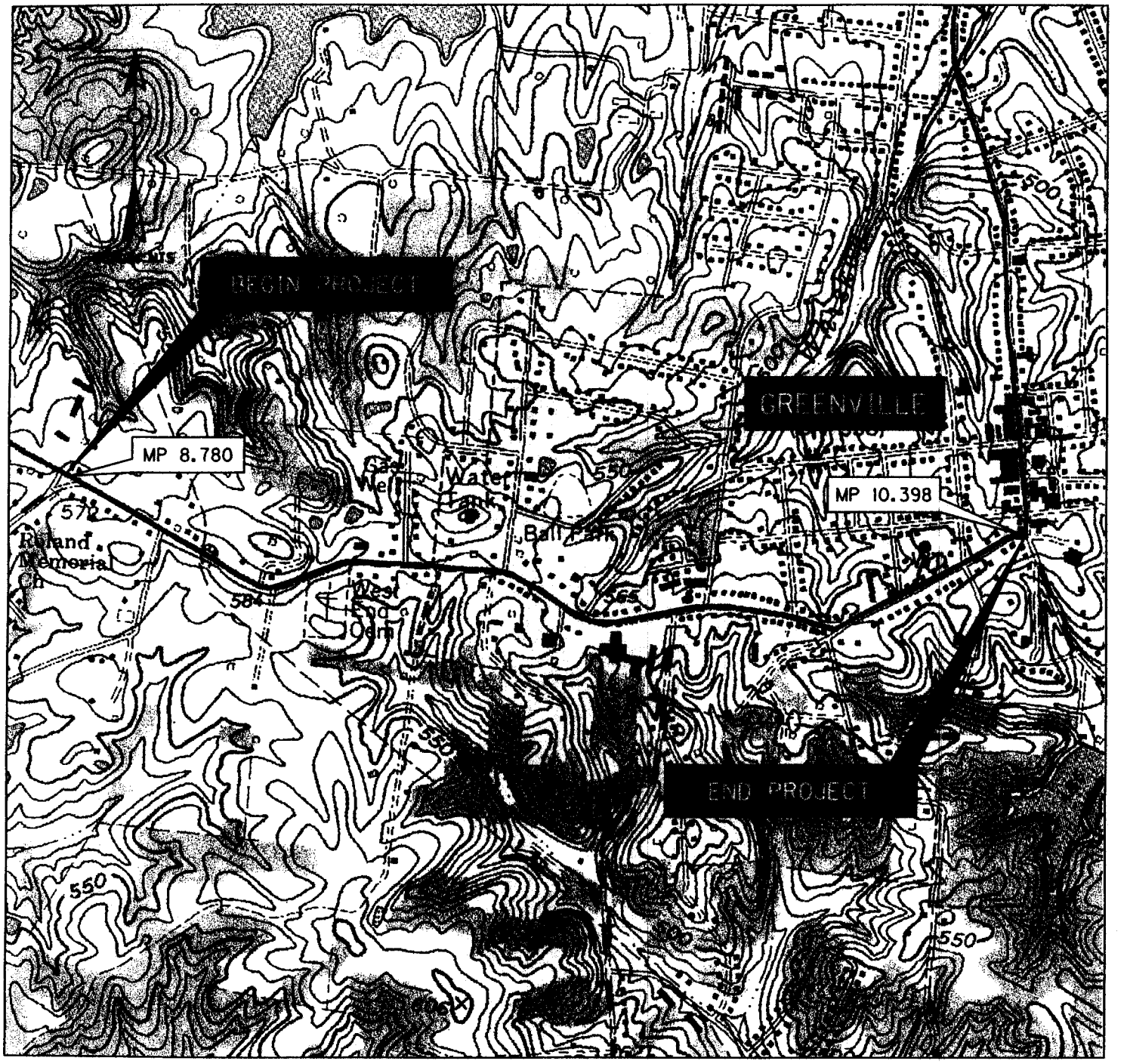

Exhibit 1. Project Area

IV INTRODUCTION AND ENVIRONMENTAL SETTING

This report presents the findings of a reconnaissance survey of the project area to document the location of listed National Register properties; and to identify those that appear to meet the minimum criteria for listing in the National Register. The files of the Kentucky Heritage Council were researched to identify any sites that had been previously documented. In 1984 Thomason and Associates of Nashville conducted an intensive survey of Greenville to document all pre-1930 structures that were determined architecturally and historically significant. A total of 48 structures were documented with Kentucky Historic Resource Inventory forms and National Register Nominations were prepared for three historic districts and four individual properties.

Only one district, the South Cherry Street Historic District is within the immediate project area and a portion of US 62 or Hopkinsville Street as it is locally known is contained within the boundary for that district. All sites within the project area that were 50 years old were examined for National Register potential. It was determined that the properties on the north and south sides of US 62 were eligible as an extension of the South Cherry Street Historic District There are also seven individual sites within the project area that meet National Register criteria. The significance of these sites and their proposed boundaries will be discussed within the Inventory of Sites section

US 62 is the main artery for much of the public traveling into the commercial section of Greenville. With the completion of KY 189 as a bypass route, this once residential corridor is experiencing much new growth and development. The older section of the route near the town is still a well maintained, residential neighborhood that retains much historic fabric and integrity. However, further from town, the rural character of the area is giving way to subdivisions and commercial strip development.

V HISTORIC CONTEXT

The growth and development of the community of Greenville was relatively small and slow after establishment of the county in 1798, and a small group of log and a few brick structures composed the extent of the community. By 1830 the popularity of Burley Tobacco and the resulting growth of the industry in west Kentucky provided the community with raw materials to become a market center. Several small factories producing cigars and chewing plugs were located here, and the resulting wealth produced some fashionable mid 19th century homes. Not considered "high style" by any architectural standard, the town boasted several notable structures. The population of Greenville stood at over 200 by 1860.

The greatest period of growth for the community was the result of the expansion of the Illinois-Central railroad into the county around 1873. Given a means of transporting the various raw materials in the county, Greenville experienced a significant period of development around the turn of the century. Although it was known that the county contained vast quantities of coal and iron ore, early efforts to profitably produce iron failed. With the opening of the railroad to the interior of the county, coal mining operations around Greenville began to profit and expand. By 1910 there were over a dozen major mining operations located near Greenville. The resulting building boom is evident today in the commercial and residential fabric of the community.

The South Cherry Street Historic District epitomizes the wealth and influence the coal owners and operators possessed. The district contains some very fine examples of architecture of the early 20th century including Queen Anne, Dutch Colonial, Craftsman and Colonial Revival style residences. There are also examples of styles not popularly produced in West Kentucky including Spanish Mission and Beaux-Arts.

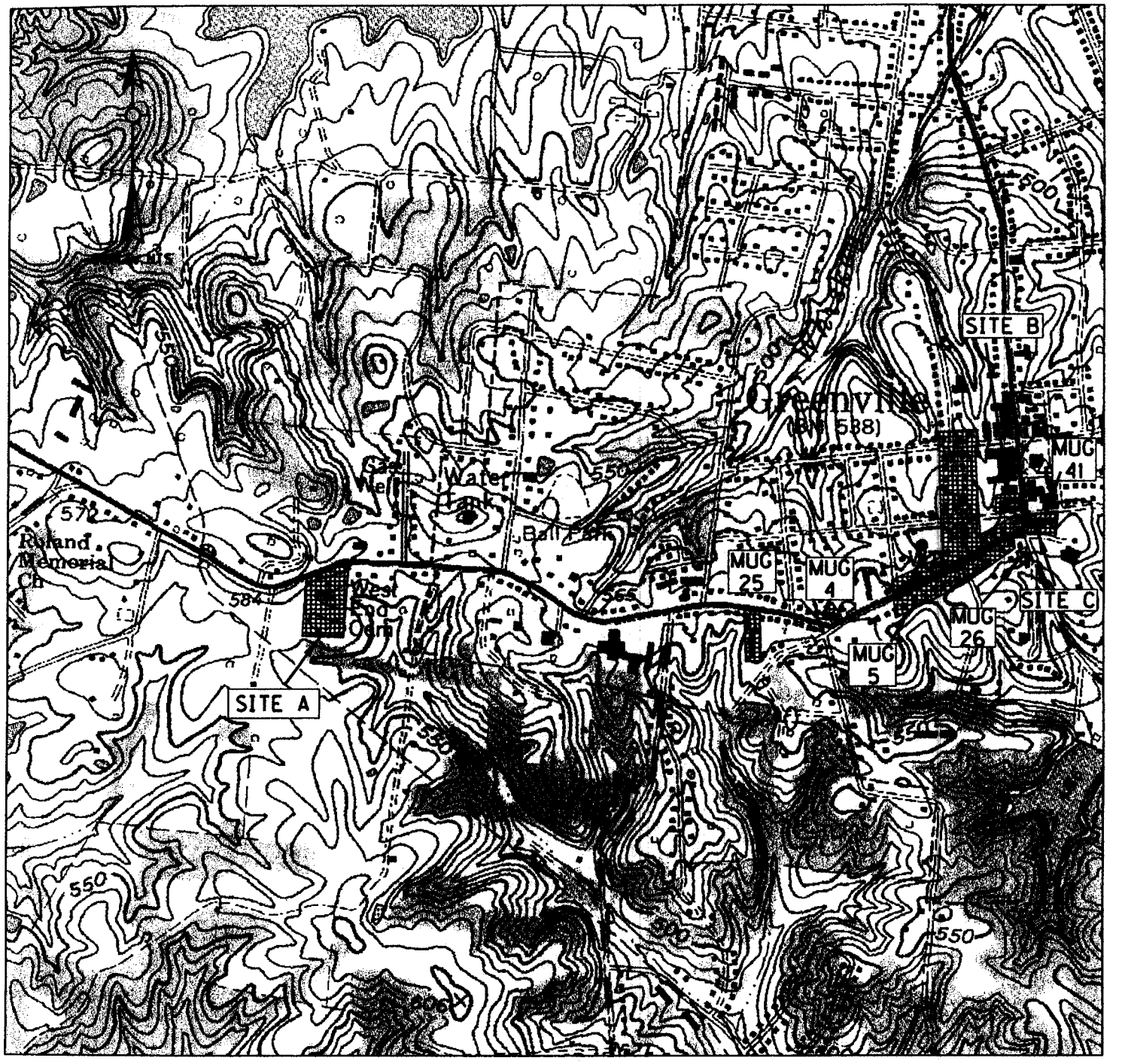

Figure 1. Historic Site Locations

Sites Potentially Eligible for the National Register

South Cherry Street Historic District

Proposed Historic District Expansion

Palmer ENGINEERING

Photo 2 East End Cemetery-Looking North

Photo 3 Civil War Marker

SITE MUG-4/David Duncan House
225 Hopkinsville Street
Photo 4
Figure 1

DESCRIPTION AND HISTORY

The Duncan House is a two and one-half story frame structure with a wrap around, one story porch supported by Tuscan columns. Constructed in 1911,the house is a transitional Queen Anne/Colonial Revival style displaying elements from both periods. The main block is similar to a Four Square, but the structure displays projecting gables on each side and has a pediment gable over the entry.

David Duncan was born in Scotland and moved to the United States in 1885. He came to Muhlenberg County and the Duncan family helped establish one of the largest and most profitable of the mining operations in the area.

EVALUATION

This structure is eligible for the National Register individually under Criterion B and possibly C for its connections with the Duncan's, a prominent local family connected with one of the larger, and more well known coal mining operations. The boundaries for this property would include everything within present day property lines.

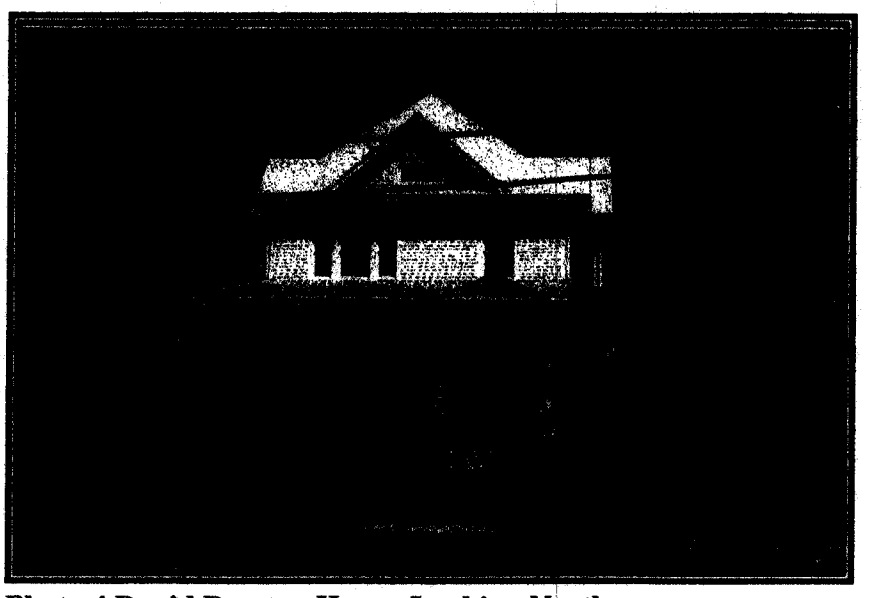

Photo 4 David Duncan House-Looking North

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Thomason, Phillip. Greenville Historic Resources Survey, Architectural Survey Analysis. Kentucky Heritage Council Survey Files.

SITE MUG-5/Clayton Rice House
216 Hopkinsville Street
Photo 5
Figure 1

DESCRIPTION AND HISTORY

This imposing Colonial Revival style residence was designed by Architect John T. Waller of Hopkinsville for the Rice Family in 1933. It is a two story, three bay, brick structure capped by a gable roof. The house features many elements of the Colonial Revival period including: denticulated cornice, sash windows with limestone sills, fan lit entrance element with side lights, and a one story portico supported by Doric columns. An eyebrow dormer projects from the front roof line and the side elevation displays an oculus window in the tympanum of the gable.

EVALUATION

This house is eligible individually under Criterion C. In addition it would be a contributing element to the proposed expansion to the South Cherry Street Historic District. Please see Figure 1 for proposed district expansion boundaries.

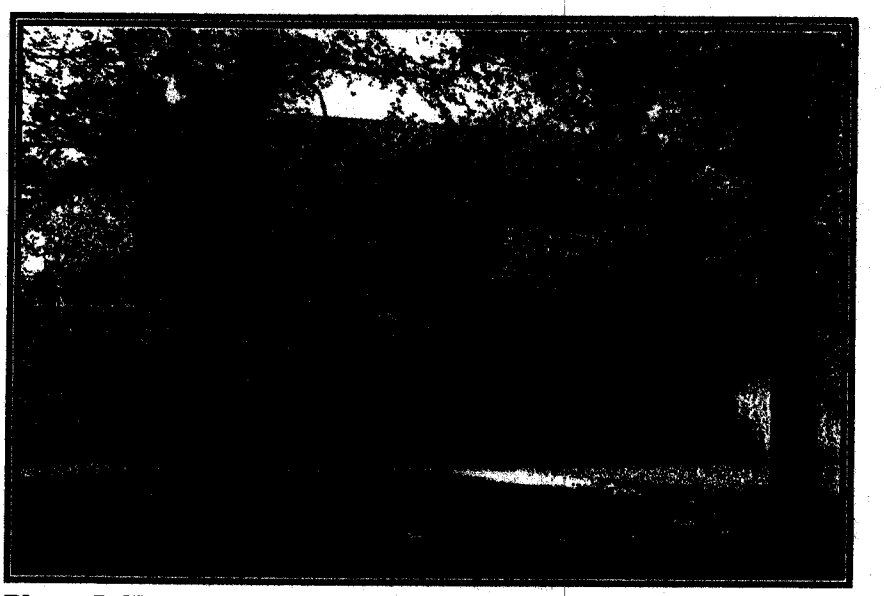

Photo 5 Clayton Rice House-Looking South

SITE MUG-25/African American School
Hopkinsville Road
Photo 6
Figure 1

DESCRIPTION AND HISTORY

This one-story brick, school building constructed ca. 1925 for the black students in Greenville was in use until the 1960s. Constructed of brick masonry, it is a rectangular block capped with a flat roof. The window elements are 2/2, sash type, topped with flat, brick segmented lintels. The parapet side walls display the most interesting element a battlemented cornice with stone caps. There is also a brick, soldier-coursed, water table.

EVALUATION

This structure is eligible for the National Register under Criterion B for its association with the African-American community in Greenville. This rare survivor displays a high degree of integrity. Steps adjacent to Hopkinsville Street give entrance to the school yard, so the boundaries for this site would go all the way to US 62.

Photo 6 African American School-Looking South

SITE MUG-26/Charles Eaves House
108 Hopkinsville Road (behind the Rite Aid)
Photo 7
Figure 1

DESCRIPTION AND HISTORY

One of the oldest residences in Greenville, the original, one story section of this structure (now the ell) was built in 1870 by Charles Eaves. It faced Main Street and was reputed to be of log construction. Purchased around the turn of the century by F.B.Hancock, the structure was enlarged with the addition of a two story, I-house which faced Hopkinsville Street. The house sits on a large lot at the southwest corner of Hopkinsville Street and Main. Unfortunately the site has been compromised by the construction of a Rite Aid adjacent to the intersection. The I-house section displays interior end chimneys and 1/1 double hung, sash windows. The exterior weatherboard has been covered in aluminum siding. Mr Eaves, was a prominent Greenville attorney and served in the State Legislature between 1857 and 1859.

EVALUATION

The Eaves house is eligible under Criterion B for the association with Charles Eaves, and under C as an intact example of I-house construction during the latter part of the 19th century. The boundaries would include everything within the present property lot lines.

Photo 7 Charles Eaves House-Looking Southeast

SITE MUG-41/First Presbyterian Church
South Main Street
Photo 8
Figure 1

DESCRIPTION AND HISTORY

The First Presbyterian Church, located on the east side of Main near the intersection with Hopkinsville Street, is an imposing, brick, Victorian Gothic style structure constructed in 1885. The rectangular nave is detailed with recessed bays with corbeled tables at the cornice. Tudor arches top the openings, and the main window is extremely expressive with tracery and stained glass. The main entrance tower is off set, and displays paired, Tudor arched, window openings and brick string courses. The First Presbyterian congregation was organized in Greenville in 1804, and they dedicated this structure in 1885.

EVALUATION

The First Presbyterian is eligible for the National Register under Criterion C as a fine example of Victorian Gothic architecture. The boundaries would include everything within the present property lot lines.

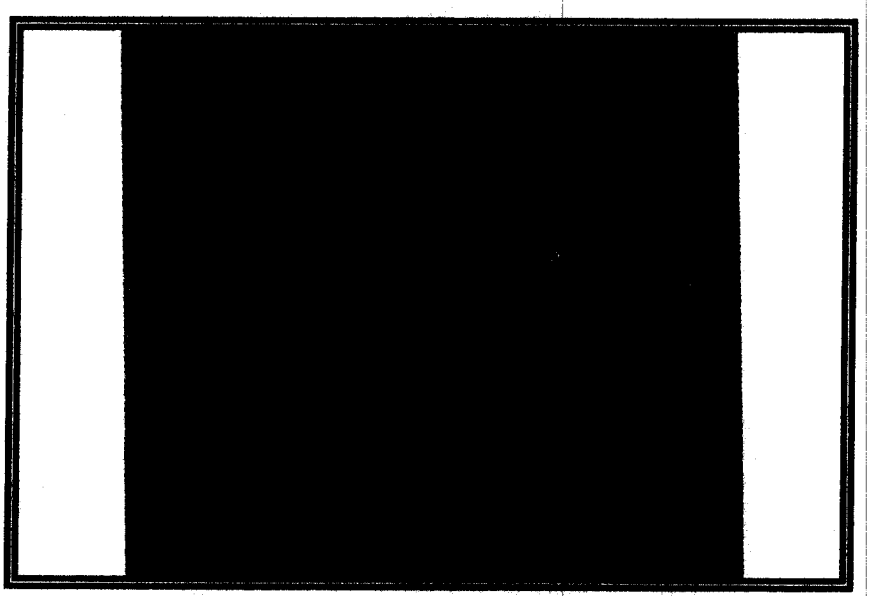

Photo 8 First Presbyterian Church-Looking Southeast

SITE C/Colonial Revival House
South Main Street
Photo 9
Figure 1

DESCRIPTION AND HISTORY

This one and one-half story, brick residence sits on the lot just south of the First Presbyterian Church and may serve as the parsonage. The structure appears to date from the 1920's and is another version of the Colonial Revival style popularized during this period. Classic details include brick construction with interior end chimneys, brick quoins, formal entrance element with pilasters, 8/8 lit double sash windows and denticulated cornice. The original, brick garage structure sitting between the house and church is intact

EVALUATION

This nicely detailed Colonial Revival structure would meet National Register Criterion C. The boundaries would include everything within the present property lot lines.

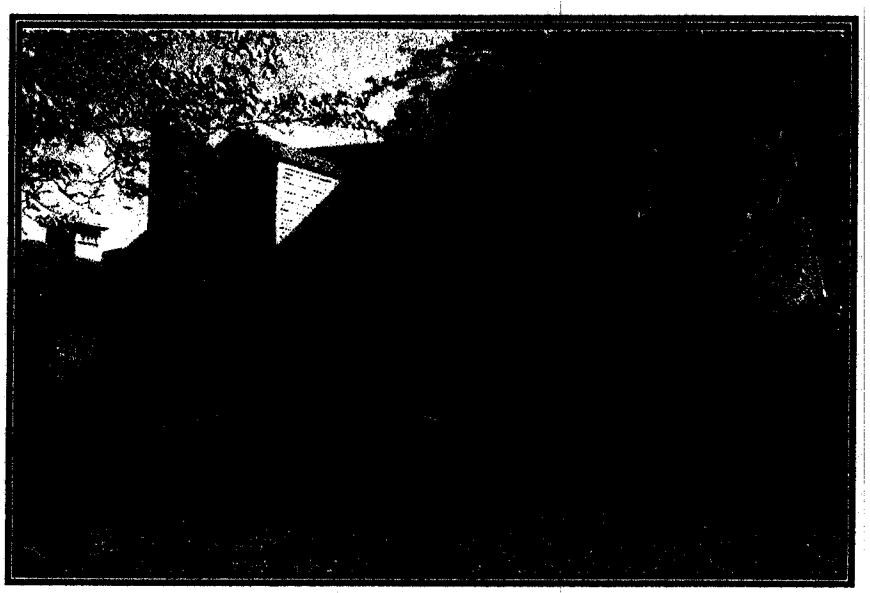

Photo 9 Colonial Revival-Looking East

SITE B/First Baptist Church
South Main Street
Photo 10
Figure 1

DESCRIPTION AND HISTORY

Directly across from the Presbyterian Church on the west side of Main is the First Baptist Church. Probably constructed during the first part of the 20th century, the church is an eclectic combination of late Victorian Gothic and Colonial Revival. The brick masonry block displays a variety of limestone detailing including ashlar quoins, gothic arches, and castellated cornice trim.

EVALUATION

The First Baptist Church is eligible for the National Register under Criterion C, as an example of early 20th century, vernacular church architecture.

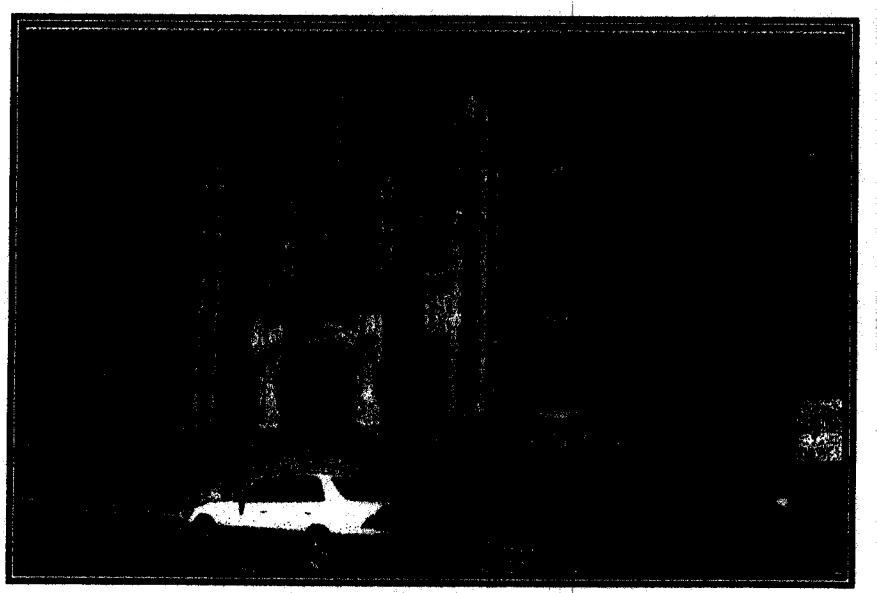

Photo 10 First Baptist Church-Looking Southwest

SOUTH CHERRY STREET HISTORIC DISTRICT
PROPOSED EXPANSION
Photos 11-13
Figure 1

DESCRIPTION AND HISTORY

The South Cherry Street Historic District was listed in the National Register of Historic Places in 1986. The Statement of Significance stated that the neighborhood contained some of the most expressive and architecturally important residences in Greenville. The district is an eclectic mixture of popular late 19th and early 20 century styles including Gothic Revival, Beaux Arts, Spanish Mission, Colonial Revival, and Craftsman. In addition, many of the residents of the area included the most prominent mining industrialists, businessmen and political figures in the community.

The southern boundaries of the district extended across Hopkinsville Street (US 62) to include an 1890s, frame cottage and a Colonial Revival mansion (Photo 11). However, the integrity and historic fabric of the neighborhood does not end with these two structures. Between Walnut Street on the west and Main Street on the east Hopkinsville Street displays a fine variety of early 20th century residences including the architect designed Rice House, (Photo 5, MUG-5). Other more vernacular structures built along the street include Tudor Revival styles and American Foursquare plans (Photos 11-13). No intrusions were noted within this area.

It is proposed that the South Cherry Street Historic District boundaries could be expanded to include the residences along Hopkinsville Street between Walnut and just west of Main Street. New commercial construction has taken place on the northwest and southwest corners of Main and Hopkinsville Streets.

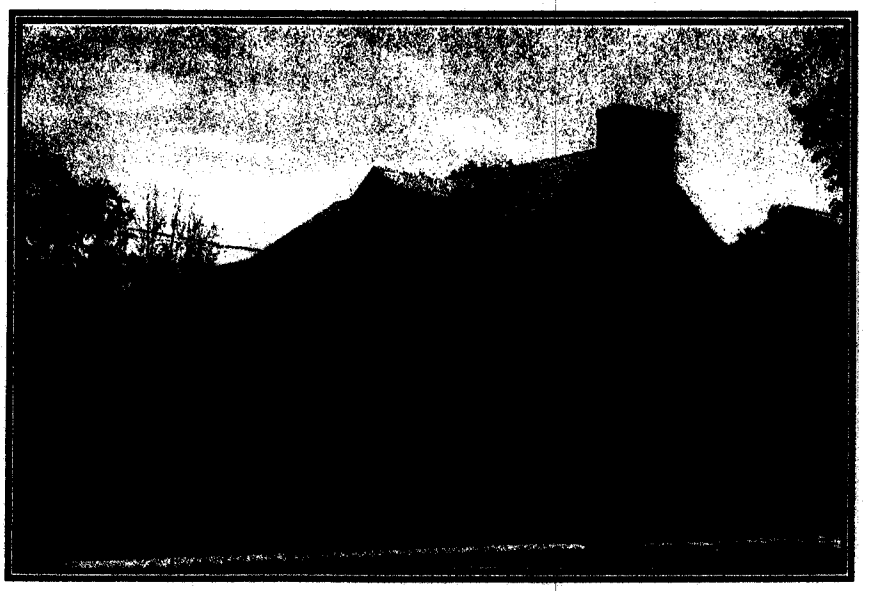

Photo 11 Colonial Revival-Looking Southeast

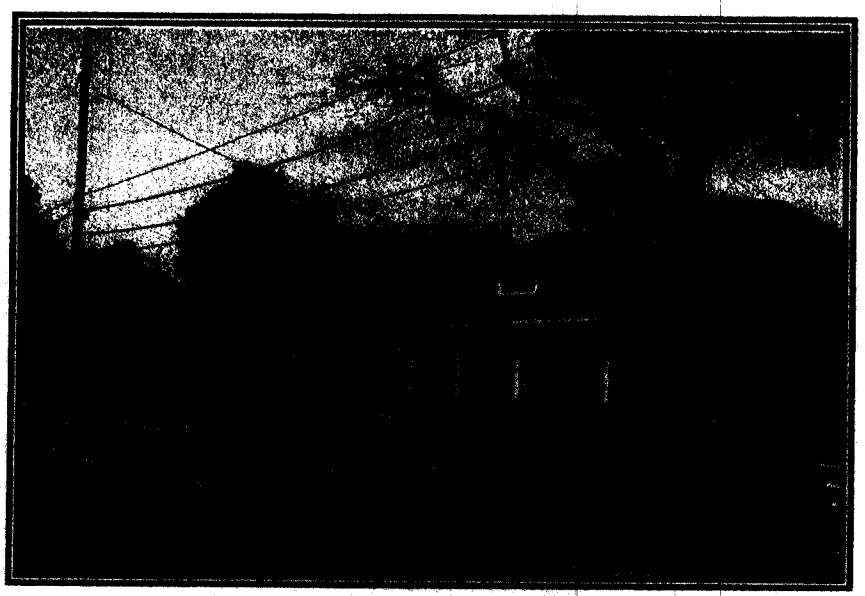

Photo 12 Structures in Proposed Expansion-Looking Northwest

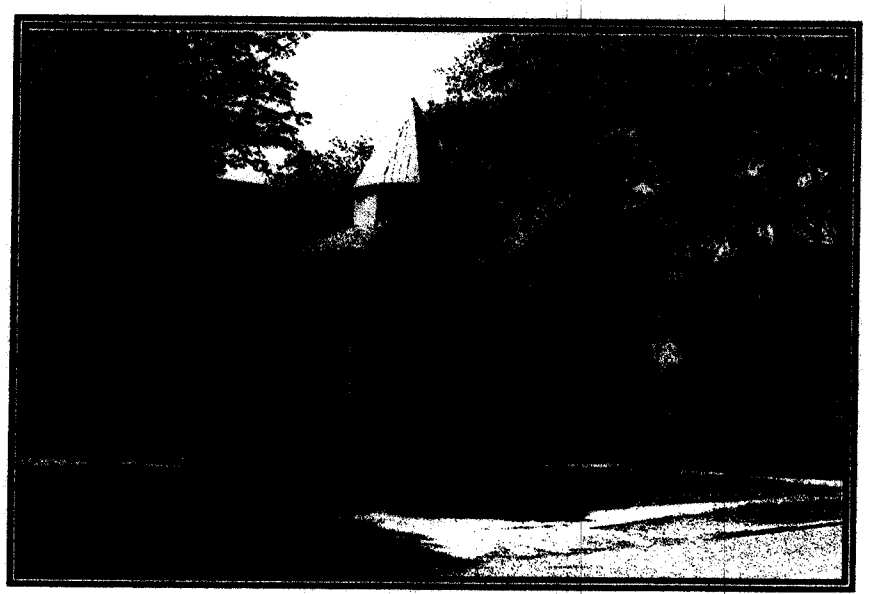

Photo 13 Residence in Proposed Expansion-Looking South west

APPENDIX H – Engineering Cost Estimates

US 62 ESTIMATES OF PROBABLE COSTS

Item No. 2-138.00

Muhlenberg County

RIGHT OF WAY

			Spot Improvements		3 Lane Section	
Item	**Cost/Unit**	**Unit**	**Total Number of Units**	**Total Cost**	**Total Number of Units**	**Total Cost**
Residence	$110,000	EA	3	$330,000	3	$330,000
Acreage - Residential	$30,000	AC	2.55	$76,500	3.24	$97,200
Acreage - Commercial	$250,000	AC	0.4	$100,000	0.8	$200,000
Businesses*	$243,000	EA	1	$243,000	1	$243,000
Subtotal				$749,500		$870,200

UTILITIES

			Spot Improvements		3 Lane Section	
Item	**Cost/Unit****	**Unit**	**Miles**	**Total Cost**	**Miles**	**Total Cost**
	$555,000	ML	0.76	$421,800	1.6	$888,000
Subtotal				$421,800		$888,000

CONSTRUCTION & DESIGN

			Spot Improvements		3 Lane Section	
Item	**Cost/Unit**	**Unit**		**Total Cost**		**Total Cost**
Construction Costs	---	---		$3,105,000		$5,900,000
Design (9%)	---	---		$279,450		$531,000
Subtotal				$3,384,450		$6,431,000

TOTAL				**$4,555,750**		**$8,189,200**

* Assumes $200,000 for the business, $15,000 for remediation costs, $250,000/acre (.09+A2 acres), $5000 for other costs

** Provided by District 2