



2011

## US-25 DNA Pre-Design Scoping Study



Laurel County: US- 25 Updated Area Review  
Project Area A: KY-229 from MP 11.522 to MP 12.211 to include: US-25 from MP 11.200 to MP 11.400 and

Project Area B: Co

Prepared by:

Kentucky Transportation Cabinet

District 11 and Division of Planning

2/15/2011

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## I. INTRODUCTION

### A. Study Purpose

The purpose of the Data Needs Analysis (DNA) Scoping Study is to address the nine elements of purpose and need as defined by the National Environmental Policy Act (NEPA) in order to develop a draft Purpose and Need Statement for the project. This study will also provide a more defined project scope, possible alternatives and a planning-level cost estimate for each of these alternatives. The study area will also review possible environmental impacts and any other information that may be beneficial in the Project Development phase of this project.

### B. Location

This project is located in Laurel County both inside and outside the southernmost city limits of London and east of the Interstate 75. See **Figure I-1** for a vicinity map of the project area. This project includes two separate project areas. Project Area A consists of KY-229 from mile point 11.540 to mile point 12.210 and includes the intersection with US-25 from mile point 11.200 to mile point 11.300 as well as Mardis Street. Project Area B includes US-25 between mile point 10.080 to mile point 10.180 for intersection with Commercial Drive, Commercial Drive, James Lewis Drive and intersection with KY-229 between mile point 11.110 and mile point 11.210. The project area is shown with aerial photography in **Figure I-2** and in **Exhibit 1** in **Appendix A**. The projects termini are also shown topographically in **Figure I-3** and in **Exhibit 2** in **Appendix A**. Photos were also taken along this portion of the US-421 Corridor to provide a more graphical representation of the area and they are provided in **Appendix B**.

## II. PRELIMINARY PROJECT INFORMATION

### A. Existing Conditions/Roadway Data

Data describing the existing conditions along the identified sections of US-25 and KY-229 was taken from the Division of Planning's Highway Information System (HIS) database. No data was available from the HIS database for Commercial Drive or James Lewis Drive due to being county roads that were originally considered to have low traffic volumes. The only available data was on US-25 and KY-229. Data came from the online version of the database and data was extracted in July 2010. **Table II-1** provided the classification and system information on sections of both roadways that directly impact Project Areas A & B.

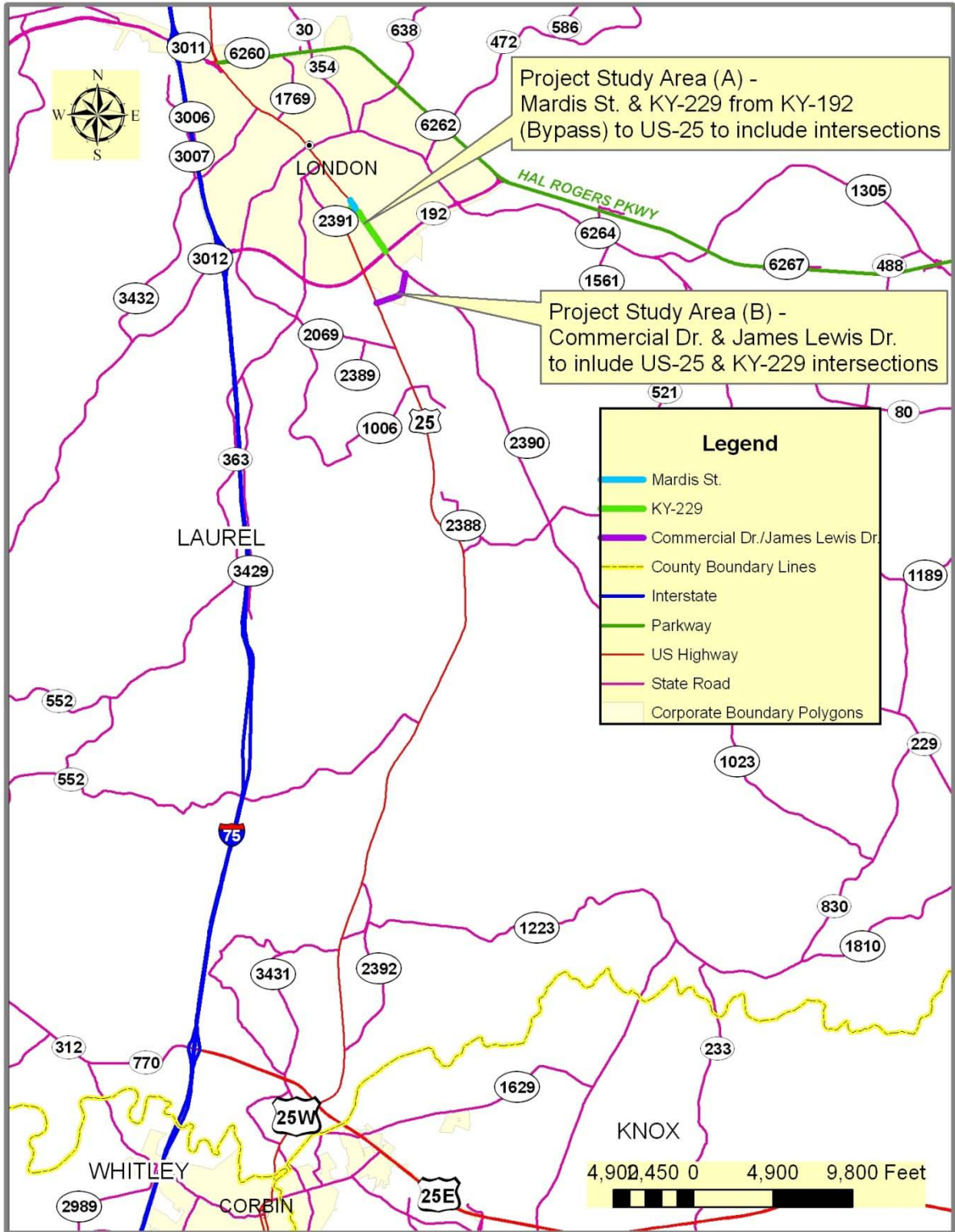


Figure I-1: Project Vicinity Map

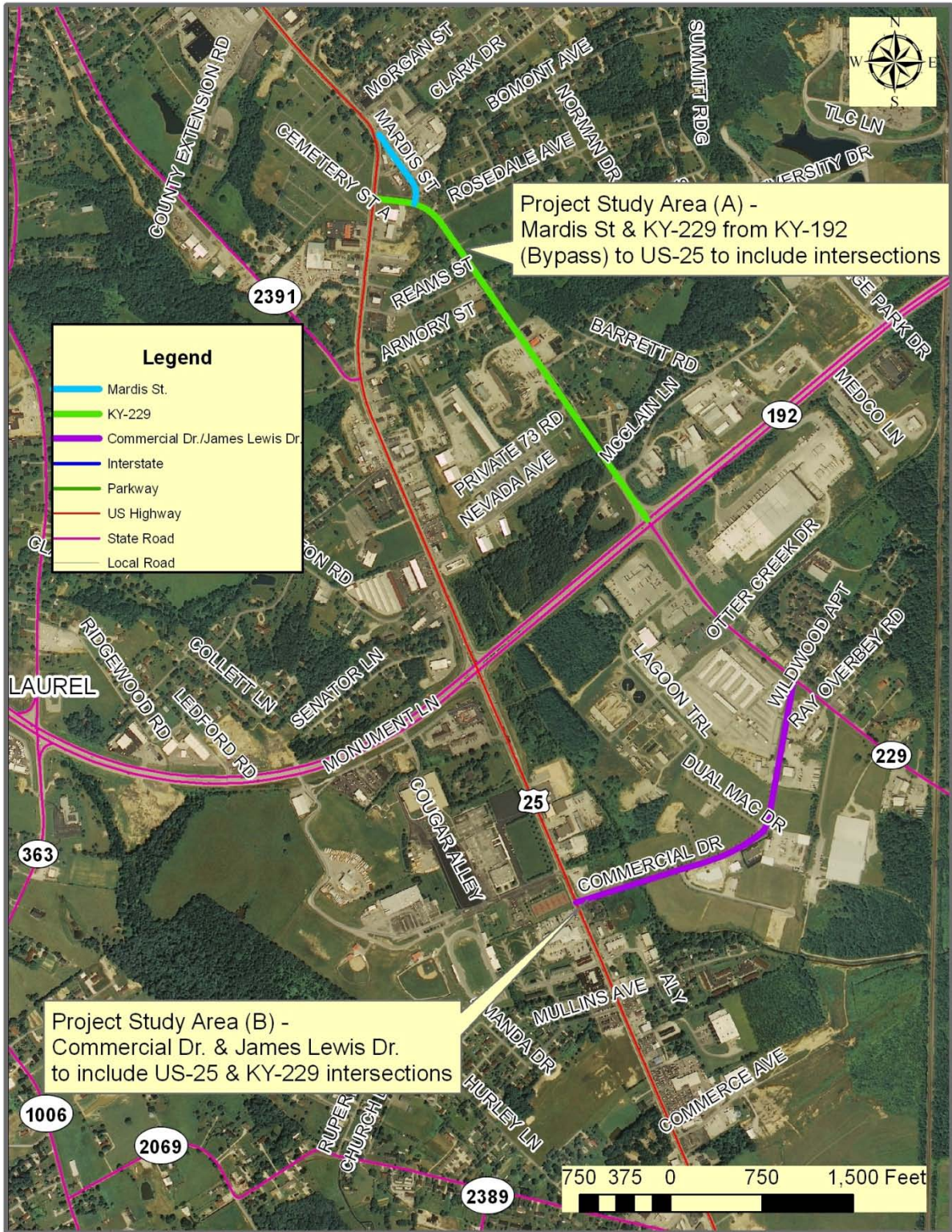


Figure I-2: Project Area Map



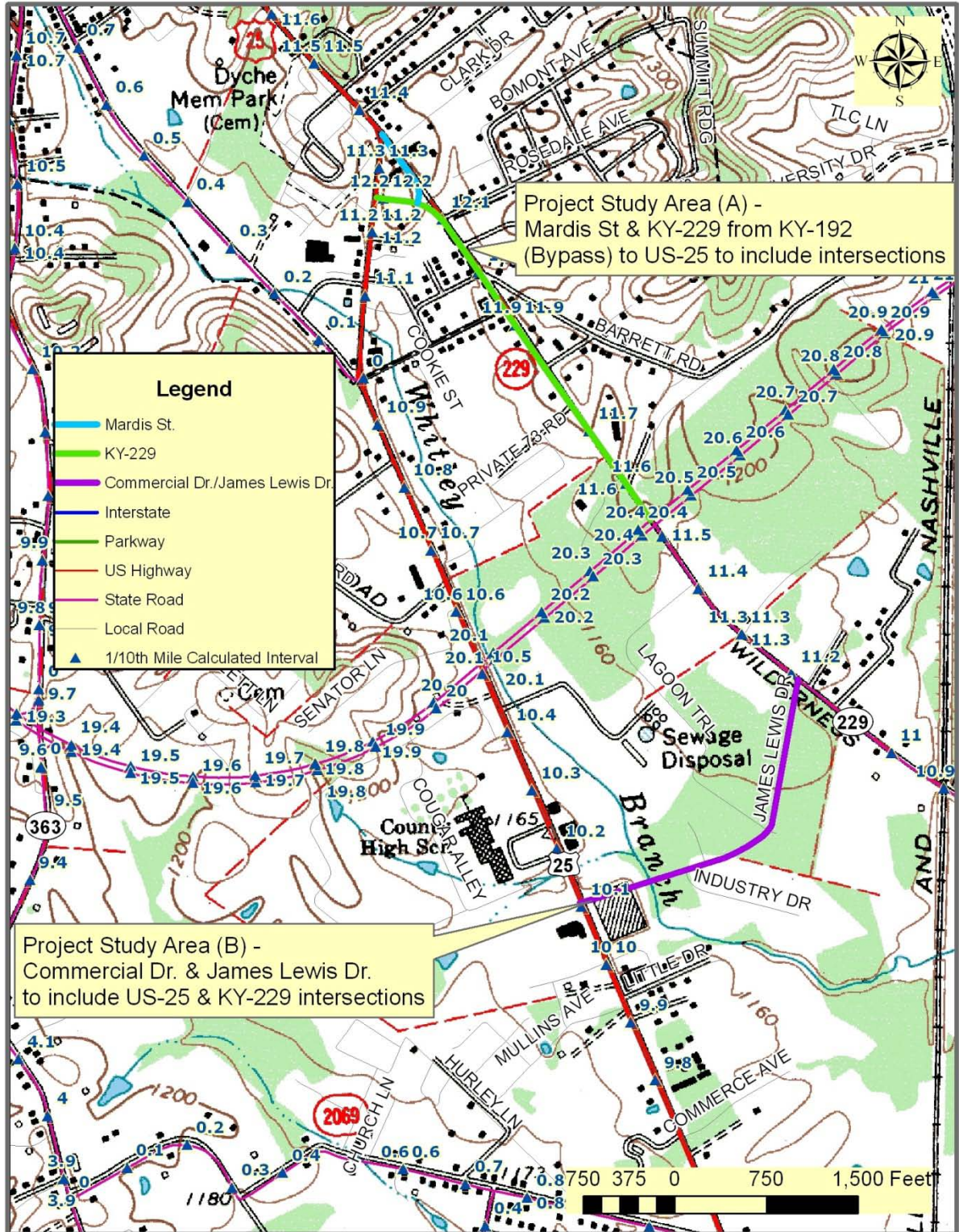


Figure I-3: Project Topographic Map

Route	Beginning MP	End MP	Functional Classification	Truck Weight Class	Coal Haul Highway System	Extended Weight Coal Haul Highway System
US-25	9.028	13.620	Urban Minor Arterial	AAA	Yes	Yes
KY-229	10.888	12.211	Urban Minor Arterial	AA	No	No

Source: Highway Information System (HIS) Database KYTC

AAA = 80,000 pounds gross load limit

AA = 62,000 pounds gross load limit

**Table II-1: Existing Route Classification and Systems**

Within Project Study Area A, only KY-229 is included in the National or Kentucky Scenic Byway System under the name “Wilderness Road Heritage Highway”. The only portion of US-25 just north of Project Study Area (A) through downtown London, Kentucky is also a part of the “Wilderness Road Heritage Highway”.

Both US-25 & KY-229 are located in generally flat terrain. Passing sight distance along US-25 within the study area was found to be 20 percent. This percentage is based upon the amount of stripping for passing in the cardinal direction within a designated segment of roadway.

There is only one horizontal curve along US-25 between mile points 10.000 and 11.400 that is greater than 6.0 degrees. This curve is located just north of the intersection of US-25 and KY-229 from mile point 11.2720 to mile point 11.3460. Even though this section of US-25 is not on KY-229, it will be significantly impacted by improvements to Project Area A. This curve was defined to have degree of curvature of 13.0 for a rounded radius of 440.7 feet with a posted speed limit of 25-35 miles per hour. Under the Geometric Design Guide for Urban Roads, used by the KYTC Division of Highway Design (Exhibit 700-04), at a design Speed of 45 mile per hour (as set by the current design team) and maximum super elevation of 4.0 percent, the radius should be 730.0 feet.

KY-229 has one horizontal curves located between mile point 12.090 and mile point 12.160 with a radius of 428.0 feet. This curve was designed to provide a perpendicular tie-in to the old US-25. Using the same reference as stated in the previous paragraph, the minimum radius allowed with a 45 mph design speed assuming a maximum super-elevation of 4.0 percent for this urban minor arterial street is 730.0 feet.

There are no vertical curves on US-25 in Laurel County between mile points 10.000 and mile point 11.400 that did not meet current design standards per the HIS database. However, there is a vertical curve along KY-229, just north of the KY-192 Bypass, between mile point 11.522 and mile point 12.211, there is a vertical curve that fell within the grade range of 4.5 to 6.4 percent. This curve also has private driveways and two county road intersections located mid-way up the grade in both directions as well as two access points at or near the

crest of this curve. The remaining portion of KY-229 between mile points 11.150 and 11.522 did not reveal concerns with vertical curves as the grade ranged from 0.5 to 2.4 percent.

US-25 from mile point 10.000 to mile point 10.300 is a two-lane highway with a two-way left turn lane (TWLTL) and from mile point 10.300 to mile point 10.505 is a four-lane highway with a TWLTL. The balance of US-25 from mile point 10.505 to mile point 11.400 is also a two-lane highway with a TWLTL. The shoulder width along this roadway is approximately two feet from mile point 10.000 to 10.300 and between mile points 11.200 to 11.500. The shoulder width along this roadway increases to ten foot shoulders between mile points 10.300 and 10.505. The driving surface of this entire section of roadway is asphalt pavement. US-25 from mile point 9.028 to mile point 10.162 was last resurfaced in 1990 with mile point 10.162 to mile point 10.505 being resurfaced in about 2005 due to construction of new turn lanes into South Laurel High School. The balance of US-25 from mile point 10.505 to 11.400 was reconstructed and resurfaced in 1997.

The entire length of the KY-229 corridor is an undivided two-lane highway with a constant lane width of eleven feet. The shoulders vary along the length of the corridor at a width between two to four feet. The two foot shoulder width occurs along KY-229 south of the intersection with KY-192 (Bypass), while a three foot shoulder exists north of this intersection between mile points 11.600 and mile points 12.211. The only four foot shoulder is located between mile points 11.522 and 11.600. The driving surface along this entire portion of KY-229 is asphalt pavement that was last resurfaced in 2008.

A proposed new back entrance into South Laurel High School also known as the “Southern Bypass” will connect from KY-363 (west end) through to the intersection of US-25 and Commercial Drive (east end). Even though Project Area B, consists primarily of Commercial Drive and James Lewis Drive, there is currently little information available on either roadway. These two local roads are undivided two-lane highways that have recently been resurfaced with a bituminous mixture. Both local roads are anticipated to be significantly impacted by increased traffic flow, once the Southern Bypass is complete.

There were three major crossroads identified along US-25 between mile points 10.000 and 11.400. These major crossroads were with KY-192 (Bypass) at mile point 10.505, KY-2392 at mile point 10.972 and KY-229 at mile point 11.255. The last actual Average Daily Traffic (ADT) count for KY-192 was identified in 2009 to be 23,800 vehicles per day and for KY-229 was identified in 2010 to be 4,640 vehicles per day. There are several minor roadways. One minor side road also known as KY-2392 was listed on the HIS database to have an Average Daily Traffic (ADT) count of 1,250 vehicles per day in 2008. The route log for minor crossroads and other important interconnections along this section of US-25 is shown in **Table II-1**.

KY-229 had only two major crossroads identified between mile points 11.000 and 12.211. These two major crossroads were with KY-192 (Bypass) at mile point 10.522 and US-25 at mile point 12.211. The last actual Average Daily Traffic (ADT) count for KY-192 covered the same section that included the US-25 intersection and was identified in 2009 to be 23,800 vehicles per day, while US-25 was identified in 2010 to be 14,100 vehicles per day. Several

minor side roads were also listed in the HIS route log. The route log for minor crossroads and other important interconnections along this section of US-25 is shown in **Table II-2**.

County	Route	Mile point	Description
Laurel	US 25	10.004	APT COMPLEX ST
Laurel	US 25	10.107	COMMERCIAL DR
Laurel	US 25	10.162	LAUREL TECH COLLEGE ST
Laurel	US 25	10.394	MONUMENT LN
Laurel	US 25	10.505	KY 192
Laurel	US 25	10.606	SENATOR LN
Laurel	US 25	10.650	HAMPTON RD
Laurel	US 25	10.675	NEVADA AVE
Laurel	US 25	10.837	W CARTER RD
Laurel	US 25	10.972	ARMORY ST/KY 2391
Laurel	US 25	11.084	REAMS ST
Laurel	US 25	11.122	GREER AVE/LONDON STOCKYARD ST
Laurel	US 25	11.128	LONDON STOCKYARD ST
Laurel	US 25	11.157	MADISON SQ
Laurel	US 25	11.223	CEMETERY ST A
Laurel	US 25	11.255	KY 229
Laurel	US 25	11.389	MORGAN ST
Laurel	US 25	11.4390	BALSINGER ST/CEMETERY ST A

Source: Highway Information System (HIS) Database KYTC

**Table II-1: US-25 Route Log**

County	Route	Mile point	Description
Laurel	KY 229	11.118	RAY OVERBEY ST
Laurel	KY 229	11.167	BROWN LN
Laurel	KY 229	11.187	JAMES LEWIS DR
Laurel	KY 229	11.297	OTTER CREEK DR
Laurel	KY 229	10.412	LAGOON TRAIL
Laurel	KY 229	10.522	KY 192
Laurel	KY 229	10.614	MCCLAIN LN/SHELTER LN
Laurel	KY 229	10.752	NEVADA AVE
Laurel	KY 229	10.819	BARRETT RD
Laurel	KY 229	10.931	ARMORY ST
Laurel	KY 229	11.996	REAMS ST
Laurel	KY 229	12.103	ROSEDALE AVE
Laurel	KY 229	12.147	MARDIS ST
Laurel	KY 229	12.211	US 25

Source: Highway Information System (HIS) Database KYTC

**Table II-2: KY-229 Route Log**

B. Utilities

The following are names of utilities in the area and contact information for those utilities. The actual location of these utilities will need to be verified in future project phases.

Electric:

**Jackson Energy Cooperative**

177 Barbourville Road  
London, Kentucky 40744  
Office: (606) 864-2363  
[jackener@jacksonenergy.com](mailto:jackener@jacksonenergy.com)

**E. ON ~ U.S. & Kentucky Utilities Company**

Greg Geiser  
Planning & Scheduling for Highway Relocations  
820 West Broadway; P. O. Box 32020  
Louisville, Kentucky 40232-2020  
Office: (502) 627-3708  
Cell: (502) 376-9510  
Fax: (502) 217-2179  
[Greg.Geiser@eon-us.com](mailto:Greg.Geiser@eon-us.com)

Cable:

**New Wave Communications**

Darrel Nave  
5026 South Highway 27  
Somerset, Kentucky 42501-6058  
Office: (606) 678-9215, Ext. #3  
Fax: (606) 679-7111  
[dnave@newwavecom.com](mailto:dnave@newwavecom.com)

**Time Warner Communications**

Elbert Lamb/Earl Finley  
1617 Foxhaven Drive  
Richmond, Kentucky 40475  
Office: (859) 626-4816

Telecommunications:

**Windstream Communications, Inc.**

Bowman Hail  
719 North Main Street  
London Ky. 40741  
Office: (606) 878-3258  
[Bowman.Hail@windstream.com](mailto:Bowman.Hail@windstream.com)

**Kentucky Data Link**

Rick Cunico  
Windstream Communications, Inc.  
3701 Communications Way  
Evansville, IN 47715  
Office: (812) 759-2831  
[richard.cunico@windstream.com](mailto:richard.cunico@windstream.com)

Gas:

**Delta Natural Gas**

Steve Lewis  
Engineer  
3617 Lexington Road  
Winchester, Kentucky 40391  
Office: (859) 744-6171, Ext. #122  
Fax: (859) 744-3623  
[Slewis@deltagas.com](mailto:Slewis@deltagas.com)

Water:

**Laurel County Water District**

1670 East Hal Rogers Parkway  
London, Kentucky 40741  
Office: (606) 878-9420

**Laurel County Water District #2**

Jeff Anderson  
Project Manager  
3910 South Laurel Road  
London, Kentucky 40744  
Office: (606) 878-2494  
Office: (606) 523-5579  
Fax: (606) 878-2448  
[Info.laurel@laurelwater.com](mailto:Info.laurel@laurelwater.com)

**London Utility Commission**

801 North Main Street, P.O. Box 918  
London, Kentucky 40741  
Main Office: (606) 864-2103  
Water Plant: (606) 864-7551  
Fax: (606) 864-2131  
[Luc1@kih.net](mailto:Luc1@kih.net)

Sewer:

**London Utility Commission**

801 North Main Street, P.O. Box 918  
London, Kentucky 40741  
Main Office: (606) 864-2103  
Wastewater Plant: (606) 864-7611  
Fax: (606) 864-2131  
[Luc1@kih.net](mailto:Luc1@kih.net)

It is important to note that there are several large diameter sewer force mains and gravity sewers in the area due to London Utility Commission Wastewater Treatment Plant (WWTP) being located in between Project Area A & Project Area B. The WWTP facility is located due south of KY-192 (Bypass), north of Commercial Drive and James Lewis Drive and between US-25 and KY-229. **Figure II-1** shows a current map of utilities found throughout Project Area A and Project Area B. There are overhead electric, cable, and telephone lines throughout both project areas as well as water and sewer lines. Further attention will be needed on locating gas lines in both project areas as no detailed information was available through our utilities GIS database.

### C. Agency Coordination

The project team met on June 22, 2010 at the District 11 Manchester office to review and discuss this project, develop a purpose and need statement as well as identify possible alternatives. This study will discuss each of these areas in greater detail as presented in this meeting. A description of each alternative and cost estimate from District 11 will also be provided. See **Exhibit 1** in **Appendix C** for the 1<sup>st</sup> Project Team Meeting Minutes.

## III. PROJECT PURPOSE AND NEED

### A. Legislation

The following is a description of the project as it is listed in the 2010-2012 General Assembly's Enacted Roadway Plan.

- **Item #11-0147.00, Laurel County**

<u>Phase</u>	<u>Fund</u>	<u>Year</u>	<u>Estimate</u>
D:	SB2	2010	\$3,130,000
R:	SP	2012	\$2,000,000
U:	SP	2012	\$800,000
C:			\$0

DESCRIPTION:

WIDEN US-25 TO 5 LANES FROM KY-1006 TO KY-2069. CONSTRUCT A CONNECTOR FROM US-25 TO KY-229 UP TO KY-192 AND CONSTRUCT A BACK ENTRANCE TO THE SCHOOL FROM KY-192 BYPASS. (06CCR)

A Project Identification Form (PIF) was found as control number 11 063 B0025 46.30 and was last updated November 11, 2010. This PIF listed the construction cost for this project at \$7,000,000, while the 2006 Study estimated construction to be \$4,250,000. See **Exhibit 2** in **Appendix C** for a copy of the PIF on this project and **Exhibit 3** in **Appendix C** for a copy of the PIF found as control number 11 063 D0229 1.26 that includes the portion of KY-229 discussed as part of Item # 11-0147.00.

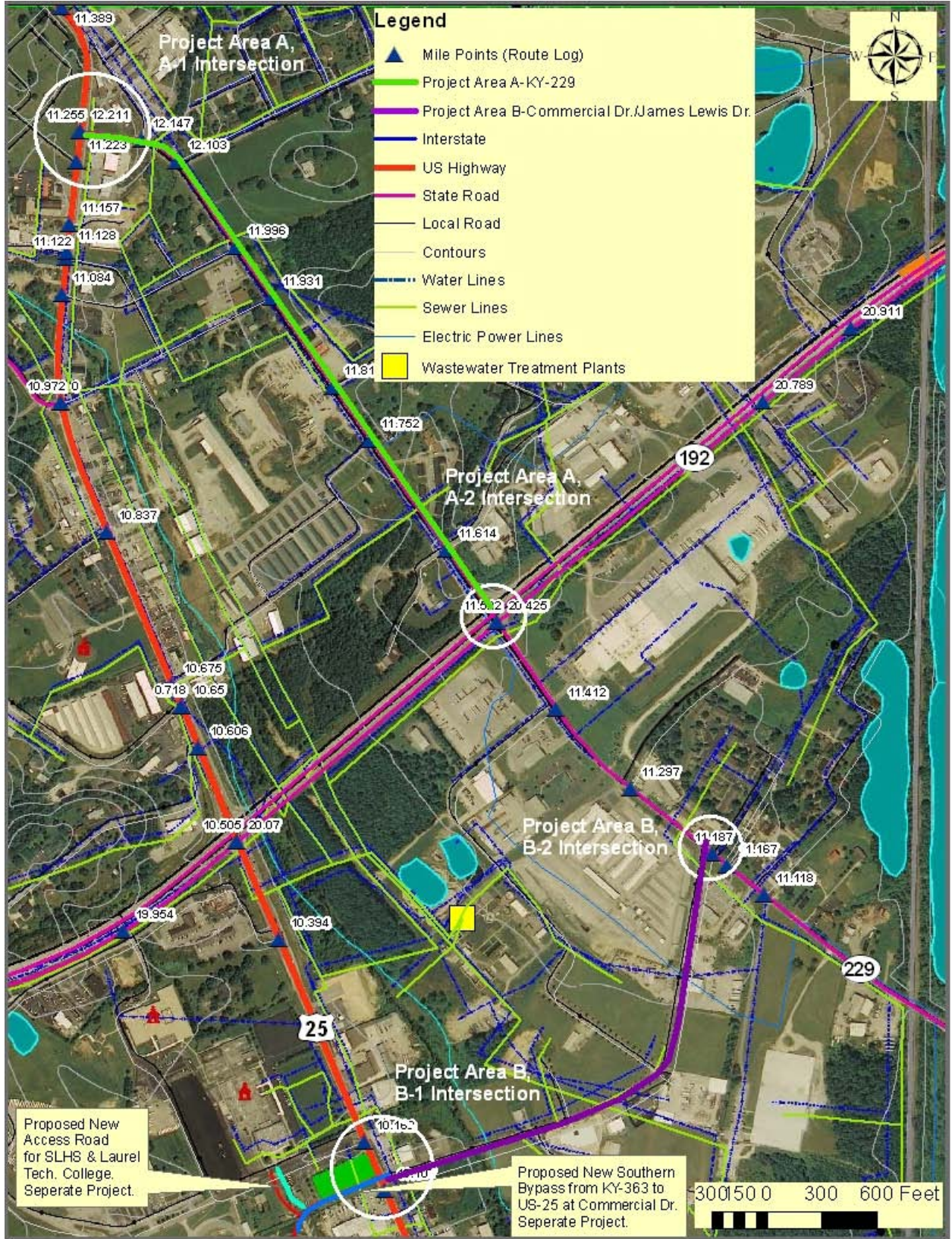
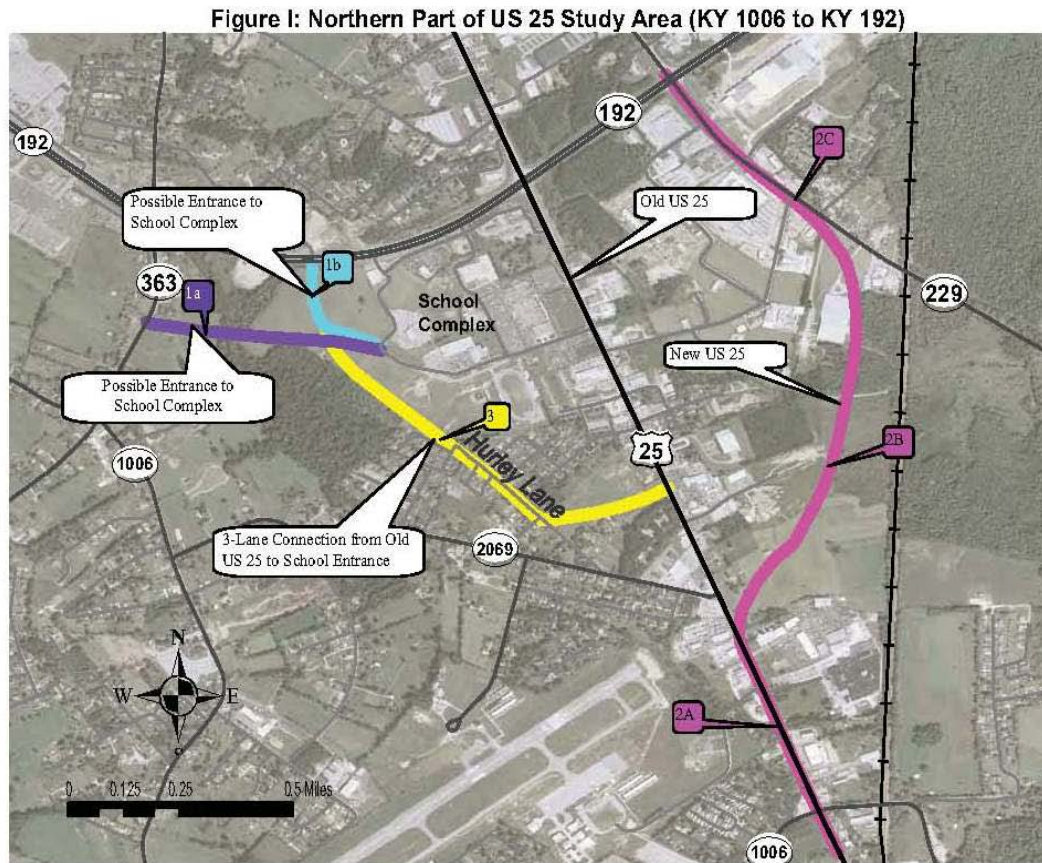


Figure II-1: Project Area Utilities Map



## B. Project Status

A separate scoping study titled US-25 Laurel County from Corbin to London was originally identified under Item # 11-8201.00 and completed in July 2006. (This study will be known as the 2006 Study throughout the remainder of this document.) The priorities identified in the 2006 Study are shown in **Figure III-1**, described under the Executive Summary of the 2006 Study is stated as follows:



**Figure III-1: 2006 Priority Projects Map**

1. “Construct back entrance to the school complex connecting the school to either (a) KY-363 or (b) KY-192. (Determining whether this connection should be made with KY-363 or KY-192 needs to be determined at the design phase after consultation with the schools and the public. At the time of the report, the schools have not responded to letters or phone calls requesting their input. Origin-Destination information provided by the schools is vital to providing the correct access to the schools.)
2. Reconstruct/ Reroute US-25 from KY-1006 to KY-192
  - a. Improve US-25 from KY-1006 to KY-2069
  - b. Reroute US-25 from KY-2069 to KY-229
  - c. Improve KY-229 from the intersection with new US-25 to KY-192.
3. Provide a new connection between the school and old US-25 by using part of Hurley Lane and an undeveloped plot of land adjacent to US-25. The priority should be

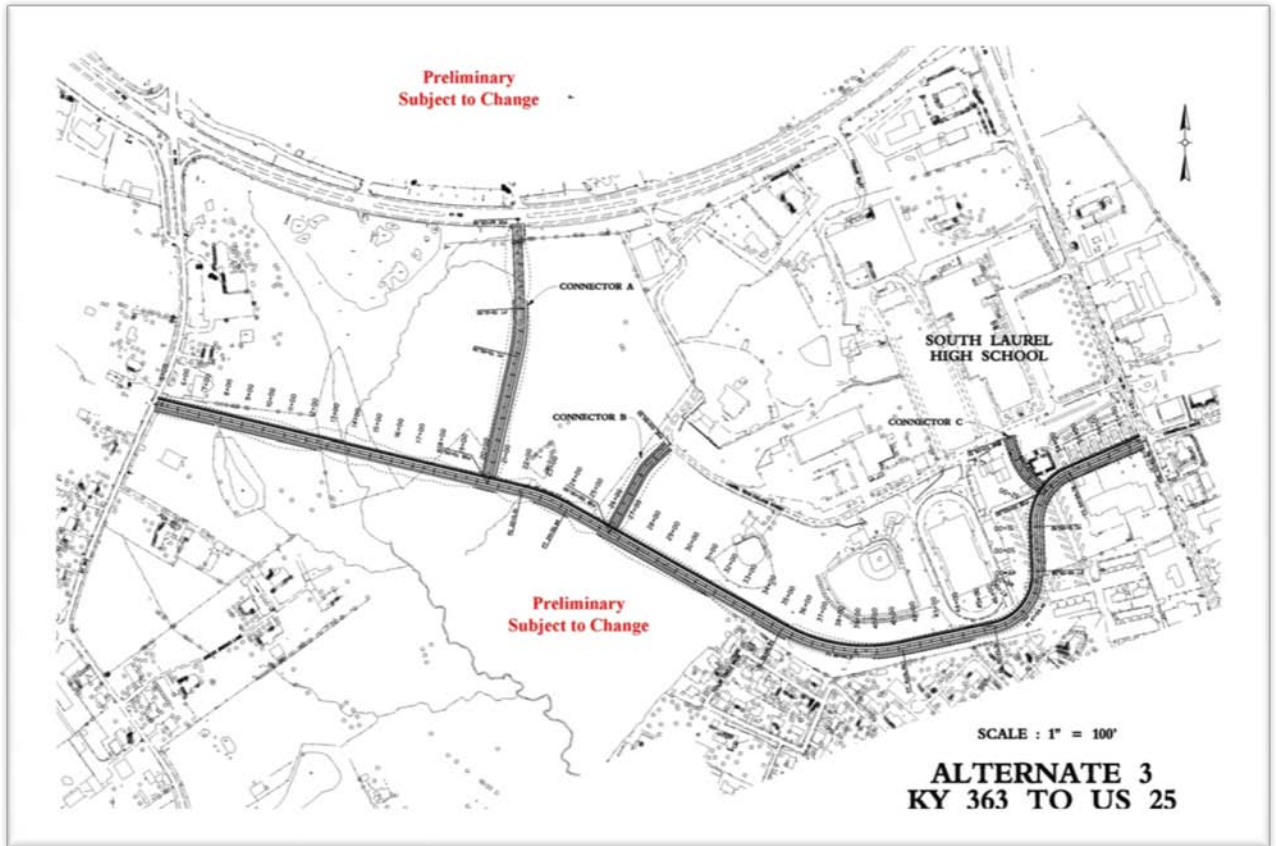
- evaluated thoroughly after Priorities 1 and 2 have been constructed. Priorities 1 and 2 by themselves may reduce congestion enough to make Priority 3 a lower priority.
4. Expand US-25 between KY-1189 and KY-1006 to a four-lane rural highway.
  5. Expand US-25 between US-25E and KY-1189 to a four-lane rural highway.”

All of the above listed priorities were intended to help address highway capacity, growth and safety concerns along US-25 and around South Laurel High School, while still addressing the need for an alternative route in the area during incidents of closures on Interstate 75.

Of these priorities, only Priority 1 is still proceeding as recommended in the scoping study and is now entering Phase II Design. Priority 2, also known as the “New US-25”, involves the widening of US-25 beginning just south of KY-1006 before redirecting traffic northeast away from US-25 onto KY-229. Once the New US-25 joins KY-229, starting between the railroad tracks and James Lewis Drive, this portion of KY-229 will also be widened to include the intersection with KY-192 (Bypass). This priority is ready to begin Phase 1-Design. Due to a change in conditions, all other priorities are being addressed differently from the approach identified in the 2006 Study.

These changes have lead to other concerns that will be identified and discussed through this DNA Pre-Design Scoping Study. Since completing the 2006 Study, conditions surrounding the desired back entrance to South Laurel High School have evolved to directly impact Priority 1 and Priority 3 of the 2006 Study. Priority 1b (Connector A) has recently been removed from consideration by the project team (See **Exhibit 1** in **Appendix C** for the 1<sup>st</sup> Project Team Meeting Minutes), while Priority 1a is still planned to connect to KY-363 (site of new Lowe’s location) with a change in the eastern termini location. See **Figure III-2** for a plan view of the proposed revision to the South Laurel High School Back Entrance. This change in termini for Priority 1a was due to the Laurel County School Board deciding to not allow public traffic through the South Laurel High School Campus. Instead, those representing the school have offered to provide land south of the football field to route traffic around the campus to the intersection of US-25 and Commercial Drive that is now known as the “New Route/New Southern Bypass”. Phase II design is now ready to begin for this approach. Refer to the March 31, 2008 completed Traffic Forecast Technical Report-Laurel County: New Connector to South Laurel High School, by the KYTC Division of Planning, (See **Figure III-3** and associated **Table III-1**) for traffic related information on this revised priority keeping in mind Priority 1b (Connector A) shown in this figure is no longer being considered.

This change in route has also contributed to the desire to remove Priority 3 (Hurley Lane) from consideration as this new route will serve the purpose of access for the school as well as direct the majority of thru traffic away from the school to US-25. While Priority 2 is still moving forward, the 2006 Study limited the review area to end at the intersection of KY-192 (Bypass) and KY-229/”New US-25”. Therefore, consideration was not given to the added demand of continued traffic north along KY-229 beyond this intersection to the intersection with US-25/Main Street in downtown London, nor to the increased traffic demand upon Commercial Drive and James Lewis Drive to the New US-25 once the “New Route/New Southern Bypass” is complete.



Note: Connector A is no longer being considered.

**Figure III-2: 2006 Priority 1 - Revised Back Entrance to SLHS Map**

The current status of these remaining priorities is the main reason for review of two new project areas due to the possible impacts from rerouted traffic. The new project limits to be considered were previously shown in **Figure I-2 & I-3** and are discussed as follows:

- Project Area A – is along KY-229 from mile point 12.211 at Intersection A-1 (intersection of US-25 and KY-229) on south to mile point 11.522 at Intersection A-2, (intersection of KY-192 to KY-229).
- Project Area B – runs along Commercial Drive/James Lewis Drive from mile point 11.110 at Intersection B-1 (intersection of US-25 with Commercial Drive) on east along Commercial Drive/James Lewis Drive to mile point 11.195 at Intersection B-2 (intersection of KY-229 with James Lewis Drive).

Traffic Forecast Technical Report  
 Laurel County: New Connector to South Laurel High School (Item No. 11-147.10)

**SEGMENT AND TURN MOVEMENT LOCATION MAP**



KYTC Division of Planning

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**Figure III-3:  
 2008 Priority 1 - Revised SLHS Back Entrance Segment & Turn Movement Location Map**

Traffic Forecast Technical Report  
 Laurel County: New Connector to South Laurel High School (Item No. 11-147.10)

**SEGMENT SUMMARY (BUILD)**

Segment	Route	From	To	2008 ADT	2008 DHV	2028 ADT	2028 DHV	2028 Truck %	2028 DHV Truck%	20 Year ESALs
1	New Connector	KY 363	Connector A	2,000	650	8,000	1,200	11%	10%	1,100,000
2	New Connector	Connector A	Connector B	3,500	800	7,000	1,600	11%	10%	1,200,000
3	New Connector	Connector B	Connector C	1,000	200	5,000	700	12%	12%	800,000
4	New Connector	Connector C	US 25	4,000	800	8,000	1,200	16%	15%	1,600,000
5	Connector A	New Connector	KY 192	2,000	650	8,000	1,200	11%	10%	1,100,000
6	Connector B	New Connector	CS 1134	3,500	800	5,000	1,200	11%	10%	900,000
7	Connector C	New Connector	CS 1134	3,500	800	5,000	1,200	16%	15%	1,000,000

**Table III-1: 2008 Priority 1 – Revised SLHS Back Entrance Segment Summary**

### C. System Linkage

Both US-25 and KY-229 are utilized as direct routes to Corbin, Kentucky and Barbourville, Kentucky, respectively. US-25 is also designated as an “Alternative Route” in the event of an emergency on Interstate 75 between London and Corbin. See **Figure III-4** and **Exhibit 3** in **Appendix A** for more local system linkage information.

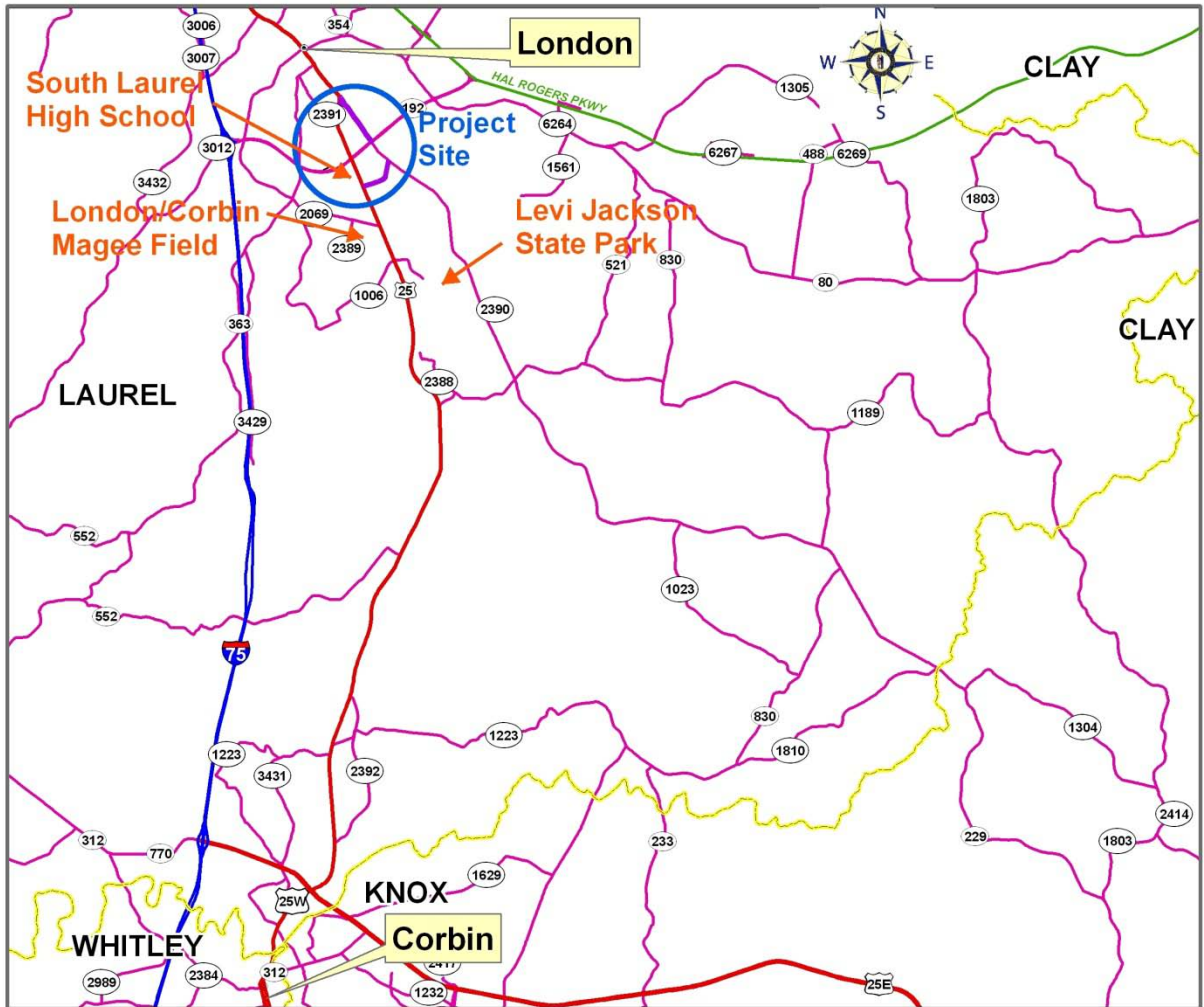


Figure III-4: System Linkage Map

The current road classification for both US-25 and KY-229 is important in helping to better understand the system linkage. See the previous discussion under Section II. Preliminary Project Information, sub-section A. Existing Conditions/Roadway Data to include **Table II-1 Existing Route Classifications and Systems** for detailed information on both US-25 and KY-229 from the HIS database.

No information was available for Commercial Drive and James Lewis Drive in the HIS database.

#### D. Modal Interrelationships

There is no mass public transit on this route.

The only rail line that is located near this area is owned and operated by CSX (formerly C&O) Transportation. This rail line runs mainly north and south somewhat paralleling Interstate 75 through Laurel County but crosses over KY-229 just south of Project Area B. It has been noted that train related delays have caused traffic to back up to the intersection of KY-229 and James Lewis Drive, which is located in Project Area B.

#### E. Social Demands and Economic Development

There were several social demands and potential areas for development in the near vicinity to both Project Area A and Project Area B. These social demands and development potentials are listed as follows:

##### Social Demands

- South Laurel High School is located just west of the project site.
- Levi Jackson State Park is located just southeast of the project site off of KY 1006.
- Laurel Lake is located west of the project site.
- Crooked Creek Country Club and Golf Course is to the southeast of the project site, off of US-229.
- New Lowes Store is located west of project site on KY-363 and proposed back entrance roadway (Item # 11.147.10).

##### Development Potential

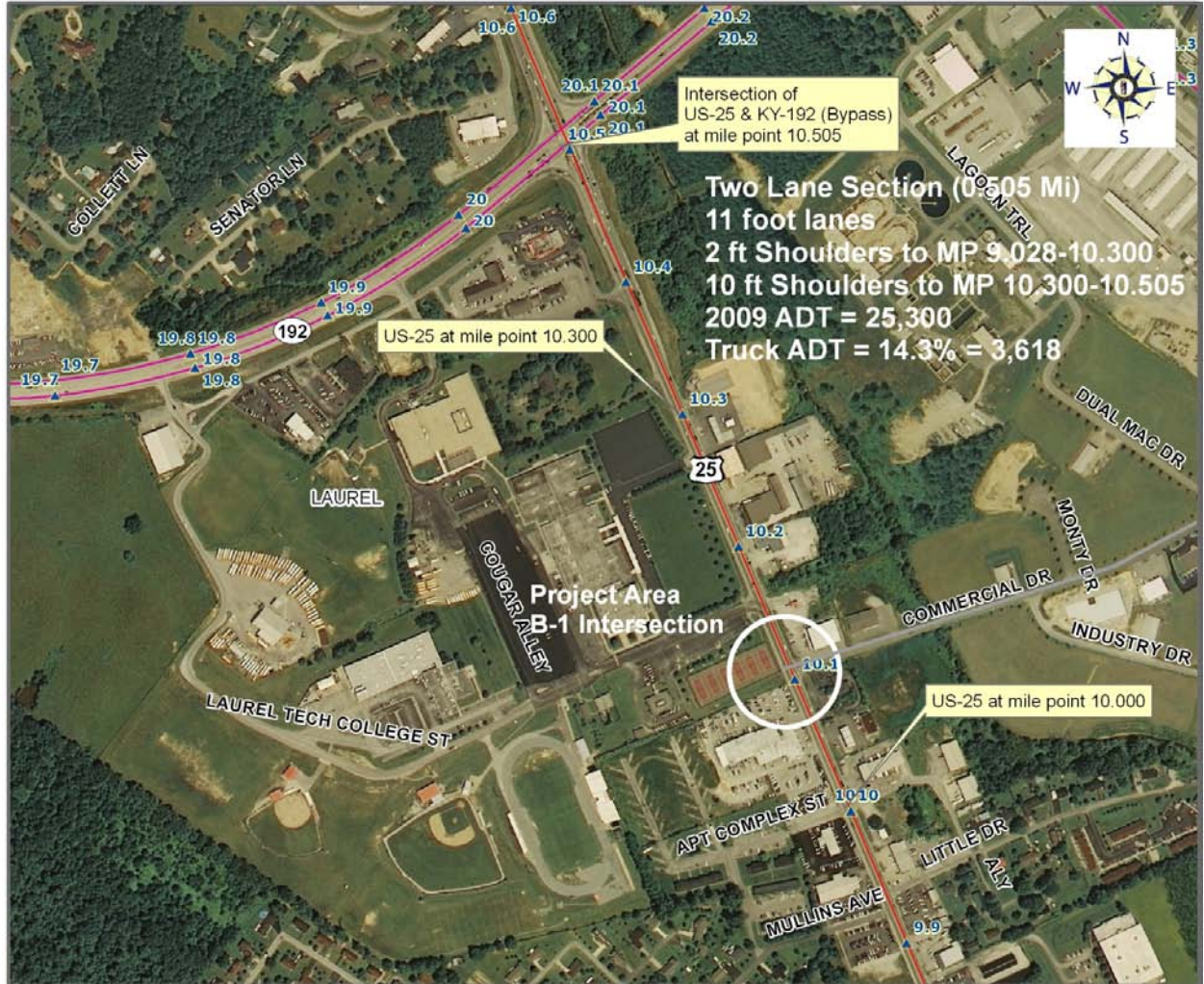
- Heavy Industrial Development is located both north and south of the project site.
- Significant Commercial Development is located throughout the project area.
- An Industrial Park is located along Commercial Drive and James Lewis Drive with potential for future growth.
- Laurel Grocery Distribution is located along KY-229 just to the east of the project area.

## F. Transportation Demand

The two defined project areas were broken up into four sections relative to the information provided through the HIS and HPMS database systems. These sections were defined as follows:

- ❖ Section 1- covers the area along US-25 around Project Area B -Intersection B-1 at the intersection of US-25 and Commercial Drive.
- ❖ Section 2- includes the area along US-25 around Project Area A-Intersection A-1 at the intersection of US-25 and KY-229.
- ❖ Section 3- consists of the area along KY-229 called Project Area A from the intersection with US-25 to and including the intersection with KY-192 (Bypass) also known as Intersection A-2.
- ❖ Section 4- covers the area along KY-229 around Project Area B-Intersection B-2 at the intersection of KY-229 and James Lewis Drive.

**Figure III-5** shows breakout Section1 for Project Area B on US-25 between mile points 10.000 and 10.505 to include ADT and Truck percentages among other specific information for this location. This section of US-25 has generally followed a 3.0 percent growth rate with a significant increase sometime between 1995 and 2001. The Average Daily Traffic (ADT) projected trend ranges from 34,500 vehicles per day to 41,000 vehicles per day by 2030 for the no build scenario per the Laurel County Traffic Forecast No-Build and Build US-25 Widening, Item # 11-8201.00 completed November 7, 2005. This traffic can be viewed in detail in the 2006 US-25 Laurel County from Corbin to London Scoping Study under Appendix E.



**Figure III-5: Section 1 – US-25 (from MP 10.000 to MP 10.505)**

Another area reviewed for historical traffic demands was the northern most portion of Project Area A identified as Section 2. This section consists of US-25 from mile point 11.200 to mile point 11.400 to include the intersection of US-25 and KY-229 and can be seen in **Figure III-6**. This figure also lists some important information regarding this location to include ADT and truck percentages.

Historical review of Section 2 showed a growth rate of 0.5 percent or less with a significant increase sometime between 1985 and 1993 along this portion of US-25. **Figure III-7** shows this historical information graphically from mile point 10.972 to mile point 12.163.



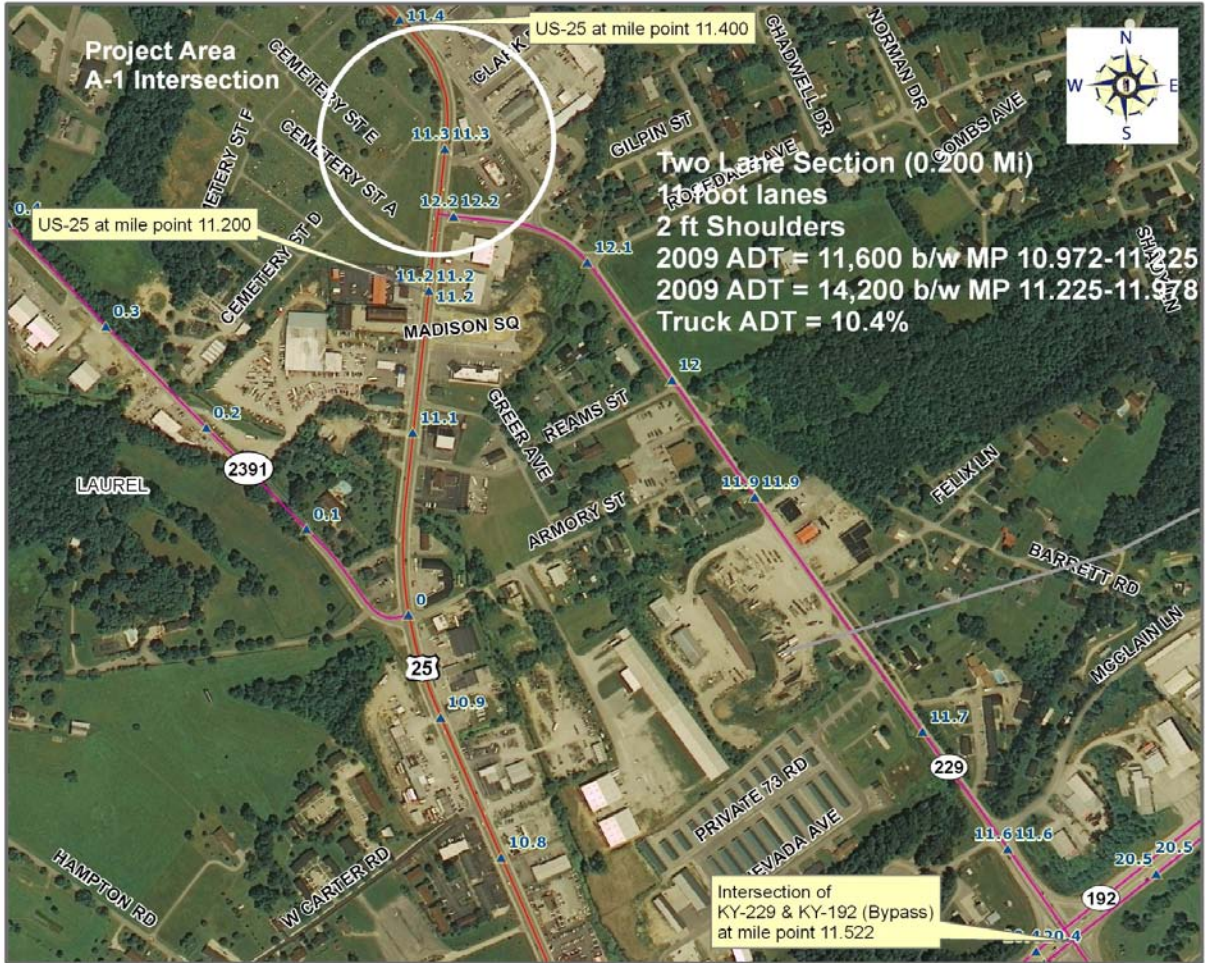


Figure III-6: Section 2 - US-25 (from mile point 11.200 to mile point 11.400)

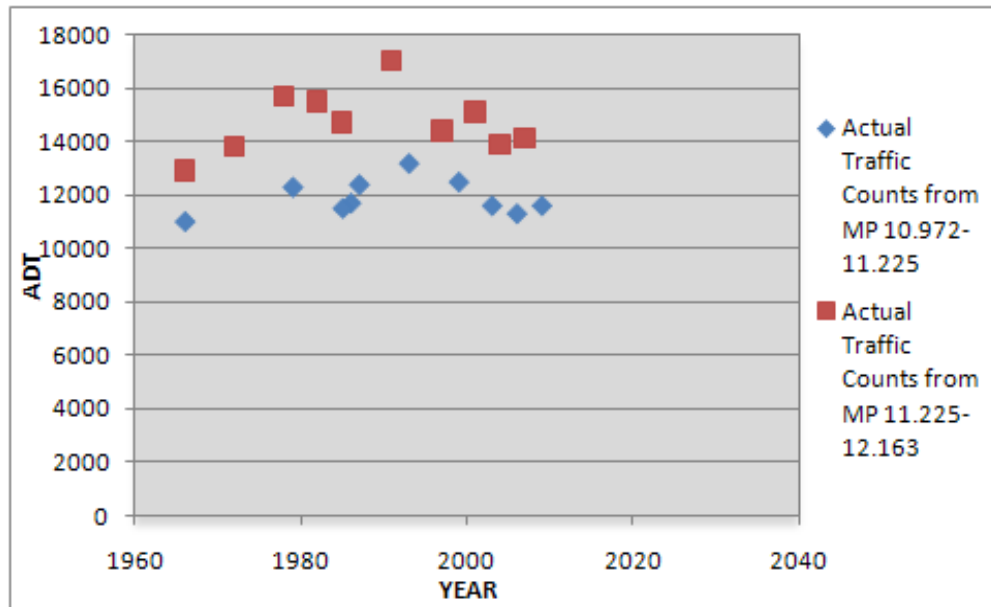


Figure III-7: Section 2 - US-25 Historical Traffic Demand (from MP 10.972 to MP 12.163)

Section 3 was also reviewed for historical demands from transportation through the balance of Project Area A. The information provided for this section begins from the intersection with KY-192 (Bypass) at mile point 11.522 and proceeds north along KY-229 to the intersection with US-25 at mile point 12.211. This section is shown in **Figure III-8**.

The historical traffic demand for Section 3 is graphically displayed in **Figure III-9**. The most recent actual traffic count was completed in 2010 with a count of 4,640 vehicles per day. Based upon actual traffic counts collected for this section from 1966 to 2007, a historical 1.2% growth rate was identified with a significant increase sometime between 1987 and 1991.

The last section of Project Area B, known as Section 4, starts at mile point 11.150 and ends at the intersection with KY-192 (Bypass) at mile point 11.522. This section of roadway can be seen in **Figure III-10** and includes a list of some important information relative to this location.

Section 4 had the most recent actual traffic count performed in 2009 with an ADT of 9,230 vehicles per day. The historic traffic count data through Section 4 showed a 4.2% growth rate. This historical information is shown in **Figure III-11** with a significant increase in growth rate occurring from 1998 to 2002.

District 11 is in the process of requesting a model to cover for all four sections of this study. Section 1 is in need of an updated traffic forecast on the New Southern Bypass and intersection with US-25 and Commercial Drive due to the recent removal of Connector A to KY-192(Bypass) from the original forecast.



Figure III-8: Section 3 – KY-229 (from MP 11.522 to MP 12.211)

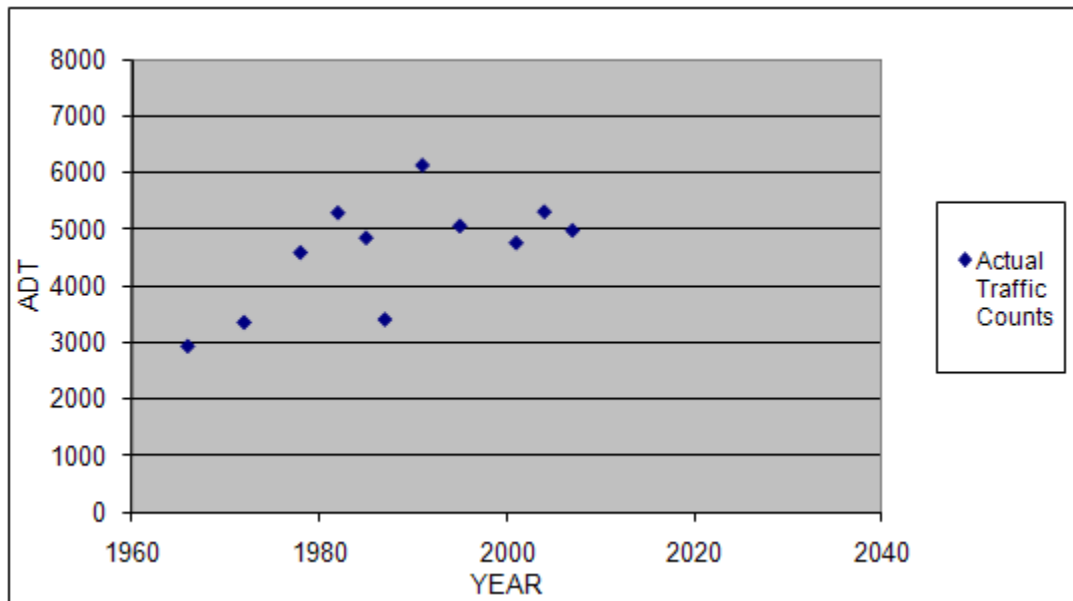


Figure III-9: Section 3 - KY-229 Historical Traffic Demand (from MP 11.522 to MP 12.211)

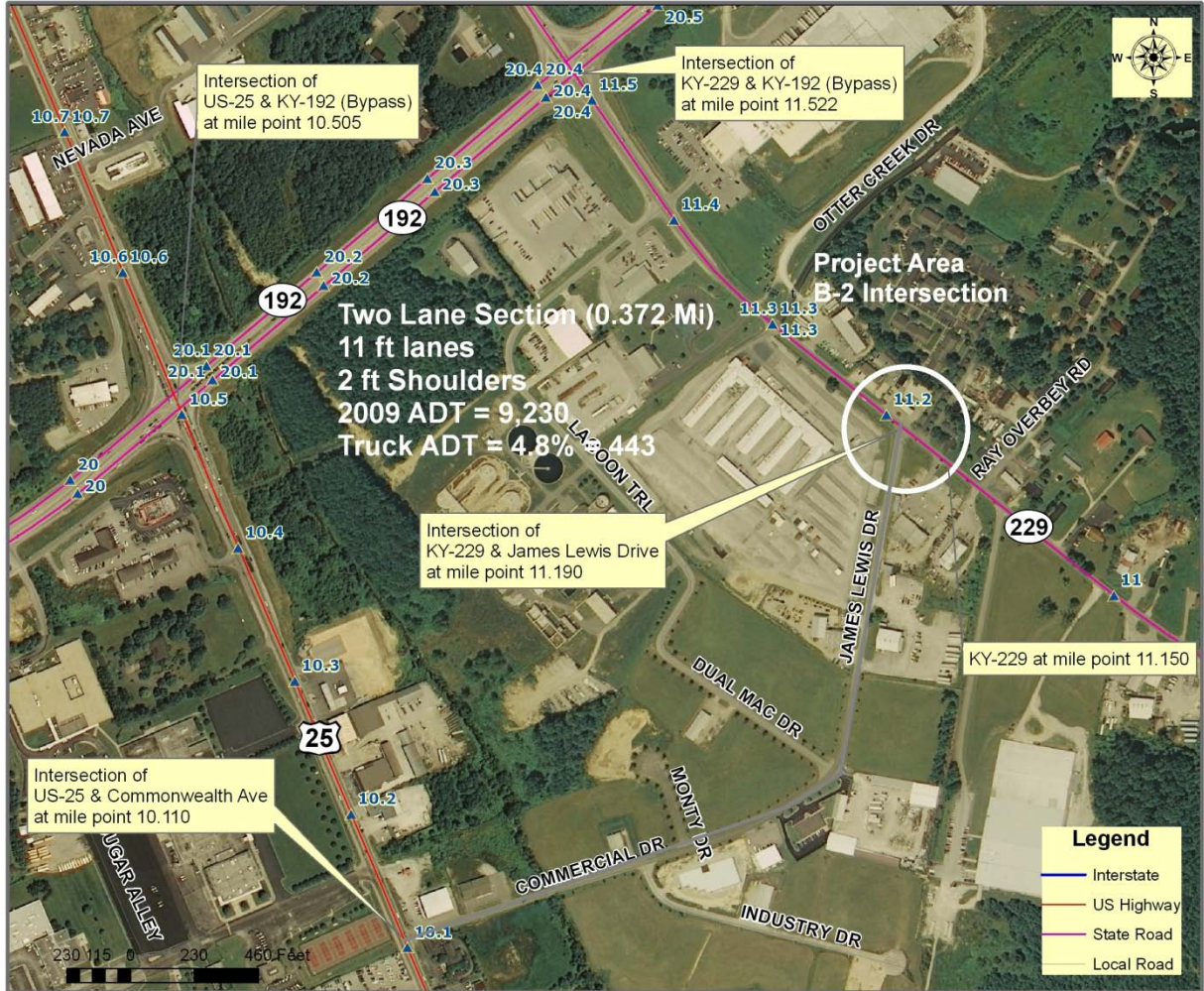


Figure III-10: Section 4 – KY-229 (from MP 11.140 to MP 11.240)

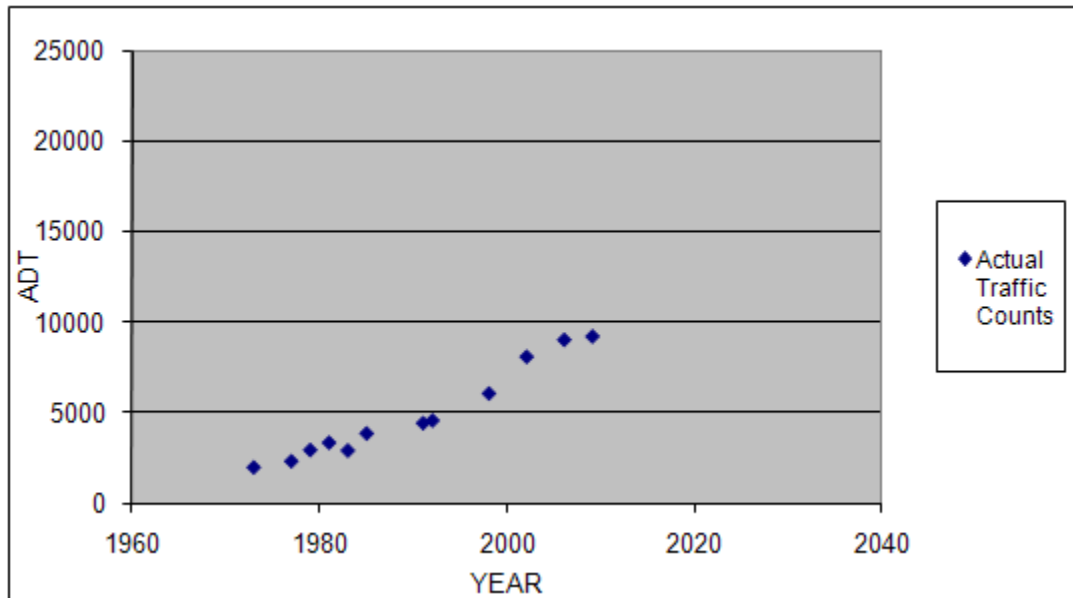


Figure III-11: Section 4 - KY-229 Historical Traffic Demand (from MP 11.140 to MP 11.522)

## G. Capacity

All four sections of roadway were reviewed through the volume to service flow ratio (VSF), International Roughness Index (IRI), Adequacy Rating (based on capacity, roughness and crashes) and Future ADTs. The following is a summation of findings for each of the sections:

1. US-25 (from mile point 10.000 to mile point 10.505)
  - Two-lane highway (from MP 10.000-10.300) & two-lane highway with TWLTL (from MP 10.300 to 10.505)
  - VSF = 1.11 (from MP 9.028-10.300) & 1.06 (from MP 10.300-10.505)
  - IRI = 97.0 (from MP 9.028-10.300) & 98.0 (from MP 10.300-10.505)
  - Adequacy Rating = 15.15% (from MP 9.028-10.300) & 21.56% (from MP 10.300-10.505)
  - Current ADT (2009) = 25,300 vehicles per day
  - Future ADT (2030) = 34,500 vehicles per day to 41,000 vehicles per day @ 2.0% growth rate for No-Build (per Laurel County Traffic Forecast No-Build and Build US 25 Widening, Item # 11-8201.00). An updated traffic forecast will be requested.
  - Consideration needs to be given to increasing the number of through lanes on this corridor to accommodate current and 2030 projected ADT.
2. US-25 (from mile point 11.200 to mile point 11.400)
  - Two-lane highway
  - VSF = 0.67 (from MP 10.972-11.255) & 0.43 (from MP 11.255-12.163)
  - IRI = 91.0 (from MP 10.972-11.255) & 113.0 (from MP 11.255-12.163)
  - Adequacy Rating = 39.09 percent (from MP 10.972-11.255) & 43.52 percent (from MP 11.255-12.163)
  - Current ADT (2009) = 11,600 vehicles per day (from MP 10.972 to MP 11.225) and 14,200 vehicles per day (from MP 11.225 to MP 11.978)
  - Future ADT (2030) = A traffic forecast will be requested (from MP 10.972-11.225)
  - Future ADT (2030) = A traffic forecast will be requested (from MP 11.255-12.163)
3. KY-229 (from mile points 11.522 to 12.211)
  - Two-lane highway
  - VSF = 0.50
  - IRI = 146.0
  - Adequacy Rating = 51.71 percent
  - Current ADT (2009) = 5,260 vehicles per day
  - Future ADT (2030) = A traffic forecast will be requested
4. KY-229 (from mile point 11.150 to mile point 11.522)
  - Two-lane highway
  - VSF = 0.67 (from MP 10.888-11.522)
  - IRI = 94.0

- Adequacy Rating = 16.06 percent
- Current ADT (2000)= 9,230 vehicles per day
- Future ADT (2030) = A traffic forecast will be requested (from MP 8.837-11.522)
- If the AADT continues to grow at the same rate identified historically, consideration may need to be given to increasing the number of through lanes on this corridor.

US-25 in Section 1 was the only location where the VSF was greater than 0.70 with a value of 1.11. The adequacy rating for this section of roadway was also the lowest at 15.15%, which means out of 100 roadways of this same functional class in Kentucky, approximately 85% were rated better than this section.

#### H. Safety

The Kentucky Collision Analysis for the Public Database maintained by the Kentucky State Police was utilized for the collection of collision data over a three year period from January 1, 2007 through December 31, 2009. Crash locations were discussed for each of the four separate sections (previously identified) to include manner of collision and type of collision. This collision data was also used to calculate Critical Rate Factors (CRF) in accordance with the procedure described in *Analysis of Traffic Crash Data in Kentucky (2005-2009)*, published by the Kentucky Transportation Center.

**Figure III-12** shows a map of both project areas and the crashes in and around these locations. As identified in this map, there are four separate intersections of concern that are directly connected to either Project Area A or Project Area B. This study will focus on those areas where the CRF is greater than 1.0.

The first area reviewed was Section 1 on US-25 between mile points 10.000 and 10.505, the western portion of Project Area B. Within this section, the intersection of US-25 and Commercial Drive is approximately 150 feet from an existing signalized intersection with Laurel Technical College Street and the main entrance to South Laurel High School (SLHS) Campus. **Figure III-13** shows the orientation of the adjacent intersection to the west side of Project Area B as well as a location and breakdown of crash types in the high CRF location.

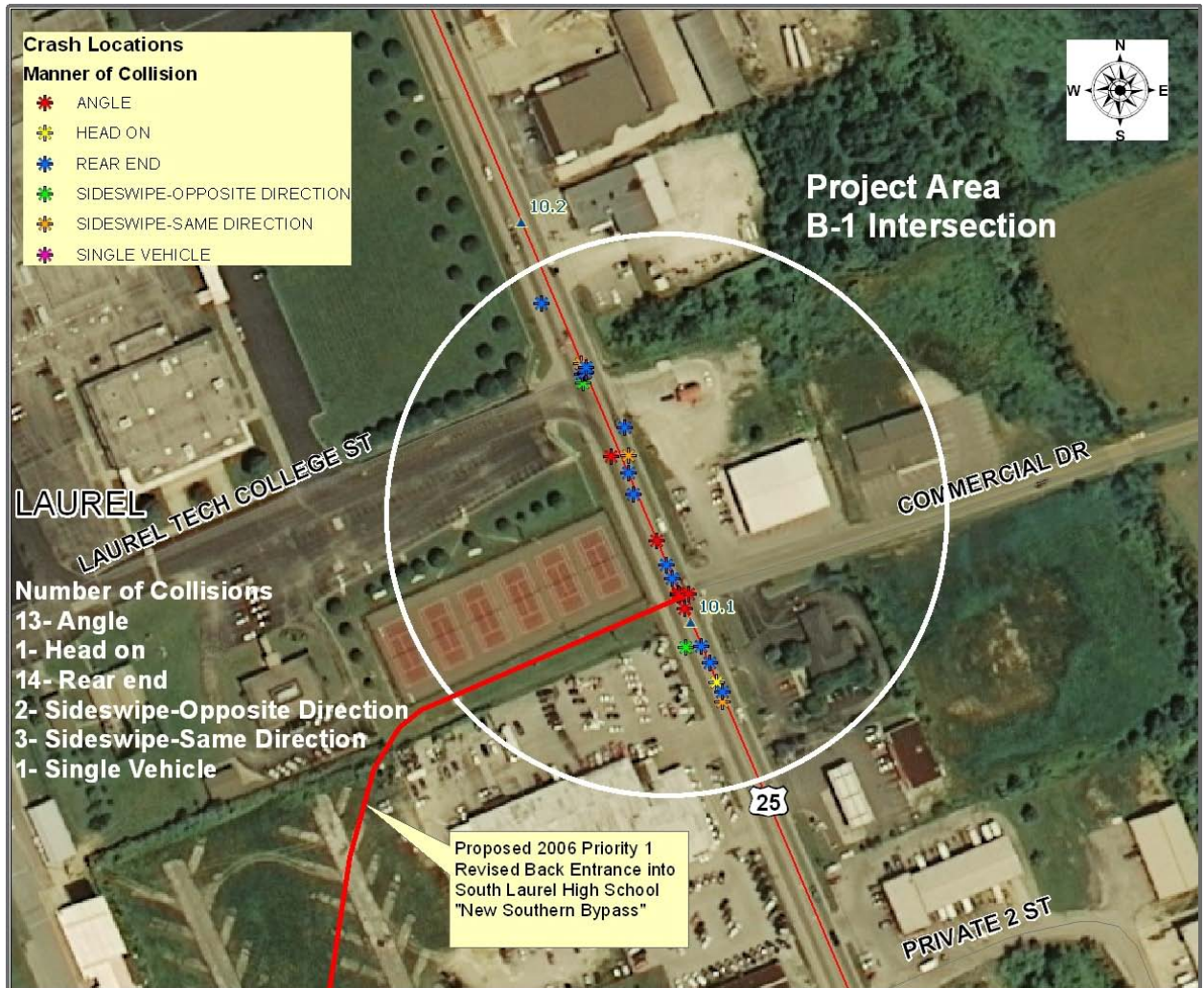
This location had a significant number of rear end and angle collisions at the intersections of US-25 with Commercial Drive and Laurel Technical College Street. There were a total of 34 collisions identified from January 1, 2007 through December 31, 2009 that occurred between mile points 10.080 and 10.180. Of these 34 collisions, five resulted in injuries and the rest were property damage only (PDO) collisions, resulting in a CRF of 2.04.

Upon further review of individual crash reports, several motorists involved in angle collisions noted not seeing opposing traffic until they had entered the intersection with US-25 from either Commercial Drive or Laurel Technical College Street. This can in part be attributed to the multiple access points in this location. The majority of collisions in Section 1 occurred during the day in dry weather conditions.



**Figure III-12: Collision Locations in and around Project Areas A and B**

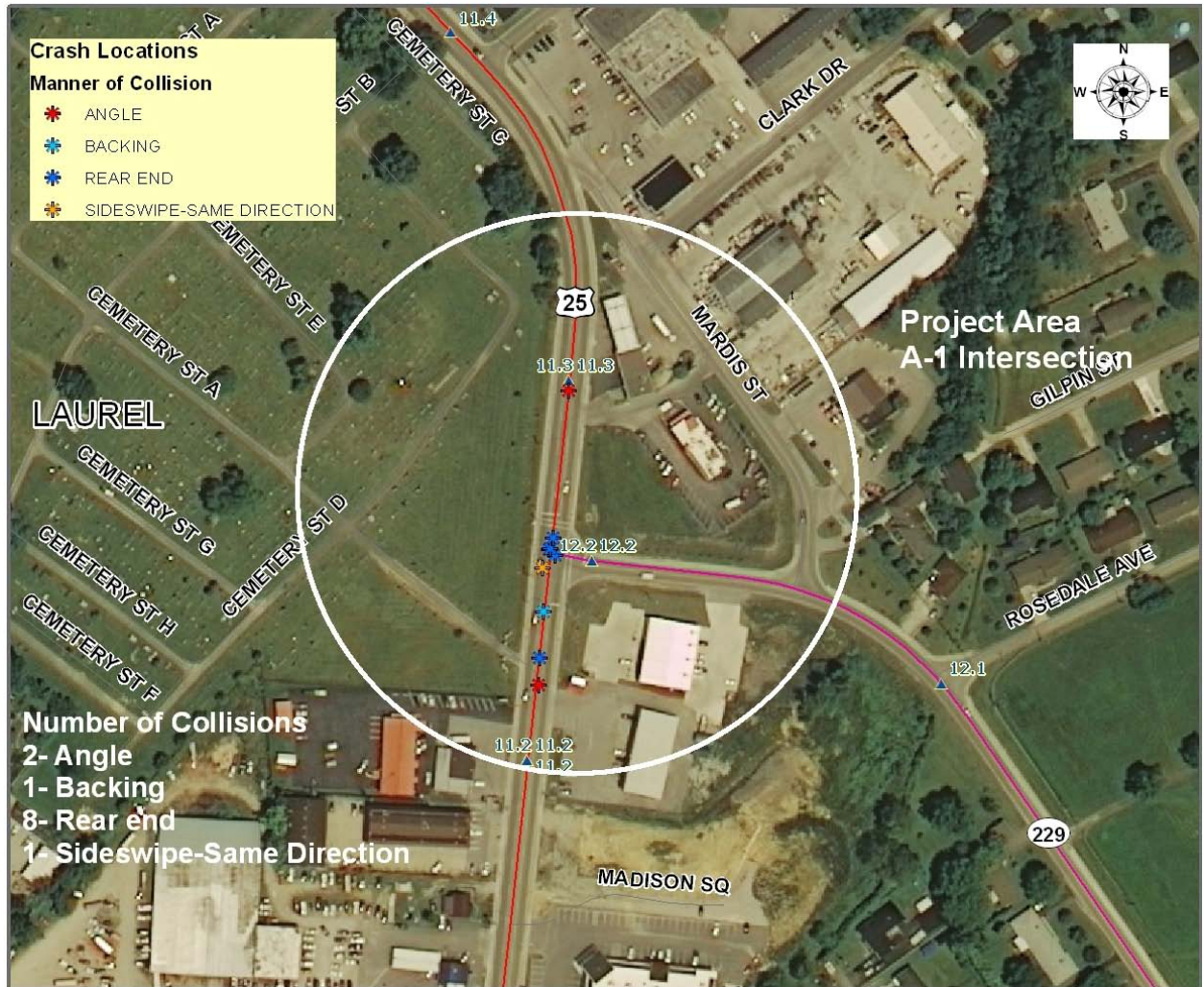
In regard to the close proximity of the two intersections of Commercial Drive and Laurel Technical College Street, a traffic signal study should be conducted to consider relocating this traffic signal to the intersection of the proposed New Southern Bypass with US-25 and Commercial Drive due to the anticipated increased traffic demand at that intersection. This approach was also agreed to by the Laurel County School Board as they have requested the traffic signal at US-25 and Laurel Technical College Street be relocated to the intersection of the proposed New Southern Bypass with that of US-25 and Commercial Drive. The school board has also proposed to provide right-of-way for the New Southern Bypass in an attempt to draw traffic away from SLHS for safety and security reasons. Once the New Southern Bypass is complete, the school board is also requesting that the current SLHS main entrance to US-25 be closed to require school traffic to utilize the connector roads to the New Southern Bypass.



**Figure III-13: Section 1 – US-25 High CRF Collision Location (from MP 10.080 to MP 10.180)**

Section 2 also had a collision analysis performed on US-25 from January 1, 2007 to December 31, 2009 specifically between mile points 11.200 and 11.300, to make up the northern most portion of Project Area A. This review resulted in the identification of 12 total collisions with two injuries, ten PDOs and zero fatalities. **Figure III-14** shows the locations of these collisions as well as the manner in which they occurred. Please note that the two rear end collisions not shown directly on US-25 were actually on US-25 and identified as “Rear End in Traffic Lane Both Vehicles Moving” at 11.223 and 11.255 mile points. These 12 collisions resulted in a 0.1 mile spot CRF of 1.09. A segment collision analysis of the location between mile points 11.255 and 12.163 found a CRF of 1.14.





**Figure III-14: Section 2- US-25 High CRF Collision Location (from MP 11.200 to MP 11.300)**

Of the 12 total collisions, there were several different collision types that included: eight rear ends, two angles, one backing and one sideswipe with two cars going in the same direction. All of these collisions occurred during daylight with the majority taking place in dry weather conditions. Further review of individual crash reports indicate that the majority of the rear ends occurred along southbound US-25 approaching the US-25 and KY-229 intersections. Motorists from these reports noted not having adequate time to see the signal or stopped vehicle in front of them before having to stop at the intersection. Review of this intersection with the project team indicated that there have been previous discussions on making the section of US-25 between mile points 11.225 and 11.415 a one-way route. Previous discussion also included reworking the intersection entirely since the other side/through roads were never closed to through traffic as originally intended. US-25 currently is a two-lane roadway with a two way left turn lane (TWLTL) in the middle.

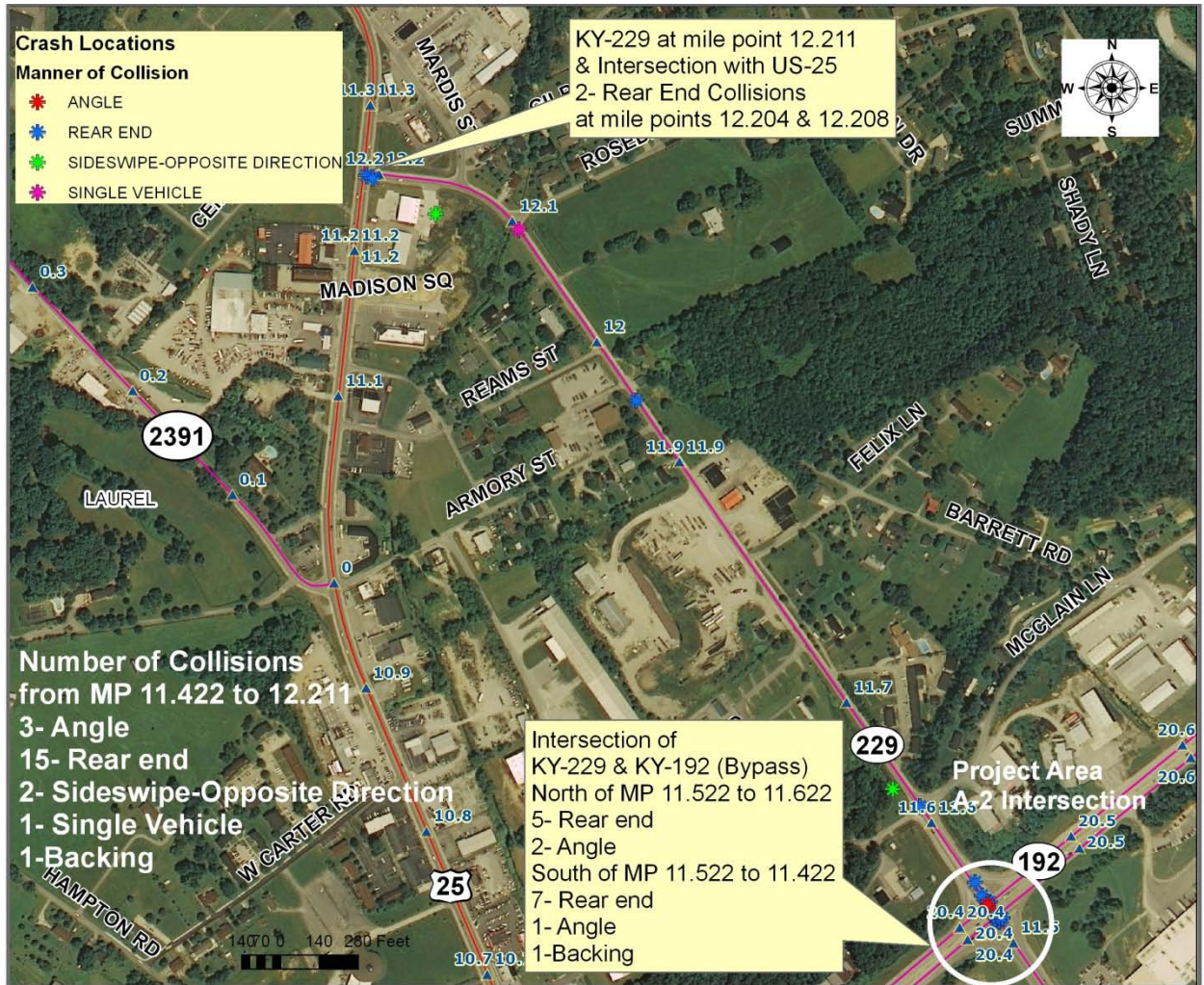
A collision analysis was also performed for Section 3 on KY-229 from mile point 11.522 to mile point 12.211, including the intersection of KY-229 and KY-192 (Bypass). There were a total of 22 collisions between mile point 11.422 (to include the southern side of the KY-229 and KY-192 (Bypass) intersection) and mile point 12.211 between January 1, 2007 and December 31, 2009. See **Figure III-15** for an aerial view of Section 3 as well as the location of the associated collisions. Of these collisions, there were two injuries, 20 PDOs and zero fatalities. The types of collisions were identified as follows: three angles, 15 rear ends, one single vehicle, one backing and two sideswipes in the opposite direction. Nearly all of these collisions occurred during the day and under dry weather conditions.

Of these collisions, the majority occurred in and around the KY-229 and KY-192 (Bypass). **Figure III-16** provides a close up view of the intersection of KY-229 and KY-192 (Bypass) as well as the location of these collisions. From mile point 11.511 to mile point 11.622 there were 15 collisions: one injury, 14 PDO and zero fatalities. Of these collisions, three were angles and the remaining 12 collision types were rear ends. These rear end collisions were close to evenly split from either direction along KY-229 when approaching this intersection. The 0.10 mile spot collision analysis found the following high CRF ratings between mile points 11.422 and 11.522 to have a CRF of 1.08 and between mile points 11.522 to 11.622 to have a CRF of 1.22.

For the segment collision analysis, the initial segment began at mile point become 11.447 to include the approach to this intersection. The result of the segment collision analysis found that both segments on either side of the intersection had a high CRF with mile points 11.447 to 11.522 having a CRF of 1.44, and mile points 11.522 to 11.600 having a CRF of 1.21.

The project team noted that the intersection functions well at this location during the weekdays, but becomes congested when the flea market, located at KY-229 and James Lewis Drive, is in operation during the weekends. Speeding concerns were also raised regarding this location as well as the need to review extending the left turn lane on Southbound KY-229 approaching the intersection with KY-192 (Bypass).

The last section to have a collision analysis performed was Section 4 along KY-229 between mile points 10.880 and 11.522 to address the east side of Project Area B. There were a total of 26 collisions and of these there were five different manners of collisions with no fatalities. There were six reported injury crashes and 23 PDO crashes. Of these 26 collisions, all but three occurred during the day and the majority of the collisions happened in dry weather. **Figure III-17** shows the locations of these collisions from mile point 11.140 to mile point 11.522 as well as the manner in which they occurred. As noted in **Figure III-18**, the majority of these collisions around the intersection of KY-229 and James Lewis Drive were angle collisions.



**Figure III-15: Section 3- KY-229 Collision Location (from MP 11.422 to MP 12.211)**

Section 4 has a high CRF location between mile points 11.140 and 11.240 with a CRF of 1.54 at the intersection of KY-229 and James Lewis Drive. The District noted this portion of the KY-229 corridor has significant traffic generators including: the flea market (corner of KY-229 & James Lewis Drive), city public works facility, Laurel Grocery Distribution, FedEx Distributor, and other access points. The intersection of KY-229 and James Lewis Drive forms a “Y” intersection and has an approximate 25 ft offset with that of Brown Lane. A CSX mainline railroad crossing is also located just south of this intersection that is known to cause gridlock in the area. Multiple access points in and around this intersection have contributed



**Figure III-16: Section 3- KY-229 High CRF Collision Location (from MP 11.511 to MP 11.622)**

to collisions at this location. Consideration should be given to limiting access points and possibly relocating this intersection to provide a perpendicular connection to KY-229. The majority of crashes were associated with vehicles entering /leaving the gas station or being hit by a vehicle trying to avoid another car turning onto KY-229 from James Lewis Drive.

A more detailed analysis of all the collision data can be seen in **Appendix D**.



Figure III-17: Section 4- KY-229 Collision Locations (from MP 11.140 to MP 11.522)



**Figure III-18: Section 4- KY-229 High CRF Collision Locations (from MP 11.140 to MP 11.240)**

I. Roadway Deficiencies

**Section II, Item A. Existing Conditions/Roadway Data** of this report discusses the HIS database for both US-25 and KY-229. **Table III-2** shows the breakdown in existing conditions for both identified sections of US-25 and KY-229 verses that of current geometric design practices for an Urban Minor Arterial Street. According to the Common Geometric Practices for Urban Minor Arterial Streets (Other Than Freeways) as stated in the Kentucky Highway Design Guidance Manual, the pavement width should be 11 feet minimum per lane and 12 feet desirable for free flow conditions. The manual for this functional classification states the shoulder width should be four foot minimum and eight foot desirable for both residential and commercial settings. The design speed for this type of rural roadway under current design standards would range from 30 to 60 miles per hour. There are horizontal and vertical curves requiring a reduced speed due to not meeting the current design standards. These curves were also previously discussed in **Section II** of this report in greater detail. A copy of the current geometric design standards is provided in **Exhibit 3** in **Appendix C**.

Existing Conditions	Geometric Practices
<b>Section 1- US-25 (MP 10.000 to MP 10.505) – Posted speed limit of 45 mph</b>	
1. 11 ft lanes (from MP 9.028- MP 10.300)	1. 11 ft lanes (Minimum)
2. 11 ft lanes (from MP 10.300- MP 10.505)	2. 11 ft lanes (Minimum)
3. 2 ft shoulders (from MP 9.028- MP 10.300)*	3. 8 ft shoulders (Desirable)
4. 10 ft shoulders (from MP 10.300- MP 10.505)	4. 4 ft shoulders (Minimum)
<b>Section 2- US-25 (MP 11.200 to MP 11.400) – Posted speed limit of 25-35 mph</b>	
1. 11 ft lanes (from MP 10.972- MP 11.225)	1. 11 ft lanes (Minimum)
2. 11 ft lanes (from MP 11.225- MP 11.978)	2. 11 ft lanes (Minimum)
3. 2 ft shoulders (from MP 10.972- MP 11.225)*	3. 8 ft shoulders (Desirable)
4. 2 ft shoulders (from MP 11.225- MP 11.978)*	4. 4 ft shoulders (Minimum)
<b>Section 3- KY-229 (MP 11.522 to MP 12.211) – Posted speed limit of 45 mph</b>	
1. 11 ft lanes (from MP 11.522- MP 11.600)	1. 11 ft lanes (Minimum)
2. 10 ft lanes (from MP 11.600- MP 12.211)*	2. 11 ft lanes (Minimum)
3. 4 ft shoulders (from MP 11.522- MP 11.600)*	3. 8 ft shoulders (Desirable)
4. 3 ft shoulders (from MP 11.600- MP 12.211)*	4. 4 ft shoulders (Minimum)
<b>Section 4- KY-229 (MP 11.140 to MP 11.522) – Posted speed limit of 55 mph</b>	
1. 11 ft lanes (from MP 8.8837- MP 11.447)	1. 11 ft lanes (Minimum)
2. 11 ft lanes (from MP 11.447- MP 11.522)	2. 11 ft lanes (Minimum)
3. 2 ft shoulders (from MP 8.8837- MP 11.447)*	3. 8 ft shoulders (Desirable)
4. 2 ft shoulders (from MP 11.447- MP 11.522)*	4. 4 ft shoulders (Minimum)

❖ Note: Asterisk and red indicates deficiency with current design standards.

**Table III-2: All Sections – Roadway Deficiencies**

**Appendix B** provides photographs throughout the two Project Areas with US-25 and KY-229. Current roadway plans are also provided in **Appendix E**.

Flooding is known to occur along the banks of Whitley Branch as identified in the Flood Insurance Rate Maps (FIRMs) of the project area shown in **Appendix F**. This creek crosses US-25 between mile point 11.000 and 11.100 and is not directly connected to Project Area A. Review of the design plan archives, a reinforced concrete double barreled 8x6 box culvert skewed to the roadway was identified in the 1996 US-25 Grade, Drain, and Surface Plans. The information from these plans relative to this culvert is also included in **Appendix E**.

Whitley Branch, however, does cross Commercial Drive as part of Project Area B near the half way mark between the US-25 and Commercial Drive intersection and the end of Commercial Drive at James Lewis Drive. A culvert was noticed during the initial field visit along Commercial Drive but no further information was available on this local roadway.

#### **IV. PRELIMINARY ENVIRONMENTAL AND SOCIOECONOMIC OVERVIEW**

US-25- Between Corbin and London Pre-Design Scoping Study Laurel County, Kentucky Environmental Justice and Community Impact Report was completed under Item No. 11-8201.00 by the Cumberland Valley Area Development District (CVADD). This report can be reviewed in Appendix F of the US-25 Laurel County from Corbin to London Scoping Study that was completed in July 2006 by the Kentucky Transportation Cabinet. This scoping study is also known throughout this report at the 2006 Study. From a brief review of this report, it appears that both Project Area A and Project Area B are within the defined area reviewed by the Environmental Justice Report.

An Environmental Overview was also performed as part of the 2006 Study to include an Environmental Footprint Map. The area identified under this overview, however, did not include all of Project Area A, which is located north of KY-192 (Bypass). As such, Planning Area A is pending completion during the early phase of engineering.

##### **A. Air Quality**

Per the KYTC, Division of Planning, Modal Programs website, Laurel County is in attainment for all monitored pollutants.

##### **B. Archaeological Overview**

##### **C. Aquatic Ecosystems**



D. Culturally Sensitive Locations

E. UST/Hazardous Materials

F. Historic Resources –Section 4(f), 106 and 6(f)

G. Noise

H. Permitting

I. Socioeconomic

J. Threatened and Endangered Species

## V. PROJECT DRAFT PURPOSE AND NEED STATEMENT

US-25 provides a significant connection between the cities of London and Corbin as well as an alternate route during incidents or closures on Interstate 75. The need for this project is to address congestion and critical rate factors along US-25 for the purpose of reducing crashes, improving mobility, and connectivity in the area to accommodate social demands for schools, residential, retail, industrial and recreational opportunities.

## VI. POSSIBLE ALTERNATIVES

Alternatives discussed within this section of the report were divided into those alternatives impacting Project Area A and those alternatives affecting Project Area B. A description of the two project areas were previously discussed and a map shown in **Figure I-2**.

### A. Project Area A

#### 1. Alternative #1

This option would be the No-Build alternative for Project Area A. The approach would be to wait and see what happens under current conditions into the near future before proceeding with any further significant financial investment relative to extending improvements on KY-229 north of KY-192 (Bypass) including the intersection of US-25 and KY-229.

This alternative would be the least expensive in terms of up-front costs and would have the least community and environmental impacts. Still, this approach would not adequately address the Purpose and Need of this project, which is to improve safety, aid future growth or address capacity concerns at this location.

#### 2. Alternative #2

This alternative would be to revise the intersection of US-25 and KY-229 to current design standards. This change is being considered due to a high CRF at this intersection and the potential for redirection of traffic from the New US-25 onto KY-229 northbound to downtown London. In an attempt to more accurately anticipate future traffic patterns in and around this location, a traffic model is recommended.

This option attempts to minimize environmental and socioeconomic concerns (i.e. cemetery) as well as reduce the impact upon existing parcels around this location. See **Figure VI-1** for the proposed alignment and other improvements that are defined in greater detail in and around this location. Right of way and utilities will be an issue at this location. Please see **Figure II-1** for more information. These issues will need to be addressed in greater detail in future phases of the project.

Roadway deficiencies of Project Area A, along KY-229 from mile point 11.522 to 12.211, is not addressed within this alternative with the exception of



**Figure VI-1: Project Area A - Alternative #2 Project Map and Details**

recommending the extension of the left turn lane on the north leg of the KY-229 and KY-192 (Bypass). Modeling at this intersection is also recommended to provide a more accurate assessment of future ADTs within Project Area A.

The following **Table VI-1** shows a preliminary cost estimate for Alternative #2 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area. The right of way cost for this alternative includes an estimated cost for relocating two businesses. Further design may provide a way to avoid or reduce this cost.

Alternative #2	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.300	\$425,000	\$1,700,000	\$100,000	\$768,000	\$3,000,000

**Table VI-1: Project Area A-Alternative # 2 Preliminary Cost Estimate**

Alternative #2 addresses the Purpose and Need Statement previously defined relative to safety, growth and congestion with a practical solutions approach to limiting improvements to high CRF locations that are at the intersections.

3. Alternative #3

This alternative is another proposed alignment approach to address the currently high CRF concerns at the US-25 and KY-229 intersection. Also, given the anticipated change in traffic patterns due to the proposed New US-25 route onto KY-229, this approach is considering KY-229 to become the main southern route to and from downtown London. Modeling is recommended at this intersection and along KY-229 as well as the intersection of KY-192 and KY-229 to confirm this anticipated change in traffic pattern. See **Figure VI-2** for the proposed alignment and other recommended improvements that are defined in greater detail in and around this location.

Based upon an initial site visit, there appears to be a few environmental (i.e. cemetery) and possible socioeconomic concerns to address. This alignment should minimally impact the cemetery adjacent to the Old US-25 roadway between mile points 11.200 and 11.300. This option would also require the purchase of a parcel containing a shell gas station that would necessitate the removal of several underground storage tanks at this location.

Right of way and utilities will be an issue at this location as well. Please see **Figure II-1** for more information. These issues will need to be addressed in greater detail in future phases of the project.

This approach does not address the current roadway deficiencies along the remaining portion of KY-229 with the exception of recommending the extension of the left turn lane on the north leg of the KY-229 and KY-192 (Bypass). Modeling at this intersection is also recommended to provide a more accurate assessment of future ADTs within Project Area A.

The following **Table VI-2** shows a preliminary cost estimate for Alternative #3 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area. The right of way cost for this alternative includes an estimated cost for relocating one business. Further design may provide a way to reduce this cost.

As shown in this table, Alternative #3 is approximately a million dollars less than similar Alternative #2. This approach like that of Alternative #2 addresses the Purpose and Need Statement previously defined relative to safety, growth and congestion with spot improvements to high CRF locations at the intersections.



**Figure VI-2: Project Area A - Alternative #3 Project Map and Details**

Alternative #3	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.325	\$375,000	\$850,000	\$75,000	\$680,000	\$1,980,000

**Table VI-2: Project Area A-Alternative # 3 Preliminary Cost Estimate**

#### 4. Alternative #4

This option would be to entirely rebuild Project Area A to current design standards. This would include addressing both horizontal and vertical curve deficiencies, and maximum widening to two 12 foot lanes with a TWLTL and 8 foot maximum shoulders from 10 foot lane and 3 foot shoulders throughout the majority of Project Area A. Due to a large vertical curve with multiple access points along the curve, the amount of cut and fill material may be a factor. Further review is needed in Phase 1 design to determine how best to reroute/connect the access points along the vertical curve back to KY-229. One option would be to consider adding an access road. The construction cost for this project will be considerably more than the previous alternatives and as such, requires this project be divided up into sections. **Figure VI-3** graphically presents this alternative in greater detail.

This alternative, like Alternative #2 & #3, would require additional right of way to rework the US-25 and KY-229 intersection. Turn lane lengths at all the intersections will be based on current design policy and modeling is recommended to provide a more accurate assessment of future ADTs along all of Project Area A.

In reviewing this alternative, some disadvantages must be noted. The most significant aspect, much like Alternative #3, would be from potential environmental impacts should the underground storage tanks need to be removed or the cemetery be adversely affected. Another impact would be the construction time due to the time needed to rework the vertical curve and reroute current access points would be longer than other alternatives. The cost associated with completing a project of this type is more than the other alternatives.

Significant utility relocation would need to occur making right of way an issue and all these factors will tie into the extended construction time to complete the project. Please see **Figure II-1** for more information. These issues will need to be addressed in greater detail in future phases of the project.

There were also several advantages identified for this option. This approach would address all geometric deficiencies, aid future growth, address congestion from US-25, and improve sight distance by bringing the roadway to current design standards. All these improvements will help to reduce safety concerns.

The following **Table VI-3** shows the preliminary cost estimate for Alternative #4 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area. The right of way cost for this alternative includes an estimated cost for relocating one business. Further design may provide a way to avoid or reduce this cost.

When comparing the previous alternatives, Alternative #4 is approximately \$1.5 to \$2.0 million dollars more than the other two options due to this alternative addressing the concerns along the entire route of Project Area A.

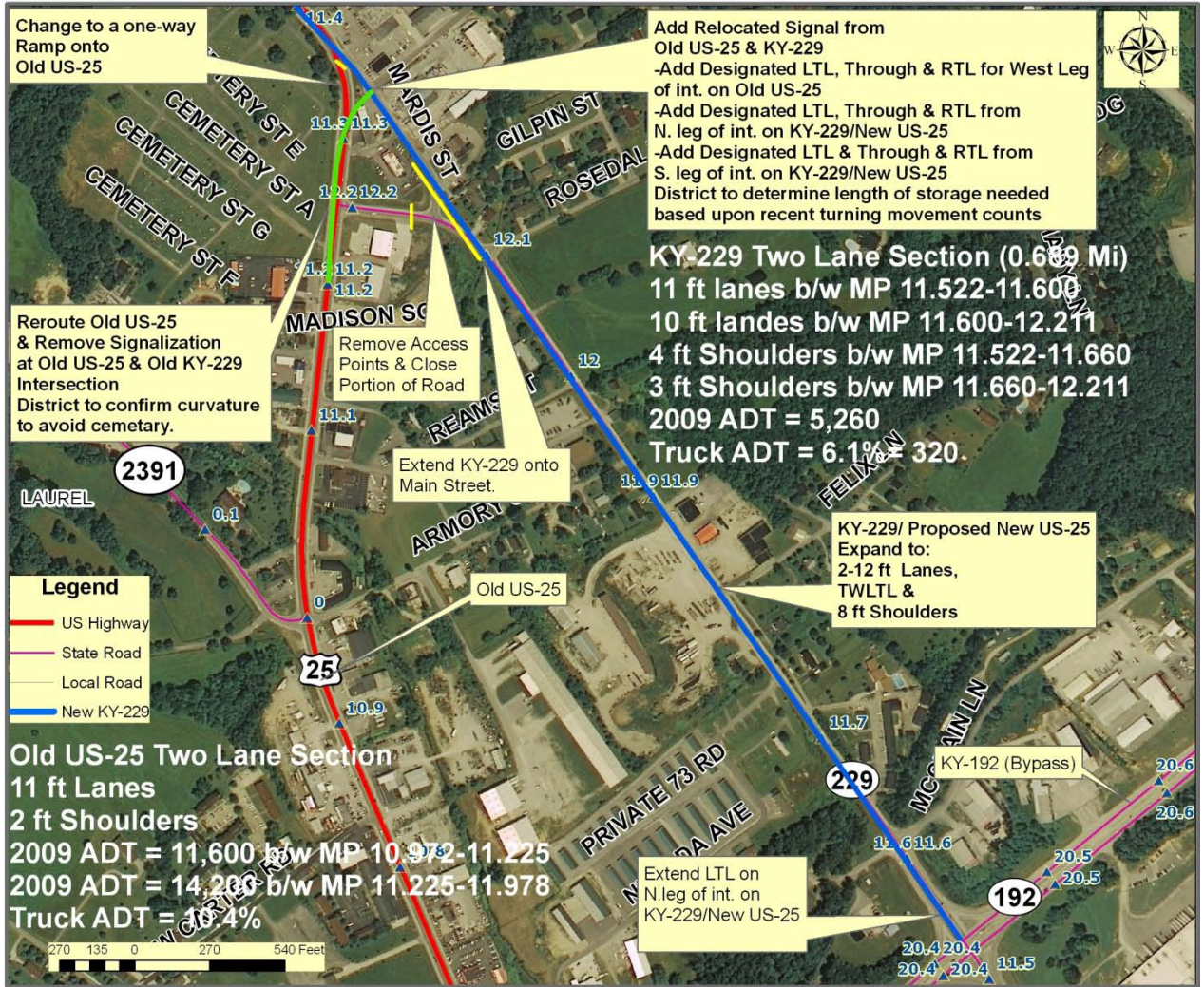


Figure VI-3: Project Area A - Alternative # 4 Project Map and Details

Alternative #4	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.889	\$1,100,000	\$1,200,000	\$231,000	\$2,000,000	\$4,500,000

Table VI-3: Project Area A-Alternative # 4 Preliminary Cost Estimate

## 5. Alternative #5

This alternative is similar to Alternative #4 but extends the proposed New US-25 typical cross section north along KY-229 through the intersection with KY-192 (Bypass) to the intersection with Old US-25. This option also updates all of Project Area A to current design standards. This includes addressing both horizontal and vertical curve deficiencies and widens the two 10 foot lanes and 3 foot shoulders along KY-229 to current standards. The New US-25 project previously identified as Priority 3 under the 2006 Scoping Study has been advertized for engineering services and an engineering firm was selected to begin Phase 1 design. Until a preliminary cross section is provided in Phase 1 design, actual dimensions are yet to be confirmed, but it is anticipated that the design will meet current design standards as previously discussed.

Connection to multiple access points throughout this portion of KY-229 will be a factor, especially along the large vertical curve. Further review is needed in Phase 1 design to determine how best to reroute/connect the access points along the vertical curve back to KY-229. One option would be to consider adding an access road. The construction cost for this project will be very similar to that of Alternative #4. See **Figure VI-4** for the proposed alignment and other recommended improvements that are defined in greater detail in and around this location.

Additional right of way would be required as with all the alternatives, except Alternative #1, to rework the US-25 and KY-229 intersection. Turn lane lengths at all the intersections will be based on current design policy and modeling is recommended to provide a more accurate assessment of future ADTs along all of Project Area A.

The most significant aspect of this option would be the cost associated with completing a project of this type. The time necessary for construction would also impact the community; however, Old US-25 would be a viable detour route during the majority of the construction phase. This alternative would also have to address potential environmental impacts from underground storage tanks and other concerns from impacting the cemetery located west of the US-25 and KY-229 intersection. Utility relocation will also be a significant factor in cost and construction time to complete the project, which may also lead to right of way issues. Please see **Figure II-1** for more information. These issues will need to be addressed in greater detail in future phases of the project.

This approach would address geometric deficiencies, attract traffic from a congested US-25, aid future growth and improve sight distance by bringing the roadway to current design standards. All these improvements should help to reduce safety concerns.

The following **Table VI-4** shows the preliminary cost estimate for Alternative #4 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area. The right of way cost for this alternative





**Figure VI-4: Project Area A - Alternative # 5 Project Map and Details**

includes an estimated cost for relocating one business. Further design may provide a way to avoid or reduce this cost.

When comparing the previous alternatives, Alternative #4 and #5 are similar. Both of these alternatives are approximately \$1.5 to \$2.0 million dollars more than Alternative #2 and #3.

Alternative #5	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.889	\$1,100,000	\$1,200,000	\$231,000	\$2,000,000	\$4,500,000

**Table VI-4: Project Area A-Alternative # 5 Preliminary Cost Estimate**

B. Project Area B

1. Alternative #6

This option would be the No-Build alternative for Project Area B. This approach would be to wait and see what happens under current conditions into the near future before proceeding with any further significant financial investment relative to extending improvements on Commercial Drive and James Lewis Drive.

This alternative would be the least expensive in terms of up-front costs and would have the least environmental impact. However, congestion impacts are likely to increase in Project Area B should no improvements be made to this project area once the New Southern Bypass is in place. This bypass will connect KY-363 (west side with new Lowe's Shopping Center) to the intersection of Old US-25 and Commercial Drive (Project Area B, B-1 Intersection). This Alternative would not adequately address the Purpose and Need Statement to improve safety, aid future growth or address congestion concerns.

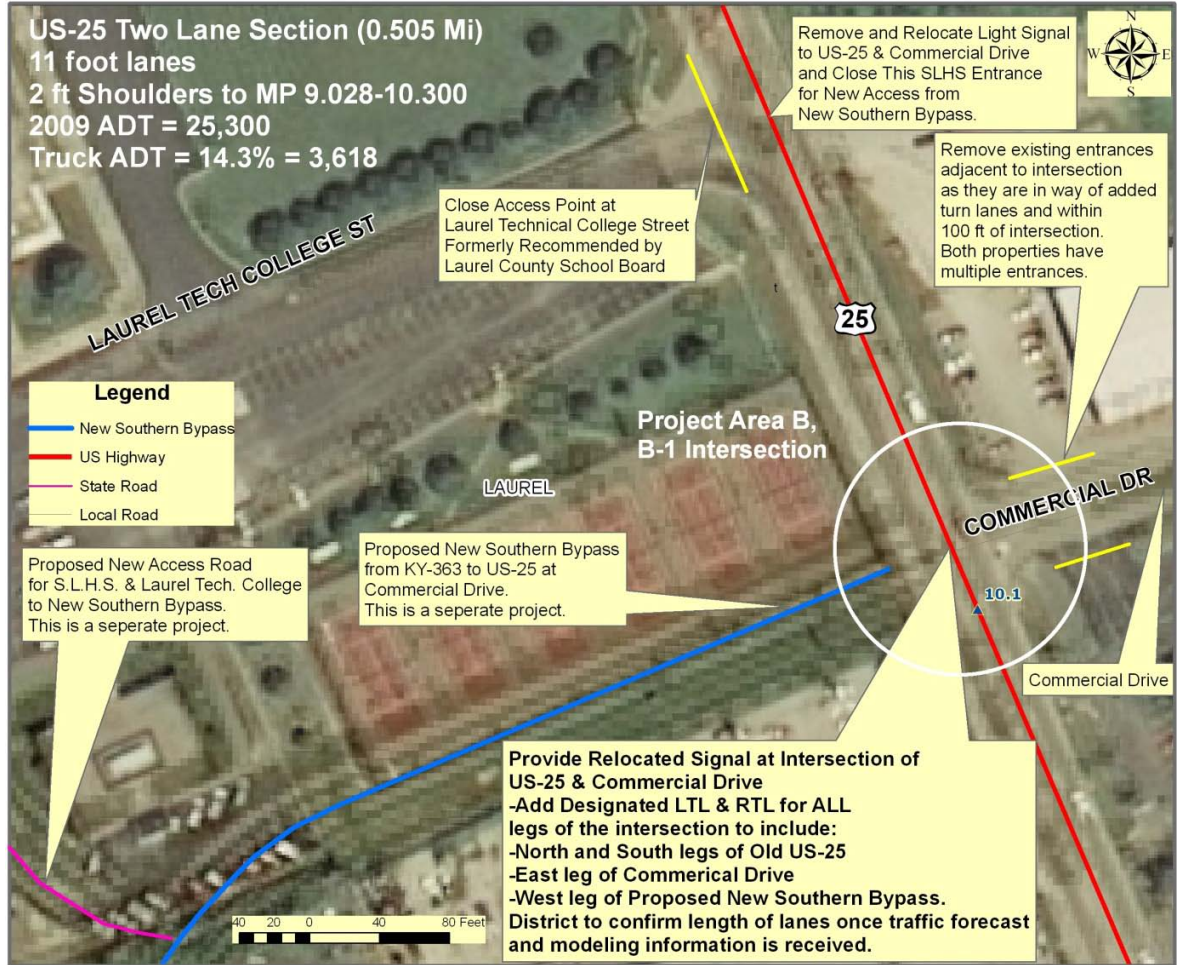
2. Alternative #7

This option addresses current and near future concerns at the intersection of Old US-25 and Commercial Drive. This intersection has been identified as the current end termini for the New Southern Bypass that goes around the SLHS from KY-363 to Old US-25. This New Southern Bypass is beginning Phase 2 Design as previously discussed.

The proposed improvements to this intersection, also known as Project Area B, B-1 Intersection, includes relocating the current light signal from the intersection of Old US-25 and Laurel Tech School Drive to this intersection of Old US-25 and Commercial Drive. The intersection should also be reworked to add a left turn lane (LTL) with a separate through and right turn lane (RTL) for all four legs (north, south, east and west) of this intersection on Old US-25. See **Figure VI-5** for a project map and more detailed description of proposed improvements in and around this intersection.

Additional right of way will be required at this intersection and utilities relocated to provide for the anticipated improvements. See **Figure II-1** for more information. Access management is highly recommended as well to include the closure of Laurel Technical College Street to Old US-25 due to the majority of collisions being associated with entry and exit issues at this location. These issues will need to be addressed in greater detail in future phases of the project.

A traffic signal warrant analysis is also recommended at the intersection of James Lewis Drive and KY-229. This intersection has also been referred to previously in this report as Project Area B, B-2 Intersection. Access management is highly recommended as well at this High CRF intersection due to the numerous angle collisions from vehicles entering and leaving the intersection at different locations.



**Figure VI-5: Project Area B - Alternative # 7 Project Map and Details**

Traffic modeling is also recommended at both intersections to provide a more accurate assessment of the number of turn lanes and future ADTs at this location. This is especially important given that the connecting New Southern Bypass is currently in the design phase.

The following **Table VI-5** shows a preliminary cost estimate for Alternative #7 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area.

Alternative #7	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.100	\$200,000	\$125,000	\$50,000	\$430,000	\$850,000

**Table VI-5: Project Area B-Alternative # 7 Preliminary Cost Estimate**

Minimal environmental and socioeconomic issues are expected with this alternative. This approach will address current safety issues at this high CRF intersection through access management, relocation of a traffic signal to this intersection and re-designing the intersection with current design standards with consideration for future traffic at these two high CRF intersections.

### 3. Alternative #8

This alternative is to primarily address concerns at the intersection of Old US-25 and Commercial Drive but also recognizes the need for improvements at the intersection of James Lewis Drive and KY-229. The New Southern Bypass is beginning Phase 2 Design as previously discussed and is connecting KY-363 to Old US-25 at this intersection.

The improvements to this intersection also identified as the Project Area B, B-1 Intersection, very slightly from that previously proposed in Alternative # 7. Both options include relocating the current traffic signal from the intersection of Old US-25 and Laurel Tech School Drive to this intersection of Old US-25 and Commercial Drive. This option includes intersection improvements such as adding a left turn lane (LTL) with a separate through and right turn lane (RTL) for both the north and south legs of this intersection on Old US-25. A separate LTL with a combined through and RTL for the west leg on the New Southern Bypass and the east leg on Commercial drive are also anticipated improvements. Modeling is recommended at this intersection to provide a more accurate assessment of future traffic patterns and ADTs at this location due to the proposed New Southern Bypass. Turn lane lengths at this intersection will be based on current design policy.

Additional right of way and utility relocation will be required at this intersection to provide the anticipated improvements. Depending on the number and length of turn lanes confirmed by the model, less additional property may be needed than that of Alternative #7. See **Figure II-1** for more detailed utility information. These issues will need to be addressed in greater detail in future phases of the project.

Access management is also recommended around the B-1 Intersection to include the closure of Laurel Technical College Street to Old US-25 and access points adjacent to the intersection. See previous **Section III B.** for further project history. See **Figure VI-6** for a project map and more detailed description of the proposed improvements in and around this intersection.

A traffic signal warrant analysis is also recommended at the intersection of James Lewis Drive and KY-229. This intersection has also been referred to previously in this report as Project Area B, B-2 Intersection. Access management is highly recommended as well at this intersection due to the numerous angle collisions from vehicles entering and leaving the intersection at different locations. Traffic forecasting and modeling of this intersection would also be beneficial in assessing any further needs for improvement.



**Figure VI-6: Project Area B - Alternative # 8 Project Map and Details**

Minimal environmental and socioeconomic issues are expected with this alternative. This approach will address current safety issues at this high CRF intersection through access management, installation of a traffic signal at this intersection, and re-designing the intersection with current design standards with consideration for future traffic.

The following **Table VI-6** shows the preliminary cost estimate for Alternative #8 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area. See **Exhibit 6** in **Appendix H** for a more detailed breakdown of the preliminary cost estimate.

Alternative #8	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.100	\$200,000	\$125,000	\$50,000	\$430,000	\$850,000

**Table VI-6: Project Area B-Alternative # 8 Preliminary Cost Estimate**

#### 4. Alternative #9

This is the complete redesign alternative to include a portion of new alignment for Project Area B. Not only would the B-1 Intersection concerns in and around the intersection be addressed like in Alternative #8, but consideration would also be given to the anticipated change in traffic patterns from the proposed New Southern Bypass connecting directly to the locally owned Commercial Drive and James Lewis Drive. These local roadways are anticipated to provide a through route to the proposed New US-25 to be located along the current KY-229 around Project Area B. This through route would also help to attract traffic away from the already heavily congested and high CRF segment on Old US-25. See **Figure VI-7** for a project map and more detailed description of the proposed improvements for this alternative.

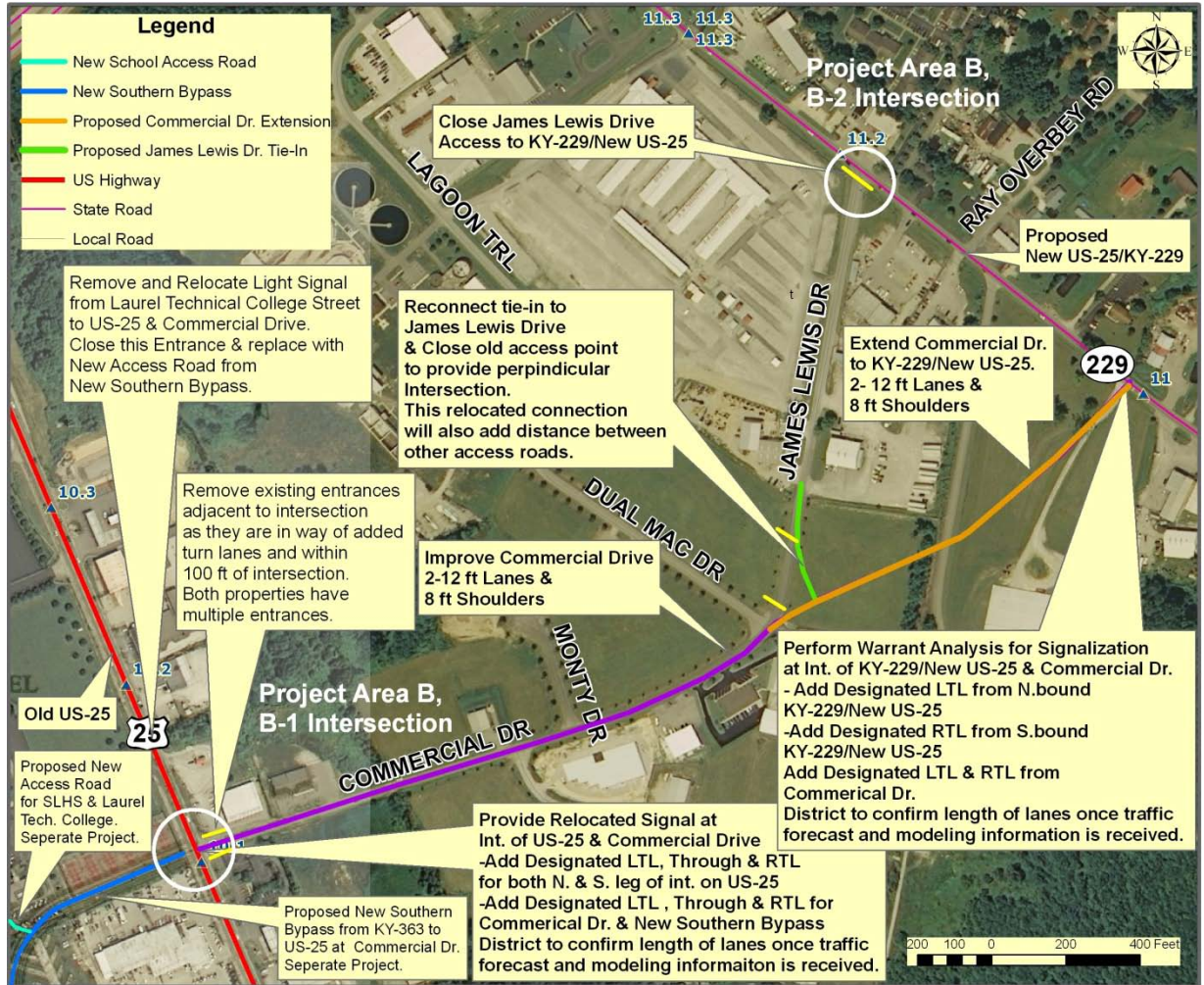
With the expected traffic pattern and added percentage of large trucks in the area, Project Area B, B-2 intersection of KY-229 and James Lewis Drive should no longer be utilized for through traffic due to the already high CRF and the skewed geometric nature of the intersection. Instead a new intersection would be created from the extension of Commercial Drive to the Proposed New US-25/KY-229. The James Lewis Drive Connection to KY-229 should also be closed to significantly reduce the high CRF at this location. The adjacent flea market, identified as a large traffic generator on the weekends, already has one access point on KY-229 in addition to the access point on James Lewis Drive.

Traffic wanting to access James Lewis Drive would be re-routed along KY-229 to the proposed perpendicular intersection with the Commercial Drive extension/New Southern Bypass. A traffic signal warrant analysis is recommended at this proposed intersection. The proposed New US-25 project is currently in the design phase. No definite location of the Proposed New US-25 re-route point onto KY-229 has been provided to date.

For those wanting access to James Lewis Drive, this alternative proposes redirecting traffic onto a new perpendicular connection with the proposed Commercial Drive extension. This new tie-in would allow for a back entrance into the flea market through James Lewis Drive, and also provide the needed distance between access points along the proposed Commercial Drive extension.

There does not appear to be any significant environmental or socioeconomic concerns regarding this alternative. This is based upon the review of the Environmental Footprint previously identified in the 2006 Study as Figure 4. The only concern noted is a Natural Resources Environmental Protection Cabinet (NREPC) facility located a little south of the Old US-25 and Commercial Drive, B-1 Intersection.

The disadvantages to this alternative would be the additional cost to implement, including added right-of-way and utility relocation. See **Figure II-1** for more utility information. These issues will need to be addressed in greater detail in future phases of the project.



**Figure VI-7: Project Area B - Alternative # 9 Project Map and Details**

There is also the possibility that traffic modeling of Commercial Drive may show an increase in ADT to a point where this road may need to be considered to become a part of our state system.

The following **Table VI-7** shows the preliminary cost estimate for Alternative #9 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area.

Alternative #9	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.100	\$412,000	\$212,000	\$85,000	\$750,000	\$1,500,000

**Table VI-7: Project Area B-Alternative # 9 Preliminary Cost Estimate**

The benefits to this approach would meet all the requirements of the Purpose and Need Statement. This alternative would most likely reduce safety concerns (rework or relocate intersections with high CRFs) and off-load congestion from Old US-25 (high CRF segment) onto Commercial Drive for a through route to the proposed New US-25/KY-229. This alternative would also aid anticipated growth in the area by extending the New Southern Bypass to accommodate social demands from schools, residential, retail, industrial and recreational opportunities, while improving overall mobility and connectivity for this southern portion of London and Laurel County.

#### 5. Alternative #10

This alternative is most similar to Alternative #9 but does not include the portion of new alignment. This option would include improvements to the intersection of Old US-25 and Commercial Drive (B-1 Intersection) as previously stated in Alternative #8. However, when compared to the previous alternatives, this approach includes additional configuration improvements to the existing intersection of James Lewis Drive and KY-229 (B-2 Intersection). This option also addresses geometric concerns at key points along both Commercial Drive and James Lewis Drive to include the need for a four foot paved shoulder throughout Project Area B.

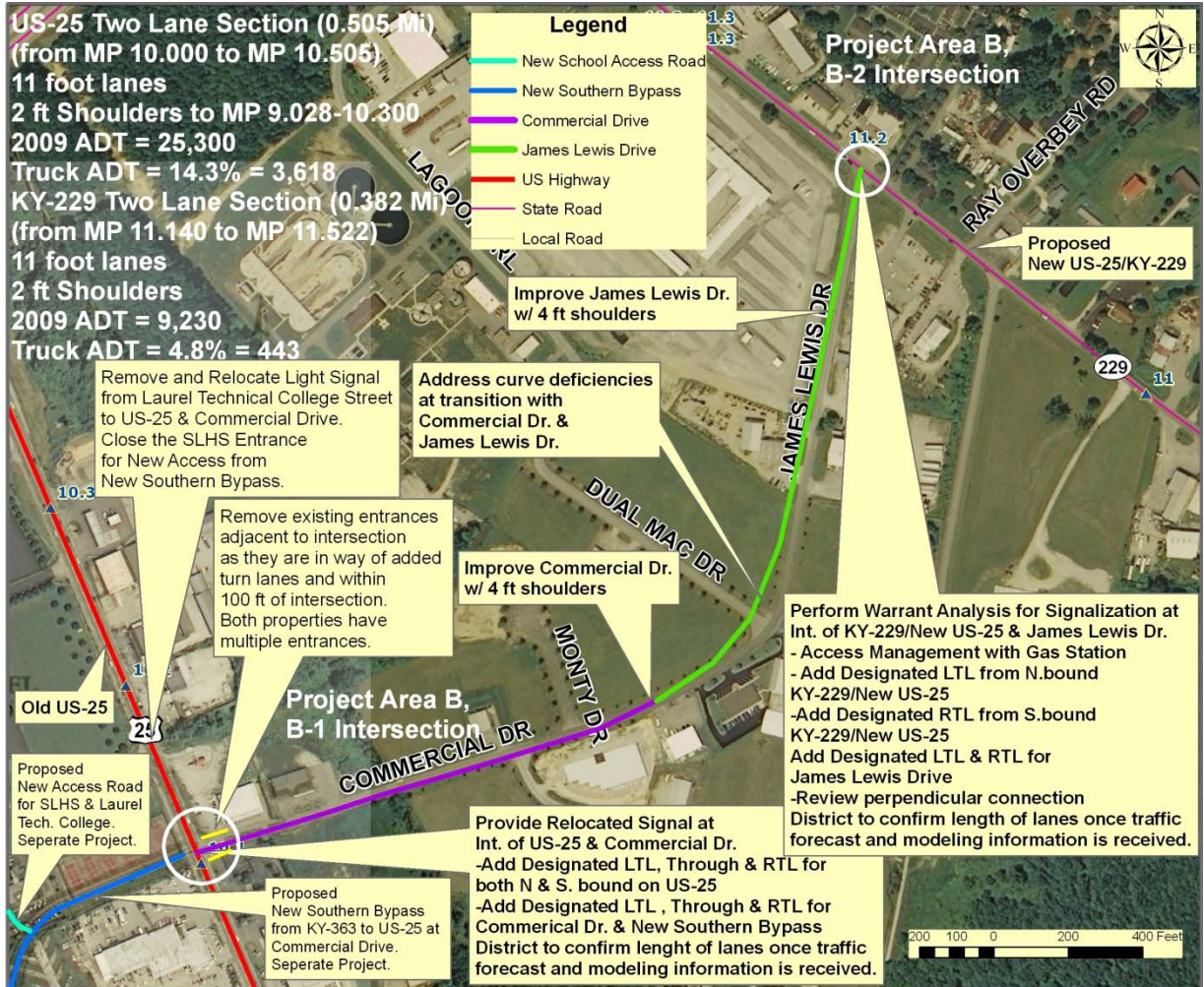
The geometric improvements to both Commercial Drive and James Lewis Drive would have to be made at the horizontal curve located at the transition point between the two local roadways. This curve would have to be reconstructed to meet current design standards for a two-lane undivided roadway of a similar functional type at a designated design speed for this roadway. It is recommended that the design speed for this section of roadway follow that of the proposed New Southern Bypass as Project Area B is a continuation of the New Southern Bypass. Since this is a local roadway, current geometric data on this curve is unavailable from the HIS database. See **Figure VI-8** for a project map and more detailed description of all the proposed improvements for this alternative in Project Area B.

With this new expected traffic pattern, there is added concern from tractor trailers accessing Project Area B through the skewed nature of the B-2 Intersection. It is recommended to rework this intersection to make it as perpendicular as possible to the New US-25/KY-229 in an attempt to provide for an adequate turning radius for large trucks at this industrial and commercial location.

Reworking this intersection will also increase the cost of this project due to the added right-of-way and utility relocation. See **Figure II-1** for more utility information. These issues will need to be addressed in greater detail in future phases of the project.

There is also the possibility that traffic modeling of Commercial Drive may show an increase in ADT to a point where this road may need to be considered to become a part of our state system.





**Figure VI-8: Project Area B - Alternative # 10 Project Map and Details**

A traffic signal warrant analysis is recommended at this proposed intersection. It should also be noted that the proposed New US-25 project is currently in the design phase and as such, no definite location of the Proposed New US-25 reroute point onto KY-229 has been provided to date.

There does not appear to be any significant environmental or socioeconomic concerns regarding this alternative. This is based upon the review of the Environmental Footprint previously identified in the 2006 Study as Figure 4. The only concern is a Natural Resources Environmental Protection Cabinet (NREPC) facility located a little south of the Old US-25 and Commercial Drive, B-1 Intersection.

The benefits to this approach would also meet the requirements of the Purpose and Need Statement. This alternative would reduce safety concerns (access management and reworking intersections with high CRFs) and off-load some congestion from Old US-25 (high CRF segment) onto Commercial Drive and James Lewis Drive for a through route to the New US-25/KY-229. This alternative should accommodate social demands from schools, residential, retail and recreational opportunities, while

improving overall mobility and connectivity for this southern portion of London and Laurel County.

The following **Table VI-8** shows the preliminary cost estimate for Alternative #10 provided by District 11 in 2010 dollars. This cost was developed on a cost per mile basis relative to similar projects in the area.

Alternative #10	Length (miles)	Phased Cost (\$)				Total Cost (\$)
		Design	Right-of-Way	Utilities	Construction	
	0.100	\$250,000	\$200,000	\$50,000	\$550,000	\$1,000,000

**Table VI-8: Project Area B-Alternative # 10 Preliminary Cost Estimate**

As noted in this table, the anticipated cost estimate for this project verses that of Alternative #9 is roughly a half a million dollars less. Relative to this cost estimate, one factor still uncertain is the cost to rework the intersection of James Lewis Drive to provide a much needed perpendicular connection to the New US-25/KY-229. The preliminary cost estimate for this alternative will increase should further right-of-way be required to make the perpendicular connection.

**VII. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

At this point, modeling is recommended to confirm anticipated traffic patterns before a final recommendation can be provided. Several of these alternatives are based upon possible variations in traffic patterns. The associated preliminary cost estimate increased for an alternative that was based upon a greater anticipated volume of traffic.

The No-Build Alternative #1 does not look as if it is the best approach in Project Area A to address concerns especially given the presently high CRF issues at the intersection of US-25 and KY-229 and the intersection of KY-229 and KY-192 (Bypass). The No-Build Alternative #6 also does not appear to be an option in Project Area B given the New Southern Bypass and New US-25/KY-229 will directly connect to either end of Project Area B where there are currently high CRF intersections and segments. Neither of the two no-build alternatives addresses the Purpose and Need Statement previously discussed in Section V of this report.

## VIII. CONTACTS

The following persons may be contacted if additional information is needed concerning the project or the study process:

Keith Damron, Director, Division of Planning.

Steve Ross, Transportation Engineer Branch Manager, Strategic Planning, Division of Planning.

Jill Asher, Corridor Team Leader, Strategic Planning, Division of Planning.

Tonya Higdon, Corridor Team, Strategic Planning, Division of Planning.

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Kentucky Transportation Cabinet  
Transportation Office Building  
200 Mero Street, 5<sup>th</sup> Floor West  
Frankfort, KY 40622

# **APPENDIX A**

EXHIBIT 1

ITEM NO. 11-147  
PROJECT STUDY AREA

US-25  
DNA PRE-DESIGN  
SCOPING STUDY,  
LAUREL COUNTY

Legend

- Mardis St.
- KY-229
- Commercial Dr./James Lewis Dr.
- Interstate
- Parkway
- US Highway
- State Road
- Local Road

510 255 0 510 1,020 Feet



Project Study Area (A) -  
Mardis St & KY-229 from KY-192  
(Bypass) to US-25 to include intersections

Project Study Area (B) -  
Commercial Dr. & James Lewis Dr.  
to include US-25 & KY-229 intersections

EXHIBIT 2

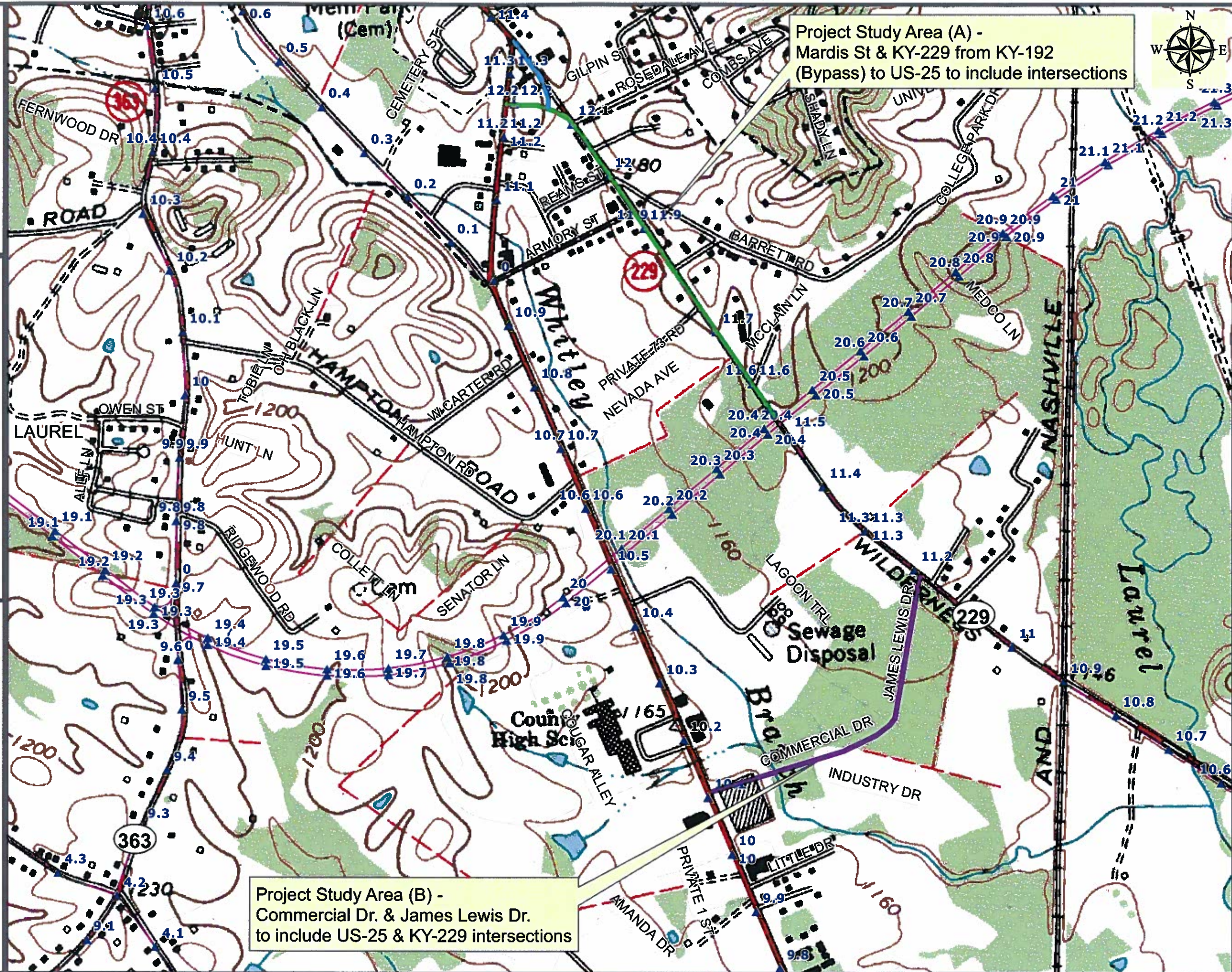
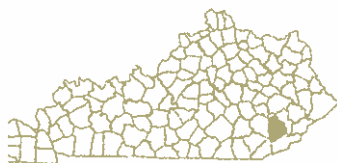
ITEM NO. 11-147  
PROJECT TOPOGRAPHIC  
AREA

US-25  
DNA PRE-DESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

- Mardis St.
- KY-229
- Commercial Dr./James Lewis Dr.
- Interstate
- Parkway
- US Highway
- State Road
- Local Road

500 250 0 500 1,000 Feet



Project Study Area (A) -  
Mardis St & KY-229 from KY-192  
(Bypass) to US-25 to include intersections

Project Study Area (B) -  
Commercial Dr. & James Lewis Dr.  
to include US-25 & KY-229 intersections

EXHIBIT 3

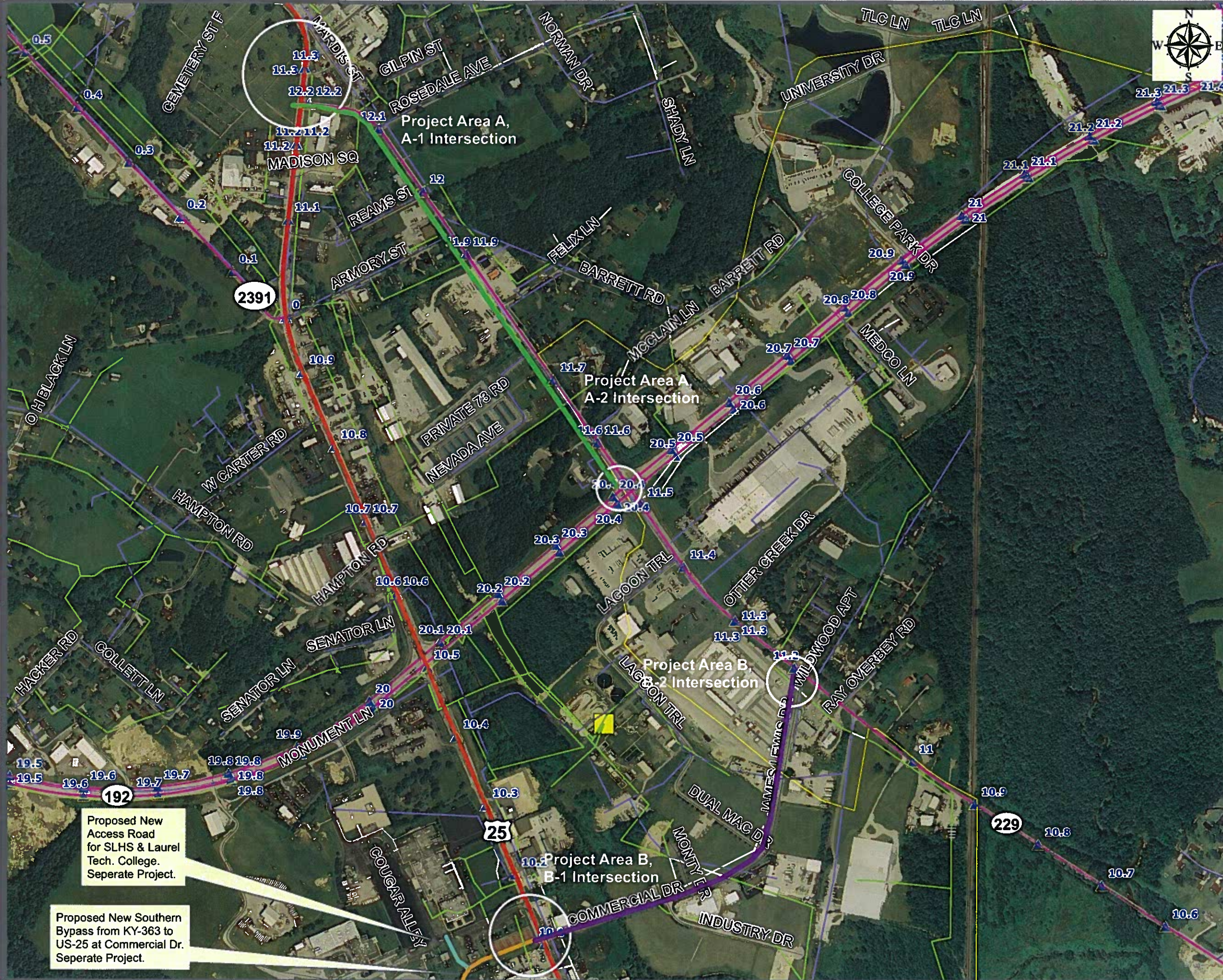
ITEM NO. 11-147  
PROJECT AREA UTILITY MAP

US-25  
DNA PRE-DESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

- Project Area A-KY-229
- Project Area B-Commercial Dr./James Lewis Dr.
- Interstate
- US Highway
- State Road
- Local Road
- Water Lines
- Sewer Lines
- Electric Power Lines
- ▲ 1/10th Mile Calculated Interval
- Wastewater Treatment Plants

460 230 0 460 920 Feet



Proposed New  
Access Road  
for SLHS & Laurel  
Tech. College.  
Seperate Project.

Proposed New Southern  
Bypass from KY-363 to  
US-25 at Commercial Dr.  
Seperate Project.

EXHIBIT 4

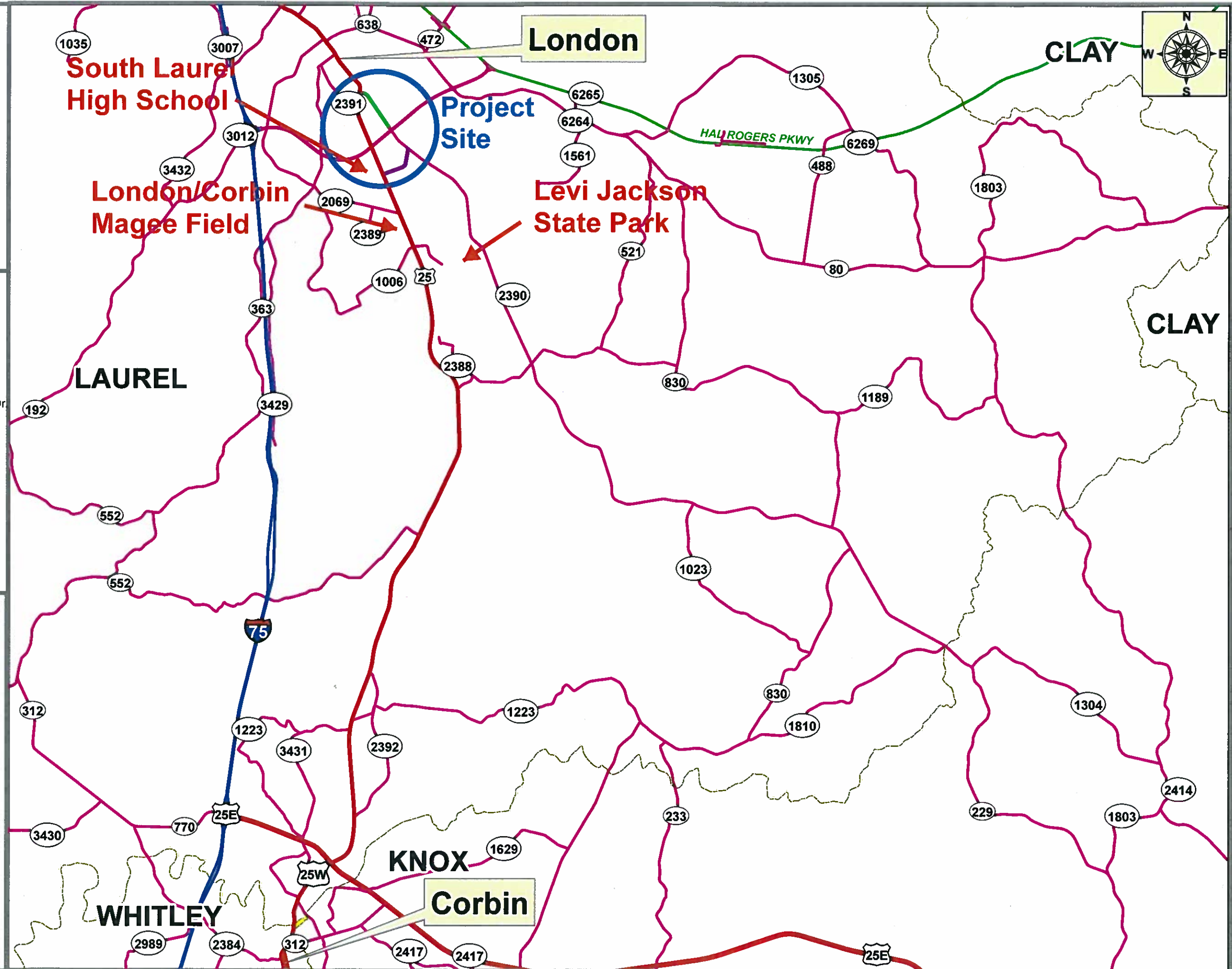
ITEM NO. 11-147.00  
SYSTEM LINKAGE

US-25  
DNA PRE-DESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

- Project Area A- KY-229
- Project Area B-Commercial & James Lewis Dr
- Interstate
- Parkway
- US Highway
- State Road
- County Boundary Polygons

4,500 2,500 0 4,500 9,000 Feet





# **APPENDIX B**





Photo 1 – Project Area A- A-1 Intersection between US-25, looking south, & end of KY-229



Photo 2 – Project Area A – KY-229, Looking west from intersection with US-25 onto Horizontal Curve



Photo 3- Project Area A – KY-229, Looking north from A-2 Intersection with KY-192 (Bypass)



Photo 4- Project Area A – A-2 Intersection, Looking South from KY-229 onto the intersection with KY-192



Photo 5 – Project Area B- B-1 Int. of US-25 and Commercial Dr., Looking west on Proposed New Southern Bypass



Photo 6 – Project Area B- Looking east on Commercial Drive from B-1 Intersection with US-25



Photo 7 – Project Area B – B-2 Intersection of James Lewis Drive and KY-229 looking east onto Gas Station



Photo 8- Project Area B – Looking West on James Lewis Drive from B-2 Intersection with KY-229

# **APPENDIX C**

**Meeting Minutes**  
**Laurel County Item No. 11-0147.00**  
**US 25-Congestion Relief-Pre-design Scoping Study**  
**First Project Team Meeting – 10:15 a.m. E.S.T. on July 22, 2010**

The 1<sup>st</sup> Project Team Meeting for US 25 Pre-design Scoping Study was held in the District-11, Manchester Office Conference Room on July 22, 2010. The meeting began at 10:15 a.m. and ended at 12:30 p.m. The following people attended the meeting:

Amy Collins	KYTC-D 11 Administration Staff
Dean Croft	KYTC-D 11 Environmental Coordinator
Greg Combs	KYTC-D 11 Right of Way
Jonathan Dobson	KYTC-D 11 Public Information Officer
David Fields	KYTC-D 11 Design
Christopher Harris	KYTC-D 11 Traffic
David Hensley	KYTC-D 11 Right of Way
Daniel Hoffman	KYTC-D 11 Project Delivery & Preservation
Joel Holcomb	KYTC-D 11 Engineering Support
Chris Jones	KYTC-D 11 Permits
James Loughan	KYTC-D 11 Utilities
Lonnie Morgan	KYTC-D 11 Project Delivery & Preservation
Joseph E. Mosley	KYTC-D 11 Planning Development
Cass T. Napier	KYTC-D 11 Chief District Engineer
Keith Damron	KYTC-CO Planning
Steve Ross	KYTC-CO Planning
Srinivasa Gutti	KYTC-CO Planning
Tonya Higdon	KYTC-CO Planning

Tonya Higdon began the meeting by thanking everyone for taking the time to attend. She noted this meeting is the 1<sup>st</sup> Project Team Meeting for the US-25 Pre-design Scoping Study of Item # 11-0147.00 in the 2010-2012 Kentucky Highway Plan.

After introductions were made, the purpose of a Pre-design Scoping Study was explained by Tonya to those in attendance. This study follows the Federal Highway Administration (FHWA) nine elements towards developing a purpose and need statement. These elements are intended to be a guide and are usually not all inclusive. The information collected through the review of these nine steps will help us also identify alternatives and all alternatives are welcome at this stage. By the end of the meeting, the goal will be to have a clearly defined Purpose and Need Statement as well as a list of alternatives to address in the study.

Tonya continued by discussing the current Legislation for Item # 11-0147.00. This project consists of \$3.13 Million in SB2 funds for design year of 2010 and SP funds for Right of Way of \$2.0 Million and Utilities of \$0.8 Million in year 2012. She also noted the new 2010-2012 Kentucky Highway Plan no longer includes those additional years beyond that of the first two years. As such, there is no date or dollar amount defined for construction of this project.



In regards to Project Status, Joey Mosley noted that a very detailed planning study was done for US 25 in 2006 under Item # 11-8201.00 with some recommended projects currently in Phase I and Phase II design. In the 2006 US-25 Laurel County Scoping Study, the following priorities were identified: Priority 1a & 1b-addressed the need for a back entrance to the South Laurel High School, Priority 2-provided a bypass from the east to help offload congestion from US-25 near the high school, and Priority 3-provided a through route south of the high school to US-25 along Hurley Lane. Of these priorities, only Priority 1 is still proceeding as recommended in the scoping study and is now entering Phase II Design. Priority 2, also known as the “New US-25”, involves the widening of US-25 beginning just south of KY-1006 before redirecting traffic northeast away from US-25 onto KY-229. Once the New US-25 joins KY-229 starting somewhere between the railroad tracks and James Lewis Drive, this portion of KY-229 will also be widened to include the intersection with KY-192 (Bypass). Due to a change in conditions, all other priorities are being addressed in a slightly different manner than identified in the 2006 US-25 Scoping Study.

These changes have lead to other concerns that will be identified and addressed through this Pre-design Scoping Study. To begin, Priority 1b has recently been removed from consideration by the Laurel County School Board, while Priority 1a is still a go in connecting to KY-363 (site of new Lowe’s location) but with a change in the eastern termini location. This change in termini for Priority 1a was due to the Laurel County School Board deciding to not allow public traffic through their South Laurel High School Campus. Instead, those representing the school have offered to provide land south of the football field to route traffic around the campus to the intersection of US-25 and Commercial Drive that is now known as the “New Route/New Southern Bypass”. Phase II design is now ready to begin for this approach and includes the completed Traffic Forecast Technical Report-Laurel County: New Connector to South Laurel High School. This change in route has also contributed to the desire to remove Priority 3 (Hurley Lane) from consideration as this new route will serve the purpose of access for the school as well as direct the majority of thru traffic away from the school to US-25. While Priority 2 is still moving forward, the 2006 US-25 study limited the review area to end at the intersection of KY-192 (Bypass) and KY-229/“New US-25”. As such, consideration was not given to the added demand of continued traffic north along KY-229 beyond this intersection to the intersection with US-25/Main Street in downtown London.

During the review of the proposed “New Route/New Southern Bypass” a question was raised as to why Connector A (Route between KY-192/Bypass and New Southern Bypass) was removed from the original Southern Bypass as part of Phase 1 design. Joey noted that the decision reached among the project team members was to direct the traffic onto KY-363 in an attempt to provide less interruption to traffic flow on KY-192 (Bypass) and the proposed New Southern Bypass by eliminating two intersections. Keith noted the need to have early public involvement on this project and to discuss with the School Board before hand.

The current status of these remaining priorities is the main reason for review of two new project areas due to the possible impacts from rerouted traffic. The new project limits to be considered are discussed as follows:

- Project Area A – is along KY-229 from MP 12.211 at Intersection A-1 (intersection of US-25 and KY-229) on south to MP 11.522 at Intersection A-2, (intersection of KY-192 to KY-229).
- Project Area B – runs along Commercial Drive/James Lewis Drive from MP 11.110 at Intersection B-1 (intersection of US-25 with Commercial Drive) on east along Commercial Drive/James Lewis Drive to MP 11.195 at Intersection B-2 (intersection of KY-229 with James Lewis Drive).

The focus of the presentation was then directed to primarily address the new project areas identified with the balance of the presentation focusing around the remaining nine points to be addressed in developing a purpose and need statement.

- A system linkage review was performed to help identify significant factors in this location. Key issues were noted as follows:
  - US-25 Connects London to Corbin
  - KY-229 Connects London to Barbourville
  - US-25 Designated an “Alternate Route” if emergency on Interstate-75
  - Levi Jackson State Park is located just off this route on KY-1006
  - South Laurel High School is off US-25
- Roadway classifications were discussed with US-25 having 14.3% truck traffic due in part to being in the Coal Haul Highway System.
- Modal relationships were also examined with CSX being identified to own the rail line that runs through this area parallel to Interstate-75.
- Social demands and economic development were considered.
- Traffic demands, crash data and roadway deficiencies were discussed through the remaining presentation. The two defined project areas were broken up into four sections relative to the information provided through the HIS and HPMS database systems. These sections were defined as follows:
  - Section 1- covers the area along US-25 around Project Area B - Intersection B-1 at the intersection of US-25 and Commercial Drive.
  - Section 2- includes the area along US-25 around Project Area A- Intersection A-1 at the intersection of US-25 and KY-229.
  - Section 3- consists of the area along KY-229 called Project Area A from the intersection with US-25 to and including the intersection with KY-192 (Bypass) also known as Intersection A-2.
  - Section 4- covers the area along KY-229 around Project Area B- Intersection B-1 at the intersection of KY-229 and James Lewis Drive.
- We first went over Transportation Demand and found a growth rate for each roadway based upon actual traffic counts. Of these locations, Section 4 was found to have the highest growth rate at 4.2%, which appeared very steady from mid 1960’s to present.
- Capacity was identified through volume to service flow ratio (VSF), Adequacy Rating (based on capacity, roughness and crashes) and Future ADTs for each section. US-25 in Section 1 was the only location where the VSF was greater than 0.70 with a value of 1.11. The adequacy rating for this section of roadway was also the lowest at

15.15%, which means out of 100 roadways of this same functional class in Kentucky, approximately 85% were rated better than this section.

- Safety was the next element of the purpose and need statement presented. The new crash data being utilized included collision data from January 1, 2006 through December 31, 2009. Crash locations were discussed for each of the four separate sections (previously identified) to include manner of collision and type of collision. Mapping was provided to show individual crash areas and locations of high CRFs along the corridor.
  - A significant number of Rear end and Angle Collisions were noted in Section 1 at the intersection of Commercial Drive and US-25 to result in a Critical Rate Factor (CRF) of 3.35. This location is approximately 100 ft from an existing signalized intersection with Laurel Technical College Street and the main entrance to South Laurel High School (SLHS) Campus. Concern was raised regarding the desire to relocate this traffic signal to the proposed intersection of the “New Route/New Southern Bypass” with US-25 and Commercial Drive due to the anticipated increased traffic demand. Along with the School Board proposing to provide right-of-way for a New Southern Bypass away from SLHS for added security reasons, a meeting attendee stated the School Board had requested the traffic signal at Laurel Technical College Street/SLHS Main Entrance be removed and relocated at the intersection of the New Southern Bypass with that of US-25 and Commercial Drive. It was noted that once the New Southern Bypass was complete, the School Board requested that the current SLHS Main Entrance at US-25 be closed to require school traffic to utilize the connectors to the New Southern Bypass. Tonya noted that traffic counts were requested for this intersection and will be performed after both the high school and technical college are back in session. Joey stated that the rest of the highly congested portion of US-25 identified in Section 1 not be proposed for improvements as Priority 2 (New US-25) was identified in the 2006 US-25 Study to offload congestion from this location.
  - Safety at Section 2 was discussed next as it also had a high CRF of 2.14 at the intersection of US-25 and KY-229. Lots of rear ends were reported there with most vehicles being hit from behind on US-25 traveling southbound. A signal is located at this intersection and a possible 1-way route was discussed some time ago. This intersection has been a problem per the District for some time and the other side roads were never closed to through traffic as originally intended. US-25 has two through lanes at this location with a two way left turn lane (TWLTL) in the middle.
  - Section 3 also had safety concerns with a high CRF of 1.22 at the intersection of KY-229 and KY-192(Bypass). Most accidents were rear ends as well with a near even split of rear end collisions from either direction along KY-229. The district noted that the intersection functions well during the weekdays, but becomes congested when the flea market is in operation during the weekends. Traffic speed through this location is approximately 45-55 mph. Keith noted that the left turn lanes appear to be

approximately 100 ft shorter than desired on KY-229 at the intersection with KY-192(Bypass).

- The last Section 4 had a concentrated area with a CRF of 1.68 at the intersection of KY-229 and James Lewis Drive. The District noted this portion of the KY-229 Corridor has significant traffic generators to include: the flea market (corner of KY-229 & James Lewis Drive), city public works facility, Laurel Grocery Distribution, FedEx Distributor, and other access points. The intersection of KY-229 and James Lewis Drive form a “Y” intersection and has an approximate 25 ft offset with that of Brown Lane. A railroad crossing is also located just south of this intersection that is known to cause gridlock in the area.
- During the Roadway Deficiencies review, it was noted that all sections did not meet current design standards and that the geometrics of the roadway was a significant issue. The listed deficiencies and significant traffic generators noted in the Safety discussion on Section 4 raised concern for increased traffic along Commercial Drive and James Lewis Drive as an eastwardly continuation of the New Southern Bypass. Joey inquired as to the need to include upgrades to Commercial Drive and James Lewis Drive as part of the 11-147.00 Project. Should the District include improvements to the intersections at Commercial Drive & US-25 with the New Southern Bypass as well as the intersection at KY-229 & James Lewis Drive? The District considered traffic from KY-229 to utilize Commercial Drive and the New Southern Bypass to gain access to KY-363 (new Lowe’s location). Keith asked what improvements would be needed along Commercial Drive and James Lewis Drive and Joey replied with the following list:
  - Geometry (Sharp curve)
  - Pavement Type (Asphalt Type)
  - Pavement Width
  - Shoulder Width

Keith then suggested getting cost estimates to determine money availability. If there is not enough money, spot improvements should be considered. Another approach could be to improve the intersection of the New Southern Bypass with US-25 and Commercial Drive as part of Priority 1 (New Southern Bypass) project and add improvements to the intersection of James Lewis Drive and KY-229 with Priority 2 (New US-25) project.

- Environmental Considerations were discussed for this area. An Environmental Overview was completed as part of the 2006 US-25 Scoping Study and includes all of Project Area A as well as the southernmost part of Project Area B that is the intersection of KY-229 and KY-192(Bypass). Tonya noted the need for Dean to provide an Overview for the balance of the project area. An Environmental Justice Report was also completed for the same study with 2000 Census Tract data covering the entire area for this study as well. As such, another Environmental Justice report may not be needed as the Project Areas are primarily commercial and industrial in nature with some apartments being located on the eastern side of KY-229. There is only one area known to have underground storage tanks (UST) in both project areas and is a gas station located on the eastern side of the KY-229 at the intersection with James Lewis Drive. The District noted that the local National Guard facility is for storage only with a few trenches.

- Utilities were also reviewed throughout an overall project area. Joey and district staff developed an overall aerial map showing topography, water and sewer utilities as well as schools, wetlands, churches, public activities and several other unique characteristics to the area. Tonya provided a list of potential conflicts and noted that telephone and cable lines should also be considered.

Once all four sections of roadway were reviewed individually, the meeting proceeded with a summary review to help clarify the desired alternatives for Project Areas A and B.

Project Area B was first reviewed at the intersection of US-25 and Commercial Drive. Joey then inquired if the District should decide which Project Area is the priority. It initially appeared that Project Area A was considered a greater concern. Keith followed by asking if these areas were scope creep or does traffic already following these routes? The District anticipated both areas to be of concern due to the future traffic impacts in these locations once Priority 1 and Priority 2 projects were implemented. A question was then raised regarding the potential redundancy in providing the US-25 Connector along with possible improvements on Commercial Drive. Following this thought, another option was presented to combine Commercial Drive and New US-25. Several team members responded that Priority 2 (New US-25) is primarily for traffic traveling north and south, to and from London to Corbin, while Priority 1 (New Southern Bypass) and Project Area A (Commercial Drive & James Lewis Drive) work together to provide a continuation of traffic flow east and west for more local and commercial traffic to get to and from KY-229 (New US-25) to KY-363. Also, the original idea behind all these priorities was to offload traffic from the heavily congested portion of the US-25 corridor and if you combine the New US-25 and Commercial Drive, traffic would be directed up to the very area where congestion relief is needed most.

Keith recommended Project Area B (Commercial Drive) be a part of this study but thought the District should look at traffic volumes coming from KY-363 before deciding if feasible to improve Commercial Drive. The project team agreed to review both options as follows:

- No build on Commercial Drive but Improve Intersection of proposed New Southern Bypass with US-25 and Commercial Drive.
- Improve Commercial Drive at a continuation of the New Southern Bypass to include intersections and the sharp curve at the transition point of Commercial Drive to James Lewis Drive by continuing Commercial Drive all the way to KY-229(New US-25). Traffic on James Lewis Drive would then be required to utilize Commercial Drive and the problem access point for James Lewis Drive to KY-229(New US-25) would be removed.

Keith noted that if the traffic volume is large enough on Commercial Drive, the District may want to consider improvements as part of Priority 1 (New Southern Bypass) and if not, the District may consider Commercial Drive to be a separate project. In order to get a more accurate representation of traffic patterns in the area, this Pre-design Scoping Study will recommend a traffic model be completed to cover both Project Area A and B or do Phase 1 Design after a model is done. Joey noted it will be six months or more before design starts as no consultant has been selected yet. David Fields noted that there

is currently a traffic model being created for the area and proceeded to check the status of the model. Upon David's return, he noted the traffic model must still be tweaked to account for Commercial Drive and Project Area A. Joey thought this could be done in a relatively short period of time. Keith noted that Priority 2 (New US-25) project should not stop for this process and worse case would be Commercial Drive would be a separate project. This should be discussed further in Program Review Meetings. Another team member suggested one way streets as an alternative. Keith noted that the traffic model could determine if this option is a viable alternative. Joey replied this subject was already brought up in the Public Involvement Meeting during the 2006 US-25 Planning Study and the public did not support.

Project Area A was discussed next as the area North of KY-192(Bypass) on KY-229. Given the short proximity and direct connection to downtown London, Keith confirmed that the Model should be used to help determine the possible improvements to this portion of roadway but agreed with Joey that this area should be a part of this Pre-design Scoping Study. Given the geometric limitations of Project Area A-Intersection A-1, improvements to US-25 and KY-229 would be required regardless. The following options were concluded:

- No build on KY-229 North of KY-192(Bypass). Revise intersection of US-25 and KY-229 only to allow for the main flow to proceed on to Main Street from KY-229.
- Improve KY-229 North of KY-192(Bypass) & revise the intersection of KY-229 and US-25 to accommodate anticipated growth along this corridor to allow for the main flow of traffic to continue onto Main Street directly from KY-229 (New US-25).

Discussion was raised as to where this project area should be included for funding. Keith considered Project Area A to be included in the 11-147.00 Project as a continuation of Priority 2 (New US-25). It was then noted that cost estimates for these options would also be needed from District-11 to provide more accurate information for these studies and future project costs.

The Purpose and Need Checklist was discussed once again as an essential aspect in developing a Purpose and Need Statement for the New Project. The draft Purpose and Need Statement was then presented to the project team for review and discussion.

The draft Purpose and Need Statement for the overall project was provided as follows:

“US-25 provides a significant connection between the city of London and Corbin as well as an alternate route during incidents or closures on Interstate 75. The purpose of this project is to reduce congestion and critical rate factors to provide safety, mobility, and connectivity for those traveling in London. These improvements should accommodate social demands for schools, residential, retail, industrial and recreational opportunities.”

The revised Purpose and Need Statement was concluded as follows:

“US-25 provides a significant connection between the cities of London and Corbin as well as an alternate route during incidents or closures on Interstate 75. The need for this

project is to reduce congestion and critical rate factors along US-25 for the purpose of reducing crashes, improving mobility, and connectivity in the area to accommodate social demands for schools, residential, retail, industrial and recreational opportunities.”

Upon completion of the Purpose and Need Statement, Tonya noted she will review notes from this meeting and provide minutes to all who attended.

The project team then proceeded to gather for a field visit of both Project Areas including the New Southern Bypass and New US-25 Route. This visit was intended to help the team members become more familiar with the site and more clearly understand the concerns along this corridor.

# piF INSCHEDULEDNEEDS

Project Identification Form



NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

ADMIN <> HELP <> LOGOUT

GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

## GENERAL INFORMATION

The PIF has an attachment. Click this image for PDF: 

**Control No:** 11 063 B0025 46.30

**Requestor Name:**

**Requestor Title:**

**Requested By Date:** 05/01/2006

**Form Completed By:** Clay McKnight

**Title/Organization:** Transportation Planner/C

**Form Completed Date:** 10/15/2004

**District:** 11

**County:** Laurel

**Prefix:** US

**Route No:** 25

**Route Type:** B

**Suffix:**

**BMP:** 9.028

**Length:** 1.477

**Status:** Active

**Mode:** Highways

**Type:** Major widening

**ADD:** CUMBERLAND VALLEY

**MPO:** Select

**Urban Area:** Rural

**Parent Control No:** 11 063 B0025 46.30

**RSE Unique No:** 063-US-0025 -000

**State System:**

BMP	EMP	SPRS
0	23.9490	State Secondary

**Functional System:**

BMP	EMP	FC
0.6770	9.0280	Rural Major Collector
9.0280	15.8210	Urban Minor Arterial Street

**EMP:** 10.505

**Existing Studies:** SEE US 25 SCOPING STUDY, ITEM NO 11-8201, PRIORITY

**Project Description:** Address congestion and safety issues on US 25 from KY 1006 to KY 192 in London

**Regional Goal:** 1. Continue support for the development and/or expansion of significant regional corridors, including US 25. 2. Improve highway safety at locations and/or corridors where traffic crash data and analysis has yielded an identified solution. 3. Promote lane and intersection expansions to improve traffic flow in congested urban and rural areas.

**Last Updated By:** lesli.gill **Last Updated Date:** 11/11/2010 2:26:44 PM

**Possible Funding source:**  IM  NH  HES  BR  STP  SP  TE  CMAQ  PLH

**Other:**

**Highway Network:**  Non NHS  NHS  NN  Scenic Way  Coal Haul  Bike  Forest  Strahnet  Ext Weight  ADHS



# piF Project Identification Form UNSCHEDULED NEEDS

NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

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GENERAL INFO   ROW/UTIL   ECO/SOCIAL   ENV/AIRQLTY   COST EST   HIGHWAY ATT   PIF STATUS   RANKING

### RIGHT OF WAY

Avg. Width:

Source:  HIS    Plans    Microfilm

Other:

Current Primary Use:  Industrial    Commercial    Residential    Farmland

Other:

Project may require additional R/W:  False    True

Possible Number of Relocations: Homes    Businesses

Comments:

### UTILITIES

Existing Utilities:  Electrical    Gas    Telephone    Cable  
 Sewer    Water    ITS    None

Other:

Project may require Utility Relocations:  False    True

Comments:



# piF Project Identification Form



NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

ADMIN <> HELP <> LOGOUT

GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

### ECONOMIC IMPACT

Planning/Zoning Reg exist in Community:  False  True

Project may affect established Business, Commercial or Industrial districts:  False  True

Economic impacts on regional/local economy:  False  True  
 Development  Tax Revenues  Emp Opportunity  
 Retail Sales  Other

Comments: An expanded US 25 will improve access to existing commercial entities.

Direct access to major points of interest:  False  True  
 Nat'l/St Parks  Monuments  Amusement Parks  
 Historic Sites  US Public Land  Other

Comments: Levi Jackson State Park (including historic features and monuments)

Direct access to major traffic generators:  False  True  
 Shopping Centers  Schools  Industries  
 Military Installations  Other

Comments: South Laurel High/Middle Schools, Laurel Co. Tech. College, London- Corbin Airport, Cookie Factory, ACS

### MULTIMODAL

This Project is a candidate for:(Check all that apply):  Bicycle Paths  Sidewalks  Shared-Use Paths  Park/Ride Lots  
 N/A

Project Improves direct access to:(Check all that apply):  Airports  Railways  Riverports  Trucking routes  N/A

Type of Public Transportation Available:  Fixed routes  Demand Response

Comments: Sidewalks could be included in this project.

### SOCIAL IMPACT

This Project May affect:(Check all that apply):  Neighborhood/community Cohesion  
 Travel Patterns (vehicular, commuter, bicycle, pedestrian)  
 Household relocations  
 Elderly, disabled, nondrivers, minorities, low-income persons  
 No adverse effects to neighborhoods apparent

Comments: Due to the substantial size and scope of the project, social impacts may occur.





NEW PIF <> SEARCH <> STATUS

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GENERAL INFO - ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

ENVIRONMENTAL IMPACT

- Environmental Impact:
- Blue Line Streams
  - Wetlands
  - Floodplain
  - Wildlife Managed Areas
  - Historic Properties
  - Cemeteries
  - Schools
  - Churches
  - Endangered species
  - Public land/Park
  - Noise impact
  - Arch. Sites
  - NR Properties
  - Potential NR Properties

Other:

- Potential Contaminated sites:
- Gas Stations
- Landfills
- Auto Repair
- Junkyards

Other:

Comments:

AIR QUALITY

- Maintenance or Nonattainment Area:  False  True  Ozone  PM
- Adds through Lane Capacity:  False  True
- Congestion Management Plan:  False  True
- Project is included in TIP/STIP:  False  True

Comments: Expanded lane structure will provide through lane capacity.





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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQTY COST EST HIGHWAY ATT PIF STATUS RANKING

COST ESTIMATE

PIF #: 11 063 B0025 46,30  
 Revision #: 0  
 BMP: 9.028  
 EMP: 10.505  
 Last Updated By: 2/25/2010 4:51:20 PM  
 Last Updated Date: sowjanya.burugupalli

Estimate Class: Requires Further Study

Per Mile

	BMP	EMP	TERRAIN
Terrain:	2.0980	9.0280	Rolling
	9.0280	10.5050	Flat
	10.5050	12.1630	Flat

Detailed Estimate with Calculations Attached

Estimate Assumptions:

- Planning: No Records
- Design: No Records
- Right of Way: No Records
- Utilities: No Records
- Construction: No Records

	Planning:	175,000.00
	Design:	1,750,000.00
Original Estimate:	Right of Way:	4,000,000.00
	Utilities:	1,500,000.00
	Construction:	7,000,000.00
	<b>Total Cost:</b>	<b>14,425,000.00</b>

Estimate Procedure Used:

Attachments: Location Map Photograph(s) Others: Sheet showing Cost Estimate

Comments:



# PIF Project Identification Form UNSCHEDULED NEEDS



NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

ADMIN <> HELP <> LOGOUT

GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

### HIGHWAY ATTRIBUTES

PIF #: 11 063 B0025 46.30

BMP: 9.028

EMP: 10.505

Last Updated By: lesll.gill

Last Updated Date: 7/28/2010 8:49:24 AM

### Adequacy Rating Range

	From	To	Problem Statement
Adequacy Rating:	44.50	96.50	This project is a part of an overall plan to expand US 25 from US 25E near Corbin to KY 192 in London. This particular section is composed of numerous commercial entities, adjacent residential developments, the entrance to the Laurel County Board of Education, Laurel County Technical College, and South Laurel High/Middle Schools. Congestion and safety have become an issue as ADT continues to increase.
CRF:	0.7860	1.62	
IRI:	No Records	No Records	
V/SF:	0.49	1.07	
ADT:	11400	23300	
% Trucks (Single):	6.60	6.70	
% Trucks (Combination):	3.80	7.60	
Speed Limit:	45	45	

ProjectedADT (HDO)/Year:

% Growth:

ProjectedADT:

### Miscellaneous Roadway Conditions

Access Control:	BMP	EMP	TYPE
	0	23.9490	None

Proposed Access Control:  \*

Lane Width:	BMP	EMP	WIDTH	LANES
	2.0980	11.9780	11	2

Proposed Lane Width:  \*

Proposed Lanes:  \*

MedianType:	BMP	EMP	WIDTH	TYPE
	0	13.5050		None

Proposed Median Type:  \*

Proposed Median Width:  \*

Shoulders:	BMP	EMP	WIDTH	TYPE	X SECT
	2.0980	9.0280	4	Combination	CR
	2.0980	9.0280	4	Combination	NR
	9.0280	10.30	2	Curbed	CR
	9.0280	10.30	2	Curbed	NR
	10.30	10.5050	10	Stablized	CR

10.30	10.5050	10	Stablized	NR
10.5050	10.63	10	Combination	CR
10.5050	10.63	10	Combination	NR

Proposed Shoulder Type: Combination

Proposed Shoulder Width: 2

No. of Bridges: 0

Traffic Loop: Coming Soon

Other Improvement Projects in Area:  None  SYP  Resurface  Others

Comments:



# piF Project Identification Form UNUS SCHEDULED NEEDS



[NEW PIF](#) <> [SEARCH](#) <> [STATUS](#)

**DIVISION OF PLANNING**

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[GENERAL INFO](#) [ROW/UTIL](#) [ECO/SOCIAL](#) [ENV/AIRQLTY](#) [COST EST](#) [HIGHWAY ATT](#) [PIF STATUS](#) [RANKING](#)

### STATUS HISTORY

STATUS TYPE	STATUS UPDATED DATE	STATUS UPDATED BY
Active	2/22/2010 10:48:34 AM	sowjanya.buruugpalli
Active	7/28/2010 8:42:26 AM	lesli.gill
Active	11/11/2010 2:26:44 PM	lesli.gill





NEW PIF &lt;&gt; SEARCH &lt;&gt; STATUS

DIVISION OF PLANNING

ADMIN &lt;&gt; HELP &lt;&gt; LOGOUT

GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

## RANKING

Click the 'Add Rank' button below to Rank this PIF

RANK TYPE	YEAR	PRIORITY	RANK	TIER	OVERALL	UPDATED BY	UPDATED DATE
LOCAL	2001	HIGH	0			sowjanya.burugupalli	3/10/2010 12:53:50 PM
REGIONAL	2001	HIGH	6			sowjanya.burugupalli	3/10/2010 12:54:17 PM
DISTRICT	2001	HIGH	0			sowjanya.burugupalli	3/10/2010 12:55:15 PM
LOCAL	2003	HIGH	0	3		sowjanya.burugupalli	3/10/2010 2:10:17 PM
REGIONAL	2003	HIGH	10	3		sowjanya.burugupalli	3/10/2010 2:26:12 PM
DISTRICT	2003	NONE	0	3		sowjanya.burugupalli	3/10/2010 2:29:01 PM
LOCAL	2005	HIGH	0			sowjanya.burugupalli	4/5/2010 11:21:25 AM
REGIONAL	2005	HIGH	0			sowjanya.burugupalli	4/5/2010 11:27:35 AM
DISTRICT	2005	MEDIUM	0			sowjanya.burugupalli	4/5/2010 12:37:55 PM
LOCAL	2007	NONE	19			sowjanya.burugupalli	4/5/2010 1:15:00 PM
REGIONAL	2007	MEDIUM	0			sowjanya.burugupalli	4/5/2010 1:29:02 PM
DISTRICT	2007	HIGH	1			sowjanya.burugupalli	4/5/2010 3:53:38 PM
LOCAL	2009	NONE	0			sowjanya.burugupalli	4/5/2010 4:29:45 PM
REGIONAL	2009	NONE	0			sowjanya.burugupalli	4/5/2010 4:30:32 PM
DISTRICT	2009	NONE	0			sowjanya.burugupalli	4/5/2010 4:31:01 PM





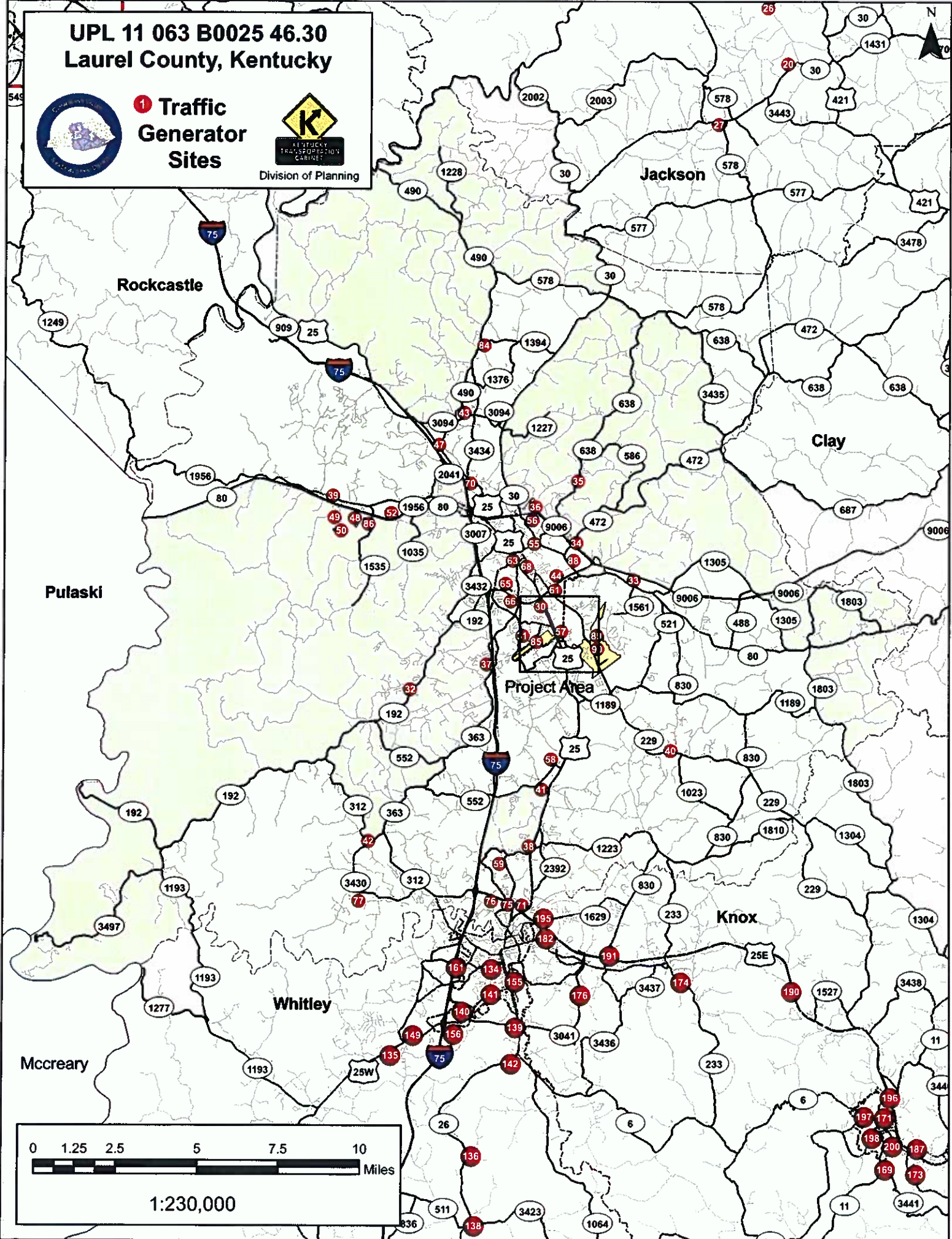
UPL 11 063 B0025 46.30  
Laurel County, Kentucky



1 Traffic Generator Sites



Division of Planning



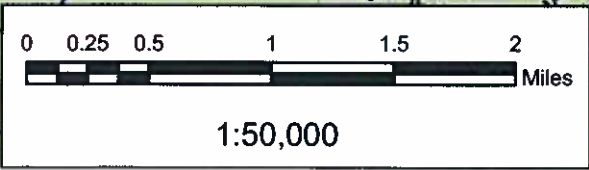
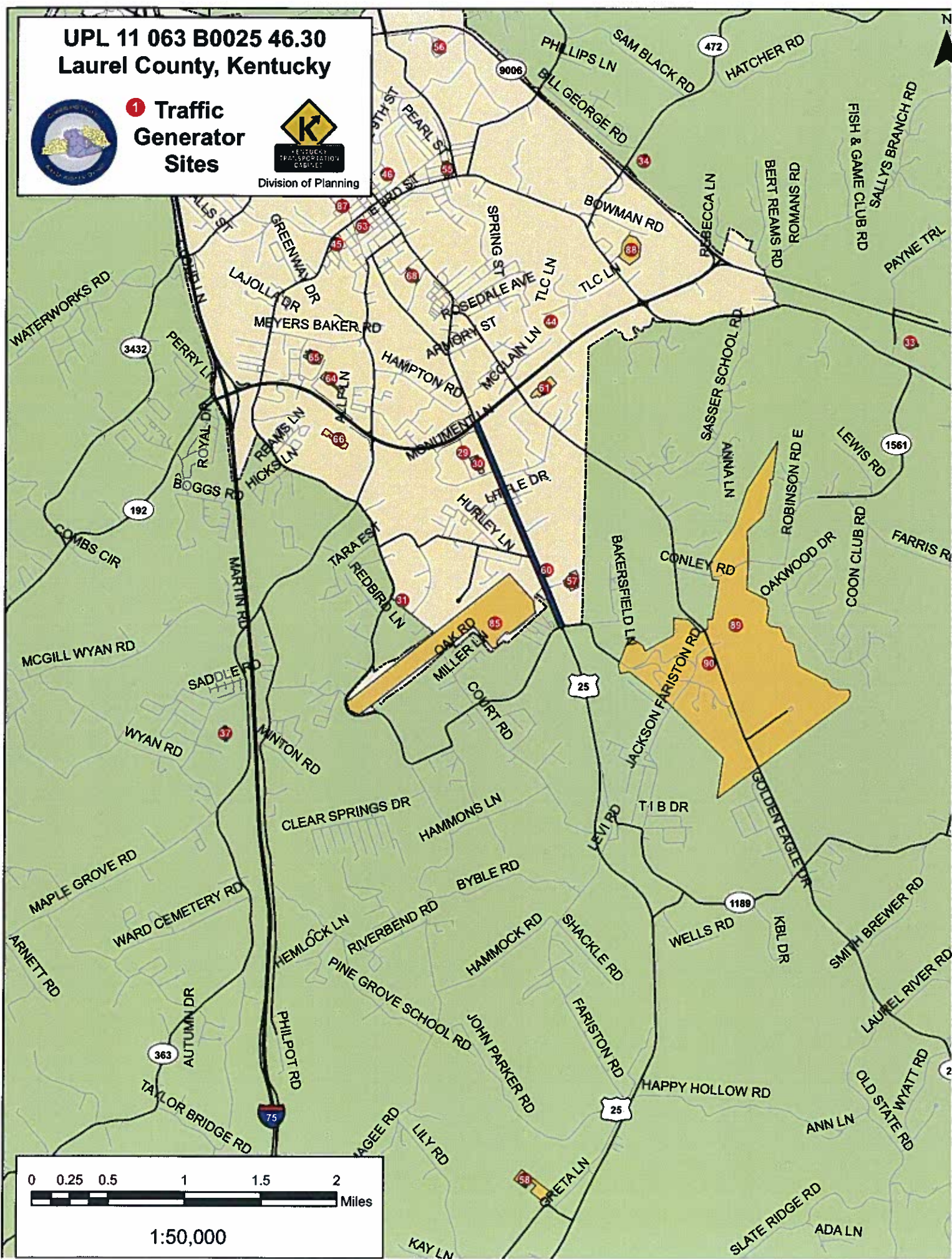
**UPL 11 063 B0025 46.30**  
**Laurel County, Kentucky**



**1 Traffic Generator Sites**



Division of Planning



**UPL # 11 063 B0025 46.30**





NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

GENERAL INFORMATION

The PIF has an attachment. Click this Image for PDF:

**Control No:** 11 063 D0229 1.26

**Requestor Name:** \_\_\_\_\_

**Requestor Title:** \_\_\_\_\_

**Requested By Date:** 07/17/2008

**Form Completed By:** Clay McKnight

**Title/Organization:** Transportation Planner/C

**Form Completed Date:** 07/17/2008

**District:** 11

**County:** Laurel

**Prefix:** KY

**Route No:** 229

**Route Type:** D

**Suffix:** \_\_\_\_\_

**BMP:** 9.850

**Length:** 1.672

**Status:** Active

**Mode:** Highways

**Type:** Major widening

**ADD:** CUMBERLAND VALLEY

**MPO:** Select

**Urban Area:** London KY

**Parent Control No:** \_\_\_\_\_

**RSE Unique No:** 063-KY-0229 -000

**State System:**

BMP	EMP	SPRS
0	12.2110	State Secondary

**Functional System:**

BMP	EMP	FC
0	10.8880	Rural Major Collector
10.8880	12.2110	Urban Minor Arterial Street

**EMP:** 11.522

**Existing Studies:** NONE

**Project Description:**

ADDRESS ACCESS, SURFACE CONDITION, AND SAFETY ISSUES ALONG KY-229 FROM CONLEY RD TO KY-192 AT LONDON.

**Regional Goal:**

1. Develop and maintain existing primary systems that provide connections between cities and counties in the CVADD. 2.Promote lane and intersection expansions to improve traffic flow in congested urban and rural areas. 3.Improve highway safety at locations and/or corridors where traffic crash data has yielded an identified solution

**Last Updated By:** lesli.gill **Last Updated Date:** 7/29/2010 9:10:30 AM

**Possible Funding source:**  IM  NH  HES  BR  STP  SP  TE  CMAQ  PLH

**Other:**

**Highway Network:**  Non NHS  NHS  NN  Scenic Way  Coal Haul  Bike  Forest  Strahnet  Ext Weight  ADHS

# piF Project Identification Form UNRESCHEDULED NEEDS



NEW PIF <> SEARCH <> STATUS

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

### RIGHT OF WAY

Avg. Width:

Source:  HIS  Plans  Microfilm

Other:

Current Primary Use:  Industrial  Commercial  Residential  Farmland

Other:

Project may require additional R/W:  False  True

Possible Number of Relocations: Homes  Businesses

Comments:

### UTILITIES

Existing Utilities:  Electrical  Gas  Telephone  Cable  
 Sewer  Water  ITS  None

Other:

Project may require Utility Relocations:  False  True

Comments:



# piF Project Identification Form



NEW PIF <> SEARCH <> STATUS

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

### ECONOMIC IMPACT

Planning/Zoning Reg exist in Community:  False  True

Project may affect established Business, Commercial or Industrial districts:  False  True

Economic impacts on regional/local economy:  False  True  Development  Tax Revenues  Emp Opportunity  Retail Sales  Other

Comments: Improved access will enhance commercial activity and promote development.

Direct access to major points of interest:  False  True  Nat'l/St Parks  Monuments  Amusement Parks  Historic Sites  US Public Land  Other

Comments: Levi Jackson State Park, Laurel County Fairgrounds, City of London

Direct access to major traffic generators:  False  True  Shopping Centers  Schools  Industries  Military Installations  Other

Comments: City of London, Levi Jackson State Park, Laurel Grocery Inc., Flea Land Flea Market, etc.

### MULTIMODAL

This Project is a candidate for:(Check all that apply):  Bicycle Paths  Sidewalks  Shared-Use Paths  Park/Ride Lots  N/A

Project Improves direct access to:(Check all that apply):  Airports  Railways  Riverports  Trucking routes  N/A

Type of Public Transportation Available:  Fixed routes  Demand Response

Comments: Provides direct access to NN route KY 192. KY 229 is used by bike club regularly.

### SOCIAL IMPACT

This Project May affect:(Check all that apply):  Neighborhood/community Cohesion  Travel Patterns (vehicular, commuter, bicycle, pedestrian)  Household relocations  Elderly, disabled, nondrivers, minorities, low-income persons  No adverse effects to neighborhoods apparent

Comments: Due to the size and scope of the project, social impacts may occur.



# PIF **UNSCHEDULED NEEDS**

Project Identification Form



NEW PIF <> SEARCH <> STATUS

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

### ENVIRONMENTAL IMPACT

- Environmental Impact:
- Blue Line Streams
  - Wetlands
  - Floodplain
  - Wildlife Managed Areas
  - Historic Properties
  - Cemeteries
  - Schools
  - Churches
  - Endangered species
  - Public land/Park
  - Noise Impact
  - Arch. Sites
  - NR Properties
  - Potential NR Properties

Other:

- Potential Contaminated sites:
- Gas Stations
- Landfills
- Auto Repair
- Junkyards

Other:

Comments:

### AIR QUALITY

Maintenance or Nonattainment Area:  False  True  Ozone  PM

Adds through Lane Capacity:  False  True

Congestion Management Plan:  False  True

Project is included in TIP/STIP:  False  True

Comments: Expanded lane structure will provide through lane capacity.





NEW PIF <> SEARCH <> STATUS

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

COST ESTIMATE

PIF #: 11 063 D0229 1.26

Revision #: 0

BMP: 9.850

EMP: 11.522

Last Updated By: 2/25/2010 4:51:20 PM

Last Updated Date: sowjanya.burugupalli

Estimate Class: Requires Further Study

Per Mile

	BMP	EMP	TERRAIN
Terrain:	2.3150	10.8880	Rolling
	10.8880	12.2110	Flat

Detailed Estimate with Calculations Attached

Estimate Assumptions:

Planning: No Records

Design: No Records

Right of Way: No Records

Utilities: No Records

Construction: No Records

	Planning:	00.00
	Design:	1,000,000.00
Original Estimate:	Right of Way:	3,000,000.00
	Utilities:	2,500,000.00
	Construction:	11,000,000.00
	<b>Total Cost:</b>	<b>17,500,000.00</b>

Estimate Procedure Used:

Attachments:  Location Map  Photograph(s)  Others: Sheet showing Cost Estimate

Comments:





# piF **UNRESCHEDULED NEEDS**

Project Identification Form



NEW PIF <> SEARCH <> STATUS

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

**HIGHWAY ATTRIBUTES**

PIF #: 11 063 D0229 1.26  
 BMP: 9.850  
 EMP: 11.522  
 Last Updated By: lesli.gill  
 Last Updated Date: 8/4/2010 4:46:56 AM

**Adequacy Rating Range**

	From	To	Problem Statement
Adequacy Rating:	50.60	81.90	This project from Levi Jackson State Park entrance to KY 192 (London Bypass) was identified in the 2001 London-Laurel County Transportation Study to address access and safety issues. The project area has experienced industrial, commercial, and residential growth over the course of the past few years and provides direct access to KY 192 (London Bypass), Laurel County Fairgrounds, and the Levi Jackson State
CRF:	0.4810	0.9060	
IRI:	63.93	161.78	
V/SF:	0.36	0.69	
ADT:	4300	9510	
% Trucks (Single):	2.70	4.30	
% Trucks (Combination):	1.80	2.10	
Speed Limit:	55	55	

Projected ADT (HDO)/Year:  % Growth:  Projected ADT:

**Miscellaneous Roadway Conditions**

	BMP	EMP	TYPE
Access Control:	0	12.2110	None

Proposed Access Control:  \*

	BMP	EMP	WIDTH	LANES
Lane Width:	0	11.4470	10	2
	11.4470	11.60	11	2

Proposed Lane Width:  \*

Proposed Lanes:  \*

	BMP	EMP	WIDTH	TYPE
Median Type:	0	11.4470		None
	11.4470	11.60	12	Raised Non Mountable

Proposed Median Type:  \*

Proposed Median Width:  \*

	BMP	EMP	WIDTH	TYPE	X SECT
Shoulders:	7.84	11.33	2	Paved w/ Bituminous Material	CR
	7.84	11.33	2	Paved w/ Bituminous Material	NR
	11.33	11.66	4	Paved w/ Bituminous Material	CR

11.33	11.66	4	Paved w/ Bituminous Material	NR
11.4470	11.60	3	Curbed	CL
11.4470	11.60	3	Curbed	NL

Proposed Shoulder Type: Paved w/ Bituminous Material  \*

Proposed Shoulder Width: 10 \*

No. of Bridges: 1

Traffic Loop:

Other Improvement Projects in Area:  None  SYP  Resurface  Others

Comments:



# piF Project Identification Form UNRESCHEDULED NEEDS



NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

### STATUS HISTORY

STATUS TYPE	STATUS UPDATED DATE	STATUS UPDATED BY
Active	2/22/2010 10:48:34 AM	sowjanya.buruugpalli
Active	7/29/2010 9:10:30 AM	lesli.gill





NEW PIF <> SEARCH <> STATUS

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GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQTY COST EST HIGHWAY ATT PIF STATUS RANKING

RANKING

Click the 'Add Rank' button below to Rank this PIF

RANK TYPE	YEAR	PRIORITY	RANK	TIER	OVERALL	UPDATED BY	UPDATED DATE
LOCAL	2001	NONE	0			sowjanya.burugupalli	3/10/2010 12:53:50 PM
REGIONAL	2001	NONE	0			sowjanya.burugupalli	3/10/2010 12:54:17 PM
DISTRICT	2001	NONE	0			sowjanya.burugupalli	3/10/2010 12:55:15 PM
LOCAL	2003	NONE	0			sowjanya.burugupalli	3/10/2010 2:10:17 PM
REGIONAL	2003	NONE	0			sowjanya.burugupalli	3/10/2010 2:26:12 PM
DISTRICT	2003	NONE	0			sowjanya.burugupalli	3/10/2010 2:29:01 PM
LOCAL	2005	NONE	0			sowjanya.burugupalli	4/5/2010 11:21:25 AM
REGIONAL	2005	NONE	0			sowjanya.burugupalli	4/5/2010 11:27:35 AM
DISTRICT	2005	NONE	0			sowjanya.burugupalli	4/5/2010 12:37:55 PM
LOCAL	2007	NONE	0			sowjanya.burugupalli	4/5/2010 1:15:00 PM
REGIONAL	2007	NONE	0			sowjanya.burugupalli	4/5/2010 1:29:02 PM
DISTRICT	2007	NONE	0			sowjanya.burugupalli	4/5/2010 3:53:38 PM
LOCAL	2009	MEDIUM	0			sowjanya.burugupalli	4/5/2010 4:29:45 PM
REGIONAL	2009	MEDIUM	0			sowjanya.burugupalli	4/5/2010 4:30:32 PM
DISTRICT	2009	HIGH	0			sowjanya.burugupalli	4/5/2010 4:31:01 PM



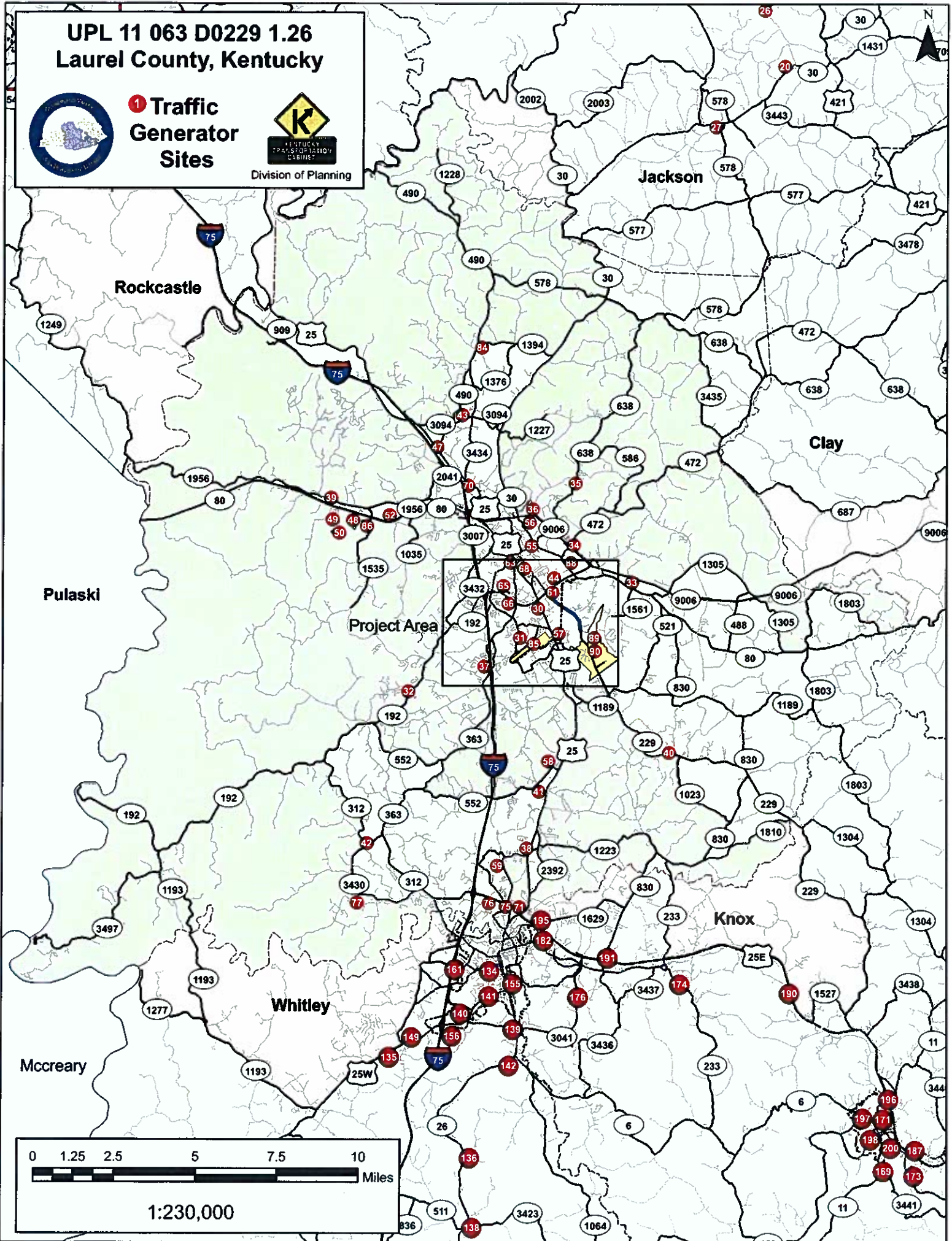
UPL 11 063 D0229 1.26  
Laurel County, Kentucky



**1** Traffic  
Generator  
Sites



Division of Planning



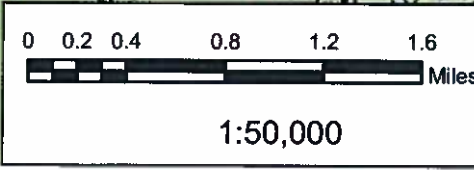
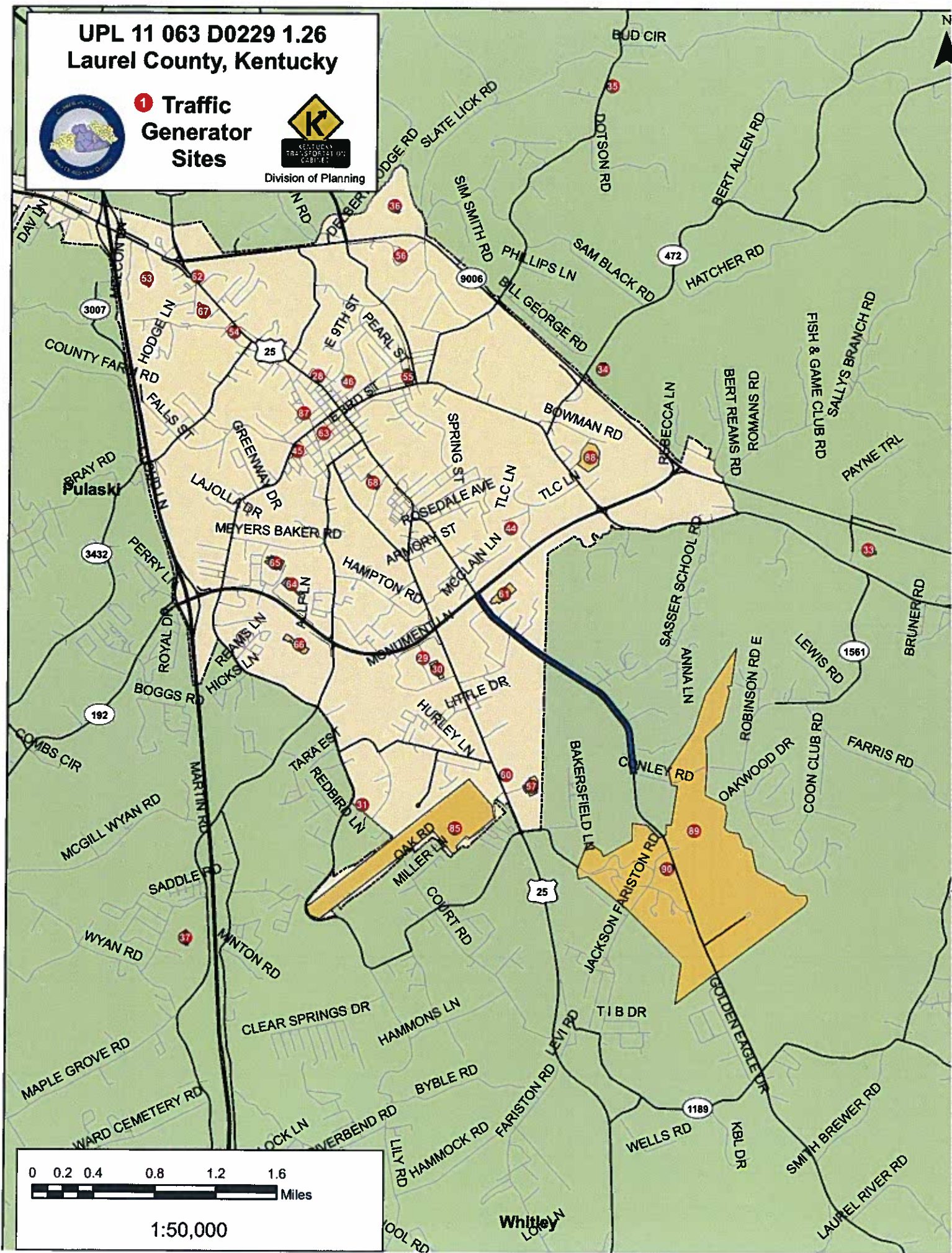
UPL 11 063 D0229 1.26  
Laurel County, Kentucky



1 Traffic  
Generator  
Sites



KENTUCKY  
TRANSPORTATION  
CABINET  
Division of Planning



**UPL # 11 063 D0229 1.26**



**COMMON GEOMETRIC PRACTICES  
URBAN ROADWAYS (OTHER THAN FREEWAYS)**

13

		URBAN LOCAL STREETS	URBAN COLLECTOR STREETS	URBAN ARTERIAL STREETS											
DESIGN SPEED (14)		20 M.P.H. - 30 M.P.H.	MIN. 30 M.P.H.	30 M.P.H. - 60 M.P.H.											
NUMBER OF LANES		MINIMUM 2	MINIMUM 2 (4)	MINIMUM 2 (4)											
LANE WIDTH	RESIDENTIAL	MIN. 10' (1)	MIN. 10' (2)	12' FREE FLOW CONDITION (2) 11' MIN. INTERRUPTED FLOW CONDITION											
	COMMERCIAL	MIN. 11'	MIN. 11'												
	INDUSTRIAL	MIN. 12' (3)	MIN. 12' (3)												
SIDEWALK	RESIDENTIAL COMMERCIAL	MINIMUM 4' DESIRABLE 8' (16)													
MINIMUM CLEAR ROADWAY WIDTH OF NEW AND (11) RECONSTRUCTED BRIDGES		MINIMUM CURB TO CURB WIDTH													
BERM AREA (5)		10' TYPICAL													
MINIMUM RADIUS (FEET)		(6)													
MAXIMUM GRADE (PERCENT)	- R) - MAX. 15% - C) - MAX. 8% (12) - I) - MAX. 8%	M.P.H.	30	35	40	45	50	(9) M.P.H.	30	35	40	45	50	55	60
		LEVEL	9			8		7	LEVEL	8	7	6		5	
		ROLLING	11	10		9	8		ROLLING	9	8	7		6	
		MOUNTAIN	12			11		10	MOUNTAIN	11	10	9		8	
NORMAL PAVEMENT CROSS SLOPE (8)		RATE OF CROSS SLOPE = 2%													
NORMAL SHOULDER CROSS SLOPE		EARTH - 8%							PAVED - 4%						
SUPERELEVATION		(10) 4% MAX.	4% MAX.					4% - 6% MAX.							
MINIMUM STOPPING SIGHT DISTANCE (FEET) (7)	M.P.H.	20	25	30	35	40	45	50	55	60					
	MIN.	115	155	200	250	305	360	425	495	570					

- R) = RESIDENTIAL

- C) = COMMERCIAL

- I) = INDUSTRIAL

- ① TURNING LANES : 9' MINIMUM - 12' DESIRABLE; PARKING LANES : RESIDENTIAL - 7' MINIMUM - 10' DESIRABLE; COMMERCIAL & INDUSTRIAL - 9' MINIMUM - 12' DESIRABLE.
- ② TURNING LANES : 10' MINIMUM - 12' DESIRABLE; PARKING LANES : 9' MINIMUM - 12' DESIRABLE.
- ③ VERTICAL CURBS WITH HEIGHTS OF 6" OR GREATER ADJACENT TO TRAVELED WAY SHOULD BE OFFSET A MINIMUM OF 1 FOOT. WHEN A CURB AND GUTTER SECTION IS PROVIDED, THE GUTTER PAN WIDTH, NORMALLY 2 FEET, SHOULD BE USED AS THE OFFSET DISTANCE.
- ④ THE NUMBER OF LANES TO BE PROVIDED ON STREETS WITH A CURRENT ADT OF 2000 OR GREATER SHOULD BE DETERMINED BY A HIGHWAY CAPACITY ANALYSIS OF THE DESIGN TRAFFIC VOLUMES. SUCH ANALYSIS SHOULD BE MADE FOR FUTURE DESIGN TRAFFIC. (DESIRABLE)
- ⑤ THE BERM AREA IS TYPICALLY FROM FACE OF CURB TO 2 FEET BEHIND BACK OF SIDEWALK.
- ⑥ REFER TO CHAPTER 3 OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" CURRENT EDITION.
- ⑦ MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON HEIGHT OF EYE 3.5 FT. & HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL & VERTICAL ALIGNMENTS CONSIDERED.
- ⑧ NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2 PERCENT.
- ⑨ ARTERIALS WITH LARGE NUMBERS OF TRUCKS AND OPERATING NEAR CAPACITY SHOULD CONSIDER GRADES FLATTER THAN THOSE IN RURAL SECTIONS TO AVOID UNDESIRABLE REDUCTIONS IN SPEEDS.
- ⑩ SUPERELEVATION MAY NOT BE REQUIRED ON LOCAL STREETS IN RESIDENTIAL AND COMMERCIAL AREAS.
- ⑪ THE BRIDGE WIDTH FOR URBAN ROADWAYS WITH SHOULDERS AND NO CURBS SHOULD NOT BE LESS THAN WIDTHS SHOWN FOR RURAL ROADS APPROVED ROADWAY WIDTHS.
- ⑫ MAXIMUM GRADES OF SHORT LENGTHS (LESS THAN 500') AND ON ONE-WAY DOWN GRADES MAY BE ONE PERCENT STEEPER.
- ⑬ FOR GUIDANCE ON FREEWAYS, REFER TO AASHTO, "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."
- ⑭ INTERMEDIATE DESIGN SPEEDS (5 M.P.H. INCREMENTS) MAY BE APPROPRIATE WHERE TERRAIN AND OTHER ENVIRONMENTAL CONDITIONS DICTATE.
- ⑮ REFER TO AASHTO'S "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES", CURRENT EDITION, WHEN COMBINING A PEDESTRIAN SIDEWALK WITH A BICYCLE PATH.



# **APPENDIX D**

MASTER FILE NUMBER	ROADWAY NUMBER	MILEPOINT DERIVED	COLLISION DATE	COLLISION TIME	UNITS INVOLVED	KILLED	INJURED	WEATHER	ROADWAY CONDITION	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
70516239	US0025	10.08	03-Dec-07	0830	2	0	0	CLOUDY	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70534716	US0025	10.082	23-Jan-08	1223	2	0	2	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70649966	US0025	10.085	30-Dec-08	0950	2	0	0	CLEAR	DRY	HEAD ON	STRAIGHT & LEVEL	DAYLIGHT
70785150	US0025	10.09	01-Dec-09	1351	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70588321	US0025	10.091	20-Jun-08	1325	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70780271	US0025	10.095	18-Nov-09	1042	3	0	0	CLOUDY	WET	SIDESWIPE-OPPOSITE	STRAIGHT & LEVEL	DAYLIGHT
70456237	US0025	10.101	04-Jun-07	1628	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70433281	US0025	10.104	14-Apr-07	1307	2	0	2	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70462942	US0025	10.105	19-Jul-07	1802	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70544198	US0025	10.107	18-Feb-08	0424	1	0	0	CLOUDY	WET	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70736365	US0025	10.107	04-Aug-09	1554	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70786269	US0025	10.107	03-Dec-09	1708	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DUSK
70456256	US0025	10.107	07-Jun-07	1710	2	0	2	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70675266	US0025	10.107	11-Feb-09	1525	2	0	1	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70759758	US0025	10.107	06-Oct-09	1457	2	0	0	RAINING	WET	ANGLE	STRAIGHT &	DAYLIGHT
70442643	US0025	10.109	22-May-07	0814	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70784752	US0025	10.112	30-Nov-09	0705	2	0	0	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70456246	US0025	10.127	07-Jun-07	1413	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70663880	US0025	10.132	28-Jan-09	1115	2	0	0	BLOWING	SNOW/SLU	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70500155	US0025	10.137	13-Nov-07	0752	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70550034	US0025	10.141	21-Mar-08	1101	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70695725	US0025	10.143	17-Apr-09	0742	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70516215	US0025	10.153	05-Dec-07	0748	2	0	0	CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70433275	US0025	10.153	10-Apr-07	1325	2	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70494892	US0025	10.153	11-Oct-07	1445	3	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70462814	US0025	10.154	10-Jul-07	1343	2	0	0	CLOUDY	DRY	SIDESWIPE-OPPOSITE	STRAIGHT & LEVEL	DAYLIGHT
70550023	US0025	10.162	24-Mar-08	2042	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70698620	US0025	10.162	04-May-09	1103	2	0	0	CLOUDY	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70571012	US0025	10.162	13-May-08	1347	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70409454	US0025	10.162	31-Jan-07	1449	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70687316	US0025	10.163	10-Mar-09	2155	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70404535	US0025	10.163	04-Jan-07	0752	2	0	2	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70494882	US0025	10.164	29-Sep-07	1244	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70570293	US0025	10.165	01-May-08	1458	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT

MASTER FILE NUMBER	ROADWAY NUMBER	MILEPOINT DERIVED	COLLISION DATE	COLLISION TIME	MOTOR VEHICLES INVOLVED	KILLED	INJURED	WEATHER	ROADWAY CONDITION	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
70426195	US0025	11.2	19-Feb-07	0948	2	0	1	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70544183	US0025	11.216	12-Mar-08	1502	3	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70736359	US0025	11.22	07-Aug-09	1510	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70452332	US0025	11.223	13-Jun-07	1448	3	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70706534	US0025	11.24	19-May-09	1203	2	0	0	CLEAR	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70494909	US0025	11.254	22-Oct-07	1100	2	0	0	CLOUDY	WET	REAR END	STRAIGHT & GRADE	DAYLIGHT
70729682	US0025	11.255	17-Jul-09	1432	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70462872	US0025	11.255	08-Jun-07	1538	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70736976	US0025	11.255	10-Aug-09	1725	3	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70426213	US0025	11.255	26-Feb-07	1320	2	0	0	CLOUDY	DRY	SIDESWIPE	STRAIGHT & GRADE	DAYLIGHT
70426207	US0025	11.264	20-Mar-07	1115	2	0	0	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70404506	US0025	11.3	04-Jan-07	1535	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT

MASTER FILE NUMBER	ROADWAY NUMBER	MILEPOINT DERIVED	COLLISION DATE	COLLISION TIME	UNITS INVOLVED	KILLED	INJURED	WEATHER	ROADWAY CONDITION	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
70409474	US0025	9.028	12-Feb-07	1850	2	0	0	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70412809	US0025	9.028	22-Feb-07	1448	3	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70650017	US0025	9.029	17-Dec-08	1757	2	0	2	RAINING	WET	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF
70426222	US0025	9.037	28-Feb-07	1618	3	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70462868	US0025	9.047	12-Jul-07	1644	2	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70786273	US0025	9.051	03-Dec-09	1748	2	0	1	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70800184	US0025	9.071	21-Dec-09	1836	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70776955	US0025	9.073	09-Nov-09	1747	2	0	3	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70560374	US0025	9.082	24-Apr-08	1713	2	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70570997	US0025	9.122	30-May-08	1649	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70776948	US0025	9.123	09-Nov-09	1411	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70510857	US0025	9.134	07-Dec-07	0925	2	0	0	CLOUDY	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70622745	US0025	9.145	07-Oct-08	1944	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70571009	US0025	9.148	06-May-08	1208	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70698638	US0025	9.165	01-May-09	1511	4	0	0	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70556337	US0025	9.169	04-Apr-08	1532	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70759745	US0025	9.188	29-Sep-09	0930	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70649987	US0025	9.197	12-Dec-08	1655	2	0	0	BLOWING	WET	REAR END	STRAIGHT & LEVEL	DUSK
70724551	US0025	9.226	11-Jun-09	1430	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70649991	US0025	9.231	19-Dec-08	1540	2	0	4	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70788294	US0025	9.288	04-Dec-09	1624	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70494796	US0025	9.307	19-Sep-07	0700	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAWN
70462877	US0025	9.317	12-Jul-07	1710	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70698632	US0025	9.321	27-Apr-09	0924	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70456261	US0025	9.427	01-Jun-07	1514	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70781709	US0025	9.43	18-Nov-09	1045	2	0	1	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70729681	US0025	9.437	17-Jul-09	1332	2	0	0	CLEAR	DRY	SIDESWIPE-OPPOSITE DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70570998	US0025	9.456	30-May-08	1636	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70550020	US0025	9.464	17-Mar-08	1743	2	0	0	CLEAR	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70735573	US0025	9.467	06-Aug-09	1624	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70705261	US0025	9.482	15-May-09	1600	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70404552	US0025	9.501	16-Jan-07	0635	2	0	0	CLOUDY	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF
70436056	US0025	9.528	02-May-07	1659	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70544176	US0025	9.529	10-Mar-08	1148	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70494863	US0025	9.532	04-Sep-07	1523	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70521314	US0025	9.542	01-Jan-08	1844	2	0	0	SNOWING	ICE	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70494780	US0025	9.549	21-Sep-07	1719	2	0	0	CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70494854	US0025	9.549	12-Sep-07	0900	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70650015	US0025	9.56	18-Dec-08	1135	2	0	2	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70409452	US0025	9.568	01-Feb-07	1859	3	0	0	CLOUDY	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70516213	US0025	9.573	05-Dec-07	1615	2	0	0	SLEET/HAI	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70288014	US0025	9.577	21-Jan-06	1811	2	0	1	CLOUDY	DRY	HEAD ON	STRAIGHT & LEVEL	DUSK
70516246	US0025	9.586	01-Dec-07	1205	2	0	1	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70598051	US0025	9.592	01-Aug-08	1500	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70521326	US0025	9.6	05-Jan-08	1525	2	0	0	CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70604994	US0025	9.611	08-Sep-08	1645	2	0	0	CLEAR	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70740666	US0025	9.626	10-Aug-09	1536	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70588970	US0025	9.628	07-Jul-08	1605	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70462901	US0025	9.63	24-Jul-07	1629	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70534733	US0025	9.635	08-Jan-08	1627	2	0	0	CLOUDY	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70695791	US0025	9.637	22-Apr-09	1540	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70534713	US0025	9.645	22-Jan-08	0918	2	0	0	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70534673	US0025	9.649	09-Jan-08	1146	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70698289	US0025	9.66	26-Apr-09	1744	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70788285	US0025	9.681	04-Dec-09	1604	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70698631	US0025	9.698	01-May-09	1511	2	0	0	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70550035	US0025	9.699	17-Mar-08	1606	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70649998	US0025	9.699	23-Dec-08	1545	2	0	1	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70438163	US0025	9.7	19-Apr-07	2108	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & GRADE	DARK-HWY NOT LIGHTED
70521240	US0025	9.725	21-Dec-07	1357	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70604988	US0025	9.761	05-Sep-08	1532	3	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70544190	US0025	9.764	21-Feb-08	1120	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70734074	US0025	9.765	30-Jul-09	1528	3	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70457063	US0025	9.8	22-May-07	1555	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & GRADE	DAYLIGHT
70635845	US0025	9.807	07-Nov-08	1437	2	0	1	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70695787	US0025	9.808	03-Apr-09	1741	2	0	0	CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70789494	US0025	9.814	07-Dec-09	1715	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DUSK
70456249	US0025	9.832	11-Jun-07	1242	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & GRADE	DAYLIGHT
70570280	US0025	9.834	27-May-08	1110	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70798231	US0025	9.839	22-Dec-09	1404	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70534681	US0025	9.841	08-Feb-08	1520	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70470324	US0025	9.862	10-Aug-07	1443	3	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70476481	US0025	9.899	12-Aug-07	2305	1	0	0	CLOUDY	DRY	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF
70438164	US0025	9.9	24-Apr-07	1438	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70426220	US0025	9.908	13-Feb-07	0808	3	0	0	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DAWN
70569527	US0025	9.932	21-May-08	0800	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT

70695740	US0025	10.365	18-Apr-09	1351	2	0	0 CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70550033	US0025	10.367	03-Mar-08	1216	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70544719	US0025	10.373	10-Jan-08	1749	3	0	3 RAINING	WET	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70695738	US0025	10.381	07-Apr-09	1328	2	0	0 CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70544180	US0025	10.384	07-Mar-08	1633	2	0	0 RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70521221	US0025	10.387	14-Dec-07	0816	2	0	0 CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70687328	US0025	10.39	01-Apr-09	1242	3	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70695729	US0025	10.393	27-Apr-09	1449	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70516265	US0025	10.394	19-Dec-07	1530	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70534709	US0025	10.394	04-Feb-08	1358	3	0	2 CLOUDY	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70426237	US0025	10.405	03-Mar-07	1802	2	0	0 CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70441115	US0025	10.405	23-May-07	1526	2	0	0 CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70494769	US0025	10.405	20-Sep-07	1215	2	0	0 CLEAR	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70433299	US0025	10.41	14-Apr-07	1350	2	0	0 RAINING	WET	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70709883	US0025	10.412	29-May-09	1445	2	0	0 CLEAR	DRY	OPPOSING LEFT TURN	STRAIGHT & LEVEL	DAYLIGHT
70622810	US0025	10.416	23-Oct-08	1814	2	0	0 CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70744436	US0025	10.422	26-Aug-09	0746	2	0	0 CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70442640	US0025	10.429	18-May-07	1615	3	0	2 CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70695716	US0025	10.444	10-Apr-09	1834	2	0	0 RAINING	WET	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70698290	US0025	10.447	28-Apr-09	1845	2	0	0 CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70409466	US0025	10.448	01-Feb-07	0608	2	0	0 CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70470344	US0025	10.448	06-Aug-07	1240	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70321483	US0025	10.448	12-May-06	1730	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70641728	US0025	10.452	01-Dec-08	1300	2	0	0 BLOWING	WET	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70588324	US0025	10.46	03-Jul-08	1135	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70695722	US0025	10.464	26-Mar-09	1100	2	0	0 RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70702444	US0025	10.465	11-May-09	1632	2	0	0 CLEAR	DRY	ANGLE	STRAIGHT & GRADE	DARK-HWY LIGHTED/OFF
70494902	US0025	10.467	11-Sep-07	1513	3	0	0 CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70442625	US0025	10.467	26-May-07	1254	2	0	0 CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70504340	US0025	10.471	18-Nov-07	1324	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70635828	US0025	10.484	20-Nov-08	1748	2	0	0 CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70470331	US0025	10.486	13-Aug-07	1529	2	0	0 CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70752518	US0025	10.49	15-Sep-09	2017	3	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70404553	US0025	10.491	03-Jan-07	1124	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70470363	US0025	10.496	14-Aug-07	0915	2	0	0 CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70494911	US0025	10.497	24-Oct-07	0815	3	0	0 RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70516233	US0025	10.498	06-Nov-07	1120	2	0	0 CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70426201	US0025	10.5	01-Apr-07	1255	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70470345	US0025	10.5	07-Aug-07	1029	2	0	0 CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70509230	US0025	10.5	20-Nov-07	1508	2	0	2 CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70396861	US0025	10.5	05-Jan-07	1500	3	0	1 CLOUDY	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70452330	US0025	10.502	12-Jun-07	1521	2	0	0 CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70660432	US0025	10.502	26-Jan-09	0845	2	0	0 CLOUDY	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70409444	US0025	10.503	31-Jan-07	1244	2	0	0 CLEAR	DRY	SIDESWIPE-SAME DIRECTION	CURVE & GRADE	DAYLIGHT
70736370	US0025	10.504	02-Aug-09	2320	2	0	0 CLEAR	DRY	BACKING	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70588967	US0025	10.505	21-Jul-08	1221	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70415776	US0025	10.505	26-Feb-07	1548	2	0	2 CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70433552	US0025	10.505	16-Apr-07	1750	2	0	0 CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70433300	US0025	10.505	14-Apr-07	1356	2	0	3 RAINING	WET	ANGLE	STRAIGHT & GRADE	DAYLIGHT
70409460	US0025	10.505	03-Feb-07	1425	3	0	5 CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70588346	US0025	10.505	14-Jul-08	1503	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70775997	US0025	10.505	04-Nov-09	1142	2	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70516244	US0025	10.505	29-Nov-07	1654	2	0	0 CLOUDY	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70743613	US0025	10.505	25-Aug-09	2033	2	0	0 CLEAR	DRY	REAR END	CURVE & LEVEL	DARK-HWY LIGHTED/ON
70470342	US0025	10.505	17-Aug-07	1624	3	0	0 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70500165	US0025	10.505	12-Nov-07	1518	3	0	0 CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70649999	US0025	10.505	24-Dec-08	1842	2	0	0 RAINING	WET	REAR END	CURVE & LEVEL	DARK-HWY LIGHTED/ON
70534685	US0025	10.505	15-Feb-08	1313	2	0	0 CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70534700	US0025	10.505	09-Jan-08	1009	2	0	0 CLEAR	WET	REAR END	CURVE & LEVEL	DAYLIGHT
70780276	US0025	10.505	13-Nov-09	1553	2	0	1 CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70409445	US0025	10.506	01-Feb-07	0815	2	0	0 CLOUDY	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70509228	US0025	10.506	26-Nov-07	1706	2	0	0 RAINING	WET	REAR END	STRAIGHT & LEVEL	DUSK
70426276	US0025	10.506	19-Mar-07	2204	2	0	1 RAINING	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70752523	US0025	10.508	16-Sep-09	0637	2	0	0 CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70409451	US0025	10.509	11-Feb-07	1705	2	0	1 CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70705247	US0025	10.511	20-May-09	1515	2	0	0 CLEAR	DRY	REAR END	CURVE & HILLCREST	DAYLIGHT
70544713	US0025	10.515	01-Feb-08	1433	2	0	0 CLOUDY	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70706536	US0025	10.515	15-May-09	1205	2	0	0 CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70784760	US0025	10.515	24-Nov-09	1517	2	0	0 CLOUDY	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70650010	US0025	10.515	26-Dec-08	1250	2	0	0 CLOUDY	WET	REAR END	CURVE & GRADE	DAYLIGHT
70561977	US0025	10.515	27-Apr-08	2301	2	0	0 CLOUDY	WET	SIDESWIPE-SAME DIRECTION	CURVE & LEVEL	DARK-HWY LIGHTED/ON
70649973	US0025	10.515	19-Dec-08	1241	2	0	0 RAINING	WET	REAR END	CURVE & GRADE	DAYLIGHT
70521229	US0025	10.516	04-Dec-07	1614	2	0	0 CLOUDY	DRY	REAR END	CURVE & HILLCREST	DAYLIGHT
70784767	US0025	10.516	28-Nov-09	1103	2	0	0 CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70650007	US0025	10.517	27-Dec-08	1446	2	0	0 CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70769665	US0025	10.518	19-Oct-09	1217	2	0	0 CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70769679	US0025	10.519	15-Oct-09	1836	2	0	0 RAINING	WET	REAR END	CURVE & GRADE	DUSK
70534729	US0025	10.519	02-Feb-08	1357	2	0	0 CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70687317	US0025	10.521	24-Mar-09	1700	2	0	0 CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT

70462833	US0025	12	25-Jul-07	1255	3	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70784753	US0025	12.005	24-Nov-09	1619	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70724525	US0025	12.015	09-Jun-09	1239	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70494760	US0025	12.019	09-Oct-07	1134	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70721595	US0025	12.02	22-Jun-09	1533	2	0	0	CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70470357	US0025	12.024	02-Aug-07	1222	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70726346	US0025	12.044	03-Jul-09	1509	3	0	1	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70622753	US0025	12.05	07-Oct-08	1430	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70556366	US0025	12.051	16-Apr-08	0940	2	0	0	CLEAR	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70409462	US0025	12.061	06-Feb-07	1254	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70675304	US0025	12.061	16-Jan-09	1513	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70650013	US0025	12.061	09-Dec-08	1430	2	0	0	CLOUDY	DRY	OPPOSING LEFT TURN	STRAIGHT & LEVEL	DAYLIGHT
70550021	US0025	12.061	19-Mar-08	1548	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70426178	US0025	12.063	15-Feb-07	1205	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70426194	US0025	12.1	15-Feb-07	1300	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70470325	US0025	12.114	11-Aug-07	1429	3	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70516257	US0025	12.117	28-Nov-07	1558	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70600518	US0025	12.119	25-Aug-08	1957	2	0	0	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DUSK
70675951	US0025	12.119	23-Jan-09	0655	2	0	0	CLEAR	DRY	OPPOSING LEFT TURN	STRAIGHT & LEVEL	DAYLIGHT
70698628	US0025	12.119	28-Apr-09	0835	2	0	1	CLEAR	DRY	SINGLE VEHICLE	STRAIGHT & GRADE	DAYLIGHT
70521217	US0025	12.119	26-Dec-07	1133	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70588335	US0025	12.12	10-Jul-08	2142	2	0	0	CLEAR	DRY	HEAD ON	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70544321	US0025	12.125	12-Mar-08	0701	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70521233	US0025	12.127	03-Dec-07	1415	2	0	0	CLEAR	DRY	SIDESWIPE-SAME DIRECTION	STRAIGHT & LEVEL	DAYLIGHT
70747303	US0025	12.129	03-Sep-09	1500	2	0	0	CLOUDY	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70494782	US0025	12.159	10-Oct-07	1715	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & GRADE	DAYLIGHT
70739826	US0025	12.161	14-Aug-09	1050	3	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70534679	US0025	12.163	04-Feb-08	0948	2	0	1	CLOUDY	DRY	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
70534726	US0025	12.163	10-Feb-08	1634	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70665964	US0025	12.163	06-Jan-09	1734	2	0	0	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70756547	US0025	12.163	23-Sep-09	1808	2	0	0	CLOUDY	DRY	ANGLE	STRAIGHT & GRADE	DAYLIGHT
70425365	US0025	12.163	16-Mar-07	1348	1	1	0	CLOUDY	DRY	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT

MASTER FILE NUMBER	ROADWAY NUMBER	MILEPOINT DERIVED	COLLISION DATE	COLLISION TIME	UNITS INVOLVED	KILLED	INJURED	WEATHER	ROADWAY CONDITION	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
70494805	KY0229	10.94	28-Aug-07	1300	2	0	1	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70494812	KY0229	11.091	06-Sep-07	1709	2	0	0	CLEAR	DRY	SIDESWIPE-SAME	STRAIGHT & LEVEL	DAYLIGHT
70665973	KY0229	11.14	09-Jan-09	0742	2	0	0	CLEAR	ICE	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70649985	KY0229	11.173	10-Dec-08	2122	2	0	5	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF
70456248	KY0229	11.178	09-Jun-07	1256	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & GRADE	DAYLIGHT
70516140	KY0229	11.186	05-Dec-07	1435	1	0	0	RAINING	WET	SINGLE VEHICLE	STRAIGHT & LEVEL	DAYLIGHT
70494816	KY0229	11.187	25-Aug-07	1058	3	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70494868	KY0229	11.187	17-Sep-07	1824	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70695793	KY0229	11.187	23-Mar-09	1807	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70433310	KY0229	11.187	29-Apr-07	1705	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70426275	KY0229	11.191	17-Mar-07	1659	2	0	2	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70404537	KY0229	11.192	03-Jan-07	1706	2	0	0	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70521222	KY0229	11.193	17-Dec-07	0801	3	0	1	CLOUDY	DRY	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
70724534	KY0229	11.193	19-Jun-09	2311	2	0	1	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DARK-HWY NOT LIGHTED
70500154	KY0229	11.218	14-Nov-07	1759	2	0	0	RAINING	WET	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/ON
70571000	KY0229	11.294	03-May-08	1215	2	0	0	RAINING	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70675284	KY0229	11.313	13-Feb-09	1017	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70649996	KY0229	11.349	22-Dec-08	1450	2	0	0	CLEAR	DRY	BACKING	CURVE & LEVEL	DAYLIGHT
70442622	KY0229	11.397	22-May-07	1625	2	0	3	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70752519	KY0229	11.491	16-Sep-09	1533	2	0	0	CLOUDY	DRY	BACKING	STRAIGHT & LEVEL	DAYLIGHT
70462929	KY0229	11.513	23-Jun-07	1240	2	0	0	CLEAR	DRY	REAR END	CURVE & GRADE	DAYLIGHT
70516261	KY0229	11.518	09-Dec-07	1547	2	0	0	RAINING	WET	REAR END	CURVE & HILLCREST	DAYLIGHT
70676062	KY0229	11.518	02-Mar-09	0640	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & LEVEL	DAWN
70571016	KY0229	11.519	29-May-08	0940	2	0	0	CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70665957	KY0229	11.52	23-Jan-09	1940	2	0	0	CLOUDY	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70622799	KY0229	11.52	10-Sep-08	0752	2	0	0	CLOUDY	DRY	REAR END	STRAIGHT & GRADE	DAYLIGHT
70588319	KY0229	11.521	18-Jul-08	1635	2	0	0	CLEAR	DRY	REAR END	CURVE & LEVEL	DAYLIGHT
70635841	KY0229	11.521	16-Nov-08	1102	2	0	0	CLOUDY	WET	ANGLE	STRAIGHT & GRADE	DAYLIGHT
70598058	KY0229	11.522	27-Jul-08	1737	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70752503	KY0229	11.532	10-Sep-09	1906	2	0	0	RAINING	WET	ANGLE	STRAIGHT & GRADE	DAYLIGHT
70579265	KY0229	11.534	15-Jun-08	1839	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70675306	KY0229	11.539	01-Jan-09	0452	2	0	2	CLEAR	DRY	ANGLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF
70788374	KY0229	11.539	05-Dec-09	1745	2	0	0	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DUSK
70516222	KY0229	11.549	13-Dec-07	1524	2	0	0	CLOUDY	WET	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70724552	KY0229	11.614	04-Jul-09	2226	3	0	0	RAINING	WET	REAR END	STRAIGHT & GRADE	DARK-HWY NOT LIGHTED
70414966	KY0229	11.722	02-Mar-07	0645	2	0	0	CLEAR	DRY	SIDESWIPE-OPPOSITE	STRAIGHT & GRADE	DAWN
70743605	KY0229	11.951	24-Aug-09	1251	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT
70481455	KY0229	12.053	06-Sep-07	0851	2	0	2	CLEAR	DRY	SIDESWIPE-OPPOSITE	STRAIGHT & LEVEL	DAYLIGHT
70509233	KY0229	12.093	23-Nov-07	1913	1	0	0	CLEAR	DRY	SINGLE VEHICLE	STRAIGHT & GRADE	DARK-HWY LIGHTED/ON
70641727	KY0229	12.204	28-Nov-08	1320	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & GRADE	DAYLIGHT
70588334	KY0229	12.208	28-Jun-08	1457	2	0	0	CLEAR	DRY	REAR END	STRAIGHT & LEVEL	DAYLIGHT

**Accident Calculations for Segments**

ROADWAY	US-25 & KY-229
COUNTY	Laurel
PERIOD	1/1/2007-12/31/2009

The procedure used below is from The Kentucky Transportation Center, University of Kentucky, College of Engineering, Research Report KTC-06-29/KSP2--06-1F titled "Analysis of Traffic Crash Data in Kentucky (2002-2006).

Last updated for 2007-2009

$$HMVM = \text{Hundred Million Vehicle Miles} = \frac{(\text{Segment Length in miles})(AADT)(\text{No. of Years (usually = 3)})(365 \text{ days/yr.})}{(10^8)}$$

Functional Class Rate ( See table Below) - from Report KTC-00-17, "Analysis of Traffic Crash Data in Kentucky (2003-2007).

$$RC = \text{Critical Accident Rate} = (\text{Functional Class Rate}) + (K) \left( \frac{(\text{Functional Class Rate})}{HMVM} \right)^{0.5} + \left( \frac{1}{2 * HMVM} \right)$$

$$\text{Total Accident Rate} = \frac{\text{Total Number of Accidents}}{HMVM}$$

$$\text{Critical Rate Factor} = \frac{\text{Total Accident Rate}}{RC}$$

**INPUT**

Number of Years = 3

K = 2.576

\*\*\*Functional Class Rates are for 2007 thru 2009\*\*\*

Highway Type	Rural Acc. Rates	Urban Acc. Rates
One-Lane	235	
Two-Lane	210	311
Three-Lane	139	444
Four-Lane Divided	99	275
Four-Lane Undivided	206	485
Interstate	51	97
Parkway	61	100
All	144	289

\*\*\*Functional Class Rates are for 2005 thru 2009\*\*\*

Highway Type	Rural Acc. Rates	Urban Acc. Rates
One-Lane	247	
Two-Lane	213	294
Three-Lane	122	455
Four-Lane Divided	103	275
Four-Lane Undivided	226	473
Interstate	51	97
Parkway	60	105
All	146	259

Check KTC Website Report - Bookmarked, Table A-1.

INPUT								OUTPUT				
Roadway	Route	County	Begin Milepoint	End Milepoint	AADT	Functional Class Rate	Total No. Accidents	Segment Length (miles)	HMVM	Critical Accident Rate	Total Accident Rate	Critical Rate Factor
US 25	*	Laurel	9.028	10.505	25,300	311	215	1.477	0.41	383.2	525.4	1.371
	*		10.505	10.972	11,400	311	43	0.467	0.06	507.7	737.6	1.453
			10.972	11.255	11,600	311	17	0.283	0.04	564.5	472.9	0.838
			11.255	12.163	14,200	311	70	0.908	0.14	435.4	495.8	1.139
KY 229		Laurel	10.888	11.447	9,510	311	19	0.559	0.06	507.9	326.4	0.643
	**		11.447	11.522	9,510	311	10	0.075	0.01	889.1	1280.4	1.440
	**		11.522	11.600	5,260	311	6	0.078	0.00	1100.1	1335.5	1.214
			11.600	12.211	5,260	311	7	0.611	0.04	567.4	198.9	0.351

\* Note: High CRF at segment on either side of US-25 and KY-192 (Bypass) Intersection.

\*\* Note: High CRF at segment on either side of KY-229 and KY-192 (Bypass) Intersection.



**Crash Calculations for 0.3 mile Spots**

County:	Laurel
Route:	US-25 & KY-229
Period:	1/1/2007 - 12/31/2009

The procedure used below is from The Kentucky Transportation Center, University of Kentucky, College of Engineering, Research Report KTC-06-29/KSP2--06-1F titled "Analysis of Traffic Crash Data in Kentucky (2002-2006).

$$MV = \text{Million Vehicles} = \frac{(AADT) * (\text{No. of Years}) * (365 \text{ days/yr.})}{(10^6)}$$

Functional Class Rate (See table Below)

$$RC = \text{Critical Accident Rate} = (\text{Functional Class Rate}) + K * \sqrt{\frac{(\text{Functional Class Rate})}{(MV)}} + 1/(2 * (MV))$$

$$\text{Total Accident Rate} = \frac{\text{Total Number of Accidents}}{MVM}$$

$$\text{Critical Rate Factor} = \frac{\text{Total Accident Rate}}{RC}$$

**INPUT**

Number of Years =

K =

\*\*\*Functional Class Rates are for 2007 thru 2009\*\*\*

Highway Type	Rural Acc. Rates	Urban Acc. Rates
One-Lane	0.70	
Two-Lane	0.63	0.93
Three-Lane	0.42	1.33
Four-Lane Divided	0.30	0.82
Four-Lane Undivided	0.62	1.45
Interstate	0.15	0.29
Parkway	0.18	0.30
All	0.43	0.81

Note: Crash rates are in terms of crashes per million vehicles.

INPUT							OUTPUT			
Route	County	Begin Milepoint	End Milepoint	AADT*	Functional Class Rate*	Total No. Accidents	MV	RC	Total Acc. Rate	Critical Rate Factor
US-25	Laurel	10.000	10.300	25300	0.93	62	27.70	1.42	2.2	1.58
US-25	Laurel	11.100	11.400	14,200	0.93	22	15.55	1.59	1.4	0.89
KY-229	Laurel	11.147	11.447	9,510	0.93	16	10.41	1.75	1.5	0.88
		11.522	11.822	5,260	0.93	8	5.76	2.05	1.4	0.68
		11.911	12.211	5,260	0.93	5	5.76	2.05	0.9	0.42

\*Input may be based on weighted averages of smaller segments within length of analyzed segment.

### Crash Calculations for 0.1 mile Spots

County:	Laurel
Route:	US-25 & KY-229
Period:	1/1/2007 - 12/31/2009

The procedure used below is from The Kentucky Transportation Center, University of Kentucky, College of Engineering, Research Report KTC-06-29/KSP2--06-1F titled "Analysis of Traffic Crash Data in Kentucky (2002-2006). Last updated for 2007-2009

$$MV = \text{Million Vehicles} = \frac{(\text{AADT}) \times (\text{No. of Years}) \times (365 \text{ days/yr.})}{(10^6)}$$

Functional Class Rate (See table Below)

$$RC = \text{Critical Accident Rate} = (\text{Functional Class Rate}) + K \times \sqrt{(\text{Functional Class Rate}) / (MV)} + 1 / (2 \times (MV))$$

$$\text{Total Accident Rate} = \frac{\text{Total Number of Accidents}}{MVM}$$

$$\text{Critical Rate Factor} = \frac{\text{Total Accident Rate}}{RC}$$

### INPUT

Number of Years = 3

K = 2.576

\*\*\*Functional Class Rates are for 2007 thru 2009\*\*\*

Highway Type	Rural Acc. Rates	Urban Acc. Rates
One-Lane	0.23	
Two-Lane	0.21	0.31
Three-Lane	0.14	0.44
Four-Lane Divided	0.10	0.27
Four-Lane Undivided	0.21	0.48
Interstate	0.05	0.10
Parkway	0.06	0.10
All	0.14	0.27

INPUT							OUTPUT			
County	Route	Begin Milepoint	End Milepoint	AADT*	Functional Class Rate*	Total No. Accidents	MV	RC	Total Acc. Rate	Critical Rate Factor
Laurel	US 25	10.08	10.18	25300	0.31	34	27.70	0.60	1.2	2.04
Laurel	US 25	11.2	11.3	14,200	0.31	12	15.55	0.71	0.8	1.09
Laurel	KY 229	11.14	11.24	9,510	0.31	13	10.41	0.80	1.2	1.56
		11.422	11.522	9,510	0.31	9	10.41	0.80	0.9	1.08
		11.522	11.622	5,260	0.31	7	5.76	0.99	1.2	1.22
		12.108	12.208	5,260	0.31	2	5.76	0.99	0.3	0.35

# **APPENDIX E**

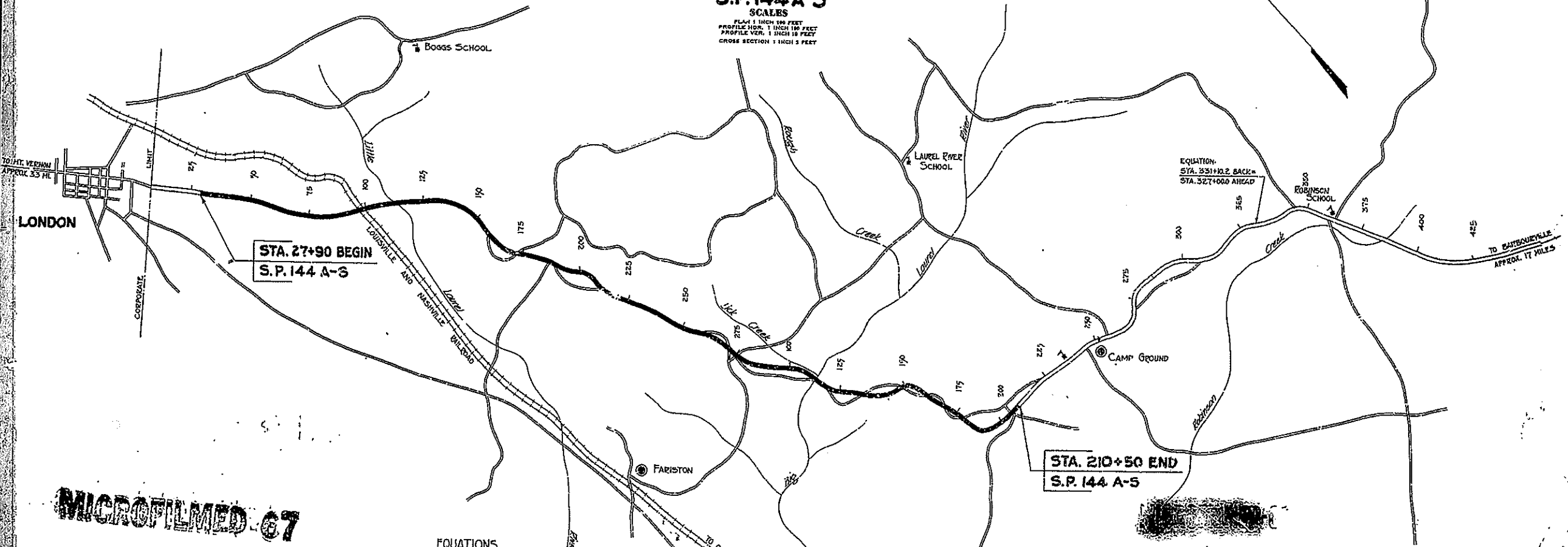
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	LAYOUT SHEET
2	TYPICAL SECTIONS - SUMMARY OF QUANTITIES
3 & 3A	STANDARD DRAWING SHEETS

**COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS**

CRAFT	DATE	SECTION	SCALE	DATE	SCALE
LAUREL	144	A-5	1938	1	1

**PLAN AND PROFILE OF PROPOSED  
STATE HIGHWAY**

**LAUREL COUNTY  
S.P. 144 A-S**  
SCALES  
PLAN 1 INCH = 100 FEET  
PROFILE VIEW 1 INCH = 10 FEET  
CROSS SECTION 1 INCH = 5 FEET



**MICROFILMED 67**

EQUATIONS			
STA. BACK	STA. AHEAD	PLUS	MINUS
34+04.0	34+00.0	4.0	
276+03.0	277+00.0		97.0
281+06.4	83+87.0	20297.4	
151+63.8	153+00.0		136.2
TOTAL		20301.4	233.2
DIFFERENCE		20278.0	

CONVENTIONAL SIGNS	
COUNTY LINE	
CORPORATE LIMITS	
SURVEY LINE	
PROPOSED RIGHT OF WAY	
GRADE LINE	
ROAD LINE	
TRAVELER'S WAY	
RAILROAD	
FENCE (EXCEPT STONE CHECKED)	
STONE FENCE	
BRIDGE	
TRUCK STOP	
PIPE CULVERT	
CONCRETE CULVERT & BRIDGE	
LARGE STREAM	
SMALL STREAM	
ROAD CROSSING	
RAILROAD CROSSING	
BUILDING	
UNIMPROVED ROAD	
GRADED SANDY ROAD	
IMPROVED ROAD	

**LAYOUT MAP**  
SCALE 1 INCH = 2000 FEET  
GRID LENGTH: 88,500' LIN. FT. 730' HORIZ. MAP  
FOR EQUATIONS: 20278.0 LIN. FT.  
KEY LENGTH: 33,200' LIN. FT. 7234' HORIZ. MAP  
NOT INCLUDED  
RAILROAD CROSSINGS: 752 LIN. FT.  
BRIDGES: 3670 LIN. FT.

**KENTUCKY  
DEPARTMENT OF HIGHWAYS  
COUNTY OF  
LAUREL  
LONDON - BARBOURVILLE  
ROAD**

STATE PROJECT No. 144 SECTION A-S DATE 1938

SURVEYED BY: H. J. BEUCHAMP DISTRICT ENGINEER  
PLANS CHECKED BY: H. J. BEUCHAMP DISTRICT ENGINEER  
SURVEY AND PLANS APPROVED BY: [Signature] DISTRICT ENGINEER  
SURVEY AND PLANS APPROVED BY: [Signature] DISTRICT ENGINEER  
SURVEY AND PLANS APPROVED BY: [Signature] DISTRICT ENGINEER

**SP 144 A-3**

**INDEX OF SHEETS**

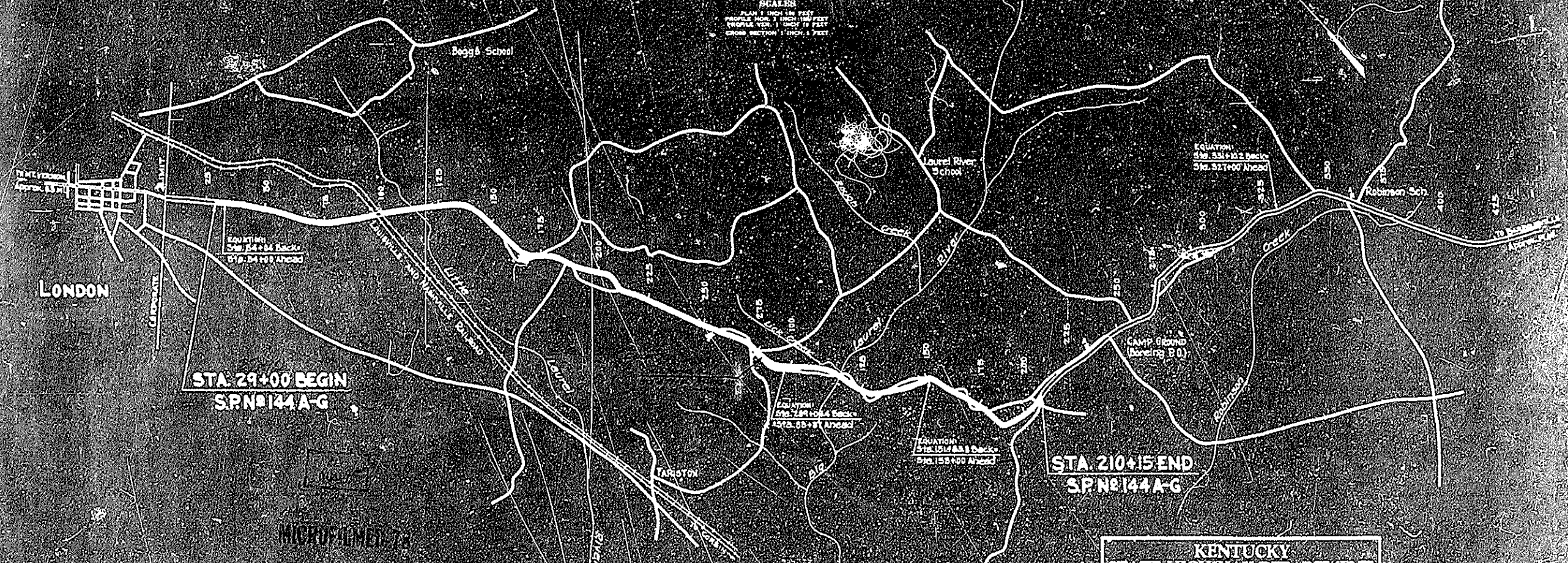
LAYOUT SHEET  
 TYPICAL SECTIONS—QUANTITY OF QUANTITIES  
 STANDARD DRAWING SHEETS  
 PLAN AND PROFILE SHEETS  
 PROVISIONS SHEETS  
 CROSS SECTION SHEETS  
 BRIDGE SHEETS

**COMMONWEALTH OF KENTUCKY  
 STATE HIGHWAY DEPARTMENT**

**PLAN AND PROFILE OF PROPOSED  
 STATE HIGHWAY**

**LAUREL COUNTY  
 STATE PROJECT No 144 SEC-A-G**

**SCALES**  
 PLAN 1" = 100' FEET  
 PROFILE 1" = 10' FEET  
 CROSS SECTION 1" = 10' FEET



**STA. 29+00 BEGIN  
 SPN 144A-G**

**STA. 210+15 END  
 SPN 144A-G**

**CONVENTIONAL SIGNS**

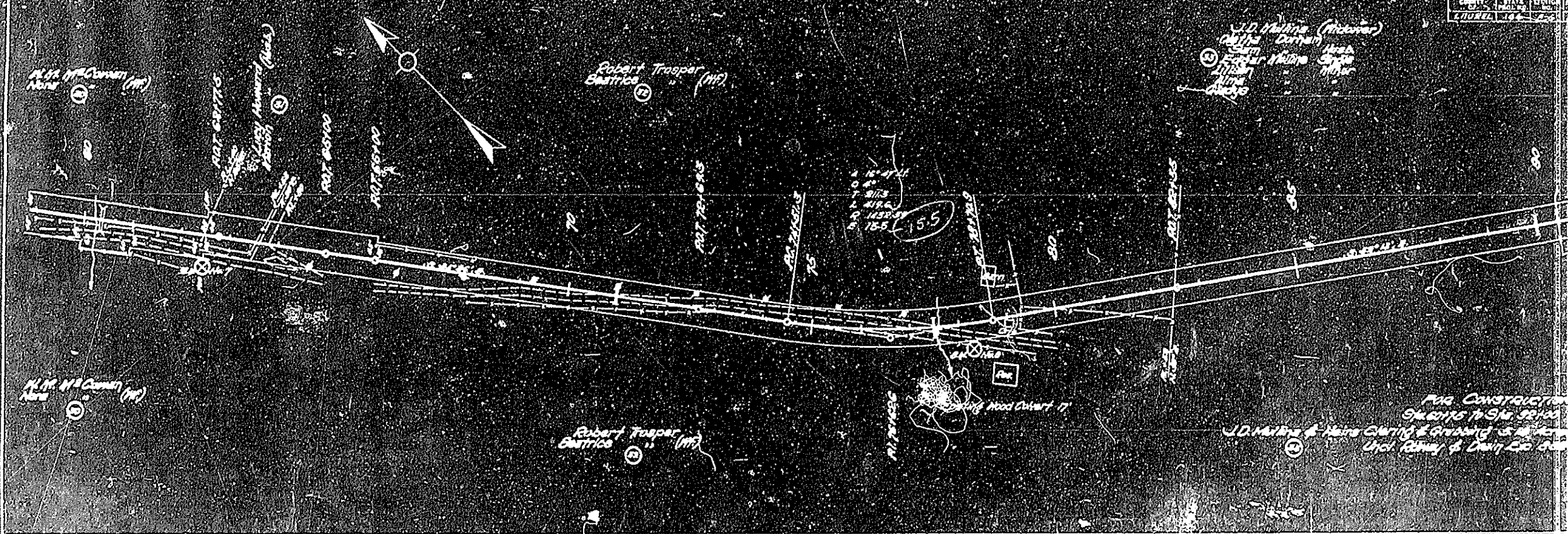
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Stop	[Symbol]
Yield	[Symbol]
Priority	[Symbol]
One Way	[Symbol]
Two Way	[Symbol]
Dead End	[Symbol]
U-Turn	[Symbol]
Curve	[Symbol]
Grade	[Symbol]
Speed Limit	[Symbol]
Minimum Speed	[Symbol]
Prohibitory	[Symbol]
Permissive	[Symbol]
Information	[Symbol]
Construction	[Symbol]
Utility	[Symbol]
Other	[Symbol]

**LAYOUT MAP**

**KENTUCKY  
 STATE HIGHWAY DEPARTMENT  
 COUNTY OF  
 LAUREL  
 LONDON - BARBOURVILLE  
 ROAD**

STATE PROJECT No 144 SECTION A-G DATE 1934

DESIGNED BY [Signature]  
 PLANNED BY [Signature]  
 CHECKED BY [Signature]  
 APPROVED BY [Signature]



Station	Lat	Long	Alt	Temp	Wind	Humidity	Pressure	Clouds	Remarks
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# COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS

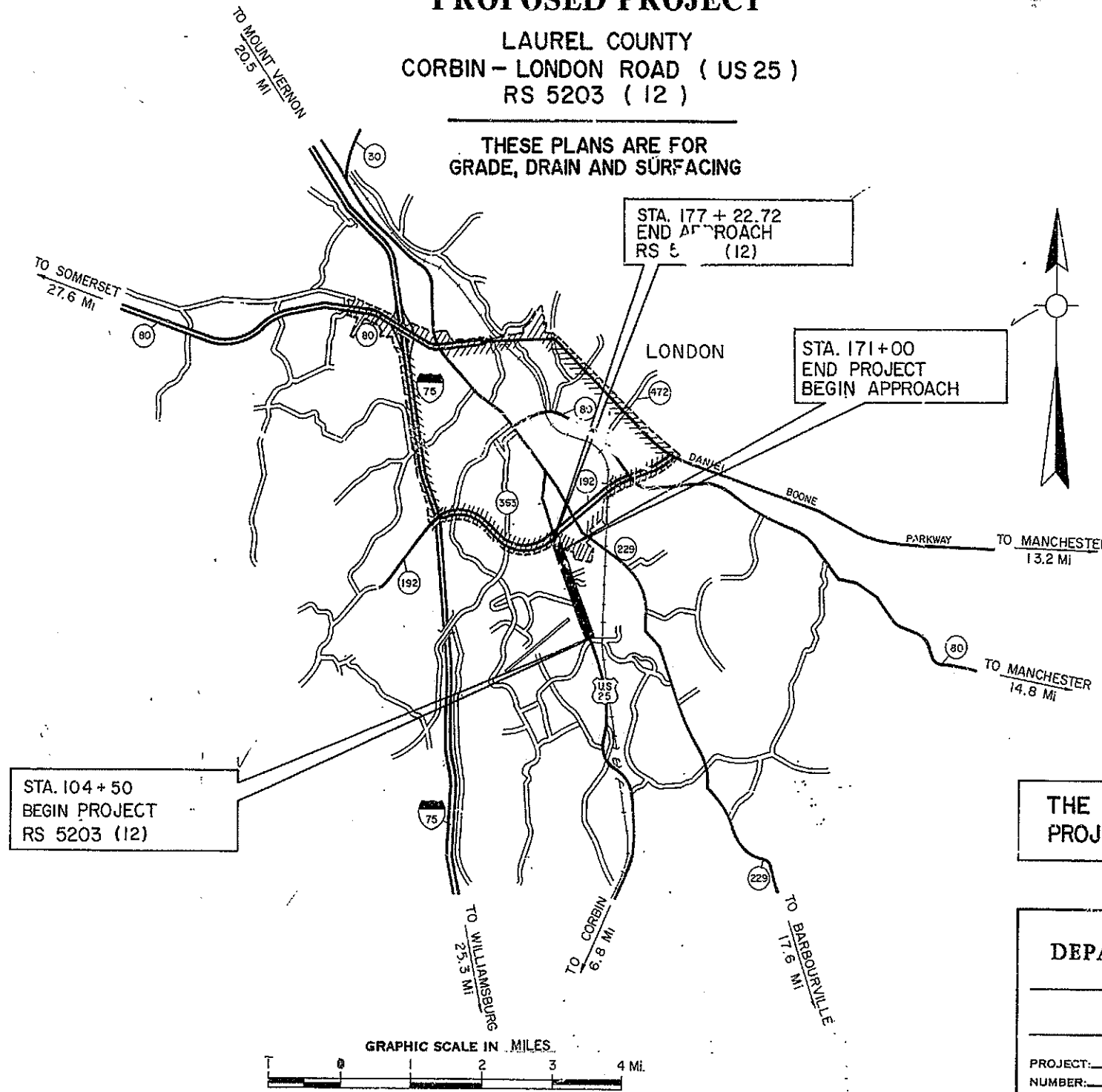
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
LAUREL		1	160

RS 5203 (12)  
FSP 063 0025 012-013

## PLANS OF PROPOSED PROJECT

LAUREL COUNTY  
CORBIN - LONDON ROAD ( US 25 )  
RS 5203 ( 12 )

THESE PLANS ARE FOR  
GRADE, DRAIN AND SURFACING



**AS BUILT PLANS**  
*P.O. Brady*  
 8-2-95

THE CONTROL OF ACCESS FOR THIS  
 PROJECT SHALL BE BY PERMIT

SHEET NO	DESCRIPTION
1	LAYOUT SHEET
2 - 201	TYPICAL SECTIONS - SUMMARY OF QUANTITIES SHEETS
3 - 28	PLAN AND PROFILE SHEETS
29 - 34	UTILITY PLAN
35 - 37	RIGHT OF WAY SUMMARY SHEETS
38 - 50	RIGHT OF WAY METES AND BOUNDS
51 - 58	RIGHT OF WAY STRIP MAP SHEETS
59 - 65 F	DETAIL SHEETS
66	REFERENCE SHEETS
N/A	SOIL PROFILE SHEETS
67 - 112	PIPE DRAINAGE SHEETS
113 - 160	CROSS SECTION SHEETS

SHEETS NOT INCLUDED IN TOTAL SHEETS 2A-2M, 3A, 65A-65F

TOTAL BRIDGE SHEETS N/A

NUMBER	DESCRIPTION
RBI 001 - 05	RDB 271 - 02
RBI 002 - 03	RDB 272 - 03
	RDB 273 - 02
	RDB 280 - 02
	RDB 281
	RDB 282
	RDB 283
RBR 005 - 06	RDB 400 - 01
RBR 010 - 02	RDB 410 - 02
RBR 015 - 02	RDB 420 - 01
RBR 016 - 01	RDB 430 - 02
RBR 050	
RDB 004 - 05	RDD 021 - 03
RDB 007	RDD 040 - 01
	RDD 001 - 02
	RDD 110
	RDD 210
	RDD 310 - 01
	RDD 1005
	RDD 1110
	RDD 1200
	RDD 1304
RDB 002 - 08	RDI 001 - 03
RDB 003 - 04	RDI 003
RDB 011 - 05	RDI 020 - 04
RDB 012 - 04	RDI 030 - 03
	RDI 100 - 01
	RDI 120 - 01
	RDI 200
RDB 030	RDX 160 - 02
RDB 031	RDX 200
RDB 032	RFW 001 - 01
RDB 033	RGS 001 - 03
RDB 034	RGX 001 - 02
RDB 035	RGX 002 - 04
RDB 020 - 02	RGX 030 - 03
RDB 100 - 01	RPM 100 - 04
RDB 101 - 01	RPM 110 - 01
RDB 105 - 02	
RDB 106 - C1	RPM 160
RDB 270 - 03	RPM 170 - 01
	RRE 002 - 02
	TSC 200 - 04
	TSC 015
	TSC 250 - 02
	TSC 260 - 06
	TSC 261 - 03

TOTAL STD. DRAWING 78

DESIGN CRITERIA	
CLASS OF HIGHWAY	COLLECTOR
TYPE OF TERRAIN	ROLLING URBAN
DESIGN SPEED	45 MPH
REQUIRED NPSD	325 MIN.
REQUIRED PSD	N/A
LEVEL OF SERVICE	N/A
ADT PRESENT (1985)	15,000
ADT FUTURE (2005)	24,000
DHV (2005)	1,800 (7% TRUCKS)
D %	7%
T %	7% DHV 10% ADT

GEOGRAPHIC COORDINATES	
LATITUDE	37°-06' NORTH
LONGITUDE	84°-04' WEST

DESIGNED	
% RESTRICTED SD	N/A
LEVEL OF SERVICE	
MAX. DISTANCE W/O PASSING	N/A

GROSS LENGTH	NET LENGTH	ADDED DEDUCTED	FOR EQUALITIES	NET LENGTH	ADDED DEDUCTED	FOR EQUALITIES	NET LENGTH	ADDED DEDUCTED	FOR EQUALITIES	NET LENGTH	ADDED DEDUCTED	FOR EQUALITIES	NET LENGTH	ADDED DEDUCTED	FOR EQUALITIES
6350.00	6650.00			6650.00			6650.00			6650.00			6650.00		
LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
1.259	1.259			1.259			1.259			1.259			1.259		
MILES	MILES			MILES			MILES			MILES			MILES		

KENTUCKY DEPARTMENT OF HIGHWAYS	
LAUREL COUNTY	
CORBIN - LONDON ROAD (US 25)	
PROJECT:	RS 5203 (12)
NUMBER:	FSP 063 0025 012 013 C
LETTING DATE:	12-16-88
DESIGNED BY:	June 09, 1988 BY <i>H.A. Gilbert</i> ASST. DISTRICT ENGINEER BY PERM. CONTRIBUTION
APPROVE:	Sept. 8, 1988 BY <i>Henry C. Latta</i> FOR: <i>J.R. Latta</i> DIRECTOR OF TRAFFIC
PLAN CHECKED:	9-13-88 BY <i>M.W. Copeland</i> FOR: <i>J.R. Latta</i> CHIEF DRAFTER
PLAN APPROVED:	9/14/88 BY <i>James S. Latta</i> DIRECTOR OF DESIGN
PLAN APPROVED:	10 BY <i>J.R. Latta</i> STATE HIGHWAY ENGINEER

*Paul W. Clark*  
 HURST-ROSCHKE ENGINEERS, INC.  
 FRANKFORT, KENTUCKY

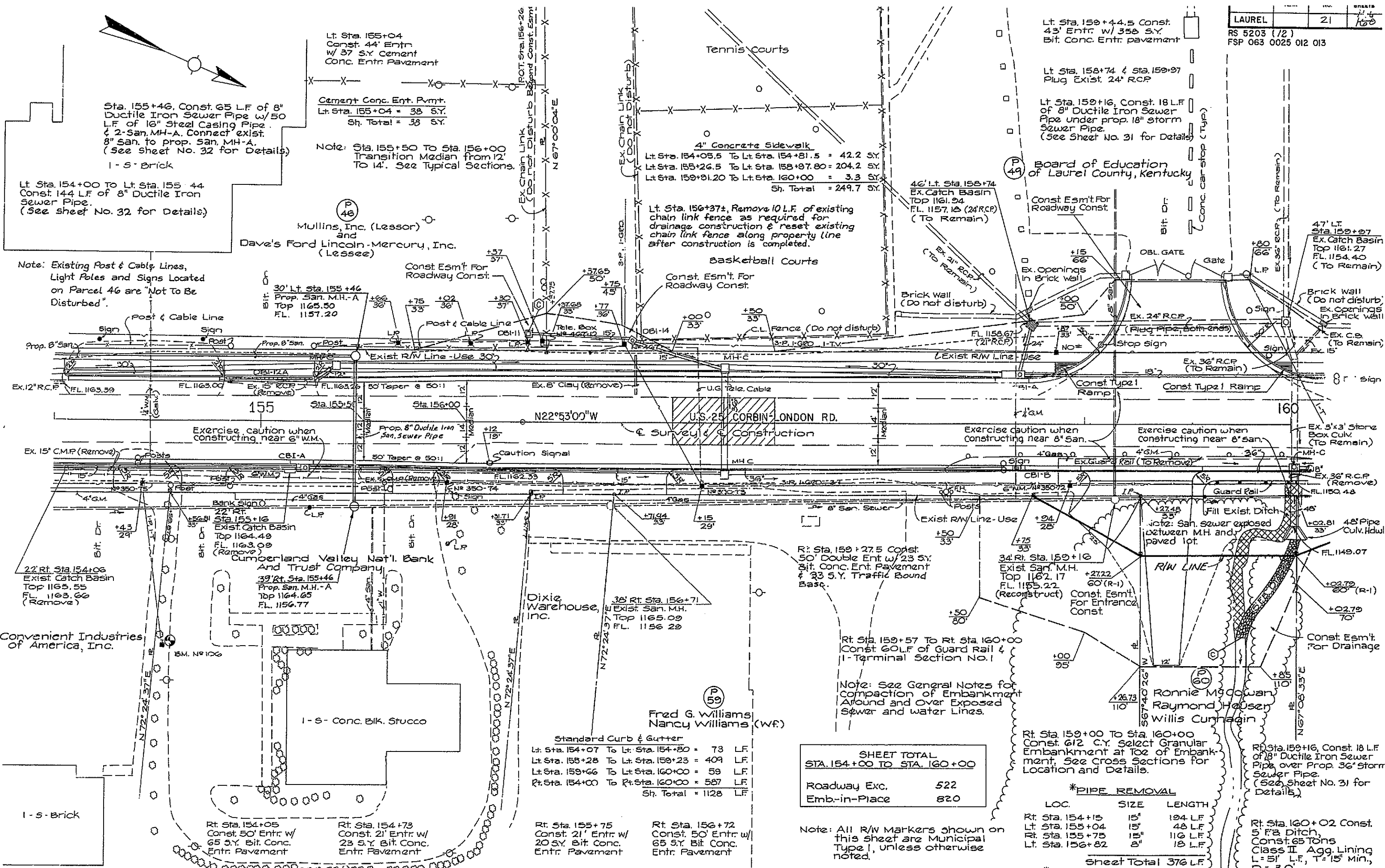
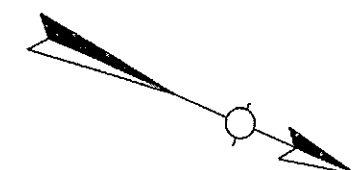
CONSTRUCTION PLANS 8  
 RECORD PLANS 2

REVIEWED BY: DIVISION OF CONSTRUCTION

PLANS CHECKED BY: E.T.W.  
 FINAL CHECK BY: M.K.C. 7-12-88

TELETYPE POST  
 10-1-82  
 FORM NO. 1





Lt. Sta. 155+04  
Const. 44' Entr.  
w/ 37 S.Y. Cement  
Conc. Entr. Pavement

Sta. 155+46, Const. 65 L.F. of 8" Ductile Iron Sewer Pipe w/ 50 L.F. of 16" Steel Casing Pipe & 2-San. M.H.-A. Connect exist. 8" San. to prop. San. M.H.-A. (See sheet No. 32 for Details)

Note: Sta. 155+50 To Sta. 156+00 Transition Median from 12' To 14'. See Typical Sections.

Lt. Sta. 154+00 To Lt. Sta. 155+44 Const. 144 L.F. of 8" Ductile Iron Sewer Pipe. (See sheet No. 32 for Details)

Mullins, Inc. (Lessor) and Dave's Ford Lincoln-Mercury, Inc. (Lessee)

Note: Existing Post & Cable Lines, Light Poles and Signs Located on Parcel 46 are "Not To Be Disturbed".

4" Concrete Sidewalk  
Lt. Sta. 154+05.5 To Lt. Sta. 154+81.5 = 42.2 S.Y.  
Lt. Sta. 155+26.5 To Lt. Sta. 158+97.80 = 204.2 S.Y.  
Lt. Sta. 159+81.20 To Lt. Sta. 160+00 = 3.3 S.Y.  
Sh. Total = 249.7 S.Y.

Lt. Sta. 156+37+, Remove 10 L.F. of existing chain link fence as required for drainage construction & reset existing chain link fence along property line after construction is completed.

Lt. Sta. 159+44.5 Const. 43' Entr. w/ 35 S.Y. Bit. Conc. Entr. pavement

Lt. Sta. 158+74 & Sta. 159+97 Plug Exist. 24" R.C.P.

Lt. Sta. 159+16, Const. 18 L.F. of 8" Ductile Iron Sewer Pipe under prop. 18" storm Sewer Pipe. (See Sheet No. 31 for Details)

Board of Education of Laurel County, Kentucky

Const. Esm't For Roadway Const.

47' Lt. Sta. 159+97 Ex. Catch Basin Top 1161.27 FL. 1154.40 (To Remain)

Standard Curb & Gutter

Lt. Sta. 154+07 To Lt. Sta. 154+20 = 73 L.F.
Lt. Sta. 158+28 To Lt. Sta. 159+23 = 409 L.F.
Lt. Sta. 159+66 To Lt. Sta. 160+00 = 59 L.F.
Rt. Sta. 154+00 To Rt. Sta. 160+00 = 587 L.F.
Sh. Total = 1128 L.F.

SHEET TOTAL  
STA. 154+00 TO STA. 160+00

Roadway Exc.	522
Emb.-in-Place	820

\*PIPE REMOVAL

LOC.	SIZE	LENGTH
Rt. Sta. 154+15	15"	194 L.F.
Lt. Sta. 155+04	15"	48 L.F.
Rt. Sta. 155+75	15"	116 L.F.
Lt. Sta. 156+82	8"	18 L.F.
Sheet Total 376 L.F.		

Note: All R/W Markers shown on this sheet are Municipal Type I, unless otherwise noted.

Note: Removal shall be considered incidental to the project earthwork and no additional payment will be allowed.

Rt. Sta. 155+75 Const. 21' Entr. w/ 20 S.Y. Bit. Conc. Entr. Pavement

Rt. Sta. 156+72 Const. 50' Entr. w/ 65 S.Y. Bit. Conc. Entr. Pavement

Convenient Industries of America, Inc.

Cumberland Valley Nat'l. Bank And Trust Company

Dixie Warehouse, Inc.

Fred G. Williams Nancy Williams (WF)

Ronnie McGowan Raymond Houser Willis Cunnagin

Scale: 1" = 20'

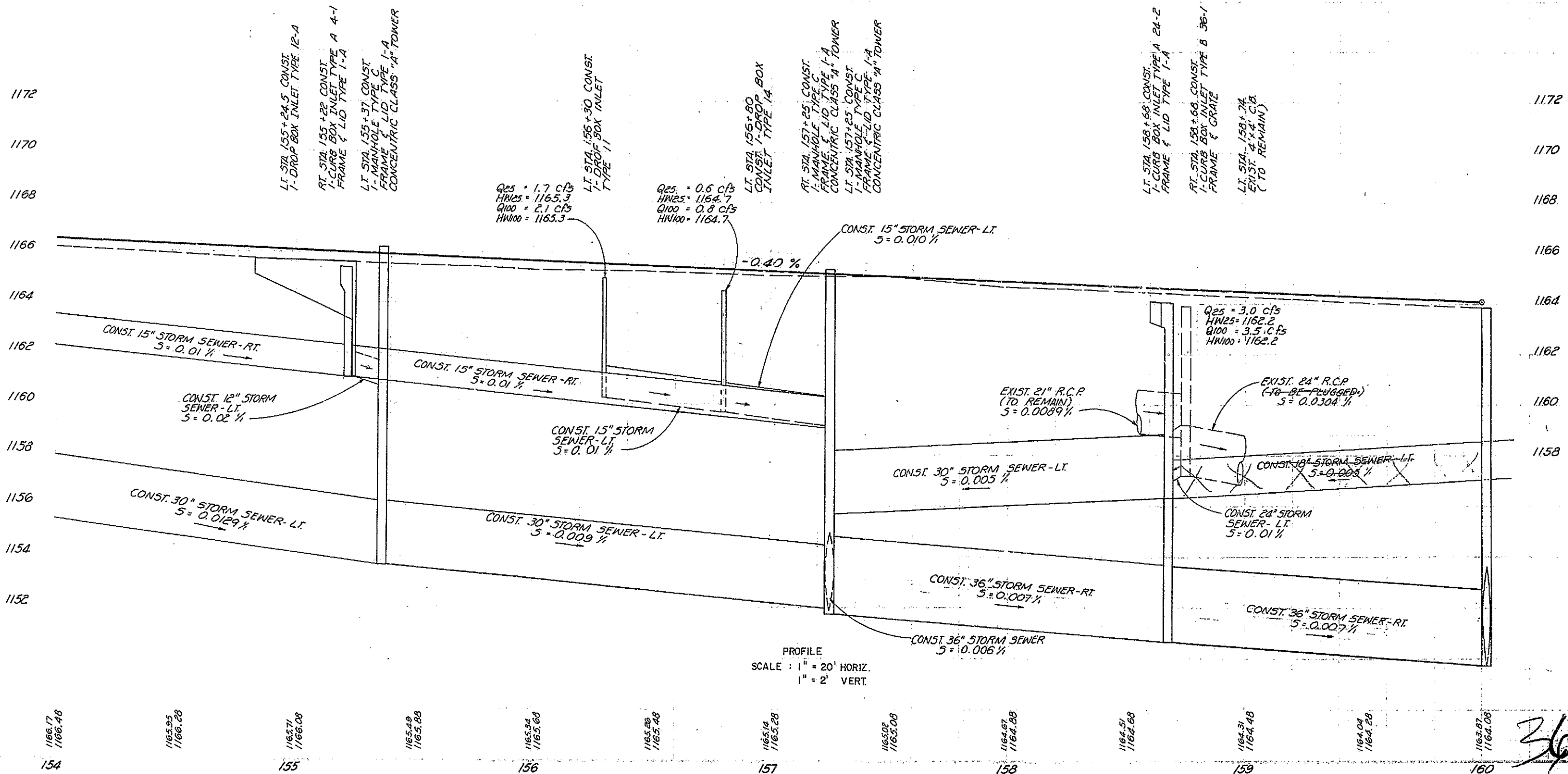
Existing Pavement Removal Included In Roadway Excavation

35

RR. SPIKE IN PP #412 ON EAST SIDE  
OF U.S. 25, PP BETWEEN CUMBERLAND  
VALLEY NAT. BANK & CONVENIENT STORE  
102' RT. STA. 154+56

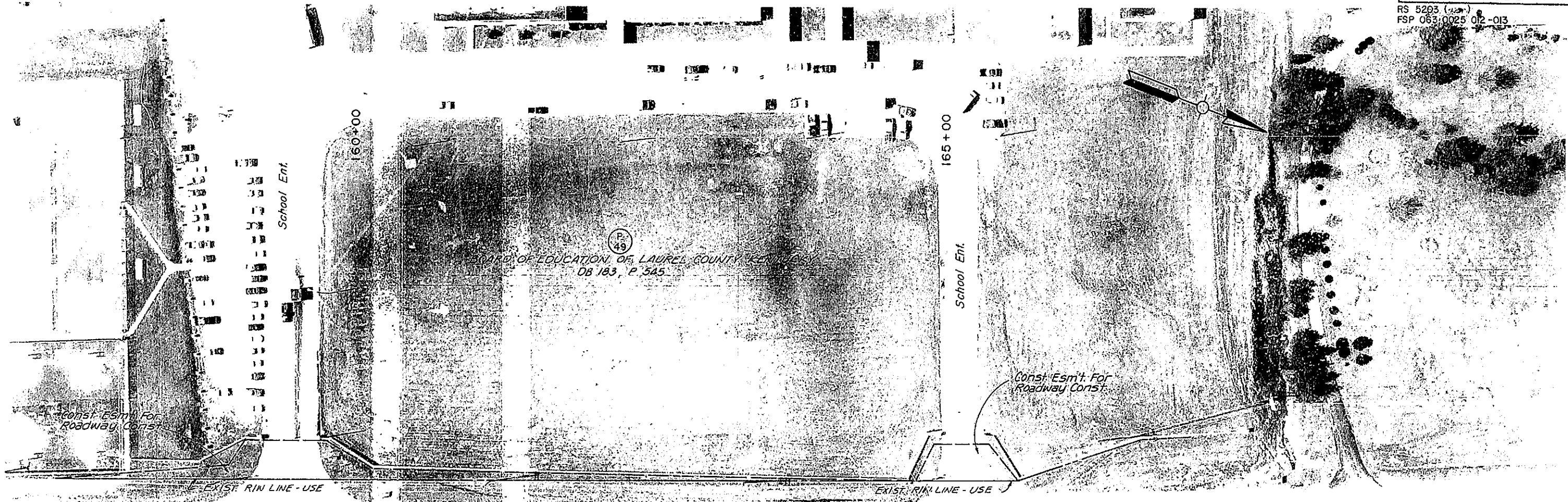
+97 1-NITZ  
Elev. 1195.15  
(Plotting not correct)

LAUREL 22 144  
160  
RS 5203 (1/2)  
FSP 063 0025 012 013





R/W STRIP MAP

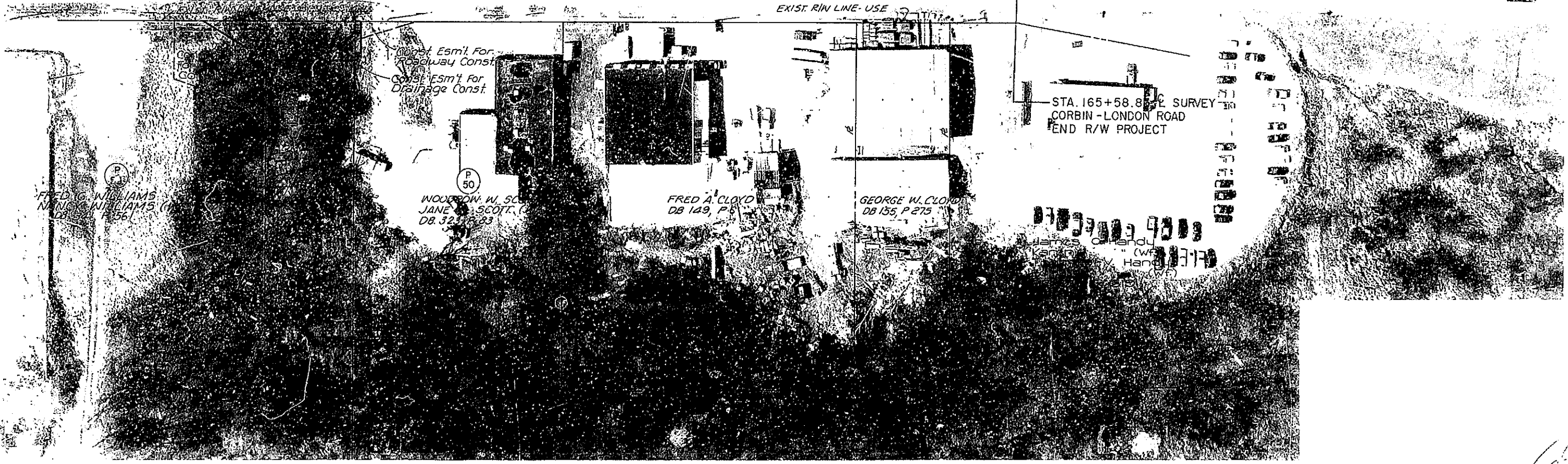


N22°53'00"

U.S. 25 CORBIN-LONDON RD.

& SURVEY & CONSTRUCTION

EXIST. R/W LINE - USE



STA. 165+58.87 & SURVEY  
CORBIN-LONDON ROAD  
END R/W PROJECT

FRED C. WILLIAMS,  
NANCY WILLIAMS (H)  
DB 156, P. 366

WOODROW W. SCOTT,  
JANE S. SCOTT  
DB 323, P. 83

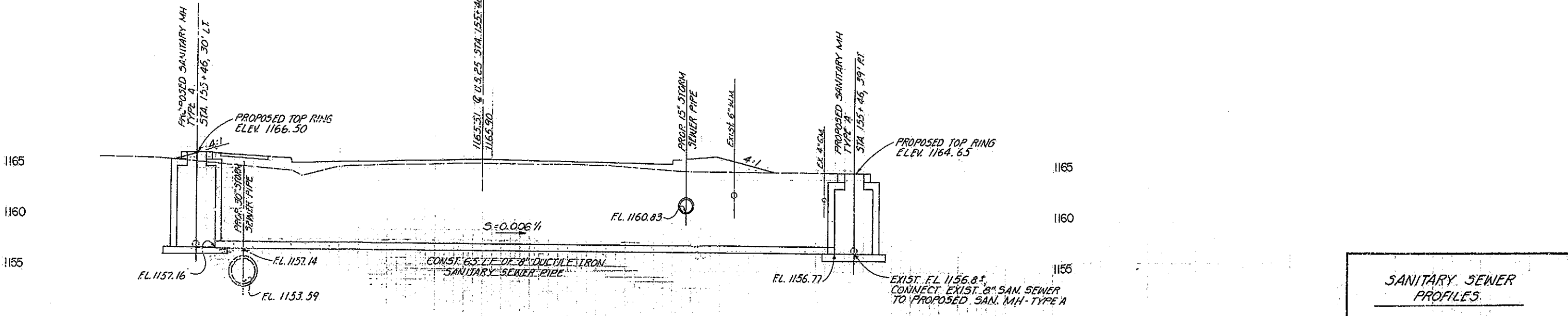
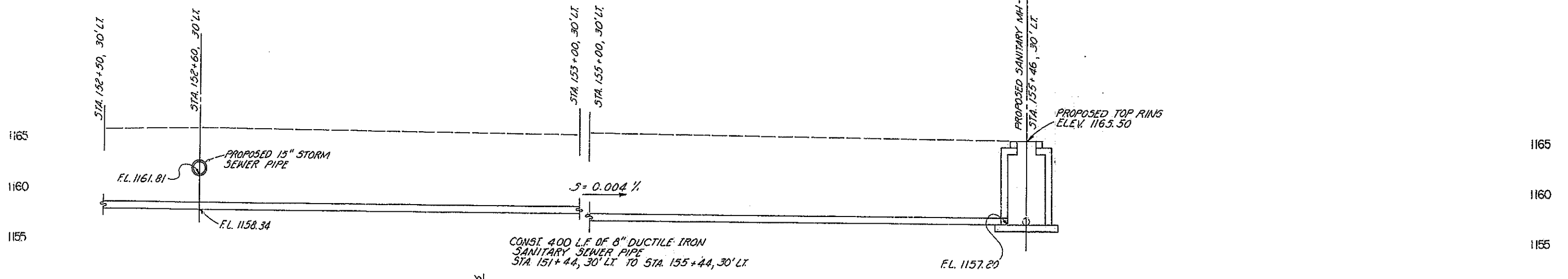
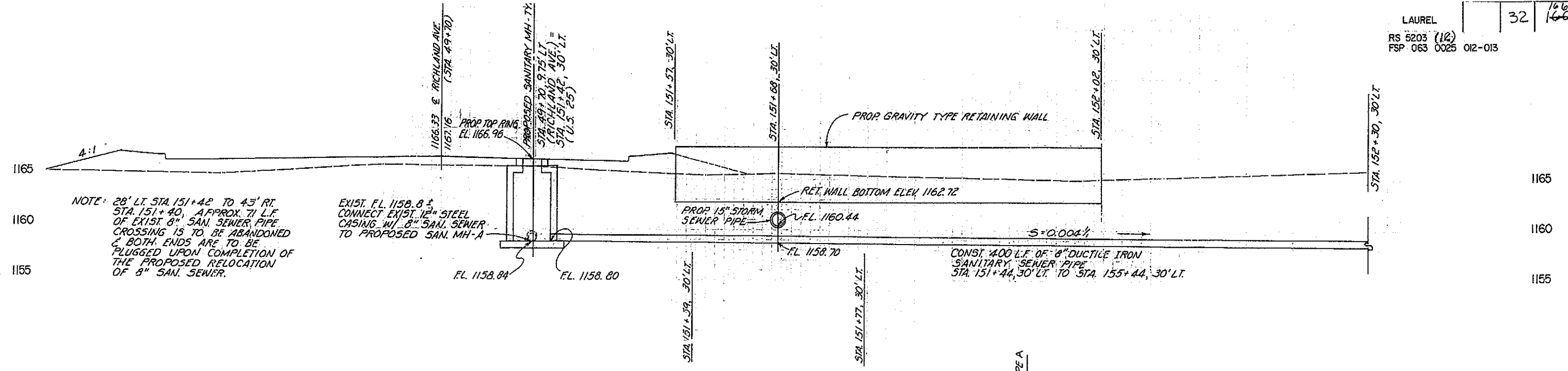
FRED A. CLOYD  
DB 149, P. 88

GEORGE W. CLOYD  
DB 155, P. 275

JAMES C. HANDLEY (WIFE)  
KATHRYN HANDLEY (H)  
DB 157, P. 100

Scale: 1"=50'





**SANITARY SEWER PROFILES**

SCALE: 1" = 5' HORIZ. & VERT.

STA. 151+42 TO STA. 155+46

46

**COMMONWEALTH OF KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**PLAN AND PROFILE OF PROPOSED**  
**STATE HIGHWAY**  
**LAUREL COUNTY**

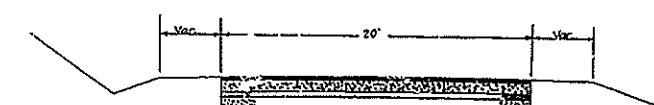
SN-SP 63-III-4

SCALES  
 PLAN 1 INCH = 100 FEET  
 PROFILE 1 INCH = 10 FEET  
 CROSS SECTION 1 INCH = 10 FEET

COUNTY OF	STATE DISTRICT NO.	SECTION NO.	PLAN YEAR	ENR. NO.	TOTAL SHEETS
LAUREL	63-III		1942	1	1

**SUBSECTIONS OF CONTRACT**  
 LAUREL CO. SN-SP 63-III-4  
 63-III-45A Surfacing, Sta. 70+72 to Sta. 184+00  
 63-III-45B Surfacing, Sta. 383+47 to Sta. 0-3100

**TYPICAL SECTION**  
 ROCK ASPHALT SEAL  
 BITUMINOUS COATED CLASS F BINDER, TYPE A.



EXISTING: 1 1/2" Bituminous Mat. Waterbound Macadam Base, 6" depth.  
 RECONSTRUCTION: Rock Asphalt Seal - Bituminous Coated Aggregate Class F Binder, Type A.

- Paint Coat [ 0.1 Gal. per sq.yd. Bituminous Material RC-2 for Paint Coat.
- 1/2 Binder [ 150 Lbs. per sq.yd. Bituminous Coated Aggregate Class F Binder Type A.
- 1/2 Seal [ 50 Lbs. per sq.yd. Rock Asphalt.

**SURFACING QUANTITIES**

PART	DESCRIPTION	UNIT	QUANTITIES
<b>PART 1 - SN-SP 63-III - Sta. 70+72 to Sta. 184+00</b>			
Roadway Excavation	Cu. Yd.	1,700	
Bituminous Material RC-2 for Paint Coat	Gal.	2,550	
Bituminous Coated Aggregate Class F Binder, Type A.	Ton	19,200	
Rock Asphalt	Ton	640	
Final Dressing	100 Sls.	118	
Bit. Coated Agg. Class F Binder, Type A. (Alternate using slag)	Ton	16,800	
<b>PART 2 - SN-SP 63-III - Sta. 383+47 to Sta. 0-3100</b>			
Roadway Excavation	Cu. Yd.	700	
Bituminous Material RC-2 for Paint Coat	Gal.	1,660	
Bituminous Coated Aggregate Class F Binder, Type A.	Ton	12,500	
Rock Asphalt	Ton	420	
Final Dressing	100 Sls.	73	
Bit. Coated Agg. Class F Binder, Type A. (Alternate using slag)	Ton	11,000	
<b>TOTAL PARTS 1 AND 2</b>			
Roadway Excavation	Cu. Yd.	2,400	
Bituminous Material RC-2 for Paint Coat	Gal.	4,210	
Bituminous Coated Aggregate Class F Binder, Type A.	Ton	31,700	
Rock Asphalt	Ton	1,060	
Final Dressing	100 Sls.	191	
Bit. Coated Agg. Class F Binder, Type A. (Alternate using slag)	Ton	27,800	

\* Crushed limestone, slag or gravel mixed with Bituminous Material MC-5 or RT-10, in accordance with Special Specifications No. 32, may be used.  
 NOTE: Where directed by the Engineer the Class F Material is to be placed so as to decrease the excessive crown in the existing surface. However in no case shall the compacted thickness be less than 3/4 inches.

**GENERAL NOTES**

All curves to be banked and widened according to Standards as directed. No payment will be allowed for Clearing and Grubbing.  
 Half width construction will be required on this project, the Contractor keep the road open to traffic at all times.  
 Contractor shall erect and maintain sufficient barricades and warning signs to protect and direct the traveling public, and shall supply a sufficient number of watchmen and flagmen to direct traffic and to protect that portion of the surface that is not ready to be opened to traffic.  
 Contractor shall employ his operations so that at the end of each days work there will be remain no section of half width, unless as determined by the Engineer, conditions warrant a deviation from this rule.  
 In order to prevent a traffic hazard the Bituminous Material for the paint coat shall be applied half width at a time.  
 All surfacing material shall be spread and finished by an approved mechanical or self-propelled spreading and finishing machine operated on side forms or by an approved self-propelled, spreading leveling and finishing machine, operated without side forms, provided it will finish the surface to a uniform line, grade and cross section.  
 Final Dressing will be confined within the shoulder lines on fills and to the back of ditches in cuts except where slopes have been disturbed by yield excavation material.  
 The Standard Specifications for State and Federal Road and Bridge Construction, with the following Amendments and Deviations will apply on this project:

Booklet No. 1, Amendments and Revisions  
 Special Provisions for Asphalt Mixing Plants.  
 Special Specifications No. 32 for Bituminous Coated Aggregate Class F.

**FOR SURFACING**

	LINE FT.	SQ. YDS.	MILES
<b>PART 1 - SN-SP 63-III - Sta. 70+72 to Sta. 184+00</b>			
GROSS LENGTH	11,354.4		2.150
26.4' Added for			
NET LENGTH	11,354.4		2.150
Added for Curve Widening		269	
Total Surfacing Part 1		25,500	
<b>PART 2 - SN-SP 63-III - Sta. 383+47 to Sta. 0-3100</b>			
GROSS LENGTH	7,466		1.414
NET LENGTH	7,349		1.391
17' Deducted for Bridge			
Added for Curve Widening		269	
Total Surfacing Part 2		16,600	
<b>TOTAL PARTS 1 AND 2</b>			
GROSS LENGTH	18,820.4		3.564
26.4' Added for Equalities			
NET LENGTH	18,703.4		3.542
17' Deducted for Bridge			
Added for Curve Widening		537	
TOTAL SURFACING PARTS 1 AND 2		42,100	

Note: Distances in feet as shown above are chained measurements.

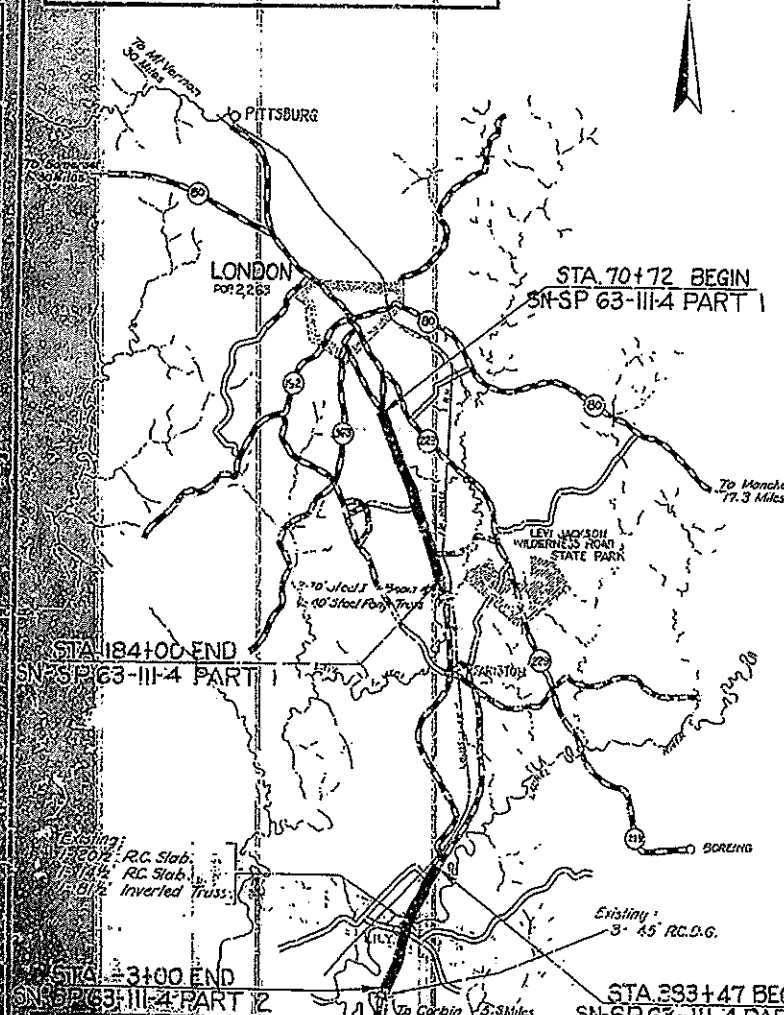
**LAYOUT MAP**

SCALE 1 INCH = 5200 FEET

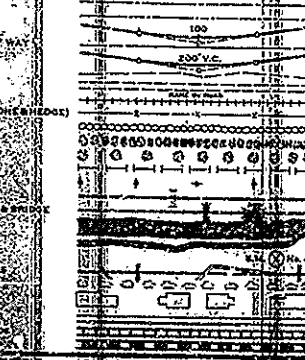
LINE	LENGTH	AREA	PERCENTAGE	LINE	LENGTH	AREA	PERCENTAGE	TOTAL
1	11,354.4	2,150	5.1	2	7,466	1,414	3.5	18,820.4
2	11,354.4	2,150	5.1	3	7,349	1,391	3.4	18,703.4
3	11,354.4	2,150	5.1	4	7,349	1,391	3.4	18,703.4
4	11,354.4	2,150	5.1	5	7,349	1,391	3.4	18,703.4

**INDEX OF SHEETS**

LAYOUT SHEET  
 TYPICAL SECTIONS - SUMMARY OF QUANTITIES  
 PLAN AND PROFILE SHEETS  
 DETAIL SHEETS  
 REFERENCE SHEETS  
 CROSS SECTION SHEETS  
 DRAINAGE SHEETS  
 BRIDGE SHEETS



**CONVENTIONAL SIGNS**



**KENTUCKY DEPARTMENT OF HIGHWAYS**  
 COUNTY OF **LAUREL**  
**LONDON - CORBIN ROAD**  
 STATE PROJECT SECTION DATE  
 No. 63-III 1942

SURVEYED BY: [Signature]  
 PLANS CHECKED BY: [Signature]  
 SURVEY AND PLANS APPROVED BY: [Signature]  
 SURVEY AND PLANS APPROVED BY: [Signature]

RECOMMENDED FOR APPROVAL

APPROVED BY: [Signature]

APPROVED BY: [Signature]

**63-III-4**

COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF HIGHWAYS

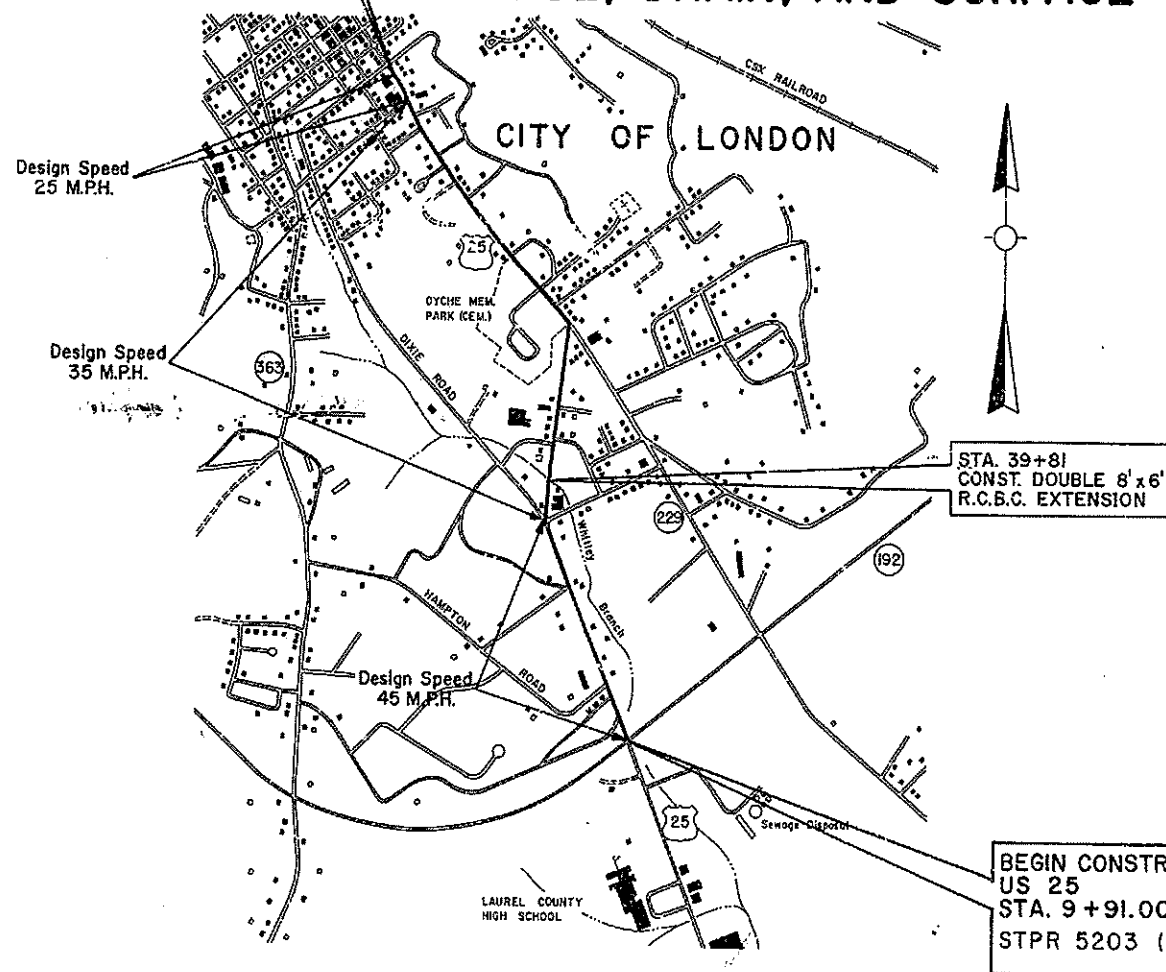
OF	YEAR	SHEET NO.	TOTAL SHEETS
LAUREL		1	207

PLANS OF  
PROPOSED PROJECT  
LAUREL COUNTY  
US 25

STPR 5203 (18)

GRADE, L.AIN, AND SURFACE PLANS

END CONSTRUCTION  
US 25  
STA. 88 + 80.00  
STPR 5203 (18)



STA. 39+81  
CONST. DOUBLE 8'x6'  
R.C.B.C. EXTENSION

BEGIN CONSTRUCTION  
US 25  
STA. 9 + 91.00  
STPR 5203 (18)

AS BUILT PLANS  
*Dexter Nauman*  
9-14-99

STA. 9+91 TO STA. 14+74.25 IS A PARTIALLY CONTROLLED ACCESS HIGHWAY. ACCESS SHALL BE PROVIDED ONLY WHERE SPECIFICALLY INDICATED ON PLANS. STA. 14+74.25 TO STA. 88+20.00 THE CONTROL OF ACCESS SHALL BE BY PERMIT.

SHEET NO.	DESCRIPTION
1	LAYOUT SHEET
2-2m	TYPICAL SECTIONS-SUMMARY OF QUANTITIES
3-40	PLAN AND PROFILE SHEETS
40a-64	UTILITY PLAN SHEETS
65-67	RIGHT OF WAY SUMMARY SHEETS
68-70	RIGHT OF WAY STRIP MAP SHEETS
71-71u	DETAIL SHEETS (M.O.T.)
72	REFERENCE SHEETS
73-79	SOIL PROFILE SHEETS
80-103	PIPE DRAINAGE SHEETS
104-207	CROSS SECTION SHEETS

SHEETS NOT INCLUDED IN TOTAL SHEETS  
2a-2m, 71a-71u, 40a-40y  
TOTAL BRIDGE SHEETS 11

STANDARD DRAWINGS

NUMBER		
RBI - 001 - 06	RDB - 430 - 03	RGX - 020 - 09
RBR - 001 - 09		RGX - 030 - 05
RBR - 005 - 08	RDI - 001 - 04	RPM - 100 - 06
RBR - 010 - 03		RPM - 150 - 03
RBR - 015 - 03	RDI - 020 - 05	
	RDI - 025 - 01	RPM - 160 - 01
RDB - 001 - 09	RDM - 001 - 04	RPM - 170 - 03
RDB - 003 - 05	RDM - 010 - 03	RDX - 160 - 04
RDB - 011 - 06	RDM - 011 - 02	TSC - 400 - 02
RDB - 012 - 06	RDM - 012 - 01	
RDB - 270 - 04	RDM - 013 - 01	
RDB - 271 - 03	RDM - 100 - 01	
RDB - 272 - 04	RDX - 005 - 01	
RDB - 273 - 03	RDX - 200 - 01	
RDB - 400 - 02	RGX - 001 - 03	
RDB - 410 - 03	RGX - 002 - 06	TSC - 300 - 05
RDB - 420 - 02	RGX - 005 - 03	TSC - 320 - 04
RDH - 110 - 01	RGX - 010 - 02	RDP - 005 - 03
RDH - 120 - 01	RDH - 310 - 02	RDP - 006 - 02
RDH - 210 - 01	RDH - 340 - 02	RDP - 051 - 01
RDH - 216 - 01	RDP - 001 - 04	TOTAL STD. DRWGS. - 52

NO. SETS	DATE

REVIEWED BY: \_\_\_\_\_  
DIVISION OF CONSTRUCTION

PLANS CHECKED BY: \_\_\_\_\_  
FINAL CHECK BY: \_\_\_\_\_

DESIGN CRITERIA

CLASS OF HIGHWAY URBAN ARTERIAL  
TYPE OF TERRAIN ROLLING  
DESIGN SPEED 25, 35, 45 MPH  
REQUIRED NPSD (25 MPH) 50', (35 MPH) 225', (45 MPH) 325'  
REQUIRED PSD N/A  
LEVEL OF SERVICE \_\_\_\_\_  
ADT PRESENT ( 1992 ) 17,100 VPD  
ADT FUTURE ( 2016 ) 23,000 VPD  
DHV 2,300 VPH  
D % N/A  
T % 3% ADT 2% DHV

GEOGRAPHIC COORDINATES

LATITUDE 37 DEGREES 07 MINUTES NORTH  
LONGITUDE 84 DEGREES 04 MINUTES WEST

DESIGNED

% RESTRICTED SD N/R  
LEVEL OF SERVICE N/R  
MAX. DISTANCE W/O PASSING N/A

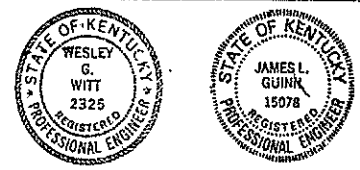
GROSS LENGTH	LN. FT.	MILES	GROSS LENGTH	LN. FT.	MILES	GROSS LENGTH	LN. FT.	MILES	GROSS LENGTH	LN. FT.	MILES
7889.00	1,494										
ADDED FOR EQUALITIES	N/A										
NET LENGTH	7889.00	1,494									
RAILROAD CROSSINGS NO. _____ NOT INCLUDED			RAILROAD CROSSINGS NO. _____ NOT INCLUDED			RAILROAD CROSSINGS NO. _____ NOT INCLUDED			RAILROAD CROSSINGS NO. _____ NOT INCLUDED		
BRIDGES _____ LN. FT. _____			BRIDGES _____ LN. FT. _____			BRIDGES _____ LN. FT. _____			BRIDGES _____ LN. FT. _____		

KENTUCKY  
DEPARTMENT OF HIGHWAYS  
LAUREL COUNTY COUNTY

US 25

PROJECT FD45 063 0025 010 - 013 C  
NUMBER: STPR 5203 (18)  
LETTING DATE: 5-21-96

DESIGNED BY Dec 13 1995 by Daniel J. Newell  
ASST. DIS. ENGINEER FOR PRE-CONSTRUCTION  
APPROVED March 26 1996 by Daniel J. Newell  
DIRECTOR OF TRAFFIC  
PLAN CHECKED 4/26/96 by Glenn C. Dockery  
CHIEF DESIGNER  
PLAN APPROVED 4/26 1996 by John B. Sacksteder  
DIRECTOR OF DESIGN  
PLAN APPROVED 5-26-96 by J. M. Howell  
STATE HIGHWAY ENGINEER





# BRIDGE AND CULVERT SUMMARY

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
LAUREL		21	207

STPR 5203 (18)

DIVISION OF BRIDGES ESTIMATE AND PROJECT SUMMARY  
KENTUCKY DEPARTMENT OF HIGHWAYS

SHEET 1

COUNTY LAUREL	STATE PROJECT NO. F025 063 0025 Y 010-013 0410	COMPLETED DATE
ROAD KY192 TO FIRST STREET	FEDERAL PROJECT NO. 000RS 05203 015	DI REVISION DATE
SPECIAL DRAWINGS 23654/6SH, 23655/4SH		
STANDARD DRAWINGS BGX-006-06/1SH		

DRAWING NUMBER	23654	23655	
STATION ON PROJECT ROUTE	39+81.00*	*****	TOTAL PLAN SHEETS 11
STATION ON CROSSING ROUTE		56+08.00	

DESCRIPTION OF STRUCTURE

	CULVERT	CULVERT	
TOTAL LENGTH	E 41.0	E 20.0	
NO. OF BARRELS	DOUBLE	SINGLE	
SKEW	31.0 RIGHT	02.0 LEFT	
TYPE & SIZE	RCBC 08X06	RCBC 05X04	
INLET LENGTH	<del>24.0</del> 22.0		
INLET ELEV.	1156.5		
OUTLET LENGTH	17.0	<del>20.0</del> 15.21	
OUTLET ELEV.	1156.3	1169.2	
DEPTH OF COVER	4.2	4.5	
FOUNDATION	ROCK	ROCK	

QUANTITIES

CODE UNIT	DESCRIPTION			TOTALS FOR PROJECT
8100 C. Y.	CONCRETE-CLASS A	108.4	23.9	
8150 LBS.	STEEL REINFORCEMENT	10534.	1457.	132.3
8001 C. Y.	STRUCTURE EXCAVATION-COMMON	80.	30.	11991.
8002 C. Y.	STRUCTURE EXCAV-SOLID ROCK	30.		110.
2403 C. Y.	REMOVING CONCRETE MASONRY	25.	10.	30.
				35.

NOTES AND SPECIAL PROVISIONS  
SPECIAL PROVISIONS(94)

BRIDGE AND CULVERT  
QUANTITIES ARE NOT  
INCLUDED IN THE  
GENERAL SUMMARY.

SHEET NO.	DESCRIPTION
1	LAYOUT SHEET
2	TYPICAL SECTIONS—SUMMARY OF QUANTITIES
	LIST OF STANDARD DRAWINGS
3.11	CURVE WIDENING SUPER ELEVATION, ROCK SECTIONS
3.12	STANDARD STRUCTURES
3.16	PRIVATE ENT. & ROAD INTERSECTIONS

G-15 PLAN AND PROFILE SHEETS (PRA ONLY)

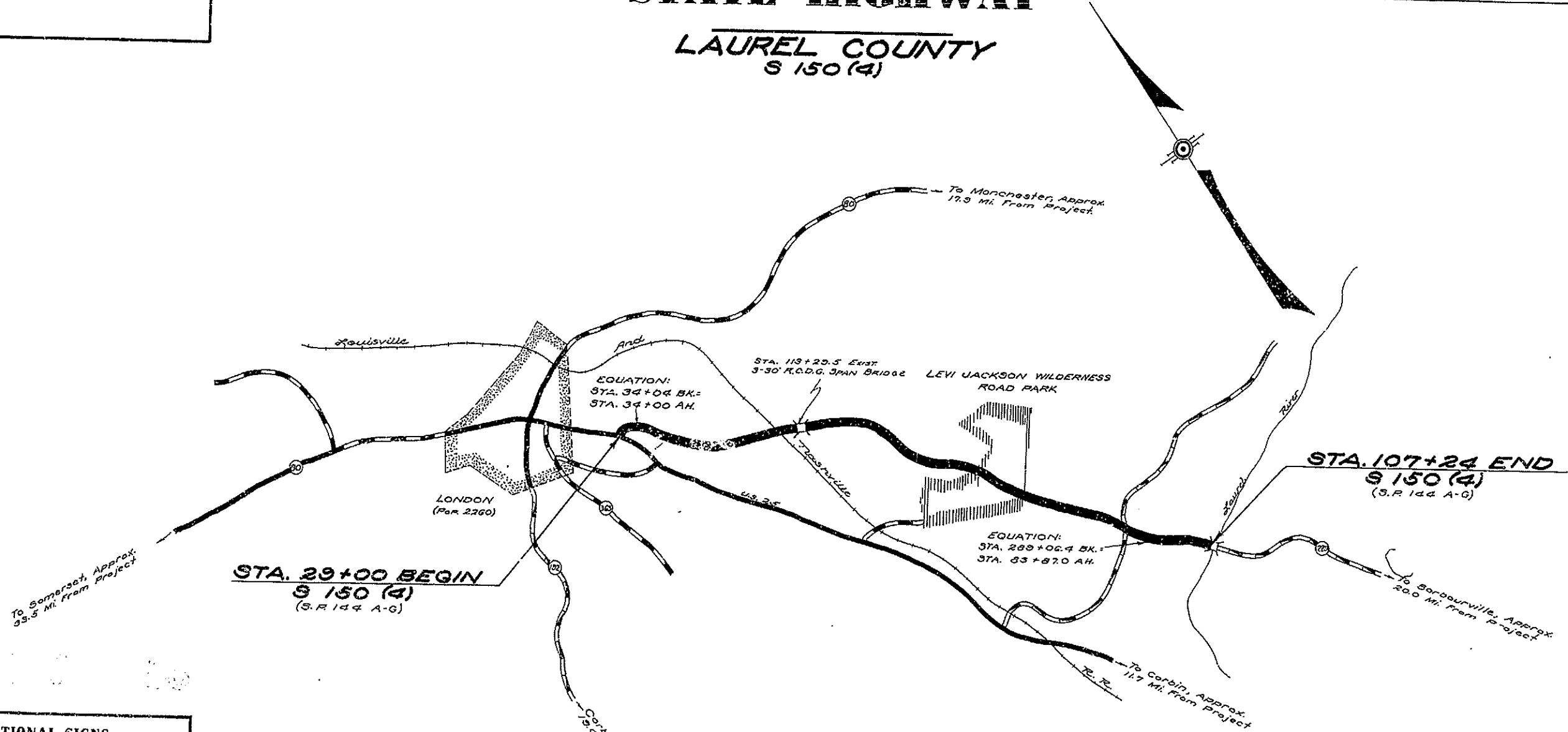
# COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS

## PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

**LAUREL COUNTY**  
S 150 (4)

S 150 (4)			
FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.
7	KY	1952	1

**SUBSECTION OF CONTRACT**  
FOR  
**LAUREL COUNTY**  
**S 150 (4) SP 63-91-4**  
G3-91-43A Surface from Sta. 29+00 to Sta. 107+24



**STA. 29+00 BEGIN**  
S 150 (4)  
(S.R. 144 A-G)

**STA. 107+24 END**  
S 150 (4)  
(S.R. 144 A-G)

GRAPHIC SCALE IN Miles

### LAYOUT MAP

GROSS LENGTH		NET LENGTH		GROSS LENGTH		NET LENGTH		GROSS LENGTH		NET LENGTH	
ADD. DEDUCTED	FOR EQUALITIES	ADD. DEDUCTED	FOR EQUALITIES	ADD. DEDUCTED	FOR EQUALITIES	ADD. DEDUCTED	FOR EQUALITIES	ADD. DEDUCTED	FOR EQUALITIES	ADD. DEDUCTED	FOR EQUALITIES
28347.4	5.368	28224.9	5.345	28347.4	5.368	28224.9	5.345	28347.4	5.368	28224.9	5.345
MILES		MILES		MILES		MILES		MILES		MILES	

#### CONVENTIONAL SIGNS

UNIMPROVED ROAD	
GRADE AND DRAINED ROAD	
SOIL SURFACE ROAD	
METAL SURFACED ROAD	
LOW TYPE BITUMINOUS ROAD	
PAVED ROAD	
COUNTY LINE	
CORPORATE LIMITS	
SURVEY LINE	
PROPOSED RIGHT OF WAY	
GRADE LINE	
GROUND LINE	
TRAVELED WAY	
RAILROAD	
FENCES (EXCEPT STONE & HEDGE)	
STONE FENCE	
HEDGE FENCE	
TREES & STUMPS	
PIPE LINE	
TELEPHONE POLES	
PIPE CULVERT	
CONCRETE CULVERT & BRIDGE	
LARGE STREAM	
SMALL STREAM	
DITCH MARKS	
ROAD INTERSECTIONS	
MARSH	
BUILDINGS	

**S 150 (4)**

**KENTUCKY DEPARTMENT OF HIGHWAYS**  
COUNTY OF **LAUREL**  
**LONDON-BARBORVILLE ROAD**

STATE PROJECT No. **63-91-4** DATE **1952**

APPROVED 6/27 1952  
BY: W. C. Cudline COMMISSIONER OF HIGHWAYS

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL:  
DISTRICT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: \_\_\_\_\_

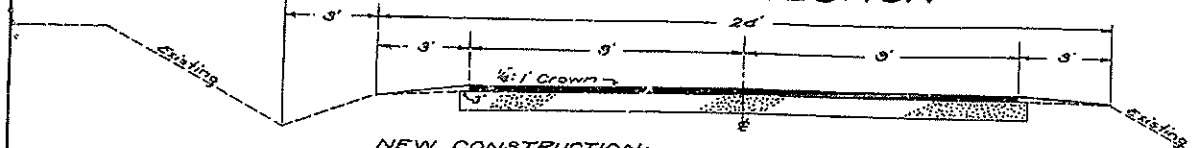
RECORD PLANS  
CONSTRUCTION PLANS  
REVIEWED BY  
DIVISION OF CONSTRUCTION  
PLANS TRACED BY  
PLANS COMPLETED BY  
PLANS CHECKED BY  
FINAL CHECK BY

LETTING DATE 8-1-52

# TYPICAL SECTION AND SUMMARY SHEET

S 150 (A)  
 FED. ROAD DIST. No. 7 STATE KY. ROAD No. 1002 Survey No. 2 TOTAL SURF. 13  
 LAUREL COUNTY  
 London - Barbourville Road.

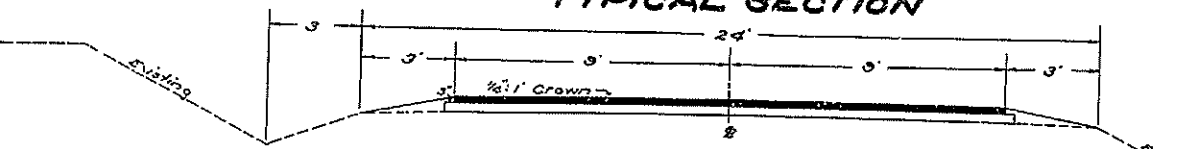
## TYPICAL SECTION



### NEW CONSTRUCTION: 6" BASE STABILIZATION WITH PORTLAND CEMENT & CLASS I SURFACE

- Stabilized Base — Estimated 0.135 Bbl. per sq. yd. Portland Cement  
 Estimated 7.0 gals. per sq. yd. Water  
 6" Stabilized Base
  - Prime — 0.15 gal. per sq. yd. Refined Tar (RT-2) for Prime
  - Surface (1/2") — Estimated 152 lbs. per sq. yd. Bituminous Concrete Surface, Class I, Type B.
- Bituminous Material (PAC-5) to be used in Class I mixture  
 0.20 gal. per sq. yd. Refined Tar (RT-2) may be used as an alternate for curing the stabilized base.

## -OR- TYPICAL SECTION



### NEW CONSTRUCTION: BITUMINOUS CONCRETE SURFACE, CLASS I - (WATERBOUND MACADAM BASE)

- 4 1/2" Base — 1" Compacted Crushed Limestone, Size No. 5 for Insulation  
 50% of (1" Compacted) Additional Limestone Screenings, Size No. 10  
 3/4" Compacted Crushed Limestone, Size No. 2 (Waterbound)  
 30% of (3/4" Compacted) Additional Limestone Screenings, Size No. 10
  - Prime — 0.25 gal. per sq. yd. Refined Tar (RT-2) for Prime
  - Surface (1/2") — Estimated 152 lbs. per sq. yd. Bituminous Concrete Surface, Class I, Type B.
- Bituminous Material (PAC-5) to be used in Class I mixture  
 Shape existing surface to uniform crown and grade, scarifying if necessary, as directed. Water and roll. No direct payment will be allowed for these operations.

## FOR SURFACING

STA. 29+00 to STA. 107+24	LIN. FT.	SQ. YDS.	MILES
GROSS LENGTH (20523.4' Added for Equalities)	28347.4		5.368
NET LENGTH (99.0' deduct. Bridge) (24' deduct. for R.R. Crossing)	28224.4		5.345
CURVE WIDENING AND APPROACH		762	
TOTAL SURFACING		57403.18' 58982.185'	

## BITUMINOUS CONCRETE SURFACE, CLASS I - WITH -

ITEM	UNIT	QUANTITY
<b>BASE STABILIZATION</b>		
Portland Cement	Bbl.	7965
Water	100 Gal.	4130
6" Stabilized Base	Sq. Yd.	58982
Refined Tar (RT-2) for Prime	Gal.	8850
Bituminous Concrete Surface, Type B	Ton	4363
Final Dressing	100 Sta.	283
Project Monuments	Each	2
<b>OR - WATERBOUND MACADAM BASE</b>		
Crushed Limestone, Size No. 2	Ton	9830
Crushed Limestone, Size No. 5	Ton	2810
Crushed Limestone, Size No. 10	Ton	4355
Refined Tar (RT-2) for Prime	Gal.	14745
Bituminous Concrete Surface, Type B	Ton	4363
Final Dressing	100 Sta.	283
Project Monuments	Each	2

## GENERAL NOTES

All curves to be banked and widened according to Standards or as directed. Superelevation for special cases to be authorized by the District Engineer.

Drawings for Standard Warning Signs will be furnished by the District Engineer.

Final Dressing will be confined to the bottom of ditches in cuts and shoulder lines on fills, and back slopes where they have been disturbed to yield excavation. It shall include pulling ditches to a maximum depth of one (1) foot below the shoulder line, furnishing material and construction of shoulders to the proposed Typical Section. If sufficient shoulder material is not obtained by pulling ditches, it may be obtained from back slopes within the Right-of-Way limits which are not already adequately protected against erosion, or the contractor may obtain shoulder material outside the Right-of-way limits at sites selected by him at no additional expense to the Department. No payment will be allowed for overhaul on shoulder material. The unit price bid per 100' sta. for Final Dressing shall include furnishing all shoulder material, labor and equipment necessary for the work described.

The Standard Specifications for State and Federal Road and Bridge Construction, edition of 1945, as amended by the amendments published in Pamphlet No. 2 of Approved Provisions, Specifications and Amendments, with the following Amendments, Provisions and Special Specifications, will apply on this project:

- Amendment No. 30: Process Agent
- Amendment No. 31: Tar
- Amendment No. 25-R: Bituminous Concrete Surface, Class I
- Emergency Provision No. 13: Deferment or Cancellation

Necessary seeding and sodding for erosion control will be done after completion of this project.  
 The road may be closed to through traffic.

# **APPENDIX F**



MAP SCALE 1" = 1000'



# LEGEND

## SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD



The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE A** No Base Flood Elevation determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR** Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance of greater flood event.

**ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

**ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

## FLOODWAY AREAS IN ZONE AE



The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

## OTHER FLOOD AREAS



**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

## OTHER AREAS



**ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0230C

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**LAUREL COUNTY**  
**KENTUCKY**  
**AND INCORPORATED AREAS**

**PANEL 230 OF 400**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0230	C
LONDON CITY OF	210396	0230	C

Notice to Users: The Map Number shown below should be used when checking maps for accuracy. This information should be used on insurance applications for the subject community.



**MAP NUMBER**  
**21125C0230C**

**EFFECTIVE DATE**  
**AUGUST 2, 2006**

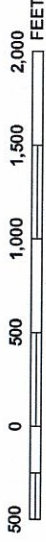
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 1000'



**NFIP**  
**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0230C

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**LAUREL COUNTY**  
**KENTUCKY**  
**AND INCORPORATED AREAS**

**PANEL 230 OF 400**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0230	C
LONDON CITY OF	210396	0230	C

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER  
21125C0230C

EFFECTIVE DATE  
AUGUST 2, 2006

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

**OTHER AREAS**

- ZONE X**  
Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D**  
Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

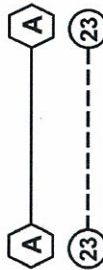
CBRS and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet\*  
 Base Flood Elevation value where uniform within zone; elevation in feet\*

\* Referenced to the North American Vertical Datum of 1988 (NAVD 88)



97°07'30", 32°22'30"

4275000mE

6000000 FT

DX5510<sub>X</sub>

● M1.5

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 16

5000-foot grid values: Kentucky State Plane coordinate system, South Zone (FIPZONE = 1602), Lambert projection

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES

Refer to Map Repositories list on Map Index

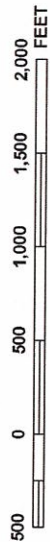
EFFECTIVE DATE OF COUNTYWIDE  
FLOOD INSURANCE RATE MAP  
AUGUST 2, 2006

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 1000'



# NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0230C

**FIRM**  
FLOOD INSURANCE RATE MAP  
LAUREL COUNTY  
KENTUCKY  
AND INCORPORATED AREAS

PANEL 230 OF 400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210194	0230	C
LONDON CITY OF	210396	0230	C

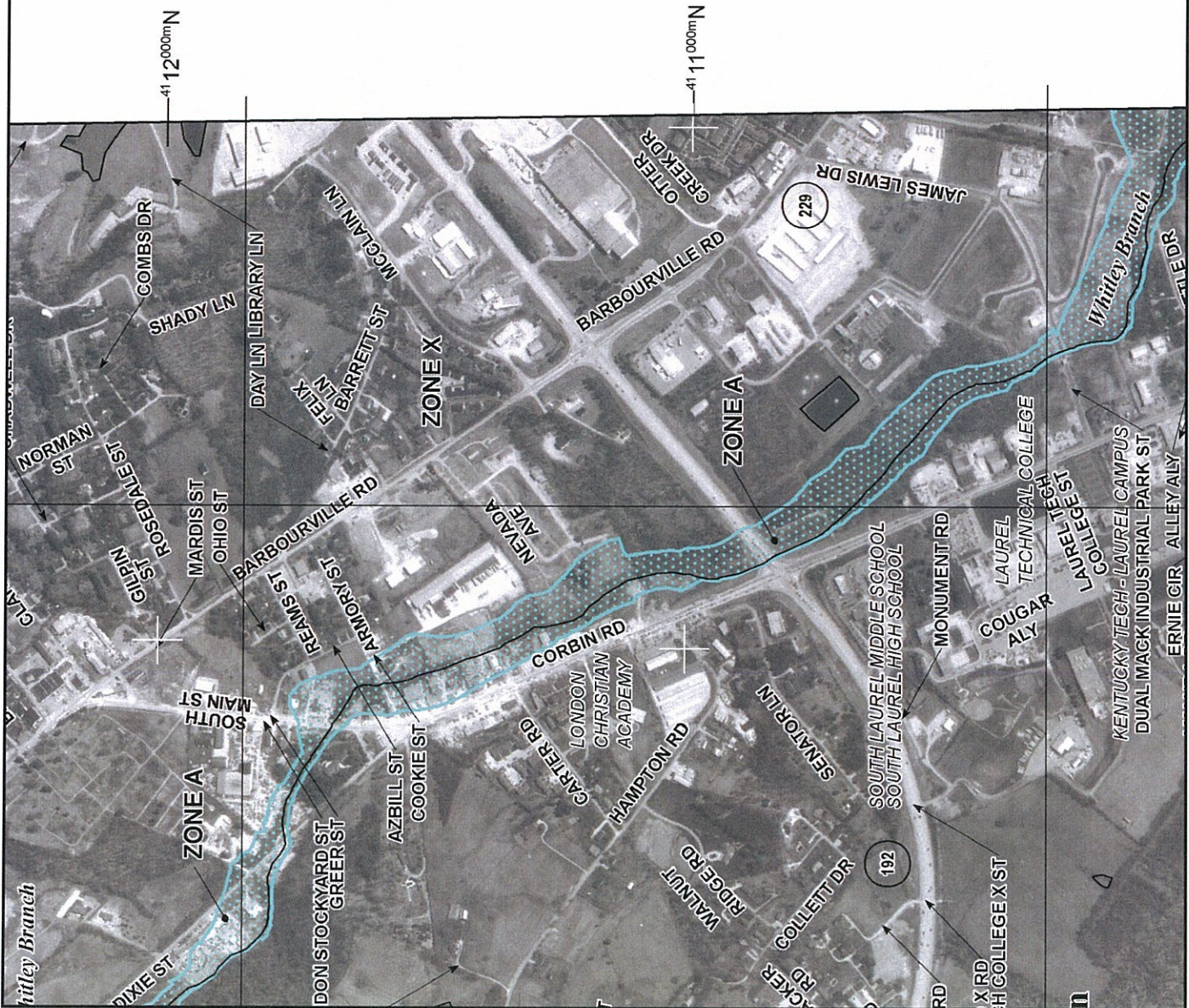
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER  
21125C0230C  
EFFECTIVE DATE  
AUGUST 2, 2006



Federal Emergency Management Agency

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# **APPENDIX G**



EXHIBIT 1

ITEM NO. 11-147  
US-25 & KY-229  
Project Area A-Alternative 2

US-25 DNA PREDESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

- Rerouted KY-229
- Rerouted US-25
- US Highway
- State Road
- Local Road

250 125 0 250 500 Feet



Close this portion of Old US-25

Reroute Old US-25 & Remove Signalization at Old US-25 & Old KY-229 Intersection

Remove Access Points & Close Portion of Road

Extend KY-229 onto Main Street.

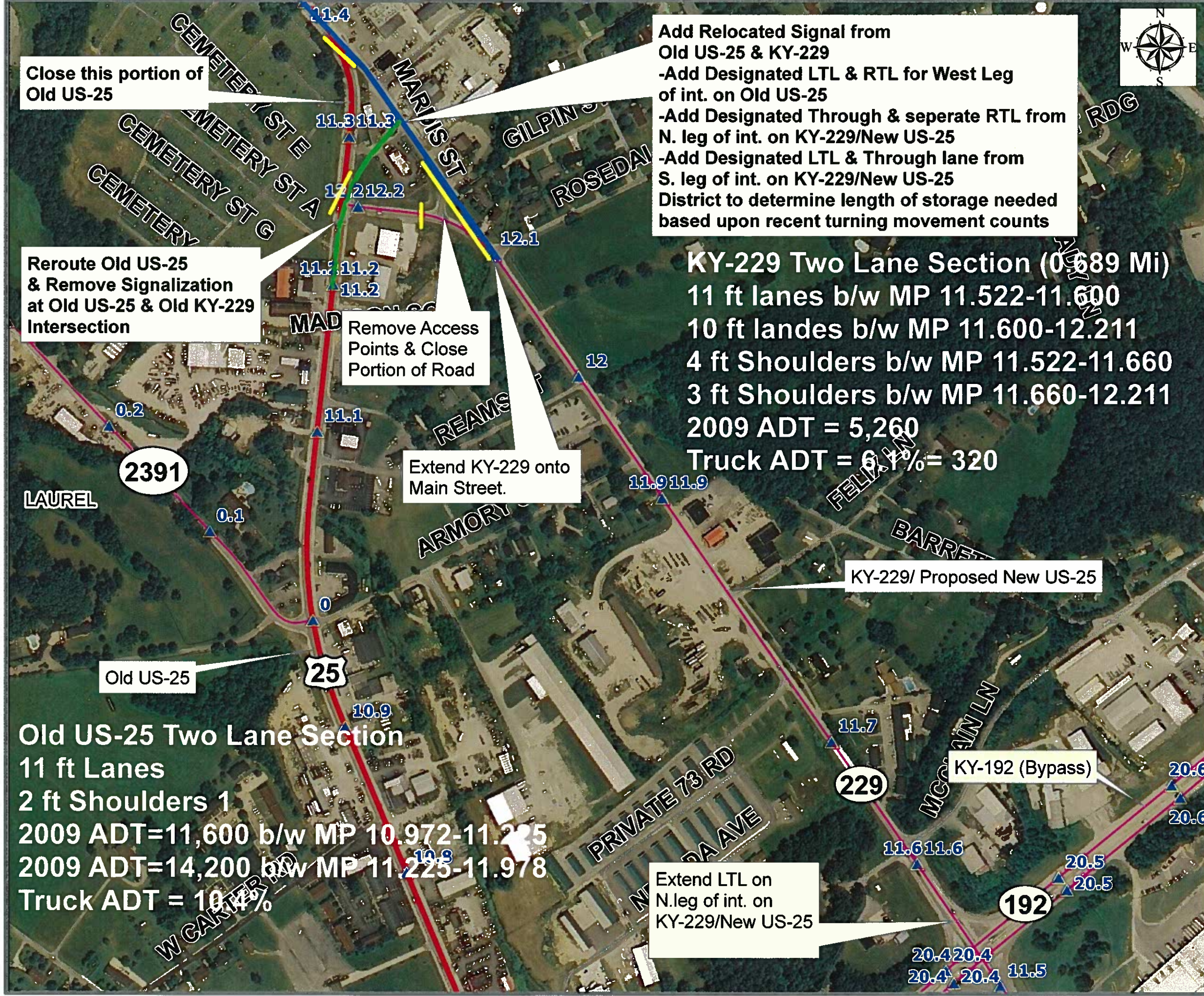
Add Relocated Signal from Old US-25 & KY-229

- Add Designated LTL & RTL for West Leg of int. on Old US-25
- Add Designated Through & separate RTL from N. leg of int. on KY-229/New US-25
- Add Designated LTL & Through lane from S. leg of int. on KY-229/New US-25

District to determine length of storage needed based upon recent turning movement counts

**KY-229 Two Lane Section (0.689 Mi)**  
 11 ft lanes b/w MP 11.522-11.600  
 10 ft lanes b/w MP 11.600-12.211  
 4 ft Shoulders b/w MP 11.522-11.660  
 3 ft Shoulders b/w MP 11.660-12.211  
 2009 ADT = 5,260  
 Truck ADT = 6.1% = 320

**Old US-25 Two Lane Section**  
 11 ft Lanes  
 2 ft Shoulders 1  
 2009 ADT=11,600 b/w MP 10.972-11.225  
 2009 ADT=14,200 b/w MP 11.225-11.978  
 Truck ADT = 10.4%



KY-229/ Proposed New US-25

KY-192 (Bypass)

Extend LTL on N.leg of int. on KY-229/New US-25

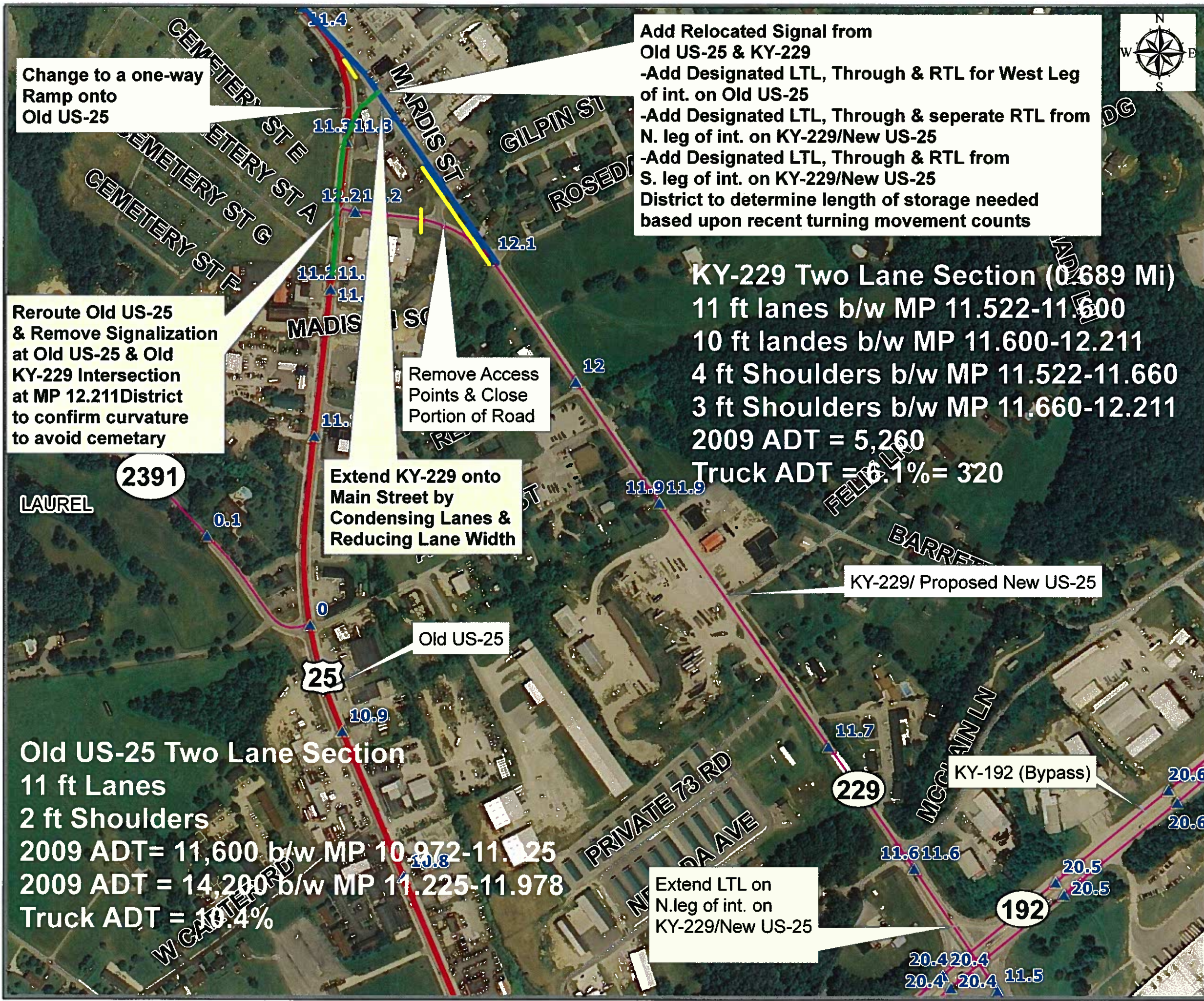
EXHIBIT 2

ITEM NO. 11-147  
 US-25 & Commercial Drive  
 Project Area A-Alternative 3

US 25 PREDESIGN  
 SCOPING STUDY:  
 LAUREL COUNTY

**Legend**

- Rerouted KY-229
- Rerouted US-25
- US Highway
- State Road
- Local Road



Change to a one-way Ramp onto Old US-25

Add Relocated Signal from Old US-25 & KY-229  
 -Add Designated LTL, Through & RTL for West Leg of int. on Old US-25  
 -Add Designated LTL, Through & separate RTL from N. leg of int. on KY-229/New US-25  
 -Add Designated LTL, Through & RTL from S. leg of int. on KY-229/New US-25  
 District to determine length of storage needed based upon recent turning movement counts

Reroute Old US-25 & Remove Signalization at Old US-25 & Old KY-229 Intersection at MP 12.211 District to confirm curvature to avoid cemetery

Remove Access Points & Close Portion of Road

Extend KY-229 onto Main Street by Condensing Lanes & Reducing Lane Width

**KY-229 Two Lane Section (0.689 Mi)**  
 11 ft lanes b/w MP 11.522-11.600  
 10 ft lanes b/w MP 11.600-12.211  
 4 ft Shoulders b/w MP 11.522-11.660  
 3 ft Shoulders b/w MP 11.660-12.211  
 2009 ADT = 5,260  
 Truck ADT = 6.1% = 320

**Old US-25 Two Lane Section**  
 11 ft Lanes  
 2 ft Shoulders  
 2009 ADT = 11,600 b/w MP 10.972-11.225  
 2009 ADT = 14,200 b/w MP 11.225-11.978  
 Truck ADT = 10.4%

Extend LTL on N.leg of int. on KY-229/New US-25

KY-229/ Proposed New US-25

KY-192 (Bypass)



EXHIBIT 3

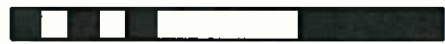
ITEM NO. 11-147.00  
US-25 & KY-229  
Project Area A-Alternative 4

US-25 DNA PREDESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

- New KY-229
- Rerouted US-25
- US Highway
- State Road
- Local Road

250 125 0 250 500 Feet



Change to a one-way Ramp onto Old US-25

Add Relocated Signal from Old US-25 & KY-229  
-Add Designated LTL, Through & RTL for West Leg of int. on Old US-25  
-Add Designated LTL, Through & RTL from N. leg of int. on KY-229/New US-25  
-Add Designated LTL & Through & RTL from S. leg of int. on KY-229/New US-25  
District to determine length of storage needed based upon recent turning movement counts

Reroute Old US-25 & Remove Signalization at Old US-25 & Old KY-229 Intersection  
District to confirm curvature to avoid cemetery.

Remove Access Points & Close Portion of Road

Extend KY-229 onto Main Street.

KY-229/ Proposed New US-25 Expand to:  
2-12 ft Lanes, TWLTL & 8 ft Shoulders

Old US-25 Two Lane Section  
11 ft Lanes  
2 ft Shoulders  
2009 ADT = 11,600 b/w MP 10.972-11.225  
2009 ADT = 14,200 b/w MP 11.225-11.978  
Truck ADT = 10.4%

Extend LTL on N.leg of int. on KY-229/New US-25

KY-229 Two Lane Section (0.689 Mi)  
11 ft lanes b/w MP 11.522-11.600  
10 ft lanes b/w MP 11.600-12.211  
4 ft Shoulders b/w MP 11.522-11.660  
3 ft Shoulders b/w MP 11.660-12.211  
2009 ADT = 5,260  
Truck ADT = 6.1% = 320.

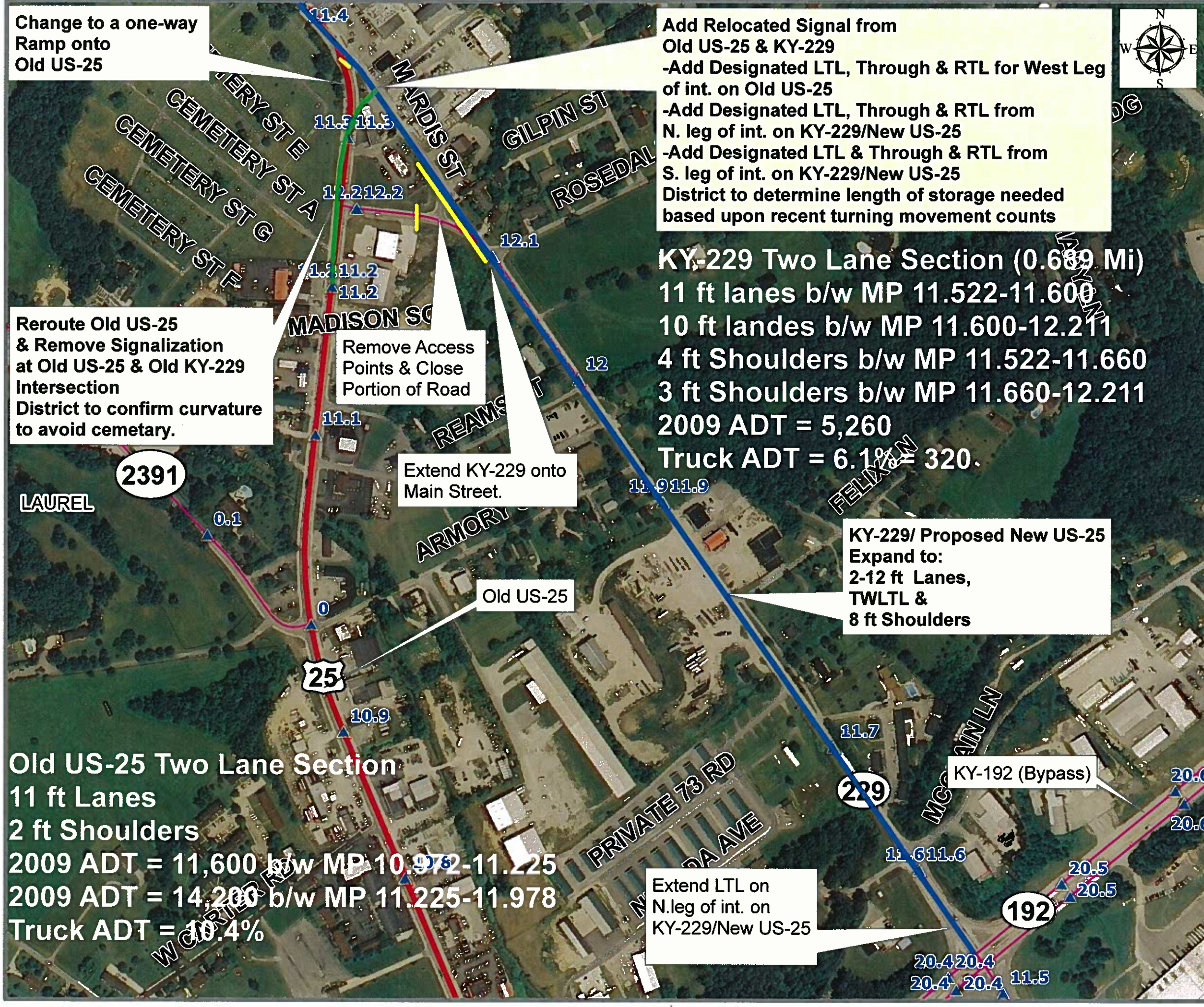


EXHIBIT 4

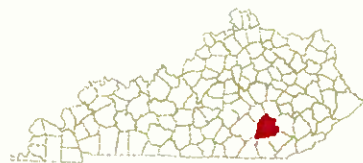
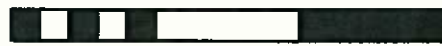
ITEM NO. 11-147  
US-25 & KY-229  
Project Area A-Alternative 5

US 25 PREDESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

- Rerouting KY-229
- Rerouting US-25
- US Highway
- State Road
- Local Road

250 125 0 250 500 Feet



Change to a one-way Ramp onto Old US-25

Reroute Old US-25 & Remove Signalization at Old US-25 & Old KY-229 Intersection  
District to confirm curvature to avoid cemetery.

Remove Access Points & Close Portion of Road

Extend KY-229 onto Main Street and Match up w/ Main Street Cross Section

Old US-25

Add Relocated Signal from Old US-25 & KY-229  
-Add Designated LTL, Through & RTL for West Leg of int. on Old US-25  
-Add Designated LTL, Through & RTL from N. leg of int. on KY-229/New US-25  
-Add Designated LTL, Through & RTL from S. leg of int. on KY-229/New US-25  
District to determine length of storage needed based upon recent turning movement counts

**KY-229 Two Lane Section (0.689 Mi)**  
11 ft lanes b/w MP 11.522-11.600  
10 ft lanes b/w MP 11.600-12.211  
4 ft Shoulders b/w MP 11.522-11.660  
3 ft Shoulders b/w MP 11.660-12.211  
2009 ADT = 5,260  
Truck ADT = 6.1% = 320

KY-229/ Proposed New US-25  
-Extend New US-25 Typical Section.

**Old US-25 Two Lane Section**  
11 ft Lanes  
2 ft Shoulders  
2009 ADT = 11,600 b/w MP 10.972-11.225  
2009 ADT = 14,200 b/w MP 11.225-11.978  
Truck ADT = 10.4%

Extend LTL on N.leg of int. on KY-229/New US-25

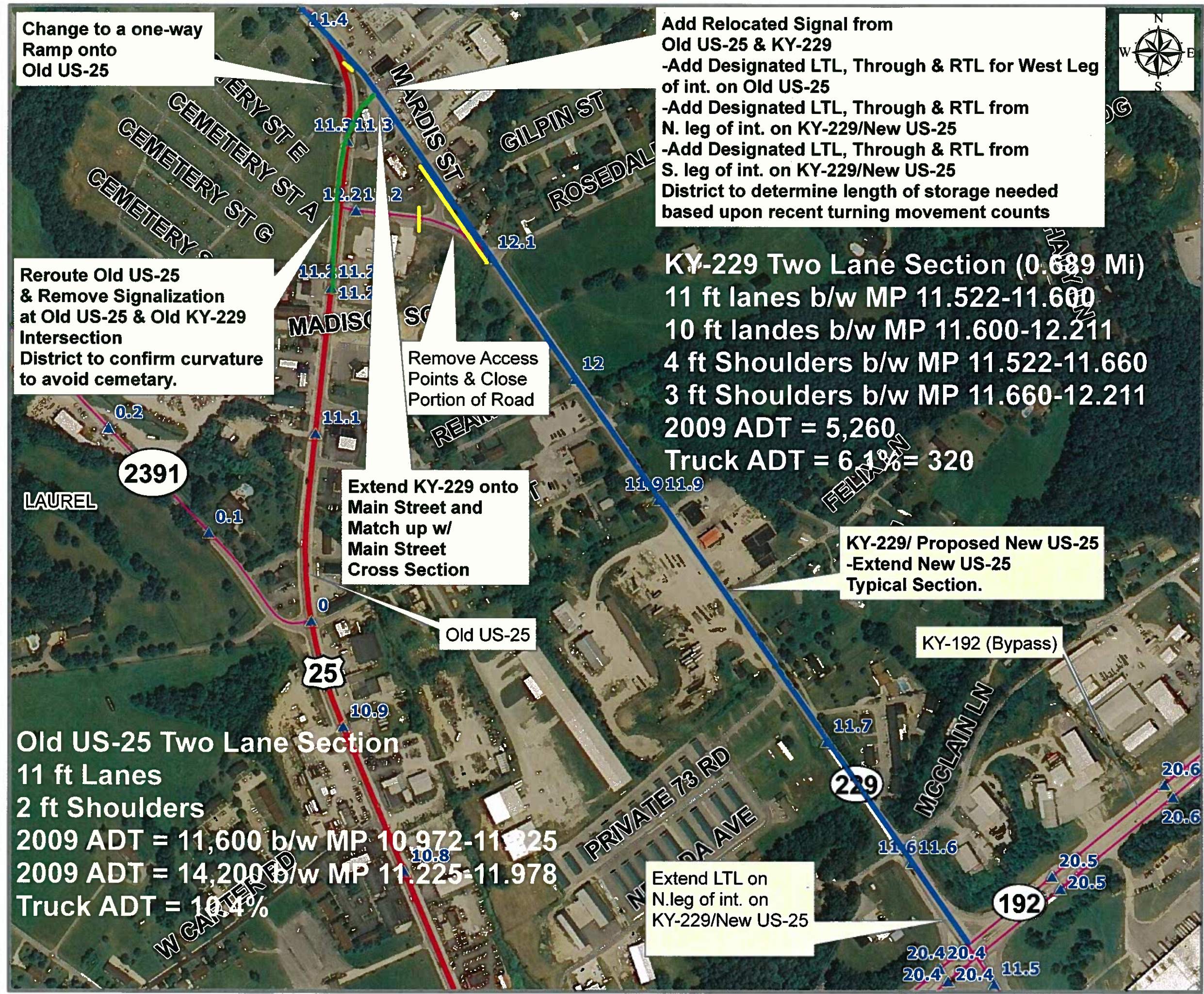


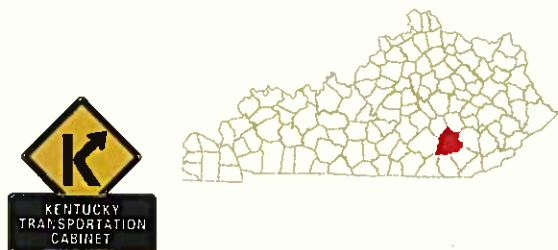
EXHIBIT 5

ITEM NO. 11-147.00  
US-25 & Commercial Drive  
Project Area B-Alternative 7

US-25 DNA PREDESIGN  
SCOPING STUDY:  
LAUREL COUNTY

Legend

-  New Southern Bypass
-  New School Access Road
-  US Highway
-  State Road
-  Local Road



**US-25 Two Lane Section (0.505 Mi)**  
**11 foot lanes**  
**2 ft Shoulders to MP 9.028-10.300**  
**2009 ADT = 25,300**  
**Truck ADT = 14.3% = 3,618**



Remove and Relocate Light Signal to US-25 & Commercial Drive and Close This SLHS Entrance for New Access from New Southern Bypass.



Remove existing entrances adjacent to intersection as they are in way of added turn lanes and within 100 ft of intersection. Both properties have multiple entrances.

Close Access Point at Laurel Technical College Street Formerly Recommended by Laurel County School Board

Proposed New Access Road for S.L.H.S. & Laurel Tech. College to New Southern Bypass. This is a separate project.

Proposed New Southern Bypass from KY-363 to US-25 at Commercial Drive. This is a separate project.

Provide Relocated Signal at Intersection of US-25 & Commercial Drive  
 -Add Designated LTL & RTL for ALL legs of the intersection to include:  
 -North and South legs of Old US-25  
 -East leg of Commercial Drive  
 -West leg of Proposed New Southern Bypass.  
 District to confirm length of lanes once traffic forecast and modeling information is received.

LAUREL TECH COLLEGE ST

25

Project Area B,  
B-1 Intersection

LAUREL

COMMERCIAL DR

10.1

Commercial Drive

EXHIBIT 6

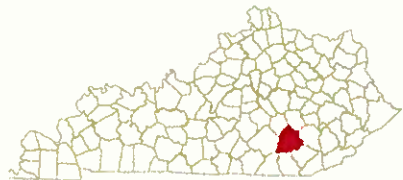
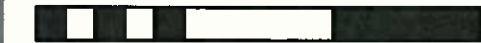
ITEM NO. 11-147.00  
US-25 & Commercial Drive  
Project Area B-Alternative 8

US-25 DNA PREDESIGN  
SCOPING STUDY:  
LAUREL COUNTY

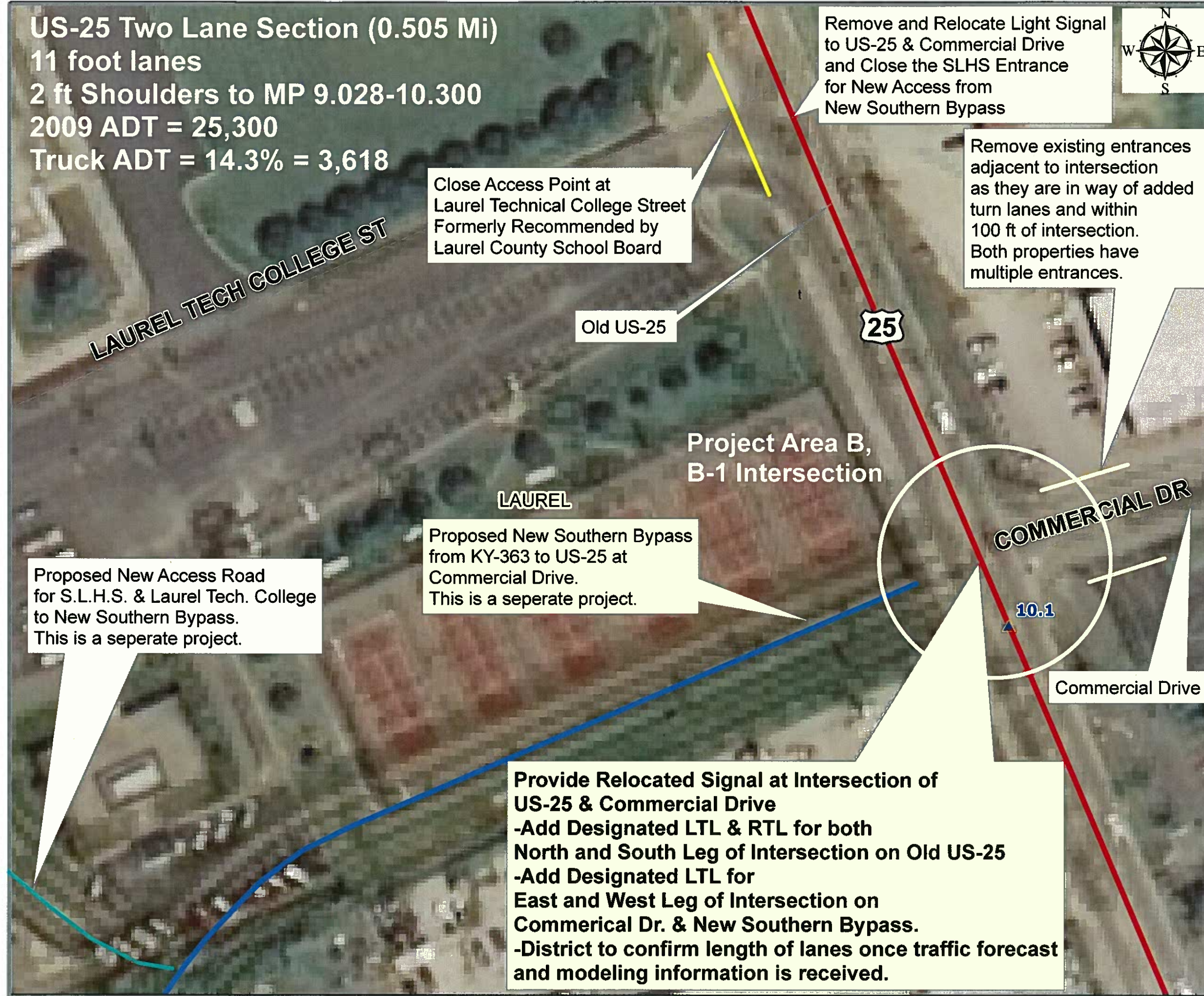
Legend

-  New Southern Bypass
-  New School Access Road
-  US Highway
-  State Road
-  Local Road

40 20 0 40 80 Feet



**US-25 Two Lane Section (0.505 Mi)**  
**11 foot lanes**  
**2 ft Shoulders to MP 9.028-10.300**  
**2009 ADT = 25,300**  
**Truck ADT = 14.3% = 3,618**



Remove and Relocate Light Signal to US-25 & Commercial Drive and Close the SLHS Entrance for New Access from New Southern Bypass



Remove existing entrances adjacent to intersection as they are in way of added turn lanes and within 100 ft of intersection. Both properties have multiple entrances.

Close Access Point at Laurel Technical College Street Formerly Recommended by Laurel County School Board

Old US-25

Project Area B, B-1 Intersection

Proposed New Access Road for S.L.H.S. & Laurel Tech. College to New Southern Bypass. This is a separate project.

Proposed New Southern Bypass from KY-363 to US-25 at Commercial Drive. This is a separate project.

Provide Relocated Signal at Intersection of US-25 & Commercial Drive  
-Add Designated LTL & RTL for both North and South Leg of Intersection on Old US-25  
-Add Designated LTL for East and West Leg of Intersection on Commercial Dr. & New Southern Bypass.  
-District to confirm length of lanes once traffic forecast and modeling information is received.

Commercial Drive

COMMERCIAL DR

25

LAUREL








10.1

EXHIBIT 7

ITEM NO. 11-147.00  
 US-25 & Commercial Drive  
 Project Area B-Alternative 9

US-25 DNA PREDESIGN  
 SCOPING STUDY:  
 LAUREL COUNTY

Legend

-  New School Access Road
-  New Southern Bypass
-  Proposed Commercial Dr. Extension
-  Proposed James Lewis Dr. Tie-In
-  US Highway
-  State Road
-  Local Road

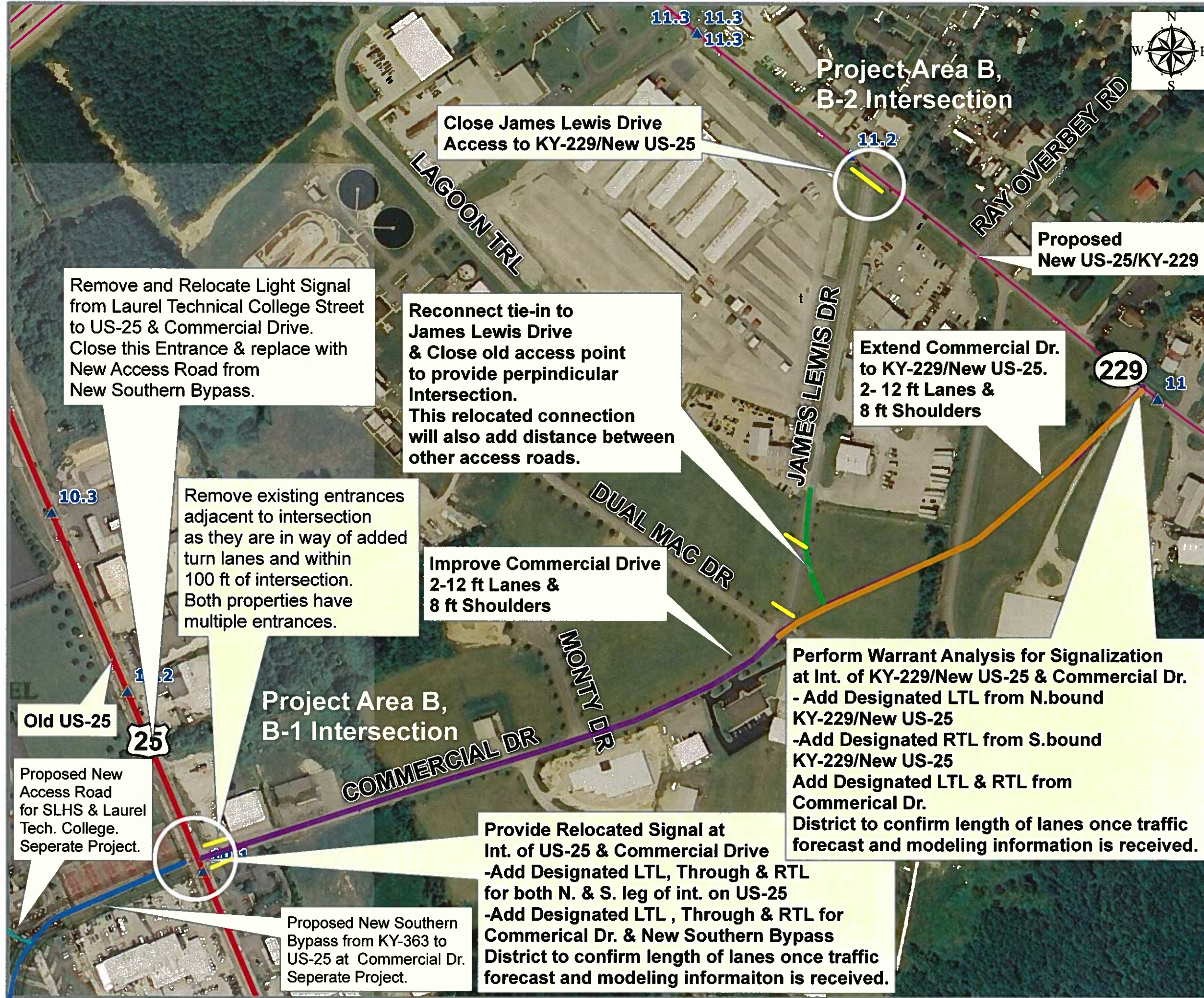
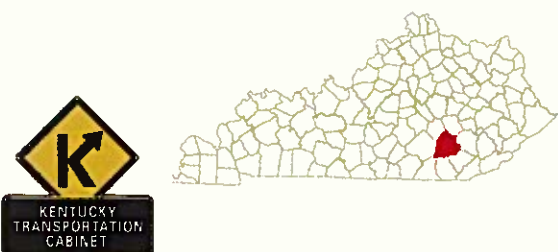
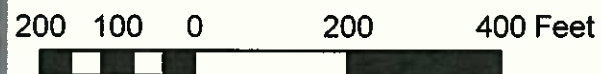


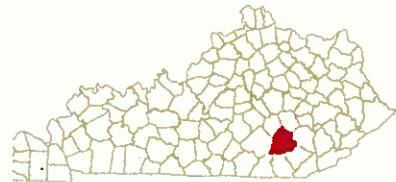
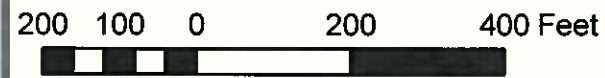
EXHIBIT 8

ITEM NO. 11-147.00  
 US-25 & Commercial Drive  
 Project Area B-Alternative 10

US-25 DNA PREDESIGN  
 SCOPING STUDY:  
 LAUREL COUNTY

Legend

-  New School Access Road
-  New Southern Bypass
-  Commercial Drive
-  James Lewis Drive
-  US Highway
-  State Road
-  Local Road



**US-25 Two Lane Section (0.505 Mi)**  
 (from MP 10.000 to MP 10.505)  
 11 foot lanes  
 2 ft Shoulders to MP 9.028-10.300  
 2009 ADT = 25,300  
 Truck ADT = 14.3% = 3,618

**KY-229 Two Lane Section (0.382 Mi)**  
 (from MP 11.140 to MP 11.522)  
 11 foot lanes  
 2 ft Shoulders  
 2009 ADT = 9,230  
 Truck ADT = 4.8% = 443



Project Area B,  
 B-2 Intersection

Proposed  
 New US-25/KY-229

Improve James Lewis Dr.  
 w/ 4 ft shoulders

Remove and Relocate Light Signal  
 from Laurel Technical College Street  
 to US-25 & Commercial Drive.  
 Close the SLHS Entrance  
 for New Access from  
 New Southern Bypass.

Address curve deficiencies  
 at transition with  
 Commercial Dr. &  
 James Lewis Dr.

Remove existing entrances  
 adjacent to intersection  
 as they are in way of added  
 turn lanes and within  
 100 ft of intersection.  
 Both properties have  
 multiple entrances.

Improve Commercial Dr.  
 w/ 4 ft shoulders

Perform Warrant Analysis for Signalization at  
 Int. of KY-229/New US-25 & James Lewis Dr.  
 - Access Management with Gas Station  
 - Add Designated LTL from N.bound  
 KY-229/New US-25  
 -Add Designated RTL from S.bound  
 KY-229/New US-25  
 Add Designated LTL & RTL for  
 James Lewis Drive  
 -Review perpendicular connection  
 District to confirm length of lanes once traffic  
 forecast and modeling information is received.

Old US-25

Project Area B,  
 B-1 Intersection

Proposed  
 New Access Road  
 for SLHS & Laurel  
 Tech. College.  
 Seperate Project.

Proposed  
 New Southern Bypass  
 from KY-363 to US-25 at  
 Commercial Drive.  
 Seperate Project.

Provide Relocated Signal at  
 Int. of US-25 & Commercial Dr.  
 -Add Designated LTL, Through & RTL for  
 both N & S. bound on US-25  
 -Add Designated LTL, Through & RTL for  
 Commerical Dr. & New Southern Bypass  
 District to confirm lenght of lanes once traffic  
 forecast and modeling information is received.