Andy Beshear
GOVERNOR

TRANSPORTATION CABINET
200 Mero Street
Frankfort, Kentucky 40601

Rebecca Goodman
SECRETARY

May 19, 2026

CALL NO. 101
CONTRACT ID NO. 261514
ADDENDUM # 1

Subject: Breathitt County, PROT 0151096
Letting May 21, 2026

(1) Revised – Proposal Bid Items - Pages 232-234 OF 234
(2) Added - Biological Assessment – Pages 1-49 of 49
(3) Revised - Plan Sheets - R2G, R2H, R4, R6, R8, R21, R22, R25, R37
(4) Revised - Cross Sections - Located in the Electronic Plan Room

Proposal revisions are available at http://transportation.ky.gov/Construction-Procurement/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:so
Enclosures

PROPOSAL BID ITEMS

Report Date 5/19/26

261514

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	22,692.00	TON		$	
0020	00100		ASPHALT SEAL AGGREGATE	101.00	TON		$	
0030	00103		ASPHALT SEAL COAT	12.00	TON		$	
0040	00190		LEVELING & WEDGING PG64-22	903.00	TON		$	
0050	00212		CL2 ASPH BASE 1.00D PG64-22	4,063.00	TON		$	
0060	00214		CL3 ASPH BASE 1.00D PG64-22	8,212.00	TON		$	
0070	00301		CL2 ASPH SURF 0.38D PG64-22	1,073.00	TON		$	
0080	00339		CL3 ASPH SURF 0.38D PG64-22	1,864.00	TON		$	
0090	02677		ASPHALT PAVE MILLING & TEXTURING	514.00	TON		$	
0100	20071EC		JOINT ADHESIVE	18,065.00	LF		$	
0110	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	20.00	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0120	00078		CRUSHED AGGREGATE SIZE NO 2	1.00	TON		$	
0130	01000		PERFORATED PIPE-4 IN	513.00	LF		$	
0140	01010		NON-PERFORATED PIPE-4 IN	7.00	LF		$	
0150	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		$	
0160	01020		PERF PIPE HEADWALL TY 1-4 IN	1.00	EACH		$	
0170	01984		DELINEATOR FOR BARRIER - WHITE	81.00	EACH		$	
0180	01987		DELINEATOR FOR G/R BI DIRECTIONAL WHITE	28.00	EACH		$	
0190	02003		RELOCATE TEMP CONC BARRIER	4,120.00	LF		$	
0200	02091		REMOVE PAVEMENT	642.00	SQYD		$	
0210	02159		TEMP DITCH	2,800.00	LF		$	
0220	02160		CLEAN TEMP DITCH	1,400.00	LF		$	
0230	02200		ROADWAY EXCAVATION (REVISED 5-19-26)	3,053,981.00	CUYD		$	
0240	02223		GRANULAR EMBANKMENT (REVISED 5-19-26)	6,157.00	CUYD		$	
0250	02242		WATER	200.00	MGAL		$	
0260	02273		FENCE-4 FT CHAIN LINK	180.00	LF		$	
0270	02287		DOUBLE VEHICULAR CHAIN LINK GATE (24' WIDE GATE)	1.00	EACH		$	
0280	02351		G/R-W BEAM-S FACE TL-3	1,687.50	LF		$	
0290	02367		G/R END TREATMENT TYPE 1	5.00	EACH		$	
0300	02381		REMOVE G/R	1,285.00	LF		$	
0310	02383		REMOVE & RESET G/R	2,973.00	LF		$	
0320	02397		TEMP G/R	100.00	LF		$	
0330	02429		RIGHT-OF-WAY MONUMENT TYPE 1	54.00	EACH		$	
0340	02432		WITNESS POST	54.00	EACH		$	
0350	02488		CHANNEL LINING CLASS IV	818.00	CUYD		$	

PROPOSAL BID ITEMS

Report Date 5/19/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	02545		CLEARING AND GRUBBING APPROX. 151 ACRES	1.00	LS		$	
0370	02555		CONCRETE-CLASS B	2.25	CUYD		$	
0380	02562		TEMPORARY SIGNS	650.00	SQFT		$	
0390	02585		EDGE KEY	159.00	LF		$	
0400	02602		FABRIC-GEOTEXTILE CLASS 1 (ADDED 3-19-26)	10,030.00	SQYD		$	
0410	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	1,072.00	SQYD	$2.00	$	$2,144.00
0420	02608		FABRIC-GEOTEXTILE CLASS 4A	64,082.00	SQYD		$	
0430	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0440	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0450	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0460	02690		SAFELOADING	20.10	CUYD		$	
0470	02696		SHOULDER RUMBLE STRIPS	9,830.00	LF		$	
0480	02701		TEMP SILT FENCE	2,800.00	LF		$	
0490	02703		SILT TRAP TYPE A	152.00	EACH		$	
0500	02704		SILT TRAP TYPE B	152.00	EACH		$	
0510	02705		SILT TRAP TYPE C	152.00	EACH		$	
0520	02706		CLEAN SILT TRAP TYPE A	152.00	EACH		$	
0530	02707		CLEAN SILT TRAP TYPE B	152.00	EACH		$	
0540	02708		CLEAN SILT TRAP TYPE C	152.00	EACH		$	
0550	02726		STAKING	1.00	LS		$	
0560	03171		CONC BARRIER WALL TYPE 9T (REVISED 5-19-26)	1,177.00	LF		$	
0570	05950		EROSION CONTROL BLANKET	67,768.00	SQYD		$	
0580	05952		TEMP MULCH	488,000.00	SQYD		$	
0590	05953		TEMP SEEDING AND PROTECTION	366,000.00	SQYD		$	
0600	05963		INITIAL FERTILIZER	76.00	TON		$	
0610	05964		MAINTENANCE FERTILIZER	38.00	TON		$	
0620	05985		SEEDING AND PROTECTION	665,700.00	SQYD		$	
0630	05992		AGRICULTURAL LIMESTONE	454.00	TON		$	
0640	06406		SBM ALUM SHEET SIGNS .080 IN	163.00	SQFT		$	
0650	06407		SBM ALUM SHEET SIGNS .125 IN	162.00	SQFT		$	
0660	06410		STEEL POST TYPE 1	669.00	LF		$	
0670	06412		STEEL POST MILE MARKERS	1.00	EACH		$	
0680	06510		PAVE STRIPING-TEMP PAINT-4 IN	4,640.00	LF		$	
0690	06511		PAVE STRIPING-TEMP PAINT-6 IN	43,200.00	LF		$	
0700	06514		PAVE STRIPING-PERM PAINT-4 IN	2,821.00	LF		$	
0710	06530		PAVE STRIPING REMOVAL-4 IN	710.00	LF		$	
0720	06531		PAVE STRIPING REMOVAL-6 IN	11,620.00	LF		$	
0730	06542		PAVE STRIPING-THERMO-6 IN W	11,450.00	LF		$	
0740	06543		PAVE STRIPING-THERMO-6 IN Y	11,760.00	LF		$	
0750	06568		PAVE MARKING-THERMO STOP BAR-24IN	42.00	LF		$	
0760	06574		PAVE MARKING-THERMO CURV ARROW	12.00	EACH		$	
0770	06588		PAVEMENT MARKER TY IVA-BY TEMP	2,160.00	EACH		$	
0780	06610		INLAID PAVEMENT MARKER-MW	144.00	EACH		$	
0790	06612		INLAID PAVEMENT MARKER-BY	75.00	EACH		$	
0800	08100		CONCRETE-CLASS A	12.62	CUYD		$	
0810	08912		CRASH CUSHION TY 6 CLASS T TL3	2.00	EACH		$	
0820	10020NS		FUEL ADJUSTMENT	560,772.00	DOLL	$1.00	$	$560,772.00

PROPOSAL BID ITEMS

Report Date 5/19/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0830	10030NS		ASPHALT ADJUSTMENT	59,473.00	DOLL	$1.00	$	$59,473.00
0840	20000ES724		TREE (ROSE BUD)	111.00	EACH		$	
0850	20191ED		OBJECT MARKER TY 3	5.00	EACH		$	
0860	20430ED		SAW CUT	4,765.00	LF		$	
0870	20458ES403		CENTERLINE RUMBLE STRIPS	5,216.00	LF		$	
0880	21289ED		LONGITUDINAL EDGE KEY	2,272.00	LF		$	
0890	23010EN		PAVE MARK TEMP PAINT STOP BAR-24 IN	59.00	LF		$	
0900	23274EN11F		TURF REINFORCEMENT MAT 1	2,460.00	SQYD		$	
0910	23624EC		REMOVE AND RESET CRASH CUSHION	2.00	EACH		$	
0920	24631EC		BARCODE SIGN INVENTORY	46.00	EACH		$	
0930	24814EC		PIPELINE INSPECTION	793.00	LF		$	
0940	26204EC		PGR GROUT	6.00	CUYD		$	
0950	26248EC		ELECTRONIC DELIVERY MGMT SYSTEM - AGG	1.00	LS		$	
0955	26316ED		TEMPORARY ROCK CATCHMENT FENCE (ADDED 5-19-26)	5,360.00	LF		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0960	00462		CULVERT PIPE-18 IN	81.00	LF		$	
0970	00464		CULVERT PIPE-24 IN	172.00	LF		$	
0980	00466		CULVERT PIPE-30 IN	86.00	LF		$	
0990	00468		CULVERT PIPE-36 IN	210.00	LF		$	
1000	01204		PIPE CULVERT HEADWALL-18 IN	2.00	EACH		$	
1010	01208		PIPE CULVERT HEADWALL-24 IN	6.00	EACH		$	
1020	01210		PIPE CULVERT HEADWALL-30 IN	2.00	EACH		$	
1030	01212		PIPE CULVERT HEADWALL-36 IN	4.00	EACH		$	
1040	21799EN		BORE AND JACK PIPE-24 IN	118.00	LF		$	
1050	21800EN		BORE AND JACK PIPE-30 IN	82.00	LF		$	
1060	24186EC		BORE AND JACK PIPE-36 IN	98.00	LF		$	

Section: 0004 - DEMOBILIZATION & MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1070	02568		MOBILIZATION	1.00	LS		$	
1080	02569		DEMOBILIZATION	1.00	LS		$	

August 20, 2024

KY 15 Rockfall Mitigation

KYTC Item No. 10-5014

Breathitt County, KY

Delivering Quality Solutions

HMB Professional Engineers, LLC

HMB Professional Engineers, LLC
3 HMB Circle
Frankfort, KY 40601
hmbpe.com

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APPENDICES

CHAPTER 1 – PROJECT INTRODUCTION

1.1 BIOLOGICAL ASSESSMENT INTRODUCTION

As part of the consultation process defined in Section 7 of the Endangered Species Act (ESA), the Kentucky Transportation Cabinet (KYTC) is submitting this Biological Assessment (BA) for the mitigation of a rockfall area on KY 15 in Breathitt County, Kentucky. This project is referred to by KYTC as Item Number 10-5014.

1.2 PROJECT DESCRIPTION

The proposed project is in Breathitt County, KY and can be seen in Exhibit 1 and 2 of Appendix A. Breathitt County is in eastern Kentucky (see Figure 1.2-1). KY 15 is a two-lane undivided highway that is classified as rural principal arterial route and is listed on the National Highway System. The proposed project is located south of the city of Jackson. Land use being mostly undeveloped wood lots, agriculture, and single family residential. KY 15 provides road network connectivity between Jackson in Breathitt County and the City of Hazard in Perry County in eastern Kentucky. As of 2022, KY 15 has an annual average daily traffic (AADT) of 6,381 vehicles at milepoint 11.845-14.644. Refer to Exhibit 1 in Appendix A for an overview of the project.

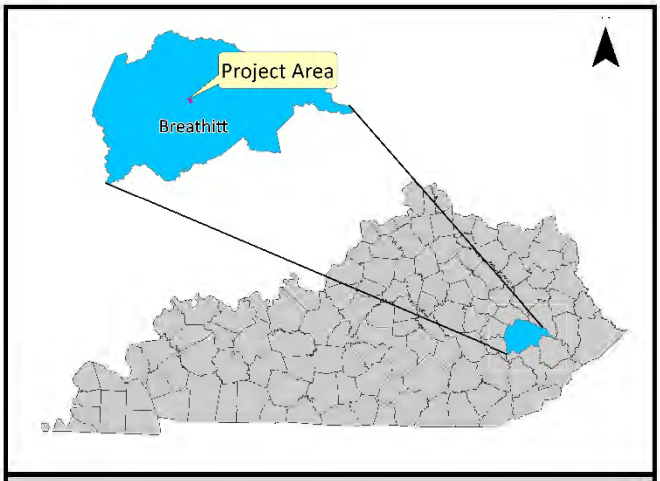

Figure 1.2-1. Project Location in Breathitt County

The proposed project begins on KY 15 at milepoint 13.75 ending at milepoint 16.64 near KY 15's intersection with Quicksand Road (KY 1812) and KY 1098 in Breathitt County. The project will mitigate the rockfall hazard area along KY 15 with a goal to conform to potential future KY 15 corridor reconstruction projects. The project will use a 2-lane alignment that includes cutting a portion of the hillside out for the ultimate 5-lane cross country option. The project will also include an excess material waste adjacent to the proposed alignment.

1.3 PROJECT PURPOSE AND NEED

KY 15 is a principal arterial route in southeast Kentucky that connects the area to the Mountain Parkway, Hal Rogers Parkway, and US 119. The route is characterized by deficient roadway geometrics, inadequate clear zone, the presence of slower moving heavy trucks, restricted passing opportunities, and no access control. Over 9.5 miles of KY 15 along with the necessary excess material sites have been reconstructed or is currently under construction in Breathitt and Perry Counties. The proposed project is on a section of KY 15 that has not been reconstructed yet from milepoints 13.75 to 14.64. While there is not a project to reconstruct this area, KYTC's intent is to one day reconstruct the route. This section is bordered by a vertical rock cut on one side and the North Fork of Kentucky River on the other. The vertical rock face has deteriorated over time, producing a rockfall hazard area. This hazard has become more serious in recent years, causing damage to the road, maintenance equipment, and travelers of this route.

The purpose of this project is to mitigate the rockfall hazard area. A goal of the project is to conform with potential future KY 15 corridor reconstruction project.

1.4 ENVIRONMENTAL SETTING

1.4.1 PHYSIOGRAPHY, GEOGRAPHY, AND ECOREGION

The project area is in the Quicksand United States Geological Survey (USGS) quadrant in the Eastern Kentucky Coal Field physiographic region. This region is in the eastern part of the state and is recognized by the surface-level exposure of Pennsylvanian age rocks. Pennsylvanian rocks in Kentucky are composed mostly of interbedded shale, sandstone, conglomerates, and coals (KGS 2023).

The project spans the Pikeville, Hyden, and Four Corners formations and consists of sandstone, siltstone, shale, limestone, coal (KGS 2023).

The project also lies in the Central Appalachians Ecoregion (Level III) and the Dissected Appalachian Plateau (Level IV) ecoregion. The Dissected Appalachian Plateau ecoregion is composed of narrow ridges, deep coves, and narrow valleys that are mostly forested. The forest composition is dictated by aspect, slope position, degree of topographic shading, and past usage. Cool, high gradient streams with cobble and boulder substrates and extensive riffles are common. Surface and underground coal mining, logging, and both gas and oil production are common and have degraded surface waters. Acidic drainage and sedimentation from coal mines have decreased the biological productivity of many streams (Woods et al. 2002).

1.4.2 WATERSHED

The project impact area is contained within the following Hydrologic Unit Codes (HUC):

- **Eight-digit HUC -** North Fork Kentucky River (HUC 05100201)
- **Ten-digit HUCs -** Quicksand Creek (HUC 0510020106) and Frozen Creek (HUC 0510020107)
- **Twelve-digit HUCs** - South Fork Quicksand Creek (HUC 051002010605), Meatscaffold Branch (HUC 051002010701), and Cane Creek (HUC 051002010701) watersheds

There are three unnamed intermittent streams and 20 unnamed ephemeral streams within the project area. In addition, there are three perennial streams that are adjacent to the project. The North Fork of the Kentucky River lies to the west of the project, Quicksand Creek lies to the North, and the South Fork of Quicksand Creek lies to the East of the project. There are no streams designated by the Kentucky Division of Water (KDOW) as an Outstanding State Resource Water (OSRW) or exceptional use waters.

1.4.3 LAND USE

Table 1.4–1 presents a summary of general land use/cover within 1-km of the project area (Homer et al. 2020). The land cover is primarily forest (deciduous, mixed, and evergreen), which accounts for 69.06% of land use in the area. Developed land is the next most predominant land use accounting for 13.19% of the area.

Table 1.4–1. Land Use/Cover in the Project Area

LAND USE	ACRES	PERCENTAGE
Open Water	12.68	0.63
Developed, Open Space	107.19	5.30
Developed, Low Intensity	93.63	4.63
Developed, Medium Intensity	66.05	3.27

LAND USE	ACRES	PERCENTAGE
Developed, High Intensity	7.56	0.37
Barren Land	5.78	0.29
Deciduous Forest	1381.29	68.28
Evergreen Forest	10.01	0.49
Mixed Forest	201.93	9.98
Herbaceous	8.23	0.41
Hay/Pasture	128.54	6.35
TOTAL	**2,022.89**	**100.00**

CHAPTER 2 – LISTED SPECIES

2.1 COORDINATION

The official list of Threatened and Endangered (T&E) species for each project area was obtained from the U.S. Fish and Wildlife Service (USFWS). USFWS's Information for Planning and Consultation (IPaC) website was used to obtain a list of federally T&E species and serve as coordination with USFWS (USFWS 2023). Similar lists developed by the Kentucky Department of Fish and Wildlife Resources (KDFWR) and the Kentucky State Nature Preserves Commission (KSNPC) were also reviewed as a reference. Coordination efforts can be viewed in Appendix B. The USFWS listed species are as follows:

- Gray bat (*Myotis grisescens*)
- Indiana bat (*Myotis sodalis*)
- Northern long-eared bat (*Myotis septentrionalis*)
- Tricolored bat (*Perimyotis subflavus*) - Proposed
- Kentucky arrow darter (*Etheostoma spilotum*)
- Longsolid (*Fusconaia subrotunda*)
- Monarch butterfly (*Danaus plexippus*) - Candidate

The northern long-eared bat received a finding of "May Affect" via the *USFWS IPaC Northern Long-eared Bat Rangewide Determination Key* on July 25, 2024 and is included in Appendix B. (Project Code: 2023-0046957). A KYTC No Effect Finding form (TC-58-54) has been completed for the Kentucky arrow darter and longsolid and is on file with KYTC. Therefore, the Kentucky arrow darter and the longsolid will not be addressed any further in this document. For the tricolored bat, a proposed species, and the monarch butterfly, a candidate species, there is no action required at this time.

2.2 STATUS OF LISTED SPECIES

2.2.1 INDIANA BAT (*MYOTIS SODALIS*)

CURRENT STATUS – Endangered

LISTING DATE – March 11, 1967

RECOVERY PLAN/STATUS/CRITICAL HABITAT – Critical habitat for this species occurs in Illinois, Indiana, Kentucky, Missouri, and West Virginia. Two locations are designated critical habitat in Kentucky: Bat Cave in Carter County and Coach Cave in Edmonson County. A recovery plan for *Myotis sodalis* was published in 2007. The most current published 5-year review results were published in 2009; the most recent notice of 5-year review initiation was published in 2014. In addition, yearly guidance is provided by USFWS regarding capture methods and methods for mitigation of impacts to this species (USFWS 2023a).

ID FEATURES – The Indiana bat is a small, brown bat, generally weighing between 5 – 11 g, with an average total length of between 75-102 mm. Notable similar species are the little brown bat (*Myotis lucifugus*) and northern long-eared bat (*Myotis septentrionalis*), from which it can be distinguished by the presence of a keeled calcar, coloration, and absence of long toe hairs.

PREFERRED HABITAT – This species forms communal roosts in caves during the winter months. During summer, forested habitat (both upland and riparian) is used for foraging and roosting; of particular note is the use of forested areas as habitat for maternity colonies.

THREATS TO SPECIES PERSISTENCE – White-nose syndrome causes mortality of significant numbers of communal-roost utilizing bats, including the Indiana bat. Direct disturbance to caves and their openings, as well as the loss of forested habitat in the species range are the primary anthropogenic threats to this species' survival.

2.2.2 NORTHERN LONG-EARED BAT (*MYOTIS SEPTENTRIONALIS*)

CURRENT STATUS – Endangered

LISTING DATE – November 30, 2022

RECOVERY PLAN/STATUS/CRITICAL HABITAT – Critical habitat for this species has not been listed. A recovery plan for *Myotis septentrionalis* has not been published at this time. Yearly guidance is provided by USFWS regarding capture methods and methods for mitigation of impacts to this species (USFWS 2024c). A Species Status Assessment report was published in March of 2022.

ID FEATURES – The northern long-eared bat is a small, brown bat, generally weighing between 5-10 g, with ears long enough to fold past the tip of the nose (17-19mm). Notably similar species are the little brown bat (*Myotis lucifugus*) and Indiana bat (*Myotis sodalis*), from which it can be distinguished by the lack of a keeled calcar, coloration, and the sparse to medium-long toe hairs.

PREFERRED HABITAT – This species forms communal roosts in caves during the winter months. During summer, forested habitat (both upland and riparian) is used for foraging and roosting; of particular note is the use of forested areas as habitat for maternity colonies.

THREATS TO SPECIES PERSISTENCE – White-nose syndrome causes mortality of significant numbers of communal-roost utilizing bats, including northern long-eared bat. Direct disturbances to caves and their openings are the primary anthropogenic threats to this species' survival.

2.2.3 GRAY BAT (*MYOTIS GRISESCENS*)

CURRENT STATUS – Endangered

LISTING DATE – April 28, 1976

RECOVERY PLAN/STATUS/CRITICAL HABITAT – There is no critical habitat listed for this species. A recovery plan for *Myotis grisescens* was published in 1982; the most recent notice of 5-year review initiation was published in 2019 (USFWS 2023b).

ID FEATURES – The gray bat is a small, grey bat, generally weighing between 7-10 g, with an average total length of between 80-105 mm. Gray bats can be distinguished from the other myotis by uniform-colored dorsal fur from base to tip and by attachment of wing membrane at ankle, not at base of toe.

PREFERRED HABITAT – This species forms roosts in caves during the winter months. During summer, forested habitats (riparian) are used for foraging.

THREATS TO SPECIES PERSISTENCE – In addition to white-nose syndrome, human disturbance is a significant cause of mortality in this species. Disturbance to caves and their openings are the primary anthropogenic threats to this species' survival.

CHAPTER 3 – SAMPLING METHODOLOGY

The project area was examined to assess the potential for habitat used by T&E species. Appropriate study methods, benchmarks, and additional criteria were determined through coordination with state and federal agencies and the KYTC. All methods were preapproved by KYTC's Division of Environmental Analysis (DEA), and any work involving species federally listed as "Endangered" or "Threatened" was performed by HMB Professional Engineers, Inc. (HMB) under USFWS collecting permit # ES129703-7.

3.1 BAT HABITAT ASSESSMENT/OFFICE REVIEW

An initial investigation included a survey of documented sources (topographic mapping, mine mapping, and aerial photography) to identify areas of potential year-round habitat for gray bat, and winter habitat for Indiana bat and northern long-eared bat (i.e. known mine openings, cave openings) in a 5-km radius of the project area. The project area consists of the proposed right-of-way and excess material sites. In addition, the Kentucky Speleological Survey (KSS) was contacted to assess the presence of any known cave or mine openings within a 5-km radius of the project area. Coordination with the KSS is included in Appendix B.

The review of documented sources was also used to identify forested areas, which serve as foraging and maternity habitat (summer habitat) for Indiana bat and northern long-eared bat (upland forests), and as foraging habitat for gray bat and Indiana bat (forested riparian corridors). The identified forested areas were delineated using GIS mapping.

A map showing the project area, 1-km and 5-km survey area boundaries can be found in Exhibit 2 in Appendix A.

3.2 PHASE I HABITAT ASSESSMENT

After a literature search for known caves and abandoned mine portals within the 5-km buffer, a Phase 1 Habitat Assessment utilizing USFWS's 2022 *Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines* (USFWS 2022c) was performed inside the 1-km buffer surrounding the project area. This is a 1-km buffer of the proposed right-of-way and excess material sites. During the field survey, HMB's biologists talked to landowners in the area and asked if they were aware of any caves or mine openings on their property and any known caves identified during the literature search were verified and accessed. In addition, the forested areas identified during the bat habitat assessment as potential summer habitat crucial to Indiana bat, northern long-eared bat, and gray bat were field verified during the field visit. Since bridges have been known to be used as summer roosting habitat for Indiana and gray bats, the project area was also searched for bridges and if found were investigated by HMB biologists for potential use, evidence of use (staining, guano, etc.), or presence of any bat species. Results of these investigations were recorded on Kentucky Bats in Bridges Datasheet developed by the KYTC. A map showing the project area and 1-km and 5-km survey area boundaries can be found in Exhibit 2 in Appendix A. Field data sheets can be found in Appendix C and photos in Appendix D.

CHAPTER 4 – SAMPLING RESULTS

4.1 BAT HABITAT ASSESSMENT RESULTS

A survey of available published sources revealed there is no known cave locations or karst features within the 5-km buffer with the potential to serve as year around habitat for the gray bat, or winter habitat for the Indiana bat and northern long-eared bat. The Kentucky Speleological Society (KSS) "… *the only location in our database is named Moonshiners Arch Cave, coordinates [REDACTED]. But I am not so sure that it is an actual data point within your search radius, and most likely an error on the location supplier*." During the field investigations, HMB did not find any cave like feature at this coordinate.

The review revealed the project area is designated by the US Fish and Wildlife Service as "Unsurveyed" habitat for the Indiana bat and "Known Summer 1" for northern long-eared bat. A total of 71.85 acres of forested habitat which may serve as foraging or maternity areas for the Indiana bat was determined to exist inside the proposed project areas. There is 6.35 acres of riparian habitat that may serve as foraging areas for the gray bat within the project area. These areas are shown on aerial and topographic mapping in Exhibits 3 and 4 in Appendix A.

4.2 PHASE I HABITAT ASSESSMENT RESULTS

In April of 2023, HMB biologists conducted a field survey of the area within the 1-km buffer to search for caves, mines, and rock shelters. There were four rock shelter features found within the 1-km buffer that were surveyed. The rock shelters were shallow and did not provide complete darkness; therefore, the rock shelters were unsuitable for winter habitat for bats. An excess material site was added after this survey and HMB biologists surveyed the additional area in February 2024. No additional structures were found. There was no sign of bat activity or past presence. Phase 1 Habitat Assessment Portal Data Sheets were completed, and photos were taken. Photos are provided in Appendix C and data sheets are provided in Appendix D. There are no existing bridges that will be impacted by the proposed project so no *Kentucky Bats in Bridges Datasheet* forms were completed.

CHAPTER 5 – EFFECTS ANALYSIS

The effects of an action upon a species are dependent primarily on the type and extent of the action, the general setting in which the action occurs, the occurrence of the species in the area impacted by the action, and the likelihood that the action will alter the habitat in the area so as to reduce its usability by the species being examined. In addition to causing direct mortality to individuals, it is possible that a project could affect a species indirectly by causing stress or reducing food availability. This section examines these factors and the likelihood that they will affect the species of concern.

5.1 LANDSCAPE IMPACTS

Activities associated with the project will involve potential disturbance (both temporary and permanent) of habitat within the project area. The following sections provide baseline information regarding the adjacent landscapes near the project and any anticipated direct potential landscape impacts occurring within the project area.

5.1.1 ADJACENT LANDSCAPES

The area within 1-km of the project area consist of approximately 2,022.89 acres. There are 1,397.08 acres (69.06%) of combined forested habitats; which reflects the current and historical land use in the area. The next largest land type is a combination of developed land (open space, low, medium, and high intensity) at 13.19% of the area within the 1-km. Table 1.4–1 provides a detailed breakdown of the adjacent landscape.

5.1.2 IMPACTED LANDSCAPES

The purpose of this project is to mitigate the rockfall hazard area along KY 15 to address safety conditions and maintain a reliable roadway connectivity for users traveling in Breathitt County. A goal of the project is to conform with potential future KY 15 corridor reconstruction project. The current proposed project area is approximately 90.82 acres in size and contains 71.85 acres of forested habitat, including 6.35 acres of riparian habitat, that could serve as summer habitat for the listed bats. In comparison, there are approximately 1,397.02 acres of similar forested habitat (deciduous, evergreen, and mixed forests) within 1-km of the project area. Therefore, the project may not impact this habitat type in a significant manner.

5.2 POTENTIAL EFFECTS ON INDIANA BATS AND NORTHERN LONG-EARED BATS

There were no caves or portals suitable for bat use found during the portal survey or during the onsite investigations. Approximately 71.85 acres of forested habitat designated by the USFWS as “unsurveyed” habitat for Indiana bats is located within the project area that could serve as summer habitat for the Indiana bat (Exhibit 3 and 4 in Appendix A). There were four rock shelter features found within the 1-km buffer that were surveyed. The rock shelters were shallow and did not provide complete darkness; therefore, the rock shelters were unsuitable for hibernacula. KYTC will mitigate for take associated with the habitat loss through usage of *the Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* (KYTC 2020). This agreement will result in a contribution to the Imperiled Bat Conservation Fund for use in the protection of these species. Direct, indirect, and cumulative effects on the Indiana bat from the removal of habitat under the agreement have been analyzed through a programmatic intra-service biological opinion prepared by the USFWS. Please refer to this agreement for effects analysis.

Approximately 71.85 acres of forested habitat is designated by the USFWS as “Known Summer 1” habitat for northern long-eared bats and could serve as summer habitat for the northern long-eared bat (Exhibits 3 and 4 in Appendix A). KYTC proposes to use the *2015 Biological Opinion: Kentucky Field Office’s*

Participation in Conservation Memoranda of Agreement for the Indiana Bat and/or Northern Long-eared Bat to coordinate for northern long-eared bat.

5.3 POTENTIAL EFFECTS ON GRAY BATS

There were no caves or portals suitable for bat use located within 1-km of the project area during the onsite field surveys. One caves was documented within 5-km of the project area during the KSS coordination but the stated it was most likely an error. No cave was found at that location provided. Approximately 6.35 acres of riparian forest is located within the project area that could serve as summer foraging habitat for the gray bats (Exhibit 3 and 4 in Appendix A).

KYTC will mitigate for take associated with the habitat loss through usage of the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* (KYTC 2020). This agreement will result in a contribution to the Imperiled Bat Conservation Fund for use in protection of these species. Direct, indirect, and cumulative effects to the gray bat from the removal of habitat under the agreement have been analyzed through a programmatic intra-service biological opinion prepared by the USFWS. Please refer to this agreement for effects analysis.

CHAPTER 6 – MITIGATION & MINIMIZATION MEASURES

While projects often have the potential to impact T&E species, these effects can be reduced through appropriate minimization and mitigation practices. The following minimization and mitigation measures will be implemented with this project.

6.1 MINIMIZATION AND MITIGATION MEASURES FOR THE LISTED BATS

Clearing of up to 71.85 acres of "Unsurveyed" of Indiana bat habitat, including 6.35 acres of riparian habitat for all three species, will be required. The project area is within one area of northern long-eared bat habitat, "Known Summer 1". There are 71.85 acres of "Known Summer 1" northern long-eared bat habitat to be cleared.

There are six unnamed intermittent streams crossed by the project and flow into the North Fork of the Kentucky River.

The following measures will serve to reduce negative effects to aquatic and riparian habitat, as many of the insect species upon which Indiana bats and gray bats feed have aquatic larval forms:

- KYTC is bound by the tenets of Kentucky Pollution Discharge System (KPDES), permit number KYR100000, to reduce erosion and sedimentation effects from projects involving soil disturbance. As required under Section 213 of the KYTC Standard Specifications, a site-specific Erosion Control Plan, including Best Management Practices (BMP), will be developed by the resident engineer and contractor prior to onsite activities to ensure continuous erosion control throughout the construction and post-construction period. The plan will identify individual Disturbed Drainage Areas (DDA) where stormwater from the construction area will be discharged off-site or into waters of the Commonwealth.
- The location of the individual erosion prevention/sediment control measures will be identified by the resident engineer and contractor.
- Mulch will be placed, during grade and drain activities, across all areas where no work will be conducted for a period of 14 consecutive days.
- Tree clearing within the riparian will be minimized. The trees to be removed will be determined by the resident engineer and the contractor prior to disturbance.
- As a minimization measure, seasonal tree clearing restrictions, from May 15 to July 31, shall be imposed.
- Silt fence, or other approved method as appropriate, will be installed at the edge waters within the project corridors to eliminate the deposition of rock and debris in the stream during construction activities. In the unforeseen event that unintended debris does enter the stream, the resident engineer will halt the contributing activity until appropriate remedial actions have been implemented.
- To the maximum extent plausible, construction activities will take place during low-flow periods.

- Equipment staging and cleaning areas will be located to eliminate direct inputs to the waters of the Commonwealth. These areas will be located such that effluent will be filtered through vegetated areas and appropriate sediment controls prior to discharge offsite.
- Concrete will be poured in a manner to avoid spills into the stream. In the unforeseen event that a spill does occur, the USFWS will be notified, and the resident engineer will immediately halt the activity until remedial measures have been implemented.
- KYTC proposes to stabilize areas disturbed during construction activities through vegetation establishment and placement of riprap and geotextile fabric. Re-vegetation of the disturbed areas will allow thermoregulation of water within the streams, establish long-term, regenerative stabilization of the stream bank, and provide nutrients to the aquatic macroinvertebrate community through inputs of organic material.
- Areas disturbed during construction and not stabilized with riprap and erosion blanket will be seeded using a standard seed mix. Depending on project slope and project location, application rates will vary will utilize current and appropriate seed mixes as specified in the KYTC Standard Specifications book.

The contractor shall also comply with the sediment and erosion control plan developed for the project during construction. No construction will be initiated prior to the acquisition of all necessary permits, including a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers, and a Section 401 Water Quality Certification and Stream Construction permit from the Kentucky Division of Water.

CHAPTER 7 – DETERMINATION OF EFFECT

Based on the analysis of the proposed project, determinations were made as to its potential effects on the protected resources discussed in this document. From this, Section 7 findings were made for each resource and are given below:

7.1 INDIANA BAT DETERMINATION

The habitat assessment and literature review found 4 rock shelters, but none were suitable for winter habitat by bats. There are 71.85 acres of "Unsurveyed" habitat within the project area that may be disturbed or removed. It is KYTC's intent to address impacts to the Indiana bat in accordance with the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* between FHWA, KYTC, and USFWS KFO. As a minimization measure, no tree clearing during the non volent season (May 15 to July 31), shall be imposed. Should timing of the project letting or other circumstances conflict with seasonal tree clearing restrictions, KYTC shall address impacts to the Indiana bat in accordance with the provisions for take afforded in the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat.* Therefore, the effect determination for the proposed project is: **"may affect, likely to adversely affect" the Indiana bat, *Myotis sodalis*.**

7.2 NORTHERN LONG-EARED BAT DETERMINATION

The habitat assessment and literature review found 4 rock shelters, but none were suitable for winter habitat by bats. There are 71.85 acres of "Known Summer 1" habitat within the project area that may be disturbed or removed. As a minimization measure, no tree clearing during the non volent season (May 15 to July 31), shall be imposed. Should timing of the project letting or other circumstances conflict with seasonal tree clearing restrictions, KYTC shall address impacts to the northern long-eared bat in accordance with the provisions for take afforded in the *2015 Biological Opinion: Kentucky Field Office's Participation in Conservation Memoranda of Agreement for the Indiana Bat and/or Northern Long-eared Bat*. Any incidental take of northern long-eared bats resulting from forested habitat removal would not be prohibited. KYTC believes for this project, under the use of this agreement, incidental take is not likely to jeopardize the continued existence of the northern long-eared bat. As a result, the formal effects determination for the northern long-eared bat as a result of the project is **"may affect, likely to adversely affect" the northern long-eared bat, *Myotis septentrionalis.***

7.3 GRAY BAT DETERMINATION

The habitat assessment and literature review found 4 rock shelters, but none were suitable for winter habitat by bats. There is 6.35 acres of riparian habitat within the project area that will be disturbed or removed. The indirect effects caused by the removal of the riparian forested habitat will be reduced by minimization techniques outlined in Chapter 6 to the level that they are considered discountable. KYTC will account for all impacts to gray bat foraging and commuting habitat through the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*. The effect determination for the proposed project is: **"may affect, not likely to adversely affect" the gray bat, *Myotis grisescens.***

CHAPTER 8 – REFERENCES

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Woods, A.J., Omernik, J.M., Martin, W.H., Pond, G.J., Andrews, W.M., Call, S.M., Comstock, J.A., and Taylor, D.D., 2002, Ecoregions of Kentucky (color poster with map, descriptive text, summary tables, and photographs): Reston, VA., U.S. Geological Survey (map scale 1:1,000,000).

APPENDIX A – EXHIBITS

Exhibit 1: Project Overview

Exhibit 2: Portal Survey and Literature Search

Exhibit 3: Bat Habitat Impact (Aerial)

Exhibit 4: Bat Habitat Impact (Topo)

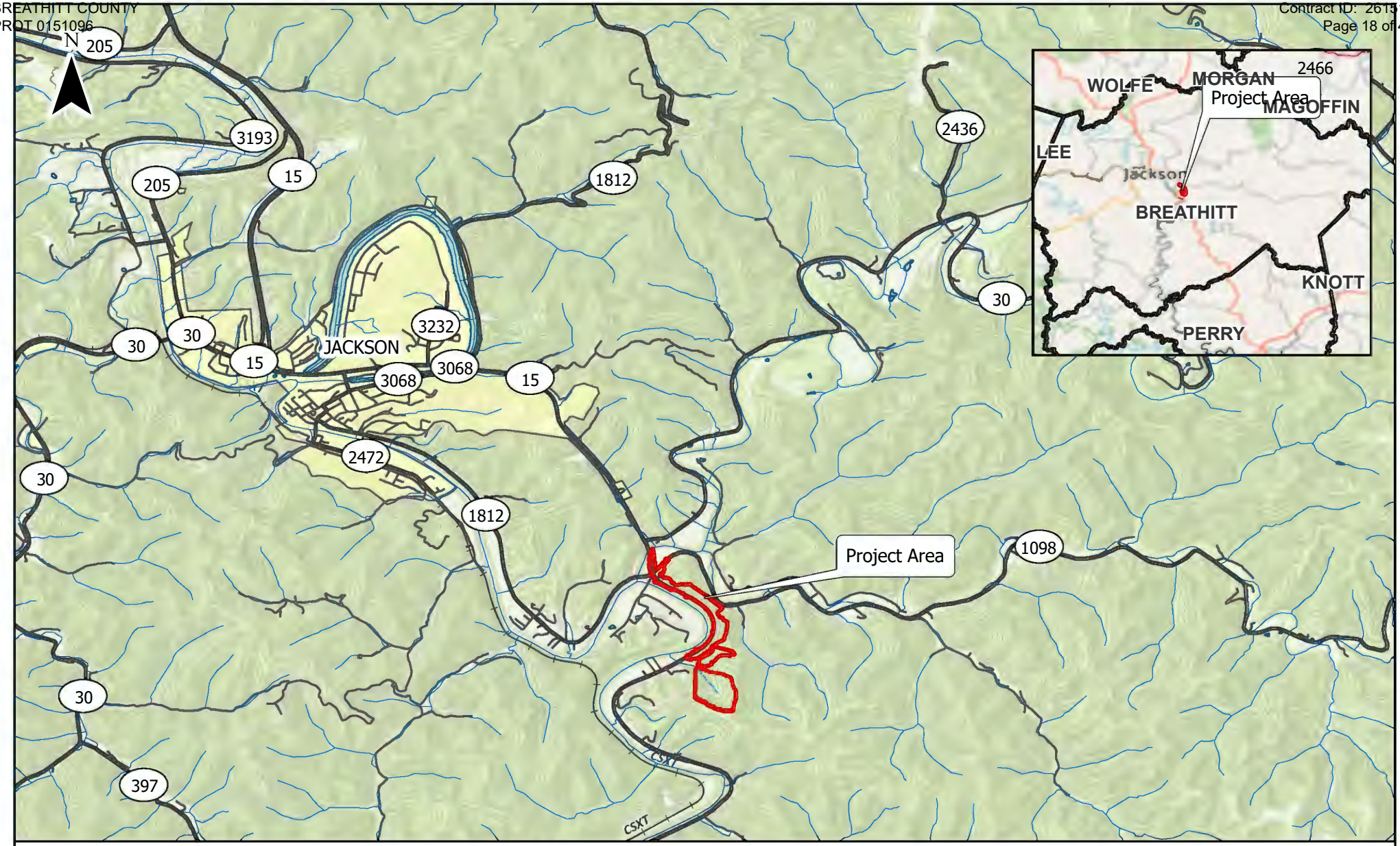
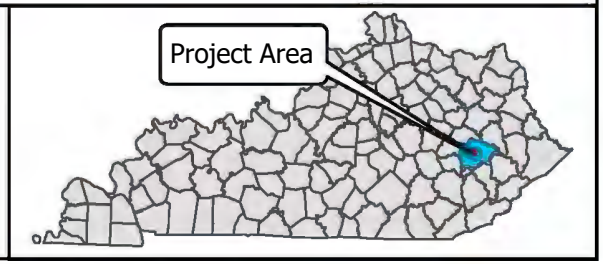


Exhibit 1: Project Overview

Project Area
State Roads
Local Roads
Corporate Boundary Polygons
Corporate Boundary Polygons

KY 15 Rockfall Mitigation
KYTC Item No. 10-5014
Breathitt County, KY

0 1.5 3 Miles



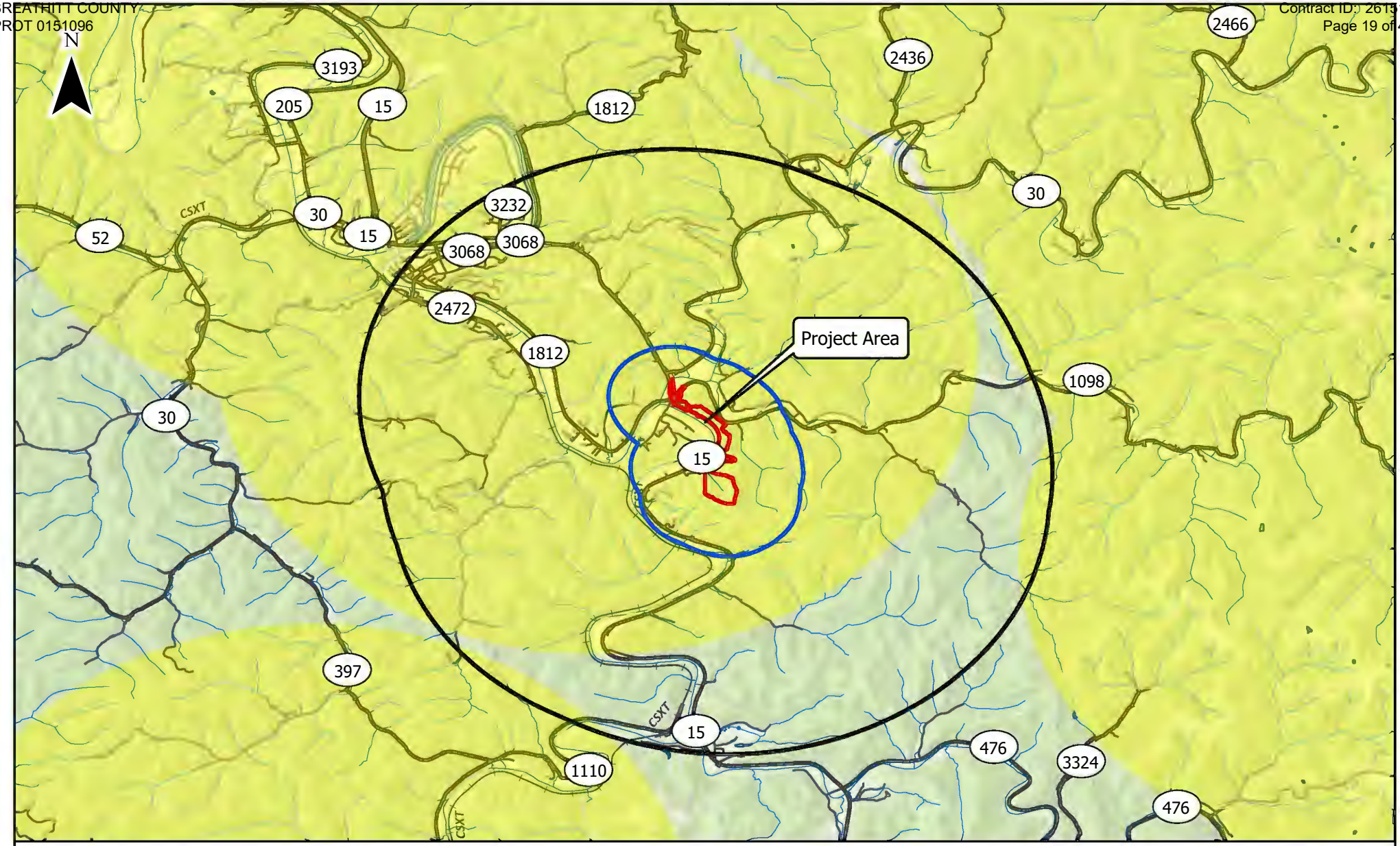
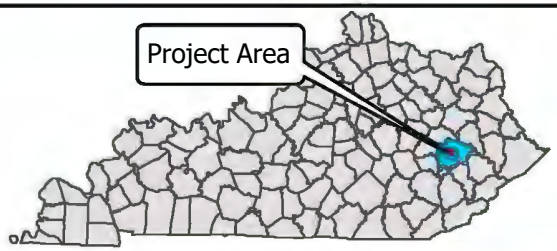


Exhibit 2: Portal Survey and Literature Review

Project Area
1km of disturb and waste site
5km of disturb and waste site
Known Summer 1 for NLEB
State Roads
Local Roads

KY 15 Rockfall Mitigation
KYTC Item No. 10-5014
Breathitt County, KY

Miles
0 1.5 3



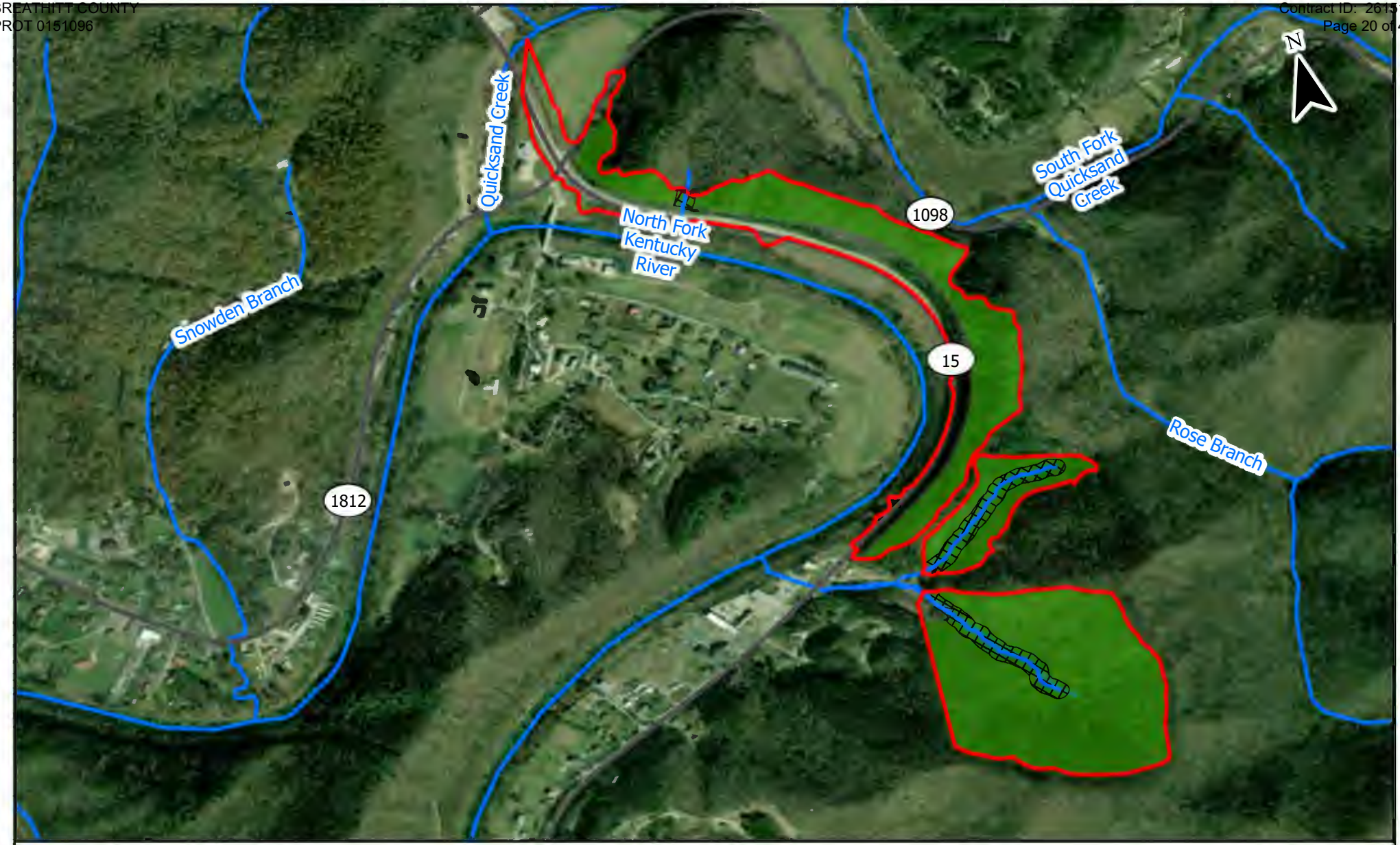
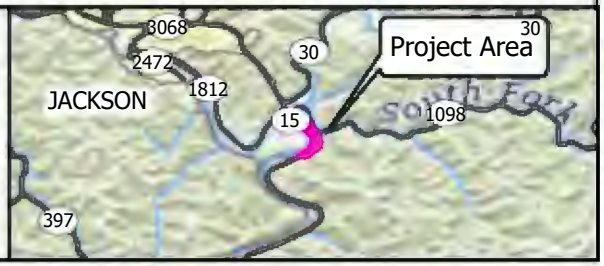


Exhibit 3: Bat Habitat (Aerial)

Streams
Forest
Riparian Forest
Project Area
State Roads

KY 15 Rockfall Mitigation
KYTC Item No. 10-5014
Breathitt County, KY

Feet
0 500 1,000



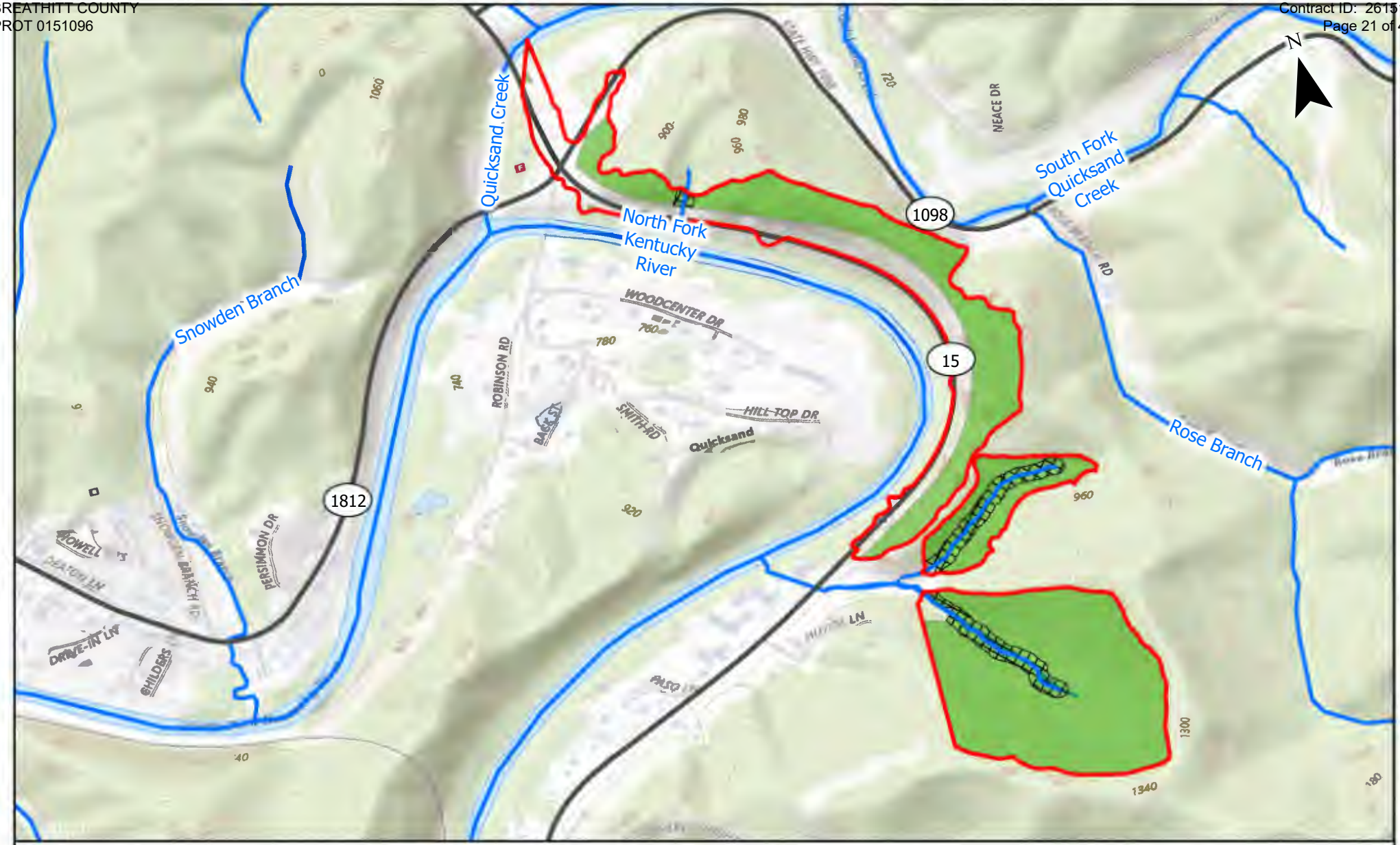
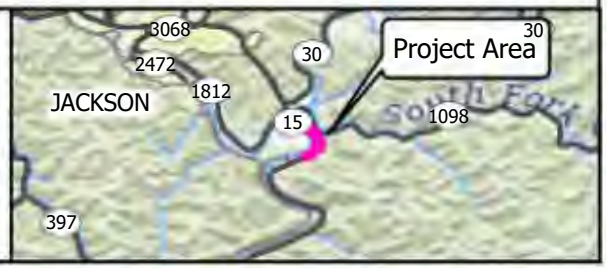


Exhibit 4: Bat Habitat (Topo)

Streams
Forest
Riparian Forest
Project Area
State Roads

KY 15 Rockfall Mitigation
KYTC Item No. 10-5014
Breathitt County, KY

Feet
0 500 1,000



APPENDIX B – COORDINATION

From: Todd Mcdaniel
To: Eric Smith
Subject: FW: New KSS Data Request from Todd McDaniel
Date: Monday, October 16, 2023 2:01:00 PM
Attachments: 20230323155856_5-km-buffer.zip

Here it is. Looks like I had forwarded it another time.

From: sean vanderhoff <vanders33@yahoo.com>
Sent: Thursday, March 30, 2023 9:01 PM
To: Todd Mcdaniel <mmcdaniel@hmbpe.com>
Subject: Re: New KSS Data Request from Todd McDaniel

Todd, for this Breathitt County request, along Highway 15, the only location in our database is named Moonshiners Arch Cave, coordinates [redacted]But I am not so sure that it is an actual data point within your search radius, and most likely an error on the location supplier. With such an obscure location, you will not be charged for the data point. There is a $50 search fee, and you will be invoiced by our new treasurer, Julie Roush.

This data is shared to aid in our organizational goals of conservation, research, and exploration of caves throughout the Commonwealth of Kentucky. Please remember that data reported by KSS is as has been reported to us, but not guaranteed to be complete or correct. There may be unknown caves, sinks or other unreported or unknown karst features. Additionally unreported or filled in cave entrances can open or subside at any time. Use caution when using this data.

Please mark supplied locations as Privileged and Confidential on all maps associated with this project, if provided.

Please note our updated guidelines on request turnaround timing:

> *KSS is a volunteer organization. We do try to process standard requests as fast as possible, but cannot guarantee a turnaround time. We try to process non-voted requests in less than 1 month, and will attempt to vote on more complicated requests within 2 months.*
>
> *Requestors can contact us if a quick turnaround time is specifically needed.*
>
> *Timing is greatly reduced if an ArcGIS .shp file is provided*

I'll be getting the rest of your requests out over the next few days.

Sean Vanderhoff
President
Kentucky Speleological Survey

On Thursday, March 23, 2023 at 11:59:03 AM EDT, Kentucky Speleological Survey <admin@ksscaves.com> wrote:

Your Name	Todd McDaniel
Address:	3 HMB Circle
City:	Frankfort
State:	KY
Phone:	5026959800
Email Address	mmcdaniel@hmbpe.com
Organization:	HMB Professional Engineers, Inc
Data Information Requested:	We are currently under contract with the Kentucky Transportation Cabinet (KYTC) to conduct a biological assessment in Breathitt County. Indiana bats, gray bats, and northern long-eared bats are known to occur in this county. We have been asked to conduct a literature search within a 5km buffer surrounding the project. We are requesting any information you may have within the 5 km buffer. Attached is a shapefile of the project.
Intended Use of Data/Information:	Anything within 1 km of the project will have a phase 1 habitat assessment sheet filled out to help determine if bats are using the portal. Openings will be briefly discussed in the biological assessment document. None of the portals will be entered. Data will be submitted to the KYTC for coordination with the U.S. Fish and Wildlife service.
Qualifications:	HMB has a federal collecting permit (permit no. 129703-6). I am listed on the permit to handle listed species of bats. I have also been assisting the Kentucky Department of Fish and Wildlife on winter hibernacula surveys for the past 13 years. I know the threat of WNS on bat species an I know of closures of caves because of WNS. As stated above none of the portals will be entered.
Attachments:	20230323155856_5-km-buffer.zip

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 06/19/2024 13:57:07 UTC
Project Code: 2023-0046957
Project Name: Ky 15 Rockfall Mitigation

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do..

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
(502) 695-0467

PROJECT SUMMARY

Project Code: 2023-0046957
Project Name: Ky 15 Rockfall Mitigation
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The purpose of this project is to study the future KY 15 corridor in this area and to develop a plan to mitigate the rock fall hazard area that may conform with future KY 15 corridor projects.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.52762945,-83.34038353893453,14z

Counties: Breathitt County, Kentucky

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME — STATUS

Gray Bat *Myotis grisescens* — Endangered

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:

- The project area includes potential gray bat habitat.

Species profile: https://ecos.fws.gov/ecp/species/6329
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/LB3SI2OXKJFMBOHTNIUGTDMPLQ/documents/generated/6422.pdf

Indiana Bat *Myotis sodalis* — Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
This species only needs to be considered under the following conditions:

- The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species.

Species profile: https://ecos.fws.gov/ecp/species/5949
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/LB3SI2OXKJFMBOHTNIUGTDMPLQ/documents/generated/6422.pdf

Northern Long-eared Bat *Myotis septentrionalis* — Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9045
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/LB3SI2OXKJFMBOHTNIUGTDMPLQ/documents/generated/6422.pdf

Tricolored Bat *Perimyotis subflavus* — Proposed Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/10515

FISHES

NAME — STATUS

Kentucky Arrow Darter *Etheostoma spilotum* — Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9063
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/LB3SI2OXKJFMBOHTNIUGTDMPLQ/documents/generated/5224.pdf

CLAMS

NAME — STATUS

Longsolid *Fusconaia subrotunda* — Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9880

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: HMB Professional Engineers
Name: Eric Smith
Address: 3 HMB Circle
City: Frankfort
State: KY
Zip: 40601
Email esmith@hmbpe.com
Phone: 5026959800

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 07/25/2024 20:57:20 UTC
Project code: 2023-0046957
Project Name: Ky 15 Rockfall Mitigation

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Highway Administration

Subject: Technical assistance for 'Ky 15 Rockfall Mitigation'

Dear Eric Smith:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on July 25, 2024, for 'Ky 15 Rockfall Mitigation' (here forward, Project). This project has been assigned Project Code 2023-0046957 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat

Based on your IPaC submission and the standing analysis for the Dkey, your project has reached the determination of "May Affect" the northern long-eared bat.

Next Steps

Your action may qualify for the Interim Consultation Framework for the northern long-eared bat. To determine if it qualifies, review the Interim Consultation Framework posted here https://

www.fws.gov/library/collections/interim-consultation-framework-northern-long-eared-bat. If you determine it meets the requirements of the Interim Consultation Framework, follow the procedures outlined there to complete section 7 consultation.

If your project does **not** meet the requirements of the Interim Consultation Framework, please contact the Kentucky Ecological Services Field Office for further coordination on this project. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect".

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Gray Bat *Myotis grisescens* Endangered
- Indiana Bat *Myotis sodalis* Endangered
- Kentucky Arrow Darter *Etheostoma spilotum* Threatened
- Longsolid *Fusconaia subrotunda* Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Ky 15 Rockfall Mitigation

2. Description

The following description was provided for the project 'Ky 15 Rockfall Mitigation':

> The purpose of this project is to study the future KY 15 corridor in this area and to develop a plan to mitigate the rock fall hazard area that may conform with future KY 15 corridor projects.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.52762945,-83.34038353893453,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Does any component of the action involve construction or operation of wind turbines?

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

3. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   Yes

5. FHWA, FRA, and FTA have completed a range-wide programmatic consultation for transportation- related actions within the range of the Indiana bat and northern long-eared bat.

   Does your proposed action fall within the scope of this programmatic consultation?

   Note:If you have **previously consulted** on your proposed action with the Service under the NLEB 4dRule, answer 'no' to this question and proceed with using this key. If you have **not yet consulted** with the Service on your proposed action and are unsure whether your proposed action falls within the scope of the FHWA, FRA, FTA range-wide programmatic consultation, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key in IPaC to determine if the programmatic consultation is applicable to your action. Return to this key and answer ‘no’ to this question if it is not.

   No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

8. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

9. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the effects of any activities that would not occur but for the proposed action.

   If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

   Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of Effects of the Action can be found here: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

   No

10. [Semantic] Is the action area located within 0.5 miles of a known northern long-eared bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

    No

12. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    (If unsure, answer "Yes.")

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

    Yes

13. Will the action cause effects to a bridge?

    No

14. Will the action result in effects to a culvert or tunnel?

    Yes

15. Do the interior dimensions of the culvert or tunnel equal or exceed 4.0 feet (1.3 meters) in height and 130 feet (40 meters) in length? Answer "No" if the affected culvert(s) or tunnel is smaller in either of these two dimensions.

    No

16. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

    No

17. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

18. Will the action directly or indirectly cause construction of one or more new roads that are open to the public?

    Note: The answer may be yes when a publicly accessible road either (1) is constructed as part of the proposed action or (2) would not occur but for the proposed action (i.e., the road construction is facilitated by the proposed action but is not an explicit component of the project).

    Yes

19. Will any new road go through any area of contiguous forest that is greater than or equal to 10 acres in total extent?

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres.

    Yes

20. For every 1,000 feet of new road that crosses between contiguous forest patches, will there be at least one place where bats could cross the road corridor by flying less than 33 feet (10 meters) between trees whose tops are at least 66 feet (20 meters) higher than the road surface?

    No

21. Will the proposed action result in the cutting or other means of knocking down, bringing down, or trimming of any trees suitable for northern long-eared bat roosting?

    Note: Suitable northern long-eared bat roost trees are live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities.

    Yes

PROJECT QUESTIONNAIRE

Will all project activities by completed by November 30, 2024?

No

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the inactive (hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas

0

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

111.8

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the active (non-hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas

111.8

Will all potential northern long-eared bat (NLEB) roost trees (trees ≥3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

Yes

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, entire the total extent of those areas. Round up to the nearest tenth of an acre.

111.8

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0

Will any snags (standing dead trees) ≥3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

Yes

IPAC USER CONTACT INFORMATION

Agency: HMB Professional Engineers
Name: Eric Smith
Address: 3 HMB Circle
City: Frankfort
State: KY
Zip: 40601
Email esmith@hmbpe.com
Phone: 5026959800

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

APPENDIX C – PHOTOS

Figure 1. Shelter 01

Figure 2. Shelter 02

Figure 3. Shelter 03

Figure 4. Shelter 04

APPENDIX D – FIELD DATA SHEETS

Phase I Habitat **Assessment** Portal Data Sheet

Project Name :Ky 15 rockfall Project Number:10-5014

Date:4/5/23 Time:11:30 Temperature:74

Observers:ElS, SKS County:Breathitt State:Ky

Name or Field Designation	Rock shelter	Left hole	Right hole	
Latitude, Longitude	37.5333, -83.3434			
Opening Type (e.g., cave, **portal,** shaft)	other	Portal	Portal	
Opening vertical or horizontal	Horizontal	Horizontal	Horizontal	
Opening Size: Height x Width (or Diameter)	30' x 10'	2" x 3'	6" x 6"	
Internal Dimensions: Height x Width		2" x 3'	5" x 5"	
Slope (up or down from entrance)	Slope Down	Slope Down	Slope Down	
Entrance Stable?	Unstable	Unstable	Unstable	
Direction of Airflow (In or out?)	No Airflow	Out	Out	
Amount of Airflow (e.g., none, slight, heavy)	None	Slight	Slight	
Internal air warmer or cooler than outside temp.?	Same	Cooler	Cooler	
Evidence of collapse?	Yes	Yes	Yes	
Ceiling Condition	Unknown	Unknown	Unknown	
Amount of water in opening	None	None	None	
Evidence of past flooding?	No	No	No	
Observed length of internal passage		6'	6'	
Distance to nearest water source	210'	210'	210'	
% Canopy Cover at entrance	45%	45%	45%	
Foraging Signs? (e.g., moth wings)	No	No	No	

Are any portals suspected or known to be connected? Which ones?

Any observable side passages?

Additional comments:

Holes locations as if you are facing the shelter.

Phase I Habitat **Assessment** Portal Data Sheet

Project Name : Ky 15 rockfall Project Number: 10-5014

Date: 4/5/23 Time: 12:09 Temperature: 76

Observers: ElS, SKS County: Breathitt State: Ky

Name or Field Designation	Shelter02	Left hole	Right hole	
Latitude, Longitude	37.5323, -83.3415			
Opening Type (e.g., cave, **portal,** shaft)	other	Portal	Portal	
Opening vertical or horizontal				
Opening Size: Height x Width (or Diameter)	15'	1.5' x 10"	2.5' x 1'	
Internal Dimensions: Height x Width		1' x 6"	1' x 8"	
Slope (up or down from entrance)	Slope Down	Slope Down	Slope Down	
Entrance Stable?	Stable	Stable	Stable	
Direction of Airflow (In or out?)	No Airflow	No Airflow	No Airflow	
Amount of Airflow (e.g., none, slight, heavy)	None	None	None	
Internal air warmer or cooler than outside temp.?	Same	Same	Same	
Evidence of collapse?	No	No	No	
Ceiling Condition	Good	Unknown	Unknown	
Amount of water in opening	None	None	None	
Evidence of past flooding?	No	No	No	
Observed length of internal passage		2.5'	4'	
Distance to nearest water source	210'	210'	210'	
% Canopy Cover at entrance	85%			
Foraging Signs? (e.g., moth wings)	No			

Are any portals suspected or known to be connected? Which ones?

Any observable side passages?

Additional comments:

Holes are left and right when facing shelter

Phase I Habitat **Assessment** Portal Data Sheet

Project Name : Ky 15 rockfall Project Number: 10-5014

Date: 4/5/23 Time: 12:38 Temperature: 76

Observers: ElS, SKS County: Breathitt State: Ky

Name or Field Designation	Shelter 03			
Latitude, Longitude	37.5295, -83.3399			
Opening Type (e.g., cave, **portal,** shaft)	other			
Opening vertical or horizontal	Horizontal			
Opening Size: Height x Width (or Diameter)	20' x 4'			
Internal Dimensions: Height x Width				
Slope (up or down from entrance)	Slope Down			
Entrance Stable?	Stable			
Direction of Airflow (In or out?)	No Airflow			
Amount of Airflow (e.g., none, slight, heavy)	None			
Internal air warmer or cooler than outside temp.?	Warmer			
Evidence of collapse?	No			
Ceiling Condition	Good			
Amount of water in opening	Some			
Evidence of past flooding?	No			
Observed length of internal passage				
Distance to nearest water source	210'			
% Canopy Cover at entrance	85%			
Foraging Signs? (e.g., moth wings)	No			

Are any portals suspected or known to be connected? Which ones?

Any observable side passages?

Additional comments:

Phase I Habitat **Assessment** Portal Data Sheet

Project Name : Ky 15 rockfall Project Number: 10-5014

Date: 4/5/23 Time: 12:46 Temperature: 76

Observers: ElS, SKS County: Breathitt State: Ky

Name or Field Designation	Shelter 04			
Latitude, Longitude	37.5288, -83.3399			
Opening Type (e.g., cave, **portal,** shaft)	other			
Opening vertical or horizontal	Horizontal			
Opening Size: Height x Width (or Diameter)	120' x 10'			
Internal Dimensions: Height x Width				
Slope (up or down from entrance)	Slope Down			
Entrance Stable?	Stable			
Direction of Airflow (In or out?)	No Airflow			
Amount of Airflow (e.g., none, slight, heavy)	None			
Internal air warmer or cooler than outside temp.?	Cooler			
Evidence of collapse?	No			
Ceiling Condition	Good			
Amount of water in opening	Some			
Evidence of past flooding?	No			
Observed length of internal passage				
Distance to nearest water source	210'			
% Canopy Cover at entrance	75%			
Foraging Signs? (e.g., moth wings)	No			

Are any portals suspected or known to be connected? Which ones?

Any observable side passages?

Additional comments:

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT	MAINLINE KY 15	APPR 107+55 (KY 1098)	MOT	PROJECT TOTALS
00078	CRUSHED AGGREGATE SIZE NO 2	TON	1			1
01000	PERFORATED PIPE-4 IN ③	LF	513			513
01010	NON-PERFORATED PIPE-4 IN ③	LF	7			7
01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM	LS	1			1
01020	PERF PIPE HEADWALL TY 1-4 IN ③	EACH	1			1
01984	DELINEATOR FOR BARRIER - WHITE	EACH			81	81
01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	EACH	28			28
02003	RELOCATE TEMP CONC BARRIER	LF			4,120	4,120
02091	REMOVE PAVEMENT	SQYD		642		642
02159	TEMP DITCH	LF	2,800			2,800
02160	CLEAN TEMP DITCH	LF	1,400			1,400
02200	ROADWAY EXCAVATION ⑧	CUYD	3,029,585	24,396		3,053,981
02242	WATER ①	MGAL			200	200
02273	FENCE-4 FT CHAIN LINK	LF	180			180
02287	DOUBLE VEHICULAR CHAIN LINK GATE (24' WIDE GATE)	EACH	1			1
02351	GUARDRAIL-STEEL W BEAM-S FACE	LF	1,687.5			1,687.5
02367	GUARDRAIL END TREATMENT TYPE 1	EACH	3			3
02367	GUARDRAIL END TREATMENT TYPE 1 (TEMPORARY)	EACH			2	2
02381	REMOVE GUARDRAIL	LF	1,285			1,285
02383	REMOVE & RESET GUARDRAIL	LF	2,973			2,973
02397	TEMP GUARDRAIL	LF			100	100
02429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	51	3		54
02432	WITNESS POST	EACH	51	3		54
02488	CHANNEL LINING CLASS IV ②	CUYD	729	89		818
02545	CLEARING AND GRUBBING ④	LS	1			1
02555	CONCRETE-CLASS B ⑦	CUYD	2.25			2.25
02562	TEMPORARY SIGNS	SQFT			650	650
02568	MOBILIZATION	LS	1			1
02569	DEMOBILIZATION	LS	1			1
02585	EDGE KEY	LF	133	26		159
02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE ⑤	SQYD	965	107		1,072
02608	FABRIC-GEOTEXTILE CLASS 4A	SQYD	59,485	4,597		64,082
02650	MAINTAIN & CONTROL TRAFFIC	LS			1	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH			2	2
02676	MOBILIZATION FOR MILL & TEXT	LS	1			1
02690	SAFELOADING	CUYD	20.1			20.1
02696	SHOULDER RUMBLE STRIPS	LF	9,830			9,830
02701	TEMP SILT FENCE	LF	2,800			2,800
02703	SILT TRAP TYPE A	EACH	152			152
02704	SILT TRAP TYPE B	EACH	152			152
02705	SILT TRAP TYPE C	EACH	152			152
02706	CLEAN SILT TRAP TYPE A	EACH	152			152
02707	CLEAN SILT TRAP TYPE B	EACH	152			152
02708	CLEAN SILT TRAP TYPE C	EACH	152			152
02726	STAKING	LS	1			1
03171	CONCRETE BARRIER WALL TYPE 9T	LF			1,177	1,177
05950	EROSION CONTROL BLANKET ⑥	SQYD	66,500	1,268		67,768
05952	TEMP MULCH	SQYD	488,000			488,000
05953	TEMP SEEDING AND PROTECTION	SQYD	366,000			366,000
05963	INITIAL FERTILIZER	TON	76			76
05964	MAINTENANCE FERTILIZER	TON	38			38
05985	SEEDING AND PROTECTION	SQYD	665,700			665,700
05992	AGRICULTURAL LIMESTONE	TON	454			454
06510	PAVE STRIPING-TEMP PAINT-4 IN	LF			4,640	4,640
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF			43,200	43,200

NOTES :

① FOR DUST CONTROL WHILE MAINTAINING TRAFFIC
② INCLUDES 262 CUYD CARRIED OVER FROM PIPE SUMMARY
③ CARRIED OVER FROM PERFORATED PIPE SUMMARY
④ APPROX. 151 ACRES
⑤ CARRIED OVER FROM PIPE SUMMARY TO BE USED FOR WRAPPING PIPE TRENCH BACKFILL
⑥ EROSION CONTROL QUANTITIES ARE BASED ON THE PROBABLE AMOUNT OF EROSION CONTROL FEATURES AS ESTIMATED BY THE DESIGNER
66,500 SQYD FOR SLOPE PROTECTION
1,268 SQYD FOR DITCHES
⑦ TO BE USED FOR POSTS ON CHAIN LINK FENCE AND GATE
⑧ INCLUDES 781 CUYD CARRIED OVER FROM PIPE SUMMARY

EARTHWORK QUANTITIES

EXCAVATION QUANTITY

COMMON:	425,324 CUYD
DITCH RT:	1,071 CUYD
EMB BENCH:	6,157 CUYD
ROCK:	2,621,429 CUYD
TOTAL EXC:	3,053,981 CUYD

EMBANKMENT QUANTITY

EMBANKMENT:	14,446 CUYD
EMB BENCH:	6,157 CUYD
ROCK ROADBED:	41,805 CUYD
TOTAL EMB:	62,408 CUYD

ESTIMATE FOR EARTHWORK CALCULATIONS FOR DESIGN ONLY. THE CONTRACTOR IS ADVISED THAT THE EARTHWORK CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. ASSUMPTIONS FOR SHRINKAGE & SWELL FACTORS ARE THE CONTRACTORS RESPONSIBILITY.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: GENERAL SUMMARY

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R2g

GENERAL SUMMARY

REVISED: 5-15-26

ITEM	DESCRIPTION	UNIT	MAINLINE KY 15	APPR 107+55 (KY 1098)	MOT	PROJECT TOTALS
00078	CRUSHED AGGREGATE SIZE NO 2	TON	1			1
01000	PERFORATED PIPE-4 IN ③	LF	513			513
01010	NON-PERFORATED PIPE-4 IN ③	LF	7			7
01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM	LS	1			1
01020	PERF PIPE HEADWALL TY 1-4 IN ③	EACH	1			1
01984	DELINEATOR FOR BARRIER - WHITE	EACH			81	81
01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	EACH	28			28
02003	RELOCATE TEMP CONC BARRIER	LF			4,120	4,120
02091	REMOVE PAVEMENT	SQYD		642		642
02159	TEMP DITCH	LF	2,800			2,800
02160	CLEAN TEMP DITCH	LF	1,400			1,400 ⑤
02200	ROADWAY EXCAVATION ⑧	CUYD	3,029,585	24,396		3,053,981
02242	WATER ①	MGAL			200	200
02273	FENCE-4 FT CHAIN LINK	LF	180			180
02287	DOUBLE VEHICULAR CHAIN LINK GATE (24' WIDE GATE)	EACH	1			1
02351	GUARDRAIL-STEEL W BEAM-S FACE	LF	1,687.5			1,687.5
02367	GUARDRAIL END TREATMENT TYPE 1	EACH	3			3
02367	GUARDRAIL END TREATMENT TYPE 1 (TEMPORARY)	EACH			2	2
02381	REMOVE GUARDRAIL	LF	1,285			1,285
02383	REMOVE & RESET GUARDRAIL	LF	2,973			2,973
02397	TEMP GUARDRAIL	LF			100	100
02429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	51	3		54
02432	WITNESS POST	EACH	51	3		54
02488	CHANNEL LINING CLASS IV ②	CUYD	729	89		818
02545	CLEARING AND GRUBBING ④	LS	1			1
02555	CONCRETE-CLASS B ⑦	CUYD	2.25			2.25
02562	TEMPORARY SIGNS	SQFT			650	650
02568	MOBILIZATION	LS	1			1
02569	DEMOBILIZATION	LS	1			1
02585	EDGE KEY	LF	133	26		159
02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE ⑤	SQYD	965	107		1,072
02608	FABRIC-GEOTEXTILE CLASS 4A	SQYD	59,485	4,597		64,082
02650	MAINTAIN & CONTROL TRAFFIC	LS			1	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH			2	2
02676	MOBILIZATION FOR MILL & TEXT	LS	1			1
02690	SAFELOADING	CUYD	20.1			20.1
02696	SHOULDER RUMBLE STRIPS	LF	9,830			9,830
02701	TEMP SILT FENCE	LF	2,800			2,800
02703	SILT TRAP TYPE A	EACH	152			152
02704	SILT TRAP TYPE B	EACH	152			152
02705	SILT TRAP TYPE C	EACH	152			152
02706	CLEAN SILT TRAP TYPE A	EACH	152			152
02707	CLEAN SILT TRAP TYPE B	EACH	152			152
02708	CLEAN SILT TRAP TYPE C	EACH	152			152
02726	STAKING	LS	1			1
03171	CONCRETE BARRIER WALL TYPE 9T	LF			1,177	1,177
05950	EROSION CONTROL BLANKET ⑥	SQYD	66,500	1,268		67,768
05952	TEMP MULCH	SQYD	488,000			488,000
05953	TEMP SEEDING AND PROTECTION	SQYD	366,000			366,000
05963	INITIAL FERTILIZER	TON	76			76
05964	MAINTENANCE FERTILIZER	TON	38			38
05985	SEEDING AND PROTECTION	SQYD	665,700			665,700
05992	AGRICULTURAL LIMESTONE	TON	454			454
06510	PAVE STRIPING-TEMP PAINT-4 IN	LF			4,640	4,640
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF			43,200	43,200

NOTES :

① FOR DUST CONTROL WHILE MAINTAINING TRAFFIC
② INCLUDES 262 CUYD CARRIED OVER FROM PIPE SUMMARY
③ CARRIED OVER FROM PERFORATED PIPE SUMMARY
④ APPROX. 151 ACRES
⑤ CARRIED OVER FROM PIPE SUMMARY TO BE USED FOR WRAPPING PIPE TRENCH BACKFILL
⑥ EROSION CONTROL QUANTITIES ARE BASED ON THE PROBABLE AMOUNT OF EROSION CONTROL FEATURES AS ESTIMATED BY THE DESIGNER
66,500 SQYD FOR SLOPE PROTECTION
1,268 SQYD FOR DITCHES
⑦ TO BE USED FOR POSTS ON CHAIN LINK FENCE AND GATE
⑧ INCLUDES 781 CUYD CARRIED OVER FROM PIPE SUMMARY

EARTHWORK QUANTITIES

EXCAVATION QUANTITY

COMMON:	425,324 CUYD
DITCH RT:	1,071 CUYD
EMB BENCH:	6,157 CUYD
ROCK:	2,621,429 CUYD
TOTAL EXC:	3,053,981 CUYD

EMBANKMENT QUANTITY

EMBANKMENT:	14,446 CUYD
EMB BENCH:	6,157 CUYD
ROCK ROADBED:	41,805 CUYD
TOTAL EMB:	62,408 CUYD

ESTIMATE FOR EARTHWORK CALCULATIONS FOR DESIGN ONLY. THE CONTRACTOR IS ADVISED THAT THE EARTHWORK CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. ASSUMPTIONS FOR SHRINKAGE & SWELL FACTORS ARE THE CONTRACTORS RESPONSIBILITY.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: GENERAL SUMMARY

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R2g

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT	MAINLINE KY 15	APPR 107+55 (KY 1098)	MOT																						PROJECT TOTALS
06530	PAVE STRIPING REMOVAL-4 IN	LF			710																						710
06531	PAVE STRIPING REMOVAL-6 IN	LF			11,620																						11,620
06588	PAVEMENT MARKER TY IVA-BY TEMP	EACH			2,160																						2,160
08100	CONCRETE-CLASS A (9)	CUYD	10.62		2																						12.62
08912	CRASH CUSHION TY VI CLASS T TL3	EACH			2																						2
10020NS	FUEL ADJUSTMENT	DOLL	560,772																								560,772
10030NS	ASPHALT ADJUSTMENT	DOLL	59,473																								59,473
20000ES724	TREE (RED BUD)	EACH	111																								111
20191ED	OBJECT MARKER TY 3	EACH	3		2																						5
20430ED	SAW CUT (11)	LF			4,765																						4,765
20458ES403	CENTERLINE RUMBLE STRIPS	LF	5,216																								5,216
21289ED	LONGITUDINAL EDGE KEY	LF	2,117	155																							2,272
23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	LF			59																						59
23274EN11F	TURF REINFORCEMENT MAT 1	SQYD	2,460																								2,460
23624EC	REMOVE AND RESET CRASH CUSHION	EACH			2																						2
24814EC	PIPELINE INSPECTION (10)	LF	733	60																							793
26204EC	PGR GROUT (10)	CUYD	6																								6
02223	GRANULAR EMBANKMENT (12)	CUYD	6,157																								6,157
02602	FABRIC-GEOTEXTILE CLASS 1 (13)	SQYD	10,030																								10,030
26248EC	ELECTRONIC DELIVERY MGMT SYSTEM - AGG	LS	1																								1
26316ED	TEMPORARY ROCK CATCHMENT FENCE	LF			5,360																						5,360

NOTES :

(9) INCLUDES 10.62 CUYD CARRIED OVER FROM PIPE SUMMARY
(10) CARRIED OVER FROM PIPE SUMMARY
(11) FOR MOT PURPOSES WHEN MAKING EXISTING SHOULDER FULL DEPTH
(12) TO BE USED FOR EMBANKMENT BENCHING.
(13) TO BE PLACED UNDER GRANULAR EMBANKMENT.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

TEAM KENTUCKY
TRANSPORTATION CABINET

DRAWING TITLE: GENERAL SUMMARY

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R2h

GENERAL SUMMARY

REVISED: 5-15-26

ITEM	DESCRIPTION		UNIT	MAINLINE KY 15	APPR 107+55 (KY 1098)	MOT																						PROJECT TOTALS
06530	PAVE STRIPING REMOVAL-4 IN		LF			710																						710
06531	PAVE STRIPING REMOVAL-6 IN		LF			11,620																						11,620
06588	PAVEMENT MARKER TY IVA-BY TEMP		EACH			2,160																						2,160
08100	CONCRETE-CLASS A	(9)	CUYD	10.62		2																						12.62
08912	CRASH CUSHION TY VI CLASS T TL3		EACH			2																						2
10020NS	FUEL ADJUSTMENT		DOLL	560,772																								560,772
10030NS	ASPHALT ADJUSTMENT		DOLL	59,473																								59,473
20000ES724	TREE (RED BUD)		EACH	111																								111
20191ED	OBJECT MARKER TY 3		EACH	3		2																						5
20430ED	SAW CUT	(11)	LF			4,765																						4,765
20458ES403	CENTERLINE RUMBLE STRIPS		LF	5,216																								5,216
21289ED	LONGITUDINAL EDGE KEY		LF	2,117	155																							2,272
23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN		LF			59																						59
23274EN11F	TURF REINFORCEMENT MAT 1		SQYD	2,460																								2,460
23624EC	REMOVE AND RESET CRASH CUSHION		EACH			2																						2
24814EC	PIPELINE INSPECTION	(10)	LF	733	60																							793
26204EC	PGR GROUT	(10)	CUYD	6																								6
02223	GRANULAR EMBANKMENT	(12)	CUYD	6,157																								6,157
02602	FABRIC-GEOTEXTILE CLASS 1	(13)	SQYD	10,030																								10,030
26248EC	ELECTRONIC DELIVERY MGMT SYSTEM - AGG		LS	1																								1
26316ED	TEMPORARY ROCK CATCHMENT FENCE		LF			5,360																						5,360

NOTES :

(9) INCLUDES 10.62 CUYD CARRIED OVER FROM PIPE SUMMARY

(10) CARRIED OVER FROM PIPE SUMMARY

(11) FOR MOT PURPOSES WHEN MAKING EXISTING SHOULDER FULL DEPTH

(12) TO BE USED FOR EMBANKMENT BENCHING.

(13) TO BE PLACED UNDER GRANULAR EMBANKMENT.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

TEAM KENTUCKY
TRANSPORTATION CABINET

DRAWING TITLE: GENERAL SUMMARY

ITEM NO. 10-5014.00

COUNTY OF BREATHITT

SHEET NO. R2h

DITCH CONSTRUCTION						
LT / RT	STA. TO STA.	Size Type	CHANNEL LINING			
			TYPE	D	T	QTY
LT	65+50	OUTLET DT	IV	1'	2'	SEE PIPE SHEET
RT	60+50 to 65+50	4' FB	ROCK	-	-	-
RT	65+50	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	65+00 to 70+00	6' FB	ROCK	-	-	-

GUARDRAIL CONSTRUCTION						
LT/RT	BEGINNING STATION	BEGINNING TREATMENT	ENDING STATION	ENDING TREATMENT	PAY LENGTH	GUARDRAIL TYPE
LT	60+50	TIE TO EXISTING	70+00	MATCHLINE	950'	STEEL W BEAM

INITIAL KY 15
PI STA. 85+12.75
(X)= 5620963.4631
(Y)= 3725620.1943
D= 115°52'13" LT
C= 04°39'29"
T= 1963.46'
L= 2487.45'
R= 1230.00'
E= 1086.91'
e= 7.6%
Runoff (Back)= 182'
Runoff (Ahead)= 318.5'
Runout (Back)= 48'
Runout (Ahead)= 84'

REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	59+70 - 70+00	1016
RT	56+80 - 57+86	110
RT	58+07 - 60+18	226

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: KY 15 PLAN SHEET

HORIZONTAL SCALE SCALE: 1"=50'

0' 50' 100' 200'

STA. 60+50 TO STA. 70+00

ITEM NO. 10-5014.00

COUNTY OF BREATHITT

SHEET NO. R4

OpenRoads Designer v10.16.2.267

USER: ejordan

FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\PLAN PRODUCTION\PLAN\PLAN 1.DGN

REVISED: 5-15-26

DITCH CONSTRUCTION						
LT / RT	STA. TO STA.	Size Type	CHANNEL LINING			
			TYPE	D	T	QTY
LT	65+50	OUTLET DT	IV	1'	2'	SEE PIPE SHEET
RT	60+50 to 65+50	4' FB	ROCK	-	-	-
RT	65+50	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	65+00 to 70+00	6' FB	ROCK	-	-	-

GUARDRAIL CONSTRUCTION						
LT/RT	BEGINNING STATION	BEGINNING TREATMENT	ENDING STATION	ENDING TREATMENT	PAY LENGTH	GUARDRAIL TYPE
LT	60+50	TIE TO EXISTING	70+00	MATCHLINE	950'	STEEL W BEAM

INITIAL KY 15
PI STA. 85+12.75
(X)= 5620963.4631
(Y)= 3725620.1943
D= 115°52'13" LT
C= 04°39'29"
T= 1963.46'
L= 2487.45'
R= 1230.00'
E= 1086.91'
e= 7.6%
Runoff (Back)= 182'
Runoff (Ahead)= 318.5'
Runout (Back)= 48'
Runout (Ahead)= 84'

KENTUCKY RIVER COMMUNITY CARE, INC.
1-S COMMERCIAL
2-S COMMERCIAL
UNIVERSITY OF KENTUCKY
NORTH FORK KENTUCKY RIVER
60+00
65+00
EXIST. R/W
TO HADDIX
KY 15
BEGIN CONST. STA. 60+50.00
DO NOT DISTURB PILE AND CRIBBING WALL
CONST. LIMITS
PC 65+49.29
OE = 748.10
N52°57'19"E
10'
12'
12'
10'
4' FB
24" PIPE
IE = 749.80
6' FB
MATCHLINE STA. 70+00
Arc = 480.76', R = 1164.74'
Chord = N30°59'03"E - 477.35'
N52°24'11"E - 431.77'
+45.41
89.52'
+27.04
76.94'
SAFELOAD
4.06 CY
N55°06'30"E - 425.47'
+01.87
60.96'
CONST. 44 LF OF EDGE KEY
+58.40
87.63'
N45°45'33"E - 243.94'
DOUBLE VEHICULAR CHAIN LINK GATE (24' WIDE)
POT 59+00.00
CONST. 180 LF OF 4' CHAIN LINK FENCE
CONST. 30 LF OF 4' CHAIN LINK FENCE
MOBILE HOME
N82°01'46"W - 241.41'
LARRY NOBLE & JERRICA PELFREY
+26.28
261.11'
+71.07
299.91'
N16°55'48"E
67.48'
N54°33'17"W - 165.14'
PROP R/W
+18.21
458.18'
N55°45'25"W - 93.42'
N43°35'10"W - 73.68'
+30.15
406.17'
N72°43'45"E
219.51'
GARAGE
P 20
LATISHA & SAXON DAVIS
P 21
ANTHONY & KATIE RITCHIE
P 10
DARRELL STEPHEN McINTOSH
15" CMP
IE = 746.52
IE = 745.49
OE = 740.89
OE = 746.49
SIGN
SP
WM
OHW

REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	59+70 - 70+00	1016
RT	56+80 - 57+86	110
RT	58+07 - 60+18	226

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: KY 15 PLAN SHEET

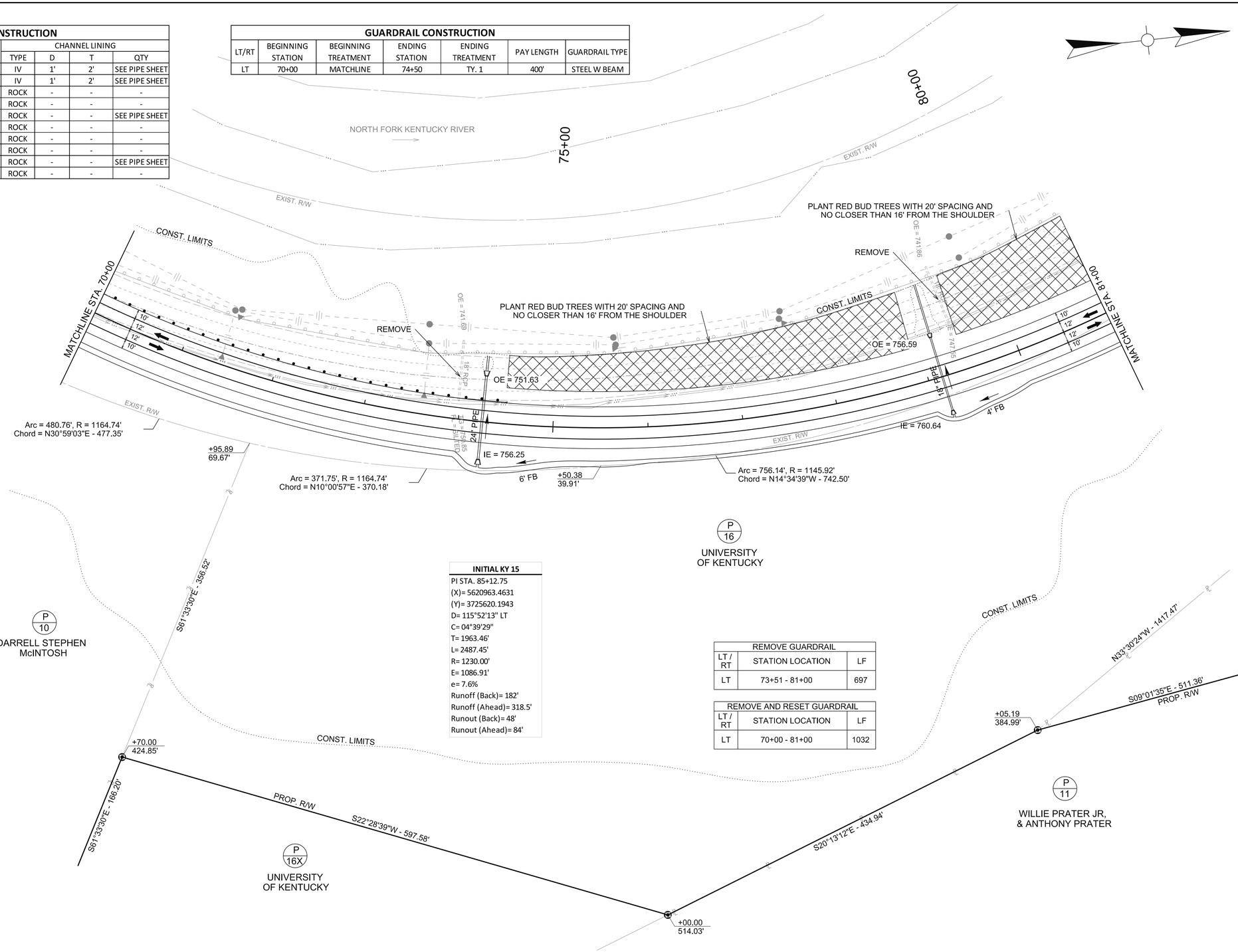
HORIZONTAL SCALE
SCALE: 1"=50'
0' 50' 100' 200'

STA. 60+50 TO STA. 70+00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R4

DITCH CONSTRUCTION						
LT / RT	STA. TO STA.	Size Type	CHANNEL LINING			
			TYPE	D	T	QTY
LT	74+25	OUTLET DT	IV	1'	2'	SEE PIPE SHEET
LT	79+15	OUTLET DT	IV	1'	2'	SEE PIPE SHEET
RT	70+00 to 74+00	6' FB	ROCK	-	-	-
RT	74+00 to 74+25	6' FB	ROCK	-	-	-
RT	74+25	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	74+25 to 76+00	6' FB	ROCK	-	-	-
RT	76+00 to 79+00	4' FB	ROCK	-	-	-
RT	79+00 to 79+15	4' FB	ROCK	-	-	-
RT	79+15	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	79+15 to 81+00	4' FB	ROCK	-	-	-

GUARDRAIL CONSTRUCTION						
LT/RT	BEGINNING STATION	BEGINNING TREATMENT	ENDING STATION	ENDING TREATMENT	PAY LENGTH	GUARDRAIL TYPE
LT	70+00	MATCHLINE	74+50	TY. 1	400'	STEEL W BEAM



INITIAL KY 15
PI STA. 85+12.75
(X)= 5620963.4631
(Y)= 3725620.1943
D= 115°52'13" LT
C= 04°39'29"
T= 1963.46'
L= 2487.45'
R= 1230.00'
E= 1086.91'
e= 7.6%
Runoff (Back)= 182'
Runoff (Ahead)= 318.5'
Runout (Back)= 48'
Runout (Ahead)= 84'

REMOVE GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	73+51 - 81+00	697

REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	70+00 - 81+00	1032

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: KY 15 PLAN SHEET

HORIZONTAL SCALE
SCALE: 1"=50'
0' 50' 100' 200'

STA. 70+00 TO STA. 81+00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R6

OpenRoads Designer v10.12.02.4
USER: ejordan
FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\PLAN PRODUCTION\PLAN\ML2_PL_70+00-81+00.DGN

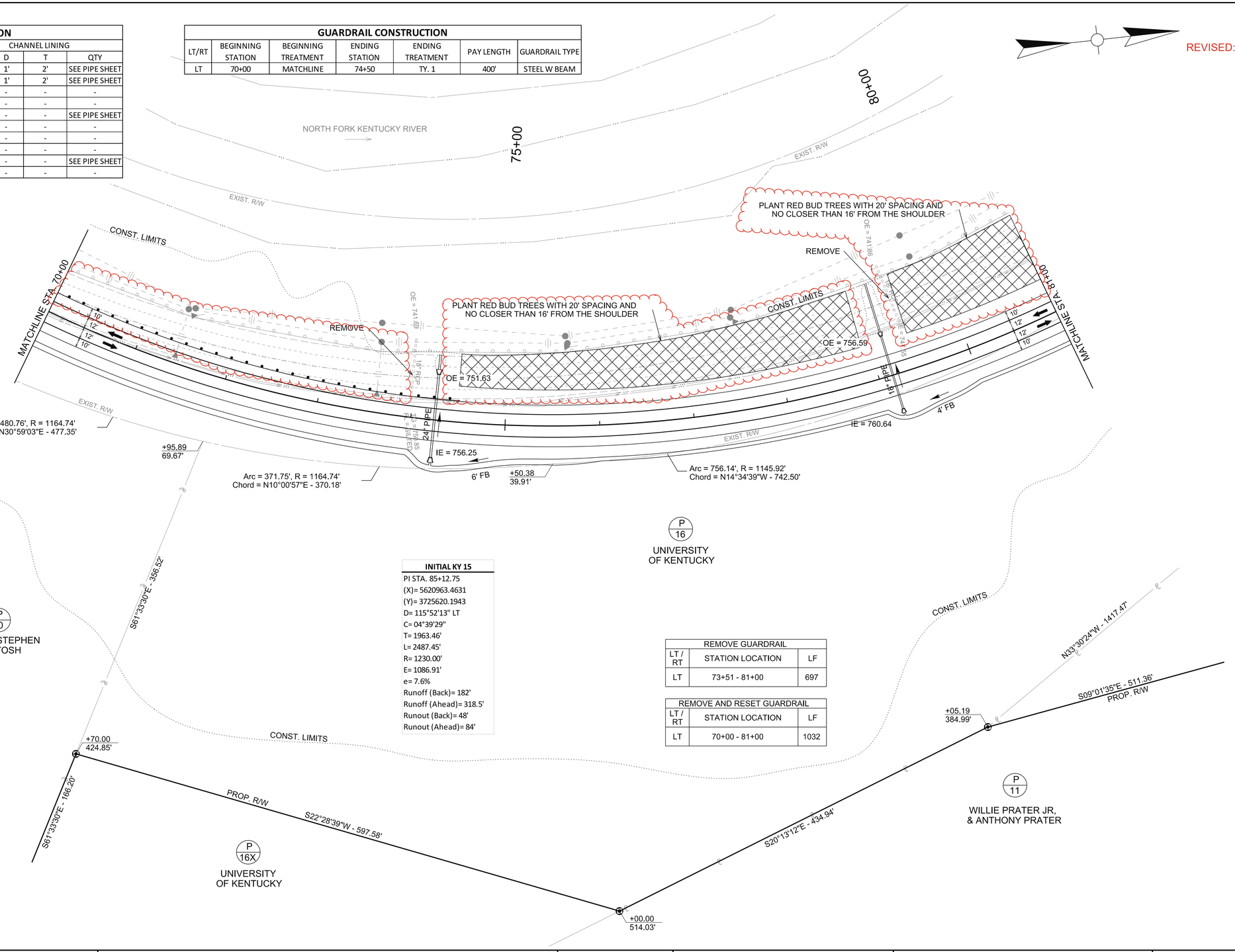
REVISED: 5-15-26

DITCH CONSTRUCTION

LT / RT	STA. TO STA.	Size Type	CHANNEL LINING			
			TYPE	D	T	QTY
LT	74+25	OUTLET DT	IV	1'	2'	SEE PIPE SHEET
LT	79+15	OUTLET DT	IV	1'	2'	SEE PIPE SHEET
RT	70+00 to 74+00	6' FB	ROCK	-	-	-
RT	74+00 to 74+25	6' FB	ROCK	-	-	-
RT	74+25	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	74+25 to 76+00	6' FB	ROCK	-	-	-
RT	76+00 to 79+00	4' FB	ROCK	-	-	-
RT	79+00 to 79+15	4' FB	ROCK	-	-	-
RT	79+15	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	79+15 to 81+00	4' FB	ROCK	-	-	-

GUARDRAIL CONSTRUCTION

LT/RT	BEGINNING STATION	BEGINNING TREATMENT	ENDING STATION	ENDING TREATMENT	PAY LENGTH	GUARDRAIL TYPE
LT	70+00	MATCHLINE	74+50	TY. 1	400'	STEEL W BEAM



INITIAL KY 15

PI STA. 85+12.75
(X)= 5620963.4631
(Y)= 3725620.1943
D= 115°52'13" LT
C= 04°39'29"
T= 1963.46'
L= 2487.45'
R= 1230.00'
E= 1086.91'
e= 7.6%
Runoff (Back)= 182'
Runoff (Ahead)= 318.5'
Runout (Back)= 48'
Runout (Ahead)= 84'

REMOVE GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	73+51 - 81+00	697

REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	70+00 - 81+00	1032

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: KY 15 PLAN SHEET

HORIZONTAL SCALE
SCALE: 1"=50'
0' 50' 100' 200'

STA. 70+00 TO STA. 81+00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R6

OpenRoads Designer v10.12.02.4 USER: ejordan FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\PLAN PRODUCTION\PLAN\ML2_PL_70+00-81+00.DGN

85+00

90+00

PLANT RED BUD TREES WITH 20' SPACING AND NO CLOSER THAN 10' FROM THE SHOULDER

REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	81+00 - 87+57	589

REMOVE GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	81+00 - 87+57	588

ULTIMATE KY 15
PI STA. 280+64.54
(X)= 5620112.8391
(Y)= 3726076.5368
D= 41°31'56" LT
C= 04°05'33"
T= 530.86'
L= 1014.82'
R= 1400.00'
E= 97.27'
e= 7.2%
Runoff = 302.75'
Runout = 84'

MATCHLINE STA. 81+00

CONST. LIMITS

KY 15 REMOVE

OE = 746.07

OE = 751.35

10' 12' 12' 10'

Ⓒ

+93.42
-8.83'

Ⓑ

EXIST. R/W

+76.68
-18.02'

INITIAL KY 15

4' FB

4' FB

BEGIN ULTIMATE GRADING
STA. 280+90.00

4' FB

ULTIMATE KY 15

P
11

WILLIE PRATER JR,
& ANTHONY PRATER

ULT. 280+00

S09°01'35"E
517.36'

+10.00
444.60'

TEMP. ESMT.
BUILDING
REMOVAL AND
CONSTRUCTION

1:3

+80.00
474.01'

EXIST. R/W

+60.33
521.24'

+48.76
556.84'

+09.87
645.00'

+22.40
660.00'

Arc = 314.21', R = 345.00'
Chord = S56°14'19"E - 303.46'

KY 1098

+88.27
351.48'

Ⓓ

+40.04
361.38'

Arc = 224.27', R = 1120.00'
Chord = S24°24'39"E - 223.89'

+00.00
434.77'

KY 1098

N33°30'24"W - 1417.47'

ULT. 285+00

PT 285+48.50

P
16

UNIVERSITY
OF KENTUCKY

CONST. LIMITS

CONST. LIMITS

PT 90+36.74

CONST. LIMITS

KY 15

REMOVE

NOSE

OE = 745.71

OE = 750.06

OE = 746.57

IE = 750.87

6" DIP

10' 12' 12' 10'

4' FB

EXIST. R/W

N62°54'55"W

N62°54'55"W

EXIST. R/W

N45°46'09"W - 666.06'

6' FB

+30.37
94.54'

EXIST. R/W

N58°23'00"W - 459.36'

MATCHLINE STA. 95+00

INITIAL KY 15
PI STA. 85+12.75
(X)= 5620963.4631
(Y)= 3725620.1943
D= 115°52'13" LT
C= 04°39'29"
T= 1963.46'
L= 2487.45'
R= 1230.00'
E= 1086.91'
e= 7.6%
Runoff (Back)= 182'
Runoff (Ahead)= 318.5'
Runout (Back)= 48'
Runout (Ahead)= 84'

ULT. 290+00

Ⓐ N80°22'55"E - 510.79'
Ⓑ N36°45'26"W - 279.70'
Ⓒ Arc = 756.14', R = 1145.92'
Chord = N14°34'39"W - 742.50'
Ⓓ S30°08'50"E - 67.50'

+00.00
445.22'

S52°45'14"E - 406.44'

PROP. R/W

S52°45'14"E - 486.40'

+65.48
530.28'

Ⓐ

P
11X

WILLIE PRATER JR,
& ANTHONY PRATER

DITCH CONSTRUCTION

LT / RT	STA. TO STA.	Size Type	CHANNEL LINING			
			TYPE	D	T	QTY
LT	93+25	OUTLET DT	IV	2'	2'	SEE PIPE SHEET
RT	81+00 to 85+00	4' FB	ROCK	-	-	-
RT	85+00 to 89+00	4' FB	ROCK	-	-	-
RT	89+00 to 93+25	6' FB	ROCK	-	-	-
RT	93+25	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	93+25 to 95+00	4' FB	ROCK	-	-	-

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: KY 15 PLAN SHEET

HORIZONTAL SCALE
SCALE: 1"=50'

0' 50' 100' 200'

STA. 81+00 TO STA. 95+00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R8

OpenRoads Designer v10.12.02.4

USER: ejordan

FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\PLAN PRODUCTION\PLAN\ML3_PL_81+00-95+00.DGN

REVISED: 5-15-26

REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	81+00 - 87+57	589

REMOVE GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	81+00 - 87+57	588

ULTIMATE KY 15
PI STA. 280+64.54
(X)= 5620112.8391
(Y)= 3726076.5368
D= 41°31'56" LT
C= 04°05'33"
T= 530.86'
L= 1014.82'
R= 1400.00'
E= 97.27'
e= 7.2%
Runoff = 302.75'
Runout = 84'

INITIAL KY 15
PI STA. 85+12.75
(X)= 5620963.4631
(Y)= 3725620.1943
D= 115°52'13" LT
C= 04°39'29"
T= 1963.46'
L= 2487.45'
R= 1230.00'
E= 1086.91'
e= 7.6%
Runoff (Back)= 182'
Runoff (Ahead)= 318.5'
Runout (Back)= 48'
Runout (Ahead)= 84'

Ⓐ N80°22'55"E - 510.79'
Ⓑ N36°45'26"W - 279.70'
Ⓒ Arc = 756.14', R = 1145.92'
Chord = N14°34'39"W - 742.50'
Ⓓ S30°08'50"E - 67.50'

DITCH CONSTRUCTION						
LT / RT	STA. TO STA.	Size Type	CHANNEL LINING			
			TYPE	D	T	QTY
LT	93+25	OUTLET DT	IV	2'	2'	SEE PIPE SHEET
RT	81+00 to 85+00	4' FB	ROCK	-	-	-
RT	85+00 to 89+00	4' FB	ROCK	-	-	-
RT	89+00 to 93+25	6' FB	ROCK	-	-	-
RT	93+25	INLET DT	ROCK	-	-	SEE PIPE SHEET
RT	93+25 to 95+00	4' FB	ROCK	-	-	-

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: KY 15 PLAN SHEET

HORIZONTAL SCALE
SCALE: 1"=50'

0' 50' 100' 200'

STA. 81+00 TO STA. 95+00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R8

OpenRoads Designer v10.12.02.4
USER: ejordan
FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\PLAN PRODUCTION\PLAN\ML3_PL_81+00-95+00.DGN

MAINTENANCE OF TRAFFIC NOTES

1) EXCEPT AS PROVIDED HEREIN, "MAINTAIN AND CONTROL TRAFFIC" SHALL BE IN ACCORDANCE WITH THE KYTC STANDARD SPECIFICATIONS, STANDARD DRAWINGS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS. EXCEPT FOR THE ROADWAY AND TRAFFIC CONTROL BID ITEMS LISTED, ALL ITEMS OF WORK NECESSARY TO MAINTAIN AND CONTROL TRAFFIC WILL PAID AT THE LUMP SUM BID PRICE TO "MAINTAIN AND CONTROL TRAFFIC." ALL SHIFTS IN TRAFFIC PATTERNS THROUGHOUT THE DURATION OF THE PROJECT SHALL BE IN COMPLIANCE WITH THE APPROPRIATE STANDARD DRAWINGS. CONES WILL NOT BE PERMITTED FOR LANE AND/OR SHOULDER CLOSURES.

2) A TRAFFIC CONTROL COORDINATOR SHALL BE REQUIRED ON THIS PROJECT. THE DESIGNATED TRAFFIC CONTROL COORDINATOR MUST MEET THE REQUIREMENTS OF SECTION 112.03.12 OF THE STANDARD SPECIFICATIONS. DUE TO THE OVERALL LENGTH OF THE PROJECT, THE TRAFFIC CONTROL COORDINATOR WILL CONDUCT DAILY INSPECTIONS OF THE PROJECT MAINTENANCE OF TRAFFIC SCHEME AND REPORT AND CORRECT ANY DEFICIENCIES. THE TRAFFIC CONTROL COORDINATOR WILL REPORT ALL INCIDENTS THROUGHOUT THE WORK ZONE TO THE ENGINEER. THE CONTRACTOR WILL PROVIDE CONTACT INFORMATION WHERE THE TRAFFIC CONTROL COORDINATOR MAY BE CONTACTED AT ALL TIMES. THIS PROJECT IS CLASSIFIED AS A "SIGNIFICANT PROJECT".

3) THE ENGINEER AND THE CONTRACTOR, OR THEIR AUTHORIZED REPRESENTATIVES, SHALL REVIEW THE SIGNING AND PAVEMENT MARKING SCHEMES BEFORE TRAFFIC PATTERNS ARE SHIFTED TO USE ANY LANE CLOSURES, TEMPORARY PAVEMENT, OR DIVERSIONS. ALL SIGNING AND PAVEMENT MARKING SHALL BE APPROVED BY THE ENGINEER BEFORE WORK CAN BE STARTED BY THE CONTRACTOR.

4) IF THE CONTRACTOR DESIRES TO DEVIATE FROM THE TRAFFIC CONTROL SCHEME AND CONSTRUCTION PHASES OUTLINED IN THESE PLANS AND THIS PROPOSAL, HE SHALL PREPARE AN ALTERNATIVE PLAN AND PRESENT IT IN WRITING TO THE ENGINEER. THIS ALTERNATIVE PLAN MAY BE USED ONLY AFTER REVIEW AND APPROVAL OF THE DIVISIONS OF TRAFFIC, DESIGN AND CONSTRUCTION.

5) UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE CONTRACTOR SHALL MAINTAIN A TWO-WAY, TWO-LANE TRAVELED WAY WITH A MINIMUM LANE WIDTH OF 10 FEET ON KY 15. HOWEVER, DURING WORKING HOURS, ONE-LANE TRAFFIC MAY BE ALLOWED AT THE DISCRETION OF THE ENGINEER, PROVIDED ADEQUATE SIGNING AND FLAG PERSONS ARE AT THE LOCATION.

6) THE CONTRACTOR VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST THE FLOW OF TRAFFIC. VEHICLES SHALL ENTER AND LEAVE WORK AREAS AT LOCATIONS DESIGNATED BY THE ENGINEER. FLAGPERSONS WILL BE REQUIRED AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES CROSS THE EXISTING FLOW OF TRAFFIC.

7) UNLESS NOTED OTHERWISE, ANY TEMPORARY TRAFFIC CONTROL ITEMS, DEVICES, MATERIALS AND INCIDENTALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR WHEN NO LONGER NEEDED.

8) THE CONTRACTOR SHALL COMPLETELY COVER ANY SIGNS, EITHER EXISTING, PERMANENT, OR TEMPORARY, WHICH DO NOT PROPERLY APPLY TO THE CURRENT TRAFFIC PHASING, AND SHALL MAINTAIN THE COVERING UNTIL THE SIGNS ARE APPLICABLE OR ARE REMOVED.

9) TRAFFIC PHASE CHANGES

THE EXISTING PAVEMENT MARKERS AND MARKINGS SHALL BE REMOVED PRIOR TO SHOWING A CONFLICTING MARKING SCHEME. NO DIRECT PAYMENT WILL BE ALLOWED FOR THIS AND WILL BE CONSIDERED INCIDENTAL TO THE ITEM " MAINTAIN AND CONTROL TRAFFIC".

TRAFFIC SHALL NOT BE SHIFTED FROM ONE PHASE TO ANOTHER BEFORE APPROPRIATE TEMPORARY LANE MARKINGS AND SIGNING HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER.

CHANNELIZATION DEVICES (DRUMS OR VERTICAL PANELS) WILL BE PLACED IN TRAFFIC PATTERN SHIFT AREAS ON A 20' MAXIMUM SPACING.

10) LANE CLOSURES - LANE CLOSURES MUST BE APPROVED BY THE ENGINEER 24 HOURS IN ADVANCE UNLESS UNFORESEEABLE SITUATIONS OCCUR BEYOND THE CONTRACTOR'S CONTROL. CONTRARY TO SECTION 112, LANE CLOSURES WILL NOT BE CONSIDERED FOR PAYMENT REGARDLESS OF THE DURATION OF CLOSURE, BUT ARE CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC." SIGNS AND ARROW PANELS SHALL BE PAID PER SQ FT AND EACH RESPECTIVELY, EXCEPT FOR LANE CLOSURES INSTALLED FOR THE CONTRACTORS CONVENIENCE.

11) LOCAL ACCESS - ACCESS TO LOCAL PROPERTIES AND APPROACH ROADS SHALL BE MAINTAINED AT ALL TIMES. UNLESS OTHERWISE SPECIFIED, APPROACH ROAD CONSTRUCTION SHALL BE COMPLETED UTILIZING PART-WIDTH CONSTRUCTION TO MAINTAIN ACCESS. SHOULD THE CONTRACTOR HAVE TO CLOSE ACCESS TO ANY PROPERTY HE WILL BE REQUIRED TO COORDINATE SUCH OCCASION WITH THE OWNER AND PROVIDE THE OWNER WITH A MINIMUM 48 HOUR NOTICE PRIOR TO CLOSURE. PLACE AND MAINTAIN A MINIMUM OF 2 INCHES OF MAINTENANCE STONE ON TEMPORARY DRIVING SURFACES. ACCESS TO PARCELS NOT INHABITED MAY BE CLOSED FOR SHORT PERIODS OF TIME IF COORDINATED WITH AND AGREED UPON BY THE OWNER.

12) SCHOOL BUSES AND EMERGENCY VEHICLES - IF TRAFFIC IS STOPPED DUE TO CONSTRUCTION AND AN EMERGENCY VEHICLE ON AN EMERGENCY RUN OR A SCHOOL BUS ARRIVES AT THE PROJECT SITE, THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE PASSAGE OF THAT VEHICLE AS QUICKLY AS POSSIBLE.

13) WEIGHT LIMIT DESIGNATIONS - THE CONTRACTOR SHALL OBSERVE ALL WEIGHT LIMIT DESIGNATIONS WHILE HAULING MATERIAL AND EQUIPMENT ON EXISTING PAVEMENTS. ANY DAMAGE TO EXISTING PAVEMENT CAUSED BY THE CONTRACTOR'S EQUIPMENT SHALL BE REPAIRED IMMEDIATELY, AT NO COST TO THE DEPARTMENT.

14) DURING CONSTRUCTION, IF THE CONTRACTOR MOVES EQUIPMENT, MATERIAL, ETC. BACK AND FORTH ACROSS PUBLIC ROADWAYS THAT REMAIN OPEN, SPECIAL PROVISIONS MAY BE REQUIRED BY THE ENGINEER. THIS MAY INCLUDE BUT NOT BE LIMITED TO, PROTECTION BY PLATING OR BY PROVIDING PLATFORMS, RE-PAVING OF EXISTING ROADWAYS, FLAGGERS, SPECIAL SIGNING, OR LIGHTING TO EMPHASIZE THE CONSTRUCTION EQUIPMENT CROSSING THE ROADWAY, ALL OF WHICH SHALL BE INCIDENTAL TO LUMP SUM BID TO "MAINTAIN AND CONTROL TRAFFIC".

15) PLACE LEVELING AND WEDGING AS NEEDED AND AS DIRECTED BY THE ENGINEER TO RAMP TRAFFIC FROM ASPHALT BASE OVERLAYS TO EXISTING PAVEMENT WHERE REQUIRED. PROVIDE A TEMPORARY VERTICAL TAPER RATE OF 1":25' TO TRANSITION TRAFFIC BETWEEN PHASES THAT REQUIRE AN ELEVATION DIFFERENCE.

16) GUARDRAIL END TREATMENTS - USE CRASH WORTHY END TREATMENTS ON THE TRAILING END OF GUARDRAIL THAT OTHERWISE WOULD NOT REQUIRE CRASHWORTHY END TREATMENTS WHEN THE TRAFFIC SCHEME PROVIDES FOR TRAFFIC TO BE SHIFTED TWO-WAY NEAR THE GUARDRAIL AND REQUIRING CLEAR ZONE IN WHAT WOULD OTHERWISE BE DIVIDED HIGHWAY WITH CLEAR ZONE.

17) TRAFFIC CONTROL PLAN REVISIONS - PROPOSED CHANGES TO THE TRAFFIC CONTROL PLAN MAY BE CONSIDERED IN ACCORDANCE WITH SECTION 112.03.01 OF THE STANDARD SPECIFICATIONS.

18) SIGNS

CONTRARY TO SECTION 112.04.02 AND 112.04.03, LOW SHOULDER SIGNS WILL NOT BE MEASURED FOR PAYMENT, BUT WILL BE INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC." CONTRARY TO SECTION 112.04.02 ONLY LONG TERM SIGNS (SIGNS INTENDED TO BE CONTINUOUSLY IN PLACE FOR MORE THAN 3 DAYS) WILL BE MEASURED FOR PAYMENT; SHORT TERM SIGNS (SIGNS INTENDED TO BE LEFT IN PLACE FOR 3 DAYS OR LESS) WILL NOT BE MEASURED FOR PAYMENT AND WILL BE CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC." INDIVIDUAL SIGNS WILL BE MEASURED ONLY ONCE FOR PAYMENT, REGARDLESS OF HOW MANY TIMES THEY ARE SET, RESET, REMOVED AND RELOCATED DURING THE DURATION OF THE PROJECT. REPLACEMENTS FOR DAMAGED SIGNS DIRECTED BY THE ENGINEER TO BE REPLACED DUE TO POOR CONDITION OR REFLECTIVITY WILL NOT BE MEASURED FOR PAYMENT. EXISTING SIGNS WILL NOT BE MEASURED FOR PAYMENT, BUT WILL BE INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC."

THE ENGINEER WILL REVIEW AND APPROVE THE LOCATION AND TYPES OF SIGNS INSTALLED. LOCATION AND TYPES OF SIGNS ARE TO BE UPDATED AND MODIFIED AS NEEDED BASED ON THE FIELD CONDITIONS, WORK PHASING, PROJECT ACTIVITIES, PAVEMENT AND ROADSIDE CONDITIONS, ETC. WARNING SIGNS FOR BLASTING, ONE LANE TRAFFIC AND FLAGGING, SHOULDER CLOSURE, LOW SHOULDER, ETC. ARE TO BE ADDED/REMOVED AS WARRANTED. COVER OR REMOVE ALL SIGNS NOT APPLICABLE OR NOT NEEDED AT ANY GIVEN TIME.

19) PORTABLE CHANGEABLE MESSAGE SIGNS - CHANGEABLE MESSAGE SIGNS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE PER SECTION 112.04.06 OF THE STANDARD SPECIFICATIONS, CURRENT EDITION. RELOCATE MESSAGE BOARDS AND REVISE MESSAGES AS NEEDED. USE MESSAGE BOARDS TO ASSIST IN TRAFFIC PHASE SHIFT ADVANCE WARNINGS.

20) PAVEMENT MARKING REMOVAL - REMOVAL OF EXISTING PAVEMENT MARKINGS OR TEMPORARY MARKINGS DUE TO TRAFFIC PHASE CHANGES IS CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC."

21) PAVEMENT EDGE DROP-OFFS

PAVEMENT EDGES THAT TRAFFIC IS NOT EXPECTED TO CROSS, EXCEPT ACCIDENTALLY, SHOULD BE TREATED AS FOLLOWS :

LESS THAN 2 INCHES - NO PROTECTION REQUIRED. UNEVEN LANES SIGNS W8-11 SHOULD BE PLACED IN ADVANCE OF AND THROUGHOUT THE DROP-OFF AREA.

2 INCHES TO 4 INCHES - PLACE PLASTIC DRUMS, VERTICAL PANELS, OR BARRICADES EVERY 100 FEET. CONES MAY BE USED IN PLACE OF PLASTIC DRUMS, PANELS AND BARRICADES DURING DAYLIGHT HOURS ONLY.

GREATER THAN 4 INCHES - WEDGE WITH 3:1 OR FLATTER SLOPE NEEDED. IF THERE IS 8 FEET OR MORE DISTANCE BETWEEN THE EDGE OF PAVEMENT AND DROP-OFF DRUMS, PANELS OR BARRICADES MAY BE USED. IF CONCRETE BARRIERS ARE USED, SPECIAL REFLECTIVE DEVICES OR STEADY BURN LIGHTS SHOULD BE USED FOR OVERNIGHT INSTALLATIONS. FOR TEMPORARY CONDITIONS, DROP-OFFS GREATER THAN 4 INCHES MAY BE PROTECTED WITH PLASTIC DRUMS, VERTICAL PANELS,OR BARRICADES FOR SHORT DISTANCES DURING DAYLIGHT HOURS WHILE WORK IS BEING DONE IN THE DROP-OFF AREA. PAYMENT WILL BE ALLOWED FOR THE DGA MATERIAL USED FOR WEDGING.

22) SPEED LIMIT - THE SPEED LIMIT WILL BE REDUCED TO 45 MPH IN THE WORK ZONE.

23) MAILBOXES - THE CONTRACTOR WILL MAKE PROVISIONS FOR INSTALLATION AND MAINTENANCE OF TEMPORARY FACILITIES FOR MAILBOXES WHEN MAILBOX REMOVAL BECOMES NECESSARY. RELOCATION AND MAINTENANCE OF MAILBOXES WILL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

24) TRAFFIC LANE SHIFT TAPERS - ALL TEMPORARY TRAFFIC TAPERS ON THIS PROJECT FOR PURPOSES OF LANE WIDTH REDUCTION OR FOR SHIFTING OF TRAFFIC ONTO PRIOR CONSTRUCTED PAVEMENT OR SHOULDERS AND FOR SHIFTING OF TRAFFIC AWAY FROM THE PROPOSED NEW WORK ZONES, WILL BE BASED ON A 45:1 TAPER RATE. THE INCLUDED PROJECT PHASING DEPICTS A SCHEMATIC OF TRAFFIC PATTERNS THAT SHOULD BE EMPLOYED. THE EXACT LOCATION OF THE BEGINNING AND ENDING OF LANE TAPERS, BUFFER DISTANCES, ETC. ARE TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THE PROPOSED TRAFFIC SHIFT.

25) TEMPORARY SLOPES AND TEMPORARY DRAINAGE FOR M.O.T. - ALL TEMPORARY DRAINAGE MEASURES REQUIRED FOR PHASED CONSTRUCTION INCLUDING TEMPORARY PIPES, CONSTRUCTION OF TEMPORARY SLOPES, CONSTRUCTION OF DITCHING AT A TEMPORARY ELEVATION OR CONSTRUCTION OF TEMPORARY DITCHES WILL BE CONSIDERED INCIDENTAL TO THE MAINTENANCE OF TRAFFIC. TEMPORARY DITCHES FOR EROSION CONTROL WILL BE MEASURED AND PAID IN ACCORDANCE WITH THE SPECIFICATIONS.

26) DROP-OFFS GREATER THAN 4 INCHES RESULTING FROM EXCAVATION DIRECTLY ADJACENT TO TRAFFIC (WITH NO POSITIVE SEPERATION), SHALL BE LIMITED TO 500 FEET IN LENGTH AND SIGNED ACCORDING TO MUTCD WITH ADVANCE WARNING. THE INTENT OF THIS REQUIREMENT IS TO KEEP THE TEMPORARY 'WEDGING OPERATION' IN CLOSE PROXIMITY TO THE WORK AREA AND PROMOTE SAFTEY FOR THE MOTORIST.

27) BLASTING OPERATIONS - DURING BLASTING OPERATIONS, TRAFFIC MAY BE HALTED A MAXIMUM OF 15 MINUTES PER HOUR TO ALLOW THE EXECUTION OF THE "SHOT" AND TO ALLOW FOR REMOVAL OF ROCK FRAGMENTS AND DEBRIS. THE CONTRACTOR, WHEN USING EXPLOSIVE CHARGES OF ANY KIND FOR THE PURPOSE OF EXCAVATING, REMOVAL, ETC., ON THIS PROJECT SHALL HALT ALL TRAFFIC A SAFE DISTANCE ON EITHER SIDE OF THE IMPENDING EXPLOSION. THE CONTRACTOR SHALL IMMEDIATELY INSPECT THE PAVEMENTS FOR ANY DEBRIS THAT MAY BE A HAZARD TO TRAFFIC BEFORE ALLOWING TRAFFIC TO PROCEED ON THE AFFECTED SECTION. WHEN BLASTING, THE CONTRACTOR SHALL HALT TRAFFIC, BLAST, CLEAN THE EXISTING PAVEMENTS AND RETURN TRAFFIC TO NORMAL OPERATION IN THE LEAST AMOUNT OF TIME POSSIBLE.

16 MINUTES: $2,000 (TWO THOUSAND DOLLARS) + $100/MIN UP TO 30 MIN

31 MINUTES: ADDITIONAL $5,000 (FIVE THOUSAND DOLLARS) + $250/MIN UP TO 60 MIN

IN ADDITION TO THE PREVIOUS DISINCENTIVES, ALL ROAD CLOSURES LONGER THAN 60 MINUTES WILL BE ASSESSED ADDITIONAL DISINCENTIVES OF $10,000 (TEN THOUSAND DOLLARS) PER INSTANCE.

28) TEMPORARY ROCK CATCHMENT FENCE

THE SYSTEM MUST MEET THE FOLLOWING MINIMUM REQUIREMENTS:

- FENCE TO BE PLACED ON TOP OF TEMPORARY CONCRETE BARRIER WALL
- MUST BE CAPABLE OF WITHSTANDING A 35 KILOJOULE FORCE
- FENCE HEIGHT A MINIMUM OF 6' ABOVE THE TOP OF THE TEMPORARY CONCRETE BARRIER WALL

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

TEAM KENTUCKY. TRANSPORTATION CABINET

DRAWING TITLE: MAINTENANCE OF TRAFFIC NOTES

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R21

MAINTENANCE OF TRAFFIC NOTES

REVISED: 5-15-26

1) EXCEPT AS PROVIDED HEREIN, "MAINTAIN AND CONTROL TRAFFIC" SHALL BE IN ACCORDANCE WITH THE KYTC STANDARD SPECIFICATIONS, STANDARD DRAWINGS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS. EXCEPT FOR THE ROADWAY AND TRAFFIC CONTROL BID ITEMS LISTED, ALL ITEMS OF WORK NECESSARY TO MAINTAIN AND CONTROL TRAFFIC WILL PAID AT THE LUMP SUM BID PRICE TO "MAINTAIN AND CONTROL TRAFFIC." ALL SHIFTS IN TRAFFIC PATTERNS THROUGHOUT THE DURATION OF THE PROJECT SHALL BE IN COMPLIANCE WITH THE APPROPRIATE STANDARD DRAWINGS. CONES WILL NOT BE PERMITTED FOR LANE AND/OR SHOULDER CLOSURES.

2) A TRAFFIC CONTROL COORDINATOR SHALL BE REQUIRED ON THIS PROJECT. THE DESIGNATED TRAFFIC CONTROL COORDINATOR MUST MEET THE REQUIREMENTS OF SECTION 112.03.12 OF THE STANDARD SPECIFICATIONS. DUE TO THE OVERALL LENGTH OF THE PROJECT, THE TRAFFIC CONTROL COORDINATOR WILL CONDUCT DAILY INSPECTIONS OF THE PROJECT MAINTENANCE OF TRAFFIC SCHEME AND REPORT AND CORRECT ANY DEFICIENCIES. THE TRAFFIC CONTROL COORDINATOR WILL REPORT ALL INCIDENTS THROUGHOUT THE WORK ZONE TO THE ENGINEER. THE CONTRACTOR WILL PROVIDE CONTACT INFORMATION WHERE THE TRAFFIC CONTROL COORDINATOR MAY BE CONTACTED AT ALL TIMES. THIS PROJECT IS CLASSIFIED AS A "SIGNIFICANT PROJECT".

3) THE ENGINEER AND THE CONTRACTOR, OR THEIR AUTHORIZED REPRESENTATIVES, SHALL REVIEW THE SIGNING AND PAVEMENT MARKING SCHEMES BEFORE TRAFFIC PATTERNS ARE SHIFTED TO USE ANY LANE CLOSURES, TEMPORARY PAVEMENT, OR DIVERSIONS. ALL SIGNING AND PAVEMENT MARKING SHALL BE APPROVED BY THE ENGINEER BEFORE WORK CAN BE STARTED BY THE CONTRACTOR.

4) IF THE CONTRACTOR DESIRES TO DEVIATE FROM THE TRAFFIC CONTROL SCHEME AND CONSTRUCTION PHASES OUTLINED IN THESE PLANS AND THIS PROPOSAL, HE SHALL PREPARE AN ALTERNATIVE PLAN AND PRESENT IT IN WRITING TO THE ENGINEER. THIS ALTERNATIVE PLAN MAY BE USED ONLY AFTER REVIEW AND APPROVAL OF THE DIVISIONS OF TRAFFIC, DESIGN AND CONSTRUCTION.

5) UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE CONTRACTOR SHALL MAINTAIN A TWO-WAY, TWO-LANE TRAVELED WAY WITH A MINIMUM LANE WIDTH OF 10 FEET ON KY 15. HOWEVER, DURING WORKING HOURS, ONE-LANE TRAFFIC MAY BE ALLOWED AT THE DISCRETION OF THE ENGINEER, PROVIDED ADEQUATE SIGNING AND FLAG PERSONS ARE AT THE LOCATION.

6) THE CONTRACTOR VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST THE FLOW OF TRAFFIC. VEHICLES SHALL ENTER AND LEAVE WORK AREAS AT LOCATIONS DESIGNATED BY THE ENGINEER. FLAGPERSONS WILL BE REQUIRED AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES CROSS THE EXISTING FLOW OF TRAFFIC.

7) UNLESS NOTED OTHERWISE, ANY TEMPORARY TRAFFIC CONTROL ITEMS, DEVICES, MATERIALS AND INCIDENTALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR WHEN NO LONGER NEEDED.

8) THE CONTRACTOR SHALL COMPLETELY COVER ANY SIGNS, EITHER EXISTING, PERMANENT, OR TEMPORARY, WHICH DO NOT PROPERLY APPLY TO THE CURRENT TRAFFIC PHASING, AND SHALL MAINTAIN THE COVERING UNTIL THE SIGNS ARE APPLICABLE OR ARE REMOVED.

9) TRAFFIC PHASE CHANGES

THE EXISTING PAVEMENT MARKERS AND MARKINGS SHALL BE REMOVED PRIOR TO SHOWING A CONFLICTING MARKING SCHEME. NO DIRECT PAYMENT WILL BE ALLOWED FOR THIS AND WILL BE CONSIDERED INCIDENTAL TO THE ITEM " MAINTAIN AND CONTROL TRAFFIC".

TRAFFIC SHALL NOT BE SHIFTED FROM ONE PHASE TO ANOTHER BEFORE APPROPRIATE TEMPORARY LANE MARKINGS AND SIGNING HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER.

CHANNELIZATION DEVICES (DRUMS OR VERTICAL PANELS) WILL BE PLACED IN TRAFFIC PATTERN SHIFT AREAS ON A 20' MAXIMUM SPACING.

10) LANE CLOSURES - LANE CLOSURES MUST BE APPROVED BY THE ENGINEER 24 HOURS IN ADVANCE UNLESS UNFORESEEABLE SITUATIONS OCCUR BEYOND THE CONTRACTOR'S CONTROL. CONTRARY TO SECTION 112, LANE CLOSURES WILL NOT BE CONSIDERED FOR PAYMENT REGARDLESS OF THE DURATION OF CLOSURE, BUT ARE CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC." SIGNS AND ARROW PANELS SHALL BE PAID PER SQ FT AND EACH RESPECTIVELY, EXCEPT FOR LANE CLOSURES INSTALLED FOR THE CONTRACTORS CONVENIENCE.

11) LOCAL ACCESS - ACCESS TO LOCAL PROPERTIES AND APPROACH ROADS SHALL BE MAINTAINED AT ALL TIMES. UNLESS OTHERWISE SPECIFIED, APPROACH ROAD CONSTRUCTION SHALL BE COMPLETED UTILIZING PART-WIDTH CONSTRUCTION TO MAINTAIN ACCESS. SHOULD THE CONTRACTOR HAVE TO CLOSE ACCESS TO ANY PROPERTY HE WILL BE REQUIRED TO COORDINATE SUCH OCCASION WITH THE OWNER AND PROVIDE THE OWNER WITH A MINIMUM 48 HOUR NOTICE PRIOR TO CLOSURE. PLACE AND MAINTAIN A MINIMUM OF 2 INCHES OF MAINTENANCE STONE ON TEMPORARY DRIVING SURFACES. ACCESS TO PARCELS NOT INHABITED MAY BE CLOSED FOR SHORT PERIODS OF TIME IF COORDINATED WITH AND AGREED UPON BY THE OWNER.

12) SCHOOL BUSES AND EMERGENCY VEHICLES - IF TRAFFIC IS STOPPED DUE TO CONSTRUCTION AND AN EMERGENCY VEHICLE ON AN EMERGENCY RUN OR A SCHOOL BUS ARRIVES AT THE PROJECT SITE, THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE PASSAGE OF THAT VEHICLE AS QUICKLY AS POSSIBLE.

13) WEIGHT LIMIT DESIGNATIONS - THE CONTRACTOR SHALL OBSERVE ALL WEIGHT LIMIT DESIGNATIONS WHILE HAULING MATERIAL AND EQUIPMENT ON EXISTING PAVEMENTS. ANY DAMAGE TO EXISTING PAVEMENT CAUSED BY THE CONTRACTOR'S EQUIPMENT SHALL BE REPAIRED IMMEDIATELY, AT NO COST TO THE DEPARTMENT.

14) DURING CONSTRUCTION, IF THE CONTRACTOR MOVES EQUIPMENT, MATERIAL, ETC. BACK AND FORTH ACROSS PUBLIC ROADWAYS THAT REMAIN OPEN, SPECIAL PROVISIONS MAY BE REQUIRED BY THE ENGINEER. THIS MAY INCLUDE BUT NOT BE LIMITED TO, PROTECTION BY PLATING OR BY PROVIDING PLATFORMS, RE-PAVING OF EXISTING ROADWAYS, FLAGGERS, SPECIAL SIGNING, OR LIGHTING TO EMPHASIZE THE CONSTRUCTION EQUIPMENT CROSSING THE ROADWAY, ALL OF WHICH SHALL BE INCIDENTAL TO LUMP SUM BID TO "MAINTAIN AND CONTROL TRAFFIC".

15) PLACE LEVELING AND WEDGING AS NEEDED AND AS DIRECTED BY THE ENGINEER TO RAMP TRAFFIC FROM ASPHALT BASE OVERLAYS TO EXISTING PAVEMENT WHERE REQUIRED. PROVIDE A TEMPORARY VERTICAL TAPER RATE OF 1":25' TO TRANSITION TRAFFIC BETWEEN PHASES THAT REQUIRE AN ELEVATION DIFFERENCE.

16) GUARDRAIL END TREATMENTS - USE CRASH WORTHY END TREATMENTS ON THE TRAILING END OF GUARDRAIL THAT OTHERWISE WOULD NOT REQUIRE CRASHWORTHY END TREATMENTS WHEN THE TRAFFIC SCHEME PROVIDES FOR TRAFFIC TO BE SHIFTED TWO-WAY NEAR THE GUARDRAIL AND REQUIRING CLEAR ZONE IN WHAT WOULD OTHERWISE BE DIVIDED HIGHWAY WITH CLEAR ZONE.

17) TRAFFIC CONTROL PLAN REVISIONS - PROPOSED CHANGES TO THE TRAFFIC CONTROL PLAN MAY BE CONSIDERED IN ACCORDANCE WITH SECTION 112.03.01 OF THE STANDARD SPECIFICATIONS.

18) SIGNS

CONTRARY TO SECTION 112.04.02 AND 112.04.03, LOW SHOULDER SIGNS WILL NOT BE MEASURED FOR PAYMENT, BUT WILL BE INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC." CONTRARY TO SECTION 112.04.02 ONLY LONG TERM SIGNS (SIGNS INTENDED TO BE CONTINUOUSLY IN PLACE FOR MORE THAN 3 DAYS) WILL BE MEASURED FOR PAYMENT; SHORT TERM SIGNS (SIGNS INTENDED TO BE LEFT IN PLACE FOR 3 DAYS OR LESS) WILL NOT BE MEASURED FOR PAYMENT AND WILL BE CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC." INDIVIDUAL SIGNS WILL BE MEASURED ONLY ONCE FOR PAYMENT, REGARDLESS OF HOW MANY TIMES THEY ARE SET, RESET, REMOVED AND RELOCATED DURING THE DURATION OF THE PROJECT. REPLACEMENTS FOR DAMAGED SIGNS DIRECTED BY THE ENGINEER TO BE REPLACED DUE TO POOR CONDITION OR REFLECTIVITY WILL NOT BE MEASURED FOR PAYMENT. EXISTING SIGNS WILL NOT BE MEASURED FOR PAYMENT, BUT WILL BE INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC."

THE ENGINEER WILL REVIEW AND APPROVE THE LOCATION AND TYPES OF SIGNS INSTALLED. LOCATION AND TYPES OF SIGNS ARE TO BE UPDATED AND MODIFIED AS NEEDED BASED ON THE FIELD CONDITIONS, WORK PHASING, PROJECT ACTIVITIES, PAVEMENT AND ROADSIDE CONDITIONS, ETC. WARNING SIGNS FOR BLASTING, ONE LANE TRAFFIC AND FLAGGING, SHOULDER CLOSURE, LOW SHOULDER, ETC. ARE TO BE ADDED/REMOVED AS WARRANTED. COVER OR REMOVE ALL SIGNS NOT APPLICABLE OR NOT NEEDED AT ANY GIVEN TIME.

19) PORTABLE CHANGEABLE MESSAGE SIGNS - CHANGEABLE MESSAGE SIGNS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE PER SECTION 112.04.06 OF THE STANDARD SPECIFICATIONS, CURRENT EDITION. RELOCATE MESSAGE BOARDS AND REVISE MESSAGES AS NEEDED. USE MESSAGE BOARDS TO ASSIST IN TRAFFIC PHASE SHIFT ADVANCE WARNINGS.

20) PAVEMENT MARKING REMOVAL - REMOVAL OF EXISTING PAVEMENT MARKINGS OR TEMPORARY MARKINGS DUE TO TRAFFIC PHASE CHANGES IS CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC."

21) PAVEMENT EDGE DROP-OFFS

PAVEMENT EDGES THAT TRAFFIC IS NOT EXPECTED TO CROSS, EXCEPT ACCIDENTALLY, SHOULD BE TREATED AS FOLLOWS :

LESS THAN 2 INCHES - NO PROTECTION REQUIRED. UNEVEN LANES SIGNS W8-11 SHOULD BE PLACED IN ADVANCE OF AND THROUGHOUT THE DROP-OFF AREA.

2 INCHES TO 4 INCHES - PLACE PLASTIC DRUMS, VERTICAL PANELS, OR BARRICADES EVERY 100 FEET. CONES MAY BE USED IN PLACE OF PLASTIC DRUMS, PANELS AND BARRICADES DURING DAYLIGHT HOURS ONLY.

GREATER THAN 4 INCHES - WEDGE WITH 3:1 OR FLATTER SLOPE NEEDED. IF THERE IS 8 FEET OR MORE DISTANCE BETWEEN THE EDGE OF PAVEMENT AND DROP-OFF DRUMS, PANELS OR BARRICADES MAY BE USED. IF CONCRETE BARRIERS ARE USED, SPECIAL REFLECTIVE DEVICES OR STEADY BURN LIGHTS SHOULD BE USED FOR OVERNIGHT INSTALLATIONS. FOR TEMPORARY CONDITIONS, DROP-OFFS GREATER THAN 4 INCHES MAY BE PROTECTED WITH PLASTIC DRUMS, VERTICAL PANELS,OR BARRICADES FOR SHORT DISTANCES DURING DAYLIGHT HOURS WHILE WORK IS BEING DONE IN THE DROP-OFF AREA. PAYMENT WILL BE ALLOWED FOR THE DGA MATERIAL USED FOR WEDGING.

22) SPEED LIMIT - THE SPEED LIMIT WILL BE REDUCED TO 45 MPH IN THE WORK ZONE.

23) MAILBOXES - THE CONTRACTOR WILL MAKE PROVISIONS FOR INSTALLATION AND MAINTENANCE OF TEMPORARY FACILITIES FOR MAILBOXES WHEN MAILBOX REMOVAL BECOMES NECESSARY. RELOCATION AND MAINTENANCE OF MAILBOXES WILL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

24) TRAFFIC LANE SHIFT TAPERS - ALL TEMPORARY TRAFFIC TAPERS ON THIS PROJECT FOR PURPOSES OF LANE WIDTH REDUCTION OR FOR SHIFTING OF TRAFFIC ONTO PRIOR CONSTRUCTED PAVEMENT OR SHOULDERS AND FOR SHIFTING OF TRAFFIC AWAY FROM THE PROPOSED NEW WORK ZONES, WILL BE BASED ON A 45:1 TAPER RATE. THE INCLUDED PROJECT PHASING DEPICTS A SCHEMATIC OF TRAFFIC PATTERNS THAT SHOULD BE EMPLOYED. THE EXACT LOCATION OF THE BEGINNING AND ENDING OF LANE TAPERS, BUFFER DISTANCES, ETC. ARE TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THE PROPOSED TRAFFIC SHIFT.

25) TEMPORARY SLOPES AND TEMPORARY DRAINAGE FOR M.O.T. - ALL TEMPORARY DRAINAGE MEASURES REQUIRED FOR PHASED CONSTRUCTION INCLUDING TEMPORARY PIPES, CONSTRUCTION OF TEMPORARY SLOPES, CONSTRUCTION OF DITCHING AT A TEMPORARY ELEVATION OR CONSTRUCTION OF TEMPORARY DITCHES WILL BE CONSIDERED INCIDENTAL TO THE MAINTENANCE OF TRAFFIC. TEMPORARY DITCHES FOR EROSION CONTROL WILL BE MEASURED AND PAID IN ACCORDANCE WITH THE SPECIFICATIONS.

26) DROP-OFFS GREATER THAN 4 INCHES RESULTING FROM EXCAVATION DIRECTLY ADJACENT TO TRAFFIC (WITH NO POSITIVE SEPERATION), SHALL BE LIMITED TO 500 FEET IN LENGTH AND SIGNED ACCORDING TO MUTCD WITH ADVANCE WARNING. THE INTENT OF THIS REQUIREMENT IS TO KEEP THE TEMPORARY 'WEDGING OPERATION' IN CLOSE PROXIMITY TO THE WORK AREA AND PROMOTE SAFTEY FOR THE MOTORIST.

27) BLASTING OPERATIONS - DURING BLASTING OPERATIONS, TRAFFIC MAY BE HALTED A MAXIMUM OF 15 MINUTES PER HOUR TO ALLOW THE EXECUTION OF THE "SHOT" AND TO ALLOW FOR REMOVAL OF ROCK FRAGMENTS AND DEBRIS. THE CONTRACTOR, WHEN USING EXPLOSIVE CHARGES OF ANY KIND FOR THE PURPOSE OF EXCAVATING, REMOVAL, ETC., ON THIS PROJECT SHALL HALT ALL TRAFFIC A SAFE DISTANCE ON EITHER SIDE OF THE IMPENDING EXPLOSION. THE CONTRACTOR SHALL IMMEDIATELY INSPECT THE PAVEMENTS FOR ANY DEBRIS THAT MAY BE A HAZARD TO TRAFFIC BEFORE ALLOWING TRAFFIC TO PROCEED ON THE AFFECTED SECTION. WHEN BLASTING, THE CONTRACTOR SHALL HALT TRAFFIC, BLAST, CLEAN THE EXISTING PAVEMENTS AND RETURN TRAFFIC TO NORMAL OPERATION IN THE LEAST AMOUNT OF TIME POSSIBLE.

16 MINUTES: $2,000 (TWO THOUSAND DOLLARS) + $100/MIN UP TO 30 MIN

31 MINUTES: ADDITIONAL $5,000 (FIVE THOUSAND DOLLARS) + $250/MIN UP TO 60 MIN

IN ADDITION TO THE PREVIOUS DISINCENTIVES, ALL ROAD CLOSURES LONGER THAN 60 MINUTES WILL BE ASSESSED ADDITIONAL DISINCENTIVES OF $10,000 (TEN THOUSAND DOLLARS) PER INSTANCE.

28) TEMPORARY ROCK CATCHMENT FENCE

THE SYSTEM MUST MEET THE FOLLOWING MINIMUM REQUIREMENTS:

- FENCE TO BE PLACED ON TOP OF TEMPORARY CONCRETE BARRIER WALL
- MUST BE CAPABLE OF WITHSTANDING A 35 KILOJOULE FORCE
- FENCE HEIGHT A MINIMUM OF 6' ABOVE THE TOP OF THE TEMPORARY CONCRETE BARRIER WALL

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

TEAM KENTUCKY TRANSPORTATION CABINET

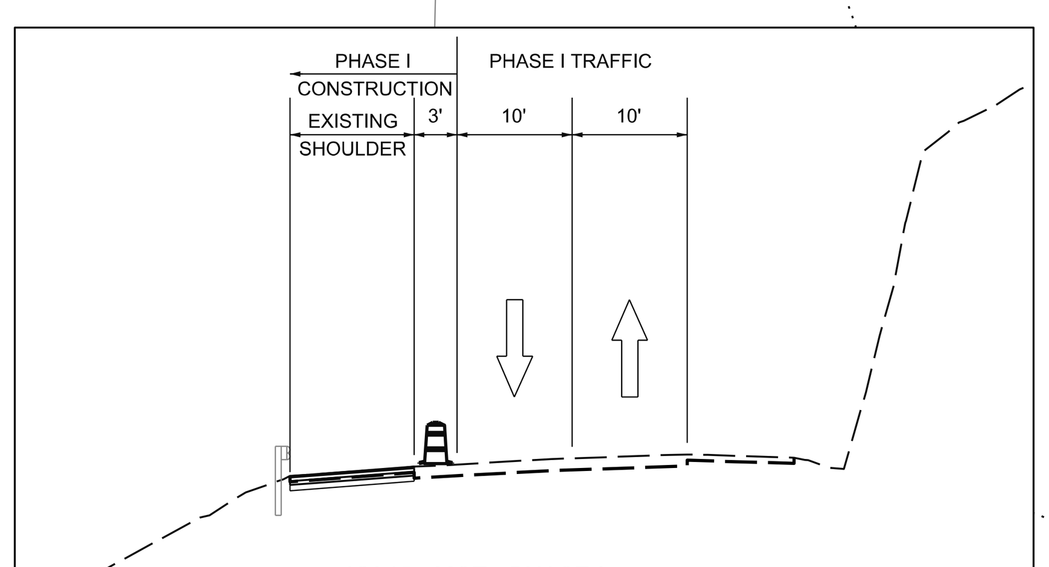
DRAWING TITLE: MAINTENANCE OF TRAFFIC NOTES

ITEM NO. 10-5014.00 COUNTY OF BREATHITT

SHEET NO. R21

LEGEND

- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- TEMPORARY PAVEMENT
- TRAFFIC FLOW
- T.C.D. DRUMS
- BARRIER WALL TYPE 9T



KY 15 - MOT - PHASE I
STA. 56+59 TO STA. 102+00

PHASE I NOTES:

① WHILE MAINTAINING TWO-WAY TRAFFIC ON EXISTING ROADWAY (MIN. 10' LANES), REMOVE AND REPLACE SOUTHBOUND SHOULDER USING SHOULDER CLOSURES.

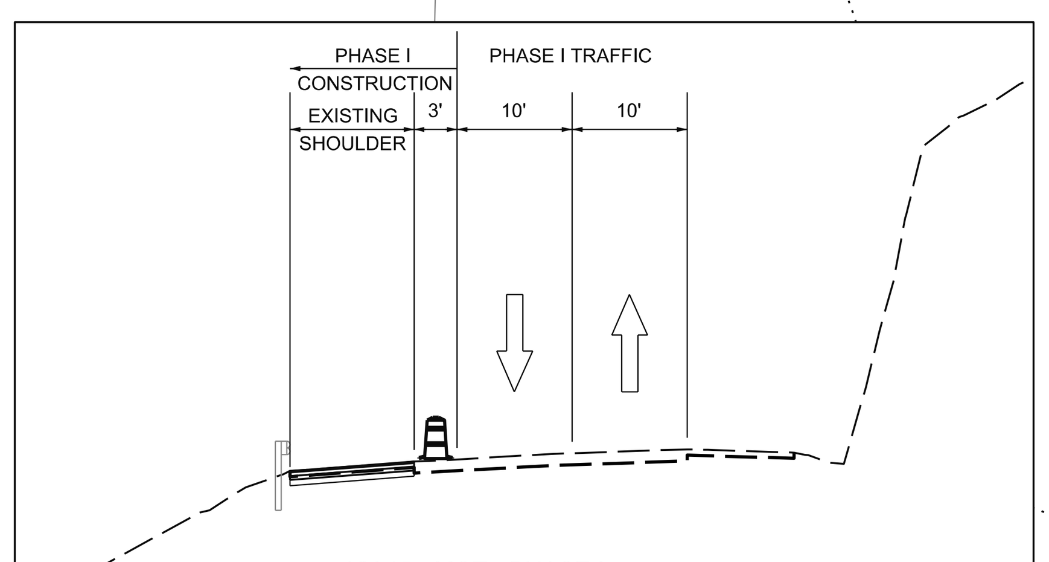
PAVEMENT DESIGN FOR SHOULDER:
1.50" CLASS 2 ASPHALT SURFACE 0.38D PG64-22
3.75" CLASS 2 ASPHALT BASE 1.00D PG64-22
4.00" CLASS 2 ASPHALT BASE 1.00D PG64-22
6.00" CRUSHED STONE BASE

② CONSTRUCT EMBANKMENT BENCHING WHILE MAINTAINING TWO-WAY TRAFFIC ON EXISTING ROADWAY (MIN. 10' LANES). THE CONTRACTOR WILL BE ALLOWED TO INSTALL SHORT TERM LANE CLOSURES AS DIRECTED BY THE ENGINEER. THE LANE CLOSURES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING NO. TTC-100-05.

REVISED: 5-15-26

LEGEND

- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- TEMPORARY PAVEMENT
- TRAFFIC FLOW
- T.C.D. DRUMS
- BARRIER WALL TYPE 9T



KY 15 - MOT - PHASE I
STA. 56+59 TO STA. 102+00

PHASE I NOTES:

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   6.00" CRUSHED STONE BASE

2. CONSTRUCT EMBANKMENT BENCHING WHILE MAINTAINING TWO-WAY TRAFFIC ON EXISTING ROADWAY (MIN. 10' LANES). THE CONTRACTOR WILL BE ALLOWED TO INSTALL SHORT TERM LANE CLOSURES AS DIRECTED BY THE ENGINEER. THE LANE CLOSURES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING NO. TTC-100-05.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: MAINTENANCE OF TRAFFIC - PHASE I

HORIZONTAL SCALE
SCALE: 1"=100'

0' 100' 200' 400'

STA. 6 0+50.00 TO STA. 81+00.00

ITEM NO.	COUNTY OF
10-5014.00	BREATHITT
SHEET NO.	
R22	

OpenRoads Designer v10.12.02.4 USER: ejordan FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\MOT\MOT_PH1_51+00-81+00.DGN

LEGEND

- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- TEMPORARY PAVEMENT
- TRAFFIC FLOW
- T.C.D. DRUMS
- BARRIER WALL TYPE 9T

55+00 60+00 65+00 70+00 75+00 80+00

MATCHLINE STA 81+00

CONC. BARRIER WALL

PHASE II NOTES:

① WHILE MAINTAINING TRAFFIC ON PAVEMENT CONSTRUCTED DURING PHASE I AND EXISTING ROADWAY (MIN. 10' LANES), CONSTRUCT THE FOLLOWING, ADHERING TO TYPICAL SECTIONS, MOT TYPICAL SECTIONS, AND INFORMATION SHOWN ON THE CROSS SECTIONS:

CONSTRUCT MAINLINE FROM STA. 66+00 TO STA. 109+05 ON THE RIGHT SIDE

CONSTRUCT APPR. RT. STA. 107+55 FROM STA. 50+00 TO STA. 55+20 ON THE RIGHT SIDE

② WHILE CONTINUING TRAFFIC ON PAVEMENT CONSTRUCTED DURING PHASE 1 AND EXISTING ROADWAYS, CONSTRUCT THE FOLLOWING UNDER TRAFFIC*:

MAINLINE STA. 60+50 TO STA. 66+00 ON THE RIGHT SIDE

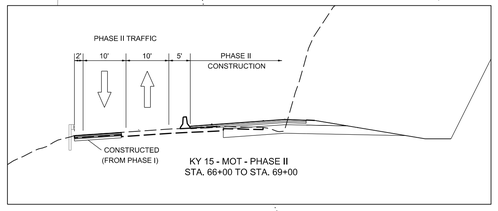
MAINLINE STA. 109+05 TO STA. 113+95 ON THE RIGHT SIDE

APPR. RT. STA. 107+55 FROM STA. 55+20 TO STA. 57+80 ON THE RIGHT SIDE

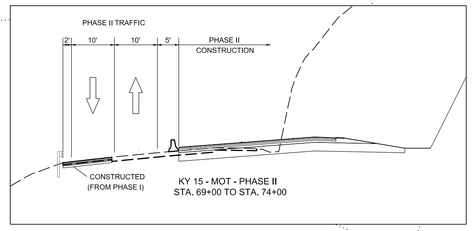
*FLAGGERS MAY BE NEEDED AT THE TIE-INS FROM 7 AM TO 5 PM IF TWO LANES (MIN. 10' LANES) OF TRAFFIC CAN NOT BE MAINTAINED.

DURING BLASTING, A TEMPORARY ROCK CATCHMENT FENCE SHALL BE INSTALLED. THE FENCE WILL BE LOCATED AT THE FOLLOWING STATIONS:

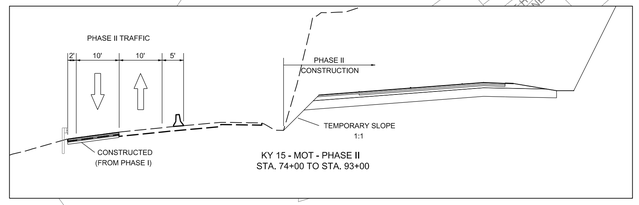
MAINLINE STA. 60+50 TO STA. 107+55
APPR. RT. STA. 107+55 FROM STA. 50+00 TO STA. 57+80



KY 15 - MOT - PHASE II
STA. 66+00 TO STA. 69+00



KY 15 - MOT - PHASE II
STA. 69+00 TO STA. 74+00



KY 15 - MOT - PHASE II
STA. 74+00 TO STA. 93+00

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: MAINTENANCE OF TRAFFIC - PHASE II

HORIZONTAL SCALE
SCALE: 1"=100'

0' 100' 200' 400'

STA. 6 0+50.00 TO STA. 81+00.00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R25

REVISED: 5-15-26

LEGEND

- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- TEMPORARY PAVEMENT
- TRAFFIC FLOW
- T.C.D. DRUMS
- BARRIER WALL TYPE 9T

55+00 60+00 65+00 70+00 75+00 80+00

MATCHLINE STA 81+00

CONC. BARRIER WALL

PHASE II NOTES:

① WHILE MAINTAINING TRAFFIC ON PAVEMENT CONSTRUCTED DURING PHASE I AND EXISTING ROADWAY (MIN. 10' LANES), CONSTRUCT THE FOLLOWING, ADHERING TO TYPICAL SECTIONS, MOT TYPICAL SECTIONS, AND INFORMATION SHOWN ON THE CROSS SECTIONS:

CONSTRUCT MAINLINE FROM STA. 66+00 TO STA. 109+05 ON THE RIGHT SIDE

CONSTRUCT APPR. RT. STA. 107+55 FROM STA. 50+00 TO STA. 55+20 ON THE RIGHT SIDE

② WHILE CONTINUING TRAFFIC ON PAVEMENT CONSTRUCTED DURING PHASE 1 AND EXISTING ROADWAYS, CONSTRUCT THE FOLLOWING UNDER TRAFFIC*:

MAINLINE STA. 60+50 TO STA. 66+00 ON THE RIGHT SIDE

MAINLINE STA. 109+05 TO STA. 113+95 ON THE RIGHT SIDE

APPR. RT. STA. 107+55 FROM STA. 55+20 TO STA. 57+80 ON THE RIGHT SIDE

*FLAGGERS MAY BE NEEDED AT THE TIE-INS FROM 7 AM TO 5 PM IF TWO LANES (MIN. 10' LANES) OF TRAFFIC CAN NOT BE MAINTAINED.

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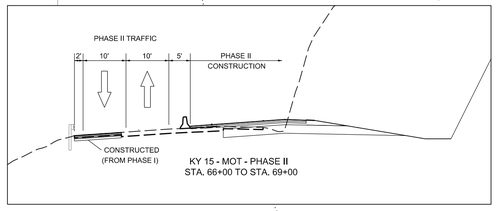
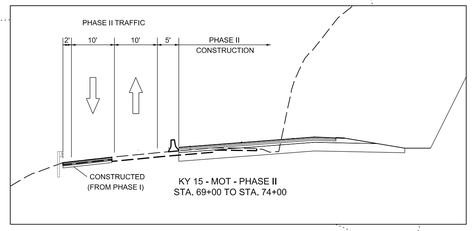
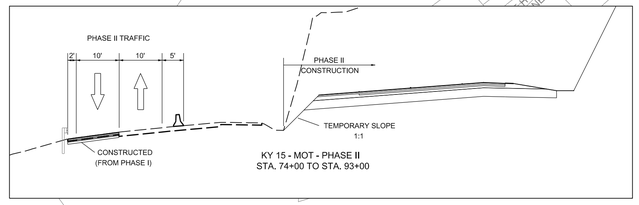
APPR. RT. STA. 107+55 FROM STA. 50+00 TO STA. 57+80



KY 15 - MOT - PHASE II
STA. 66+00 TO STA. 69+00



KY 15 - MOT - PHASE II
STA. 69+00 TO STA. 74+00



KY 15 - MOT - PHASE II
STA. 74+00 TO STA. 93+00

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
TEAM KENTUCKY TRANSPORTATION CABINET

DRAWING TITLE: MAINTENANCE OF TRAFFIC - PHASE II

HORIZONTAL SCALE
SCALE: 1"=100'

0' 100' 200' 400'

STA. 6 0+50.00 TO STA. 81+00.00

ITEM NO. 10-5014.00
COUNTY OF BREATHITT
SHEET NO. R25

OpenRoads Designer v10.12.02.4 USER: ejordan FILE NAME: G:\ENGR\HD1350.00 KY 15 BREATHITT COUNTY\PHASE II\CAD\MOT\MOT_PH2_51+00-81+00.DGN

GEOTECHNICAL NOTES

1.) IN ACCORDANCE WITH SECTION 206 OF THE CURRENT STANDARD SPECIFICATIONS, THE MOISTURE CONTENT OF EMBANKMENT MATERIAL SHALL NOT VARY FROM THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE CURRENT VERSION OF KM 64-511 BY MORE THAN +2 PERCENT OR LESS THAN -2 PERCENT. THIS MOISTURE CONTENT REQUIREMENT SHALL HAVE EQUAL WEIGHT WITH THE DENSITY REQUIREMENT WHEN DETERMINING THE ACCEPTABILITY OF EMBANKMENT CONSTRUCTION. REFER TO THE FAMILY OF CURVES FOR MOISTURE/DENSITY CORRELATION.

2.) ALL SOILS, WHETHER FROM ROADWAY OR BORROW, MAY REQUIRE MANIPULATION TO OBTAIN PROPER MOISTURE CONTENT PRIOR TO COMPACTION. DIRECT PAYMENT SHALL NOT BE PERMITTED FOR REHANDLING, HAULING, STOCKPILING, AND/OR MANIPULATING SOILS.

3.) EXCAVATION OF SURFACE DITCHES AND CHANNEL CHANGES ADJACENT TO EMBANKMENT AREAS SHALL BE PERFORMED PRIOR TO THE PLACEMENT OF THE ADJACENT EMBANKMENTS. THE MATERIAL EXCAVATED FOR THE CHANNEL CHANGES AND SURFACE DITCHES IS SUITABLE FOR EMBANKMENT CONSTRUCTION IF DRIED TO PROPER MOISTURE CONTENT IN ACCORDANCE WITH SECTION 206 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

4.) THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING ANY OPERATIONS NECESSARY TO EXCAVATE THE CUT AREAS TO THE REQUIRED TYPICAL SECTION. THESE OPERATIONS SHALL BE INCIDENTAL TO ROADWAY EXCAVATION OR EMBANKMENT-IN-PLACE AND NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THIS WORK.

5.) SOME OF THE SOIL HORIZONS AND SLOPES ON THE PROJECT ARE SUBJECT TO EROSION. NECESSARY PROCEDURES IN ACCORDANCE WITH SECTIONS 212 AND 213 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SHALL BE FOLLOWED ON CONSTRUCTION.

6.) REMOVAL OF EXISTING STRUCTURES AND OTHER OBSTRUCTIONS SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 203 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

7.) CLEARING AND GRUBBING OF ROADWAY AREAS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 202 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION BEFORE EMBANKMENT PLACEMENT.

8.) IN AREAS WHERE PAVEMENT IS NOT TO BE OVERLAID, EXISTING BITUMINOUS CONCRETE LOCATED AT A DISTANCE LESS THAN THREE FEET BELOW THE PROPOSED SUBGRADE ELEVATION WITHIN THE LIMITS OF NEW ROADWAY EMBANKMENTS, SHALL BE REMOVED ENTIRELY. THIS SHALL BE PERFORMED IN COMPLIANCE WITH SECTION 206 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

9.) AS DIRECTED BY THE ENGINEER, EXISTING BITUMINOUS CONCRETE LOCATED AT A DISTANCE GREATER THAN THREE FEET BELOW THE PROPOSED SUBGRADE ELEVATION WITHIN THE LIMITS OF NEW ROADWAY EMBANKMENTS, SHALL BE SCARIFIED OR BROKEN UNTIL ALL CLEAVAGE PLANES ARE DESTROYED, OR THE PAVEMENT SHALL BE REMOVED ENTIRELY AS CONDITIONS DEMAND. THIS SHALL BE PERFORMED IN COMPLIANCE WITH SECTION 206 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

10.) CONSTRUCT A 2-FOOT ROCK ROADBED CONSISTING OF DURABLE SANDSTONE FROM ROADWAY EXCAVATION FOR THE ENTIRE PROJECT. IF THE ROADBED IS PLACED ON A SUBGRADE CONSTRUCTED USING SOIL OR NONDURABLE SHALE, THE ROADBED SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC CLASS 1 (STABILIZATION) IN ACCORDANCE WITH SECTIONS 214 & 843 OF THE CURRENT STANDARD SPECIFICATIONS. EXTEND THE ROADBED FROM SHOULDER TO SHOULDER IN THE FILLS AND DITCHLINE TO DITCHLINE IN THE CUTS. WHERE SOFT AND/OR WET SUBGRADE IS ENCOUNTERED DURING CONSTRUCTION, THE THICKNESS OF THE ROCK ROADBED MAY NEED TO BE ADJUSTED TO ALSO SERVE AS A WORKING PLATFORM FOR SUBGRADE STABILIZATION. THESE ADJUSTMENTS, AS DIRECTED BY THE ENGINEER, MAY DEPEND ON SEASON FLUCTUATIONS IN THE WATER TABLE.

11.) ANY COAL ENCOUNTERED AT OR WITHIN 4 FT. OF PLANNED GRADE SHALL BE REMOVED TO A DEPTH OF 4 FT. BELOW PLANNED GRADE. THE CONTRACTOR SHALL NOT PERFORM ADDITIONAL UNDERCUTTING TO RECOVER COAL UNLESS PRIOR APPROVAL OF THE ENGINEER HAS BEEN OBTAINED. ANY SUCH UNDERCUTTING AT OR NEAR GRADE FOR RECOVERY OF COAL SHALL BE BACKFILLED WITH DURABLE SANDSTONE IN 2 FT. LIFTS, AND POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGH THE CUT USING 8-IN. PERFORATED PIPE UNDERDRAINS, AS APPLICABLE.

12.) THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE EXCESS MATERIAL SITES. AVAILABLE DRILLING AND LABORATORY DATA FOR THE SITES CAN BE FOUND ON THE SUBSURFACE DATA SHEET.

13.) THE CONTRACTOR SHALL VERIFY THE STABILITY OF THE EXCESS MATERIAL SITE EMBANKMENT SLOPES USING A SHORT TERM (TOTAL STRESS) FACTOR OF SAFETY OF 1.1 AND A LONG TERM (EFFECTIVE STRESS) FACTOR OF SAFETY OF 1.4.

14.) CONSTRUCT A 5 FOOT THICK DRAINAGE BLANKET CONSISTING OF DURABLE SANDSTONE AT THE BOTTOM OF THE EXCESS MATERIAL SITES BEFORE CONSTRUCTING THE REMAINDER OF THE SITE.

15.) THE EXCESS MATERIAL SITES SHALL NOT HAVE UNBROKEN SLOPES EXCEEDING THE MAXIMUM HEIGHTS LISTED IN THE TABLE BELOW. EMBANKMENT CONFIGURATIONS NOTED IN THE TABLE BELOW TO BE CONTROLLED BY SHORT TERM (TOTAL STRESS) CONDITIONS MAY BE CONSTRUCTED TO LONG TERM (EFFECTIVE STRESS) MAXIMUM HEIGHTS IF PORE PRESSURES ARE MONITORED WITHIN THE OVERBURDEN DURING CONSTRUCTION TO ENSURE THAT EXCESS PORE PRESSURES ARE NOT BUILDING AND CREATING A TOTAL STRESS LOADING CONDITION. PORE PRESSURE MONITORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

	Small Site (North)		Large Site (South)		
	Max Height	**Controlling Condition**	**Max Height**	**Controlling Condition**	**Max Height w/ Long Term Condition**
2.0:1	60’	Long Term	60’	Long Term	60’
2.25:1	95’	Long Term	65’	Short Term	95’
2.5:1	200’	Short Term	75’	Short Term	450’
2.75:1	-	-	120’	Short Term	620’

16.) CONSTRUCTION OF THE EXCESS MATERIAL SITES MUST INCLUDE EMBANKMENT BENCHES IN ACCORDANCE WITH STANDARD DRAWING RGX-010, EXCEPT THAT THE VERTICAL RISE WILL NOT BE EXCAVATED VERTICALLY BUT WILL BE EXCAVATED WITH A 1:1 SLOPE TO ALLOW THE USE OF A CONTINUOUS 5 FOOT THICK ROCK DRAINAGE BLANKET.

17.) PLANS FOR ANY EXCESS MATERIAL SITE MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL A MINIMUM OF 30 DAYS BEFORE EARTHWORK OPERATIONS MAY BEGIN.

18.) THE CONTRACTOR SHALL STOCKPILE 50K CY OF DURABLE SANDSTONE ON THE SITE FOR FUTURE USE BY DISTRICT 10 MAINTENANCE PERSONNEL.

19.) AN ACCESS ROAD SHALL BE CONSTRUCTED TO THE TOP OF THE EXCESS MATERIAL SITE OF THE LARGER WASTE AREA AND HAVE A MAXIMUM GRADE OF 12%.

20.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINAGE OF THE EXCESS MATERIAL SITES AND ANY PIPES SHALL BE INCIDENTAL TO ROADWAY EXCAVATION.

21.) THE CONTRACTOR SHALL INSTALL A GATE AT THE KY 15 ENTRANCE TO THE EXCESS MATERIAL SITES.

22.) THE DRAINAGE REFERENCED IN NOTE 14 WAS INCLUDED TO ADDRESS THE PRESENCE OF NON-DURABLE MATERIALS AND TO REDUCE THE POTENTIAL FOR WATER ACCUMULATION AT THE INTERFACE BETWEEN THE NATURAL GROUND AND EMBANKMENT. THE CONTRACTOR MAY SUBMIT AN ALTERNATE DESIGN PREPARED BY A PROFESSIONAL ENGINEER TO ADDRESS DRAINAGE AND STABILITY OF THE EXCESS MATERIAL SITE. ANY PROPOSED ALTERNATE SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER. ALL WORK ASSOCIATED WITH PROVIDING ADEQUATE DRAINAGE AND STABILITY OF THE EXCESS MATERIAL SITE, INCLUDING ANY ALTERNATE DESIGN, SHALL BE INCIDENTAL TO ROADWAY EXCAVATION.

23.) FOUNDATION EMBANKMENT BENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING RGX-010 AT THE LOCATIONS LISTED BELOW AND/OR AS DIRECTED BY THE ENGINEER. CONTRARY TO STANDARD DRAWING RGX-010, THE TYPICAL RISE HEIGHT FOR BENCHING SHALL BE 4 TO 6 FEET. BENCHES IN SOIL/EARTH SLOPES SHALL BE CONSTRUCTED ONE AT A TIME, BEGINNING WITH THE LOWEST BENCH AND EACH BENCH SHALL BE BACKFILLED PRIOR TO EXCAVATION OF THE NEXT BENCH.

STA. 62+80 TO STA. 73+25, LEFT

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY
Division of Structural Design
Geotechnical Branch

DATE:	CHECKED BY
DESIGNED BY:	
DETAILED BY:	

GEOTECHNICAL NOTES SHEET

ROUTE	ITEM NO.	COUNTY OF
KY 15	10-5014.00	BREATHITT
	SHEET NO. R37	DRAWING NUMBER RA-010-2025

REVISED: 5-15-26

GEOTECHNICAL NOTES

1.) IN ACCORDANCE WITH SECTION 206 OF THE CURRENT STANDARD SPECIFICATIONS, THE MOISTURE CONTENT OF EMBANKMENT MATERIAL SHALL NOT VARY FROM THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE CURRENT VERSION OF KM 64-511 BY MORE THAN +2 PERCENT OR LESS THAN -2 PERCENT. THIS MOISTURE CONTENT REQUIREMENT SHALL HAVE EQUAL WEIGHT WITH THE DENSITY REQUIREMENT WHEN DETERMINING THE ACCEPTABILITY OF EMBANKMENT CONSTRUCTION. REFER TO THE FAMILY OF CURVES FOR MOISTURE/DENSITY CORRELATION.

2.) ALL SOILS, WHETHER FROM ROADWAY OR BORROW, MAY REQUIRE MANIPULATION TO OBTAIN PROPER MOISTURE CONTENT PRIOR TO COMPACTION. DIRECT PAYMENT SHALL NOT BE PERMITTED FOR REHANDLING, HAULING, STOCKPILING, AND/OR MANIPULATING SOILS.

3.) EXCAVATION OF SURFACE DITCHES AND CHANNEL CHANGES ADJACENT TO EMBANKMENT AREAS SHALL BE PERFORMED PRIOR TO THE PLACEMENT OF THE ADJACENT EMBANKMENTS. THE MATERIAL EXCAVATED FOR THE CHANNEL CHANGES AND SURFACE DITCHES IS SUITABLE FOR EMBANKMENT CONSTRUCTION IF DRIED TO PROPER MOISTURE CONTENT IN ACCORDANCE WITH SECTION 206 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

4.) THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING ANY OPERATIONS NECESSARY TO EXCAVATE THE CUT AREAS TO THE REQUIRED TYPICAL SECTION. THESE OPERATIONS SHALL BE INCIDENTAL TO ROADWAY EXCAVATION OR EMBANKMENT-IN-PLACE AND NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THIS WORK.

5.) SOME OF THE SOIL HORIZONS AND SLOPES ON THE PROJECT ARE SUBJECT TO EROSION. NECESSARY PROCEDURES IN ACCORDANCE WITH SECTIONS 212 AND 213 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SHALL BE FOLLOWED ON CONSTRUCTION.

6.) REMOVAL OF EXISTING STRUCTURES AND OTHER OBSTRUCTIONS SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 203 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

7.) CLEARING AND GRUBBING OF ROADWAY AREAS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 202 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION BEFORE EMBANKMENT PLACEMENT.

8.) IN AREAS WHERE PAVEMENT IS NOT TO BE OVERLAID, EXISTING BITUMINOUS CONCRETE LOCATED AT A DISTANCE LESS THAN THREE FEET BELOW THE PROPOSED SUBGRADE ELEVATION WITHIN THE LIMITS OF NEW ROADWAY EMBANKMENTS, SHALL BE REMOVED ENTIRELY. THIS SHALL BE PERFORMED IN COMPLIANCE WITH SECTION 206 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

9.) AS DIRECTED BY THE ENGINEER, EXISTING BITUMINOUS CONCRETE LOCATED AT A DISTANCE GREATER THAN THREE FEET BELOW THE PROPOSED SUBGRADE ELEVATION WITHIN THE LIMITS OF NEW ROADWAY EMBANKMENTS, SHALL BE SCARIFIED OR BROKEN UNTIL ALL CLEAVAGE PLANES ARE DESTROYED, OR THE PAVEMENT SHALL BE REMOVED ENTIRELY AS CONDITIONS DEMAND. THIS SHALL BE PERFORMED IN COMPLIANCE WITH SECTION 206 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

10.) CONSTRUCT A 2-FOOT ROCK ROADBED CONSISTING OF DURABLE SANDSTONE FROM ROADWAY EXCAVATION FOR THE ENTIRE PROJECT. IF THE ROADBED IS PLACED ON A SUBGRADE CONSTRUCTED USING SOIL OR NONDURABLE SHALE, THE ROADBED SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC CLASS 1 (STABILIZATION) IN ACCORDANCE WITH SECTIONS 214 & 843 OF THE CURRENT STANDARD SPECIFICATIONS. EXTEND THE ROADBED FROM SHOULDER TO SHOULDER IN THE FILLS AND DITCHLINE TO DITCHLINE IN THE CUTS. WHERE SOFT AND/OR WET SUBGRADE IS ENCOUNTERED DURING CONSTRUCTION, THE THICKNESS OF THE ROCK ROADBED MAY NEED TO BE ADJUSTED TO ALSO SERVE AS A WORKING PLATFORM FOR SUBGRADE STABILIZATION. THESE ADJUSTMENTS, AS DIRECTED BY THE ENGINEER, MAY DEPEND ON SEASON FLUCTUATIONS IN THE WATER TABLE.

11.) ANY COAL ENCOUNTERED AT OR WITHIN 4 FT. OF PLANNED GRADE SHALL BE REMOVED TO A DEPTH OF 4 FT. BELOW PLANNED GRADE. THE CONTRACTOR SHALL NOT PERFORM ADDITIONAL UNDERCUTTING TO RECOVER COAL UNLESS PRIOR APPROVAL OF THE ENGINEER HAS BEEN OBTAINED. ANY SUCH UNDERCUTTING AT OR NEAR GRADE FOR RECOVERY OF COAL SHALL BE BACKFILLED WITH DURABLE SANDSTONE IN 2 FT. LIFTS, AND POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGH THE CUT USING 8-IN. PERFORATED PIPE UNDERDRAINS, AS APPLICABLE.

12.) THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE EXCESS MATERIAL SITES. AVAILABLE DRILLING AND LABORATORY DATA FOR THE SITES CAN BE FOUND ON THE SUBSURFACE DATA SHEET.

13.) THE CONTRACTOR SHALL VERIFY THE STABILITY OF THE EXCESS MATERIAL SITE EMBANKMENT SLOPES USING A SHORT TERM (TOTAL STRESS) FACTOR OF SAFETY OF 1.1 AND A LONG TERM (EFFECTIVE STRESS) FACTOR OF SAFETY OF 1.4.

14.) CONSTRUCT A 5 FOOT THICK DRAINAGE BLANKET CONSISTING OF DURABLE SANDSTONE AT THE BOTTOM OF THE EXCESS MATERIAL SITES BEFORE CONSTRUCTING THE REMAINDER OF THE SITE.

15.) THE EXCESS MATERIAL SITES SHALL NOT HAVE UNBROKEN SLOPES EXCEEDING THE MAXIMUM HEIGHTS LISTED IN THE TABLE BELOW. EMBANKMENT CONFIGURATIONS NOTED IN THE TABLE BELOW TO BE CONTROLLED BY SHORT TERM (TOTAL STRESS) CONDITIONS MAY BE CONSTRUCTED TO LONG TERM (EFFECTIVE STRESS) MAXIMUM HEIGHTS IF PORE PRESSURES ARE MONITORED WITHIN THE OVERBURDEN DURING CONSTRUCTION TO ENSURE THAT EXCESS PORE PRESSURES ARE NOT BUILDING AND CREATING A TOTAL STRESS LOADING CONDITION. PORE PRESSURE MONITORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

	Small Site (North)		Large Site (South)		
	Max Height	**Controlling Condition**	**Max Height**	**Controlling Condition**	**Max Height w/ Long Term Condition**
2.0:1	60’	Long Term	60’	Long Term	60’
2.25:1	95’	Long Term	65’	Short Term	95’
2.5:1	200’	Short Term	75’	Short Term	450’
2.75:1	-	-	120’	Short Term	620’

16.) CONSTRUCTION OF THE EXCESS MATERIAL SITES MUST INCLUDE EMBANKMENT BENCHES IN ACCORDANCE WITH STANDARD DRAWING RGX-010, EXCEPT THAT THE VERTICAL RISE WILL NOT BE EXCAVATED VERTICALLY BUT WILL BE EXCAVATED WITH A 1:1 SLOPE TO ALLOW THE USE OF A CONTINUOUS 5 FOOT THICK ROCK DRAINAGE BLANKET.

17.) PLANS FOR ANY EXCESS MATERIAL SITE MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL A MINIMUM OF 30 DAYS BEFORE EARTHWORK OPERATIONS MAY BEGIN.

18.) THE CONTRACTOR SHALL STOCKPILE 50K CY OF DURABLE SANDSTONE ON THE SITE FOR FUTURE USE BY DISTRICT 10 MAINTENANCE PERSONNEL.

19.) AN ACCESS ROAD SHALL BE CONSTRUCTED TO THE TOP OF THE EXCESS MATERIAL SITE OF THE LARGER WASTE AREA AND HAVE A MAXIMUM GRADE OF 12%.

20.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINAGE OF THE EXCESS MATERIAL SITES AND ANY PIPES SHALL BE INCIDENTAL TO ROADWAY EXCAVATION.

21.) THE CONTRACTOR SHALL INSTALL A GATE AT THE KY 15 ENTRANCE TO THE EXCESS MATERIAL SITES.

22.) THE DRAINAGE REFERENCED IN NOTE 14 WAS INCLUDED TO ADDRESS THE PRESENCE OF NON-DURABLE MATERIALS AND TO REDUCE THE POTENTIAL FOR WATER ACCUMULATION AT THE INTERFACE BETWEEN THE NATURAL GROUND AND EMBANKMENT. THE CONTRACTOR MAY SUBMIT AN ALTERNATE DESIGN PREPARED BY A PROFESSIONAL ENGINEER TO ADDRESS DRAINAGE AND STABILITY OF THE EXCESS MATERIAL SITE. ANY PROPOSED ALTERNATE SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER. ALL WORK ASSOCIATED WITH PROVIDING ADEQUATE DRAINAGE AND STABILITY OF THE EXCESS MATERIAL SITE, INCLUDING ANY ALTERNATE DESIGN, SHALL BE INCIDENTAL TO ROADWAY EXCAVATION.

23.) FOUNDATION EMBANKMENT BENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING RGX-010 AT THE LOCATIONS LISTED BELOW AND/OR AS DIRECTED BY THE ENGINEER. CONTRARY TO STANDARD DRAWING RGX-010, THE TYPICAL RISE HEIGHT FOR BENCHING SHALL BE 4 TO 6 FEET. BENCHES IN SOIL/EARTH SLOPES SHALL BE CONSTRUCTED ONE AT A TIME, BEGINNING WITH THE LOWEST BENCH AND EACH BENCH SHALL BE BACKFILLED PRIOR TO EXCAVATION OF THE NEXT BENCH.

STA. 62+80 TO STA. 73+25, LEFT

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY
Division of Structural Design
Geotechnical Branch

DATE:	CHECKED BY
DESIGNED BY:	
DETAILED BY:	

GEOTECHNICAL NOTES SHEET

ROUTE	ITEM NO.	COUNTY OF
KY 15	10-5014.00	BREATHITT
	SHEET NO. R37	DRAWING NUMBER RA-010-2025