COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
transportation.ky.gov

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

March 19, 2026

CALL NO. 100
CONTRACT ID NO. 261507
ADDENDUM # 1

Subject: Breathitt County, PROT 01510946
Letting March 26, 2026

(1) Revised – Completion Date Cover Page & Page 4 of 142
(2) Added – Special Note Page 21A of 142
(3) Revised – Proposal Bid Items Pages 140-142 of 142
(4) Added – Permit Application Pages 1-89 of 89
(5) Revised – Plan Sheets: R2G. R2H, R4, & R22

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,

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

RM:ce
Enclosures

CALL NO. 100

CONTRACT ID. 261507

BREATHITT COUNTY

FED/STATE PROJECT NUMBER PROT 01510946

DESCRIPTION HIGHWAY 15 (KY 15)

WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE

PRIMARY COMPLETION DATE 11/15/2029

LETTING DATE: March 26,2026

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME March 26,2026. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 0%

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

ADMINISTRATIVE DISTRICT - 10

CONTRACT ID - 261507

PROT 01510946

COUNTY - BREATHITT

PCN - DE01300152607
PROT 01510946

HIGHWAY 15 (KY 15) KY 15 ROCKFALL MITIGATION, A DISTANCE OF 01.01 MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 10-05014.00.

GEOGRAPHIC COORDINATES LATITUDE 37:31:56.00 LONGITUDE 83:20:31.00

ADT 9,400

COMPLETION DATE(S):

COMPLETED BY 08/01/2029	ROADWAY OPEN TO 2-WAY TRAFFIC
COMPLETED BY 11/15/2029	APPLIES TO ENTIRE CONTRACT

SPECIAL NOTE FOR EXCESS MATERIAL SITES

BREATHITT COUNTY
KY 15 ROCKFALL MITIGATION
ITEM 10-5014.00

The construction activities of this project may result in a considerable amount of excess material. It is the contractor's responsibility to dispose of any material in compliance with the United States Army Corps of Engineers (USACE) and Kentucky Division of Water (DOW) rules and regulations pertaining to discharges into Waters of the U.S. The contractor is also responsible to ensure material disposal actions are also in compliance with the US Fish and Wildlife Service (USFWS) rules and regulations pertaining to the Endangered Species Act, Section 106 of the National Historic Preservation Act, Floodplains, as well as any other pertinent regulations.

The Kentucky Transportation Cabinet (KYTC) has acquired Section 404 (USACE) & 401 (DOW) permits for two (2) excess material sites that the contractor shall use for this KYTC project. It is the contractor's responsibility to review the Clean Water Act 404 & 401 permits and maintain compliance with the 401 & 404 permits throughout the duration of the project.

Mitigation requirements resulting from the use of these excess material sites will be in the form of in-lieu fees and will be paid by the KYTC prior to stream/wetland impacts occurring in the excess material sites.

The KYTC has acquired fee simple ownership to both sites. The sites are adjacent to KYTC right of way and may be accessed from it. The contractor must secure any haul roads or accesses through other properties by agreements with property owners or other governmental agencies (i.e. County roads, private roads, etc.).

The KYTC is not responsible for damages or repairs to accesses to sites located outside of state right of way. The contractor must notify the KYTC prior to tree clearing in the excess material sites. The location of the excess material sites and their boundaries are identified on plan sheet R14.

Any work associated with the excess material site will be incidental to the excavation cost including but not limited to the following items: Erosion Control Devices, Clearing and Grubbing, Seeding and Protection, Temporary and Permanent Drainage Ditches, and Structures (including pipes, culverts, etc.). Please refer to plan sheet 49 Geotechnical Notes Sheet – Notes 12–22 for additional excess material site requirements. Notes 18-20 only apply to the Large Site (South).

The contractor shall abide by Section 205.04 in the Standard Specifications for Road and Bridge Construction Manual for excess material disposal.

PROPOSAL BID ITEMS

Report Date 3/19/26

261507

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 GUARDRAIL 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 3-19-26)	3,057,198.00	CUYD		$	
0235	02223		GRANULAR EMBANKMENT (ADDED 3-19-26)	9,374.00	CUYD		$	
0240	02242		WATER	200.00	MGAL		$	
0250	02273		FENCE-4 FT CHAIN LINK	180.00	LF		$	
0260	02287		DOUBLE VEHICULAR CHAIN LINK GATE (24' WIDE GATE)	1.00	EACH		$	
0270	02351		GUARDRAIL-STEEL W BEAM-S FACE	1,687.50	LF		$	
0280	02367		GUARDRAIL END TREATMENT TYPE 1	5.00	EACH		$	
0290	02381		REMOVE GUARDRAIL	1,285.00	LF		$	
0300	02383		REMOVE & RESET GUARDRAIL	2,973.00	LF		$	
0310	02397		TEMP GUARDRAIL	100.00	LF		$	
0320	02429		RIGHT-OF-WAY MONUMENT TYPE 1	54.00	EACH		$	
0330	02432		WITNESS POST	54.00	EACH		$	
0340	02488		CHANNEL LINING CLASS IV	818.00	CUYD		$	

PROPOSAL BID ITEMS

Report Date 3/19/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0350	02545		CLEARING AND GRUBBING APPROX. 151 ACRES	1.00	LS		$	
0360	02555		CONCRETE-CLASS B	2.25	CUYD		$	
0370	02562		TEMPORARY SIGNS	650.00	SQFT		$	
0380	02585		EDGE KEY	159.00	LF		$	
0385	02602		FABRIC-GEOTEXTILE CLASS 1 (ADDED 3-19-26)	10,030.00	SQYD		$	
0390	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	1,072.00	SQYD	$2.00	$	$2,144.00
0400	02608		FABRIC-GEOTEXTILE CLASS 4A	64,082.00	SQYD		$	
0410	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0420	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0430	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0440	02690		SAFELOADING	20.10	CUYD		$	
0450	02696		SHOULDER RUMBLE STRIPS	9,830.00	LF		$	
0460	02701		TEMP SILT FENCE	2,800.00	LF		$	
0470	02703		SILT TRAP TYPE A	152.00	EACH		$	
0480	02704		SILT TRAP TYPE B	152.00	EACH		$	
0490	02705		SILT TRAP TYPE C	152.00	EACH		$	
0500	02706		CLEAN SILT TRAP TYPE A	152.00	EACH		$	
0510	02707		CLEAN SILT TRAP TYPE B	152.00	EACH		$	
0520	02708		CLEAN SILT TRAP TYPE C	152.00	EACH		$	
0530	02726		STAKING	1.00	LS		$	
0540	03171		CONC BARRIER WALL TYPE 9T	5,360.00	LF		$	
0550	05950		EROSION CONTROL BLANKET	67,768.00	SQYD		$	
0560	05952		TEMP MULCH	488,000.00	SQYD		$	
0570	05953		TEMP SEEDING AND PROTECTION	366,000.00	SQYD		$	
0580	05963		INITIAL FERTILIZER	76.00	TON		$	
0590	05964		MAINTENANCE FERTILIZER	38.00	TON		$	
0600	05985		SEEDING AND PROTECTION	665,700.00	SQYD		$	
0610	05992		AGRICULTURAL LIMESTONE	454.00	TON		$	
0620	06406		SBM ALUM SHEET SIGNS .080 IN	163.00	SQFT		$	
0630	06407		SBM ALUM SHEET SIGNS .125 IN	162.00	SQFT		$	
0640	06410		STEEL POST TYPE 1	669.00	LF		$	
0650	06412		STEEL POST MILE MARKERS	1.00	EACH		$	
0660	06510		PAVE STRIPING-TEMP PAINT-4 IN	4,640.00	LF		$	
0670	06511		PAVE STRIPING-TEMP PAINT-6 IN	43,200.00	LF		$	
0680	06514		PAVE STRIPING-PERM PAINT-4 IN	2,821.00	LF		$	
0690	06530		PAVE STRIPING REMOVAL-4 IN	710.00	LF		$	
0700	06531		PAVE STRIPING REMOVAL-6 IN	11,620.00	LF		$	
0710	06542		PAVE STRIPING-THERMO-6 IN W	11,450.00	LF		$	
0720	06543		PAVE STRIPING-THERMO-6 IN Y	11,760.00	LF		$	
0730	06568		PAVE MARKING-THERMO STOP BAR-24IN	42.00	LF		$	
0740	06574		PAVE MARKING-THERMO CURV ARROW	12.00	EACH		$	
0750	06588		PAVEMENT MARKER TY IVA-BY TEMP	2,160.00	EACH		$	
0760	06610		INLAID PAVEMENT MARKER-MW	144.00	EACH		$	
0770	06612		INLAID PAVEMENT MARKER-BY	75.00	EACH		$	
0780	08100		CONCRETE-CLASS A	12.62	CUYD		$	
0790	08912		CRASH CUSHION TY 6 CLASS T TL3	2.00	EACH		$	
0800	10020NS		FUEL ADJUSTMENT	560,772.00	DOLL	$1.00	$	$560,772.00
0810	10030NS		ASPHALT ADJUSTMENT	59,473.00	DOLL	$1.00	$	$59,473.00

PROPOSAL BID ITEMS

Report Date 3/19/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0820	20000ES724		TREE (ROSE BUD)	111.00	EACH		$	
0830	20191ED		OBJECT MARKER TY 3	5.00	EACH		$	
0840	20430ED		SAW CUT	4,765.00	LF		$	
0850	20458ES403		CENTERLINE RUMBLE STRIPS	5,216.00	LF		$	
0860	21289ED		LONGITUDINAL EDGE KEY	2,272.00	LF		$	
0870	23010EN		PAVE MARK TEMP PAINT STOP BAR-24 IN	59.00	LF		$	
0880	23274EN11F		TURF REINFORCEMENT MAT 1	2,460.00	SQYD		$	
0890	23624EC		REMOVE AND RESET CRASH CUSHION	2.00	EACH		$	
0900	24631EC		BARCODE SIGN INVENTORY	46.00	EACH		$	
0910	24814EC		PIPELINE INSPECTION	793.00	LF		$	
0920	26204EC		PGR GROUT	6.00	CUYD		$	
0930	26248EC		ELECTRONIC DELIVERY MGMT SYSTEM - AGG	1.00	LS		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0940	00462		CULVERT PIPE-18 IN	81.00	LF		$	
0950	00464		CULVERT PIPE-24 IN	172.00	LF		$	
0960	00466		CULVERT PIPE-30 IN	86.00	LF		$	
0970	00468		CULVERT PIPE-36 IN	210.00	LF		$	
0980	01204		PIPE CULVERT HEADWALL-18 IN	2.00	EACH		$	
0990	01208		PIPE CULVERT HEADWALL-24 IN	6.00	EACH		$	
1000	01210		PIPE CULVERT HEADWALL-30 IN	2.00	EACH		$	
1010	01212		PIPE CULVERT HEADWALL-36 IN	4.00	EACH		$	
1020	21799EN		BORE AND JACK PIPE-24 IN	118.00	LF		$	
1030	21800EN		BORE AND JACK PIPE-30 IN	82.00	LF		$	
1040	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
1050	02568		MOBILIZATION	1.00	LS		$	
1060	02569		DEMOBILIZATION	1.00	LS		$	

404/401 Permit Application

KY 15 Rockfall Mitigation
Breathitt County, KY
KYTC Item No. 10-5014.00
February 2025

TABLE OF CONTENTS

Transportation LOP (LRL-2006-259) Complete Application Check List/Cover Sheet
and
Public Interest Review Checklist

Project Name: KY 15 rockfall mitigation, Breathitt County	**Corps I.D.**	**Corps PM:**	
Applicant: Kentucky Transportation Cabinet	**Agent:** Emma Priger	**KYTC Item No.** 10-5014.00	
Application Information			
	N/A	**Yes**	**No**
D.A. Application Form **w/signature and date**		X	
Date of Pre-Filing meeting:	X		
Maps (Location map, topo w/project & impacts)		X	
Complete project description, including temporary impacts		X	
JD (prelim or approved)		X	
Wetland Data Sheets (regional supplements)	X		
RBP Sheets		X	
EKSAP sheets (Eastern KY)		X	
Engineer drawings with clear date		X	
Impact Table		X	
Final Mitigation Plan (Permittee-responsible mitigation (PRM))	X		
Mitigation statement with name of bank to be used		X	
Statement that RIBITS shows AMUs/EIUs are/are not available at banks in service area		X	
Mitigation calculations		X	
Complete NEPA document		X	
Purpose and Need Statement		X	
Criteria for determining Preferred Alternative		X	
Complete detailed Alternative Analysis **with impacts for each**		X	
If Preferred Alternative is not the LEDPA, provide detailed justification		X	
Avoidance/minimization measures being taken		X	
Section 7 BA		X	
Section 7 BO/Concurrence Letter or MOA - **signed**	X		
IBCF Form w/Determination(s) of Effect for each species & narrative justification(s)		X	
Aquatic Organism Passage (AOP) statement		X	
Section 106 Concurrence/MOA - **signed**		X	
Individual WQC, Waiver or General Certification		X	
State or federally funded statement		X	
Other:	X		

Revised: January 23, 2023

Public Interest Review Checklist

	Addressed		
	N/A	Yes	No
1. Conservation		X	
2. Economics		X	
3. Aesthetics		X	
4. General Environmental Concerns		X	
5. Wetlands		X	
6. Historic Properties		X	
7. Fish and Wildlife Values		X	
8. Flood Hazards		X	
9. Floodplain Values		X	
10. Land Use		X	
11. Navigation		X	
12. Shoreline Erosion and Accretion		X	
13. Recreation		X	
14. Water Supply and Conservation		X	
15. Water Quality		X	
16. Energy Needs		X	
17. Safety		X	
18. Food and Fiber Production		X	
19. Mineral Needs		X	
20. Consideration of Property Ownership		X	
21. Needs and Welfare of the People		X	
22. Other:	X		

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

For use of this form, see 33 CFR 325. The proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires: 2027-10-31

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Emma Middle - Last - Priger	First - Stephen Middle - Last - Rice
Company - KYTC	Company - HMB Professional Engineers, Inc.
E-mail Address - Emma.Priger@ky.gov	E-mail Address - srice@hmbpe.com
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address- 200 Mero Street	Address- 3 HMB Circle
City - Frankfort State - KY Zip - 40601 Country - USA	City - Frankfort State - KY Zip - 40601 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business (502) 564-7250 c. Fax	a. Residence b. Business (502) 695-9800 c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

Emma Priger Digitally signed by Emma Priger Date: 2025.01.21 11:22:40 -05'00' — SIGNATURE OF APPLICANT

2025-01-21 — DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
KY 15 rockfall mitigation, Breathitt County, Item Number 10-5014.00

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
unnamed tribs of North Fork Kentucky River	Address
15. LOCATION OF PROJECT	City - State- Zip-
Latitude: ◦N 37.536786 Longitude: ◦W 83.347667	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

From Jackson take KY 15 south to the intersection with KY 30. This is near the beginning of the project.

18. Nature of Activity (Description of project, include all features)

The project will entail the reconstruction of 0.89 miles of KY 15, and the construction of two excess material sites.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the project is to mitigate a rockfall hazard area. This section of road is bordered by a vertical rock cut which 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.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

To necessitate the construction of the KY 15 reconstruction, the placement of culverts is required.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Native rock and soil: 295 CY		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0 ac of wetland; 0.187 ac of stream

or

Linear Feet 2,457

23. Description of Avoidance, Minimization, and Compensation (see instructions)

The project uses the existing highway corridor for a portion of the project (where feasible) to minimize impacts, and in-lieu fee will be used to compensate for stream loss.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Emma Priger Digitally signed by Emma Priger Date: 2025.01.21 11:23:22 -05'00' 2025-01-21

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
ATTACHMENT BLOCK 25
KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

Darrell Stephen McIntosh
1221 Lakeside Dr.
Jackson, KY 41339

Latisha & Saxon Davis
PO Box 572
Jackson, KY 41339

KENTUCKY ENERGY & ENVIRONMENT CABINET

§401 Water Quality Certification Pre-Filing Meeting Request Form

Federal regulation 40 CFR 121.4 requires the applicant to submit a pre-filing meeting request before filing a *Certification Request*. More information may be viewed on the U.S. EPA Overview of §401 Certification webpage.

This form may be used to request the pre-filing meeting and submitted to the Division of Water at **401WQC@ky.gov.** This form may be submitted with the *Application to Construct Across or Along a Stream and/or Water Quality Certification.*

The information requested below will allow the Division of Water to provide guidance for filing a *§401 Water Quality Certification Request* once a complete application has been received and reviewed.

Contact the Water Quality Certification Section at 401WQC@ky.gov or 502-564-3410 with any questions.

SECTION I – Applicant Information (property owner or easement holder)	
Applicant Name: Emma Priger	Emma.Priger@ky.gov
The *Application for Permit to Construct Across or Along A Stream and/or Water Quality Certification* (Form DOW 7116, July 2008) is required for Individual Water Quality Certification.	☒ Attached ☐ Submitted
AI Number (leave blank if unknown):	
Date: 1/10/2025	
SECTION II – Alternate Contact/ Consultant Information (Optional, a consultant is not required)	
Alternate Name: Stephen Rice	E-Mail Address: srice@hmbpe.com

SECTION III – The federal license or permit(s) required for the activity (check all that apply)

☐ Section 404 Permit ☐ Section 10 Permit ☐ Nationwide Permit (NWP) No.: ☒ LOP (Section 10/404)

☐ Section 10/404 Regional General Permit ☐ TVA 26a Permit ☐ Federal Energy Regulatory Commission

SECTION IV – Project Site Information		
Site or Project Name: KY 15 rockfall mitigation, 10-5014.00	Latitude & Longitude (decimal degrees): 37.536786, -83.347667	
4a.	Water Resource proposed for alteration: ☒ Stream/River ☐ Wetland	
4b.	Name of Water Resource (access watermaps.ky.gov for more information): tributaries of North Fork Kentucky River	
4c.	Surface Water Resource Impacts (permanent and temporary): Linear feet of stream/river: 2,457’ Average stream/river width (feet): 2’ Acreage of wetland: 0 ac	
4d.	Has a Jurisdictional Determination been received from the U.S. Army Corps of Engineers?	☐ Yes ☒ No
4e.	Are the streams and/or wetlands that will be impacted identified by the Division of Water as **Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters**? (access watermaps.ky.gov and Water Quality Certification Viewer for more information)	☐ Yes ☒ No

Form continues on the next page

4f.	Are the streams and/or wetland that will be impacted identified by the Division of Water as **impaired** for warm water or cold water aquatic habitat where the parameter or source is related to habitat? (access watermaps.ky.gov and Water Quality Certification Viewer for more information)	☐ Yes ☒ No
4g.	Are the streams and/or wetland that will be impacted identified by the Division of Water as **full support** for warm water or cold water aquatic habitat? (access watermaps.ky.gov and Water Quality Certification Viewer for more information)	☐ Yes ☒ No
SECTION V – Project Description (some items may not apply)		
5a.	Description of the proposed project, including but not limited to the size, depth, length of the project, types of materials proposed for use, and anticipated timeline for construction and operation.	☒ Attached
5b.	Table of impacts: If there are multiple discharge locations that are not continuous, please include a separate table or figure listing the coordinate location (in decimal degrees) of each surface water impact, linear feet/ acreage of impact, name of waterbody, and stream flow type (ephemeral, intermittent, perennial).	☒ Attached
5c.	Site plans and description of site development, including but not limited to maps of surface waters and proposed surface water impacts within the project area.	☒ Attached
5d.	Proposed temporary impacts to surface waters: linear feet of temporary stream impacts, acreage of temporary wetland impacts, and the proposed plans for restoration.	☒ Attached
5e.	Preliminary Jurisdictional Determination (PJD) and/or Approved Jurisdictional Determination (AJD) issued by the U.S. Army Corps of Engineers.	☒ Attached
5f.	Compensatory mitigation proposal or compensatory mitigation statement for impacts to surface waters.	☒ Attached
5g.	Description of best management practices (BMPs) to be implemented to minimize the impacts to surface waters, including sedimentation and erosion control measures.	☒ Attached
5h.	For dredge activities: Dredge methods, disposal areas, proposed volume of material to be extracted, record of the most recent mussel survey if available.	☒ Attached
5i.	Endangered Species Act (ESA) Section 7 consultation or concurrence documentation, biological surveys, and/or other pertinent information regarding the presence of federally threatened or endangered aquatic species.	☒ Attached
5j.	Other information pertinent to the project.	☐ Attached

Submit the completed form and attachments through email to 401WQC@ky.gov.

S CTION PRO CT D SCRIPTION

KY 5 rockfall mitigation
KYTC Item No. 0-50 .00
reathitt Count KY

5a. KY 15 is a two-lane undivided highway that is classified as rural principal arterial route and is listed on the National Highway System. KY 15 provides road network connectivity between Jackson in Breathitt County and the City of Hazard in Perry County in eastern Kentucky. The proposed project is located in Breathitt County at the southern end of the city of Jackson. The project begins on KY 15 at milepoint 13.75 and ends at milepoint 14.64 near KY 15 s intersection with Quicksand Road (KY 1812) and KY 1098 in Breathitt County, and is 0.89 mile in length. 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. Material proposed for use is primarily native rock and soil and asphalt. Construction is estimated to begin September 1, 2025.

5b. See attached table of impacts.

5c. See attached maps and plans.

5d. There will be no temporary impacts from this project.

5e. See attached PJD.

5f. See attached mitigation proposal.

5g. This project will minimize impacts to surface waters via compliance with the KPDES General Storm Water Permit for Construction, achievement and compliance with a 401 Water Quality Certification and compliance with SMS4 requirements and local ordinances, where appropriate. Compliance is generally achieved through structural BMPs (silt fence, silt checks, detention basins etc) or non-structural BMPs such as mulching, seeding, grading, etc. BMPs will be constructed where necessary to prevent runoff into the streams.

5h. No dredging is proposed.

5i. Proper early consultation with the US Fish and Wildlife Service (USFWS) has occurred to satisfy the requirements of Section 7 of the Endangered Species Act e.g. an USFWS IPaC official species list for the project was generated. KYTC also considered species lists maintained by the Kentucky Nature Preserves Commission and the Kentucky Department of Fish and Wildlife Resources. Three bat species, 1 fish species, and one mussel species are listed by US Fish and Wildlife Service (USFWS) as potentially located within the project area. KYTC addressed the federally protected and listed species by conducting a Habitat Assessment. A No Effect Determination was made for the fish and mussel species. A Biological Assessment (BA) has been prepared to address the Indiana bat, gray bat and northern long-eared bat. A portal survey did not find any caves or rock shelters that would provided the needed habitat for the listed bats, so a not likely to adversely affect determination will be made for the gray bat. However, due to clearing of forested areas, a likely to adversely affect determination will be made for the northern long-eared bat and the Indiana bat. Tree clearing will follow the guidance of the B*iological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* developed in by the United Stated Fish and Wildlife Service, Kentucky Field Office (USFWS KFO) and the Federal Highway Administration (FHWA). The clearance documents are attached.

COMMONWEALTH OF KENTUCKY
ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER

APPLICATION FOR PERMIT TO CONSTRUCT ACROSS OR ALONG A STREAM AND / OR WATER QUALITY CERTIFICATION

Chapter 151 of the Kentucky Revised Statutes requires approval from the Division of Water prior to any construction or other activity in or along a stream that could in any way obstruct flood flows or adversely impact water quality. *If the project involves work in a stream, such as bank stabilization, dredging or relocation, a 401 Water Quality Certification (WQC) from the Division of Water will be required.* This completed form will be forwarded to the Water Quality Branch for WQC processing. The project may not start until all necessary approvals are received from the KDOW. For questions concerning the WQC process, contact the WQC section at 502/564-3410.

If the project will disturb more than 1 acre of soil, A Notice of Intent for Storm Water Discharges will also be required. Forms can be obtained at http://water.ky.gov/permitting/pages/generalpermits.aspx

1. **OWNER:** Kentucky Transportation Cabinet
   Give name of person(s), company, governmental unit, or other owner of proposed project.
   MAILING ADDRESS: 200 Mero Street
   Frankfort, KY 40601
   TELEPHONE #: 502-564-7250 **EMAIL:** Emma.Priger@ky.gov
2. **AGENT:** Stephen Rice
   Give name of person(s) submitting application, if other than owner.
   ADDRESS: HMB Professional Engineers, Inc. 3 HMB Circle
   Frankfort, KY 40601
   TELEPHONE #: 502-695-9800 **EMAIL:** srice@hmbpe.com
3. **ENGINEER:** _____ **P.E. NUMBER:** _____
   Contact Division of Water if waiver can be granted.
   TELEPHONE #: _____ **EMAIL:** _____
4. **DESCRIPTION OF CONSTRUCTION:** The project will entail the reconstruction of 0.89 miles of KY 15,
   List the items to be constructed in the floodplain
   and the construction of two excess material sites.
5. **COUNTY:** Breathitt **NEAREST COMMUNITY:** Jackson
6. **USGS QUAD NAME** Quicksand **LATITUDE/LONGITUDE:** 37.536786/-83.347667
7. **STREAM NAME:** tribs to North Fork Kentucky River **WATERSHED SIZE (in acres):** 51
8. **LINEAR FEET OF STREAM and/or ACRES OF WETLAND IMPACTED:** 2,457 ft stream / 0 ac wetland
9. **DIRECTIONS TO SITE:** From Jackson take KY 15 south to the intersection with KY 30. This is near the beginning of the project .

10. **IS ANY PORTION OF THE REQUESTED PROJECT NOW COMPLETE?** ☐ Yes ■ No If yes, identify the completed portion on the drawings you submit and indicate the date activity was completed. DATE: _____

11. **ESTIMATED BEGIN CONSTRUCTION DATE:** 09/01/2025

12. **ESTIMATED END CONSTRUCTION DATE:** 09/01/2026

13. **HAS A PERMIT BEEN RECEIVED FROM THE US ARMY, CORPS of ENGINEERS?** ☐ Yes ■ No If yes, attach a copy of that permit.

14. **THE APPLICANT *MUST* ADDRESS PUBLIC NOTICE:**

(a) **PUBLIC NOTICE HAS BEEN GIVEN FOR THIS PROPOSAL BY THE FOLLOWING MEANS:**

☐ **Public notice in newspaper having greatest circulation in area (provide newspaper clipping or affidavit)**
☐ **Adjacent property owner(s) affidavits (Contact Division of Water for requirements)**

(b) ☐ **I REQUEST WAIVER OF PUBLIC NOTICE BECAUSE:**

_____
Contact Division of Water for requirements.

15. **I HAVE CONTACTED THE FOLLOWING CITY OR COUNTY OFFICIALS CONCERNING THIS PROJECT:**

_____
Give name and title of person(s) contacted and provide copy of any approval city or county may have issued.

16. **LIST OF ATTACHMENTS:** _____
List plans, profiles, or other drawings and data submitted. Attach a copy of a 7.5 minute USGS topographic map clearly showing the project location.

17. **I,** EP **(owners Initials) CERTIFY THAT THE OWNER OWNS OR HAS EASEMENT RIGHTS ON ALL PROPERTY ON WHICH THIS PROJECT WILL BE LOCATED OR ON WHICH RELATED CONSTRUCTION WILL OCCUR (for dams, this includes the area that would be impounded during the design flood).**

18. **REMARKS:** _____

I hereby request approval for construction across or along a stream as described in this application and any accompanying documents. To the best of my knowledge, all the information provided is true and correct.

SIGNATURE: Emma Priger
Owner or Agent sign here. (If signed by Agent, a Power of Attorney should be attached.)

DATE: 01/21/2025

SIGNATURE OF LOCAL FLOODPLAIN COORDINATOR:

_____
Permit application will be returned to applicant if not properly endorsed by the local floodplain coordinator.

DATE: _____

SUBMIT APPLICATION AND ATTACHMENTS TO:

Floodplain Management Section
Division of Water
300 Sower Boulevard
Frankfort, KY 40601
- or -
DOWFloodplain@ky.gov

DOW 7116 Revised 11-2016

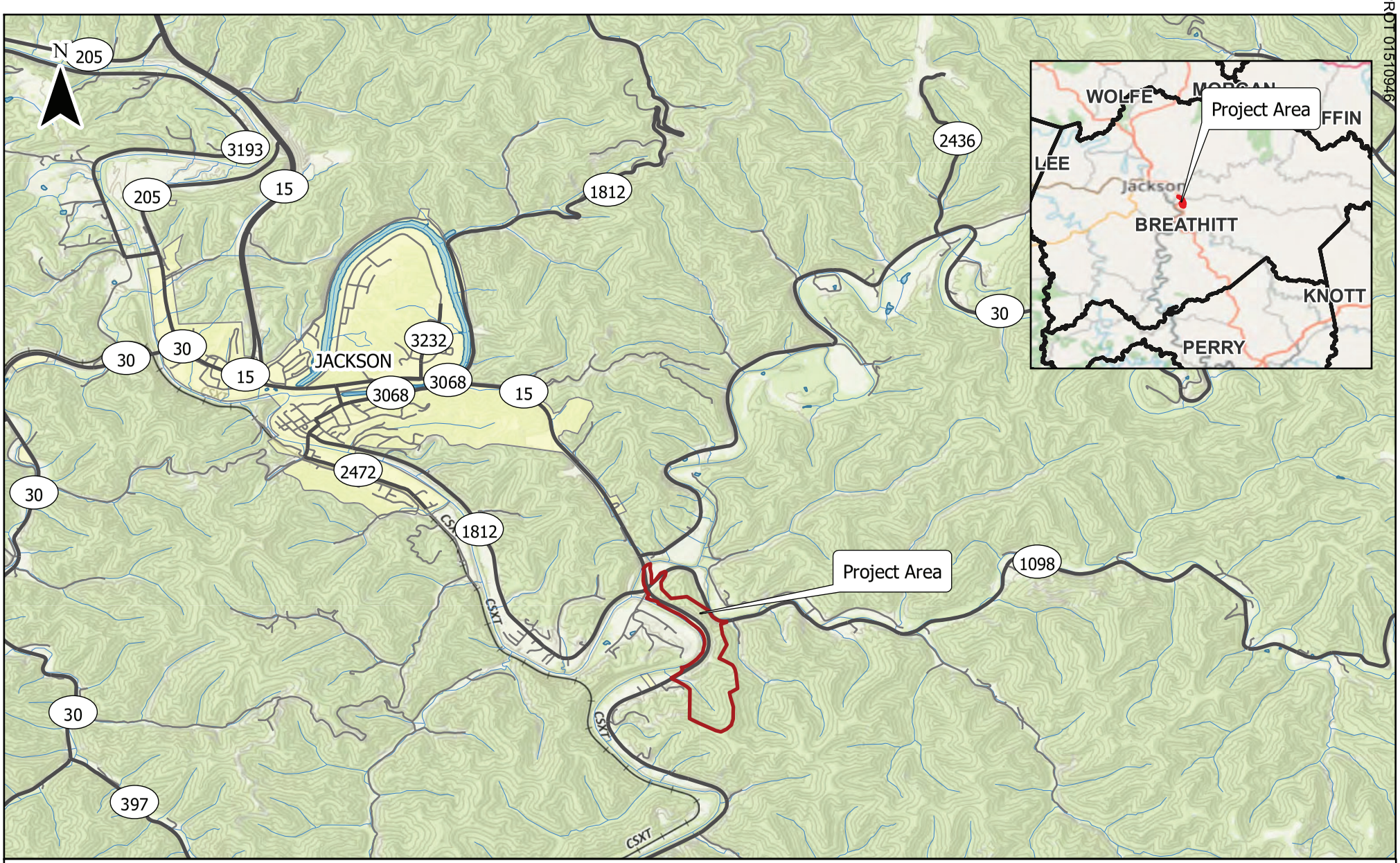


Exhibit 1: Vicinity Map

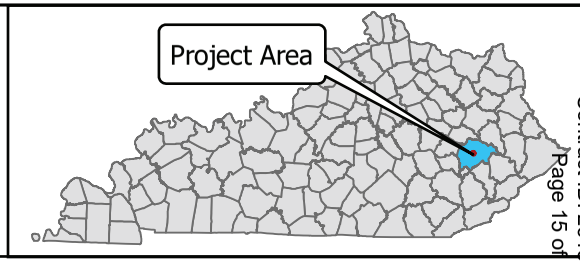
Project Area

State Roads

Local Roads

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

Miles
0 1 2



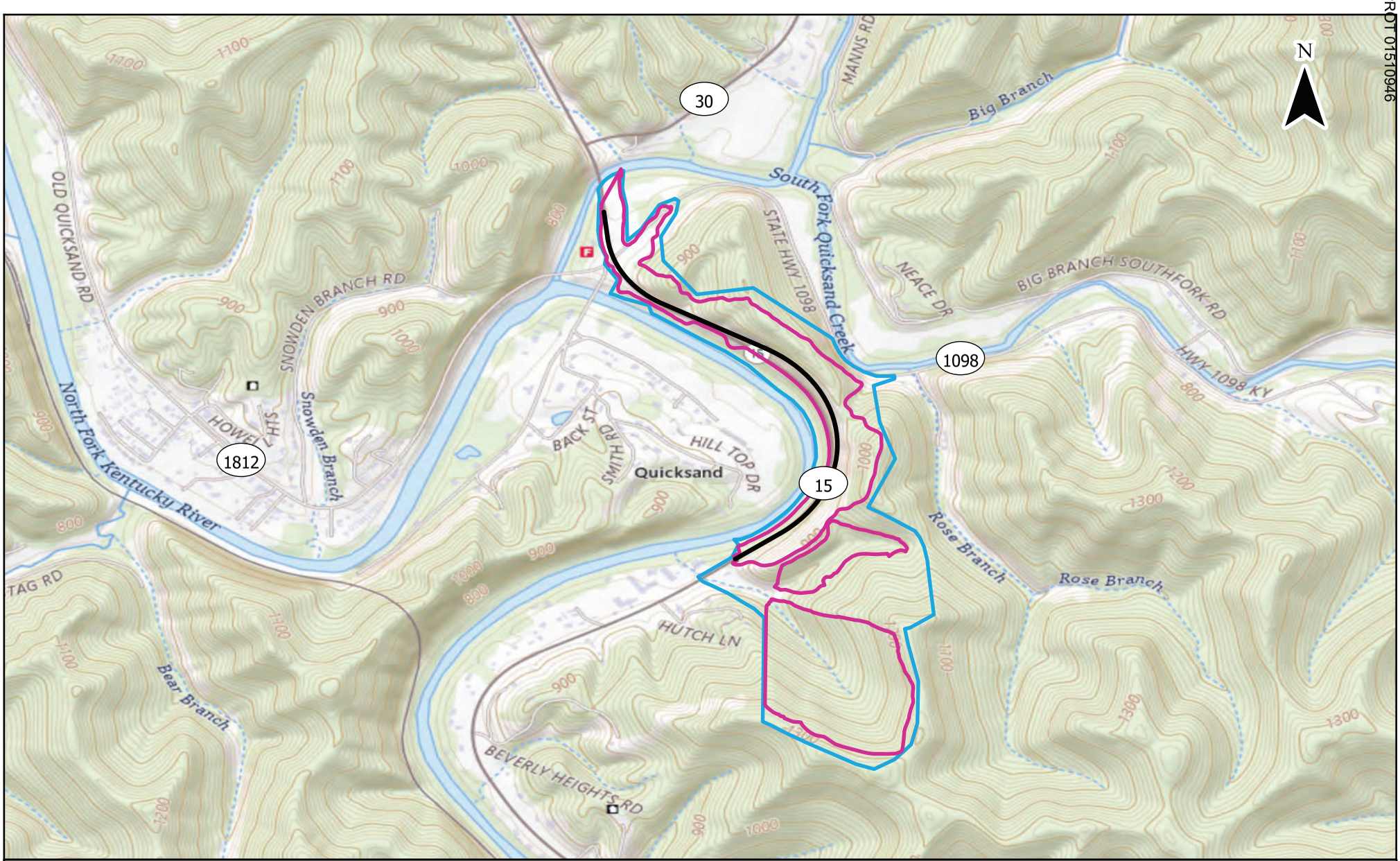


Exhibit 2: Alignment Location Map

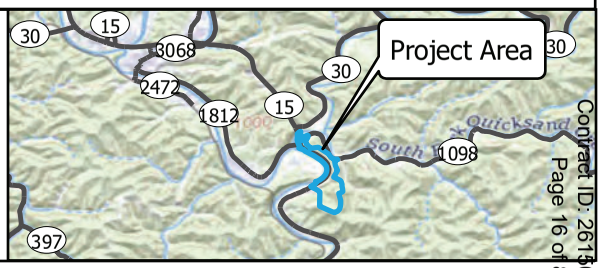
Centerline

Right-of-way

Disturb Limits

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

Feet
0 1,000 2,000



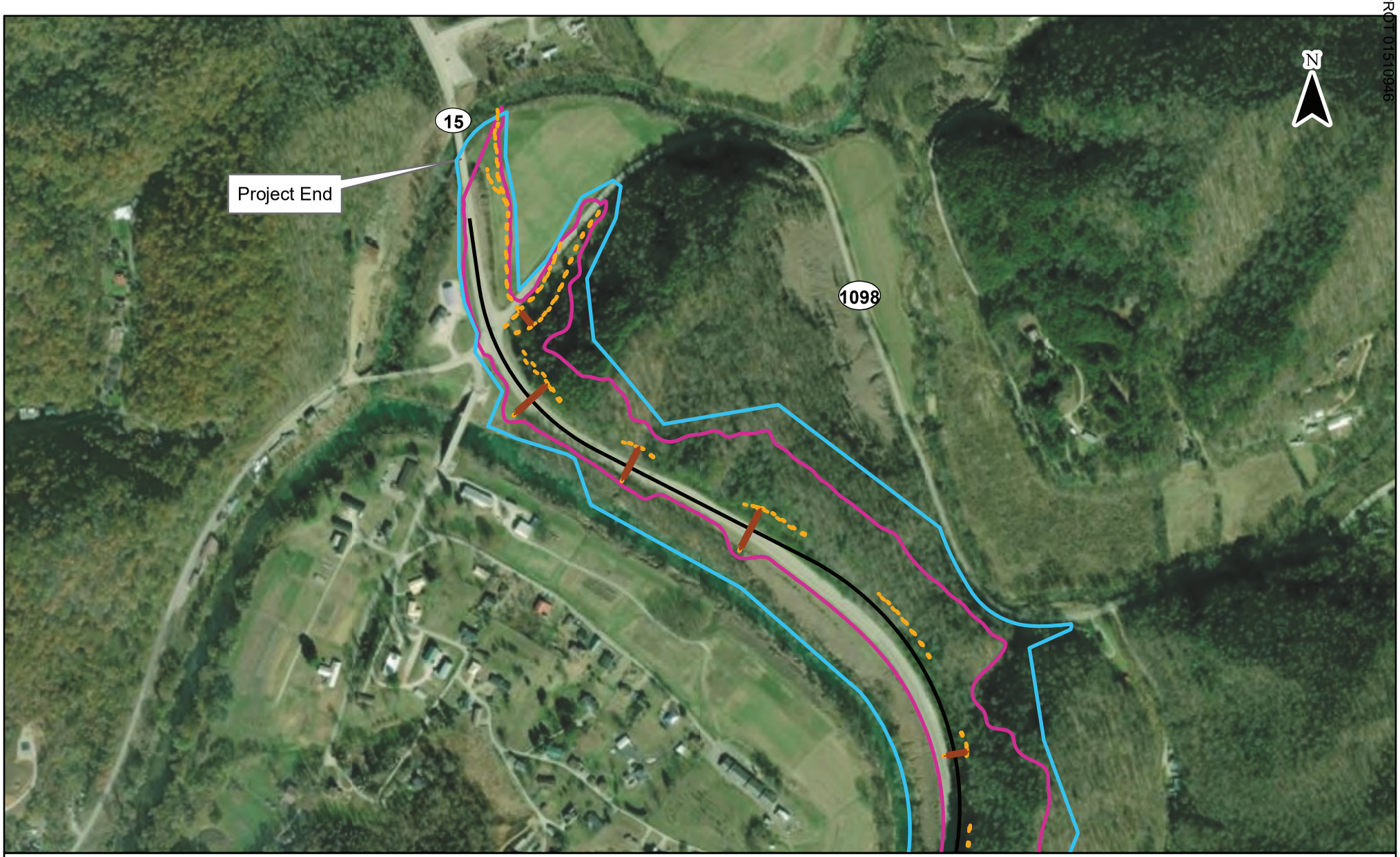
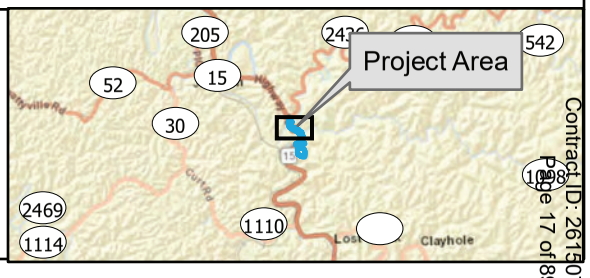


Exhibit 3-1.1: Impact Map (Aerial)

Intermittent
Ephemeral
Proposed Centerline
Proposed Disturb Limits
Proposed Culverts
Proposed Ditches
Proposed Right-of-way

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

US Feet
0 500 1,000



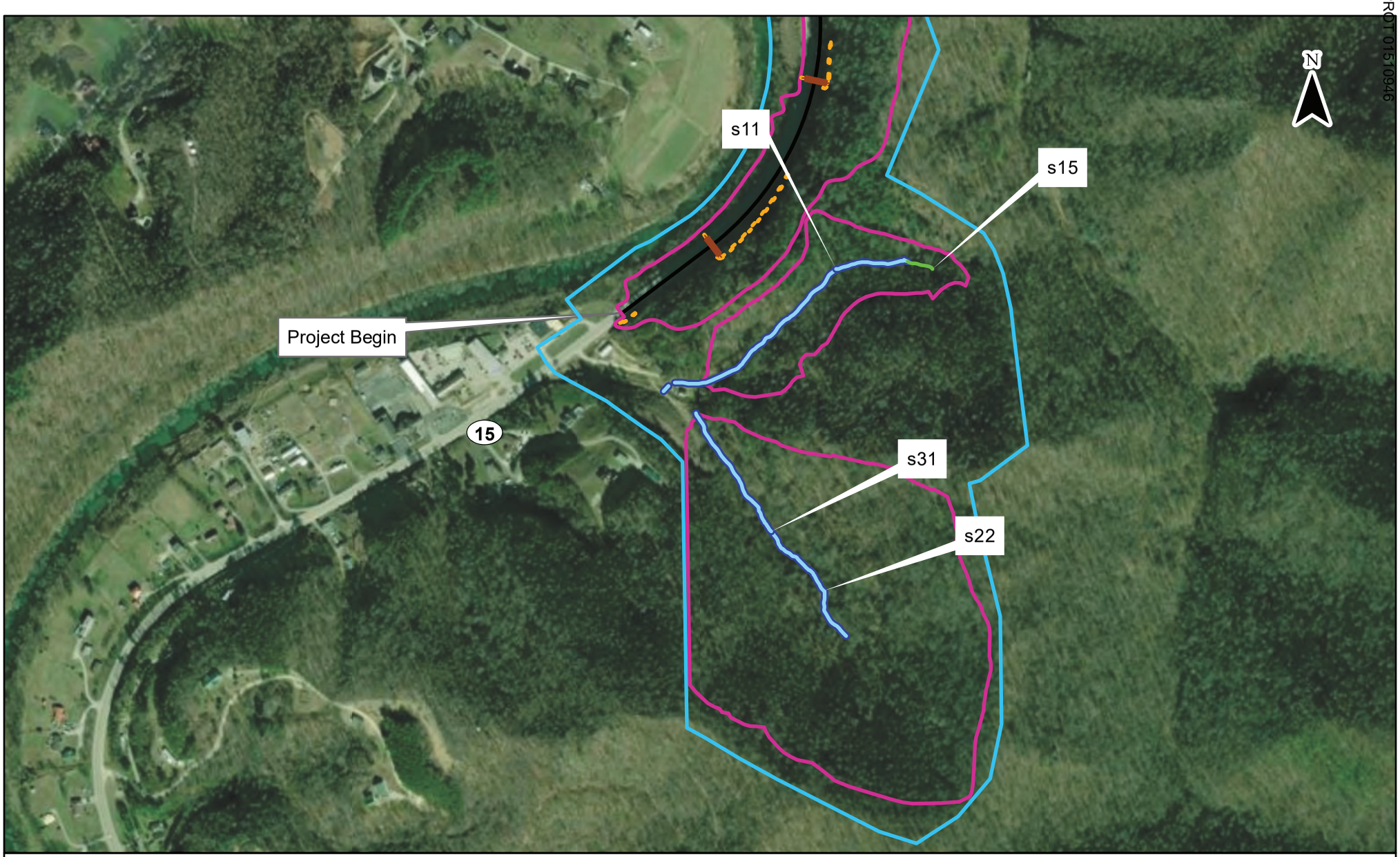
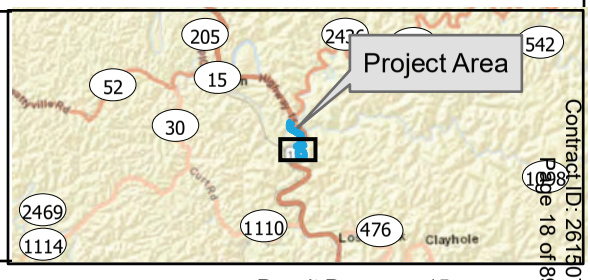


Exhibit 3-1.2: Impact Map (Aerial)

Intermittent
Ephemeral
Proposed Centerline
Proposed Disturb Limits
Proposed Culverts
Proposed Ditches
Proposed Right-of-way

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

0 500 1,000 US Feet



ADDED ADDENDUM #1 3/19/2026
Contract ID: 261107
Page 18 of 89

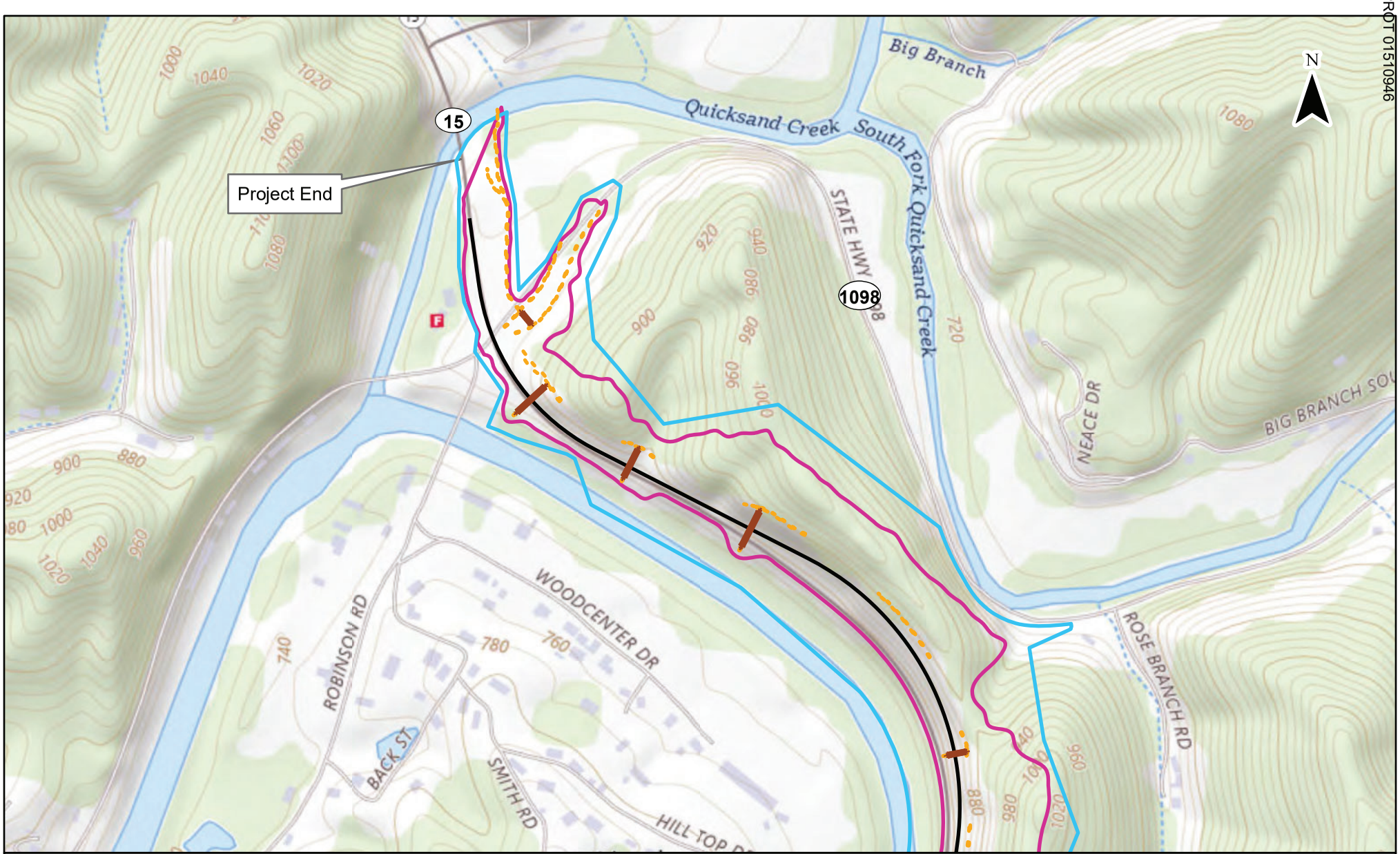
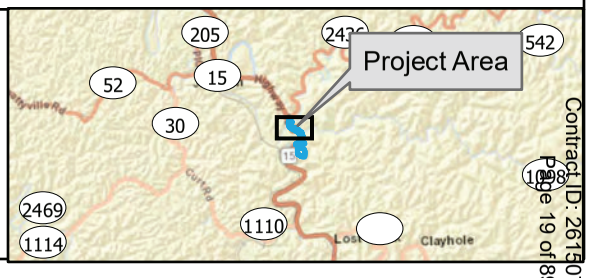


Exhibit 3-2.1: Impact Map (Topo)

Intermittent
Ephemeral
Proposed Centerline
Proposed Disturb Limits
Proposed Culverts
Proposed Ditches
Proposed Right-of-way

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

US Feet
0 500 1,000



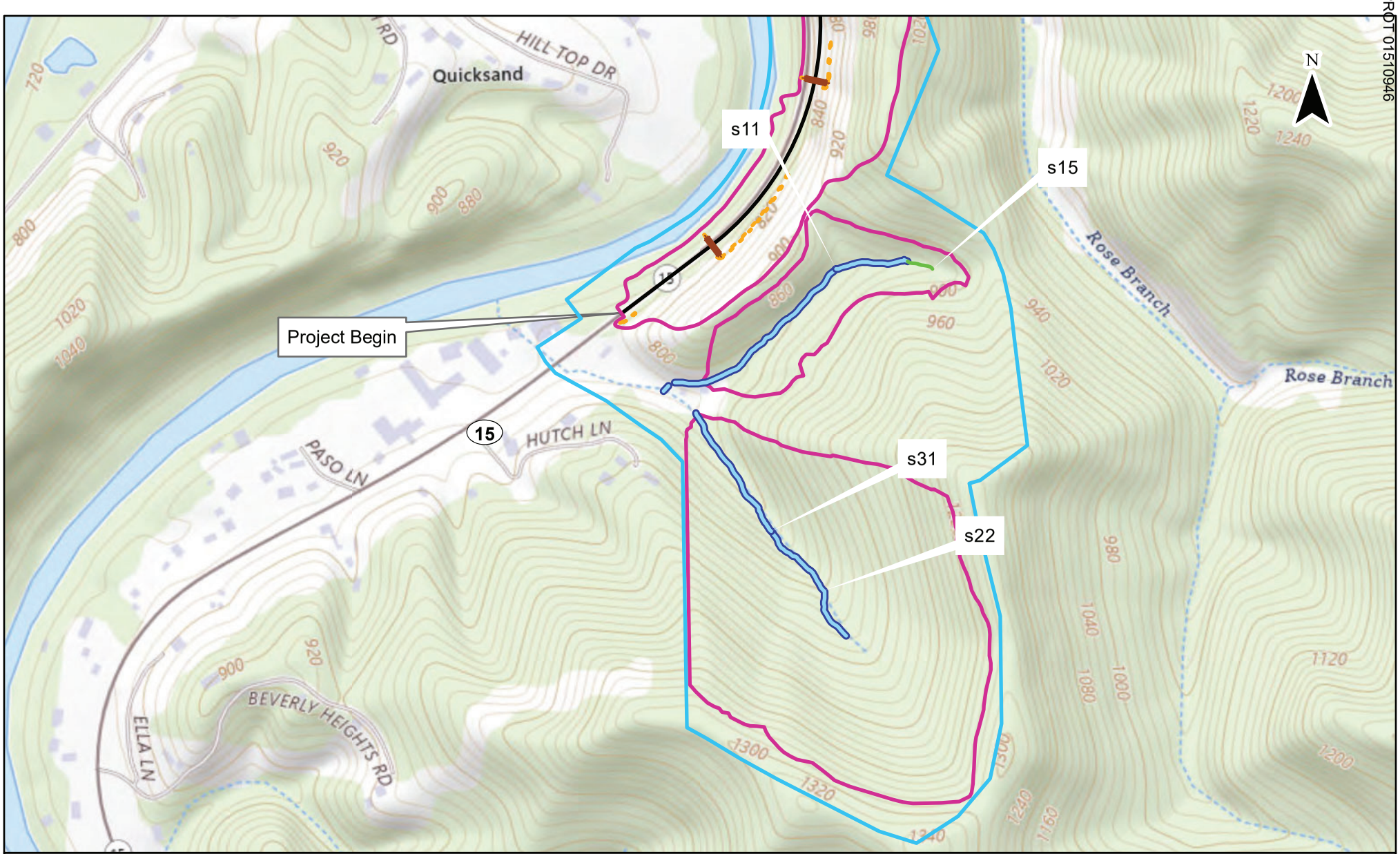
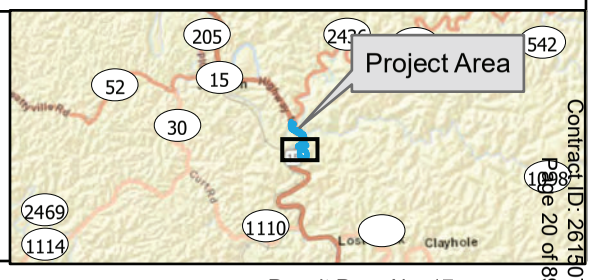


Exhibit 3-2.2: Impact Map (Topo)

Intermittent
Ephemeral
Proposed Centerline
Proposed Disturb Limits
Proposed Culverts
Proposed Ditches
Proposed Right-of-way

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

0 500 1,000 US Feet



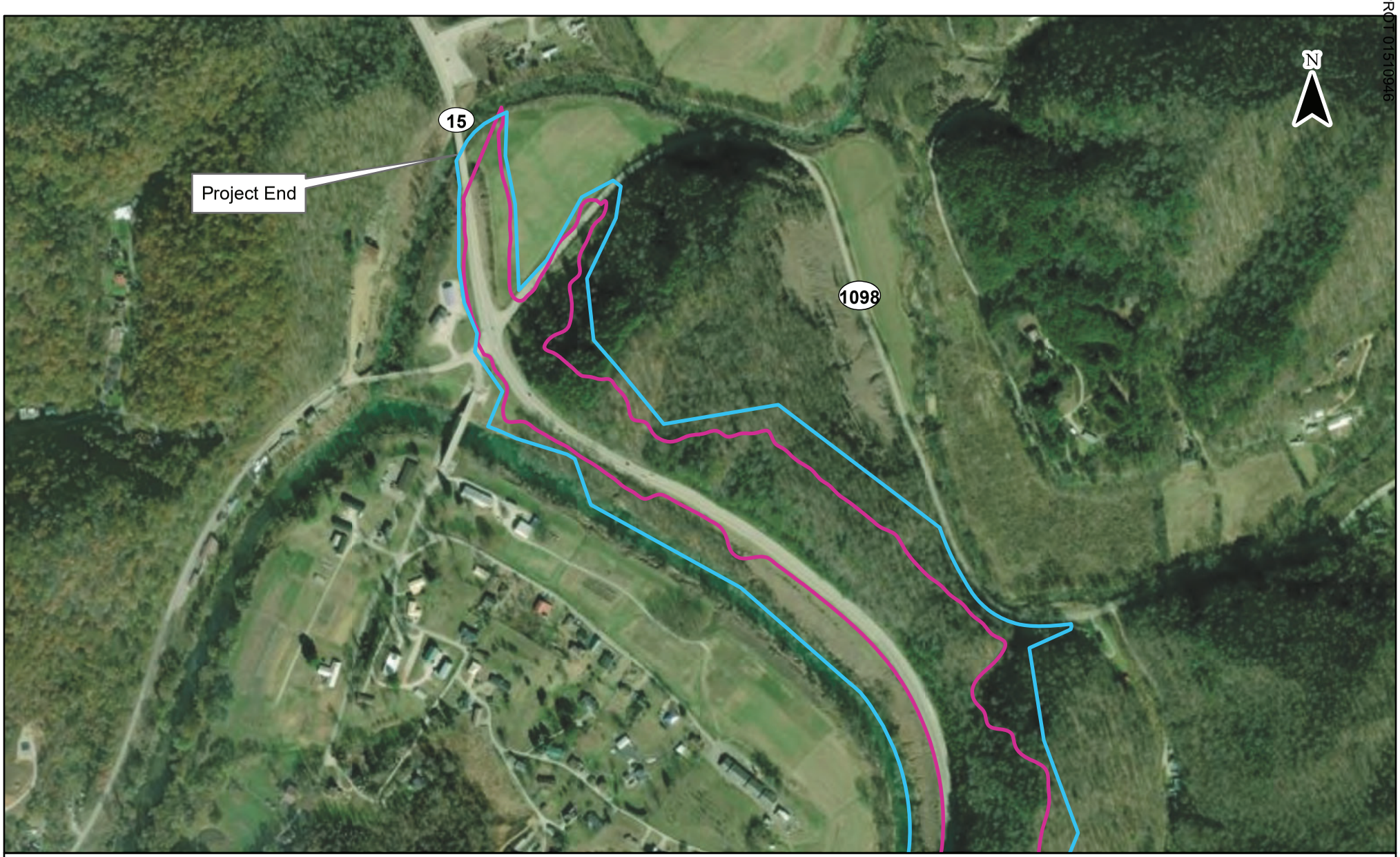
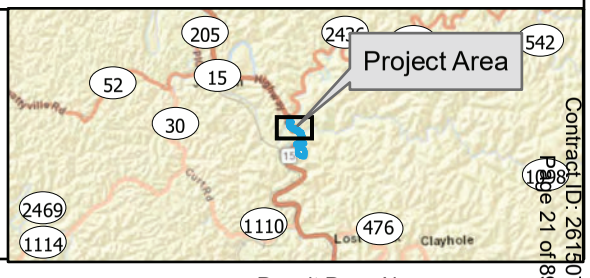


Exhibit 4-1.1: JD Map (Aerial)

Intermittent
Ephemeral
Proposed Right-of-way
Proposed Disturb Limits

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

0 500 1,000 US Feet



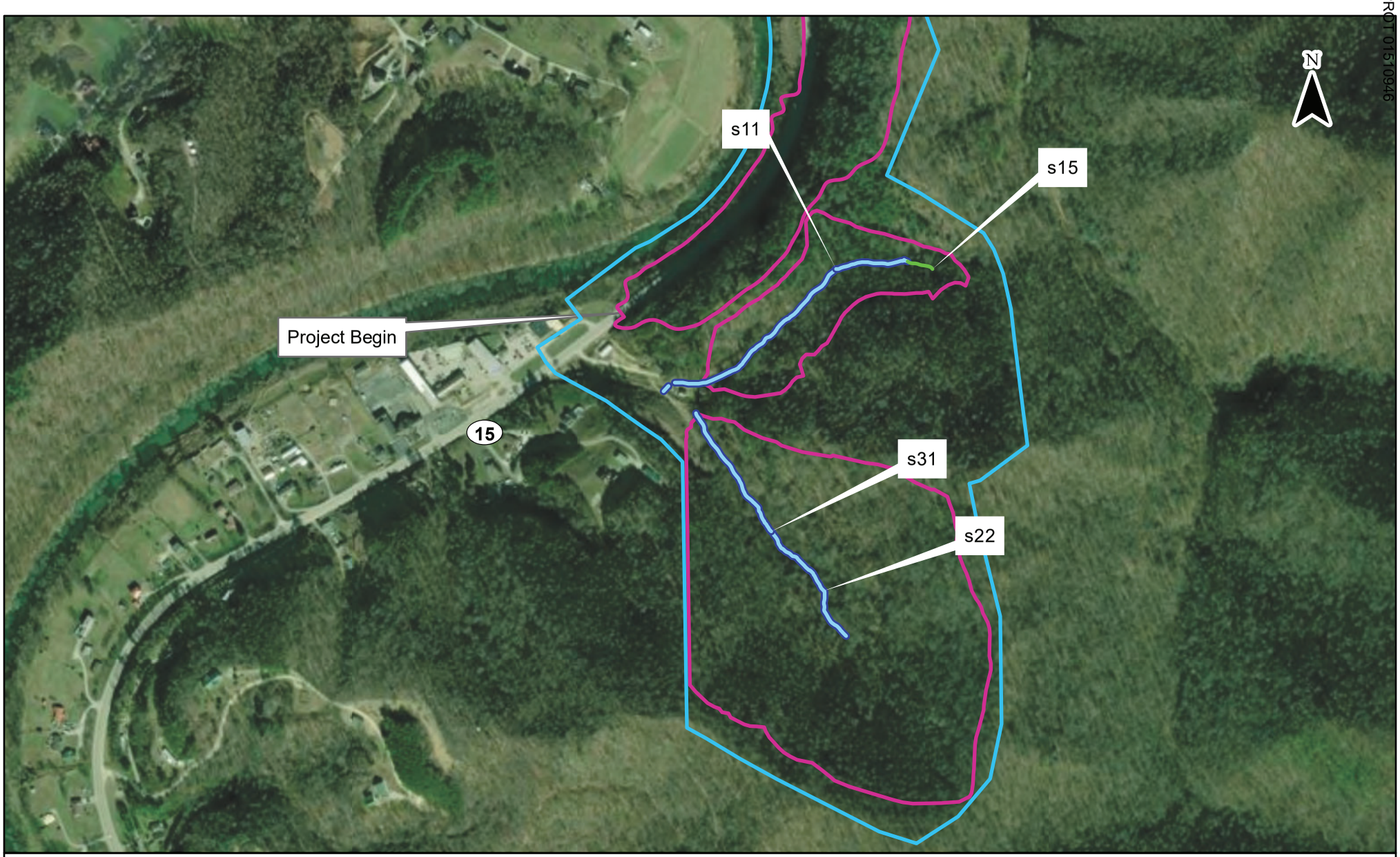
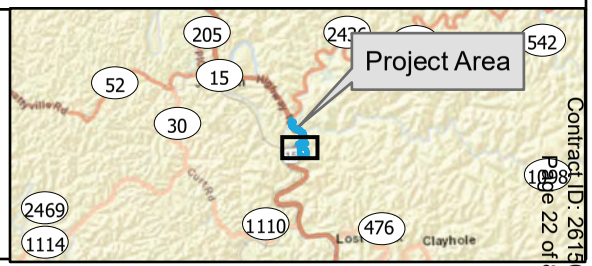


Exhibit 4-1.2: JD Map (Aerial)

Intermittent
Ephemeral
Proposed Right-of-way
Proposed Disturb Limits

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

0 500 1,000 US Feet



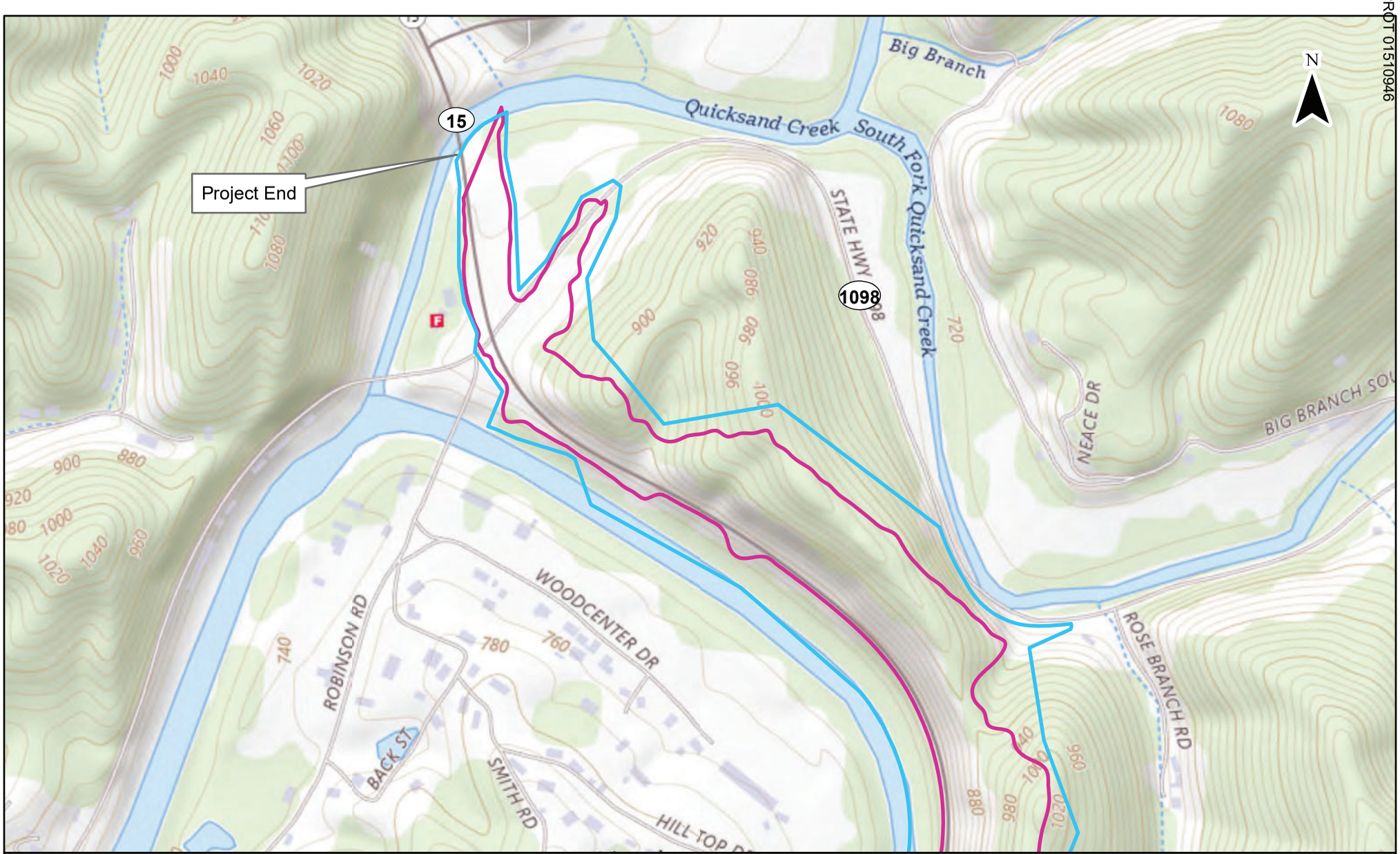
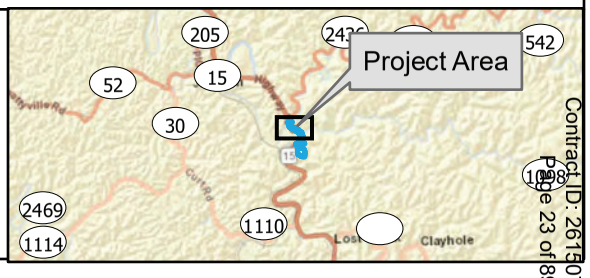


Exhibit 4-2.1: JD Map (Topo)

- Intermittent
- Ephemeral
- Proposed Right-of-way
- Proposed Disturb Limits

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

0 500 1,000 US Feet



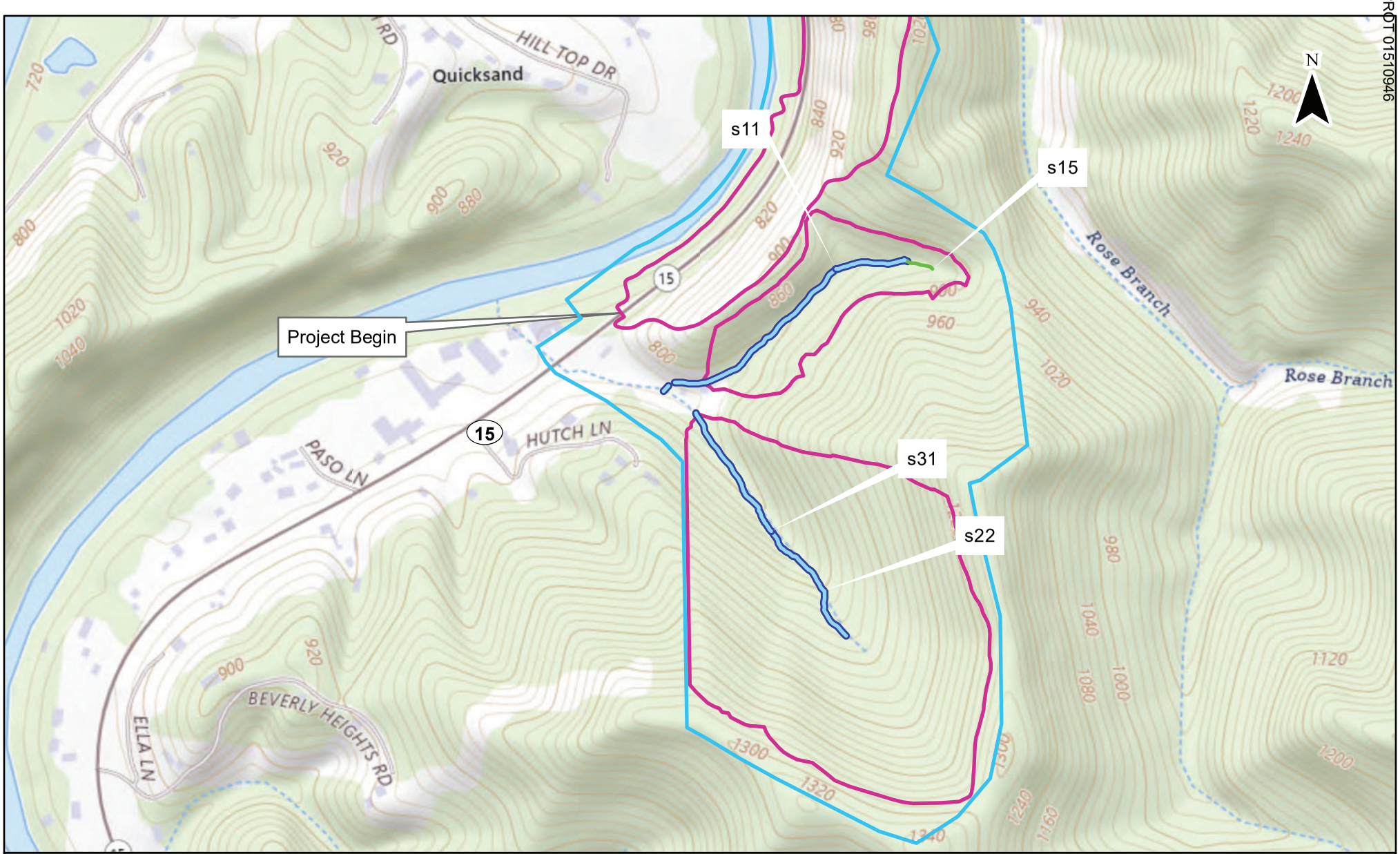
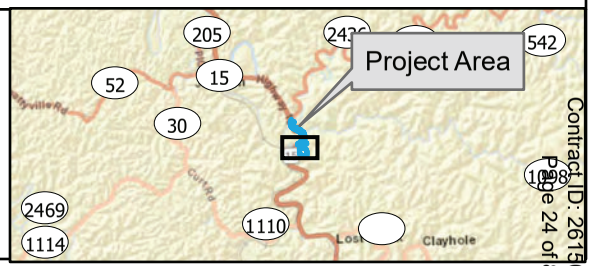


Exhibit 4-2.2: JD Map (Topo)

- Intermittent
- Ephemeral
- Proposed Right-of-way
- Proposed Disturb Limits

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

US Feet
0 500 1,000



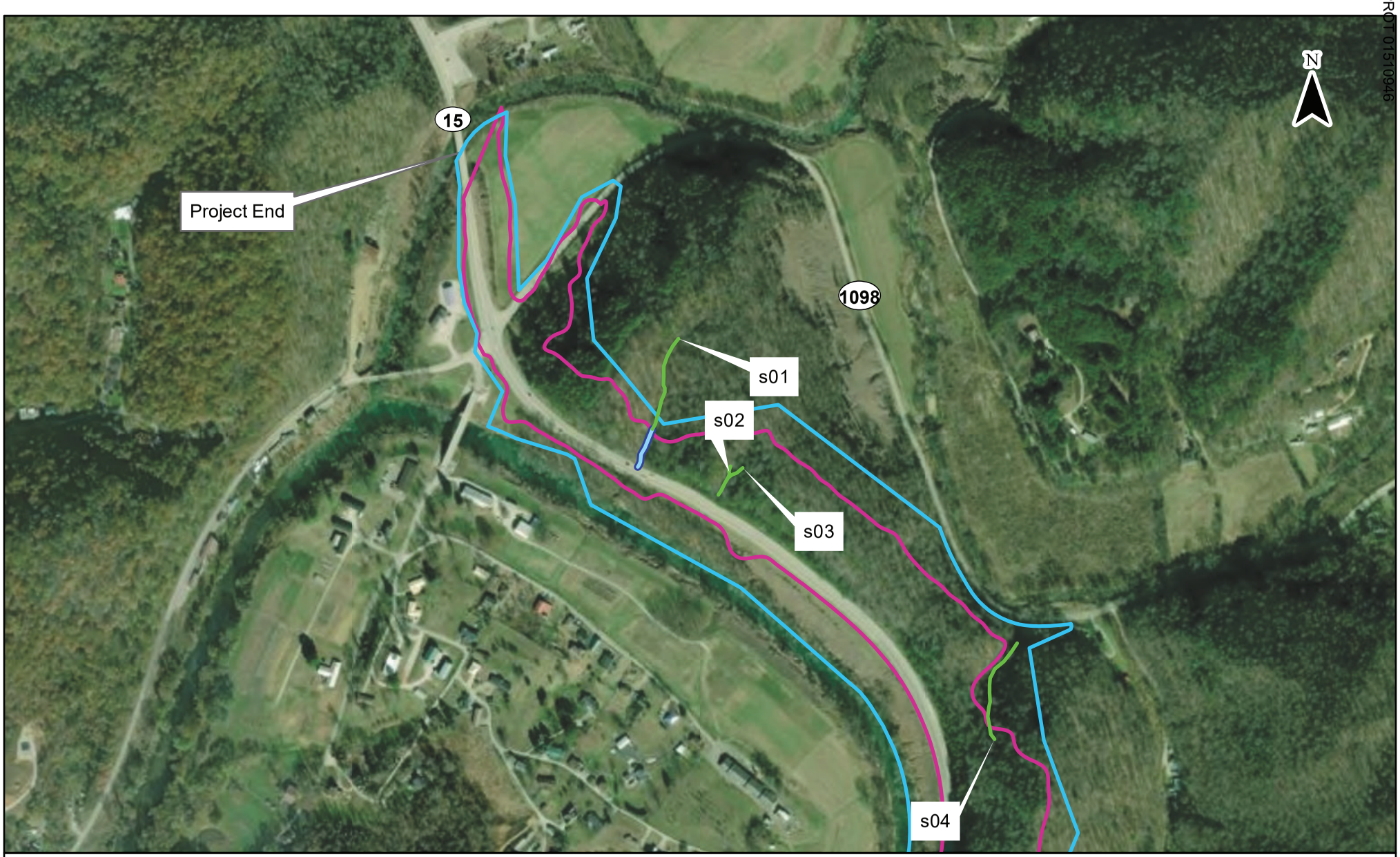
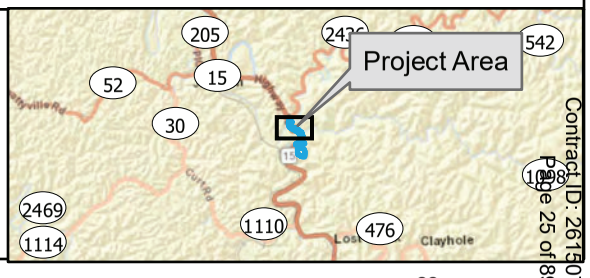


Exhibit 5.1: Non-JD Map (Aerial)

- Intermittent
- Ephemeral
- Proposed Right-of-way
- Proposed Disturb Limits

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

0 500 1,000 US Feet



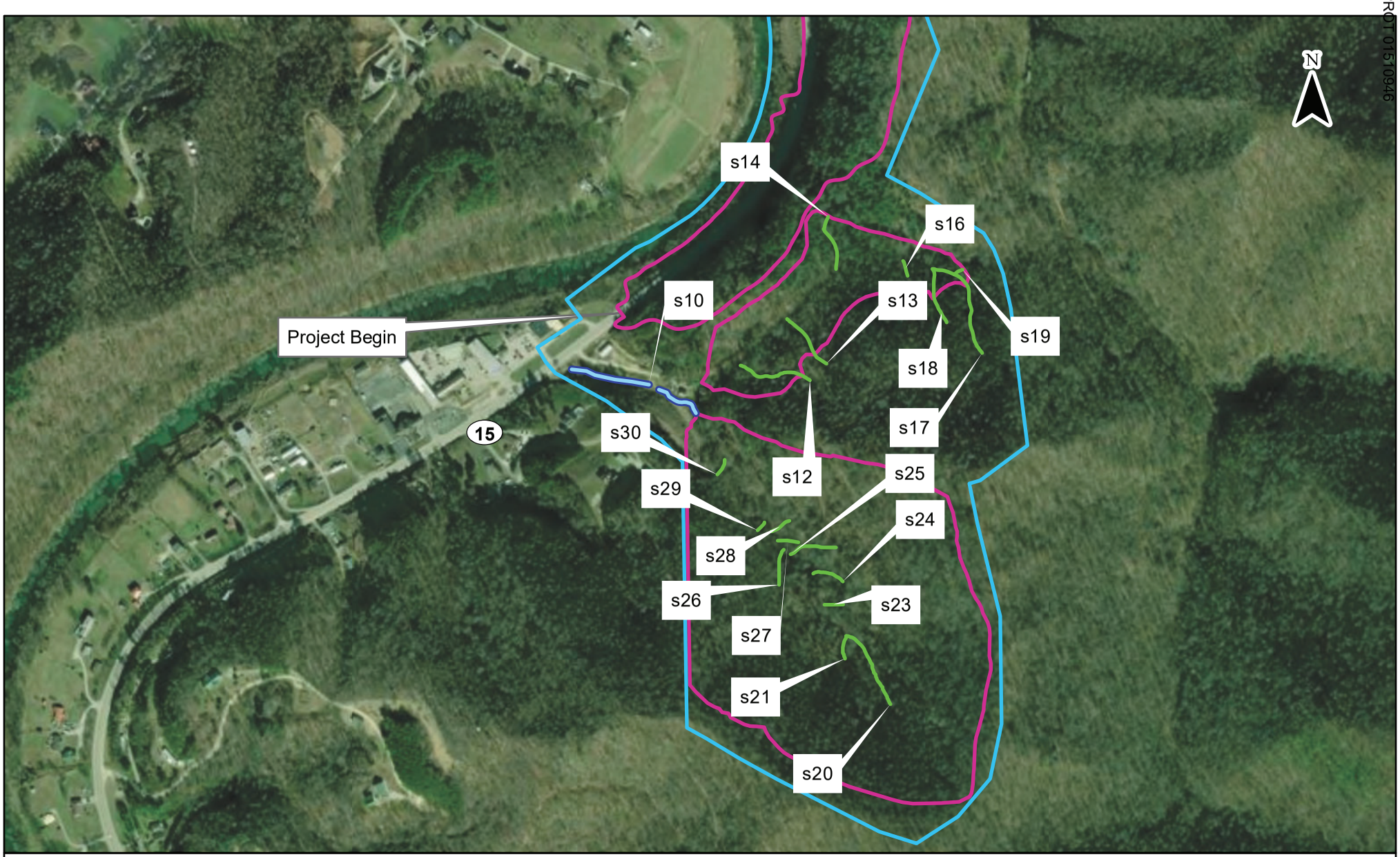


Exhibit 5.2: Non-JD Map (Aerial)

- Intermittent
- Ephemeral
- Proposed Right-of-way
- Proposed Disturb Limits

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

0 500 1,000 US Feet

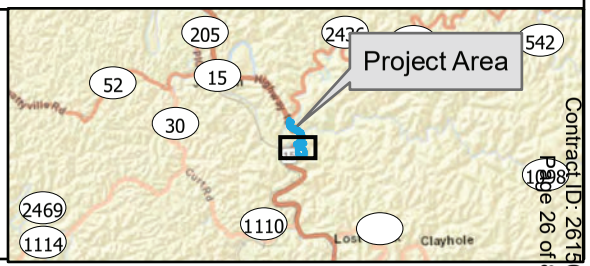


TABLE 1: Stream and Wetland Impacts - KY 15 rockfall mitigation; Breathitt Co., 10-5014.00

Station	Stream Reach	Field Name	Stream Order	Name	River Basin	HUC 14	Latitude / Longitude	Stream Type	Impact Type	Length of Impact (ft)	Stream Width (ft)	Depth (ft)	Acreage of Impact (ac)	Cubic Yards	Drainage Area (ac)	RBP Score	Spec. Cond.	EII Score	Riffle/Pool Complex	EIUs Impacted	AMUs Impacted
Excess Material Site	S11	S11	2	UT North Fork Kentucky River	Upper Kentucky River	05100201-150-030	37.526522 / -83.340408	Intermittent	Fill	794	3	1	0.055	88	31	70	71	0.55	No	437	
Excess Material Site	S15e & S15i	S15i	2	UT North Fork Kentucky River	Upper Kentucky River	05100201-150-030	37.526652 / -83.339236	Intermittent	Fill	253	2	0.8	0.012	15	17	98	41	0.55	No	139	
Excess Material Site		S15e		UT North Fork Kentucky River	Upper Kentucky River	05100201-150-030	37.526491 / -83.338560	Ephemeral	Fill	190	2	0.8	0.009	11	10	98	41	0.55	No	105	
Excess Material Site	S31	S31	2	UT North Fork Kentucky River	Upper Kentucky River	05100201-150-030	37.523456 / -83.341435	Intermittent	Fill	620	4	1	0.057	92	51	119	44.2	0.65	No	403	
Excess Material Site	S22	S22	2	UT North Fork Kentucky River	Upper Kentucky River	05100201-150-030	37.522159 / -83.340332	Intermittent	Fill	600	4	1	0.055	89	39	97	ts1765!&	0.55	No	330	
									TOTALS	**2,457**			**0.187**	**295**						**1,413**	

MITIGATION FOR IMPACTS TO WATERS OF U.S.
KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

Streams

Table 1 lists all stream impacts, and the computed impacted EIU. Stream impacts requiring compensatory mitigation total 1,413 Ecological Integrity Units (EIU). The KYTC proposes to utilize EIP's North Fork Stream Mitigation Bank (LRL-2015-00322) to satisfy the required mitigation for impacts to jurisdictional waters (available credits confirmed through RIBITS on 1/9/2025). Should this option not be available, the KYTC proposes to then purchase ILF (In Lieu Fee) EIU through that program administered by the Kentucky Department of Fish and Wildlife Resources. A 20 percent increase for temporal loss is required when purchasing credits from an ILF program; therefore, this option requires the purchase of 1,696 EIU

AVAILABILITY OF AMU/EIU CREDITS

RIBITS (checked 1/9/2025) indicated that a USACE-approved bank with EIU stream credits is available in the project service area.

The Kentucky Department of Fish and Wildlife Resources' In-Lieu Fee Program has EIU stream credits available in the service area.

SUMMARY OF SECTION 404/401 IMPACTS

KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

Excess Material Site S11	Construct a controlled fill impacting **794 feet** of **intermittent stream** (UT to North Fork Kentucky River). This segment of stream will be filled with excavated material and the drainage conveyed through two constructed channels on each side of the fill. The drainage area is **31 acres** and the impact is **0.055 acres**. **Lat./Long.: 37.526522, -83.340408**
Excess Material Site S15i	Construct a controlled fill impacting **253 feet** of **intermittent stream** (UT to North Fork Kentucky River). This segment of stream will be filled with excavated material and the drainage conveyed through two constructed channels on each side of the fill. The drainage area is **17 acres** and the impact is **0.012 acres**. **Lat./Long.: 37.526652, -83.339236**
Excess Material Site S15e	Construct a controlled fill impacting **190 feet** of **ephemeral stream** (UT to North Fork Kentucky River). This segment of stream will be filled with excavated material and the drainage conveyed through two constructed channels on each side of the fill. The drainage area is **10 acres** and the impact is **0.009 acres**. **Lat./Long.: 37.526491, -83.338560**
Excess Material Site S31	Construct a controlled fill impacting **620 feet** of **intermittent stream** (UT to North Fork Kentucky River). This segment of stream will be filled with excavated material and the drainage conveyed through two constructed channels on each side of the fill. The drainage area is **51 acres** and the impact is **0.057 acres**. **Lat./Long.: 37.523456, -83.341435**
Excess Material Site S22	Construct a controlled fill impacting **600 feet** of **intermittent stream** (UT to North Fork Kentucky River). This segment of stream will be filled with excavated material and the drainage conveyed through two constructed channels on each side of the fill. The drainage area is **39 acres** and the impact is **0.055 acres**. **Lat./Long.: 37.522159, -83.340332**

PHOTOS OF IMPACTED STREAMS AND WETLANDS

KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

S11, Intermittent, RBP Score 70, Sp. Cond. 71, EII 0.55

S15i, Intermittent, RBP Score 98, Sp. Cond. 41, EII 0.55

S15e, Ephemeral, RBP Score 98, Sp. Cond. 41, EII 0.55

S31, Intermittent, RBP Score 119, Sp. Cond. 44.2, EII 0.65

S22, Intermittent, RBP Score 97, Sp. Cond. 19.6, EII 0.55

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME UT North Fork Ky River (S11)	LOCATION KY 15 rockfall mitigation, Breathitt Co., 10-5014	
STATION #_____ RIVERMILE_____	STREAM CLASS (PER INT EPH)	
LAT 37.526522 LONG -83.340408	RIVER BASIN Upper Kentucky River	
STATION #	AGENCY KYTC	
INVESTIGATORS ELSCW		
FORM COMPLETED BY ELS	DATE 2/5/24 TIME 12:55 AM PM	REASON FOR SURVEY 404

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 ✓ 8 7 6	5 4 3 2 1 0
2. Embeddedness (In riffles – estimated from 5 largest rocks in 4 quads)	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE	20 19 18 17 16	15 14 13 12 11	✓ 10 9 8 7 6	5 4 3 2 1 0
3. Velocity/Depth Regime (At Bankfull)	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE	20 19 18 17 16	15 14 13 12 11	✓ 10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition (in pools)	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 ✓ 3 2 1 0
5. Channel Flow Status (Bars must be covered to score high bankfull)	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 ✓ 2 1 0

3 Dominant Trees: _____

Bankfull Depth: 1' Bankfull Width: '3' Bankfull Area: _____

Max. Wetted Depth: 5" Avg. Wetted Depth: 1" Specific Conductivity: 71 Temp: 7.6

pH: 7.58 TDS: _____

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 ✓6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 ✓11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 ✓3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 ✓3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	✓2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	✓5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 ✓1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 ✓3	2 1 0

Total Score 70

Kudzu

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME UT North Fork Ky River (S15)	LOCATION KY 15 rockfall mitigation, Breathitt Co., 10-5014	
STATION #_____ RIVERMILE_____	STREAM CLASS (PER INT EPH)	
LAT 37.526652 LONG -83.339236	RIVER BASIN Upper Kentucky River	
STATION #	AGENCY KYTC	
INVESTIGATORS ELS CW		
FORM COMPLETED BY ELS	DATE 2/5/24 TIME 1:23 AM PM	REASON FOR SURVEY 404

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 **11**	10 9 8 7 6	5 4 3 2 1 0
2. Embeddedness (In riffles – estimated from 5 largest rocks in 4 quads)	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE	20 19 18 17 16	15 14 13 12 11	10 **9** 8 7 6	5 4 3 2 1 0
3. Velocity/Depth Regime (At Bankfull)	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE	20 19 18 17 16	15 14 13 12 11	**10** 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition (in pools)	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 **7** 6	5 4 3 2 1 0
5. Channel Flow Status (Bars must be covered to score high bankfull)	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	**5** 4 3 2 1 0

3 Dominant Trees: _____

Bankfull Depth: 9" Bankfull Width: 2' Bankfull Area: _____

Max. Wetted Depth: 4" Avg. Wetted Depth: 1" Specific Conductivity: 41 Temp: 6.7

pH: 6.44 TDS: _____

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 ✓11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 ✓9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	✓5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	✓5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ___ (LB)	Left Bank 10 9	8 7 ✓6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 ✓6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE ___ (LB)	Left Bank 10 9	8 ✓7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 ✓7 6	5 4 3	2 1 0

Total Score 98

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME UT North Fork Ky River (S22)	LOCATION KY 15 rockfall mitigation, Breathitt Co., 10-5014	
STATION #_____ RIVERMILE_____	STREAM CLASS (PER INT EPH)	
LAT 37.522159 LONG -83.340332	RIVER BASIN Upper Kentucky River	
STATION #	AGENCY KYTC	
INVESTIGATORS ELS CW		
FORM COMPLETED BY ELS	DATE 2/5/24 TIME 2:20 AM PM	REASON FOR SURVEY 404

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 **8** 7 6	5 4 3 2 1 0
2. Embeddedness (In riffles – estimated from 5 largest rocks in 4 quads)	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 **8** 7 6	5 4 3 2 1 0
3. Velocity/Depth Regime (At Bankfull)	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE	20 19 18 17 16	15 14 13 12 11	**10** 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition (in pools)	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 **7** 6	5 4 3 2 1 0
5. Channel Flow Status (Bars must be covered to score high bankfull)	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	**5** 4 3 2 1 0

3 Dominant Trees: _____

Bankfull Depth: 1' Bankfull Width: 4' Bankfull Area: _____

Max. Wetted Depth: 2" Avg. Wetted Depth: 1" Specific Conductivity: 19.6 Temp: 8.3

pH: 6.42 TDS: _____

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 ✓13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 11	✓10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	✓5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	✓5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ___ (LB)	Left Bank 10 9	8 ✓7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 ✓7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE ___ (LB)	Left Bank 10 9	8 7 ✓6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 ✓6	5 4 3	2 1 0

Total Score 97

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME UT North Fork Ky River (S31)	LOCATION KY 15 rockfall mitigation, Breathitt Co., 10-5014	
STATION #_____ RIVERMILE_____	STREAM CLASS (PER INT EPH)	
LAT 37.523456 LONG -83.341435	RIVER BASIN Upper Kentucky River	
STATION #	AGENCY KYTC	
INVESTIGATORS ELS CW		
FORM COMPLETED BY ELS	DATE 2/5/24 TIME 2:52 AM PM	REASON FOR SURVEY 404

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 ✓13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Embeddedness (In riffles – estimated from 5 largest rocks in 4 quads)	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE	20 19 18 17 16	15 14 13 12 ✓11	10 9 8 7 6	5 4 3 2 1 0
3. Velocity/Depth Regime (At Bankfull)	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE	20 19 18 17 16	15 14 13 12 ✓11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition (in pools)	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 ✓11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status (Bars must be covered to score high bankfull)	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 ✓8 7 6	5 4 3 2 1 0

3 Dominant Trees: _____

Bankfull Depth: 1' Bankfull Width: 4' Bankfull Area: _____

Max. Wetted Depth: _____ Avg. Wetted Depth: _____ Specific Conductivity: 44.2 Temp: 6.6

pH: 7.07 TDS: _____

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 ✓ 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 ✓ 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ___ (LB)	Left Bank 10 9	8 ✓ 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 ✓ 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ___ (LB)	Left Bank 10 9	8 ✓ 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 ✓ 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE ___ (LB)	Left Bank 10 9	8 7 ✓	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 ✓	5 4 3	2 1 0

Total Score 119

EII Calculation for High Gradient Streams in Eastern Kentucky Coalfield (VERSION 2002.6)
(Genus/species Level Taxonomy - All Habitats)

Project ID:	KY 15 rockfall mitigation, Breathitt Co., 10-5014
Stream/Reach:	S11
Assessment Objectives:	

EII	Model
NA	Ecological Integrity Index (MBI + Habitat Integrity + Conductivity)
0.55	Ecological Integrity Index (Habitat Integrity + Conductivity)

Variables	Measure	Units
Enter uantitative or categorical mea ure from Fiel ata Sheet in ha e cell		
RBP Habitat Parameters		
1. Epifaunal Substrate	9	no unit (0-20)
2. Embeddedness	10	no unit (0-20)
3. Velocity/Depth Regime	10	no unit (0-20)
4. Sediment Deposition	4	no unit (0-20)
5. Channel Flow Status	3	no unit (0-20)
6. Channel Alteration	6	no unit (0-20)
7. Freq. Of Riffles (bends)	11	no unit (0-20)
8. Bank stability (both combined)	6	no unit (0-20)
9. Veg. Protection (both combined)	7	no unit (0-20)
10. Riparian Width (both combined)	4	no unit (0-20)
Total Habitat Score	70	no unit
Habitat Integrity Index		Subindex: 0.10
Macroinvertebrate Data - ***Genus/species Level (All Habitats)***		
11. Genus/species Taxa Richness		of ta a ample
12. Genus/species EPT Richness		of E T pecie ample
13. % Ephemeroptera		ayflie (0-100)
14. % Chironomidae & Oligochaeta		i ge Worm (0-100)
15. % Clingers		Clinger (0-100)
16. mHBI		no unit
Macroinvertebrate Bioassessment	NA	no unit — Subindex: NA
Conductivity	71	micro — Subindex: 1.00

n ert hoto ere

EII Calculation for High Gradient Streams in Eastern Kentucky Coalfield (VERSION 2002.6)
(Genus/species Level Taxonomy - All Habitats)

Project ID:	KY 15 rockfall mitigation, Breathitt Co., 10-5014
Stream/Reach:	S15
Assessment Objectives:	

EII	Model
NA	Ecological Integrity Index (MBI + Habitat Integrity + Conductivity)
0.55	Ecological Integrity Index (Habitat Integrity + Conductivity)

Variables	Measure	Units	
Enter uantitative or categorical mea ure from Fiel ata Sheet in ha e cell			
RBP Habitat Parameters			
1. Epifaunal Substrate	11	no unit (0-20)	
2. Embeddedness	9	no unit (0-20)	
3. Velocity/Depth Regime	10	no unit (0-20)	
4. Sediment Deposition	7	no unit (0-20)	
5. Channel Flow Status	5	no unit (0-20)	
6. Channel Alteration	11	no unit (0-20)	
7. Freq. Of Riffles (bends)	9	no unit (0-20)	
8. Bank stability (both combined)	10	no unit (0-20)	
9. Veg. Protection (both combined)	12	no unit (0-20)	
10. Riparian Width (both combined)	14	no unit (0-20)	
Total Habitat Score		no unit	Subindex
Habitat Integrity Index			0.10
Macroinvertebrate Data - ***Genus/species Level (All Habitats)***			
11. Genus/species Taxa Richness		of ta a ample	
12. Genus/species EPT Richness		of E T pecie ample	
13. % Ephemeroptera		ayflie (0-100)	
14. % Chironomidae & Oligochaeta		i ge Worm (0-100)	
15. % Clingers		Clinger (0-100)	
16. mHBI		no unit	
Macroinvertebrate Bioassessment	NA	no unit	NA
Conductivity	41	micro	1.00

n ert hoto ere

EII Calculation for High Gradient Streams in Eastern Kentucky Coalfield (VERSION 2002.6)
(Genus/species Level Taxonomy - All Habitats)

Project ID: KY 15 rockfall mitigation, Breathitt Co., 10-5014

Stream/Reach: S22

Assessment Objectives:

EII	Model
NA	Ecological Integrity Index (MBI + Habitat Integrity + Conductivity)
0.55	Ecological Integrity Index (Habitat Integrity + Conductivity)

Variables	Measure	Units	
Enter uantitative or categorical mea ure from Fiel ata Sheet in ha e cell			
RBP Habitat Parameters			
1. Epifaunal Substrate	8	no unit (0-20)	
2. Embeddedness	8	no unit (0-20)	
3. Velocity/Depth Regime	10	no unit (0-20)	
4. Sediment Deposition	7	no unit (0-20)	
5. Channel Flow Status	5	no unit (0-20)	
6. Channel Alteration	13	no unit (0-20)	
7. Freq. Of Riffles (bends)	10	no unit (0-20)	
8. Bank stability (both combined)	10	no unit (0-20)	
9. Veg. Protection (both combined)	14	no unit (0-20)	
10. Riparian Width (both combined)	12	no unit (0-20)	
Total Habitat Score	7	no unit	Subindex
Habitat Integrity Index			0.10
Macroinvertebrate Data - ***Genus/species Level (All Habitats)***			
11. Genus/species Taxa Richness		of ta a ample	
12. Genus/species EPT Richness		of E T pecie ample	
13. % Ephemeroptera		ayflie (0-100)	
14. % Chironomidae & Oligochaeta		i ge Worm (0-100)	
15. % Clingers		Clinger (0-100)	
16. mHBI		no unit	
Macroinvertebrate Bioassessment	NA	no unit	NA
Conductivity	1 .6	micro	1.00

n ert hoto ere

EII Calculation for High Gradient Streams in Eastern Kentucky Coalfield (VERSION 2002.6)
(Genus/species Level Taxonomy - All Habitats)

Project ID: KY 15 rockfall mitigation, Breathitt Co., 10-5014

Stream/Reach: S 1

Assessment Objectives:

EII	Model
NA	Ecological Integrity Index (MBI + Habitat Integrity + Conductivity)
0.65	Ecological Integrity Index (Habitat Integrity + Conductivity)

Variables	Measure	Units	
Enter uantitative or categorical mea ure from Fiel ata Sheet in ha e cell			
RBP Habitat Parameters			
1. Epifaunal Substrate	15	no unit (0-20)	
2. Embeddedness	11	no unit (0-20)	
3. Velocity/Depth Regime	11	no unit (0-20)	
4. Sediment Deposition	11	no unit (0-20)	
5. Channel Flow Status	8	no unit (0-20)	
6. Channel Alteration	12	no unit (0-20)	
7. Freq. Of Riffles (bends)	11	no unit (0-20)	
8. Bank stability (both combined)	14	no unit (0-20)	
9. Veg. Protection (both combined)	14	no unit (0-20)	
10. Riparian Width (both combined)	12	no unit (0-20)	
Total Habitat Score	11	no unit	Subindex
Habitat Integrity Index			0.2
Macroinvertebrate Data - ***Genus/species Level (All Habitats)***			
11. Genus/species Taxa Richness		of ta a ample	
12. Genus/species EPT Richness		of E T pecie ample	
13. % Ephemeroptera		ayflie (0-100)	
14. % Chironomidae & Oligochaeta		i ge Worm (0-100)	
15. % Clingers		Clinger (0-100)	
16. mHBI		no unit	
Macroinvertebrate Bioassessment	NA	no unit	NA
Conductivity	44.2	micro	1.00

n ert hoto ere

U.S. Army Corps of Engineers (USACE)

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0024 Expires 2024-06-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose This form is used by USACE staff in evaluating your request to determine whether there are any aquatic resources within the review area that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any resulting jurisdictional determination (JD), which may be made available to the public on the District's website and/or on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary; however, if information is not provided, the request for a JD cannot be evaluated nor can a PJD be issued.

The Agency Disclosure Notice (ADN)

The public reporting burden for this collection of information, 0710-0024, is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

SECTION I - BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 2025-01-09

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
Emma Priger, KYTC, 200 Mero Street, Frankfort, KY 40601

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION AND BACKGROUND INFORMATION:
(*USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES*)

State: Kentucky County/Parish/Borough: Breathitt City:

Center coordinates of site (*lat/long in degree decimal format*): Latitude: 37.536786 ° Longitude: -83.34766 °

Universal Transverse Mercator:

Name of nearest waterbody: tribs to North Fork Kentucky River

E. REVIEW PERFORMED FOR SITE EVALUATION (*CHECK ALL THAT APPLY*):

☒ Office (*Desk*) Determination. Date: 2025-01-09

☒ Field Determination

Date(s): February 2024

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD or no JD whatsoever, which do not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the USACE has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD or reliance on no JD whatsoever; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of USACE permit authorization based on a PJD or no JD whatsoever constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the USACE will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

F. SUPPORTING DATA. Data reviewed for PJD (*check all that apply)*
Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:

Map: _____

☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.

☐ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

Rationale: _____

☐ Data sheets prepared by the USACE:

_____

☐ Corps navigable waters' study:

_____

☐ U.S. Geological Survey Hydrologic Atlas:

_____

☐ USGS NHD data.

☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:

1:24,000 Quicksand

☐ USDA Natural Resources Conservation Service Soil Survey.

Citation: _____

☐ National Wetlands Inventory map(s).

Cite Name: _____

☐ State/Local Wetland Inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: _____. (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (*Name & Date*): NAIP Color Imagery 2012 - 1 meter coverage

or ☐ Other (*Name & Date*): _____

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (*please specify*):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the USACE and should not be relied upon for later jurisdictional determinations.

Name of Regulatory Staff Member Completing PJD	Date	Signature of Regulatory Staff Member Completing PJD

Name of Person Requesting PJD	Date	Signatureof Person Requesting PJD *(REQUIRED, unless obtaining the Signature is Impracticable*
	2025-01-21	Emma Priger Digitally signed by Emma Priger Date: 2025.01.21 13:38:49 -05'00'

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Site number	Latitude	Longitude	Estimated amount of a uatic resource in revie area (acreage linear feet)	Type of a uatic resource	Geographic authority to hich the a uatic resource may be subject
S11	37.526522	-83.340408	0.055 ac; 794 ft	non-wetland	Section 404
S15i	37.526652	-83.339236	0.012 ac; 253 ft	non-wetland	Section 404
S15e	37.526491	-83.338560	0.009 ac; 190 ft	non-wetland	Section 404
S31	37.523456	-83.341435	0.057 ac; 620 ft	non-wetland	Section 404
S22	37.522159	-83.340332	0.055 ac; 600 ft	non-wetland	Section 404

AQUATIC ORGANISM PASSAGE

KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

No new culverts or pipes will be required for this project, and thus there will be no impacts to aquatic organism passage.

STATE OR FEDERALLY FUNDED STATEMENT

KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

The funding for the project is Federal and State funds.

ALTERNATIVE ANALYSIS
KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

The project team analyzed KY 15 and the project goals and how the proposed rockfall mitigation project would fit into the overall KY 15 corridor project. The options discussed to resolve the rockfall issue included scaling, steel mesh draperies, and barriers and pretension systems along the face of the rock cut. The options discussed to resolve the slope instability included shifting the alignment away from the river and constructing a retaining wall. It was determined that steel mesh draperies and barriers would require a fall bench to perform properly. Cutting a fall bench into the existing rock face would be costly and would not correct the clear zone issue or the slope instability issue. For these reasons, these options were not considered further. Scaling in conjunction with shotcrete on the low durability shale was deemed a viable option, but it was presented as only a short-term measure. A retaining wall was considered to resolve the slope instability issue as well as a soil nail wall. Both options were included as possible solutions for the project. Shifting the alignment into the rock cut was considered a viable option as it would solve the instability and rock fall issues as well as maintain the possibility of a future ultimate corridor. Out of these options, 7 alternatives developed for this project with four of those following the existing alignment (Alternative 1) and 3 that would accommodate the ultimate KY 15 corridor (Alternative 2).

The No Build Alternative – This option maintains the existing conditions on its present alignment with it's current deficiencies and failures, and would not involve any improvements to the roadway. No construction or work beyond regular maintenance would occur. No right-of-way acquisitions would take place. The No Build Alternative would not satisfy the project's Purpose and Need.

Alternative 1A – This option would maintain the existing roadway and address the rockfall with scaling and an application of shotcrete to the problematic shale layer. The clearzone would remain at 16 feet. To address slope instability, either a retaining wall or soil nail system would be required.

Alternative 1B – This alternative would maintain the existing roadway with the addition of cutting into the rockface to improve the clearzone and add a 4’ rockfall bench. A retaining wall or soil nail system would still be needed for this option.

Alternative 1C – This alternative would build a new 2-lane alignment shifted into the rock cut and would not require further geotechnical remediation. This 2-lane template would require additional widening for an ultimate 4 or 5-lane template in the future.

Alternative 1D – This alternative incorporates a 5-lane template for a future ultimate alignment through the existing KY 15 corridor. The alignment is shifted into the rock cut, per recommendation, and does not require additional geotechnical measures. Only 2 lanes would be paved for this option.

Alternative 2A – This alternative would build a new 2-lane alignment shifted into the rockface. This option would allow for an ultimate option along the existing alignment or a cross country option. Although, it would require additional widening to accommodate a wider template. An approach was also studied to ensure, that if an ultimate crosscountry alignment were constructed in the future, that it would be feasible to do so.

Alternative 2B – This alternative uses the same 2-lane alignment as Alternative 2A but includes cutting a portion of the hillside out for the ultimate 5-lane cross country option. This would prevent future maintenance of traffic issues when constructing an ultimate alignment.

Alternative 2C – This option also uses the 2-lane alignment that was used in Alternative 2A but includes cutting a portion of the hillside out for the ultimate 4-lane cross country option. This would prevent future maintenance of traffic issues when constructing an ultimate alignment.

Shotcrete is a short-term solution and cutting a clear zone and installing a retaining wall or soil nail system would limit the options for a future corridor. For these reasons, the Project Team decided to not choose Alternatives 1A or 1B. Alternatives 1C and 1D are viable options that solve the rockfall and slope stability issues, but the investment required would limit the future ultimate corridor to an along-existing alignment only. Alternative 2A resolves the issues with the rockfall section and would work with either ultimate alignment options. However, when a 4 (or 5) lane template is to be ultimately designed, it would require an additional cut to the rockfall. It would be more cost effective to do the work now and would resolve future maintenance of traffic issues. Alternatives 2B and 2C offer the same benefits as Alternative 2A, but they also clear a portion of the rockfall section to limit future maintenance of traffic issues. In doing so, they offer the ability to build either of the ultimate alignments in the future with minimal traffic impacts. The difference would be the preference of the Project Team for a future template. Excavation for a 5-lane template through this portion of the project would limit the amount of future excavation through the section, saving money in the long-term and allow the flexibility to choose an ultimate template at a later date. If an ultimate 4-lane divided roadway is ultimately recommended, this location could be a transition area from the 5-lane section that will be required to the north to the 4-lane section. **Therefore, Alternative 2B was selected as the Preferred Alternative.**

PURPOSE AND NEED STATEMENT
KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

Below is the Purpose and Need from the NEPA document. The full NEPA document is included as an attachment to the permit application.

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 has 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.

STATEMENT OF FINDINGS
LOP ASSESSMENT OF ENVIRONMENTAL, SOCIAL, AND OTHER FACTORS
KY 15 rockfall mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

Threatened and Endangered Species: Proper early consultation with the US Fish and Wildlife Service (USFWS) has occurred to satisfy the requirements of Section 7 of the Endangered Species Act; e.g. an USFWS IPaC official species list for the project was generated. KYTC also considered species lists maintained by the Kentucky Nature Preserves Commission and the Kentucky Department of Fish and Wildlife Resources. Three bat species, 1 fish species, and one mussel species are listed by US Fish and Wildlife Service (USFWS) as potentially located within the project area. KYTC addressed the federally protected and listed species by conducting a Habitat Assessment. A No Effect Determination was made for the fish and mussel species. A Biological Assessment (BA) has been prepared to address the Indiana bat, gray bat and northern long-eared bat. A portal survey did not find any caves or rock shelters that would provided the needed habitat for the listed bats, so a "not likely to adversely affect" determination will be made for the gray bat. However, due to clearing of forested areas, a "likely to adversely affect" determination will be made for the northern long-eared bat and the Indiana bat. Tree clearing will follow the guidance of the B*iological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* developed in by the United Stated Fish and Wildlife Service, Kentucky Field Office (USFWS KFO) and the Federal Highway Administration (FHWA). The clearance documents are attached.

Economics: The proposed project would have a positive impact on the local economy by providing economic opportunities for local citizens and contractors. It will improve overall travel efficiency and system linkage in eastern Kentucky. By doing so, the project will help address the transportation and economic needs of the region, as well as the local communities in the area. A safer facility reduces crashes, injuries, property damages, and related costs. A more efficient facility supports economic development and contributes to the vitality and viability of local economic ventures.

Aesthetics: The project, as proposed under the LOP could affect the aesthetics of the surrounding area. The project is not expected to adversely alter the existing visual and aesthetic attributes of the project area and will provide a safer and more enjoyable driving experience for the traveling public and for tourist viewing of the adjacent mountainous landscape.

Special Aquatic Sites: This project will not affect Special Aquatic Sites (SAS).

Historical Properties: The KYTC has addressed Cultural and Historic Resources in accordance with Section 106 of the National Historic Preservation Act. Identification of historic properties within the area of potential effect has been conducted. A total of four cultural historic sites within the APE, all of which were previously undocumented (Sites 1 -4 [BR 139 -BR 141, and BR 129]). Sites 1, 3, and 4 (BR 139, BR 141, and BR 129) are not eligible for listing in the NRHP under Criterion A, B, or C. Site 2 (BR 140) was recommended as an undetermined NRHP status as it was either not accessible or not visible from the ROW. However, due to the distance of the proposed project from the site and the dense vegetation between the site and the proposed project, the proposed project will not result in adverse direct or indirect effects to Site 2 (BR 140) if it was to be determined eligible for listing in the NRHP at a later date. Thus, a recommendation of “No Historic Properties Affected” was made. State Historic Preservation Office (SHPO) concurrence

with this determination was received on August 7, 2023. The potential for impact to archaeological sites was also considered within the project limits. No archaeological sites were identified during the investigation. No sites listed in or eligible for listing in the National Register of Historic Places will be affected by the proposed project. A "No Historic Properties Affected" determination was made for the proposed project. SHPO concurrence with this determination was received on May 17, 2023.

Fish and Wildlife Values: Habitat for fish and wildlife will be affected by the project. The project will result in the permanent conversion of approximately 27.7 acres of forested habitat to Right-of-Way. The KYTC proposes to mitigate impacts to wildlife habitat through participation in the in-lieu fee program, in addition to the Indiana Bat Conservation Fund.

Flood Hazards: The KYTC minimizes, whenever possible, encroachment upon the flood plain. Water control structures within the flood plain are designed and then analyzed using HEC-RAS to assure that these do not adversely affect flood elevations.

Flood Plain Values: The KYTC complies with the state floodplain regulations and the National Insurance Act. KYTC projects minimize the placement of fill material into flood plains and include features such as flood plain compensation and storm water detention basins. Thus, KYTC projects have minimal impacts to floodplain values and functions.

Land Use Classification: Land use in the project area is woodland, residential/commercial, agricultural, and open habitat. The project will affect land use by conversion of woodland (78.76 percent), developed (13.57 percent), agricultural (6.35 percent), and open habitat (0.29 percent) to imperviousness land use for transportation purposes. No prime farmland will be converted to pavement and ROW. In addition, due to the improved accessibility to the area, some development may occur, resulting in additional land use conversion to commercial or residential use. However, these secondary effects on land use cannot be controlled or predicted by the project. Thus, land use would not be significantly altered because of this project.

Navigation: Navigation is not a factor associated with this proposal.

Shore Erosion and Accretion Patterns: Shore erosion and accretion patterns would not be affected by this project as it is not located on a lake or a major tributary.

Recreation: The project would not affect existing recreational opportunities. Coordination with the University of Kentucky (UK) Robinson Center was conducted to determine potential impacts to their property or the Robinson Forest Wildlife Management Area (WMA). An on site meeting was conducted on February 21, 2023. It was determined that their research fields would not be impacted by the proposed project. A total of 0.64 acres of the Robinson Forest WMA will be impacted by the project. Traffic will be maintained during construction.

Existing and Potential Water Supplies; Conservation: The project would not affect existing water supplies. No construction activities occur within the vicinity of existing water supplies.

Water Quality: This project would have temporary impacts to water quality during the construction phase. This project will minimize those impacts via compliance with the KPDES General Storm Water Permit for Construction, achievement and compliance with a 401 Water Quality Certification and compliance with SMS4 requirements and local ordinances, where appropriate. Compliance is generally achieved through structural BMPs (silt fence, silt checks, detention basins etc) or non-structural BMPs such as mulching, seeding, grading, etc. Post

construction water quality would be protected in karst or other sensitive areas through implementation of KYTC's Karst Policy. Thus, the project would have minimal impact to water quality.

Energy Needs: This project would result in a short-term increase in energy consumption during construction. Overall, the project would have minimum impact on the energy consumption and will not impact the long-term energy consumption.

Safety: This project would improve safety by addressing existing roadway deficiencies and the future effects of a projected increase in traffic volumes. This will be achieved by eliminating substandard roadway geometry through the construction of a facility that meets current design standards for horizontal and vertical curvature, upgrades substandard interchanges, replaces all functionally obsolete bridge structures, and replaces the existing two and three-lane highway with a four-lane, divided facility with a 40-foot wide median.

Food and Fiber Production: The project was coordinated with the Natural Resources Conservation Service (NRCS). They concluded the the proposed project will not impact agricultural lands (Prime or Statewide Important Farmland). Coordination with the UK Robinson Center Revealed the presence of two research farm fields adjacent to the project. One field is at the junction of KY 15 and KY 1098. The second field is along KY 30. These fields will not be impacted by the proposed project.

Mineral Needs: This project would have no impact on mineral needs.

Consideration of Property Ownership: No residences, businesses, or churches will be taken by the project.

Noise: This project is not a Type I project, a highway traffic noise analysis was not conducted.

Wild and Scenic Rivers: According to the Kentucky Energy and Environment Cabinet – Division of Water, no wild and scenic rivers are located in the project area and the project will not impact any wild and scenic rivers.

UST Hazardous Material: There are no known or potential sites located in the project corridor.

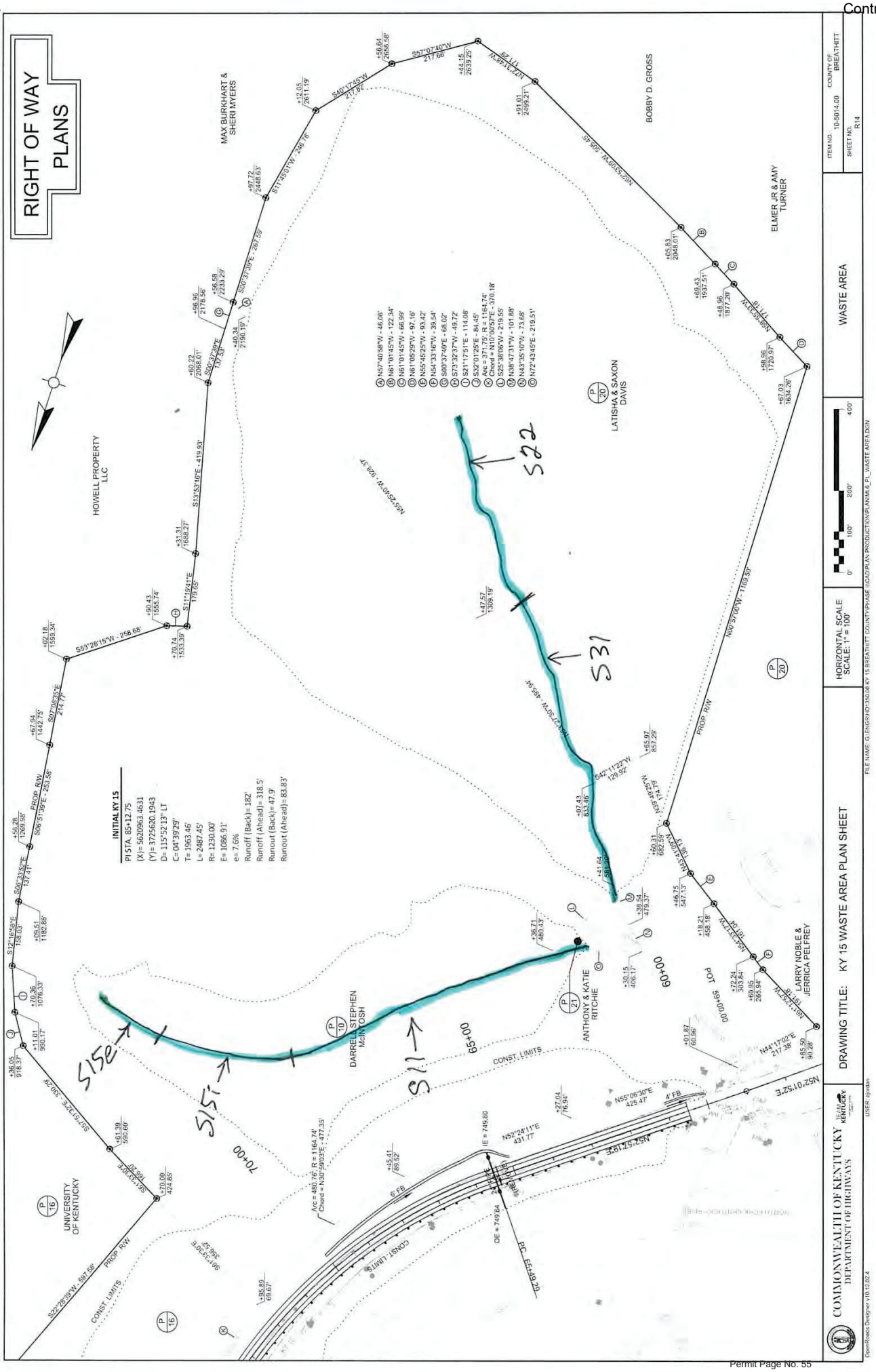
Environmental Justice: No analysis was necessary and no additional efforts are required..

Section 4(f)/6(f) Resources: The Robinson Forest Wildlife Management Area is within the project area but coordination revealed that the property does not fall under Section 4(f); therefore, no impacts to 4(f) properties are anticipated.

ORM PLOAD SHEET

KY 15 Rockfall Mitigation
KYTC Item No. 10-5014.00
Breathitt County, KY

The Excel file is attached.


RIGHT OF WAY PLANS
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)= 47.9'
Runout (Ahead)= 83.83'
HOWELL PROPERTY LLC
MAX BURKHART & SHERI MYERS
BOBBY D. GROSS
ELMER JR & AMY TURNER
LATISHA & SAXON DAVIS
DARRELL STEPHEN McINTOSH
ANTHONY & KATIE RITCHIE
LARRY NOBLE & JERRICA PELFREY
UNIVERSITY OF KENTUCKY
S12
S13
S11
S22
S31
60+00
65+00
70+00
CONST. LIMITS
PROP. R/W
WASTE AREA
HORIZONTAL SCALE
SCALE: 1" = 100'
DRAWING TITLE: KY 15 WASTE AREA PLAN SHEET
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
ITEM NO. 10-5014.09
COUNTY OF BREATHITT
SHEET NO. R14
FILE NAME: G:\ENGR\HD\1500.08\ KY 15 BREATHITT COUNTY\PHASE II\CAD\PLAN PRODUCTION\PLANMAP_PL_WASTE AREA.DGN
USER: ejustan
OpenRoads Designer v10.12.02.4

KENTUCKY TRANSPORTATION CABINET
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DIVISION OF ENVIRONMENTAL ANALYSIS

CATEGORICAL EXCLUSION DETERMINATION

TC 58-48
Rev. 12/2020
Page **1** of **1**

1. PROJECT SUMMARY

Item #: 10-5014	**Project Sponsor:** KYTC
Route(s): KY-15	**County:** Breathitt

Project Description:

The project begins on KY-15 at milepoint 13.75 and ending at milepoint 14.64 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-16.

2. ENVIRONMENTAL DETERMINATION

Functional Area	Determination	Comments/Commitments/Mitigation
Public and Resource Agency Controversy	No	N/A
Total acreage of fee simple ROW	44.22	N/A
Number of Total Relocations	0	N/A
Environmental Justice Impacts	No	N/A
Section 106: Architectural Historic	No Effect	SHPO con. (8/7/23)
Section 106: Archaeological Resources	No Effect	SHPO con. (5/17/23)
Section 4(f)	No 4(f) Properties	N/A
Section 6(f)	No 6(f) Properties	N/A
Noise	Not a Type I	N/A
Air Quality Impacts	No	N/A
Hazardous Materials Impacts	No	N/A
Section 7: T&E Species	Not Likely to Adversely Affect	No Effect for LS & KAD, BA for Bats
Anticipated Feet of Stream Impacts	163 ft	1 intermittent stream
Anticipated Acreage of Wetland Impacts	0.0 ac	N/A
Anticipated Permits	Yes	KPDES KYR10, BNR, WQC
Other:		
Other:		
Other:		

Based on the criteria listed above, in review of the most recent Categorical Exclusion Agreement between KYTC and FHWA, the subject project is determined to be considered a Categorical Exclusion, Level 2.

3. ENVIRONMENTAL DOCUMENT APPROVAL

Based on the information obtained during the environmental review process and included as attachments to this form, the project is determined to be a Categorical Exclusion under 23 CFR part 771 pursuant to the National Environmental Policy Act and complies with all other applicable environmental laws, regulations, and Executive Orders. The project action does not individually or cumulatively have a significant effect on the natural and human environment.

Brandon Baker District Environmental Coordinator	11/6/23 Date	Darren Back Project Manager	11/6/23 Date
Connor Ouellette Environmental Project Manager	11/6/23 Date	Daniel R Peake Director of Environmental Analysis	110623 Date
Recommended by FHWA	Date	Federal Highway Administration	Date

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10-3914
Breathitt County
KY 15

CATEGORICAL EXCLUSION ENVIRONMENTAL REVIEW

4. TABLE OF CONTENTS/ATTACHMENTS/APPENDICIES

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5. ENVIRONMENTAL MITGATION/COMMITMENTS/COMMENTS

(1) Due to surface disturbances greater than one acre, a Kentucky Pollutant Discharge Elimination System (KPDES) permit from KDOW will be acquired. As part of the KPDES, a Stormwater Pollution Prevention Plan (SWPPP) will also likely be required.
(2) Best Management Plan (BMP) measures shall be implemented as required by Section 213 of the KYTC Standard Specifications using a site-specific Erosion Control Plan that will be developed prior to onsite activities to ensure continuous erosion control throughout the construction and post construction period.
(4) Preparation of a Biological Assessment (BA) is underway and will be completed prior to construction to satisfy Section 7 of the Endangered Species Act (ESA). No ground disturbance will take place prior to Section 7 being complete. A portal survey did not find any caves or rock shelters, so a "not likely to adversely affect" determination will be made for the gray bat. However, due to clearing of forested areas, a "likely to adversely affect" determination will be made for the northern long-eared bat and the Indiana bat. Tree clearing will follow the guidance of the B*iological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* developed in by the United Stated Fish and Wildlife Service, Kentucky Field Office (USFWS KFO) and the Federal Highway Administration (FHWA).
(5) Due to encroaching the 100-year floodplains associated with Quicksand Creek, a determinations regarding No Rise Certification, FEMA Map Revisions, etc. will be made by the KYTC Division of Design's Drainage Section during final design.

6. Project Termini

Project Length: 0.89 mile(s)	**Project Termini:** MP 13.75 to 14.64

Termini Description:
The project begins on KY 15 at milepoint 13.75 to milepoint 14.64 near KY 15's intersection with Quicksand Road (KY 1812) and KY 1098 in Breathitt County.

7. Roadway Conditions and Setting

Existing Functional Classification: Rural Minor Arterial		**Terrain:** Mountainous
Current Year ADT: 9,400	**Design Year ADT:** 10,000	**Existing Number of Lanes:** 2
Existing Bike Accommodations: No	**Existing Sidewalks:** No	**Proposed Number of Lanes:** 2

Include any additional information to describe the roadway condition and setting:
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 in Breathitt County at the southern end of the city of Jackson. Land use being mostly undeveloped wood lots, agricultural, 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.

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8. 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 has 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.

9. Preferred Alternative Description and Analysis

The project team analyzed KY 15 and the project goals and how the proposed rockfall mitigation project would fit into the overall KY 15 corridor project. The options discussed to resolve the rockfall issue included scaling, steel mesh draperies, and barriers and pretension systems along the face of the rock cut. The options discussed to resolve the slope instability included shifting the alignment away from the river and constructing a retaining wall. It was determined that steel mesh draperies and barriers would require a fall bench to perform properly. Cutting a fall bench into the existing rock face would be costly and would not correct the clear zone issue or the slope instability issue. For these reasons, these options were not considered further. Scaling in conjunction with shotcrete on the low durability shale was deemed a viable option, but it was presented as only a short-term measure. A retaining wall was considered to resolve the slope instability issue as well as a soil nail wall. Both options were included as possible solutions for the project. Shifting the alignment into the rock cut was considered a viable option as it would solve the instability and rock fall issues as well as maintain the possibility of a future ultimate corridor. Out of these options, 7 alternatives developed for this project with four of those following the existing alignment (Alternative 1) and 3 that would accommodate the ultimate KY 15 corridor (Alternative 2).

Alternative 1A – This option would maintain the existing roadway and address the rockfall with scaling and an application of shotcrete to the problematic shale layer. The clearzone would remain at 16 feet. To address slope instability, either a retaining wall or soil nail system would be required.

Alternative 1B – This alternative would maintain the existing roadway with the addition of cutting into the rockface to improve the clearzone and add a 4’ rockfall bench. A retaining wall or soil nail system would still be needed for this option.

Alternative 1C – This alternative would build a new 2-lane alignment shifted into the rock cut and would not require further geotechnical remediation. This 2-lane template would require additional widening for an ultimate 4 or 5-lane template in the future.

Alternative 1D – This alternative incorporates a 5-lane template for a future ultimate alignment through the existing KY 15 corridor. The alignment is shifted into the rock cut, per recommendation, and does not require additional geotechnical measures. Only 2 lanes would be paved for this option.

Alternative 2A – This alternative would build a new 2-lane alignment shifted into the rockface. This option would allow for an ultimate option along the existing alignment or a cross country option. Although, it would require additional widening to accommodate a wider template. An approach was also studied to ensure, that if an ultimate crosscountry alignment were constructed in the future, that it would be feasible to do so.

Alternative 2B – This alternative uses the same 2-lane alignment as Alternative 2A but includes cutting a portion of the hillside out for the ultimate 5-lane cross country option. This would prevent future maintenance of traffic issues when constructing an ultimate alignment.

Alternative 2C – This option also uses the 2-lane alignment that was used in Alternative 2A but includes cutting a portion of the hillside out for the ultimate 4-lane cross country option. This would prevent future maintenance of traffic issues when constructing an ultimate alignment.

The No Build Alternative – This option maintains the existing conditions on its present alignment with it's current deficiencies and failures, and would not involve any improvements to the roadway. No construction or work beyond regular maintenance would occur. No right-of-way acquisitions would take place. The No Build Alternative would not satisfy the project's Purpose and Need.

Shotcrete is a short-term solution and cutting a clear zone and installing a retaining wall or soil nail system would limit the options for a future corridor. For these reasons, the Project Team decided to not choose Alternatives 1A or 1B. Alternatives 1C and 1D are viable options that solve the rockfall and slope stability issues, but the investment required would limit the future ultimate corridor to an along-existing alignment only. Alternative 2A resolves the issues with the rockfall section and would work with either ultimate alignment options. However, when a 4 (or 5) lane template is to be ultimately designed, it would require an additional cut to the rockfall. It would be more cost effective to do the work now and would resolve future maintenance of traffic issues. Alternatives 2B and 2C offer the same benefits as Alternative 2A, but they also clear a portion of the rockfall section to limit future maintenance of traffic issues. In doing so, they offer the ability to build either of the ultimate alignments in the future with minimal traffic impacts. The difference would be the preference of the Project Team for a future template. Excavation for a 5-lane template through this portion of the project would limit the amount of future excavation through the section, saving money in the long-term and allow the flexibility to choose an ultimate template at a later date. If an ultimate 4-lane divided roadway is ultimately recommended, this location could be a transition area from the 5-lane section that will be required to the north to the 4-lane section. **Therefore, Alternative 2B was selected as the Preferred Alternative.**

Exhibits of the *Preferred Alternative,* each alternate considered, and the environmental resources in the project area are provided in Appendix A.

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CATEGORICAL EXCLUSION ENVIRONMENTAL REVIEW

10. Comments and Coordination

A) Include the type of public, local government, and/or property owner outreach and summarize the type of comments received:

Coordination has occurred with local, state, and federal agencies and their comments were considered during the project development process. Coordination with the University of Kentucky (UK) Robinson Center was conducted to determine potential impacts to their property or the Robinson Forest Wildlife Management Area (WMA). An on site meeting was conducted on February 21, 2023. It was determined that their research fields would not be impacted by the proposed project. A total of 0.64 acres of the Robinson Forest WMA will be impacted by the project. The Quicksand Fire Department is adjacent to the project but no impacts are expected. Mapping can be viewed in Exhibit 3 of Appendix A. Full responses are included in Appendix B.

B) Was there controversy on the project?	**Yes** ☐	**No** ☑

C) If yes, describe the controversy and indicate if there is additional work needed to resolve all public, local government, and/or property owners' concerns.

There was no controversy resulting from the project. No additional actions are necessary.

11. Right-of-Way

A) Does the project require the acquisition of right-of-way?	**Yes** ☑	**No** ☐

B) Indicate right-of-way impacts in acreages for each type below.

Fee Simple: 44.22	**Temporary Easement:** 0.0	**Permanent Easement:** 0

C) Have any conservation easements been identified?	**Yes** ☐	**No** ☑
D) Are relocations required?	**Yes** ☐	**No** ☑

Number of Residential Relocations: 0	**Number of Business Relocations:** 0

Are suitable properties available for relocation?	**Yes** ☐	**No** ☐

E) Describe the right-of-way impacts.

The proposed project would acquire 44.22 acres of fee simple right-of-way. No relocations would be required.

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12. Economic Impacts

	Yes	No
A) Will the project have beneficial and/or negative economic impacts on the regional and/or local economy, such as effects on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales?	☐	☑

B) Describe both positive and negative impacts anticipated as a result of the proposed project.

No economic impacts are anticipated from the proposed project.

13. Business Impacts

	Yes	No
A) Will the project affect established businesses or business districts?	☐	☑

B) Describe both positive and negative impacts anticipated as a result of the proposed project.

The project is in a rural area and there will be no impacts to businesses or business districts.

14. Farmland Impacts

	Yes	No
A) Will the project affect prime farmlands?	☐	☑

B) Describe both positive and negative impacts anticipated as a result of the proposed project. If applicable, include a brief description of the FPPA ratings and information.

The project was coordinated with the Natural Resources Conservation Service (NRCS). They concluded the the proposed project will not impact agricultural lands (Prime or Statewide Important Farmland). The NRCS response is included in Appendix B. Coordination with the UK Robinson Center Revealed the presence of two research farm fields adjacent to the project. One field is at the junction of KY 15 and KY 1098. The second field is along KY 30. These fields will not be impacted by the proposed project. Mapping of these fields can be viewed in Exhibit 3 of Appendix A.

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15. Social Impacts

A) Will the project affect neighborhoods or community cohesion for various social groups?	**Yes** ☐	**No** ☑
B) Will the project affect travel patterns and accessibility (e.g. vehicular, commuter, bicycle, or pedestrian)?	**Yes** ☐	**No** ☑
C) Will the project affect school districts, churches, businesses, police or fire departments, etc.?	**Yes** ☐	**No** ☑
D) Will the project affect elderly, handicapped, non-drivers, or transit-dependent?	**Yes** ☐	**No** ☑

E) Describe both positive and negative impacts anticipated as a result of the proposed project.

There are no existing bike or pedestrian walkways in the project area and the project does not propose any. No social impacts are anticipated to result from the project. No additional actions are necessary.

16. Environmental Justice

A) Will the project have disproportionately high and adverse human health or environmental effects on minorities or low-income populations?	**Yes** ☐	**No** ☑

B) Describe both positive and negative impacts anticipated as a result of the proposed project.

No analysis was necessary and no additional efforts are required.

17. Local Land Use and Transportation Plan

A) Is there a local land use and/or local transportation plan?		**Yes** ☐	**No** ☑
B) Is the project consistent with the local land use plan?	**NA** ☑	**Yes** ☐	**No** ☐
C) Is the project consistent with the local transportation plan?	**NA** ☑	**Yes** ☐	**No** ☐

D) Describe the consistencies and inconsistencies with the local land use and transportation plans.

KY 15 is in the process of being reconstructed to improve vehicular movement in the area. The proposed project was analyzed to insure it would conform to the possible future KY 15 corridor alignments. No additional efforts are required.

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18. Section 106: Architectural Historic Resources

A) Were any sites identified as eligible or potentially eligible for the National Register of Historic Places identified in the view shed of the project?	**Yes** ☐	**No** ☑

B) What was the determination of effect from the proposed project?

No Effect ☑	**No Adverse Effect** ☐	**Adverse Effect** ☐

C) Discuss the analysis completed and any additional efforts required.

In the Project area, the APE was defined as a 150 ft buffer to the west and southwest of the project centerline, while to the east, northeast, and north the proposed APE was buffered 150 ft from the furthest disturbance limit. During the field survey, a total of four cultural historic sites within the APE, all of which were previously undocumented (Sites 1 -4 [BR 139 -BR 141, and BR 129]). Sites 1, 3, and 4 (BR 139, BR 141, and BR 129) are not eligible for listing in the NRHP under Criterion A, B, or C. Site 2 (BR 140) was recommended as an undetermined NRHP status as it was either not accessible or not visible from the ROW. However, due to the distance of the proposed project from the site and the dense vegetation between the site and the proposed project, the proposed project will not result in adverse direct or indirect effects to Site 2 (BR 140) if it was to be determined eligible for listing in the NRHP at a later date. Thus, a recommendation of "No Historic Properties Affected". State Historic Preservation Office (SHPO) concurrence with this determination was received on August 7, 2023. The SHPO concurrence letter is included in Appendix B.

19. Section 106: Archaeological Resources

A) Were any sites identified as eligible or potentially eligible for the National Register of Historic Places identified within the project area?	**Yes** ☐	**No** ☑

B) What was the determination of effect from the proposed project?

No Effect ☑	**No Adverse Effect** ☐	**Adverse Effect** ☐	**Undetermined/Deferred** ☐

C) Discuss the analysis completed and any additional efforts required.

The APE for the archaeological survey was confined to a one-mile corridor directly to the east of KY 15. An Archaeological Survey completed for the Preferred Alternative and no archaeological sites were identified during the investigation. No sites listed in or eligible for listing in the National Register of Historic Places will be affected by the proposed project. A "No Historic Properties Affected" determination was made for the proposed project. SHPO concurrence with this determination was received on May 17, 2023. The SHPO concurrence letter is included in Appendix B.

E) Is Native American Consultation required?	**Yes** ☐	**No** ☑

F) Summarize any comments received during NAC, and if there was a tribal request for additional consultation.

Native American Consultation was not necessary and no additional efforts are required.

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20. Section 4(f)

A) Are Section 4(f) properties on/or adjacent to the project?			**Yes** ☐	**No** ☑
B) Is there a use of a Section 4(f) property?	**NA** ☑		**Yes** ☐	**No** ☐
C) Please indicate the type of 4(f) analysis required, if any.				
De Minimis ☐	**Programmatic** ☐	**Individual** ☐		

D) Discuss the analysis completed and any additional efforts required.

The Robinson Forest Wildlife Management Area is within the project area but coordination revealed that the property does not fall under Section 4(f); therefore, no impacts to 4(f) properties are anticipated.

21. Section 6(f)

A) Are Section 6(f) properties on/or adjacent to the project?			**Yes** ☐	**No** ☑
B) Is there a conversion of a Section 6(f) property?	**NA** ☑		**Yes** ☐	**No** ☐

C) Discuss the analysis completed and any additional efforts required.

The project was coordinated with the Kentucky Department of Local Government in March of 2023. Department for Local Government sated "*There could be one LWCF project in the area. Breathitt County received LWCF funding for the Quicksand Elk Viewing Site. The only address I have on file is State Highway 1098. The site is likely outside the study area, but I recommend checking with the county on its exact location.*" Review of the property location of the Quicksand Elk Viewing Site found that it was several miles from the project area and would not be impacted by the proposed project. (Appendix B, Page B-7). No additional efforts are required.

22. Noise

A) Is this project considered a Type I project?	**Yes** ☐	**No** ☑

B) Discuss the analysis completed and any additional efforts required.

This project is not a Type I project, a highway traffic noise analysis was not conducted.

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23. Air Quality

A) Is the project located in an air quality non-attainment or maintenance area for ozone?	**Yes** ☐	**No** ☑
B) Is the project listed in an approved STIP and/or TIP?	**Yes** ☑	**No** ☐
STIP: STIP MOD 2021.198 | **TIP:**		
C) Is the project controversial or does the project HAVE or ADD a signalized intersection with a projected "open to traffic" year with an ADT>80,000 vehicles per day?	**Yes** ☐	**No** ☑

D) Indicate the level of potential for Mobile Source Air Toxin Effects.

No Potential (no analysis) ☑	**Low Potential** (qualitative analysis) ☐	**Higher Potential** (quantitative analysis) ☐

E) Is the project in an area requiring PM 2.5 consideration?	**Yes** ☐	**No** ☑

F) Discuss the analysis completed and any additional efforts required.

No analysis was necessary and no additional efforts are required.

24. Hazardous Materials: Sites

A) Are known or potentially contaminated sites (service stations, landfills, automotive repair, junkyard, buildings with asbestos, etc.) located along the project corridor?		**Yes** ☐	**No** ☑
B) Is ROW required from, or extensive excavation required adjacent to, a potentially contaminated site?	**NA** ☑	**Yes** ☐	**No** ☐

C) Discuss the analysis completed and any additional efforts required.

No analysis was necessary and no additional efforts are required.

25. Hazardous Materials: Bridges

A) Are there any bridges to be removed, refurbished, or repainted?		**Yes** ☐	**No** ☑
B) Will there be lead-based paint wastes?	**NA** ☑	**Yes** ☐	**No** ☐

C) Discuss the analysis completed and any additional efforts required.

N/A

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF ENVIRONMENTAL ANALYSIS

CATEGORICAL EXCLUSION ENVIRONMENTAL REVIEW

10-3014
Breathitt County
KY 15

26. Section 7: Threatened and Endangered Species

A) Is the project considered a No Effect by Definition?	**Yes** ☐	**No** ☑

B) List IPAC Species identified in project area, determination of effect, and additional analysis required.

Species	Determination of Effect	Additional Analysis Required
(See following page)	KYTC intends to use the programmatic agreement to address effects to the Indiana bat and gray bat. A No Effect Determination was made for the fish and mussel species.	A BA will be completed to make a determination of effect for the bat species.

C) Is the project located upstream of or within designated critical habitat?	**Yes** ☐	**No** ☑

D) Discuss the analysis completed and any additional efforts required.

The three bat species, 1 fish species, and one mussel species are listed by US Fish and Wildlife Service (USFWS) as potentially located within the project area. For the listed bats, no caves or other openings were found within 1-km of the project area. Potential Impacts to bat habitat is due to the estimated clearing of 27.7 acres of forested habitat. Trees will not be removed unless necessary. KYTC plans to use the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* developed by USFWS KFO and FHWA. There is are 4 streams (1 intermittent and 3 ephemeral) impacted by the project and none have suitable habitat for the for the Kentucky arrow darter and longsolid. The BA will be completed prior to construction to satisfy Section 7 of the ESA.

(Continued on following page)

27. Water Resources

A) Does the project impact Waters of the U.S.?		**Yes** ☑	**No** ☐
B) Will the waters impacted include State Listed Special Use Waters or tributaries to Special Use Waters?	**NA** ☐	**Yes** ☐	**No** ☑

Indicate all types of Special Use Waters and/or tributaries impacted below.

☐	Cold Water Aquatic Habitat	☐	Federally Designated Scenic River
☐	Reference Reach Stream	☐	Exceptional Waters
☐	Federally Designated Wild River	☐	State Wild River
☐	Outstanding National Resource Water		
☐	Outstanding State Resource Water		

C) Is the project within the watershed of a significant water resource (private or public drinking water supply wellhead protection area, Special Use Water, etc.)?		**Yes** ☐	**No** ☑
D) Does the project involve impacts to a stream below the Ordinary High Water Mark or to a wetland?	**NA** ☐	**Yes** ☑	**No** ☐

Indicate all impacts below the OHWM.

☐	Bridge/Pier/Abutment	☐	Temporary Diversion
☑	Culvert	☐	Bank Stabilization
☐	Low Water Crossing	☐	Wetland Fill
☑	Relocation/Channelization	☐	Other:
☑	Excess Excavation Site		

26) B) IPAC Official Species List

Common Name	Scientific Name	Status
Gray Bat	*Myotis grisescens*	Endangered
Indiana Bat	*Myotis sodalis*	Endangered
Northern Long-eared Bat	*Myotis septentrionalis*	Endangered
Longsolid	*Fusconaia subrotunda*	Threatened
Kentucky Arrow Darter	*Etheostoma spilotum*	Threatened
Monarch Butterfly	*Danaus plexippus*	Candidate

No critical habitats for the listed species are within the project area.

26) D) Discuss the analysis completed and any additional efforts required.

There was no suitable habitat found for Kentucky arrow darter, and longsolid. A KYTC No Effect Finding form (TC 58-54) was completed for the Kentucky arrow darter and longsolid. The signed TC 58-54 form is found in Appendix C.

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF ENVIRONMENTAL ANALYSIS

10-3914
Breathitt County
KY 15
Page 13

CATEGORICAL EXCLUSION ENVIRONMENTAL REVIEW

E) Will the project impact a lake or pond requiring its draining or filling?	**NA**	☐	**Yes**	☐	**No**	☑
Does a stream enter the lake or pond?	**NA**	☑	**Yes**	☐	**No**	☐
Does a stream exit the lake or pond?	**NA**	☑	**Yes**	☐	**No**	☐

F) Discuss the analysis completed and any additional efforts required.

There is one jurisdictional stream with the potential to be impacted by the project. There would be 163 feet of impact to an intermittent stream. There are also 3 ephemeral streams totaling 321 feet that would be impacted by the proposed project. Ephemeral streams are not currently considered jurisdictional and would not need to be permitted for.

28. Permits

A) Is the project located partially or wholly within a designated MS4 community other than KYTC?	**Yes**	☐	**No**	☑

Indicate any local ordinances, restriction, local permits, or other requirements that require consideration before, during, and after construction.

This project is not in a designated MS4 community.

B) Will the project involve surface disturbance greater than one acre?	**Yes**	☑	**No**	☐
C) Are Section 401/404 permits likely to be required for this project?	**Yes**	☑	**No**	☐

Indicate permits expected to be required.

	USACE NW: BNR	USACE NW	USACE Letter of Permission	USACE Individual	KDOW General WQC	KDOW Individual WQC
Stream/Lake/Pond	☑	☐	☐	☐	☑	☐
Wetland	☐	☐	☐	☐	☐	☐

D) Will this project affect navigable waters of the US as defined by the USACE and require a Section 10 permit?	**Yes**	☐	**No**	☑
E) Will this project affect a navigable body requiring a Coast Guard, Section 9 permit?	**Yes**	☐	**No**	☑
F) Does this project encroach upon the 100 year floodplain?	**Yes**	☑	**No**	☐
G) Is the project a candidate for application of the KYTC Karst policy?	**Yes**	☐	**No**	☑

H) Discuss the analysis completed and any additional efforts required.

The Preferred Alternative impacts 1 intermittent stream. There is 163 feet of stream impact which falls under Below Necessary Reporting (BNR). The project complies with the general certification of the Nationwide Permit 14. A Water Quality Certification from the Kentucky Division of Water will also be required. The project encroaches on the 100-year flood plain of Quicksand Creek. Determinations regarding No Rise Certification, FEMA Map Revisions, etc. will be made by the KYTC Division of Design's Drainage Section during final design. A Kentucky Pollutant Discharge Elimination System (KPDES) permit (KYR10) shall be received prior to construction. There are also 3 ephemeral streams totaling 321 feet that would be impacted by the proposed project. Ephemeral streams are not currently considered jurisdictional and would not need to be permitted for.

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF ENVIRONMENTAL ANALYSIS

CATEGORICAL EXCLUSION ENVIRONMENTAL REVIEW

29. Secondary and Cumulative Impacts

A) Will the project induce adverse or beneficial secondary and/or cumulative impacts?	Yes ☐	No ☑

B) Describe any secondary and/or cumulative impacts anticipated as a result of the proposed project.

No secondary and/or cumulative impacts are anticipated to result from the project. No additional actions are required.

30. Construction

A) Will excess excavation sites be required?	Unknown ☐	Yes ☐	No ☑

B) Discuss potential impacts of construction activities pertaining to water quality, stream diversion, air quality, detours and delays of traffic, businesses, noise, etc.

All construction activity will be completed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), KYTC's Standard Specification for Road and Bridge Construction, and KYTC's standard drawings. Measures to control and minimize erosion and water quality impacts from construction activities will be incorporated into the project as directed by the constraints of the required permits. As required under Section 213 of the KYTC Standard Specifications, a site-specific Erosion Control Plan, including BMP's, will be developed prior to onsite activities to ensure continuous erosion control throughout the construction and post construction period. The BMPs, standard erosion control measures, and other measures included in the KYTC Standard Specifications for Road and Bridge Construction will provide the basis of the erosion control plan. An electronic Notice of Intent (NOI) for the KPDES KYR10 will be initiated by KYTC's Project Development Branch prior to letting the project to construction. The NOI will be completed and submitted to DOW once the roadway contract is awarded and the contractor is known. Highway construction activities are designed to have minimal and temporary impacts to traffic patterns, highway access, air quality, water quality, noise, and the landscape. KYTC and/or its contractors would apply all relevant Best Management Practices (BMP) and comply with all regulations required during the construction in order to ensure that any impacts would indeed be minimal and temporary.

	Kentucky Transportation Cabinet Federal Highway Administration NO EFFECT FINDING		U.S. Department of Transportation Federal Highway Administration
KYTC Item No:	**10-5014**	**Route:**	**KY 15**
Quadrangle(s):	**Quicksand**	**County(ies):**	**Breathitt**

Project Description: (Type of improvement, areas to be impacted, crossroad improvements, easements, etc.)

The project begins on KY 15 at milepoint 13.75 ending at milepoint 14.64 near KY 15's intersection with Quicksand Road (KY 1812) and KY 1098 in Breathitt County. The project also includes an excess material site that is adjacent to the project located at the southeastern end of the project. The excess material site is approximately 92 acres. The project will mitigate the rockfall hazard area along KY 15.

BREATHITT COUNTY LISTED SPECIES:

Indiana Bat (*Myotis sodalis*)

Northern Long-eared Bat (*Myotis septentrionalis*)

Gray Bat (*Myotis grisescens*)

Tricolored Bat (*Perimyotis subflavus*)

Longsolid (*Fusconaia subrotunda*)

Kentucky Arrow Darter (*Etheostoma spilotum*)

Monarch Butterfly (*Danaus plexippus*)

IB & GB will be addressed by the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat* developed by USFWS KFO and FHWA. NLEB will be will be addressed in the biological assessment. The tricolored bat is a proposed species, and no action is required at this time. For the monarch butterfly, a candidate species, there is no action required at this time.

Methodologies: (Methods of assessment, who, what, when, resources, etc.)

Biologists reviewed literature on listed species and used GIS mapping to do an initial investigation of the area. A field visits made by HMB permitted biologists to investigate streams and tree habitat on site along with a 1-km portal survey on April 5, 2023.

Results: (Compare habitat used by listed species with available habitat)

Listed Mussels - Suitable instream habitat is generally described as clean, third order or larger, perennial streams and rivers with unembedded gravel, cobble, or sand substrate. There are no perennial streams with potential to be impacted by the project. Due to the lack of habitat, there are no effects to any of the listed mussels in the project area.

Kentucky Arrow Darter – The Kentucky arrow darter inhabits moderate to high-gradient first to third order perennial streams in pools and runs in with rocky substrate. There are no perennial streams with potential to be impacted by the project. Due to the lack of habitat, there are no effects to Kentucky arrow darter in the project area.

Determinations:

NO HABITAT, NO EFFECT for:

Longsolid (*Fusconaia subrotunda*)

Kentucky Arrow Darter (*Etheostoma spilotum*)

The project has been assessed in accordance with the provisions of Section 7 of the Endangered Species Act. As a designated representative of the FHWA, the KYTC has determined that the project will have No Effect on any listed species or their critical habitat, and further Section 7(a)(2) consultation with the Service is not required.

Cassondra Cruikshank

Cassondra Cruikshank
KYTC Signature

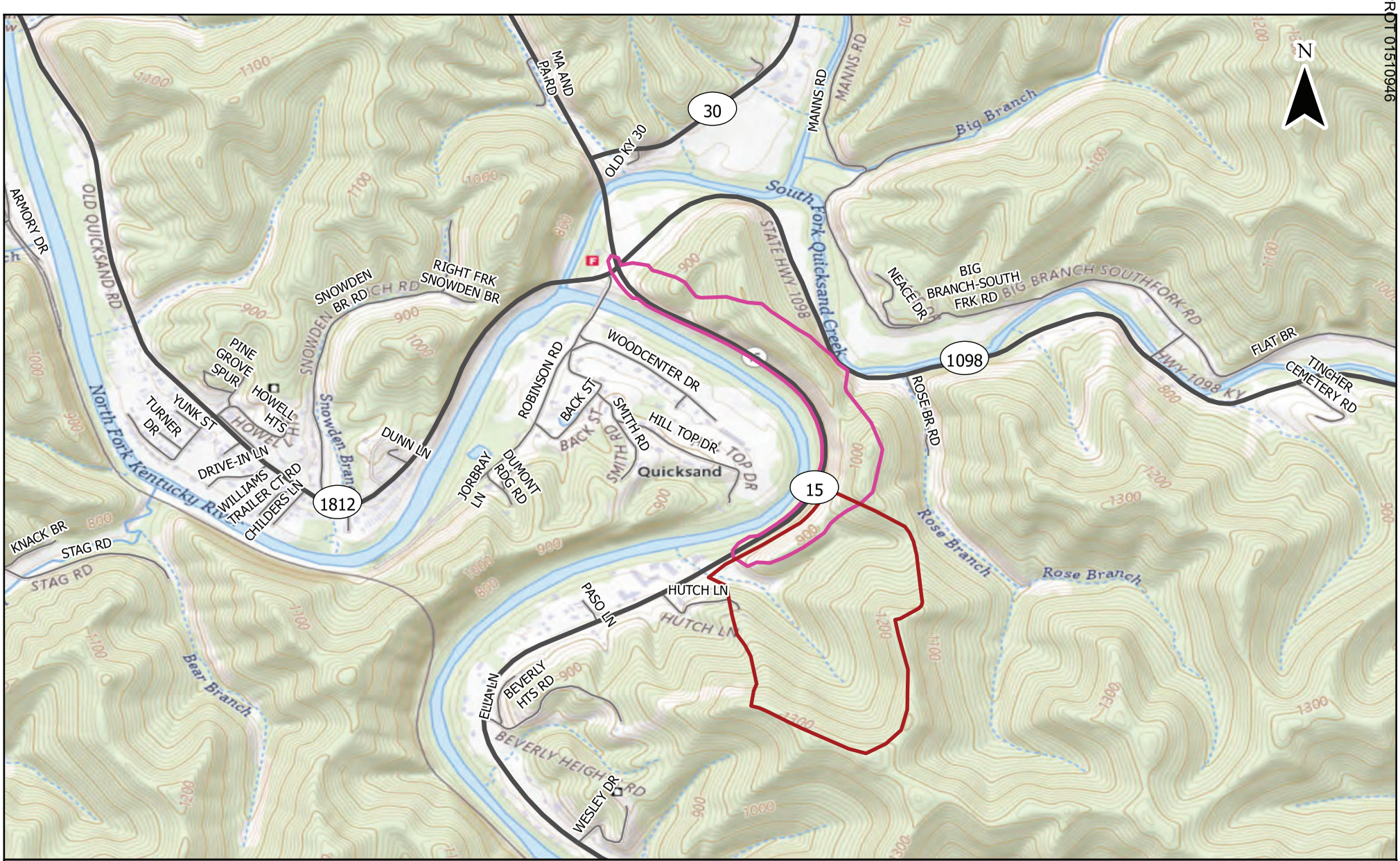
5/21/24
Date

Cassondra Cruikshank
Print Name

E.A.T.S. Milestones updated

Cassondra Cruikshank
Name

5/21/24
Date

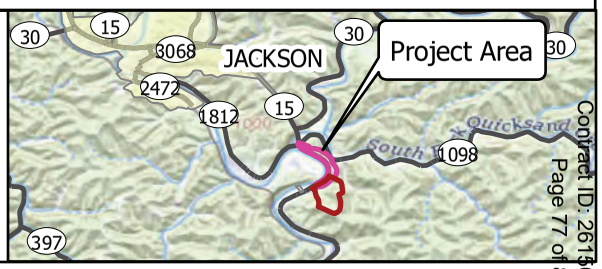


Project Location Map

Proposed Right-of-Way
Waste Site
State Roads
Local Roads

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

0 1,250 2,500 Feet



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: 05/09/2024 21:23:12 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/@37.5307658,-83.34048493047123,14z

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.

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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
Indiana Bat *Myotis sodalis*	Endangered
Northern Long-eared Bat *Myotis septentrionalis*	Endangered
Tricolored Bat *Perimyotis subflavus*	Proposed Endangered

Gray Bat *Myotis grisescens*

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*

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*

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*

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

Kentucky Arrow Darter *Etheostoma spilotum*

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

Longsolid *Fusconaia subrotunda*

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

Addressing Bats in Kentucky
(2020 KYTC- FHWA Programmatic Bat Program for Foraging Habitat, and Summer/Temporary Roosting)

Project Number:	County:	Road:	Lat/Long:
10-5014	Breathitt	KY15	37.531815, -83.339723

Indiana Bat Summer Roosting:

	Inactive Season		Add Active Season (*NO June/July)		Add Non-volant Season **	
Habitat Type	**Dates**	**Rate**	**Dates**	**Rate**	**Dates**	**Rate**
Known Swarming	November 15 - March 31	1.75	April 1 - November 14*	2.25	June 1 - July 31	2.75
Known Summer	October 15 - March 31	1.25	April 1 - October 14*	1.75	June 1 - July 31	2.25
Unsurveyed	October 15 - March 31	0.50	April 1 - October 14*	1.00	June 1 - July 31	1.50

* NO June 1 - July 31 tree removal

** Requires project-specific coordination with USFWS-KFO; 20 acre maximum per project

Special Note for Tree Removal Chosen:

No clearing trees 5"+ DBH from **May 15 to July 31**

Comments:

IB Project Habitat Designation	# Individual Trees (0.09 ac/each)	Block Acreage	Acreage Impacted (Individual + Block)	Habitat Rate	Standard Land Acraege Value	Cost ($)
Unsurveyed		71.85	71.85	1.00	$4,700.00	$337,695.00
			0.00			$0.00
			0.00			$0.00
			0.00			$0.00
				TOTAL PAYMENT DUE		**$337,695.00**

Effects Determinations for each species: Indiana bat, "may affect, likely to adversely affect" Gray bat, "may affect, not likely to adversely affect." Northern long-eared bat, "may affect, not likely to adversely affect through IPaC determination"

Signatures:

	8/30/2024	☑ EATS Updated		9/5/2024
DEA Biologist	Date		Project Manager	Date

Addressing Bats in Kentucky
(2020 KYTC- FHWA Programmatic Bat Program for Foraging Habitat, and Summer/Temporary Roosting)

Project Number:	County:	Road:	Lat/Long:
10-5014	Breathitt	KY15	37.531815, -83.339723

Northern Long-eared Bat				Gray bat			
☐	IPaC NTLAA	☑	BA/BO	☐	NH/NFX	☐ Prog NLTAA	☑ BA/BO

Foraging BMP Commitments:

YES	N/A
☑	☐

Bridges & Temporary Roosting: **(Attach Bridge Assessment Form)**

	NO	YES:	Species Observed:
Known Maternity Colony	☑	☐	
Known Bachelor Colony	☑	☐	
No Signs/ Absent	☐	☑	
Signs / Present (≤ 5 individuals)	☑	☐	

NO BRIDGES BEING IMPACTED BY PROPOSED PROJECT

Signatures:

[signature]	8/30/2024	☑ EATS Updated (Initial)	[signature]	9/5/2024
DEA Biologist	Date		Project Manager	Date

ANDY BESHEAR
GOVERNOR

JACQUELINE COLEMAN
LT. GOVERNOR

TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL
THE STATE HISTORIC PRESERVATION OFFICE
410 HIGH STREET
FRANKFORT, KENTUCKY 40601
(502) 564-7005
www.heritage.ky.gov

LINDY CASEBIER
SECRETARY

CRAIG A. POTTS
EXECUTIVE DIRECTOR &
STATE HISTORIC PRESERVATION OFFICER

May 17, 2023

Daniel R. Peake, Director
Division of Environmental Analysis
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, Kentucky 40601

Re: *Archaeological Survey for the KY 15 Rockfall Mitigation Project in Breathitt County, Kentucky*
Report by: Alexander Craib and Tanya Faberson Hurst
KYTC Item #s: 10-5014

Dear Mr. Peake,

Thank you for the above-referenced revised archaeological report. The field methods included pedestrian survey and shovel test excavation of approximately 34.33 acres for the KY 15 rockfall mitigation project. We understand that the Federal Highway Administration is the lead federal agency for this undertaking. No archaeological sites were identified as part of this investigation.

KYTC, through qualified designated consultants, recommends a determination of *No Historical Properties Affected* for this undertaking. We concur with those determinations and accept this report without revisions.

Should you have any questions, please feel free to contact Stephanie Dooley of my staff at stephanie.dooley@ky.gov.

Sincerely,

Craig A. Potts,
Executive Director and
State Historic Preservation Officer

KHC # 231042
cp: sd
e-cc: Susan Neumeyer (KYTC), Phil Mink (OSA)

ANDY BESHEAR
GOVERNOR

JACQUELINE COLEMAN
LT. GOVERNOR

TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL
THE STATE HISTORIC PRESERVATION OFFICE
410 HIGH STREET
FRANKFORT, KENTUCKY 40601
(502) 564-7005
www.heritage.ky.gov

LINDY CASEBIER
SECRETARY

CRAIG A. POTTS
EXECUTIVE DIRECTOR &
STATE HISTORIC PRESERVATION OFFICER

August 7, 2023

Mr. Daniel R. Peake
Division of Environmental Analysis
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

RE: Cultural Historic Baseline Survey for the Proposed KY-15 Rockfall Mitigation from 0.593 Mi North of Beverly Road (MP 13.750) to KY-1098/KY-1812 (MP 14.644) in Breathitt County, Kentucky
KYTC Item No.10-5014

Dear Mr. Peake,

Thank you for your submittal of a cultural historic survey report and survey forms for the above-referenced project which is pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f) and implementing regulations at 36 C.F.R. Part 800.

Our office understands the proposed project involves rockfall mitigation along KY-15 from 0.593 Mi North of Beverly Road (MP 13.750) to KY-1098/KY-1812 (MP 14.644) in Breathitt County, Kentucky. As a result of this survey, four resources were identified within the APE that include BR-139, BR-140, BR-141 and BR-129. Sites BR-139, BR-141 and BR-129 were determined to be not eligible for inclusion into the National Register of Historic Places, while Site BR-140 was recommended **Undetermined** due to restricted access.

KYTC recommends a determination of **No Historic Properties Affected** for this undertaking.

Based on our review, BR-139, BR-141 and BR-129 do not appear to retain sufficient integrity or significance, and as a result, appear to be **Not Eligible** for listing on the NRHP. We understand that BR-140 is **Undetermined.** We **Concur** with your official eligibility determinations and with your determination of **No Historic Properties Affected.**

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	3,032,802	24,396		3,057,198
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			5,360	5,360
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:	9,374 CU YD
ROCK:	2,621,429 CUYD
TOTAL EXC:	3,057,198 CUYD

EMBANKMENT QUANTITY

EMBANKMENT:	14,446 CUYD
EMB BENCH:	9,374 CUYD
ROCK ROADBED:	41,805 CUYD
TOTAL EMB:	65,625 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: 3-17-26

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
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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	3,032,802	24,396		3,057,198
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
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02383	REMOVE & RESET GUARDRAIL	LF	2,973			2,973
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02555	CONCRETE-CLASS B ⑦	CUYD	2.25			2.25
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02568	MOBILIZATION	LS	1			1
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02650	MAINTAIN & CONTROL TRAFFIC	LS			1	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH			2	2
02676	MOBILIZATION FOR MILL & TEXT	LS	1			1
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02704	SILT TRAP TYPE B	EACH	152			152
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02706	CLEAN SILT TRAP TYPE A	EACH	152			152
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02708	CLEAN SILT TRAP TYPE C	EACH	152			152
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EARTHWORK QUANTITIES

EXCAVATION QUANTITY

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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 (ROSE 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	9,374			9,374
02602	FABRIC-GEOTEXTILE CLASS 1 (13)	SQYD	10,030			10,030

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: 3-17-26

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 (ROSE BUD)	EACH	111			111
20191ED	OBJECT MARKER TY 3	EACH	3		2	5
20430ED	SAW CUT (11)	LF			4,765	4,765
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21289ED	LONGITUDINAL EDGE KEY	LF	2,117	155		2,272
23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	LF			59	59
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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

KENTUCKY RIVER
COMMUNITY CARE, INC.

UNIVERSITY
OF KENTUCKY

1-S
COMMERCIAL

2-S
COMMERCIAL

1-S
RES.

60+00

65+00

NORTH FORK KENTUCKY RIVER

EXIST. R/W

WM

OE = 740.89

IE = 746.52

IE = 745.49

15" CMP

OE = 745.49

SP

SIGN

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

OE = 746.71

PLANT ROSE BUD TREES WITH 20' SPACING AND
NO CLOSER THAN 10' FROM THE ROAD

10'
12'
12'
10'

N52°57'19"E

24" PIPE

IE = 751.43

IE = 749.80

4' FB

6' FB

SAFELOAD
4.06 CY

+27.04
76.94'

N52°24'11"E - 431.77'

+45.41
89.52'

Arc = 480.76', R = 1164.74'
Chord = N30°59'03"E - 477.35'

MATCHLINE STA. 70+00

+58.40
87.63'

N45°45'33"E - 243.94'

DOUBLE VEHICULAR
CHAIN LINK GATE
(24' WIDE)

MOBILE HOME

+01.87
60.96'

CONST. 44 LF
OF EDGE KEY

POT 59+00.00

N55°06'30"E - 425.47'

CONST. 180 LF OF
4' CHAIN LINK FENCE

CONST. 30 LF
OF 4' CHAIN
LINK FENCE

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

Ⓐ N55°45'25"W - 93.42'

P
20

LATISHA & SAXON
DAVIS

+18.21
458.18'

Ⓐ

N43°35'10"W - 73.68'

+30.15
406.17'

P
21

ANTHONY & KATIE
RITCHIE

N72°43'45"E
219.51'

GARAGE

P
10

DARRELL STEPHEN
McINTOSH

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: 3-17-26

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'
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E= 1086.91'
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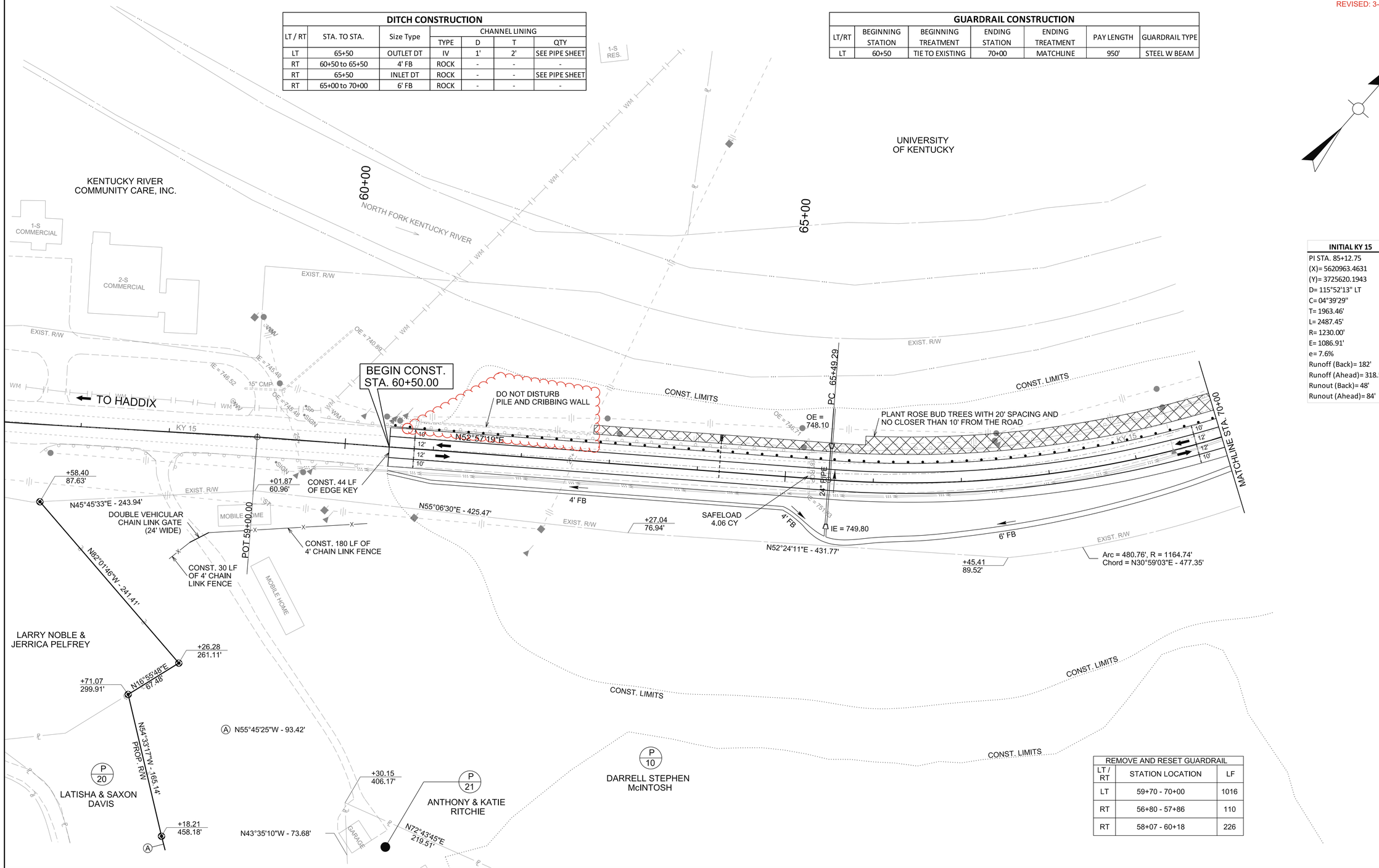


REMOVE AND RESET GUARDRAIL		
LT / RT	STATION LOCATION	LF
LT	59+70 - 70+00	1016
RT	56+80 - 57+86	110
RT	58+07 - 60+18	226

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

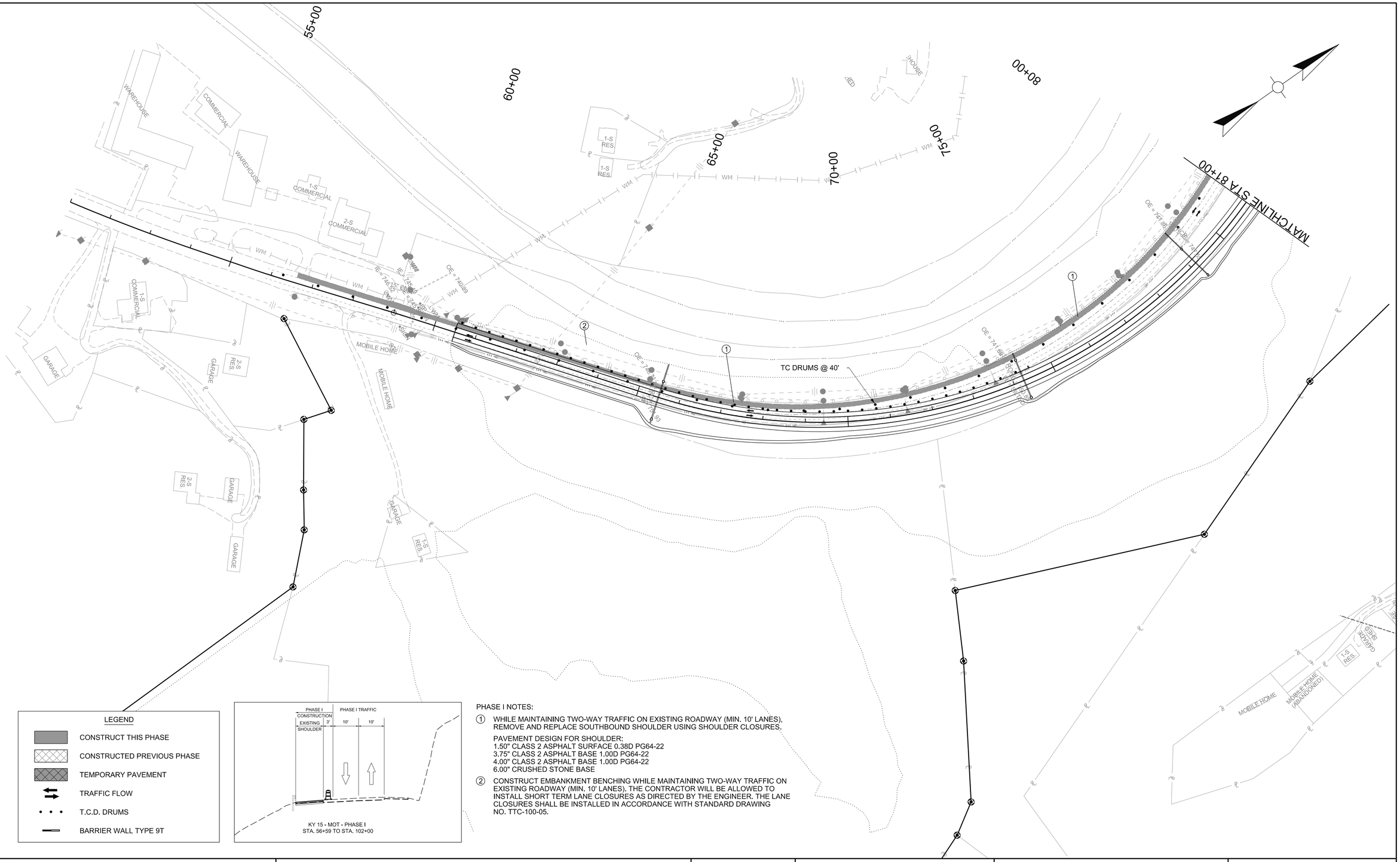
COUNTY OF BREATHITT

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



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.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

TEAM KENTUCKY. Transportation's MVP. Cabinet

DRAWING TITLE: MAINTENANCE OF TRAFFIC - PHASE I

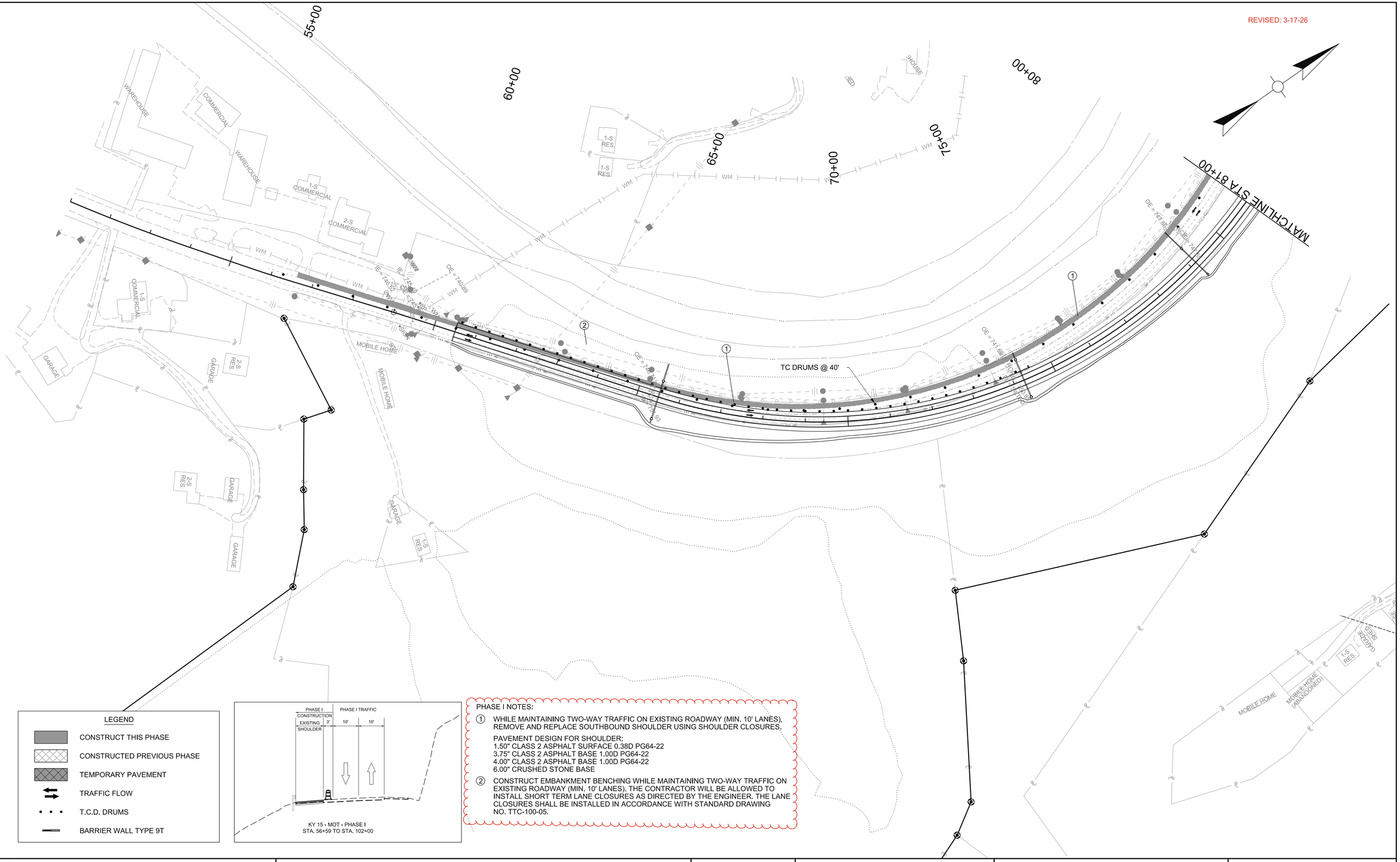
HORIZONTAL SCALE
SCALE: 1"=100'

0' 100' 200' 400'

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

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

REVISED: 3-17-26



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:

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.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

TEAM KENTUCKY. Transportation's MVP. Cabinet

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. 10-5014.00
COUNTY OF 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