

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT  
(33 CFR 325)

OMB APPROVAL NO. 0710-0003  
Expires December 31, 2004

The public reporting burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes 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 this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. 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 form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

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. 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. Submission of requested information is voluntary, however, if information is not provided, the permit application cannot be processed 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 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.

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

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME KY Transportation Cabinet Department of Highways	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) Roy Collins, Permits Coordinator
6. APPLICANT'S ADDRESS Kentucky Transportation Office Building 200 Mero Street Frankfort, Kentucky 40622	9. AGENT'S ADDRESS Division of Environmental Analysis KY Transportation Office Bldg, Station W5-22-02 200 Mero Street, Frankfort, Kentucky 40622
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business (502) 564-3730	10. AGENT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business (502) 564-7250

11. STATEMENT OF AUTHORIZATION

I hereby authorize Roy Collins 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.

APPLICANT'S SIGNATURE

DATE

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) US 60 reconstruction, KYTC Item No. 1-330.00	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Beaverdam Slough, Drake Creek, & U.T.s	14. PROJECT STREET ADDRESS (if applicable) N/A
15. LOCATION OF PROJECT <u>Livingston</u> COUNTY <u>KY</u> STATE	

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

Project begins approximately 3000 feet E of the east bank of the Tenn. River and proceeds E for 3.7 miles, ending 5,277 ft E of Rudd Spees Rd

17. DIRECTIONS TO THE SITE

From Ledbetter KY take US 60 approx 6600 west to project end

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

The construction of US 60 involves the placement of 7 culverts, 1 bridge, and the relocation or filling of several streams.

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

See Attachment

**USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

To necessitate the construction of US 60, the placement of culverts, construction of a bridge, and the relocation of several sections of streams are required.

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

The material will be native rock and soils from the project site. Approximately 600 CY of rock will be placed for the stream relocations and culvert placements.

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

Roadway fill = 2.77 acres. See "Summary" sheets for individual site acreages.

23. Is Any Portion of the Work Already Complete? Yes \_\_\_ No x IF YES, DESCRIBE THE COMPLETED WORK

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

See Attachment

25. List of Other Certifications 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

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the 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.

\_\_\_\_\_  
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.

## **Attachment Block 19**

### **Livingston Co. US 60 reconstruction Item No. 1-330.00**

#### **Project Purpose:**

The purpose of the project is to reduce current and future traffic congestion, correct existing roadway deficiencies, and provide for acceptable access management, in order to facilitate the safe and efficient movement of people and goods along this section of US 60 in Livingston County.

## **Attachment Block 24**

### **Livingston County US 60 reconstruction Item No. 1-330.00**

Charles R. Blankenship  
1602 Us Highway 60 W  
Ledbetter, KY 42058

United Methodist Church  
Ledbetter, KY 42058

Jeffrey & Katherine Armstrong  
304 Ball Park Loop  
Ledbetter, KY 42058

Livingston County Livestock  
Ledbetter, KY 42058

Raymond P. Hall  
165 Erwin Cir  
Ledbetter, KY 42058

Gerald D. Jeffrey  
Ledbetter, KY 42058

Bruce A. Varvel  
Box 4  
Ledbetter, KY 42058

Tad A. Davenport  
400 Mud Drag Ln  
Ledbetter, KY 42058

Troy A. Davenport  
400 Mud Drag Ln  
Ledbetter, KY 42058

Harold & Patricia Hopkins  
1185 Rudd Spees Rd  
Ledbetter, KY 42058

Terry & Sonja Stringer  
340 Cody Cooper Rd  
Ledbetter, KY 42058

Larry & Deborah McCain  
Box 198  
Ledbetter, KY 42058

Mark & Christine Hodge  
247 Rudd Spees Rd  
Ledbetter, KY 42058

Gene T. Boswell  
706 Hopkins Ave  
Ledbetter, KY 42058

Timothy & Regina Durard  
1446 Us Highway 60 W  
Ledbetter, KY 42058

Hugh & Carolyn Smith  
Box 19  
Ledbetter, KY 42058

Jesse & Mary Teague  
1402 Us Highway 60 W  
Ledbetter, KY 42058

James E. Edmonds  
Ledbetter, KY 42058

## SUMMARY OF SECTION 404 IMPACTS

Livingston County  
US 60 Reconstruction  
Item No. 1-330.00

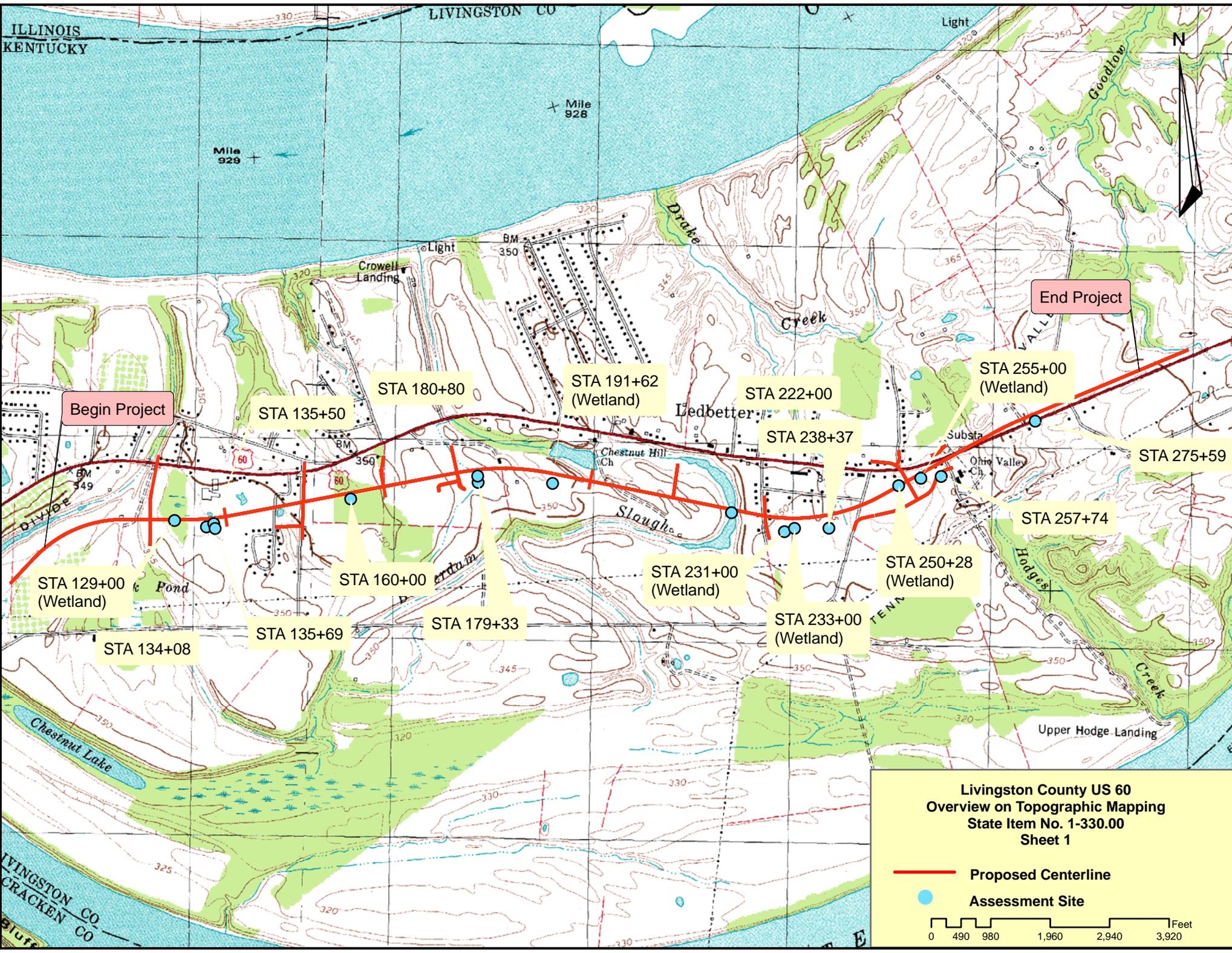
### Impacts By Proposed US 60 Reconstruction To Streams & Wetlands

[Please note: Impacts are arranged below in the order that the sites occur moving along the project from west to east.]

1. **Sta. 129+00** – Construct a controlled fill over **0.42 acre** of jurisdictional wetland near latitude 37.043695, longitude -88.507808. This forested and emergent wetland is associated with an unnamed tributary of Beaverdam Slough with a drainage area of approximately 38 acres. Mitigation will be in the form of in-lieu fee. A proposed 2:1 ratio requires an in-lieu fee of \$12,600.00. (Nationwide 14)
2. **Sta. 134+08** – Construct roadway impacting **300'** of an U.T. Beaverdam Slough at approximate latitude 37.043446, longitude -88.505997. This portion of the stream will be filled with excavated material and the drainage conveyed through 300' of culvert and inlet/outlet channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 12.6 acres. The impact to the water is **0.023 acre**. (Nationwide 14)
3. **Sta. 135+50** – Construct roadway impacting **98'** of U.T. Beaverdam Slough at approximate latitude 37.043601, longitude -88.505592. This portion of the stream will be filled with excavated material and the drainage conveyed through 252' of culvert and outlet channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 5.3 acres. The impact to the water is **0.005 acre**. (Nationwide 14)
4. **Sta. 135+69** – Construct roadway impacting **245'** of U.T. Beaverdam Slough at approximate latitude 37.043386, longitude -88.505505. This portion of the stream will be filled with excavated material and the drainage conveyed through 252' of culvert and inlet/outlet channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 8.8 acres. The impact to the water is **0.016 acre**. (Nationwide 14)

5. **Sta. 160+00** – Construct roadway impacting **378'** of an U.T. Ohio River at approximate latitude 37.044897, longitude -88.497911. This portion of the stream will be filled with excavated material and the drainage conveyed through 336' of culvert and inlet/outlet channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 18.9 acres. The impact to the water is **0.034 acre**. (Nationwide 14)
6. **Sta. 179+33** – Construct roadway impacting **95'** of an U.T. Ohio River at approximate latitude 37.045815, longitude -88.490752. This portion of the stream will be filled with excavated material, and the drainage conveyed through 95' of inlet channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 4.1 acres. The impact to the water is **0.005 acre**. (Nationwide 14)
7. **Sta. 180+80** - Construct roadway impacting **325'** of an U.T. Ohio River at approximate latitude 37.046100, longitude -88.490781. This portion of the stream will be filled with excavated material, and the drainage conveyed through 325' of culvert & inlet/outlet channel. Field investigations indicate this stream is **intermittent** in nature with a watershed of 64 acres. The impact to the water is **0.046 acre**. (Nationwide 14)
8. **Sta. 191+62** – Construct a controlled fill over **0.07 acre** of jurisdictional wetland near latitude 37.045868, longitude -88.486547. This emergent wetland is associated with an unnamed tributary of Ohio River with a drainage area of approximately 5.6 acres. Mitigation is not required because the wetland is less than 0.1 acre in size. (Nationwide 14)
9. **Sta. 222+00** – Construct roadway impacting **248'** of Beaverdam Slough at approximate latitude 37.044776, longitude -88.476410. The stream will be crossed by a new bridge; fill of excavated material will be placed in the stream near the bridge abutments. Field investigations indicate this stream is **perennial** in nature with a watershed of 275 acres. The impact to the water is **0.061 acre**. (Nationwide 14)
10. **Sta. 231+00** – Construct a controlled fill over **0.34 acre** of jurisdictional wetland near latitude 37.043988, longitude -88.473389. This forested wetland is associated with an unnamed tributary of Drake Creek with a drainage area of approximately 13 acres. Mitigation will be in the form of in-lieu fee. A proposed 2:1 ratio requires an in-lieu fee of \$10,200.00. (Nationwide 14)
11. **Sta. 233+00** – Construct a controlled fill over **0.11 acre** of jurisdictional wetland near latitude 37.044149, longitude -88.472829. This emergent wetland is associated with an unnamed tributary of Drake Creek with a drainage area of approximately 13 acres. Mitigation will be in the form of in-lieu fee. A proposed 2:1 ratio requires an in-lieu fee of \$3,300.00. (Nationwide 14)

- 12. Sta. 238+37** – Construct roadway impacting **282'** of Drake Creek at approximate latitude 37.044202, longitude -88.470888. This portion of the stream will be filled with excavated material, and the drainage conveyed through 270' of culvert & inlet/outlet channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 9.5 acres. The impact to the water is **0.019 acre**. (Nationwide 14)
- 13. Sta. 250+28** – Construct a controlled fill over **0.14 acre** of jurisdictional wetland near latitude 37.046216, longitude -88.467022. This emergent wetland is associated with an unnamed tributary of Drake Creek with a drainage area of approximately 7 acres. Mitigation will be in the form of in-lieu fee. A proposed 2:1 ratio requires an in-lieu fee of \$4,200.00. (Nationwide 14)
- 14. Sta. 255+00** – Construct a controlled fill over **1.37 acre** of jurisdictional wetland near latitude 37.046580, longitude -88.465783. This forested and emergent wetland is associated with an unnamed tributary of Drake Creek with a drainage area of approximately 27 acres. Mitigation will be in the form of in-lieu fee. A proposed 2:1 ratio requires an in-lieu fee of \$41,100.00. (Individual/LOP).
- 15. Sta. 257+74** – Construct roadway impacting **1073'** of an U.T. Drake Creek at approximate latitude 37.046687, longitude -88.464640. This portion of the stream will be filled with excavated material, and the drainage conveyed through 615' of culvert and constructed channel. Field investigations indicate this stream is **ephemeral** in nature with a watershed of 20.4 acres. The impact to the water is **0.098 acre**. (Nationwide 14)
- 16. Sta. 275+59** – Construct roadway impacting **88'** of an U.T. Hodges Creek at approximate latitude 37.049310, longitude -88.459427. This portion of the stream will be filled with excavated material and the drainage conveyed through 171' of culvert outlet channel. Field investigations indicate this stream is **intermittent** in nature with a watershed of 76.8 acres. The impact to the water is **0.013 acre**. (Nationwide 14)



Begin Project

End Project

STA 135+50

STA 180+80

STA 191+62 (Wetland)

STA 222+00

STA 255+00 (Wetland)

STA 275+59

STA 129+00 (Wetland)

STA 160+00

STA 231+00 (Wetland)

STA 250+28 (Wetland)

STA 257+74

STA 134+08

STA 135+69

STA 179+33

STA 233+00 (Wetland)

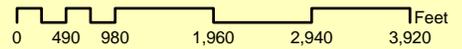
STA 238+37

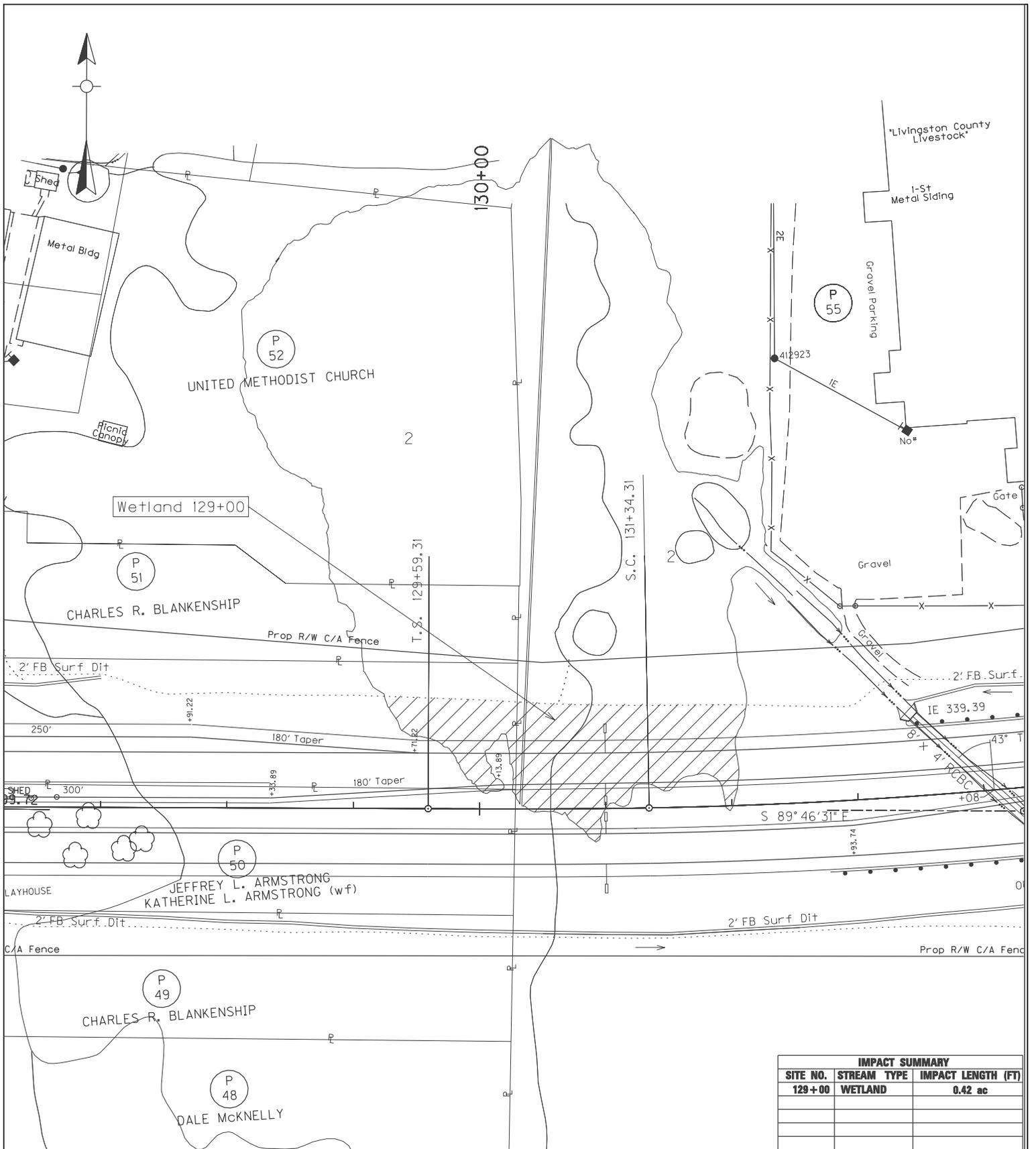
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Livingston County US 60  
Overview on Topographic Mapping  
State Item No. 1-330.00  
Sheet 1

Proposed Centerline

Assessment Site





IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
129+00	WETLAND	0.42 ac

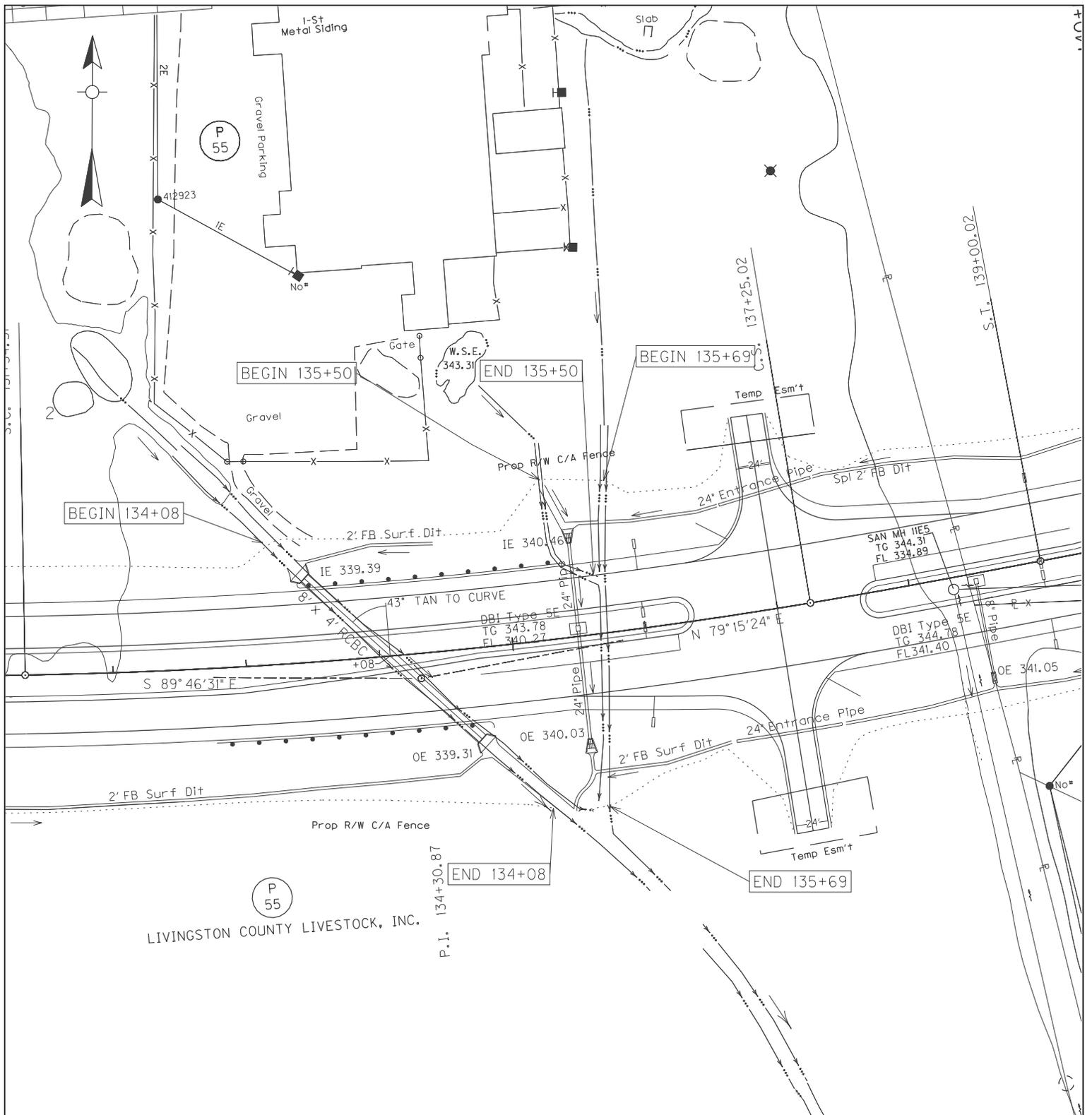
~NOTES~

Wetland Impact 129+00

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
**DEPARTMENT OF HIGHWAYS**

STA 126+24 TO 134+32 IMPACT PLAN  
 PROPOSED ACTIVITIES:  
 U.T. Beaverdam Slough LEDBETTER  
 STREAM NAME: AT OR NEAR:  
 LIVINGSTON KENTUCKY  
 COUNTY OF: STATE OF:  
 MILE POINT: 1-330.00 SHEET NO.: 2



IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
134+08	EPHEMERAL	300
135+50	EPHEMERAL	98
135+69	EPHEMERAL	245

~NOTES~  
 Stream Impact 134+08  
 Stream Impact 135+50  
 Stream Impact 135+69

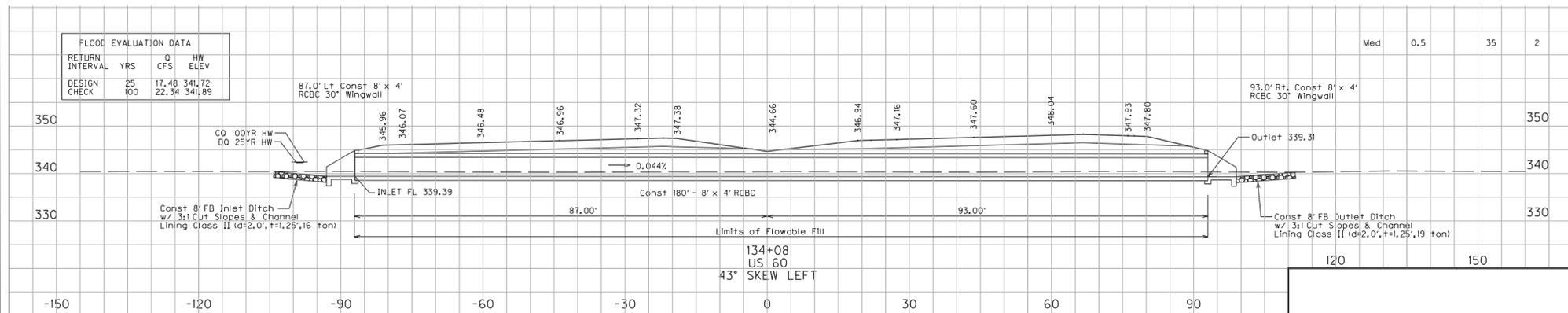
SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
 DEPARTMENT OF HIGHWAYS

STA 131+81 TO 139+33 IMPACT PLAN  
 PROPOSED ACTIVITIES:  
 U.T. BEAVERDAM SLOUGH LEDBETTER  
 STREAM NAME: \_\_\_\_\_ AT OR NEAR:  
 LIVINGSTON KENTUCKY  
 COUNTY OF: \_\_\_\_\_ STATE OF:  
 1-330.00 3  
 MILE POINT: \_\_\_\_\_ ITEM NO.: \_\_\_\_\_ SHEET NO.:

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN CHECK	25	17.48	341.72
	100	22.34	341.89

Med 0.5 35 2



~NOTES~

Stream Impact STA 134+08

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 134+08 IMPACT PLAN

PROPOSED ACTIVITIES:

U. T. BEAVERDAM SLOUGH  
 STREAM NAME:

LEDBETTER  
 AT OR NEAR:

LIVINGSTON  
 COUNTY OF:

KENTUCKY  
 STATE OF:

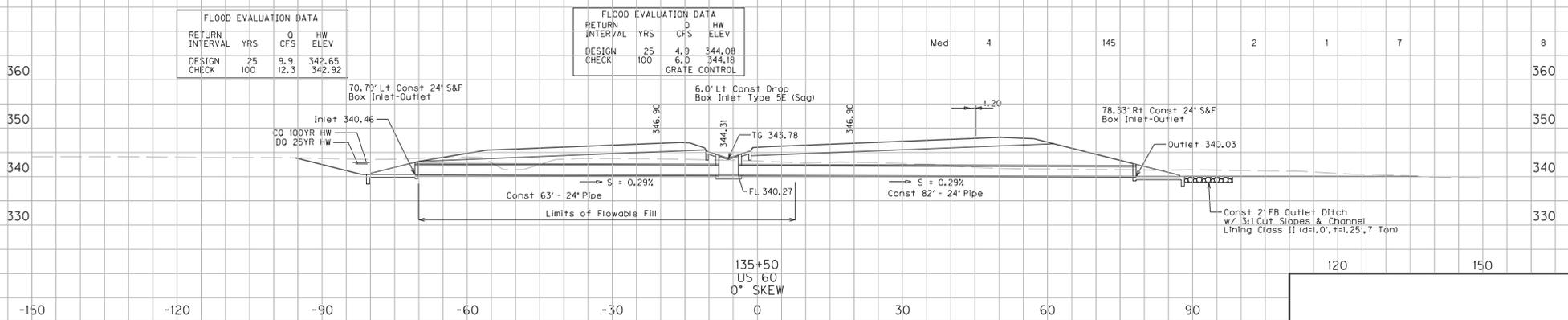
MILE POINT:

1-330.00  
 ITEM NO.:

4  
 SHEET NO.:

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN CHECK	25	9.9	342.65
	100	12.3	342.92

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN CHECK	25	4.9	344.08
	100	6.0	344.18



~NOTES~

Stream Impact STA 135+50

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 135+50 IMPACT PLAN

PROPOSED ACTIVITIES:

U. T. BEAVERDAM SLOUGH  
 STREAM NAME:

LEDBETTER  
 AT OR NEAR:

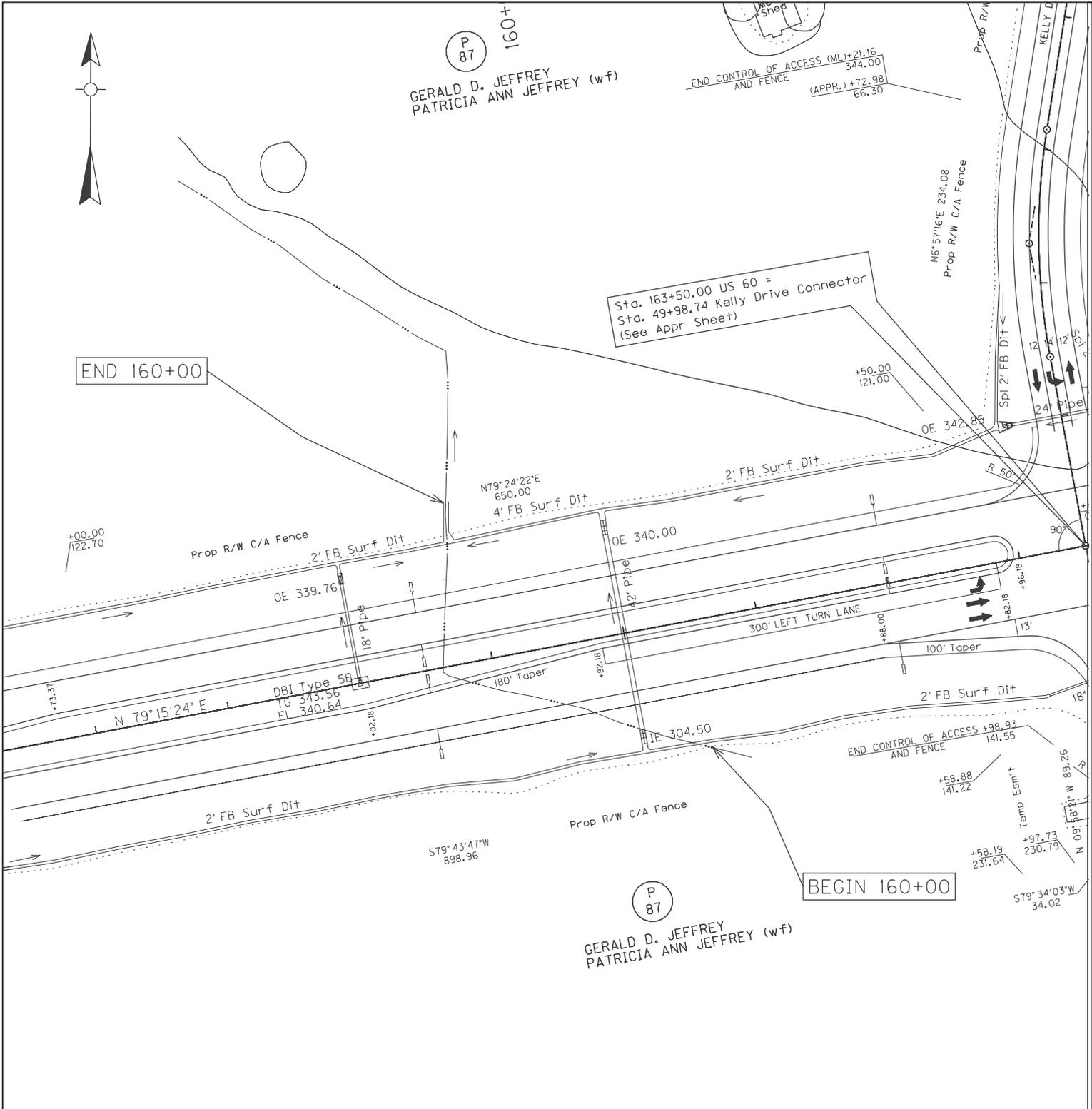
LIVINGSTON  
 COUNTY OF:

KENTUCKY  
 STATE OF:

MILE POINT:

1-330.00  
 ITEM NO.:

5  
 SHEET NO.:



Sta. 163+50.00 US 60 =  
 Sta. 49+98.74 Kelly Drive Connector  
 (See Appr Sheet)

END 160+00

BEGIN 160+00

IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
160+00	EPHEMERAL	378

~NOTES~

Stream Impact 160+00

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
**DEPARTMENT OF HIGHWAYS**

STA 156 TO 163 IMPACT PLAN

PROPOSED ACTIVITIES: \_\_\_\_\_

U.T. OHIO RIVER \_\_\_\_\_ LEDBETTER \_\_\_\_\_

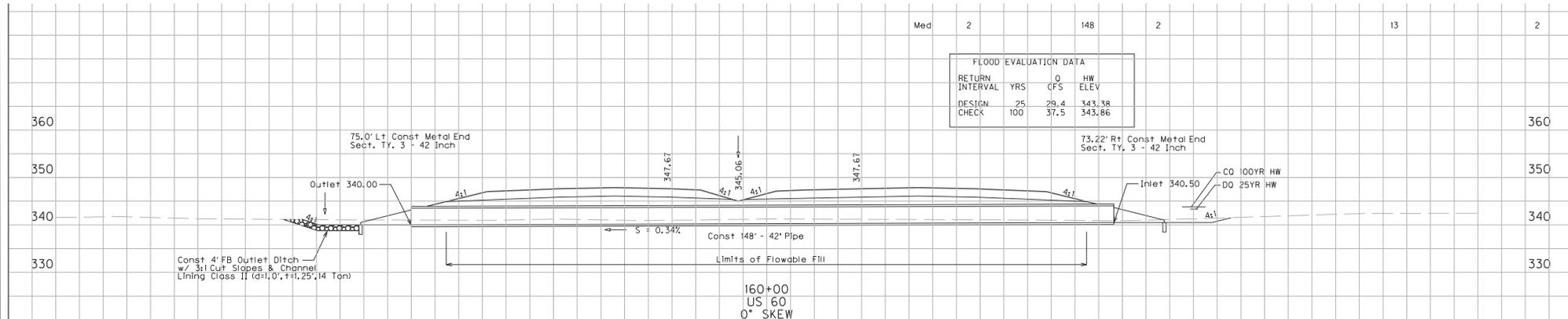
STREAM NAME: \_\_\_\_\_ AT OR NEAR: \_\_\_\_\_

LIVINGSTON \_\_\_\_\_ KENTUCKY \_\_\_\_\_

COUNTY OF: \_\_\_\_\_ STATE OF: \_\_\_\_\_

1-330.00 \_\_\_\_\_ 6 \_\_\_\_\_

MILE POINT: \_\_\_\_\_ ITEM NO.: \_\_\_\_\_ SHEET NO.: \_\_\_\_\_



~NOTES~

Stream Impact STA 160+00

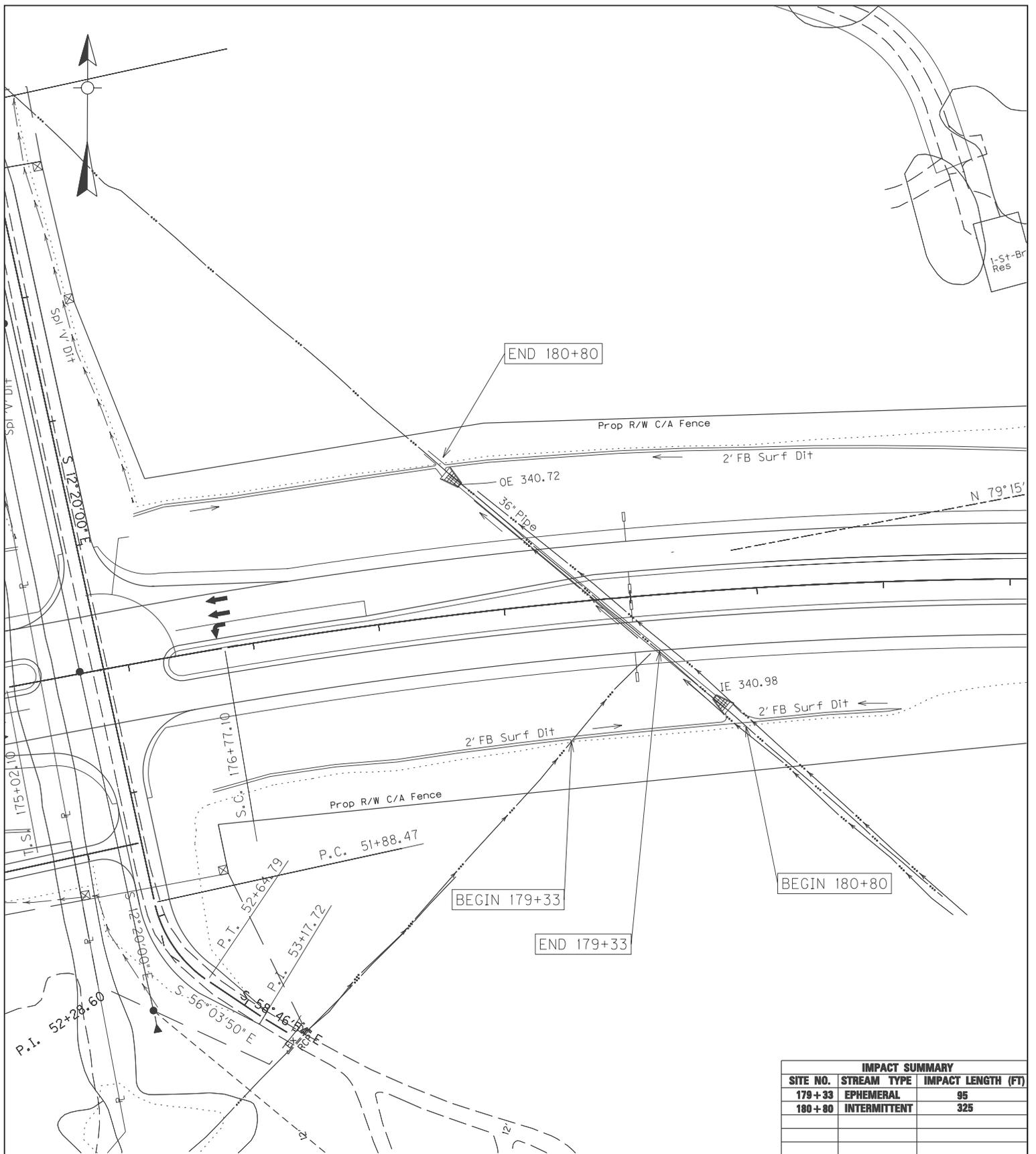
SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 160+00 IMPACT PLAN

PROPOSED ACTIVITIES:

U. T. OHIO RIVER		LEDBETTER	
STREAM NAME:		AT OR NEAR:	
LIVINGSTON		KENTUCKY	
COUNTY OF:		STATE OF:	
MILE POINT:	1-330.00	7	
	ITEM NO.:	SHEET NO.:	



IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
179+33	EPHEMERAL	95
180+80	INTERMITTENT	325

~NOTES~

Stream Impact 179+33  
Stream Impact 180+80

SCALE 1" = 100'

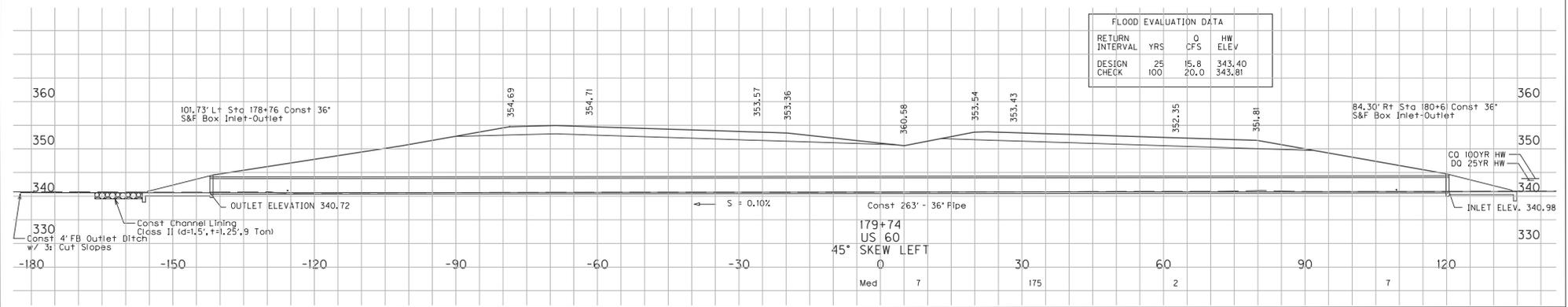
APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
DEPARTMENT OF HIGHWAYS

STA 175+00 TO 183+15 IMPACT PLAN  
PROPOSED ACTIVITIES:

U. T. OHIO RIVER                      LEDBETTER  
STREAM NAME:                      AT OR NEAR:

LIVINGSTON                      KENTUCKY  
COUNTY OF:                      STATE OF:

1-330.00                      8  
MILE POINT:                      ITEM NO.:                      SHEET NO.:



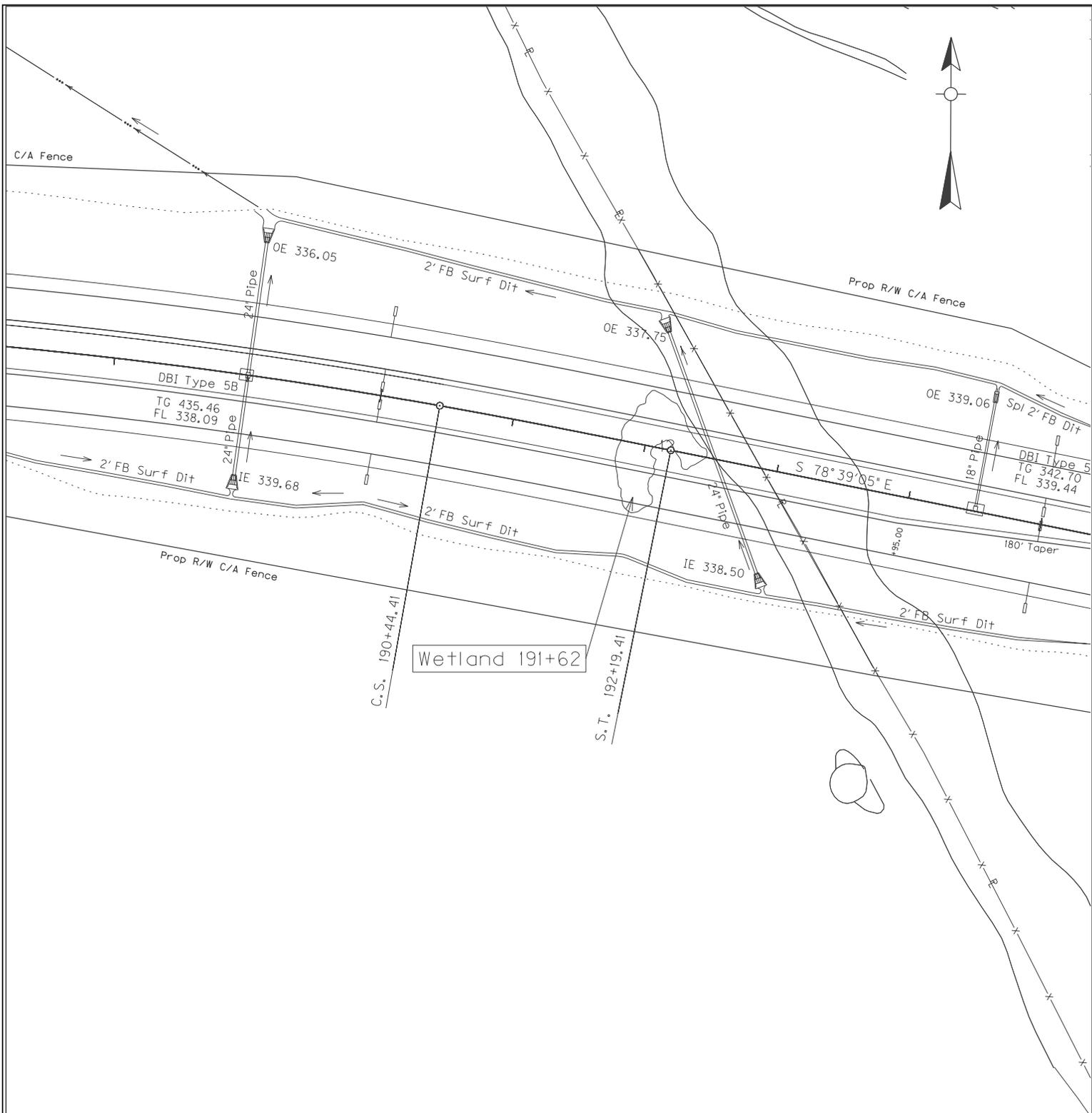
~NOTES~

Stream Impact STA 180+80

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 180+80 IMPACT PLAN			
PROPOSED ACTIVITIES:			
U. T. OHIO RIVER		LEDBETTER	
STREAM NAME:		AT OR NEAR:	
LIVINGSTON		KENTUCKY	
COUNTY OF:		STATE OF:	
MILE POINT:		1-330.00	9
		ITEM NO.:	SHEET NO.:

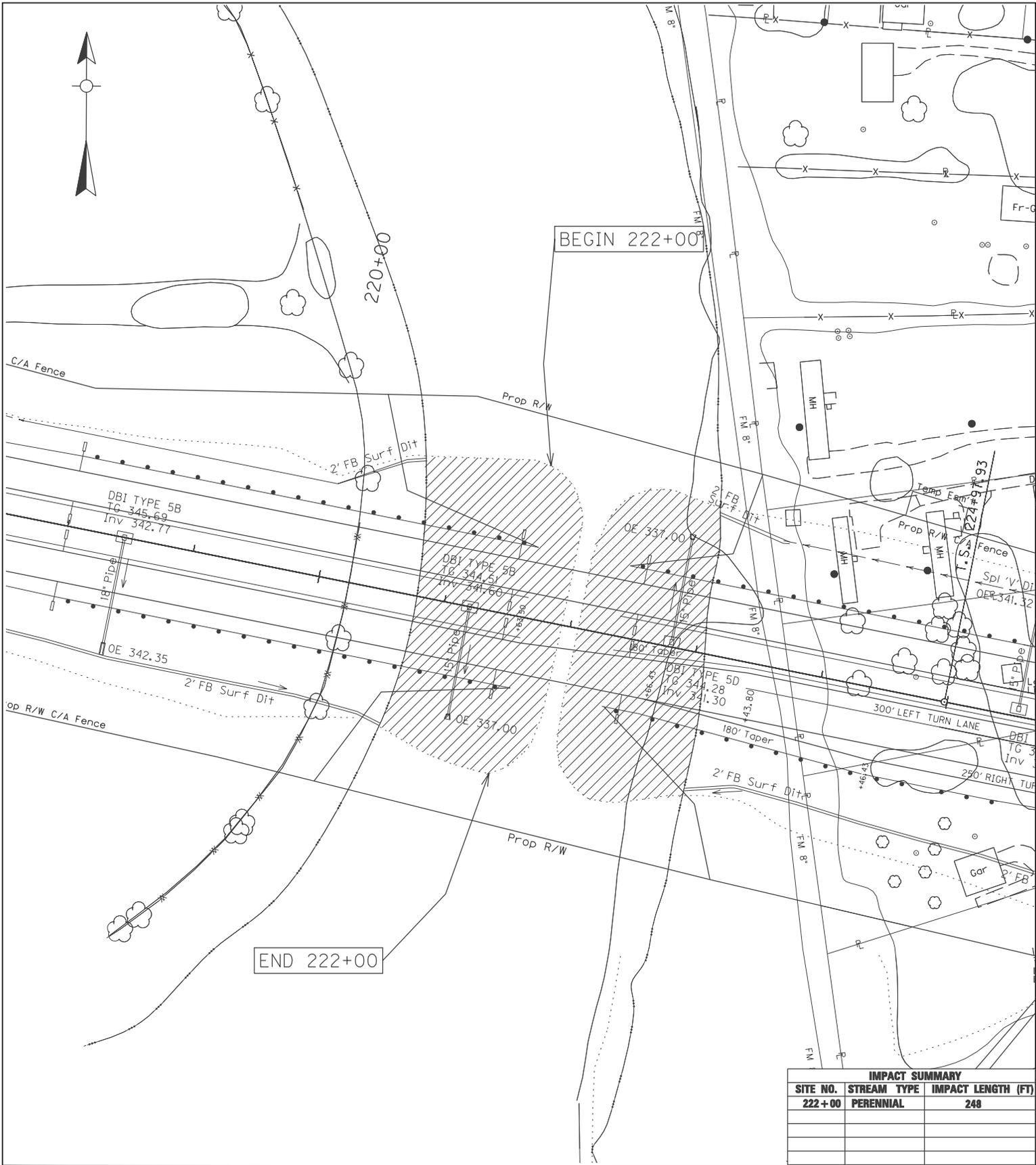


IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
191+62	WETLAND	0.07 AC

~NOTES~  
 Wetland Impact 191+62  
 SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
**DEPARTMENT OF HIGHWAYS**

STA 187+19 TO 195+40 IMPACT PLAN  
 PROPOSED ACTIVITIES:  
 U.T. OHIO RIVER                      LEDBETTER  
 STREAM NAME:                      AT OR NEAR:  
 LIVINGSTON                      KENTUCKY  
 COUNTY OF:                      STATE OF:  
 1-330.00                      10  
 MILE POINT:                      ITEM NO.:                      SHEET NO.:



IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
222+00	PERENNIAL	248

~NOTES~

Stream Impact 222+00

SCALE 1" = 100'

APPLICATION BY

**KENTUCKY**

**TRANSPORTATION CABINET**

**DEPARTMENT OF HIGHWAYS**

STA 217+48 TO 225+72 IMPACT PLAN

PROPOSED ACTIVITIES:

BEAVERDAM SLOUGH      LEDBETTER

STREAM NAME:      AT OR NEAR:

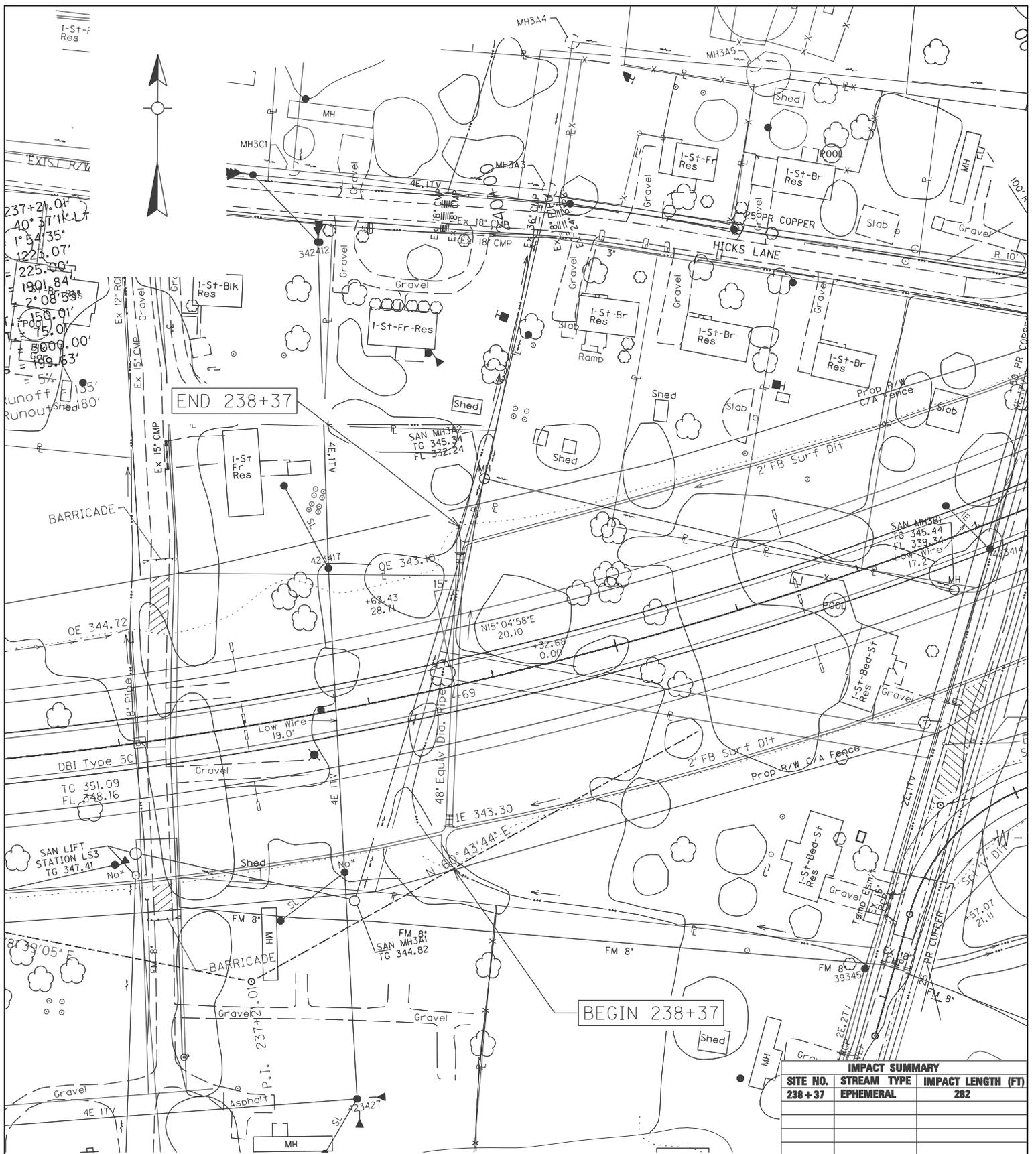
LIVINGSTON      KENTUCKY

COUNTY OF:      STATE OF:

MILE POINT:      1-330.00      11

ITEM NO.:      SHEET NO.:





IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
238+37	EPHEMERAL	282

~NOTES~

Stream Impact 238+37

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
 DEPARTMENT OF HIGHWAYS

STA 235 TO 243 IMPACT PLAN

PROPOSED ACTIVITIES:

DRAKE CREEK

LEDBETTER

STREAM NAME:

AT OR NEAR:

LIVINGSTON

KENTUCKY

COUNTY OF:

STATE OF:

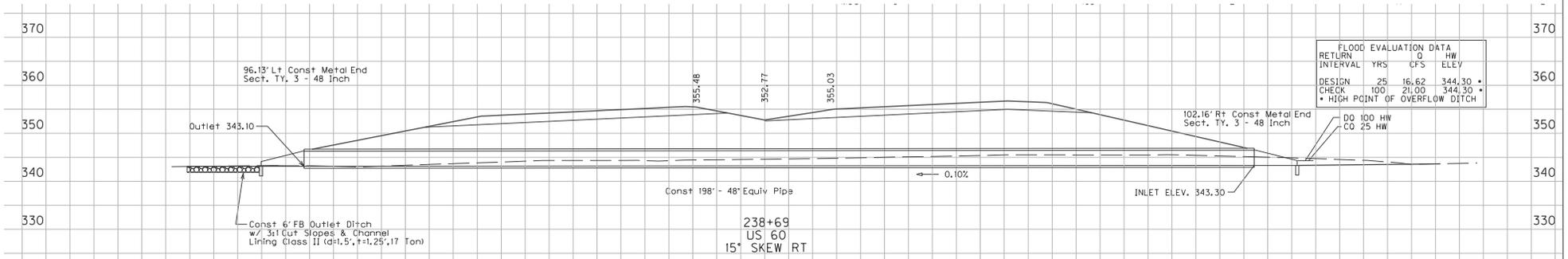
1-330.00

13

MILE POINT:

ITEM NO.:

SHEET NO.:



~NOTES~

Stream Impact STA 238+37

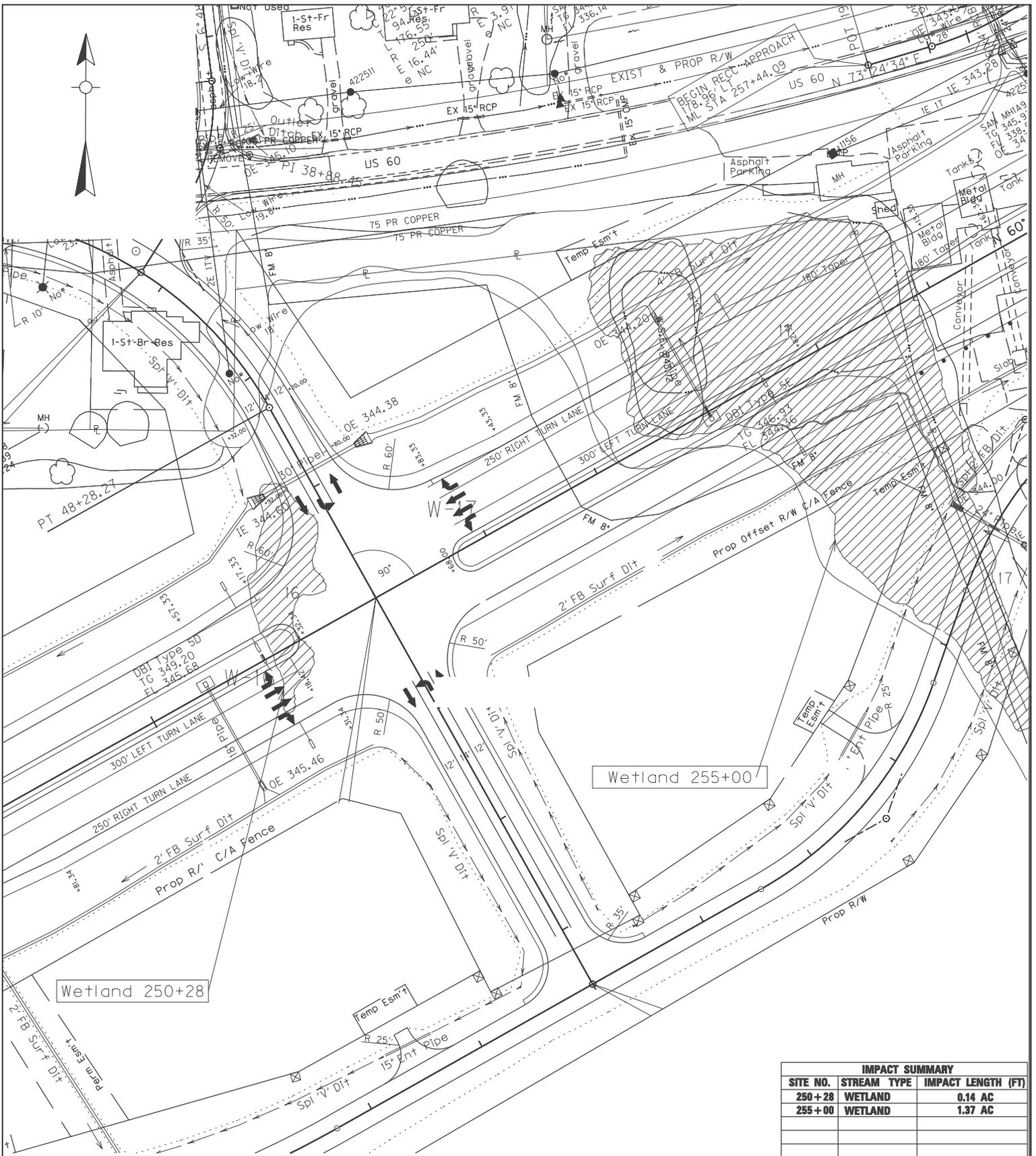
SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 238+37 IMPACT PLAN

PROPOSED ACTIVITIES:

DRAKE CREEK STREAM NAME:	LEDBETTER AT OR NEAR:
LIVINGSTON COUNTY OF:	KENTUCKY STATE OF:
MILE POINT:	1-330.00 ITEM NO.:
	14 SHEET NO.:



Wetland 250+28

Wetland 255+00

IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
250+28	WETLAND	0.14 AC
255+00	WETLAND	1.37 AC

~NOTES~

Wetland Impact 250+28  
Wetland Impact 255+00

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
DEPARTMENT OF HIGHWAYS

STA 248+63 TO 257+89 IMPACT PLAN  
PROPOSED ACTIVITIES:

LEDBETTER  
STREAM NAME: \_\_\_\_\_ AT OR NEAR: \_\_\_\_\_

LIVINGSTON KENTUCKY  
COUNTY OF: \_\_\_\_\_ STATE OF: \_\_\_\_\_

1-330.00 15  
MILE POINT: \_\_\_\_\_ ITEM NO.: \_\_\_\_\_ SHEET NO.: \_\_\_\_\_



~NOTES~

Stream Impact 257+74

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
 DEPARTMENT OF HIGHWAYS

STA 254 TO 262 IMPACT PLAN

PROPOSED ACTIVITIES:

U. T. DRAKE CREEK

LEDBETTER

STREAM NAME:

AT OR NEAR:

LIVINGSTON

KENTUCKY

COUNTY OF:

STATE OF:

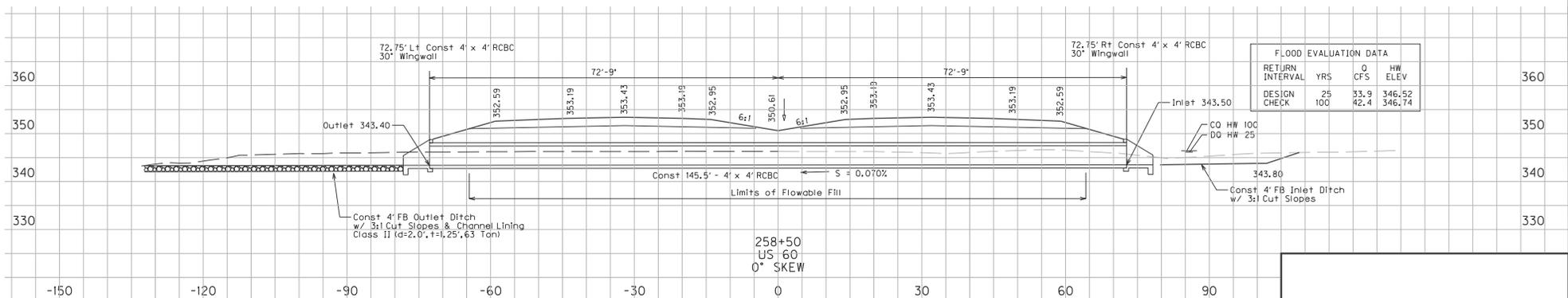
1-330.00

16

MILE POINT:

ITEM NO.:

SHEET NO.:



FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN CHECK	25	33.9	346.52
	100	42.4	346.74

~NOTES~

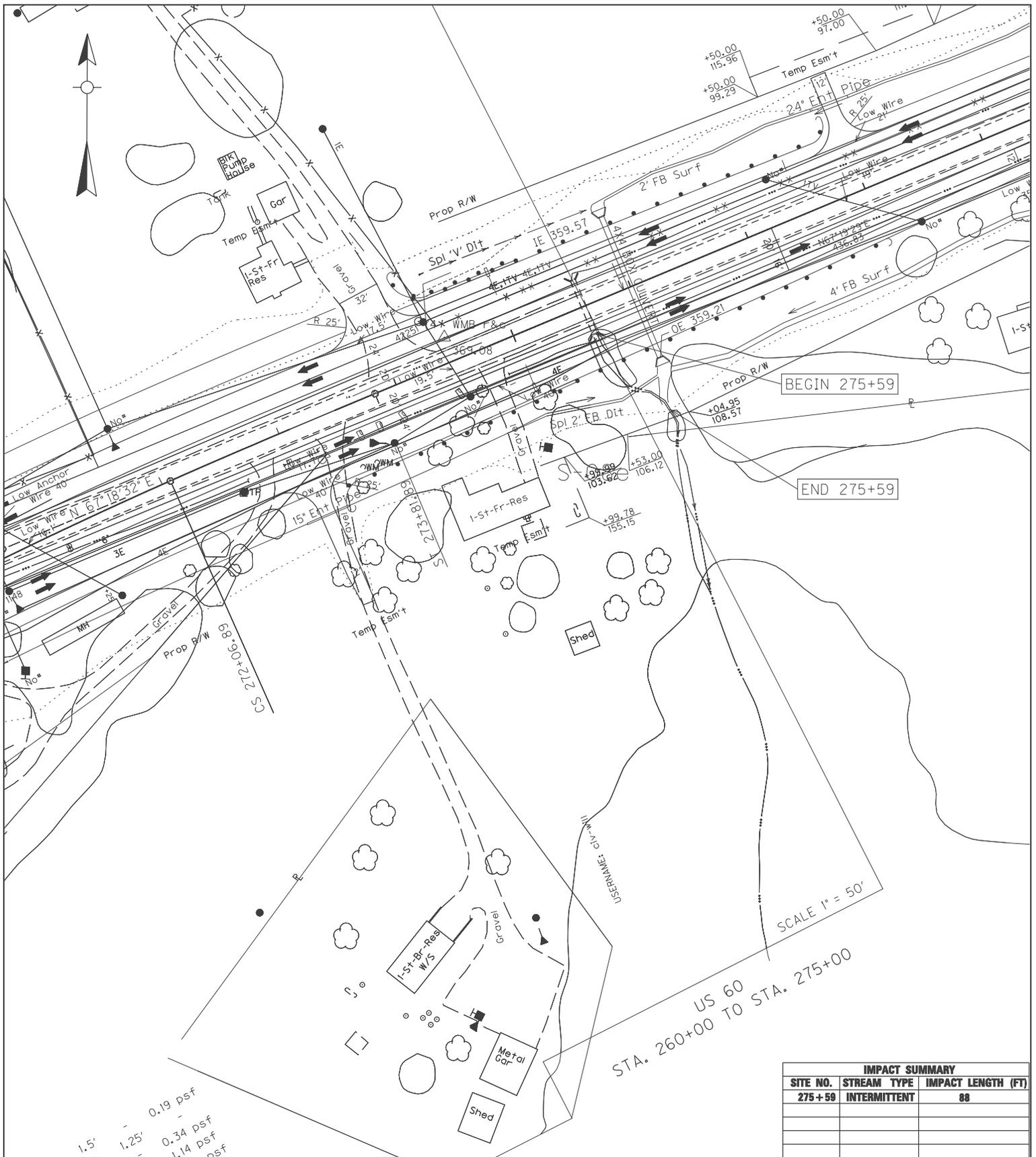
Stream Impact STA 257+74

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 257+74 IMPACT PLAN

PROPOSED ACTIVITIES:	
U. T. DRAKE CREEK	LEDBETTER
STREAM NAME:	AT OR NEAR:
LIVINGSTON	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	1-330.00
ITEM NO.:	17
SHEET NO.:	



IMPACT SUMMARY		
SITE NO.	STREAM TYPE	IMPACT LENGTH (FT)
275+59	INTERMITTENT	88

~NOTES~

Stream Impact 275+59

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
**TRANSPORTATION CABINET**  
**DEPARTMENT OF HIGHWAYS**

STA 270 TO 279 IMPACT PLAN

PROPOSED ACTIVITIES:  
 U. T. HODGES CREEK                      LEDBETTER

STREAM NAME:                              AT OR NEAR:

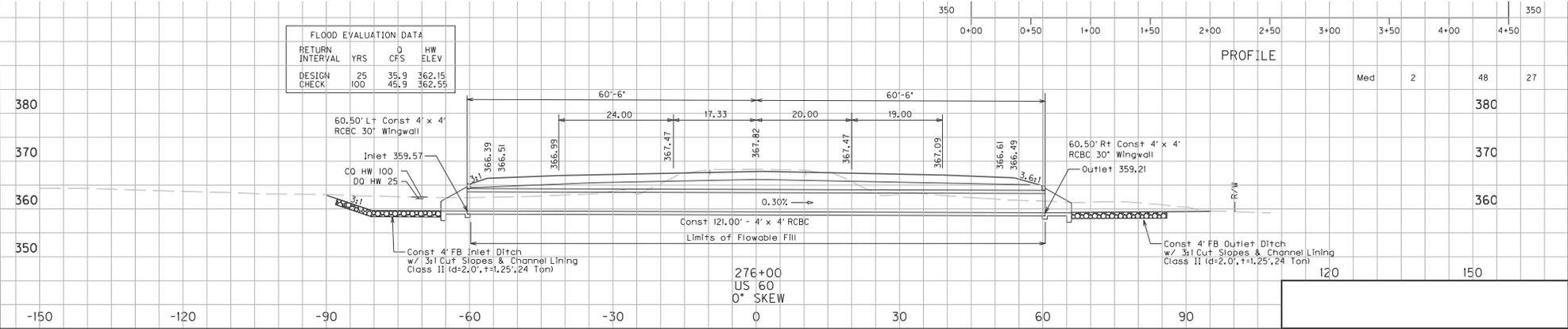
LIVINGSTON                              KENTUCKY

COUNTY OF:                              STATE OF:

MILE POINT:                      1-330.00                      18

ITEM NO.:                              SHEET NO.:

FLOOD EVALUATION DATA			
RETURN INTERVAL	YRS	Q CFS	HW ELEV
DESIGN CHECK	25	35.9	362.15
	100	45.9	362.55



~NOTES~

Stream Impact STA 275+59

SCALE 1" = 100'

APPLICATION BY  
**KENTUCKY**  
 TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS

STA 275+59 IMPACT PLAN

PROPOSED ACTIVITIES:	
U. T. HODGES CREEK	LEDBETTER
STREAM NAME:	AT OR NEAR:
LIVINGSTON	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	1-330.0
ITEM NO.:	19
	SHEET NO.:

## **Mitigation**

### **Streams**

Tables 1 and 2 list all stream impacts, and whether mitigation is required. \$39,000.00 in-lieu fee is proposed for mitigation for Sta. 180+80.

### **Wetlands**

Six wetlands will be impacted by the project. Table 3 lists those impacts. \$71,400.00 in-lieu fee is proposed for mitigation for wetlands.

### **Total In-Lieu Fee**

\$110,400.00

**TABLE 1: US 60 - Livingston County - 1-330.00 - Impact Summary**

Site	HUC #	Name	Lat-Long	Sheet No.	Impact Category	Flow Regime	Permit Type	Watershed (acres)	Stream Impact (ft)	Impact (acres)	RBP Score	Quality	Riffle Pool Complex	Mitigation Required
Sta. 129+00 (wetland; see Table 3)	6040006010090	U.T. Beaverdam Slough	37.043695; -88.507808	2	Fill			38.0		0.420				Yes
Sta. 134+08	6040006010090	U.T. Beaverdam Slough	37.043446; -88.505997	3,4	Culvert & Inlet/Outlet Channel	Eph	NW 14	12.6	300	0.023	NA	NA	No	No
Sta. 135+50	6040006010090	U.T. Beaverdam Slough	37.043601; -88.505592	3,5	Culvert & Inlet/Outlet Channel	Eph	NW 14	5.3	98	0.005	NA	NA	No	No
Sta. 135+69	6040006010090	U.T. Beaverdam Slough	37.043386; -88.505505	3	Culvert & Inlet/Outlet Channel	Eph	NW 14	8.8	245	0.016	NA	NA	No	No
Sta. 160+00	5140206020010	U.T. Ohio River	37.044897; -88.497911	6,7	Culvert & Inlet/Outlet Channel	Eph	NW 14	18.9	378	0.034	NA	NA	No	No
Sta. 179+33	5140206020010	U.T. Ohio River	37.045815; -88.490752	8	Inlet Channel	Eph	NW 14	4.1	95	0.005	NA	NA	No	No
Sta. 180+80	5140206020010	U.T. Ohio River	37.046100; -88.490781	8,9	Culvert & Inlet/Outlet Channel	Int	NW 14	64.0	325	0.046	46	Poor	No	Yes
Sta. 191+62 (wetland; see Table 3)	5140206020010	U.T. Ohio River	37.045868; -88.486547	10	Fill			5.6		0.070				No
Sta. 222+00	6040006010090	Beaverdam Slough	37.044776; -88.476410	11	Bridge	Per	NW 14	275.0	248	0.061	NA	NA	No	No
Sta. 231+00 (wetland; see Table 3)	5140206020010	U.T. Drake Creek	37.043988; -88.473389	12	Fill			13.0		0.340				Yes
Sta. 233+00 (wetland; see Table 3)	5140206020010	U.T. Drake Creek	37.044149; -88.472829	12	Fill			13.0		0.110				Yes
Sta. 238+37	5140206020010	Drake Creek	37.044202; -88.470888	13,14	Culvert & Inlet/Outlet Channel	Eph	NW 14	9.5	282	0.019	NA	NA	No	No
Sta. 250+28 (wetland; see Table 3)	5140206020010	U.T. Drake Creek	37.046216; -88.467022	15	Fill			7.0		0.140				Yes
Sta. 255+00 (wetland; see Table 3)	5140206020010	U.T. Drake Creek	37.046580; -88.465783	15	Fill			27.0		1.370				Yes
Sta. 257+74	5140206020010	U.T. Drake Creek	37.046687; -88.464640	16,17	Channel Change & Culvert	Eph	NW 14	20.4	1073	0.098	NA	NA	No	No
Sta. 275+59	6040006010090	U.T. Hodges Creek	37.049310; -88.459427	18,19	Culvert Outlet Channel	Int	NW 14	76.8	88	0.013	NA	NA	No	No

<b>TABLE 2: US 60 - Livingston County - 1-330.00 - Stream Mitigation and Impact Summary</b>																	
<i>Before Impact</i>														<i>After Impact</i>			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Site #	Stream Type	Type of Impact	Acreage of Impact	Watershed size in acres	Initial RBP Score	Initial Quality	Impact Length	Ratio	Debit	Mitigation Required?	Predicted RBP score	Predicted Quality	Final Length	Final Ratio	Credits	Balance	In-Lieu Fee
Sta. 134+08	Eph	Culvert	0.000	12.6	NA	NA	300	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 135+50	Eph	Culvert	0.000	5.3	NA	NA	98	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 135+69	Eph	Culvert	0.000	8.8	NA	NA	245	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 160+00	Eph	Culvert	0.000	18.9	NA	NA	378	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 179+33	Eph	Culvert	0.000	4.1	NA	NA	95	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 180+80	Int	Culvert	0.000	64.0	46	Poor	325	1.00	325	Yes	0	NA	0	0.00	0	-325	\$39,000.00
Sta. 222+00	Per	Bridge	0.000	275.0	NA	NA	248	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 238+37	Eph	Culvert	0.000	9.5	NA	NA	282	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 257+74	Eph	Culvert	0.000	20.4	NA	NA	1073	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
Sta. 275+59	Int	Culvert	0.000	76.8	NA	NA	88	NA	NA	No	0	NA	0	0.00	0	0	\$0.00
																Total:	\$39,000.00

**Table 3: Livingston County: US 60: Item No. 1-330.0 - Wetland Impact Summary**

Sheet No.	Site/Station	Cowardin	Permit Type	Impacted Area (acres)	Mitigation (in-lieu fee)
2	129+00	PFO, PEM	Nationwide 14	0.42	\$12,600.00
10	191+62	PEM	Nationwide 14	0.07	\$0.00
12	231+00	PFO	Nationwide 14	0.34	\$10,200.00
12	233+00	PEM	Nationwide 14	0.11	\$3,300.00
15	250+28	PEM	Nationwide 14	0.14	\$4,200.00
15	255+00	PFO, PEM	Individual/LOP	1.37	\$41,100.00
				Total	\$71,400.00
* In-lieu fee calculated based upon impacted area, 2:1 ratio, 0.2 for temporary loss = \$30,000 per acre					

**Appendix A:**

**Wetland Determination Data Forms**

**DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/20/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AML, MTM, JNH	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	No	<b>Community ID:</b>	129+00 (PEM)
<b>Is the site significantly disturbed (Atypical Situation)?</b>	Yes	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	No	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Eleocharis palustris</i>	Herb	OBL	9				
2	<i>Carex sp.</i>	Herb	OBL	10				
3	<i>Polygonum sp.</i>	Herb	OBL	11				
4	<i>Eleocharis parluva</i>	Herb	OBL	12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b> Field adjacent to woodland and behind livestock yard, bisected by 2 fences and a small treeline								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		Water Marks	
		Drift Lines	
<b>Field Observations:</b>		Sediment Deposits	
NA	Depth of Surface Water (Inches)	Drainage Patterns in Wetlands	
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	Oxidized Root Channels in Upper 12 Inches	
		Water-stained Leaves	
		Local Soil Survey Data	
		✓	FAC-Neutral Test
		Other (Explain in Remarks)	
<b>Remarks:</b> SATURATED TO SURFACE IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsel Moist)</b>	<b>Mottle Colors (Munsel Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-1	O				
1-15		2.5Y- 6/2			
<i>Hydric Soil Indicators</i>					
	<b>Histol</b>		<b>Concretions</b>		
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b>					

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Emergent portion of 129+00 wetland			

**Location of Sampling Point:**

--

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/20/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AML, MTM, JNH	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	Yes	<b>Community ID:</b>	129+00 (PFO)
<b>Is the site significantly disturbed (Atypical Situation)?</b>	No	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	No	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Quercus lyrata</i>	Tree	OBL	9				
2	<i>Carya ovata</i>	Tree	FACU -	10				
3	<i>Fraxinus pennsylvanica</i>	Tree	FACW	11				
4	<i>Acer rubrum</i>	Tree	FACW +	12				
5	<i>Quercus falcata</i>	Tree	FACU -	13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							60	%
<b>Remarks:</b> Bottomland Oak/hickory forest bordered by church parking lot and a livestock farm.								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		Water Marks	
		Drift Lines	
<b>Field Observations:</b>		Sediment Deposits	
NA	Depth of Surface Water (Inches)	Drainage Patterns in Wetlands	
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	✓	Oxidized Root Channels in Upper 12 Inches
		✓	Water-stained Leaves
			Local Soil Survey Data
		✓	FAC-Neutral Test
			Other (Explain in Remarks)
<b>Remarks:</b> SATURATED TO SURFACE IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>	
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>	
<i>Profile Description:</i>			
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsell Moist)</b>	<b>Mottle Colors (Munsell Moist)</b>
0-2	O		
2-15		2.5Y- 5/1	
<i>Hydric Soil Indicators</i>			
	<b>Histol</b>		<b>Concretions</b>
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>
✓	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>
<b>Remarks:</b> Low Chroma Colors			

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Forested portion of 129+00 wetland			

**Location of Sampling Point:**

--

**DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/20/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AML, MTM, JNH	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	Yes	<b>Community ID:</b>	191+62
<b>Is the site significantly disturbed (Atypical Situation)?</b>	No	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	No	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Polygonum sp.</i>	Herb	OBL	9				
2	<i>Eleocharis palustris</i>	Herb	OBL	10				
3	<i>Carex sp.</i>	Herb	OBL	11				
4	<i>Acer rubrum</i>	Tree	FACW +	12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b>								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		Water Marks	
		Drift Lines	
<b>Field Observations:</b>		Sediment Deposits	
NA	Depth of Surface Water (Inches)	Drainage Patterns in Wetlands	
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	✓	Oxidized Root Channels in Upper 12 Inches
		Water-stained Leaves	
		Local Soil Survey Data	
		✓	FAC-Neutral Test
		Other (Explain in Remarks)	
<b>Remarks:</b> SATURATED SURFACE IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsel Moist)</b>	<b>Mottle Colors (Munsel Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-2	O				
2-15		2.5Y- 4/2	10YR- 5/8	10%	Sandy Clay
<i>Hydric Soil Indicators</i>					
	<b>Histol</b>		<b>Concretions</b>		
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
✓	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b> Low Chroma Colors					

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Emergent wetland			

**Location of Sampling Point:**

--

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/19/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AL, JNH, MTM	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	Yes	<b>Community ID:</b>	231+00
<b>Is the site significantly disturbed (Atypical Situation)?</b>	No	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	Yes	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	WILLOW OAK	Tree	FAC +	9				
2	GREEN ASH	Tree	FACW	10				
3	RED MAPLE	Tree	FACW +	11				
4				12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b> Wooded / No herbacious layer								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		✓	Water Marks
			Drift Lines
<b>Field Observations:</b>			Sediment Deposits
NA	Depth of Surface Water (Inches)		Drainage Patterns in Wetlands
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	✓	Oxidized Root Channels in Upper 12 Inches
		✓	Water-stained Leaves
			Local Soil Survey Data
		✓	FAC-Neutral Test
			Other (Explain in Remarks)
<b>Remarks:</b> SURFACE WATER IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsel Moist)</b>	<b>Mottle Colors (Munsel Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-15	A	2.5Y/7/1	2.5Y/6/6	Fe	
<i>Hydric Soil Indicators</i>					
	<b>Histol</b>		<b>Concretions</b>		
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
✓	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b>					

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Forested wetland			

<b>Location of Sampling Point:</b> CENTER OF WETLAND
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**DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/19/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AL, JNH, MTM	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	Yes	<b>Community ID:</b>	233+00
<b>Is the site significantly disturbed (Atypical Situation)?</b>	No	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	Yes	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Carex</i>	Herb	OBL	9				
2	<i>Agrostis gigantea</i>	Herb	FAC	10				
3	<i>Eleocharis parvula</i>	Herb	OBL +	11				
4				12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b>								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		✓	Water Marks
			Drift Lines
<b>Field Observations:</b>			Sediment Deposits
NA	Depth of Surface Water (Inches)		Drainage Patterns in Wetlands
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	✓	Oxidized Root Channels in Upper 12 Inches
		✓	Water-stained Leaves
			Local Soil Survey Data
		✓	FAC-Neutral Test
			Other (Explain in Remarks)
<b>Remarks:</b> SURFACE WATER IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsell Moist)</b>	<b>Mottle Colors (Munsell Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-15	A	2.5Y/7/1	2.5Y/6/6	Fe	
<i>Hydric Soil Indicators</i>					
	<b>Histol</b>		<b>Concretions</b>		
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
✓	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b>					

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Emergent wetland			

<b>Location of Sampling Point:</b> CENTER OF WETLAND
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**DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/19/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AML, JNH, MTM	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	No	<b>Community ID:</b>	250+28
<b>Is the site significantly disturbed (Atypical Situation)?</b>	Yes	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	No	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Carex</i>	Herb	OBL	9				
2	<i>Agrostis gigantea</i>	Herb	FACW	10				
3	<i>Solidago</i>	Herb		11				
4	<i>Eleocharis parvula</i>	Herb	OBL	12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b>								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		Water Marks	
		Drift Lines	
<b>Field Observations:</b>		✓	Sediment Deposits
NA	Depth of Surface Water (Inches)	✓	Drainage Patterns in Wetlands
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
12	Depth of Saturated Soil (Inches)	Oxidized Root Channels in Upper 12 Inches	
		Water-stained Leaves	
		Local Soil Survey Data	
		✓	FAC-Neutral Test
		Other (Explain in Remarks)	
<b>Remarks:</b> SURFACE WATER IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsell Moist)</b>	<b>Mottle Colors (Munsell Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-1.5	O				
1.5-6.5	A	10y/4/1	10YR/5/6	FE-15%	Sa
6.5-12	B	2.5Y/5/1	7.5YR/5/8	20%	
12-15	C	10YR/6/3	5YR/6/4	20%	C, Sa, L
<i>Hydric Soil Indicators</i>					
	<b>Histol</b>		<b>Concretions</b>		
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
<input checked="" type="checkbox"/>	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b>					

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Emergent wetland			

<b>Location of Sampling Point:</b> CENTER OF WETLAND
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**DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/19/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AL, JNH, MTM	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	Yes	<b>Community ID:</b>	255+00 (PEM)
<b>Is the site significantly disturbed (Atypical Situation)?</b>	No	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	No	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Carex</i>	Herb	OBL	9				
2	<i>Agrostis gigantea</i>	Herb	FACW	10				
3	<i>Solidago</i>	Herb		11				
4	<i>Eleocharis parvula</i>	Herb	OBL	12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b>								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		Water Marks	
		✓	Drift Lines
<b>Field Observations:</b>		Sediment Deposits	
NA	Depth of Surface Water (Inches)	✓	Drainage Patterns in Wetlands
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	✓	Oxidized Root Channels in Upper 12 Inches
		Water-stained Leaves	
		Local Soil Survey Data	
		✓	FAC-Neutral Test
		Other (Explain in Remarks)	
<b>Remarks:</b> SURFACE WATER IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsell Moist)</b>	<b>Mottle Colors (Munsell Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-4	O				
4-10	A	10y/5/2	10YR/5/6	FE-15%	Sa
10-17	B	2.5Y/6/1	10YR/5/6	0%	SaC
<i>Hydric Soil Indicators</i>					
	<b>Histol</b>		<b>Concretions</b>		
	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
✓	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b>					

## WETLAND DETERMINATION

<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Emergent wetland			

<b>Location of Sampling Point:</b> ~1M FROM WATER BOUNDARY
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**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 ACOE Wetland Delineation Manual)**

<b>Project Site:</b>	US60 reconstruction - 1-330.0	<b>Date:</b>	9/19/07
<b>Applicant/Owner:</b>	KYTC	<b>County:</b>	Livingston
<b>Investigators:</b>	AL, JNH, MTM	<b>State:</b>	KY
<b>Do Normal Circumstances exist at the site?</b>	Yes	<b>Community ID:</b>	255+00 (PFO)
<b>Is the site significantly disturbed (Atypical Situation)?</b>	No	<b>Transect ID:</b>	
<b>Is the area a Potential Problem Area? (If yes explain on reverse)</b>	No	<b>Plot ID:</b>	

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator	
1	<i>Acer rubrum</i>	Tree	FAC	9				
2	<i>Salix nigra</i>	Tree	OBL	10				
3	<i>Fraxinus pennsylvanica</i>	Tree	FACW	11				
4				12				
5				13				
6				14				
7				15				
8				16				
<b>Percent of Dominant Plant Species that are OBL, FACW+, FACW, FACW-, FAC+, or FAC:</b>							100	%
<b>Remarks:</b> Wooded								

**HYDROLOGY**

Recorded Data (Describe in Remarks)		WETLAND HYDROLOGY INDICATORS	
Stream, Lake or Tide Gauge		<i>Primary Indicators</i>	
Aerial Photographs		Inundated	
Other (Describe in Remarks)		Saturated in Upper 12 Inches	
No Recorded Data Available		Water Marks	
		✓	Drift Lines
<b>Field Observations:</b>		Sediment Deposits	
NA	Depth of Surface Water (Inches)	✓	Drainage Patterns in Wetlands
NA	Depth to Free Water in Pit (Inches)	<i>Secondary Indicator (2 or more required)</i>	
NA	Depth of Saturated Soil (Inches)	✓	Oxidized Root Channels in Upper 12 Inches
		Water-stained Leaves	
		Local Soil Survey Data	
		✓	FAC-Neutral Test
		Other (Explain in Remarks)	
<b>Remarks:</b> SURFACE WATER IN MARCH			

## SOILS

<b>Map Unit Name (Series &amp; Phase):</b>		<b>Drainage Class:</b>			
<b>Taxonomy (Subgroup):</b>		<b>Field Observations Confirmed Mapped type?</b>			
<i>Profile Description:</i>					
<b>Depth (Inches)</b>	<b>Horizon</b>	<b>Matrix Color (Munsel Moist)</b>	<b>Mottle Colors (Munsel Moist)</b>	<b>Mottle Abundance/Contrast</b>	<b>Texture, Concretions, Structure, Etc.</b>
0-4	O				
4-10	A	10y/5/2	10YR/5/6	FE-15%	Sa
10-17	B	2.5Y/6/1	10YR/5/6	0%	SaC
<i>Hydric Soil Indicators</i>					
<input type="checkbox"/>	<b>Histol</b>		<b>Concretions</b>		
<input type="checkbox"/>	<b>Histic Epipedon</b>		<b>High Organic Content in Surface Layer in Sandy Soils</b>		
<input type="checkbox"/>	<b>Sulfidic Odor</b>		<b>Organic Streaking in Sandy soils</b>		
<input type="checkbox"/>	<b>Aquic Moisture Regime</b>		<b>Listed on Local Hydric Soils List</b>		
<input type="checkbox"/>	<b>Reducing Conditions</b>		<b>Listed on National Hydric Soils List</b>		
<input checked="" type="checkbox"/>	<b>Gleyed or Low-chroma Colors</b>		<b>Other (Explain in Remarks)</b>		
<b>Remarks:</b>					

## WETLAND DETERMINATION

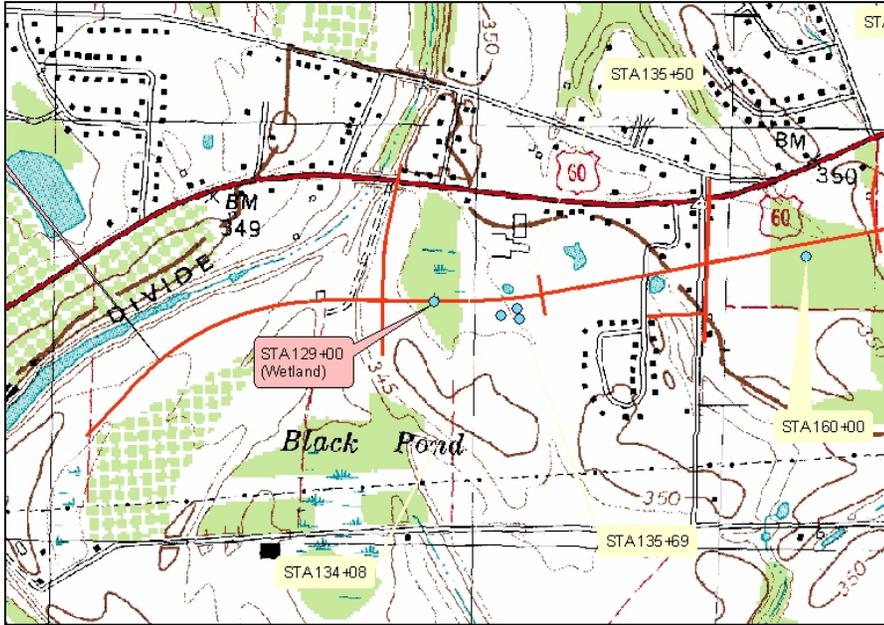
<b>Is Hydrophytic Vegetation Present?</b>	Yes	<b>Is Sampling Point Within a Wetland?</b>	Yes
<b>Is Wetland Hydrology Present?</b>	Yes		
<b>Are Hydric Soils Present?</b>	Yes		
<b>Remarks:</b> Palustrine Forested wetland			

<b>Location of Sampling Point:</b> ~1M FROM WATER BOUNDARY
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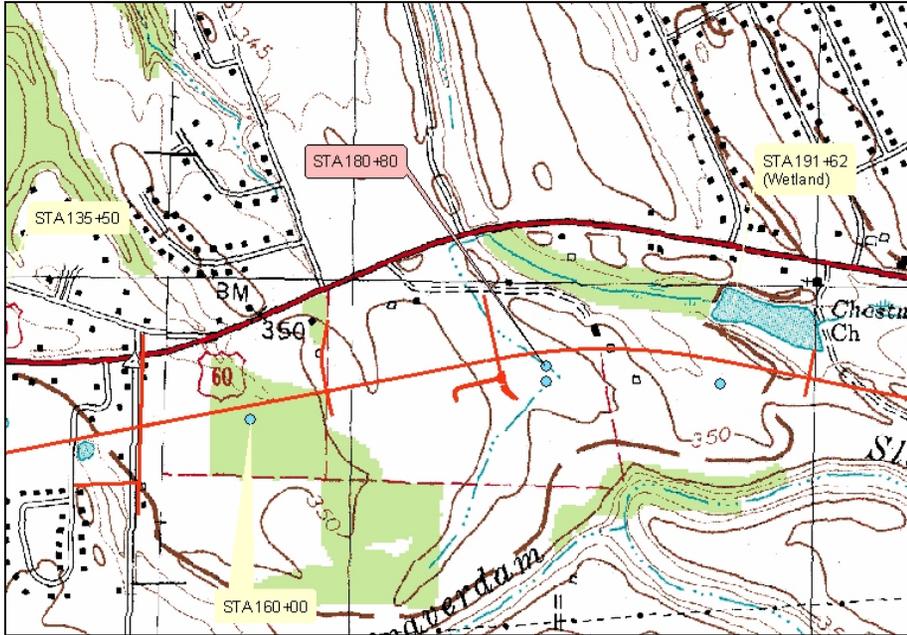
## **Appendix B:**

### **Sites Requiring Mitigation: Site Location, Photo, and RBP Scores**

US 60 – Livingston Co. – 1-330.0 - Sta. 129+00



US 60 – Livingston Co. – 1-330.0 - Sta. 180+80



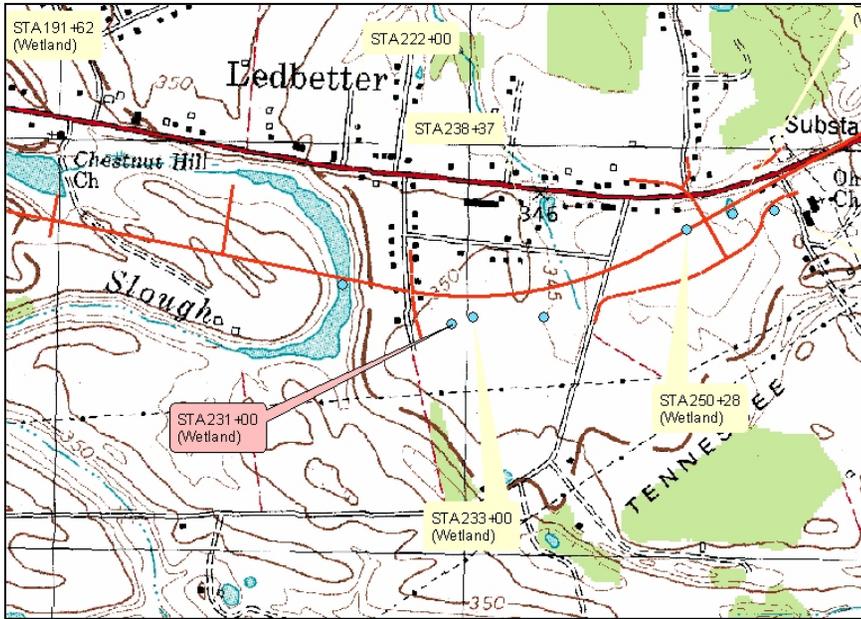
**RBP Habitat Parameters**

1. *Epifaunal Substrate*
2. *Embeddedness*
3. *Velocity/Depth Regime*
4. *Sediment Deposition*
5. *Channel Flow Status*
6. *Channel Alteration*
7. *Freq. Of Riffles (bends)*
8. *Bank stability (both combined)*
9. *Veg. Protection (both combined)*
10. *Riparian Width (both combined)*
- Total Habitat Score**

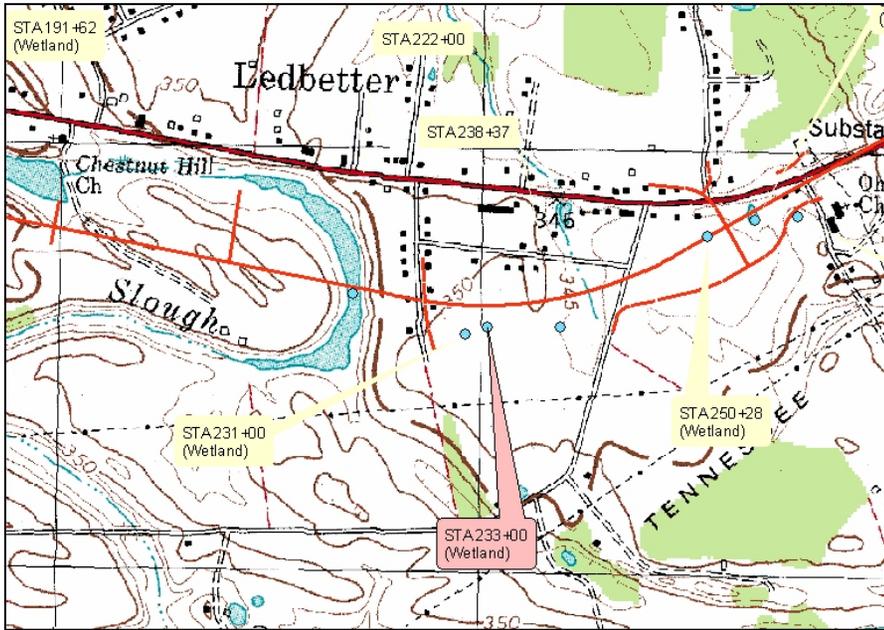
	3
	5
	4
	4
	2
	11
	5
	10
	2
	0
	<b>46</b>



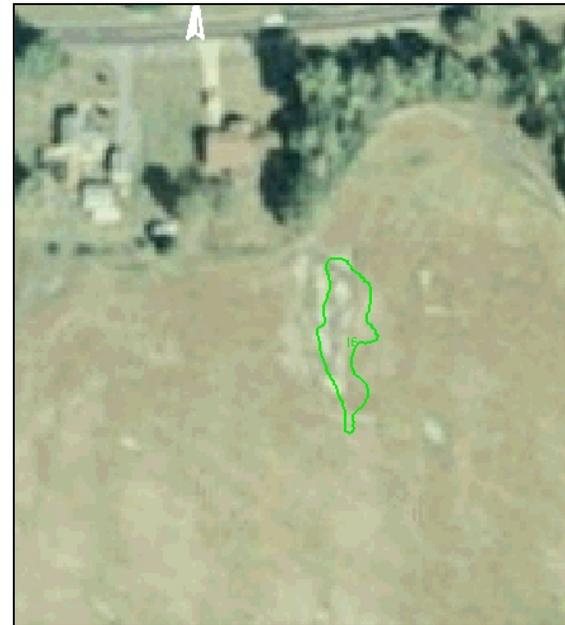
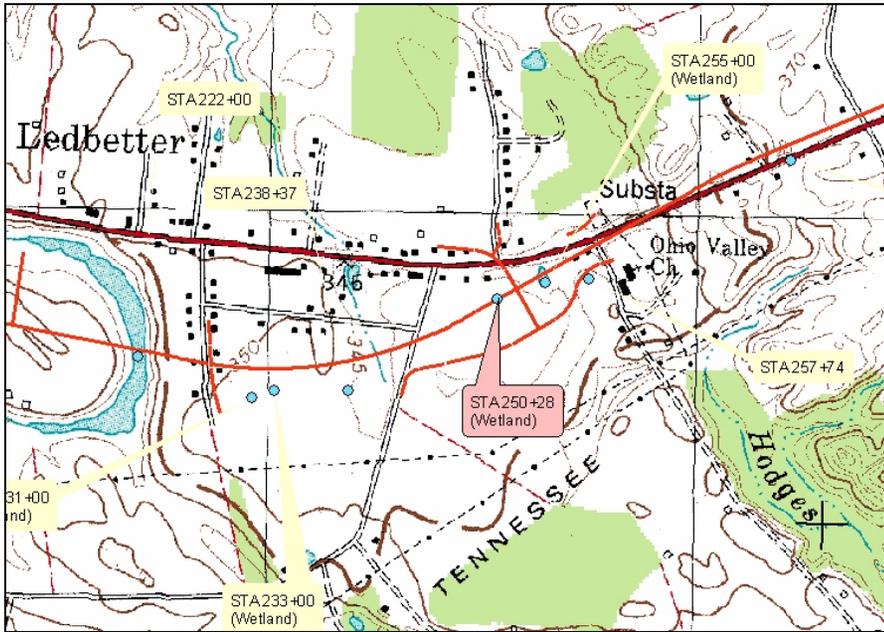
US 60 – Livingston Co. – 1-330.0 - Sta. 231+00



US 60 – Livingston Co. – 1-330.0 - Sta. 233+00



US 60 – Livingston Co. – 1-330.0 - Sta. 250+28



US 60 – Livingston Co. – 1-330.0 - Sta. 255+00

