



United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

October 31, 2005

Mr. Charles E. Bush
Transportation Manager II
Tennessee Department of Transportation
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

6/27/06
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To <i>Jennifer Thompson</i>	From <i>Wally Buines USFWS</i>
Dept./Agency <i>TDOT</i>	Phone #
Fax # <i>615-241-1098</i>	Fax #

NSN 7540-01-317-7366

5093-101

GENERAL SERVICES ADMINISTRATION

Attention: Joe Matlock

Re: FWS #06-TA-0039

Dear Mr. Bush:

Thank you for your correspondence of September 30, 2005, regarding the Tennessee Department of Transportation's (TDOT) proposed Somerville Beltway State Route 15 (US Highway 64) Project (State Project Number 24092-1203-14) in Fayette County, Tennessee. TDOT proposes to construct approximately 13 miles of new highway around Somerville as shown on the attachments to your correspondence. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and we offer the following comments.

Information available to the Service indicates that wetlands exist in the vicinity of the proposed project. Attached is a copy of a portion of the National Wetlands Inventory's Macon and Somerville, Tennessee, quadrangles with the referenced wetlands highlighted. This information is provided for your convenience. Our wetlands determination has been made in the absence of a field inspection and does not constitute a wetlands delineation for the purposes of Section 404 of the Clean Water Act. The Corps of Engineers and Tennessee Department of Environment and Conservation should be contacted regarding the presence of regulatory wetlands and the requirements of wetlands protection statutes.

Since the proposed work will involve construction activities over streams, we recommend that silt barriers be put in place to prevent runoff of sediment. Perennial streams should be bridged rather than culverted. Construction within or adjacent to the streams should be accomplished during low-flow periods, and the streambanks reseeded with native vegetation beneficial to wildlife immediately following disturbance.

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

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information which we have provided, please contact Wally Brines of my staff at 931/528-6481, extension 222.

Sincerely,

A handwritten signature in cursive script that reads "Lee A. Barclay".

Lee A. Barclay, Ph.D.
Field Supervisor

Attachments

ECOLOGY REPORT SUMMARY

**PROPOSED STATE ROUTE 460 SOMERVILLE BYPASS
IN
FAYETTE COUNTY, TENNESSEE**

**TDOT P.E. NO. 24092-2202-04
PIN NO. 101607.00**

June 30, 2006

Prepared for:

TENNESSEE DEPARTMENT OF TRANSPORTATION

Introduction

Studies to determine the impacts of the proposed alternative alignments on the local ecology were conducted by biologists from MACTEC on May 2-4, June 6-8, and June 19-20, 2006. Studies included literature and database surveys as well as on-foot reconnaissance. Particular attention was given to locating streams, wetlands, and specialized habitats such as glades, caves, springs, and sinkholes which could harbor protected species or influence water quality.

Project Type

At the time of these studies, the project is proposed to extend from State Route 15 west of Somerville to State Route 15 west of Somerville in a complete loop. No alternative routes were studied. The entire proposed alignment is on new location. The facility type anticipated at the time of the study is a four lane divided highway.

Project Setting

The proposed project is located in central Fayette County Tennessee. It is shown on the USGS 7.5 minute topographic quadrangle(s) Macon (424 NW), Somerville (424 NE), Laconia (423 SE), and Lambert (423 SW). This portion of the county is within the Gulf Coastal Plain physiographic unit (Miller 1974), and is comprised of Loess deposits, Alluvial deposits, and Claiborne-Wilcox formations (Geologic Map of Tennessee, Department of Conservation, Issued 1966). Soils in the areas are primarily of the Grenada-Memphis-Loring association, Lexington-Rouston association, and the Waverly-Falaya associations. The USDA General Soil Map for Fayette County 1964 describes the Grenada-Memphis-Loring association as moderately well drained, to well drained, made up of undulating to nearly level areas and low hills with wide tops and short side slopes. Lexington-Rouston soils are described as well drained to moderately well drained soils made up of undulating to nearly level areas and low hills with wide tops and short side slopes. The Waverly-Falaya association is described as somewhat poorly drained to poorly drained soils on nearly level flood plains along the Wolf and Loosahatchie Rivers and their tributary streams. The project is in the Loosahatchie River Drainage Canal watershed.

Terrestrial Ecology

Much of the land in the project corridor has been disturbed at one time or another. About fifty-six percent of the project has been disturbed by agricultural practices such as row crops (corn, soybeans, and cotton) and pasture. Forested areas or shrub/scrub thickets also make up about forty-one percent of the project area. The remaining three percent is comprised of habitat in earlier stages of succession; or industrial, commercial, and residential lands which have limited habitat values.

Plant communities found in the area are characteristic of communities formed over Loess and Alluvial deposits. The upland forested communities are

dominated by oaks, hickories, and pines. Sweetgums, red maples, and bald cypresses are widespread in old-field and floodplain habitats in the area. Both upland and floodplain forested habitats provide food cover, and nesting opportunities for numerous small mammals, including rabbits, squirrels, and other rodents, as well as numerous reptiles, native birds, and insects.

Old-field habitats in various stages of succession are also useful to many types of wildlife. These areas are most often dominated by grasses and legumes, blackberries, and young cedars. The industrial, commercial, and residential lands generally have limited wildlife value, as they are usually paved or mowed, except for undisturbed vegetation along fencerows or boundaries.

Terrestrial Impacts:

Direct impacts The loss of approximately 221 acres of forested and old-field habitat is one of the larger impacts of the project. There will be direct long-term adverse impacts when productive forests and old-field areas are converted to roadway. Mortality of individual wildlife may occur both during construction and highway operation. Although roadway mortality is generally not believed to significantly affect animal populations under normal conditions, if the population is experiencing other sources of stress (disease, habitat degradation or elimination, etc.), then traffic-related mortality can contribute to the demise of the population. Highway noise can affect the utilization of habitats by wildlife. Since this is a rural project and is not located near other state and local highways, noise is not already a factor within existing habitats. After project construction, areas that remain undisturbed within highway rights of way, will, over time, provide some degree of refuge for local wildlife as the surrounding areas continue to urbanize and habitats are destroyed.

Indirect impacts. The plant communities found along the project corridor serve as shelter, nesting, and foraging habitat for numerous species of wildlife. Loss of habitat initially displaces animals from the area, forcing them to concentrate into a smaller area, which causes over-utilization of the habitat. This ultimately lowers the carrying capacity of the remaining habitat and is manifested in some species as becoming more susceptible to disease, predation, and starvation.

Cumulative Impacts. In a rural area such as this, the amount of forested habitat and old-field habitat is still abundant. Most of the area around the project corridor is not expected to be developed for residential, commercial, and industrial uses due to the fact that most of the area is crop land or forest surrounded by crop land.

Table 1. Total terrestrial habitat acreages potentially affected per section (estimated)*

<u>Alternative(or quadrant)</u>	Forested, scrub/shrub, forested floodplain	Pasture, agricultural, or early stages of old-field succession	Commercial/Industrial/Residential	Total acres per section
Section 1	54	54	2	110
Section 2	14	78	8	100
Section 3	75	90	0	165
Section 4	78	79	4	161

Note: These acreage amounts were calculated based on typical sections shown on aerial photographs, and are given for impact estimation/comparison purposes. They include all areas within existing rights-of-way in the project areas that are already owned by the state, portions of which are likely to be utilized for project construction. For instance, existing rights-of-way along (road, near where) are included in the habitat calculations, but are not included in the right-of-way acquisition amounts shown elsewhere in the environmental document. Not all of the habitat amounts shown will actually be disturbed, since lands outside those needed for actual construction or work zones or for other reasons will not be cleared.

Aquatic Ecology

The project has been located, and the chosen alternative will be designed, to avoid major impacts to waters of the state to the extent practicable. Efforts to further minimize impacts will continue throughout the design, permitting, and construction processes. Unavoidable impacts will be mitigated as required by applicable laws and regulations. Mitigation is discussed further in the sections applying to streams and wetlands. In an effort to minimize sedimentation impacts, erosion and sediment control plans will be included in the project construction plans. TDOT will also implement its Standard Specifications for Road and Bridge Construction, which includes erosion and sediment control standards for use during construction. The State of Tennessee sets water quality criteria for waters of the state; these standards must be met during the construction of the highway.

Streams, Springs, and Seeps and other Waterbodies. Streams, springs, seeps, impoundments and other watercourses and waterbodies which are known at this time to be potentially affected by the project alternatives are listed in Table 2 of this report, along with the potential direct impacts. The determinations as to which are waters of the State and/or of the U.S. have not been confirmed by TDEC and the Corps. All aquatic impacts identified as project development continues will be avoided, minimized, or mitigated to the extent possible, and incorporated into the permitting.

Direct Impacts. There is only one alignment indicated in the materials provided. The project will affect fifty-five stream/spring/seep sites. It is difficult to determine the exact impact type at these sites with present information; therefore the information in Table 2 represents the anticipated worst-case impact, with the assumption that these impacts will be reduced, where possible, during further project design. It appears that thirty-eight of the channels will be crossed, and four may be rechanneled.

Indirect Impacts: The implementation of this project could add some sedimentation impacts to the forty-nine streams in the project area. These impacts could probably be minimized by good sediment control planning and implementation.

Cumulative Impacts: Culverting, sediment impacts, and the addition of impervious surfaces in a geographic area all tend to degrade overall quality of aquatic habitats and water quality. The placement of lengths of streams in culverts is considered by TDEC to be a permanent impact. While the water quality impacts of culverts over 200 feet in length are mitigated by off-site programs, increases in numbers of culverts associated with highways, private driveways, and industrial and commercial development may cumulatively reduce available habitats over time.

Mitigation: Stream channels requiring relocation will be replaced on-site to the extent possible, using techniques that will replace existing stream characteristics such as length, width, gradient, and tree canopy. Stream

or water body impacts that cannot be mitigated on site, such as impacts of culverts over 200 feet, or impacts to springs or seeps which require rock fill to allow for movement of water underneath the roadway, will either be mitigated off-site by improving a degraded system or by making a comparable payment to an in-lieu-fee program which will perform such off-site mitigation under the direction of state and Federal regulatory and resource agencies.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-1a	Section 1	STA 11+50 SR-460	Crossing	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-2', Rip-rap, gravel, and soil substrate, No flow. Banks were moderately stable, 0% canopy coverage. No aquatic fauna observed.
WWC-1	Section 1	STA 15+00R Ramp 2	Runoff	Wet weather conveyance	Channel Bottom Width (CBW): 1-2', Top of Bank Width (TOB): 6-8', Bank Height (BH): 2-4', Soil Substrate, No flow. Banks were unstable, 90% canopy coverage – box elder, sweetgum, honey locust. No aquatic fauna observed.
WWC-2	Section 1	STA 18+00R Ramp 2	Fill	Wet weather conveyance	CBW: 1-2', TOB: 4-6', BH: 2-8', Soil substrate, No flow. Banks were unstable, 0-90% canopy coverage – box elder, sweetgum, sycamore. No aquatic fauna observed.
STR-1 Jones Creek	Section 1	STA 18+50R Ramp 2	Runoff	Perennial Stream	CBW: 30-40', TOB: 40', BH: 8-10', Soil and sand substrate, Water Depth (WD): 3"-1', Water width (WW): 10-35'. Banks were unstable, 0-25% canopy coverage –sycamore, black sherry, black locust, box elder, river birch. Water striders, caddisflies, aquatic worms, minnows and frogs were observed.
STR-2 Unnamed tributary to Jones Creek	Section 1	STA 22+50 SR-460	Crossing	Intermittent Stream	CBW: 2-4', TOB: 5-6', BH: 3-4', Soil and gravel substrate, No flow. Banks were moderately unstable, 0-80% canopy coverage – oak, sweetgum, hickory, eastern red cedar. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
PND-1	Section 1	STA 26+50L to 29+50R SR-460	Drain/fill	Isolated farm pond	Isolated farm pond that is shown on the topographic map.
STR-3 Unnamed tributary to Jones Creek	Section 1	STA 27+50 SR-460	Crossing	Perennial Stream	CBW: 2-5', TOB: 8-10', BH: 2-3', Soil substrate, WD:1-4", WW – 6"-1'. Banks were moderately unstable, 0-60% canopy coverage – willow oak, sycamore, box elder. Turtle and tadpoles observed. Stream flows through small linear wetland.
STR-4 Unnamed tributary to Jones Creek	Section 1	STA 37+00L SR-460	Crossing	Intermittent Stream	CBW: 1-2', TOB: 3-4', BH: 1-3', Soil substrate, No flow. Banks were unstable. 0-60% canopy coverage – box elder, eastern red cedar, American elm. No aquatic fauna observed.
STR-5 Unnamed tributary to Jones Creek	Section 1	STA 37+00 SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 4-7', BH: 3-4', Soil substrate, No flow. Banks were moderately unstable, 0-80% canopy coverage – willow oak, sycamore, box elder. No aquatic fauna observed.
STR-6 Unnamed tributary to Jones Creek	Section 1	STA 49+50 SR-460	Crossing	Intermittent Stream	CBW: 2-4', TOB: 3-5', BH: 1-2', Soil substrate, No flow. Banks were moderately unstable, 80% canopy coverage –sweetgum, box elder, hickory, red maple. No aquatic fauna observed.
STR-7 Unnamed tributary to Town Branch	Section 1	STA 51+50 SR-460	Crossing	Intermittent Stream	CBW: 4-8', TOB: 6-15', BH: 2-5', Soil substrate, No flow. Some small pools present. Banks were moderately unstable, 85% canopy coverage – sweetgum, box elder, hickory, red maple. Water striders and crayfish observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
SEP-1	Section 1	STA 65+20 SR-460	Fill	Seep	Small Seep with very low seepage. 4-6" of water width.
WWC-3	Section 1	STA 75+80 to 77+00 SR-460	Fill	Wet weather conveyance	CBW: 3-4', TOB: 6-8', BH: 3-7', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – eastern red cedar, oak, sweetgum, red maple. No aquatic fauna observed.
STR-8 Unnamed tributary to Jones Creek	Section 1	STA 51+50 SR-460	Crossing	Perennial Stream	CBW: 3-5', TOB: 8-10', BH: 8-10', Soil substrate, Very low flow. Some small pools present. Banks were unstable, 80% canopy coverage – eastern red cedar, oak, sweetgum, red maple. No aquatic fauna observed.
WWC-4	Section 1	STA 76+50 to 77+50 SR-460	Fill	Wet weather conveyance	CBW: 2-3', TOB: 6-8', BH: 4-5', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – black cherry, American elm, mulberry, oak. No aquatic fauna observed.
WWC-5	Section 1	STA 89+90 SR-460	Fill	Wet weather conveyance	CBW: 2-3', TOB: 3-4', BH: 1-3', Soil substrate, No flow. Banks were unstable, 50% canopy coverage –American elm, boxelder, oak. No aquatic fauna observed.
WWC-6	Section 1	STA 91+00 SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 1-4', Soil substrate, No flow. Banks were moderately unstable, 60% canopy coverage –American elm, boxelder, oak. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-9 Unnamed tributary to Town Branch	Section 1	STA 94+00 SR-460	Crossing	Intermittent Stream	CBW: 4-5', TOB: 6-9', BH: 3-5', Soil substrate, No flow. Some small pools present. Banks were moderately unstable, 80% canopy coverage – American elm, boxelder, oak. No aquatic fauna observed.
WWC-7	Section 1	STA 98+60L to 103+30L SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 1-4', Soil substrate, No flow. Banks were moderately unstable, 0-60% canopy coverage –American elm, boxelder, oak. No aquatic fauna observed.
STR-10 Unnamed tributary to Town Branch	Section 1	STA 102+00 SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 6-10', BH: 1-3', Soil substrate, No flow. Some small pools present. Banks were moderately unstable, 70% canopy coverage – American elm, red maple, oak. No aquatic fauna observed.
WWC-8	Section 1	STA 106+00L SR-460	Runoff	Wet weather conveyance	CBW: 1-2', TOB: 1-3', BH: 6"-1', Soil and sand substrate, No flow. Banks were unstable, 80% canopy coverage –American elm, red maple, eastern red cedar, oak. No aquatic fauna observed.
WWC-9	Section 1	STA 113+00L to 114+50L SR-460	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 1-3', Soil substrate, No flow. Banks were moderately unstable, 70% canopy coverage –American elm, oak. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-11 Town Branch	Section 1	STA 123+00 SR-460	Crossing	Perennial Stream	CBW: 8-10', TOB: 30-40', BH: 15-20', Soil, gravel, and cobble substrate, WD: 2-8", WW – 3-6'. Banks were moderately unstable, 75-80% canopy coverage – dogwood, sweetgum, red maple, hickory. No aquatic fauna observed.
WWC-10	Section 1	STA 130+00L SR-460	Runoff	Wet weather conveyance	CBW: 6"-1', TOB: 1-3', BH: 6"-1', Soil substrate, No flow. Banks were moderately unstable, 50-60% canopy coverage –shagbark hickory, mimosa, red maple, tulip poplar, sweetgum. No aquatic fauna observed.
STR-12 Unnamed tributary to Town Branch	Section 1	STA 130+30L SR-460	Runoff	Intermittent Stream	CBW: 4-6', TOB: 25-30', BH: 15-20', Soil substrate, No flow. Some small pools present. Banks were unstable, 60-70% canopy coverage – shagbark hickory, mimosa, red maple, tulip poplar, sweetgum. No aquatic fauna observed.
STR-13 Unnamed tributary to Town Branch	Section 1	STA 137+00 SR-460	Crossing	Perennial Stream	CBW: 5-7', TOB: 25-30', BH: 3-7', sand and gravel substrate, WD: 2"-1', WW – 3-7'. Banks were moderately unstable, 0-80% canopy coverage –hackberry, red maple, sycamore, sweetgum. Minnows and green filamentous algae observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-14 Unnamed tributary to Town Branch	Section 1 and 2	STA 133+50L to 145+00L SR-460	Relocation	Perennial Stream	CBW: 2-4', TOB: 6-8', BH: 4-6', Soil and gravel substrate, WD: 6"-2', WW – 6"-3'. Banks were moderately unstable, 90% canopy coverage –river birch American elm, oak. No aquatic fauna observed.
WWC-11	Section 1	STA 136+00R to 136+50R SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 5-10', BH: 2-4', Soil substrate, No flow. Banks were moderately unstable, 75% canopy coverage –American elm, hackberry, oak. No aquatic fauna observed.
WWC-12	Section 1	STA 136+50R to 137+00R SR-460	Fill	Wet weather conveyance	CBW: 2-5', TOB: 5-12', BH: 3-4', Soil substrate, No flow. Banks were moderately unstable, 75% canopy coverage –American elm, hackberry, oak. No aquatic fauna observed.
STR-14 Unnamed tributary to Town Branch	Section 1 and 2	STA 145+00L to 151+25R SR-460	Relocation	Intermittent Stream	CBW: 2-4', TOB: 5-10', BH: 1-5', Soil and gravel substrate, WD: No flow. Banks were moderately unstable, 90% canopy coverage –river birch American elm, sycamore, cottonwood, oak. No aquatic fauna observed.
WWC-13	Section 1	STA 17+00L Ramp 5	Fill	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-3', Soil substrate, No flow. Banks were unstable, 0-60% canopy coverage –American elm, eastern red cedar, oak. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
SEP-2	Section 1	STA 19+20L Ramp 5	Fill	Seep	Channel not well defined. CBW: 6"-2', TOB: 1-3', BH: 6"-1', Soil substrate, Very low flow. 0.5-3" deep pooled areas. Banks were unstable, 0-30% canopy coverage – black locust, sweetgum, red maple. No aquatic fauna observed.
WWC-14	Section 2	STA 155+00 SR-460	Fill	Wet weather conveyance	CBW: 1-3', TOB: 3-5', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 50% canopy coverage –American elm, hickory, oak. No aquatic fauna observed.
WWC-15	Section 2	STA 182+75 SR-460	Fill	Wet weather conveyance	CBW: 2-3', TOB: 3-5', BH: 2-3', Soil substrate, No flow. Banks were moderately unstable, 0-30% canopy coverage –sweetgum, honey locust. No aquatic fauna observed.
WWC-16	Section 2	STA 189+00R SR-460	Fill	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 2-4', Soil substrate, No flow. Banks were stable, 0-60% canopy coverage – sweetgum, honey locust. No aquatic fauna observed.
WWC-17	Section 2	STA 198+00 SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 5-7', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 0% canopy coverage. No aquatic fauna observed.
WWC-18	Section 2	STA 207+00 SR-460	Fill	Wet weather conveyance	CBW: 4-6', TOB: 6-8', BH: 1-3', Soil substrate, No flow. Banks were unstable, 0% canopy coverage. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-19	Section 2	STA 238+00 SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 4-6', BH: 2-3', Soil substrate, No flow. Banks were moderately unstable, 50% canopy coverage –eastern red cedar, hackberry. No aquatic fauna observed.
WWC-20	Section 2	STA 254+50L SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 0-60% canopy coverage –black willow, boxelder, green ash, sycamore. No aquatic fauna observed.
WWC-21	Section 2	STA 256+00L SR-460	Runoff	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-1.5', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – black willow, boxelder, green ash, sycamore. No aquatic fauna observed.
STR-15 Unnamed tributary to Bennetts Creek	Section 2	STA 257+20 SR-460	Crossing	Intermittent Stream	Stream channel has been disturbed by cultivation. Shown as intermittent on topo map. 0-60% canopy coverage – bald cypress, black willow. No aquatic fauna observed.
STR-16 Bennetts Creek	Section 3	STA 23+30 Ramp 9a	Crossing	Perennial Stream	CBW: 30-50', TOB: 40-60', BH: 3-5', Soil substrate, WD: 3"-1', WW – 15-35'. Banks were unstable, 0-50% canopy coverage –river birch, boxelder, sweetgum, sycamore. No aquatic fauna observed.
WWC-22	Section 3	STA 24+00L to 27+50R Ramp 9a	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-4', BH: 1-3', Soil substrate, No flow. Banks were unstable, 0-30% canopy coverage – sweetgum, sycamore, tree of heaven, black willow. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-23	Section 3	STA 27+20R Ramp 10	Runoff	Wet weather conveyance	CBW: 2-3', TOB: 6-8', BH: 3-4', Soil substrate, No flow. Banks were moderately unstable, 60% canopy coverage –boxelder, river birch, sweetgum, red oak, sycamore. No aquatic fauna observed.
STR-17 Loosahatchie River Canal	Section 3	STA 284+00 SR-460	Crossing	Perennial Stream	CBW: 80-100', TOB: 100-120', BH: 25-40', Sand substrate, WD: 6"-3', WW – 60-100'. Banks were unstable, 0-30% canopy coverage –river birch, boxelder, oak, sycamore. Minnows were observed.
WWC-24	Section 3	STA 17+50L Ramp 12	Runoff	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 75% canopy coverage –boxelder, river birch, sweetgum, willow oak, sycamore, tulip poplar. No aquatic fauna observed.
WWC-25	Section 3	STA 299+20 SR-460	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 60% canopy coverage –American elm, eastern red cedar, honey locust. No aquatic fauna observed.
STR-18 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 299+00 SR-460	Crossing	Intermittent Stream	Shown as blue line on topo map. CBW: 6-10', TOB: 8-12', BH: 25-40', Sand substrate, No flow. Banks were unstable, 0-30% canopy coverage –boxelder, black willow, American elm. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-26	Section 3	STA 300+30L SR-460	Fill	Wet weather conveyance	CBW: 2-3', TOB: 3-4', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 50% canopy coverage –black willow, eastern red cedar, American elm. No aquatic fauna observed.
STR-19 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 300+40R to 303+90 SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 4-8', BH: 1-4', Sand and soil substrate, Very low flow. WD: 0.25-3", WW – 2"-1'. Banks were unstable, 85% canopy coverage – American elm, black cherry. No aquatic fauna observed.
STR-20 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 304+00R to 308+80L SR-460	Crossing	Intermittent Stream	Shown as blue line on topo map. CBW: 4-6', TOB: 7-10', BH: 2-4', Sand substrate, No flow. Banks were unstable, 75-80% canopy coverage – red bud, American elm, sycamore, oak. No aquatic fauna observed.
WWC-27	Section 3	STA 305+00R to 305+90R SR-460	Runoff	Wet weather conveyance	CBW: 8-12', TOB: 10-15', BH: 3-4', Soil substrate, No flow. Banks were moderately unstable, 60% canopy coverage –shagbark hickory, red maple, red bud, oak. No aquatic fauna observed.
WWC-28	Section 3	STA 308+00L to 308+80L SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 5-10', BH: 2-8', Soil substrate, No flow. Banks were unstable, 50% canopy coverage –shagbark hickory, American elm, honey locust. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-29	Section 3	STA 315+00L SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 6"-1', Soil substrate, No flow. Banks were moderately unstable, 75% canopy coverage –shagbark hickory, red maple, American elm, eastern red cedar. No aquatic fauna observed.
WWC-30	Section 3	STA 315+00L to 316+00L SR-460	Runoff	Wet weather conveyance	CBW: 2-3', TOB: 3-5', BH: 1-3', Soil substrate, No flow. Banks were moderately unstable, 75% canopy coverage –shagbark hickory, red maple, American elm, eastern red cedar. No aquatic fauna observed.
PND-2	Section 3	STA 318+00L to 319+00L SR-460	Runoff	Isolated farm pond	Isolated farm pond that is shown on the topographic map.
WWC-31	Section 3	STA 319+00L to 321+00L SR-460	Runoff	Wet weather conveyance	CBW: 2-5', TOB: 3-8', BH: 2-4', Soil substrate, No flow. Banks were moderately unstable, 75% canopy coverage – red maple, oak, eastern red cedar. No aquatic fauna observed.
WWC-32	Section 3	STA 325+00 SR-460	Fill	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-1', Soil and sand substrate, No flow. Banks were unstable, 80% canopy coverage – oak, red maple, American elm, American beech. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-33	Section 3	STA 325+00L SR-460	Fill	Wet weather conveyance	CBW: 1-4', TOB: 3-6', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 80% canopy coverage –black cherry, American beech, American elm, oak, red maple. No aquatic fauna observed.
WWC-34	Section 3	STA 327+80L SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-6', BH: 1-3', Soil substrate, No flow. Banks were moderately unstable, 80% canopy coverage –American beech, oak, American elm. No aquatic fauna observed.
WWC-35	Section 3	STA 327+80 SR-460	Fill	Wet weather conveyance	CBW: 1-4', TOB: 2-6', BH: 1-2', Soil substrate, No flow. Banks were unstable, 80% canopy coverage –American beech, oak, American elm. No aquatic fauna observed.
SPG-1	Section 3	STA 331+50R SR-460	Runoff	Perennial Spring	WW: 0.5-1", WW: 2-4'. No aquatic fauna observed. 80% canopy coverage – American beech, American elm, oak. Soil substrate.
STR-21 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 331+50R SR-460	Runoff	Perennial Stream	CBW: 3-5', TOB: 3-6', BH: 6"-1', Sand and soil substrate, WD: 0.5-1", WW – 2-4'. Banks were unstable, 80% canopy coverage – American beech, oak, American elm. No aquatic fauna observed.
WWC-36	Section 3	STA 332+50R SR-460	Runoff	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 1-3', Soil substrate, No flow. Banks were unstable, 70% canopy coverage –shagbark hickory, oak, American elm. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-22 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 337+50 SR-460	Crossing	Intermittent Stream	CBW: 1-4', TOB: 2-6', BH: 2-4', Sand and soil substrate, No flow. Banks were unstable, 85% canopy coverage – tulip poplar, red maple, oak, American elm. No aquatic fauna observed.
STR-23 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 341+00 to 351+40 SR-460	Crossing	Intermittent Stream	Shown as blue line on topo map downstream of roadway. CBW: 2-4', TOB: 3-5', BH: 2-4', Sand substrate, No flow. Banks were unstable, 80% canopy coverage – shagbark hickory, black walnut, tulip poplar. No aquatic fauna observed.
WWC-37	Section 3	STA 358+00R SR-460	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 0-60% canopy coverage – honey locust, persimmon, eastern red cedar, oak. No aquatic fauna observed.
PND-3	Section 3	STA 359+30R SR-460	Fill	Isolated farm pond	Isolated farm pond that is not shown on the topographic map.
WWC-38	Section 3	STA 365+50L to 368+40L SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 2-3', Soil and sand substrate, No flow. Banks were unstable, 75% canopy coverage – winged elm, sweetgum, sycamore, black cherry. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-24 Unnamed tributary to Catron Creek	Section 3	STA 368+50 SR-460	Crossing	Intermittent Stream	Shown as blue line on topo map downstream of roadway. CBW: 3-5', TOB: 4-6', BH: 3-4', Sand, soil, and gravel substrate, No flow. Some small pooled areas. Banks were unstable, 60-70% canopy coverage – winged elm, black cherry, sycamore, sweetgum. No aquatic fauna observed.
STR-25 Unnamed tributary to Catron Creek	Section 3	STA 368+50R to 374+00L SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 4-6', BH: 1-3', Sand and gravel substrate, No flow. Banks were unstable, 80% canopy coverage – dogwood, sweetgum, oak, American elm, black cherry, sycamore. No aquatic fauna observed.
WWC-39	Section 3	STA 374+00L to 376+00L SR-460	Runoff	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 8"-1', Sand and gravel substrate, No flow. Banks were unstable, 75% canopy coverage – winged elm, sweetgum, sycamore, black cherry. No aquatic fauna observed.
PND-4	Section 3	STA 377+00L SR-460	Fill	Isolated farm pond	Isolated farm pond that is not shown on the topographic map.
PND-5	Section 3	STA 11+00 Ramp L	Runoff	Isolated farm pond	Isolated farm pond that is not shown on the topographic map.
WWC-40	Section 3	STA 386+00 to 390+30 SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-8', BH: 1-4', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – sassafras, honey locust. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-26 Unnamed tributary to Smart Creek	Section 3	STA 390+30 to 402+50L SR-460	Crossing	Intermittent Stream	Shown as blueline on topo map downstream of roadway. CBW: 4-6', TOB: 8-10', BH: 3-5', Sand, soil, and gravel substrate, No flow. Banks were unstable, 75% canopy coverage –American elm, green ash, sycamore. No aquatic fauna observed.
STR-27 Unnamed tributary to Smart Creek	Section 3	STA 393+50R SR-460	Runoff	Intermittent Stream	CBW: 2-3', TOB: 3-5', BH: 1-3', Sand, soil, and gravel substrate, No flow. Banks were unstable, 75% canopy coverage –American elm, green ash, sycamore. No aquatic fauna observed.
WWC-41	Section 3	STA 397+00L SR-460	Runoff	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 65% canopy coverage – sassafras, osage orange, American elm, eastern red cedar, sycamore. No aquatic fauna observed.
STR-28 Unnamed tributary to Smart Creek	Section 3	STA 400+00R SR-460	Runoff	Intermittent Stream	CBW: 5-8', TOB: 8-10', BH: 3-5', Soil substrate, No flow. Banks were unstable, 80% canopy coverage –American elm, river birch, sycamore. No aquatic fauna observed.
STR-29 Unnamed tributary to Smart Creek	Section 3	STA 401+20L to 402+30R SR-460	Crossing	Intermittent Stream	CBW: 3-6', TOB: 5-8', BH: 3-5', Soil and gravel substrate, No flow. Banks were unstable, 75% canopy coverage –American elm, river birch, sycamore. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-42	Section 3	STA 409+50L SR-460	Fill	Wet weather conveyance	CBW: 2-3', TOB: 3-4', BH: 6"-2', Soil and gravel substrate, No flow. Banks were unstable, 70% canopy coverage – osage orange, American elm. No aquatic fauna observed.
WWC-43	Section 3	STA 413+00 SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 6"-1', Soil and gravel substrate, No flow. Banks were unstable, 65% canopy coverage – osage orange, honey locust, oak. No aquatic fauna observed.
PND-6	Section 3	STA 418+00R to 420+50R SR-460	Runoff	Isolated farm pond	Isolated farm pond that is not shown on the topographic map.
WWC-44	Section 3	STA 419+30 to 423+00 SR-460	Fill	Wet weather conveyance	CBW: 1-3', TOB: 1-4', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 40% canopy coverage – winged elm, eastern red cedar. No aquatic fauna observed.
STR-30 Unnamed tributary to Smart Creek	Section 3	STA 428+50 SR-460	Crossing	Intermittent Stream	CBW: 12+20', TOB: 20-25', BH: 5-15', Soil and gravel substrate, No flow. Some small pools present. Banks were unstable, 60% canopy coverage – American elm, dogwood, black cherry, sycamore, oak. No aquatic fauna observed.
STR-31 Unnamed tributary to Smart Creek	Section 3	STA 435+30R to 436+30R SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 5-8', BH: 3-5', Soil and gravel substrate, No flow. Banks were unstable, 75% canopy coverage – sweetgum, sycamore, eastern red cedar, American elm, hickory, sassafras. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-45	Section 3	STA 435+80R to 436+50R SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-6', BH: 1-3', Soil substrate, No flow. Banks were unstable, 40% canopy coverage – sweetgum, sycamore, American elm, hickory, sassafras, eastern red cedar. No aquatic fauna observed.
STR-32 Unnamed tributary to Smart Creek	Section 3	STA 436+30 SR-460	Crossing	Intermittent Stream	CBW: 4-10', TOB: 8-15', BH: 4-8', Soil and gravel substrate, No flow. Banks were unstable, 65% canopy coverage – sweetgum, sycamore, eastern red cedar, American elm, hickory, sassafras. No aquatic fauna observed.
STR-33 Smart Creek	Section 3	STA 435+00L to 442+00R SR-460	Crossing	Intermittent Stream	Shown as blueline on topo map. CBW: 20-25', TOB: 30-35', BH: 6-10', Soil, sand, and gravel substrate, No flow. Some small pools present. Banks were unstable, 60% canopy coverage – boxelder, sweetgum, American elm, oak. No aquatic fauna observed.
STR-34 Unnamed tributary to Smart Creek	Section 3	STA 445+90 SR-460	Crossing	Intermittent Stream	Shown as blueline on topo map. CBW: 5-10', TOB: 6-12', BH: 1-3', Soil, sand, and gravel substrate, No flow. Banks were unstable, 80% canopy coverage – sweetgum, sycamore, American elm, red maple. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-46	Section 3	STA 449+00 SR-460	Fill	Wet weather conveyance	CBW: 2-3', TOB: 3-5', BH: 1-3', Soil and gravel substrate, No flow. Banks were moderately unstable, 60% canopy coverage – American elm. No aquatic fauna observed.
WWC-47	Section 3	STA 462+50 SR-460	Fill	Wet weather conveyance	CBW: 3-4', TOB: 4-5', BH: 2-3', Soil substrate, No flow. Banks were unstable, 60% canopy coverage – sweetgum, hickory, black cherry. No aquatic fauna observed.
WWC-48	Section 3	STA 12+50R Ramp 14 SR-460	Fill	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 50% canopy coverage – oak, American elm, shagbark hickory. No aquatic fauna observed.
STR-35 Unnamed tributary to Loosahatchie River Canal	Section 3	STA 463+50 SR-460	Crossing	Intermittent Stream	Shown as blue line on topo map downstream of roadway. CBW: 8-15', TOB: 10-20', BH: 6-10', Soil and gravel substrate, No flow. Banks were unstable, 70% canopy coverage – oak, American elm, shagbark hickory. No aquatic fauna observed.
WWC-49	Section 3	STA 13+00R Ramp 14 SR-460	Fill	Wet weather conveyance	CBW: 3-8', TOB: 4-10', BH: 4-10', Soil substrate, No flow. Banks were unstable, 50% canopy coverage – cottonwood, black willow, sycamore, American elm, eastern red cedar. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-36 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 474+50R to 481+00L SR-460	Relocation/ Crossing	Perennial Stream	CBW: 1-3', TOB: 2-4', BH: 6"-2', Soil and sand substrate, Low flow. WD: 0.5-2", WW: 4"-1'. Banks were unstable, 80% canopy coverage – oak, American beech, tulip poplar. Crayfish burrows observed.
SEP-3	Section 4	STA 475+50R SR-460	Fill	Seep	Seep with low seepage.
STR-37 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 475+00R to 479+50L SR-460	Crossing	Perennial Stream	CBW: 2-4', TOB: 3-6', BH: 1-3', Sand substrate, WD: 0.5-4", WW: 6"-1'. Banks were unstable, 70-80% canopy coverage – white oak, tulip poplar, red maple, American elm, mimosa. Crayfish burrows and aquatic beetles observed.
SPG-2	Section 4	STA 475+75R SR-460	Fill	Perennial Spring	WW: 6-8", WD: 0.5". No aquatic fauna observed. 70-80% canopy coverage – white oak, tulip poplar, red maple, American elm, mimosa. Soil substrate.
STR-38 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 477+00R to 478+00 SR-460	Relocation	Perennial Stream	CBW: 1-3', TOB: 2-4', BH: 1-3', Sand substrate, WD: 0.5-1", WW: 6"-1'. Banks were unstable, 90% canopy coverage – sweetgum, sycamore, tulip poplar, red maple, American elm. Isopods observed.
SEP-4	Section 4	STA 478+50 SR-460	Fill	Seep	Seep with low seepage. WD:0.25", 80% canopy coverage – redmaple, American elm, tulip poplar, sycamore, Chinese privet.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-50	Section 4	STA 480+00 SR-460	Fill	Wet weather conveyance	CBW: 6"-1.5', TOB: 1-2', BH: 1-5', Soil and sand substrate, No flow. Banks were unstable, 90% canopy coverage –American elm, Chinese privet, tulip poplar. No aquatic fauna observed.
WWC-51	Section 4	STA 480+50L to 481+75 SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-6', BH: 2-3', Soil and sand substrate, No flow. Banks were unstable, 75% canopy coverage –American elm, Chinese privet, tulip poplar. No aquatic fauna observed.
WWC-52	Section 4	STA 481+50L to 482+00L SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 3-6', BH: 1-4', Soil substrate, No flow. Banks were unstable, 75% canopy coverage –American elm, sycamore, tulip poplar. No aquatic fauna observed.
WWC-53	Section 4	STA 491+25 SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 3-7', BH: 1-3', Soil substrate, No flow. Banks were unstable, 75% canopy coverage –American elm, sycamore, red maple, oak. No aquatic fauna observed.
WWC-54	Section 4	STA 492+00R to 492+50R SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 3-5', BH: 1-3', Soil substrate, No flow. Banks were unstable, 75-80% canopy coverage – American elm, red maple, sycamore, tulip poplar. No aquatic fauna observed.
WWC-55	Section 4	STA 492+00R to 494+00R SR-460	Crossing	Wet weather conveyance	CBW: 3-4', TOB: 4-6', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 90% canopy coverage –American elm, sweetgum. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-39 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 496+00R to 498+75L SR-460	Crossing	Perennial Stream	CBW: 6-10', TOB: 8-12', BH: 2-4', Sand substrate, WD: 0.5-2' (pooled), WW: 6"-5' (pooled). Banks were moderately unstable, 100% canopy coverage – tulip poplar, dogwood, American elm, oak, sweetgum. No aquatic fauna observed.
WWC-56	Section 4	STA 496+00R to 497+00R SR-460	Runoff	Wet weather conveyance	CBW: 3-4', TOB: 4-6', BH: 6"-1', Soil substrate, No flow. Banks were moderately unstable, 75% canopy coverage –sycamore, sweetgum. No aquatic fauna observed.
STR-40 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 497+25R to 497+75R SR-460	Runoff	Perennial Stream	CBW: 5-8', TOB: 6-10', BH: 1-3', Sand and gravel substrate, WD: 0.5-4" (pooled), WW: 6"-3' (pooled). Banks were unstable, 80% canopy coverage – tulip poplar, dogwood, American elm, red maple. No aquatic fauna observed.
WWC-57	Section 4	STA 498+50R SR-460	None	Wet weather conveyance	CBW: 3-5', TOB: 10-15', BH: 4-6', Soil substrate, No flow. Banks were unstable, 0-70% canopy coverage – sycamore, sweetgum, black cherry, American elm. No aquatic fauna observed.
WWC-58	Section 4	STA 497+75R to 498+50R SR-460	Fill	Wet weather conveyance	CBW: 2-4', TOB: 3-6', BH: 2-3', Soil substrate, No flow. Banks were unstable, 80% canopy coverage –white oak, American elm, boxelder. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-59	Section 4	STA 499+00R to 500+50R SR-460	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 4"-1', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – sycamore, sweetgum, boxelder, black cherry. No aquatic fauna observed.
STR-41 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 508+50 SR-460	Crossing	Perennial Stream	CBW: 10-15', TOB: 12-20', BH: 2-5', Soil substrate, WD: 2-10", WW: 3-10'. Banks were unstable, 80% canopy coverage – American elm, sweetgum. Frogs, tadpoles, and snails observed.
STR-42 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 508+50R to 510+00R SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 5-8', BH: 1-4', Sand substrate, WD: 0.5-2" (pooled), WW: 3"-2' (pooled). Banks were unstable, 75% canopy coverage – American elm, oak, sweetgum. No aquatic fauna observed.
STR-43 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 516+75R to 519+75L SR-460	Crossing	Perennial Stream	CBW: 2-4', TOB: 3-6', BH: 1-2', Soil substrate, WD: 2-3" (pooled), WW: 1-3' (pooled). Banks were unstable, 60% canopy coverage – sweetgum, American elm, osage orange, sycamore, oak. No aquatic fauna observed.
WWC-60	Section 4	STA 526+00R to 528+00R SR-460	Runoff	Wet weather conveyance	CBW: 2-4', TOB: 3-6', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – red maple, American elm, white oak. No aquatic fauna observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-44 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 528+00R to 542+00R SR-460	Relocation	Perennial Stream	CBW: 6-10', TOB: 8-12', BH: 2-5', Sand and gravel substrate, WD: 1-4", WW: 1-5'. Banks were unstable, 80% canopy coverage – American elm, sweetgum, shagbark hickory, red maple, white oak. Aquatic beetles and frogs observed.
WWC-61	Section 4	STA 529+50R to 530+00R SR-460	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 65% canopy coverage – sweetgum, hickory, white oak. No aquatic fauna observed.
STR-45 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 531+00R to 532+00R SR-460	Runoff	Intermittent Stream	CBW: 5-10', TOB: 6-12', BH: 3-5', Soil and gravel substrate, No flow. Banks were unstable, 75% canopy coverage – white oak, American elm, hickory, sweetgum. No aquatic fauna observed.
STR-46 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 542+00L to 545+00R SR-460	Crossing	Perennial Stream	CBW: 8-10', TOB: 10-12', BH: 5-6', Soil, sand and gravel substrate, WD: 2-3" (pooled), WW: 3-4' (pooled). No flow. Banks were unstable, 50-60% canopy coverage – white oak, American elm, red maple, sweetgum. No aquatic fauna observed.
STR-17 Loosahatchie River Canal	Section 4	STA 565+00 SR-460	Crossing	Perennial Stream	CBW: 80-100', TOB: 100-120', BH: 25-40', Sand substrate, WD: 6"-3', WW – 60-100'. Banks were unstable, 0-30% canopy coverage –river birch, boxelder, oak, sycamore. Minnows were observed.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
STR-47 Unnamed tributary to Loosahatchie River Canal	Section 4	STA 565+50 to 566+00 SR-460	Crossing	Intermittent Stream	Shown as blueline on topo map. CBW: 2-4', TOB: 4-6', BH: 3-6', Soil substrate, No flow. Banks were unstable, 75% canopy coverage – sweetgum, swamp chestnut oak, American elm, boxelder, black cherry, Chinese privet. No aquatic fauna observed.
WWC-62	Section 4	STA 570+00R to 575+00 SR-460	Fill	Wet weather conveyance	CBW: 1-2', TOB: 2-3', BH: 6"-2', Soil substrate, No flow. Banks were unstable, 0-40% canopy coverage –boxelder, bald cypress, sweetgum. No aquatic fauna observed.
WWC-63	Section 4	STA 601+50L to 607+00R SR-460	Fill	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 80% canopy coverage – sweetgum, oak, American elm, tulip poplar. No aquatic fauna observed.
None	Section 4	STA 617+00 SR-460	None	No feature	Blueline shown from wetland flowing northeast. No feature present within 500' of centerline.
WWC-64	Section 4	STA 630+00L to 633+00L SR-460	None	Wet weather conveyance	CBW: 1-3', TOB: 2-4', BH: 6"-1', Soil substrate, No flow. Some small pools. Banks were moderately unstable, 0-30% canopy coverage – American elm, black willow, sweetgum. No aquatic fauna observed.
PND-7	Section 4	STA 637+00L to 638+00L SR-460	Drain/fill	Isolated farm pond	Isolated farm pond that is shown on the topographic map.

Stream watercourse waterbody	Project Segment	Location	Potential Impacts	Legal Designation (confirmed/unconfirmed)	Stream/Watercourse/Waterbody Description
WWC-65	Section 4	STA 638+75L to 648+00R SR-460	Fill	Wet weather conveyance	Shown as blueline on topo map. CBW: 1-3', TOB: 2-5', BH: 1-3', Soil substrate, No flow. Banks were unstable, 85% canopy coverage – boxelder, oak, red maple, sweetgum, hickory, American elm. No aquatic fauna observed.
STR-48 Unnamed tributary to Jones Creek	Section 4	STA 649+50 SR-460	Crossing	Intermittent Stream	CBW: 3-5', TOB: 4-7', BH: 1-4', Soil substrate, No flow. Banks were unstable, 80% canopy coverage – tulip poplar, oak, sweetgum, hickory, American elm, eastern red cedar. No aquatic fauna observed.
WWC-66	Section 4	STA 659+75 SR-460	Crossing	Wet weather conveyance	CBW: 3-5', TOB: 4-6', BH: 6"-2', Sand substrate, No flow. Banks were unstable, 60% canopy coverage – American elm, boxelder, sycamore, eastern red cedar, sweetgum. No aquatic fauna observed.
WWC-67	Section 4	STA 660+50 SR-460	Crossing	Wet weather conveyance	CBW: 1-3', TOB: 3-4', BH: 6"-1', Soil substrate, No flow. Banks were unstable, 100% canopy coverage –boxelder, sycamore, American elm. No aquatic fauna observed.
STR-49 Unnamed tributary to Jones Creek	Section 4	STA 673+90 SR-460	Crossing	Intermittent Stream	CBW: 3-7', TOB: 5-10', BH: 2-4', Soil and sand substrate, No flow. Banks were unstable, 0-80% canopy coverage – tulip poplar, sycamore, black willow, American elm, red maple. No aquatic fauna observed.

Wetlands. Approximately 9.10 acres of potential wetlands have been identified at twenty sites within or near the anticipated project limits. Functions are shown in Table 3.

In a letter dated October 31, 2005 (enclosed), the U.S. Fish and Wildlife Service states that information available to the service indicates that wetlands exist in the vicinity of the proposed project based on National Wetland Inventory Maps Macon and Somerville, Tennessee.

Direct Impacts. Direct wetland impacts are shown in Table 3. Wetlands shown within the ROW were assumed to be directly impacted due to lack of detail in functionals provided. Efforts will be made during further project design, to avoid or minimize impacts to as many of these sites as possible

Indirect Impacts. Although culverts will be placed to equalize the water flow in the entire wetland areas remaining outside the road bed, the drainage patterns in the wetland may be affected, and could result in localized changes in water levels and vegetation patterns. Efforts will be made during further project design to minimize these effects. Potential indirect impacts could not be determined due to lack of detail in functionals provided.

Cumulative Impacts. This project will destroy approximately 6.00 acres of the 9.10 acres of wetlands currently known to exist in or adjacent to the project.

Avoidance of Wetland Impacts. The alignment has not been located to miss wetlands to the extent possible. Moving the current proposed alignment in Section 1 to the south (near SR-76) could save up to 0.8 acres. Moving the alignment in Section 3 to the east (@ 298+75 and 375+00 L) would save approximately 0.16 acres. The proposed alignment could be moved in Section 4 to the north (near SR-76) and to the east (near Feathers Chapel Road) to save approximately 2.60 acres.

Minimization. During project design, further efforts will be made to minimize impacts to wetlands remaining outside the right-of-way, and to reduce changes in drainage patterns and water levels.

Mitigation. Mitigation is required for all wetland impacts which do not meet requirements for general Aquatic Resource Alterations Permits (State of Tennessee), or for certain Nationwide Section 404 permits (U. S. Army Corps of Engineers). The minimum replacement ratio for wetlands is 2:1, and may be higher depending on hydrogeomorphic analyses or if optimum mitigation sites are unavailable. The first option for any substantial replacement mitigation is on-site (near the project, and within the watershed). The mitigation option most favored by regulatory agencies is that of restoration of a former wetland. Enhancement of an existing but degraded wetland may also be an option, but higher replacement ratios are generally required. Both the site selection and the

mitigation, when proposed, will be subject to the approval of regulatory agencies. In the event that no acceptable mitigation site can be obtained locally, the regulatory agencies may allow mitigation further away, or allow use of credits in a mitigation bank.

Table 3. Potential wetland impacts for proposed alignment of SR-460 from SR-15 west of Somerville to SR-15 west of Somerville, Fayette County, Tennessee.

Wetland Type*	Location	Likely Project Impact on Wetland**	Primary functions of the wetland	Wetland Size (acres) (Estimated)**		Description
				Total	Likely eliminated or drained	
WTL-1 Emergent, isolated	Section 1 STA 26+00R to 27+50R SR-460	Possible temporary impacts	Some water filtration, possible flood attenuation	0.10	0.06	Small wetland along stream. Occurs in cotton field. Site dominated by <i>Carex</i> , <i>Juncus</i> , smartweed, and cutgrass. A few willows around the edge. Saturated soils throughout.
WTL-2 Forested, isolated	Section 1 STA 135+00R SR-460	Possible destruction by SR-460, temporary and permanent impacts (site requires field survey for accurate location)	Some water filtration, possible flood attenuation	0.32	0.32	Wetland area dominated by sedges, rushes, red maple, sycamore, river birch, and sweetgum; soils have a chroma of 2 with mottles, and were saturated.

WTL-3 Forested/ Emergent Contiguous	Section 1 STA 145+00 to 146+30R SR-460	Possible destruction by SR-460, temporary and permanent impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	0.21	0.21	Wetland area dominated by sedges, rushes, red maple, willow oak, and sweetgum; soils have a chroma of 2 with mottles, and were saturated. Average water depth 1”.
WTL-4 Forested/ Emergent Isolated	Section 1 STA 155+00 SR-460	Possible destruction by SR-460, temporary and permanent impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	>1.52	0.21	Wetland area dominated by sedges, rushes, red maple, willow oak, and sweetgum; soils have a chroma of 1 with mottles, and were saturated. Average water depth 0-4”.
WTL-5 Emergent Isolated	Section 2 STA 186+00 SR-460	Possible destruction by SR-460, temporary and permanent impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	>0.60	0.60	Wetland area dominated by sedges, rushes, honey locust, and buttercups; soils have a chroma of 2 with mottles, and were saturated.
WTL-6 Forested Contiguous	Section 2 STA 254+00L to 255+00L SR-460	Possible destruction by SR-460, temporary impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.11	0.01	Wetland area dominated by bald cypress, boxelder, black willow, and green ash; soils have a chroma of 2 with mottles, and were saturated.

WTL-7 Forested Isolated	Section 2 STA 255+00L to 256+00L SR-460	No proposed impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.15	0.0	Wetland area dominated by bald cypress, boxelder, black willow, and green ash; soils have a chroma of 2 with mottles, and were saturated.
WTL-8 Emergent Contiguous	Section 2 STA 256+00L to 257+30 SR-460	Possible destruction by SR-460, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.20	0.20	Wetland area dominated by knotweed, arrowhead, lizard's tail, sedges, and rushes; soils have a chroma of 2 with mottles, and were saturated.
WTL-9 Forested/ Emergent isolated	Section 2 STA 264+00 to 267+00R SR-460	Possible destruction by SR-460 and Ramp 9, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.37	0.37	Wetland area dominated by bald cypress, red maple, greenbrier, giant cane, and lizard's tail; soils have a chroma of 3 with mottles, and were saturated.
WTL-10 Emergent Contiguous	Section 3 STA 274+50 SR-460	Possible destruction by SR-460, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	1.60	0.75	Linear wetland area dominated by soft rush, black willow and sycamore; soils have a chroma of 2 with mottles, and were saturated. Average water depth 0-12".

WTL-11 Forested/ Emergent isolated	Section 3 STA 17+00 Ramp 11	Possible destruction by Ramp 11, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	0.37	0.37	Linear wetland area dominated by bald cypress, sweetgum, lizard's tail, sedges, and cattails; soils have a chroma of 2 with mottles, and were saturated. Average water depth 2-8".
WTL-12 Forested/ Emergent Contiguous	Section 3 STA 29+00 Ramp 10	Possible destruction by Ramp 10, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.20	0.20	Linear wetland area dominated by sweetgum, rushes, netted chain fern, and green ash; soils have a chroma of 2 with mottles, and were saturated.
WTL-13 Forested/ Emergent Isolated	Section 3 STA 25+30L Ramp 11 to 279+00R SR-460	Possible destruction by SR-460 and Ramp 11, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	0.56	0.39	Linear wetland area dominated by black willow, sweetgum, lizard's tail, sedges, and button bush; soils have a chroma of 2 with mottles, and were saturated. Average water depth 2-10".
WTL-14 Emergent Contiguous	Section 3 STA 298+75 to 299+50 SR-460	Possible destruction by SR-460, permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.06	0.06	Small wetland area dominated by cutgrass, sedges, rushes, and blunt spikerush; soils have a chroma of 2 with mottles, and were saturated.

WTL-15 Emergent Contiguous	Section 3 STA 375+00L to 377+00L SR-460	Possible destruction by SR-460 temporary impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	0.10	0.06	Linear wetland area below PND-4 dominated by Johnson grass, curly dock and sedges; soils have a chroma of 2 with mottles, and were saturated. Average water depth 1”.
WTL-16 Emergent Isolated	Section 4 STA 486+00R to 488+00R SR-460	Possible destruction by SR-460 temporary impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.16	0.16	Small wetland area dominated by rushes, black willow, sweetgum saplings, cattails, and sycamore saplings; soils have a chroma of 3 with mottles, and were saturated. Average water depth 0-1”.
WTL-17 Emergent Isolated	Section 4 STA 505+60 to 506+00 SR-460	Possible destruction by SR-460 permanent impacts (site requires field survey for accurate location)	Wildlife habitat, some water filtration, possible flood attenuation	0.08	0.08	Small wetland area dominated by black willow saplings, sweetgum saplings, and rushes; soils have a chroma of 3 with mottles, and were saturated.
WTL-18 Forested Contiguous	Section 4 STA 508+30 to 509+10 SR-460	Possible destruction by SR-460 permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	>0.70	0.48	Wetland area dominated by sweetgum and poison ivy; soils have a chroma of 3 with mottles, and were saturated. Average water depth 0-2”.

WTL-19 Forested Contiguous	Section 4 STA 616+80 to 618+50 SR-460	Possible destruction by SR-460 permanent and temporary impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	>1.15	0.31	Small wetland area dominated by willow oak, sweetgum, and sedges; soils have a chroma of 2 with mottles, and were saturated. Average water depth 0-2". Water marks on trees and water stained leaves were observed.
WTL-20 Forested Isolated	Section 4 STA 625+50 to 626+20 SR-460	Possible destruction by SR-460 permanent impacts (site requires field survey for accurate location)	Wildlife habitat, wildlife watering, some water filtration, possible flood attenuation	>0.54	0.54	Wetland area dominated by black willow saplings, sedges, rushes, and sweetgum saplings; soils have a chroma of 1 with mottles, and were saturated. Average water depth 0-4". Downstream of feature is shown as blue line on topographic map.

*Isolated or contiguous designation may have a bearing on the type of State or Federal permits required. Designations are unconfirmed/confirmed by permitting agencies at this time.

**Reported sizes of impacts and sizes of wetlands are estimates at this time. These sites require confirmation of their wetland status by permit agencies, and accurate measurement by survey methods. Sizes of impacts will be determined when project design plans are developed.

***At the time of this writing, the U. S. Army Corps of Engineers and the Tennessee Department of Environment and Conservation have confirmed sites X and X as jurisdictional wetlands requiring permits, and sites X and X as non-wetland. Since wetland status can change over time, and the alignment can shift within the corridor, all potential wetland sites have been allowed to remain in this discussion. When project plans are developed, they will be reviewed, and any additional determinations, confirmations, and impact minimizations/mitigations performed. An accurate accounting of aquatic impacts will be prepared prior to the permit application process. The permitting process conducted by the Tennessee Department of Environment and Conservation and the U. S. Army Corps of Engineers includes an opportunity for public review and comment.

Beneficial Ecological Floodplain Values. Ecological values associated with the floodplains of the streams within the project are the added protection of the riparian zone for wildlife habitat and protection against stream bank erosion. Impacts to these have been avoided or minimized by crossing the floodplain at a near-perpendicular angle, with appropriately sized bridges. (This section in the environmental document will be supplemented by standard language supplied by the TDOT hydraulic section directly to the planner).

Endangered and Threatened Species. Information from several sources, as well as prior experience with habitats in the area, was used to prepare for field surveys to locate protected species or habitats. These sources included database information provided by the Tennessee Department of Environment and Conservation and books or databases of cave records.

Direct and Indirect Impacts. Records show no protected species were shown within the likely direct impact zone of the project. No species were recorded within one mile of the project. A letter from the U.S. Fish and Wildlife Service listed no species for consideration.

No aquatic species are recorded between one and four miles downstream of the proposed project.

Cumulative impacts. No cumulative impacts to threatened and endangered species are expected due to the lack of presence in the project area.

Conclusions. At this time, no state or Federally listed protected species are known to be affected by the proposed project.

Information received from the Tennessee Department of Environment and Conservation is periodically reviewed and updated. If any protected species or their habitats are identified as project development continues, they will be addressed in accordance with applicable laws and regulations.

Required Permits

Stream and miscellaneous water quality permits. Alterations to streams or other aquatic sites designated as waters of the State or waters of the United States require either individual or general Aquatic Resource Alteration Permits (ARAP) from the State of Tennessee, individual or Nationwide 404 U. S. Army Corps of Engineers permits and, where applicable, a TVA 26a permit or letter of no objection. Construction projects disturbing one or more acres of land require storm water control permits issued by the State of Tennessee pursuant to the National Pollutant Discharge Elimination System. For any project that affects water flowing into an open sinkhole or cave, or for any impact that may affect the ground water via a sinkhole, a Class V Injection Well permit may be required.

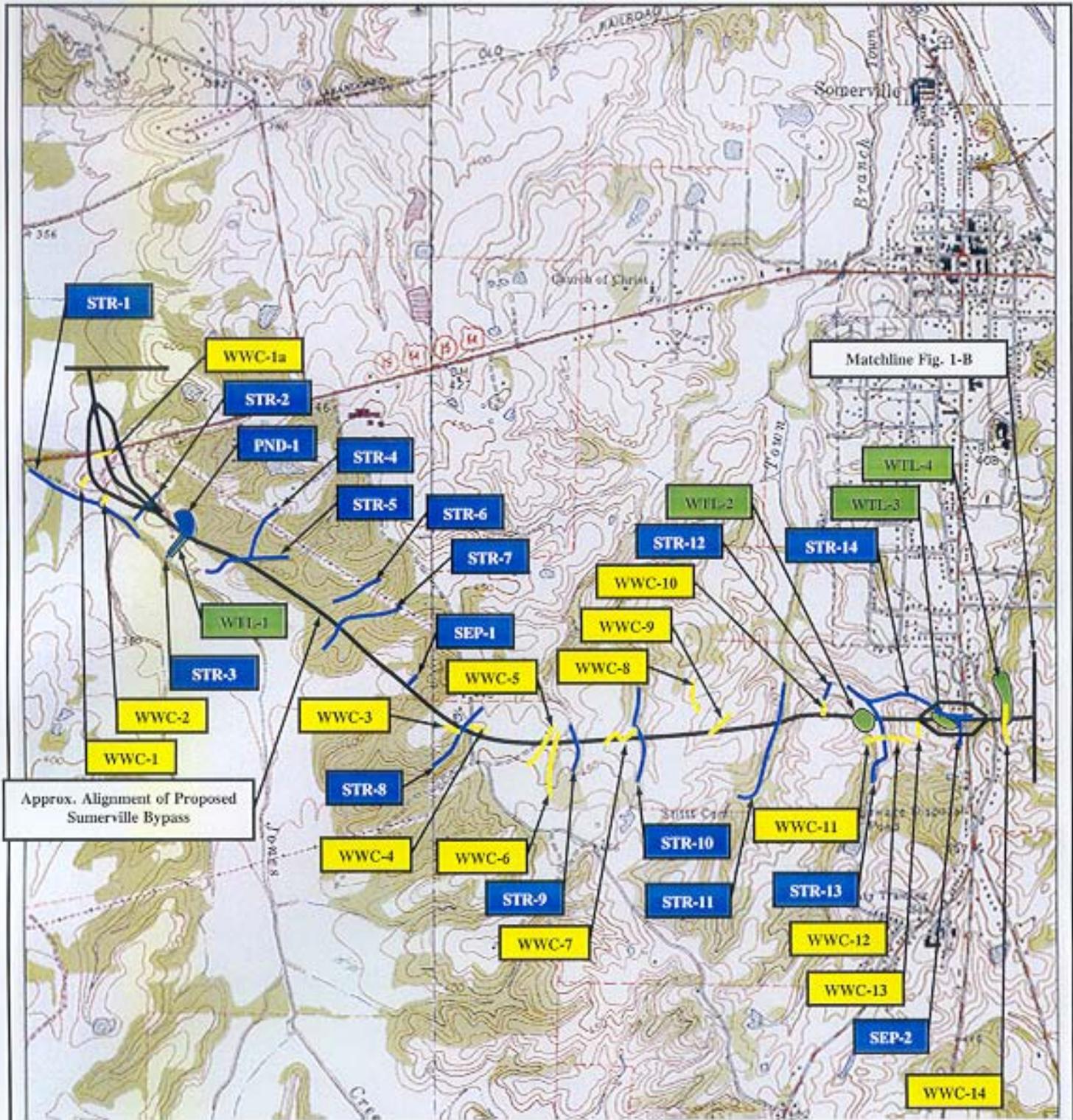
This process involves obtaining a permit before the project is let if open sinkholes are known to exist. If other sinkholes are encountered after construction has begun, the appropriate TDOT offices will be notified and the appropriate steps taken to comply with laws, regulations, and permits. These or any other permit requirements identified in the project development process will be complied with (TVA permit, coast guard permit).

Wetland Permits. All wetland impacts require confirmation by, and coordination with, permitting agencies. All require either general or individual Aquatic Resources Alteration (ARAP) permits from the State of Tennessee. Almost all require either Nationwide or Individual permits from the U. S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act. Other agencies such as the U. S. Fish and Wildlife Service and the Environmental Protection Agency may be involved in the permitting process.

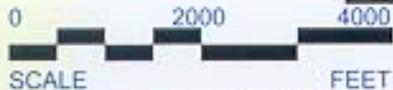
Wetland impacts which are subject to either State or Federal jurisdiction, and which do not meet criteria for either general or Nationwide permits require individual permits; these typically require compensatory mitigation for impacts. In general, **isolated** wetlands with less than 0.25 acre impacts may come under the guidelines of a general permit issued by the State of Tennessee; no mitigation is required. This permit cannot be used, however, for a cumulative series of small impacts. Some wetland impacts of less than 0.5 acres qualify for Corps of Engineers nationwide permits.

TDOT will carry out further coordination with the regulatory agencies before preparing mitigation plans and submitting permit applications. Permit requirements and mitigation plans will be based on these discussions.

FIGURES



FORM G MAP



SOURCE: DeLorme 3-D TopoQuads, 1999, U.S. Geologic Survey 7.5-Minute Topographic Map Macon (424 NW) and Somerville (424 NE) Tennessee Quadrangles



Tennessee Department of Transportation
Nashville, Tennessee

SR-460, Somerville Bypass from Jones Creek
To Bennetts Creek

Roadway
Fayette County, Tennessee

Drawn By/Date:

FSB 8/24/06

Checked By/Date:

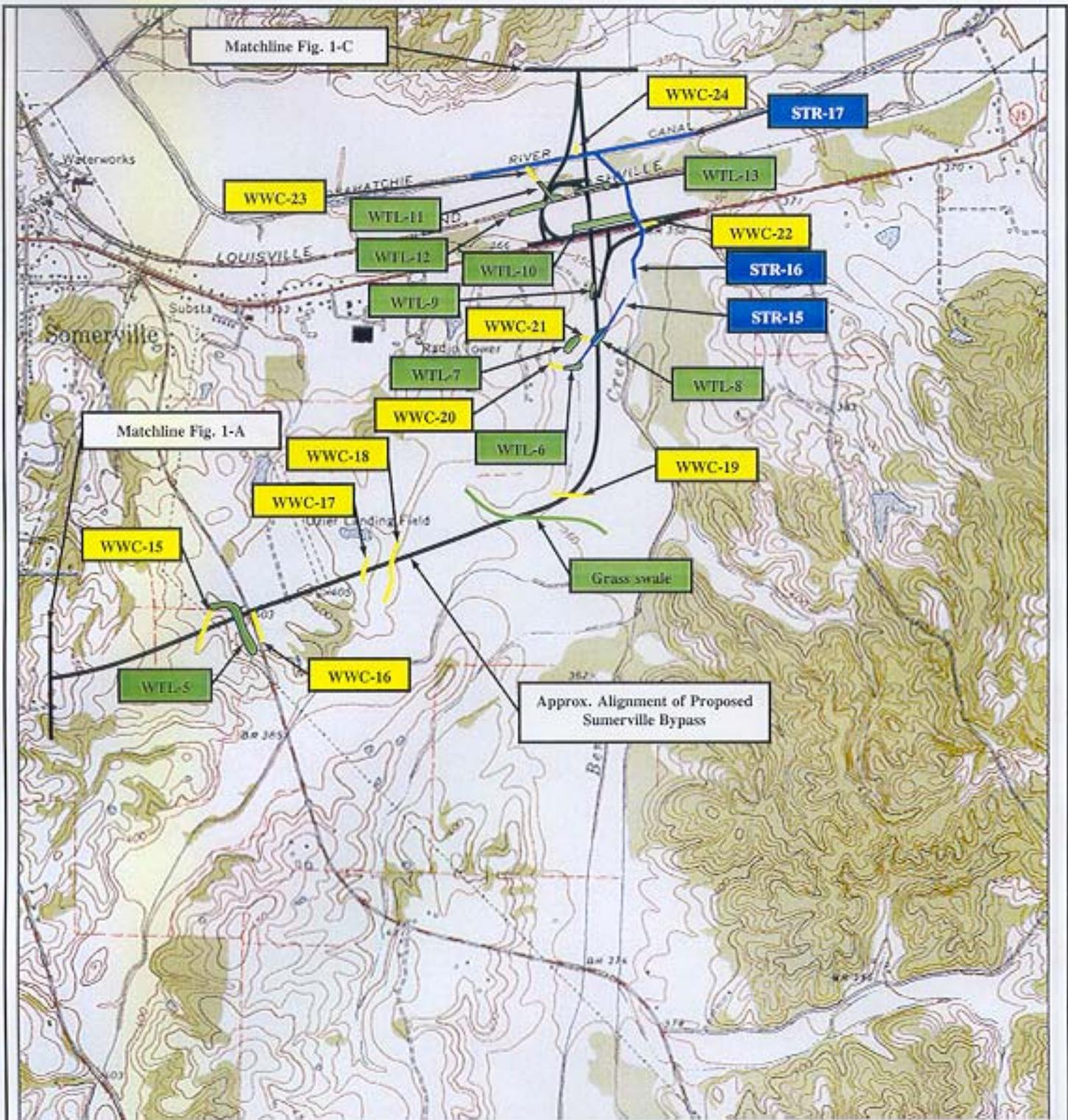
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24092-1201-04

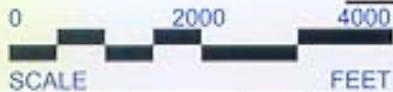
TDOT PIN No.
101607.00

Figure

1-A



FORM G MAP



SOURCE: DeLorme 3-D TopoQuads, 1999, U.S. Geologic Survey
7.5-Minute Topographic Map Sumerville (424 NE),
Tennessee Quadrangle



Tennessee Department of Transportation
Nashville, Tennessee

SR-460, Somerville Bypass from Jones Creek
To Bennetts Creek

Roadway
Fayette County, Tennessee

Drawn By/Date:
ZB 8/24/06

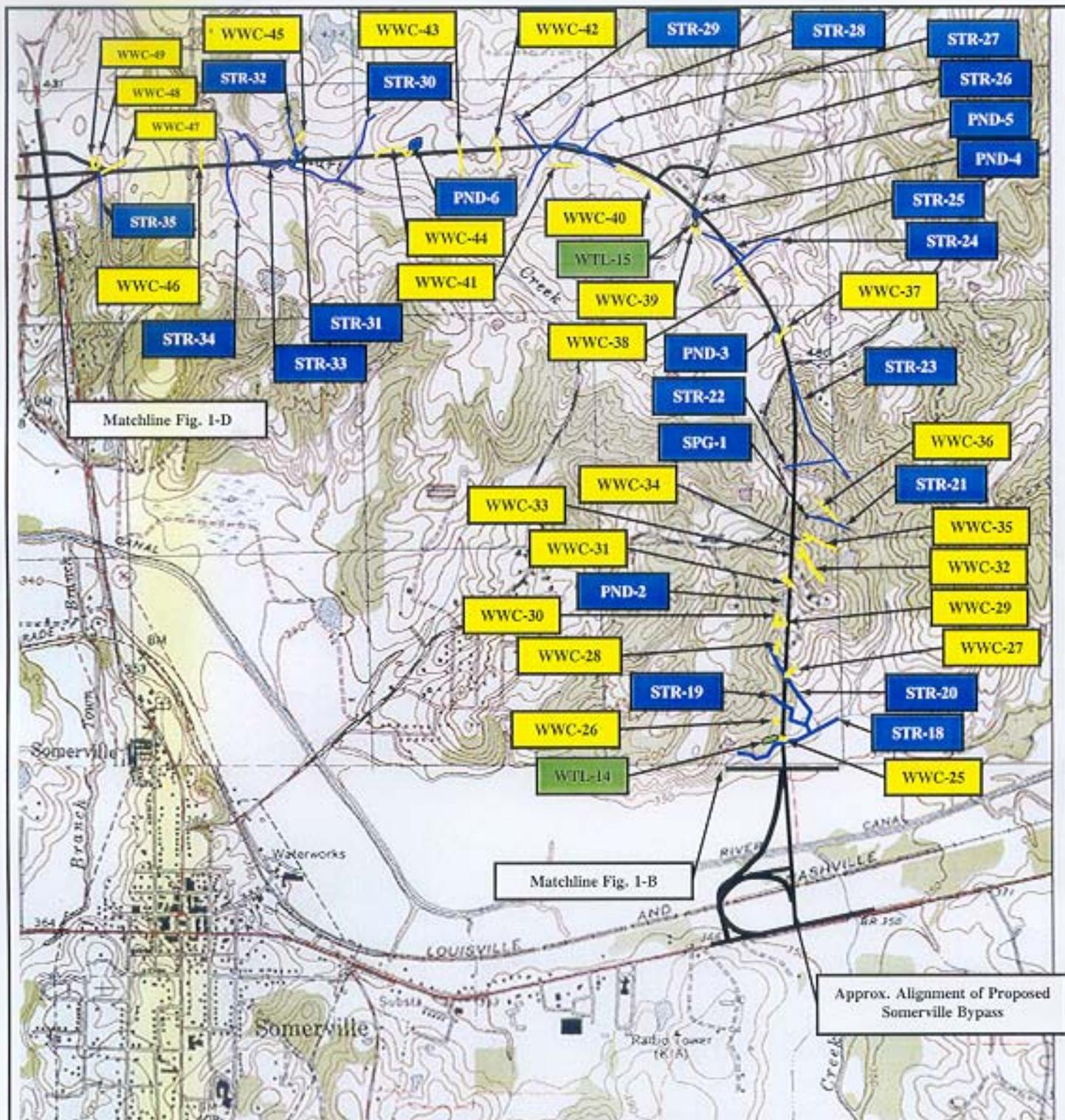
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TDOT P.E. No.
24092-1201-04

TDOT PIN No.
101607.00

Figure

1-B



FORM G MAP



SOURCE: DeLorme 3-D TopoQuads, 1999, U.S. Geologic Survey
7.5-Minute Topographic Map Macon (424 NW) and
Sumerville (424 NE) Tennessee Quadrangles

TDOT

Tennessee Department of Transportation
Nashville, Tennessee

SR-460, Somerville Bypass from Jones Creek
To Bennetts Creek

Roadway
Fayette County, Tennessee

Drawn By/Date:

ZSL 8/24/13

TDOT P.E. No.

24092-1201-04

Checked By/Date:

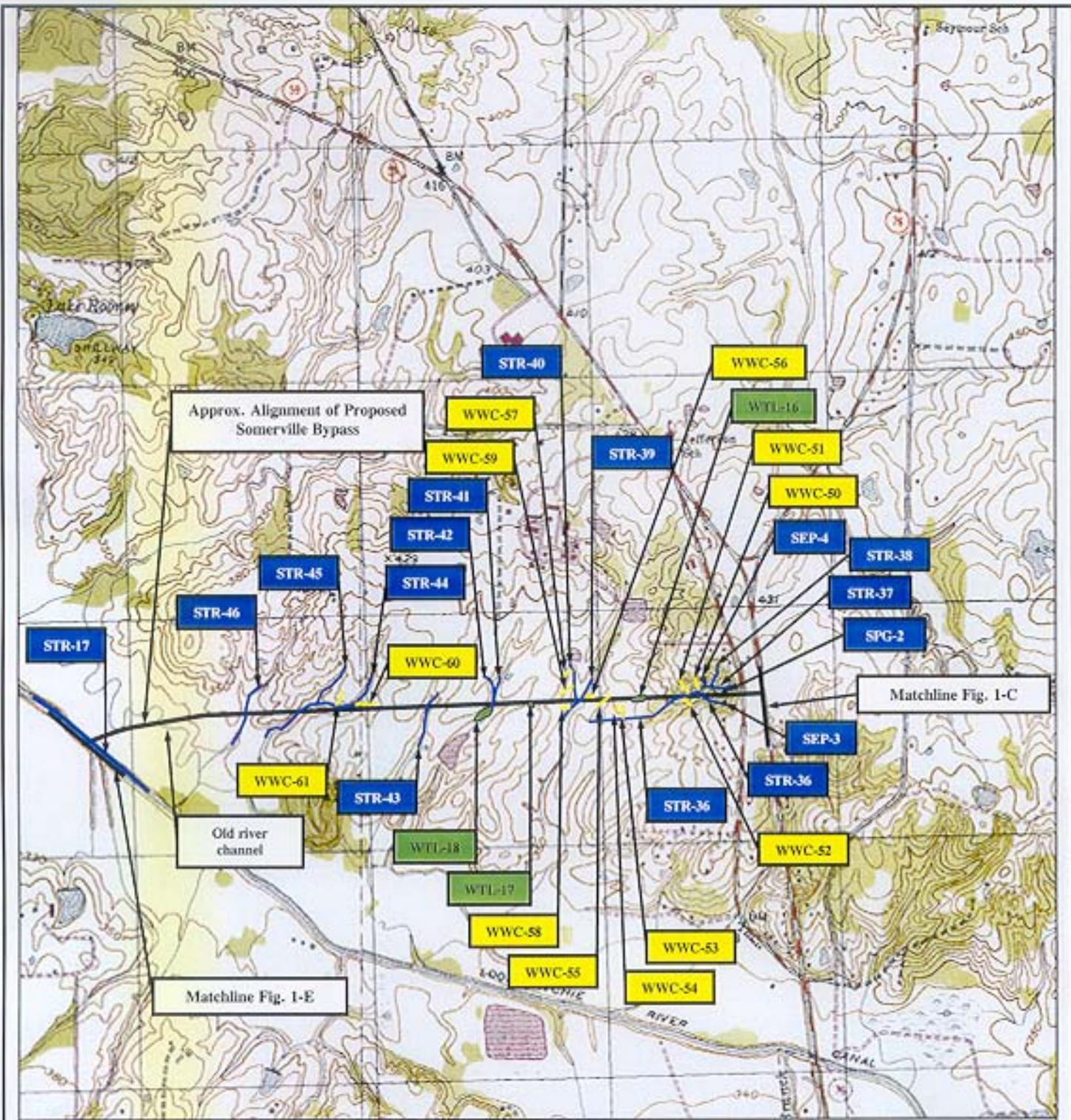
MAD 9/24/13

TDOT PIN No.

101607.00

Figure

1-C



FORM G MAP

SOURCE: DeLorme 3-D TopoQuads, 1999, U.S. Geologic Survey
7.5-Minute Topographic Map Macon (424 NW) and
Sumerville (424 NE) Tennessee Quadrangles



Tennessee Department of Transportation
Nashville, Tennessee

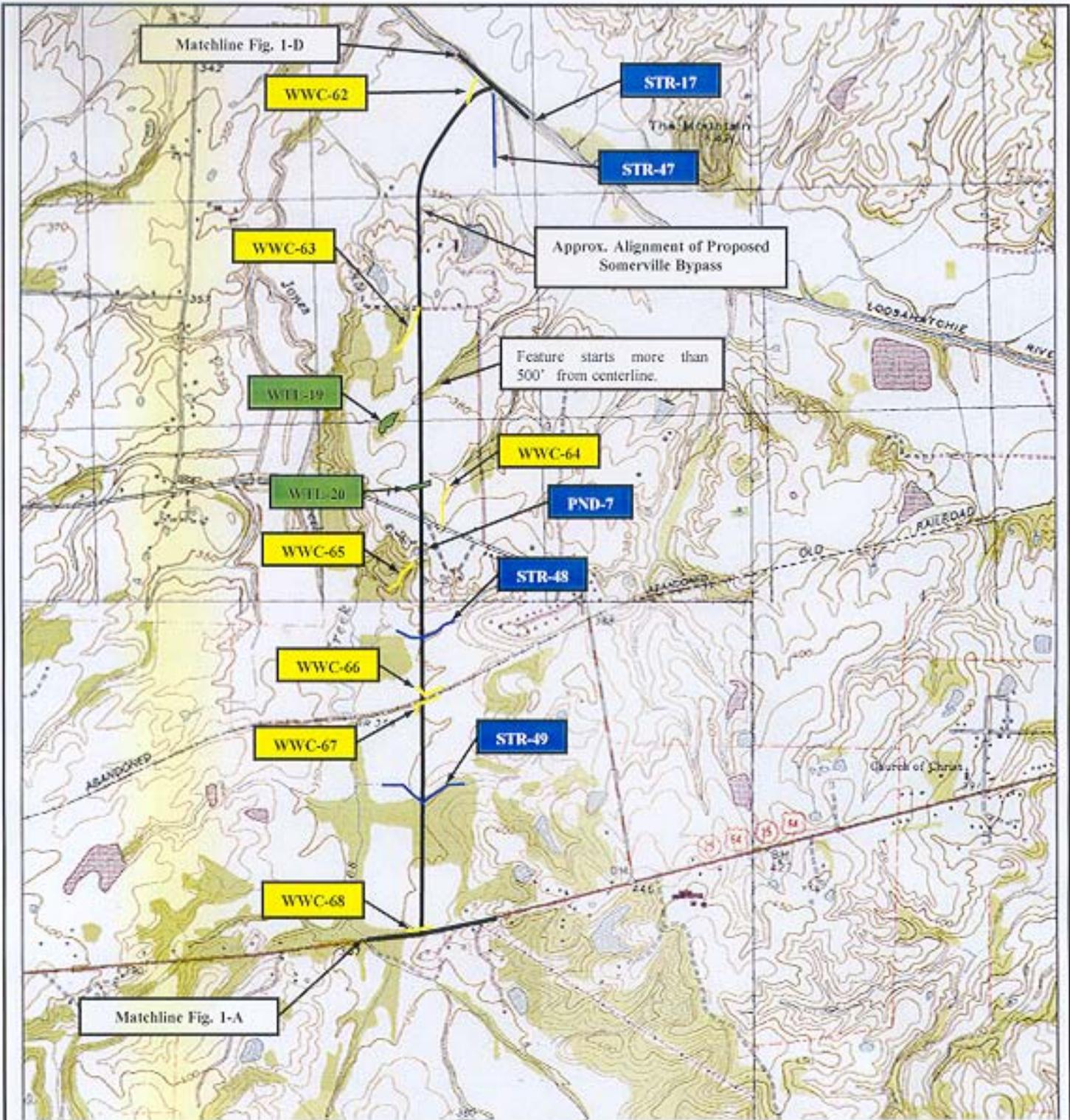
SR-460, Somerville Bypass from Jones Creek
To Bennetts Creek

Roadway
Fayette County, Tennessee

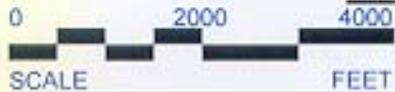
Drawn By/Date: <i>FSB 8/24/06</i>	Checked By/Date: <i>MAD 8/24/06</i>
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TDOT P.E. No. 24092-1201-04	TDOT PIN No. 101607.00
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Figure 1-D



FORM G MAP



SOURCE: DeLorme 3-D TopoQuads, 1999, U.S. Geologic Survey
7.5-Minute Topographic Map Sumerville (424 NE),
Tennessee Quadrangle



Tennessee Department of Transportation
Nashville, Tennessee

SR-460, Somerville Bypass from Jones Creek
To Bennetts Creek

Roadway
Fayette County, Tennessee

Drawn By/Date:
756 8/24/06

Checked By/Date:
MAD 8/24/06

TDOT P.E. No.
24092-1201-04

TDOT PIN No.
101607.00

Figure

1-E

PHOTOGRAPHS



Photograph 1: Fayette County, WWC-1a facing upstream (east), no feature on USGS map; June 8, 2006.



Photograph 2: Fayette County, WWC-1a facing downstream (west), no feature on USGS map; June 8, 2006.



Photograph 3: Fayette County, STR-1 facing upstream (southeast), perennial on USGS map; May 3, 2006.



Photograph 4: Fayette County, STR-1 facing downstream (northwest), perennial on USGS map; May 3, 2006.



Photograph 5: Fayette County, WWC-1 facing downstream (south), no feature on USGS map; May 3, 2006.



Photograph 6: Fayette County, WWC-2 facing downstream (south), no feature on USGS map; May 3, 2006.



Photograph 7: Fayette County, STR-2 facing upstream (north), no feature on USGS map; May 3, 2006.



Photograph 8: Fayette County, STR-2 facing downstream, no feature on USGS map (south); May 3, 2006.



Photograph 9: Fayette County, PND-1 facing north standing on south edge, shown on USGS map; May 3, 2006.



Photograph 10: Fayette County, STR-3 facing upstream (northwest), no feature on USGS map; May 3, 2006.



Photograph 11: Fayette County, STR-3 facing downstream (southwest), no feature on USGS map, surrounded by WTL-1; May 3, 2006.



Photograph 12: Fayette County, STR-4 facing upstream (north), no feature on USGS map; May 3, 2006.



Photograph 13: Fayette County, STR-4 facing downstream (south), no feature on USGS map; May 3, 2006.



Photograph 14: Fayette County, STR-5 facing upstream (northeast), intermittent on USGS map; May 3, 2006.



Photograph 15: Fayette County, STR-5 facing downstream (west), intermittent on USGS map; May 3, 2006.



Photograph 16: Fayette County, STR-6 facing upstream (northeast), no feature on USGS map; May 3, 2006.



Photograph 17: Fayette County, STR-6 facing downstream (southwest), no feature on USGS map; May 3, 2006.



Photograph 18: Fayette County, STR-7 facing upstream (east), no feature on USGS map; May 3, 2006.



Photograph 19: Fayette County, STR-7 facing downstream (west), no feature on USGS map; May 3, 2006.



Photograph 20: Fayette County, WWC-3 facing upstream (west), no feature on USGS map; May 3, 2006.



Photograph 21: Fayette County, WWC-3 facing downstream (east), no feature on USGS map; May 3, 2006.



Photograph 22: Fayette County, STR-8 facing upstream (northeast), no feature on USGS map; May 3, 2006.



Photograph 23: Fayette County, STR-8 facing downstream (southwest), no feature on USGS map; May 3, 2006.



Photograph 24: Fayette County, WWC-4 facing downstream (west), no feature on USGS map; May 3, 2006.



Photograph 25: Fayette County, WWC-5 facing upstream (south), no feature on USGS map; May 3, 2006.



Photograph 26: Fayette County, WWC-5 facing downstream (north), no feature on USGS map; May 3, 2006.



Photograph 27: Fayette County, WWC-6 facing upstream (south), no feature on USGS map; May 3, 2006.



Photograph 28: Fayette County, STR-9 facing downstream (north), intermittent on USGS map; May 3, 2006.



Photograph 29: Fayette County, WWC-7 facing upstream (west), no feature on USGS map; May 3, 2006.



Photograph 30: Fayette County, WWC-7 facing downstream (east), no feature on USGS map; May 3, 2006.



Photograph 31: Fayette County, STR-10 facing upstream (south), intermittent on USGS map; May 3, 2006.



Photograph 32: Fayette County, STR-10 facing downstream (north), intermittent on USGS map; May 3, 2006.



Photograph 33: Fayette County, WWC-8 facing downstream (north), no feature on USGS map; May 3, 2006.



Photograph 34: Fayette County, WWC-9 facing downstream (northeast), no feature on USGS map; May 3, 2006.



Photograph 35: Fayette County, STR-11 facing upstream (southwest), intermittent on USGS map; May 3, 2006.



Photograph 36: Fayette County, STR-11 facing downstream (northeast), intermittent on USGS map; May 3, 2006.



Photograph 37: Fayette County, WWC-10 facing upstream (north), no feature on USGS map; June 6, 2006.



Photograph 38: Fayette County, STR-12 facing downstream (northeast), no feature on USGS map; June 6, 2006.



Photograph 39: Fayette County, WTL-2 facing south, no feature on USGS map; May 3, 2006.



Photograph 40: Fayette County, WWC-11 facing upstream (west), no feature on USGS map; May 3, 2006.



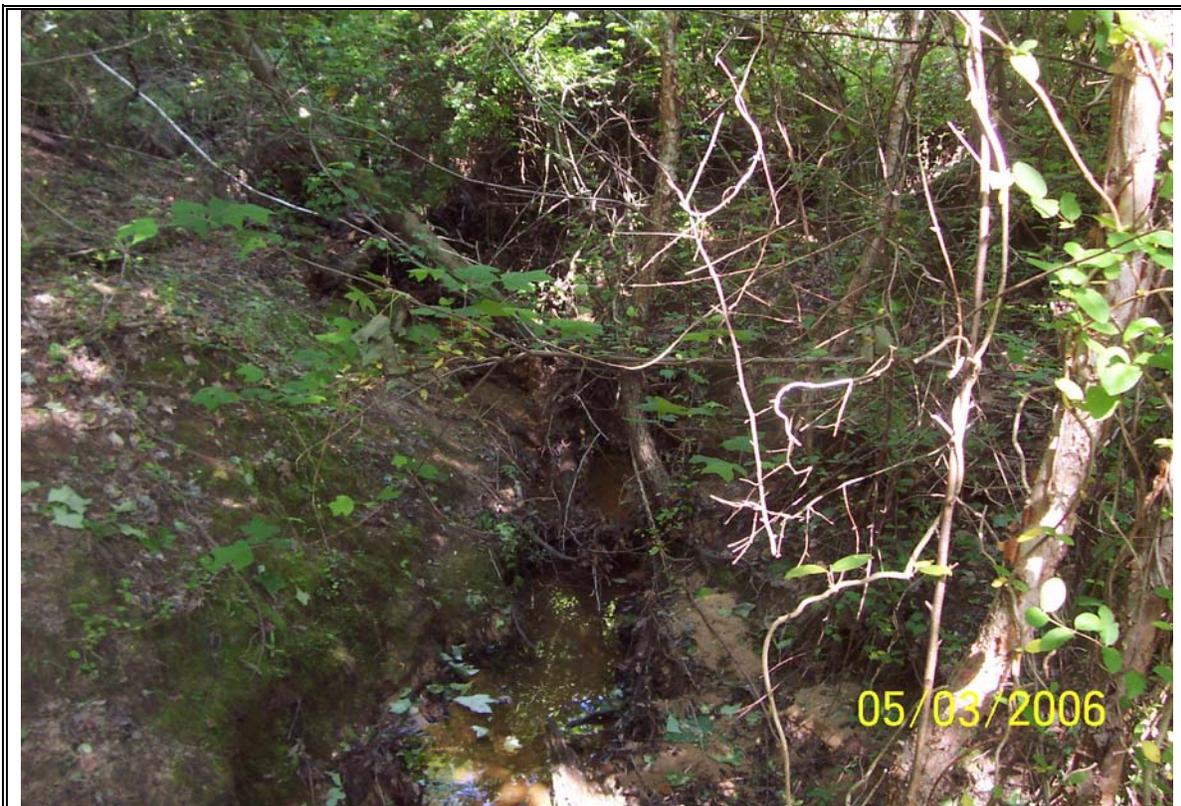
Photograph 41: Fayette County, STR-13 facing upstream (south), intermittent on USGS map; May 3, 2006.



Photograph 42: Fayette County, STR-13 facing downstream (north), intermittent on USGS map; May 3, 2006.



Photograph 43: Fayette County, WWC-12 facing upstream (east), no feature on USGS map; May 3, 2006.



Photograph 44: Fayette County, STR-14 facing upstream (east), no feature on USGS map; May 3, 2006.



Photograph 45: Fayette County, STR-14 facing downstream (west), no feature on USGS map; May 3, 2006.



Photograph 46: Fayette County, WWC-13 facing upstream (south), no feature on USGS map; May 3, 2006.



Photograph 47: Fayette County, WWC-13 facing downstream (north), no feature on USGS map; May 3, 2006.



Photograph 48: Fayette County, WTL-3, no feature on USGS map; June 6, 2006.



Photograph 49: Fayette County, SEP-2 facing south, no feature on USGS map; May 3, 2006.



Photograph 50: Fayette County, WTL-4, located at head waters of intermittent stream on USGS map; June 6, 2006.



Photograph 51: Fayette County, WWC-14 facing downstream (north), no feature on USGS map; June 6, 2006.



Photograph 52: Fayette County, WWC-15 facing upstream (southwest), no feature on USGS map; May 2, 2006.



Photograph 53: Fayette County, WWC-15 facing downstream (Northeast), no feature on USGS map; May 2, 2006.



Photograph 54: Fayette County, WTL-5 facing southeast, no feature on USGS map; May 2, 2006.



Photograph 55: Fayette County, WTL-5 facing (northwest) ,no feature on USGS map; May 2, 2006.



Photograph 56 Fayette County, WWC-16 facing downstream (southwest), no feature on USGS map; June 6, 2006.



Photograph 57: Fayette County, WWC-17 facing upstream (north), no feature on USGS map; May 2, 2006.



Photograph 58: Fayette County, WWC-17 facing downstream (south), no feature on USGS map; May 2, 2006.





Photograph 61: Fayette County, grass swale facing northwest, no feature on USGS map; May 2, 2006.



Photograph 62: Fayette County, grass swale facing southeast, no feature on USGS map; May 2, 2006.



Photograph 63: Fayette County, WWC-19 facing upstream (west), no feature on USGS map; May 2, 2006.



Photograph 64: Fayette County, WWC-19 facing downstream (east), no feature on USGS map; May 2, 2006.



Photograph 65: Fayette County, WWC-20 facing upstream (west), no feature on USGS map; June 6, 2006.



Photograph 66: Fayette County, WTL-6 facing northeast, adjacent to intermittent stream on USGS map; June 6, 2006.



Photograph 67: Fayette County, WTL-7 facing north, no feature on USGS map; June 6, 2006.



Photograph 68: Fayette County, WWC-21 facing east, no feature on USGS map June 6, 2006.



Photograph 69: Fayette County, WTL-8 facing southwest, adjacent to intermittent stream on USGS map; June 6, 2006.



Photograph 70: Fayette County, STR-15 facing northeast, no feature on USGS map; May 2, 2006.



Photograph 71: Fayette County, WTL-9 facing southeast, no feature on USGS map; June 19, 2006.



Photograph 72: Fayette County, STR-16 facing upstream (south), perennial on USGS map; May 2, 2006.



Photograph 73: Fayette County, STR-16 facing downstream (north), perennial on USGS map; May 2, 2006.



Photograph 74: Fayette County, WWC-22 facing downstream (west), no feature on USGS map; May 2, 2006.



Photograph 75: Fayette County, WTL-10 facing east, no feature on USGS map; May 4, 2006.



Photograph 76: Fayette County, WTL-11 facing southeast, no feature on USGS map; May 4, 2006.



Photograph 77: Fayette County, WTL-12 facing southwest, no feature on USGS map; May 4, 2006.



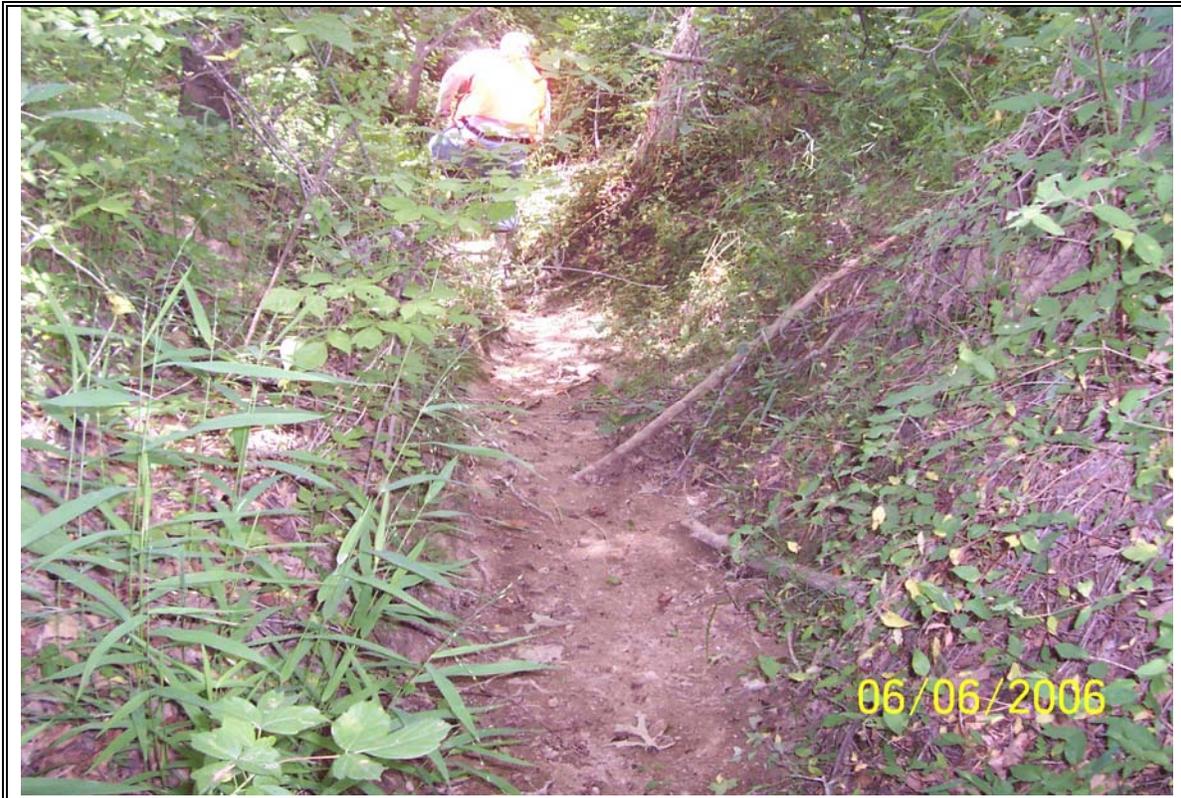
Photograph 78: Fayette County, WTL-13 facing west, no feature on USGS map; May 4, 2006.



Photograph 79: Fayette County, WTL-13 facing southeast, no feature on USGS map; May 4, 2006.



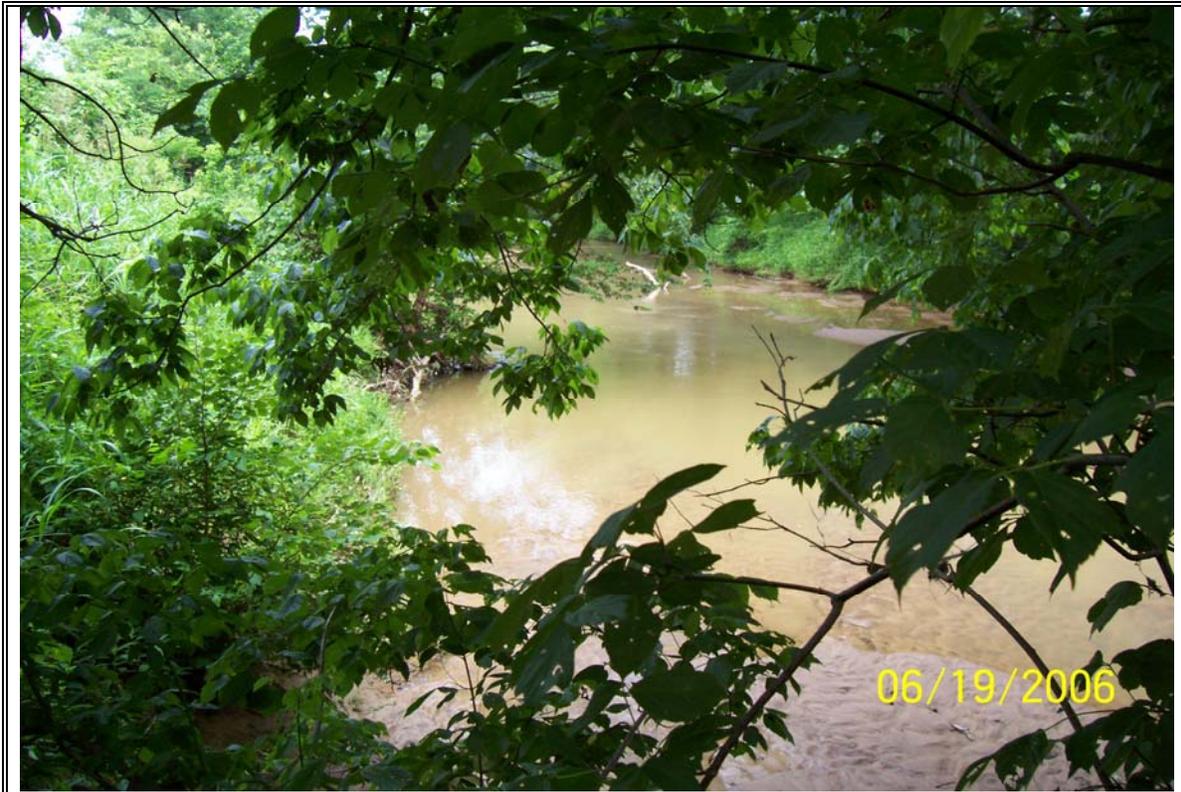
Photograph 80: Fayette County, WWC-23 facing upstream (southeast), no feature on USGS map; June 6, 2006.



Photograph 81: Fayette County, WWC-23 facing downstream (northwest), no feature on USGS map; June 6, 2006.



Photograph 82: Fayette County, STR-17 facing upstream (northeast), perennial on USGS map; June 19, 2006.



Photograph 83: Fayette County, STR-17 facing downstream (southwest), perennial on USGS map; June 19, 2006.



Photograph 84: Fayette County, WTL-14 facing west, no feature on USGS map; June 6, 2006.



Photograph 85: Fayette County, WWC-25 facing downstream (east), no feature on USGS map; June 6, 2006.



Photograph 86: Fayette County, STR-18 facing upstream (west), perennial on USGS map; June 6, 2006.



Photograph 87: Fayette County, STR-18 facing downstream (east), perennial on USGS map; June 6, 2006.



Photograph 88: Fayette County, STR-19 facing upstream (northwest), no feature on USGS map; June 6, 2006.



Photograph 89: Fayette County, STR-19 facing downstream (southeast), no feature on USGS map; June 6, 2006.



Photograph 90: Fayette County, STR-20 facing upstream (north), perennial on USGS map; June 6, 2006.



Photograph 91: Fayette County, STR-20 facing downstream (south), perennial on USGS map; June 6, 2006.



Photograph 92: Fayette County, WWC-27 facing upstream (north), no feature on USGS map; June 6, 2006.



Photograph 93: Fayette County, WWC-27 facing downstream (south), no feature on USGS map; June 6, 2006.



Photograph 94: Fayette County, WWC-28 facing upstream (north), no feature on USGS map; June 6, 2006.



Photograph 95: Fayette County, WWC-29 facing upstream (east), no feature on USGS map; June 6, 2006.



Photograph 96: Fayette County, WWC-29 facing downstream (west), no feature on USGS map; June 6, 2006.



Photograph 97: Fayette County, WWC-30 facing upstream (north), no feature on USGS map; June 6, 2006.



Photograph 98: Fayette County, WWC-30 facing downstream (south), no feature on USGS map; June 6, 2006.



Photograph 99: Fayette County, PND-2 facing southwest, shown on USGS map; June 6, 2006.



Photograph 100: Fayette County, WWC-31 facing upstream (north), no feature on USGS map; June 6, 2006.



Photograph 101: Fayette County, WWC-31 facing downstream (south), no feature on USGS map; June 6, 2006.



Photograph 102: Fayette County, WWC-32 facing upstream (northwest), no feature on USGS map; June 6, 2006.



Photograph 103: Fayette County, WWC-32 facing downstream (southeast), no feature on USGS map; June 6, 2006.



Photograph 104: Fayette County, WWC-33 facing upstream (west), no feature on USGS map; June 6, 2006.



Photograph 105: Fayette County, WWC-34 facing downstream (east), no feature on USGS map; June 6, 2006.



Photograph 106: Fayette County, WWC-35 facing upstream (northwest), no feature on USGS map; June 6, 2006.



Photograph 107: Fayette County, WWC-35 facing downstream (southeast), no feature on USGS map; June 6, 2006.



Photograph 108: Fayette County, STR-21 and SPG-1 at head of stream, no feature on USGS map; June 6, 2006.



Photograph 109: Fayette County, WWC-36 facing upstream (west), no feature on USGS map; June 6, 2006.



Photograph 110: Fayette County, WWC-36 facing downstream (east), no feature on USGS map; June 6, 2006.



Photograph 111: Fayette County, STR-22 facing upstream (west), no feature on USGS map; June 6, 2006.



Photograph 112: Fayette County, STR-22 facing downstream (east), no feature on USGS map; June 6, 2006.



Photograph 113: Fayette County, STR-23 facing upstream (north), perennial on USGS map; June 7, 2006.



Photograph 114: Fayette County, WWC-37 facing upstream (southwest), no feature on USGS map; May 4, 2006.



Photograph 115: Fayette County, WWC-37 facing downstream (northeast), no feature on USGS map; May 4, 2006.



Photograph 116: Fayette County, PND-3 facing west, no feature on USGS map; May 4, 2006.



Photograph 117: Fayette County, WWC-38 facing upstream (south), no feature on USGS map; May 4, 2006.



Photograph 118: Fayette County, WWC-38 facing downstream (north), no feature on USGS map; May 4, 2006.



Photograph 119: Fayette County, STR-24 facing upstream (southwest), perennial on USGS map; May 4, 2006.



Photograph 120: Fayette County, STR-24 facing downstream (northeast), perennial on USGS map; May 4, 2006.



Photograph 121: Fayette County, STR-25 facing upstream (west), no feature on USGS map; May 4, 2006.



Photograph 122: Fayette County, STR-25 facing downstream (east), no feature on USGS map; May 4, 2006.



Photograph 123: Fayette County, WWC-39 facing upstream (northwest), no feature on USGS map; June 7, 2006.



Photograph 124: Fayette County, WTL-15 facing north toward PND-4, no feature on USGS map; May 4, 2006.



Photograph 125: Fayette County, PND-4 facing east, shown on USGS map; May 4, 2006.



Photograph 126: Fayette County, PND-5 facing north, shown on USGS map; June 7, 2006.



Photograph 127: Fayette County, WWC-40 facing downstream (northwest), no feature on USGS map; June 7, 2006.



Photograph 128: Fayette County, STR-26 facing upstream (southeast), perennial on USGS map; June 7, 2006.



Photograph 129: Fayette County, STR-26 facing downstream, perennial on USGS map; June 7, 2006.



Photograph 130: Fayette County, STR-27 facing upstream (northeast), no feature on USGS map; June 7, 2006.



Photograph 131: Fayette County, STR-27 facing downstream (southwest), no feature on USGS map; June 7, 2006.



Photograph 132: Fayette County, STR-28 facing upstream (northeast), no feature on USGS map; June 7, 2006.



Photograph 133: Fayette County, STR-28 facing downstream (southwest), no feature on USGS map; June 7, 2006.



Photograph 134: Fayette County, STR-26 facing upstream (Northeast) @ STA 401+00, perennial on USGS map; June 7, 2006.



Photograph 135: Fayette County, STR-29 facing upstream (north), no feature on USGS map; June 7, 2006.



Photograph 136: Fayette County, STR-29 facing downstream (south), no feature on USGS map; June 7, 2006.



Photograph 137: Fayette County, WWC-42 facing upstream (north), no feature on USGS map; June 6, 2006.



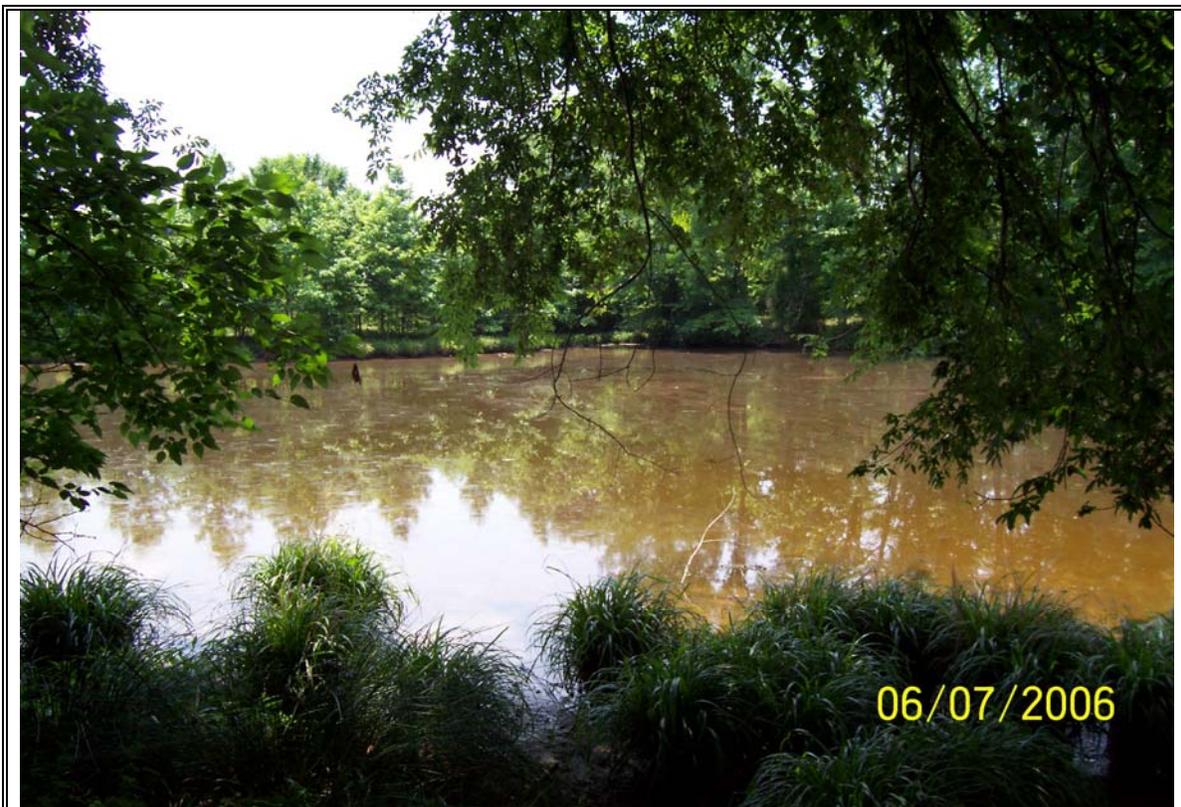
Photograph 138: Fayette County, WWC-42 facing downstream (south), no feature on USGS map; June 7, 2006.



Photograph 139: Fayette County, WWC-43 facing upstream (north), no feature on USGS map; June 7, 2006.



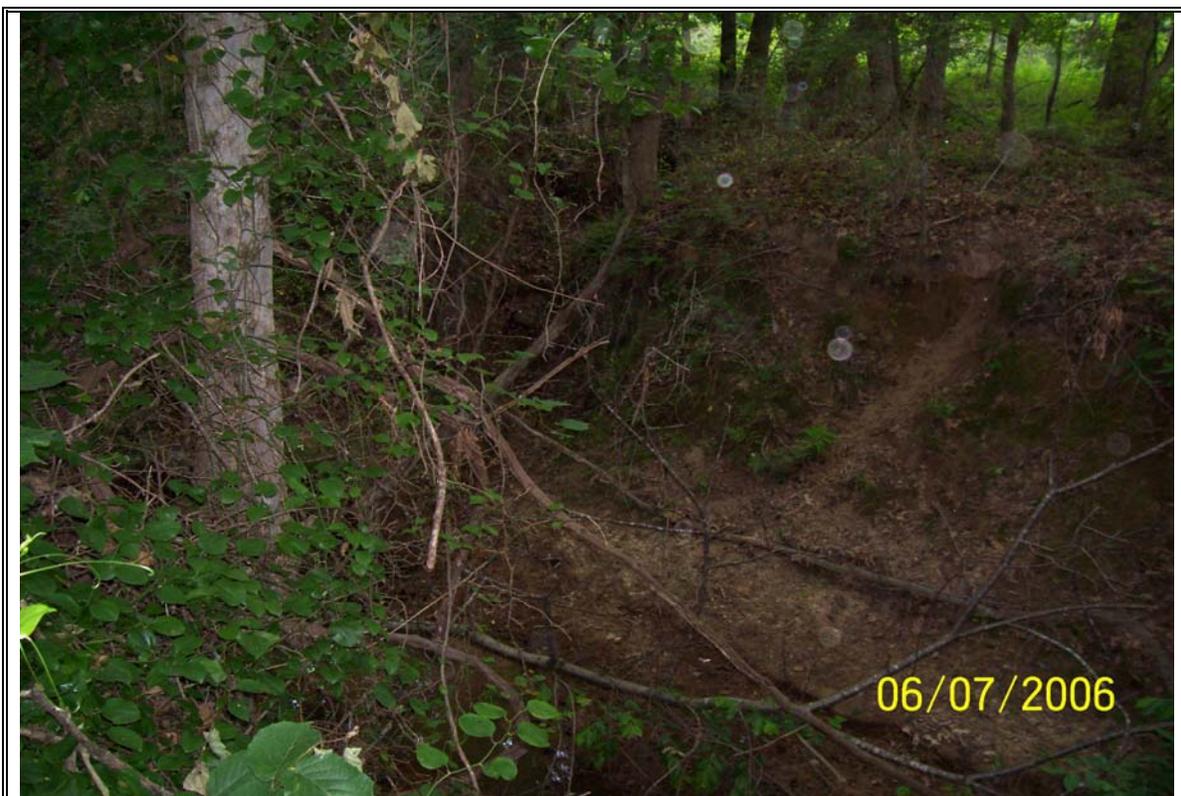
Photograph 140: Fayette County, WWC-43 facing downstream (south), no feature on USGS map; June 7, 2006.



Photograph 141: Fayette County, PND-6 facing south, no feature on USGS map; June 7, 2006.



Photograph 142: Fayette County, WWC-44 facing downstream (west), no feature on USGS map; June 7, 2006.



Photograph 143: Fayette County, STR-30 facing upstream (north), no feature on USGS map; June 7, 2006.



Photograph 144: Fayette County, STR-30 facing downstream (south), no feature on USGS map; June 7, 2006.



Photograph 145: Fayette County, STR-31 facing upstream (east), no feature on USGS map; June 7, 2006.



Photograph 146: Fayette County, STR-31 facing downstream (west), no feature on USGS map; June 7, 2006.



Photograph 147: Fayette County, WWC-45 facing downstream (southwest), no feature on USGS map; June 7, 2006.



Photograph 148: Fayette County, STR-32 facing upstream (north), no feature on USGS map; June 7, 2006.



Photograph 149: Fayette County, STR-32 facing downstream (south), no feature on USGS map; June 7, 2006.



Photograph 150: Fayette County, STR-33 facing upstream (southeast), perennial on USGS map; June 7, 2006.



Photograph 151: Fayette County, STR-33 facing downstream (northwest), perennial on USGS map; June 7, 2006.



Photograph 152: Fayette County, STR-34 facing upstream (south), perennial on USGS map; June 7, 2006.



Photograph 153: Fayette County, STR-34 facing downstream (north), perennial on USGS map; June 7, 2006.



Photograph 154: Fayette County, WWC-46 facing upstream (south), no feature on USGS map; June 7, 2006.



Photograph 155: Fayette County, WWC-46 facing downstream (north), no feature on USGS map; June 7, 2006.



Photograph 156: Fayette County, area @ 451+00 on old road bed, not labeled as a wetland due to lack of vegetation, shown as road on USGS map; June 7, 2006.



Photograph 157: Fayette County, WWC-47 facing upstream (northeast), no feature on USGS map; June 7, 2006.



Photograph 158: Fayette County, WWC-47 facing downstream, no feature on USGS map; June 7, 2006.



Photograph 159: Fayette County, WWC-48 facing upstream (north), no feature on USGS map; June 7, 2006.



Photograph 160: Fayette County, WWC-48 facing downstream (south), no feature on USGS map; June 7, 2006.



Photograph 161: Fayette County, STR-35 facing upstream (north), intermittent on USGS map; June 7, 2006.



Photograph 162: Fayette County, STR-35 facing downstream (south), intermittent on USGS map; June 7, 2006.



Photograph 163: Fayette County, WWC-49 (upstream from STR- 35) facing upstream (north), no feature on USGS map; June 7, 2006.



Photograph 164: Fayette County, STR-36 facing upstream (east), no feature on USGS map; June 20, 2006.



Photograph 165: Fayette County, STR-36 facing downstream (west), no feature on USGS map; June 20, 2006.



Photograph 166: Fayette County, SEP-3 facing north, no feature on USGS map; June 20, 2006.



Photograph 167: Fayette County, STR-37 facing upstream (east), no feature on USGS map; June 20, 2006.



Photograph 168: Fayette County, STR-37 facing downstream (west), no feature on USGS map; June 20, 2006.



Photograph 169: Fayette County, Standing over SPG-2 facing north, no feature on USGS map; June 20, 2006.



Photograph 170: Fayette County, STR-38 facing upstream (north), no feature on USGS map; June 20, 2006.



Photograph 171: Fayette County, SEP-4 facing north, no feature on USGS map; June 20, 2006.



Photograph 172: Fayette County, WWC-50 facing upstream (north), no feature on USGS map; June 20, 2006.



Photograph 173: Fayette County, WWC-51 facing upstream (northwest), no feature on USGS map; June 20, 2006.



Photograph 174: Fayette County, WWC-52 facing upstream (west), no feature on USGS map; June 20, 2006.



Photograph 175: Fayette County, WTL-16 facing north, no feature on USGS map; June 20, 2006.



Photograph 176: Fayette County, WWC-53 facing downstream (south), no feature on USGS map; June 20, 2006.



Photograph 177: Fayette County, WWC-54 facing upstream (north), no feature on USGS map; June 20, 2006.



Photograph 178: Fayette County, WWC-54 facing downstream (south), no feature on USGS map; June 20, 2006.



Photograph 179: Fayette County, WWC-55 facing upstream (northeast), no feature on USGS map; June 20, 2006.



Photograph 180: Fayette County, WWC-55 facing downstream (southwest), no feature on USGS map; June 20, 2006.



Photograph 181: Fayette County, WWC-56 facing upstream (east), no feature on USGS map; June 20, 2006.



Photograph 182: Fayette County, STR-39 facing upstream (north), perennial on USGS map; June 20, 2006.



Photograph 183: Fayette County, STR-39 facing downstream (south), perennial on USGS map; June 20, 2006.



Photograph 184: Fayette County, STR-40 facing upstream (north), no feature on USGS map; June 20, 2006.



Photograph 185: Fayette County, STR-40 facing downstream (south), no feature on USGS map; June 20, 2006.



Photograph 186: Fayette County, WWC-57 facing downstream (northeast), no feature on USGS map; June 20, 2006.



Photograph 187: Fayette County, WWC-58 facing upstream (east), no feature on USGS map; June 20, 2006.



Photograph 188: Fayette County, WWC-58 facing downstream (west), no feature on USGS map; June 20, 2006.



Photograph 189: Fayette County, WWC-59 facing downstream (northeast), no feature on USGS map; June 20, 2006.



Photograph 190: Fayette County, WTL-17 facing southwest, no feature on USGS map; June 20, 2006.



Photograph 191: Fayette County, WTL-18 facing south, adjacent to perennial stream on USGS map; June 20, 2006.



Photograph 192: Fayette County, STR-41 facing upstream (north), perennial on USGS map; June 20, 2006.



Photograph 193: Fayette County, STR-41 facing downstream (south), perennial on USGS map; June 20, 2006.



Photograph 194: Fayette County, STR-42 facing upstream (north), no feature on USGS map; June 20, 2006.



Photograph 195: Fayette County, STR-42 facing downstream (south), no feature on USGS map; June 20, 2006.



Photograph 196: Fayette County, STR-43 facing upstream (northeast), perennial on USGS map; June 20, 2006.



Photograph 197: Fayette County, STR-43 facing downstream (southwest), perennial on USGS map; June 20, 2006.



Photograph 198: Fayette County, WWC-60 facing upstream (west), no feature on USGS map; June 20, 2006.



Photograph 199: Fayette County, WWC-60 facing downstream (east), no feature on USGS map; June 20, 2006.



Photograph 200: Fayette County, STR-44 facing upstream (northeast), perennial on USGS map; June 20, 2006.



Photograph 201: Fayette County, STR-44 facing downstream (southwest), perennial on USGS map; June 20, 2006.



Photograph 202: Fayette County, WWC-61 facing downstream (southeast), no feature on USGS map; June 20, 2006.



Photograph 203: Fayette County, STR-45 facing upstream (northwest), no feature on USGS map; June 20, 2006.



Photograph 204: Fayette County, STR-45 facing downstream (southeast), no feature on USGS map; June 20, 2006.



Photograph 205: Fayette County, STR-46 facing upstream (northwest), perennial on USGS map; June 20, 2006.



Photograph 206: Fayette County, STR-46 facing downstream (southeast), perennial on USGS map; June 20, 2006.



Photograph 207: Fayette County, old river channel @ 555+00 facing north, perennial on USGS map; June 20, 2006.



Photograph 208: Fayette County, STR-17 @ 565+00 facing upstream (southeast), perennial on USGS map; June 19, 2006.



Photograph 209: Fayette County, STR-17 @ 565+00 facing downstream (northwest), perennial on USGS map; June 19, 2006.



Photograph 210: Fayette County, STR-47 facing upstream (south), perennial on USGS map; June 19, 2006.



Photograph 211: Fayette County, STR-47 facing downstream (north), perennial on USGS map; June 19, 2006.



Photograph 212: Fayette County, Swale @569+50 facing southeast, no feature on USGS map; June 19, 2006.



Photograph 213: Fayette County, Swale @ 571+00 facing southwest, no feature on USGS map; June 19, 2006.



Photograph 214: Fayette County, Swale leading into WWC-62 facing north, no feature on USGS map; June 19, 2006.



Photograph 215: Fayette County, WWC-63 facing upstream (south), no feature on USGS map; June 19, 2006.



Photograph 216: Fayette County, WWC-63 facing downstream (north), no feature on USGS map; June 19, 2006.



Photograph 217: Fayette County, WTL-19 facing southwest, shown on USGS map; June 19, 2006.



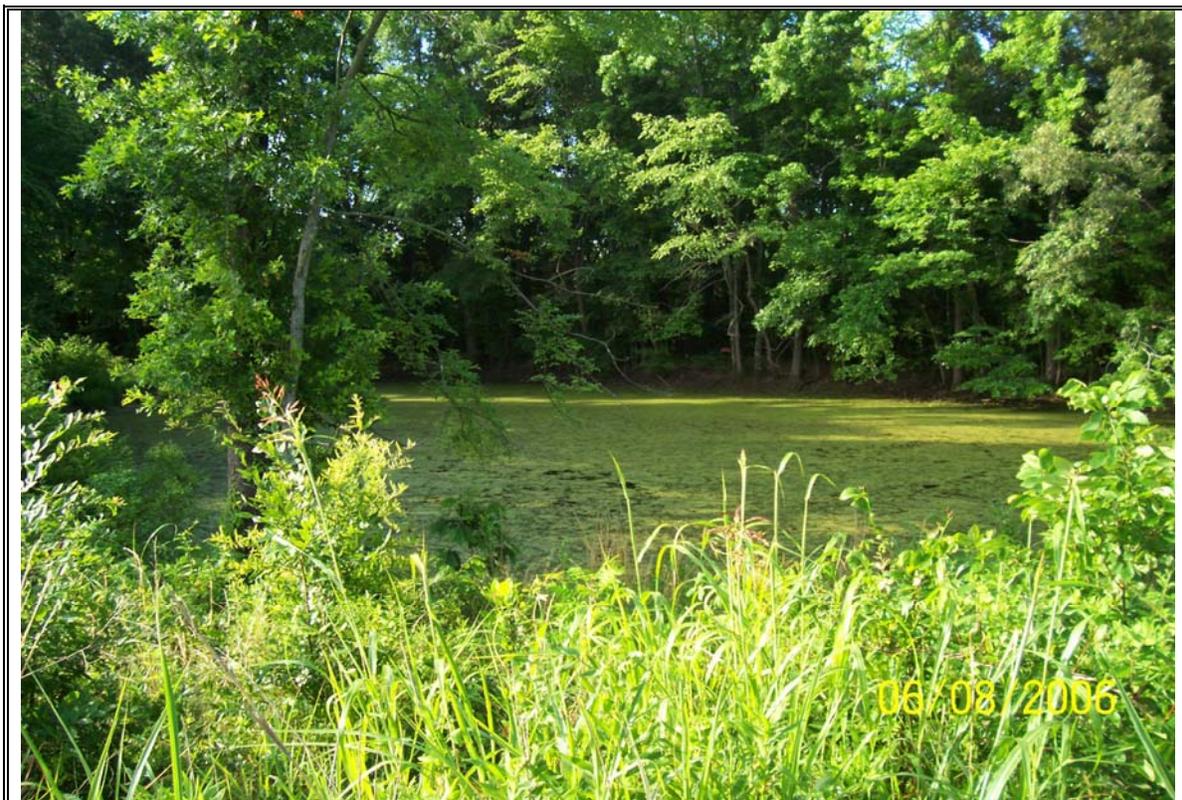
Photograph 218: Fayette County, No feature coming out (northeast) of WTL-19, perennial on USGS map; June 19, 2006.



Photograph 219: Fayette County, WTL-20 facing east, adjacent to perennial stream on USGS map; June 19, 2006.



Photograph 220: Fayette County, WWC-64 facing downstream (north), upstream of perennial on USGS map; June 19, 2006.



Photograph 221: Fayette County, PND-7 facing south, shown on USGS map; June 8, 2006.



Photograph 222: Fayette County, WWC-65 facing upstream (north), upstream of perennial on USGS map; June 8, 2006.



Photograph 223: Fayette County, WWC-65 facing downstream (south), upstream of perennial on USGS map; June 8, 2006.



Photograph 224: Fayette County, STR-48 facing upstream (east), intermittent on USGS map; June 8, 2006.



Photograph 225: Fayette County, STR-48 facing downstream (east), intermittent on USGS map; June 8, 2006.



Photograph 226: Fayette County, Swale @ 658+00 facing southeast, no feature on USGS map; June 8, 2006.



Photograph 227: Fayette County, WWC-66 facing upstream (northeast), no feature on USGS map; June 8, 2006.



Photograph 228: Fayette County, WWC-66 facing downstream (southwest), no feature on USGS map; June 8, 2006.



Photograph 229: Fayette County, WWC-67 facing upstream (northeast), no feature on USGS map; June 8, 2006.



Photograph 230: Fayette County, WWC-67 facing downstream (southeast), no feature on USGS map; June 8, 2006.



Photograph 231: Fayette County, STR-49 facing upstream (east), intermittent on USGS map; June 8, 2006.



Photograph 232: Fayette County, STR-49 facing downstream (west), intermittent on USGS map; June 8, 2006.



Photograph 233: Fayette County, WWC-68 facing upstream (east), no feature on USGS map; June 8, 2006.



Photograph 234: Fayette County, WWC-68 facing downstream (west), no feature on USGS map; June 8, 2006.

CORRESPONDENCE



United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

October 31, 2005

Mr. Charles E. Bush
Transportation Manager II
Tennessee Department of Transportation
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

6/27/06
of pages ▶ 4

To <i>Jennifer Thompson</i>	From <i>Wally Buines USFWS</i>
Dept./Agency <i>TDOT</i>	Phone #
Fax # <i>615-241-1098</i>	Fax #

NSN 7540-01-317-7366

5093-101

GENERAL SERVICES ADMINISTRATION

Attention: Joe Matlock

Re: FWS #06-TA-0039

Dear Mr. Bush:

Thank you for your correspondence of September 30, 2005, regarding the Tennessee Department of Transportation's (TDOT) proposed Somerville Beltway State Route 15 (US Highway 64) Project (State Project Number 24092-1203-14) in Fayette County, Tennessee. TDOT proposes to construct approximately 13 miles of new highway around Somerville as shown on the attachments to your correspondence. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and we offer the following comments.

Information available to the Service indicates that wetlands exist in the vicinity of the proposed project. Attached is a copy of a portion of the National Wetlands Inventory's Macon and Somerville, Tennessee, quadrangles with the referenced wetlands highlighted. This information is provided for your convenience. Our wetlands determination has been made in the absence of a field inspection and does not constitute a wetlands delineation for the purposes of Section 404 of the Clean Water Act. The Corps of Engineers and Tennessee Department of Environment and Conservation should be contacted regarding the presence of regulatory wetlands and the requirements of wetlands protection statutes.

Since the proposed work will involve construction activities over streams, we recommend that silt barriers be put in place to prevent runoff of sediment. Perennial streams should be bridged rather than culverted. Construction within or adjacent to the streams should be accomplished during low-flow periods, and the streambanks reseeded with native vegetation beneficial to wildlife immediately following disturbance.

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

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information which we have provided, please contact Wally Brines of my staff at 931/528-6481, extension 222.

Sincerely,

A handwritten signature in cursive script that reads "Lee A. Barclay".

Lee A. Barclay, Ph.D.
Field Supervisor

Attachments

Species Review Form (to be used as a summary of TDEC file search and FWS correspondence; it will address species that are State or Federally Listed or Officially Proposed as Threatened, Endangered, or Deemed in Need of Management)

Project: Fayette County, State Route 15 Somerville Beltway. P.E. # 24092-2202-04 PIN # 101607.00

Date of field study: 5/3/06 Date TDEC database checked: March 17, 2006 Completed by: FSG

Species reported within 1 mile radius of project:

1.	2.	3.	4.	5.	6.	7.	8.	9.
Species (Scientific and common names) ¹ <i>Place an asterisk beside species listed by TDEC within right-of-way (or within 1 mile downstream if aquatic)</i>	Status ² Fed TN	Species is considered PRESENT in R-O-W (or 1 mi. downstream if aquatic) ³ because: (A) Is listed by TDEC within ROW (or 1 mi. downstream if aquatic) AND habitat is present ³ (B) Is aquatic and habitat is present ³ (C) Observed during site visit	Species is considered likely NOT present in R-O-W (or 1 mi. downstream if aquatic) ³ because: (A) Present habitat unsuitable ³ (B) Not observed during site visit ³ (C) Original record questionable ³ (D) Considered extinct/extirpated ³	Species was included in original or updated USFWS list of species to be considered (x)	BA conducted (Y/N) ⁴	BMPs are sufficient to protect species listed in column 3 (Y/N) If N, complete column 8	Special Notes to be included on project plans to protect species listed in columns 3 and 4	Notes
No species								

¹ Indicate whether plant (P) or animal (A) after common name.
² Choose from LE, LT, PE, PT, or D
³ Complete reference/observation information table at end of form
⁴ Choose from "no effect"; "not likely to adversely affect;" "likely to adversely affect;" "not likely to jeopardize" based on FWS concurrence letter
⁵ Include easement areas, although not technically right-of-way

Check all that apply:

- Gray bats are reported within 1/2 mile of the project. A Biological Assessment is being prepared.
- Indiana bats are reported within 5 miles of the project. A Biological Assessment is being prepared.

Project: Fayette County, State Route 15 Somerville Beltway. P.E. # 24092-2202-04 PIN # 101607.00

Aquatic Species reported 1-4 miles downstream and 1 mile upstream of project:

Species (Scientific and common names) ¹	Status ²		Species was included in USFWS list of species to be considered (x)	BA conducted (Y/N) ²	Is the species likely to be affected by impacts other than sedimentation? (Y/N)	BMPs are sufficient to protect species (Y/N) If N, complete next column	Special Notes to be included on project plans to protect species (x)	Notes
	Fed	State						
No species								

¹ Indicate whether plant (P) or animal (A) after common name.

² Choose from LE, LT, PE, PT, or D

³ Choose from "no effect"; "not likely to adversely affect;" "likely to adversely affect;" "not likely to jeopardize" based on FWS concurrence letter

Information to be completed for species listed in columns 3 and 4

Species (Scientific and common names) ¹	Reference(s) used to make determination, or observer if based on site reconnaissance	Date ²	Observation location: description of location or lat/long	Blooming, breeding, or other pertinent dates for species listed in column 3 in first table	Preferred habitat of species listed in columns 3 & 4 in first table (<10 words)

¹ Indicate whether plant (P) or animal (A) after common name.

² Date of records search or site visit observation

List Natural Areas, management areas, refuges, or similar sites within or adjacent to project (attach 7.5 minute topographic map with pertinent boundaries of area marked)

Area Name	Type of Area	Pertinent Notes