



**US Army Corps
of Engineers.**

Public Notice

Public Notice No. 08-84 Date: December 19, 2008

Nashville District

Application No. 2008-02124 Expires: January 19, 2009

Please address comments to: Nashville District Corps of Engineers,
Regulatory Branch, 3701 Bell Road, Nashville, TN 37214 (Attn: Lisa Morris)

JOINT PUBLIC NOTICE
US ARMY CORPS OF ENGINEERS
TENNESSEE VALLEY AUTHORITY

SUBJECT: Proposed Deposit of Fill Material Associated with Road Construction on Wetlands Adjacent to Holland Branch, a tributary of Duck River Mile 224.6, Left Bank, Bedford County, TN (State Route 437, Shelbyville Bypass; PIN 100347.00; Project No. 02437-1202-04)

TO ALL CONCERNED: The application described below has been submitted for a Department of the Army (DA) Permit pursuant to **Section 404 of the Clean Water Act** (CWA) and a Tennessee Valley Authority (TVA) permit pursuant to **Section 26a of the TVA Act**. Before a permit can be issued, certification must be provided by the state of Tennessee, Department of Environment and Conservation (TDEC), Division of Water Pollution Control, pursuant to Section 401(a)(1) of the CWA, that applicable water quality standards would not be violated.

APPLICANT: Tennessee Department of Transportation (TDOT)
Environmental Division
Suite 900, James K. Polk Building
Nashville, TN 37243

LOCATION: Wetlands Adjacent to Holland Branch, a Tributary of Duck River Mile 224.6, Left bank, Bedford County, TN. HUC 0604002; USGS Map Deason, TN. Lat: 35.5108; Lon: -86.4171.

DESCRIPTION OF PROPOSED WORK: The applicant proposes to construct 6.486 miles of State Route 437 along new alignment for public use. The new construction would consist of two 12-ft. lanes, 12 ft. paved shoulders, and varied guardrail. The project includes the permanent filling of approximately 0.54 acres of wetland, and the temporary filling of 0.29 acres of wetland for construction/haul roads. The work also involves stream relocations and encapsulations, and utilities.

TDOT proposes to mitigate the permanent wetland impacts by debiting, 2:1 ratio, 1.08 acres from available wetland credits at the Coffee County Wetland Mitigation Bank. As mitigation for the 285 ft. of stream impacts, a total payment of \$57,000 is proposed to the In-Lieu Fee Stream Mitigation Program. In addition, TDOT is requesting approval for potential temporary stream crossings (at each site) within existing rights-of-way and proposed outfall structures (ditches, pipes) associated with the proposed culvert crossings. A summarized project description is located on pages 4 through 12 of this notice; a map follows. Specific plans of the work may be obtained by contacting this office or TDOT.

The decision whether to issue a permit would be based on an evaluation of the probable impacts including cumulative impacts of the activity on the public interest. That decision would reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the work, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work would be considered including cumulative effects; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of the activity on the public interest would include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b)(1) of the CWA. A permit would be granted unless the District Engineer determines it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received would be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement pursuant to the National

Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. An Environmental Assessment would be prepared by this office prior to a final decision concerning issuance or denial of the requested DA Permit.

Cultural Resources. TDOT has conducted a Phase I archaeological survey and a historical records survey on the proposed corridor. As a result of the surveys and in consultation with the State Historic Preservation Officer (SHPO), TDOT determined that there would be no adverse effects to archaeological or historical resources. The SHPO has concurred with this finding by letter dated March 10, 2003, stating that the realigned portion of the eastern half of the project area contains no archaeological resources eligible for listing in the National Register of Historic Places. This review constitutes the full extent of cultural resources investigations unless comment to this notice is received documenting that significant sites or properties exist which may be affected by this work, or that adequately documents that a potential exists for the location of significant sites or properties within the permit area. Copies of this notice are being sent to the office of the SHPO.

Endangered Species. According to TDOT, a letter dated October 20, 1999, from the USFWS stated no significant adverse impacts to federally listed endangered or threatened species anticipated from this proposal. In addition, on March 16, 2007, a search of the TDEC, Division of Natural Areas, database indicated the Coppercheek Darter (*Esteostma Aquali*) may be found within the reaches of the project so special notes were added to the TDOT plans to protect the species. Based on this information, it is our determination that the proposed work would not destroy or endanger any federally listed threatened or endangered species or their critical habitats, as identified under the Endangered Species Act, and, therefore, initiation of formal consultation procedures with the USFWS is not planned at this time.

In addition to the DA and TVA permits and state water quality certification, other federal, state, and/or local approvals may be required for the proposed work. Our office has checked the Flood Insurance Rate Map for the subject project. This project is in a FEMA designated floodplain, but no detailed study has been done by FEMA. TDOT conducted a study on the project area

and determined the project would not increase the pre-project flood elevations by more than one foot and concluded the design of the roadway system is in compliance with the floodplain management criteria set forth in the National Flood Insurance Regulations of Title 44 of the Code of Federal Regulations (CFR) and it is also consistent with requirements of floodplain management guidelines for implementing Executive Order 11988 and Federal Highway Administration guidelines 23 CFR 650A.

Any person may request, in writing, within the comment period specified in this notice, that a hearing be held to consider this application. Requests for hearings shall state, with particularity, the reasons for holding a hearing. Written statements received in this office on or before January 19, 2009, would become a part of the record and be considered in the determination. Responses to this notice should be directed to the Regulatory Branch, Attn: Lisa Morris, at the above address.

Summary Description of Proposed Action

Site #12	
Sta. 238+48 Longitude 86.4171°, Latitude 35.5108°	
	Wetland Impact (adjacent to Stream 16, intermittent) I404 Wetland (WTL-1) Permanent Impact: 0.54 acre Temporary Impact: 0.29 acre
<u>Mitigation: Temporary wetland Impacts</u> Topsoil is to be removed from all areas of temporary wetland impacts and stockpiled prior to construction. Upon completion of construction activities, temporary haul roads are to be removed. Once construction activities are complete, all temporary wetland impact areas shall be restored to pre-construction contours and the stockpiled wetland topsoil spread to restore these areas to pre-construction elevations. The area of temporary impacts will then be planted with the appropriate tree species (see sheet 2XX or permit sketches for tree species and spacing). <u>Permanent Impact</u> We propose to mitigate the permanent wetland impact by debiting, at a 2:1 ratio, 1.08 acres from the Coffee County Wetland Mitigation Bank.	
<u>Alternatives:</u> The proposed project will improve the existing State Route 437 by widening the roadway for public use. The proposed project alignment is a result of a concerted effort to minimize adverse human and environmental impacts. For additional details concerning the chosen alignment please see the attached NEPA documents. Due to the chosen alignment wetland impacts at this location could not be avoided.	
Sta. 239+90 ±	Utility Crossing GARAP Water Line Wetland (WTL-1) Temporary Impact: bore and jack 16 inch diameter steel casing pipe with 8 inch diameter
Mitigation not required.	

Alternatives: Due to the location of the proposed roadway the existing water lines can not be used. Therefore new lines will be needed to supply water to the surrounding area. The proposed water lines will be located outside of proposed roadway slopes when possible, which will allow the utility company to perform maintenance to the lines and prevent damaging the roadway system.

Site #1

Sta. 117+40 to Sta. 120+35 Longitude 86.4525°, Latitude 35.5202°

	Stream Encapsulation/Stream Relocation	IARAP
- Sta. 120+03	Stream (STR-9 - intermittent) Existing open stream: 285 ± ft. Proposed structure: 138 ft. of 45 inch by 29 inch reinforced concrete pipe. Proposed "U" shaped inlet endwall: 30 ft. Proposed "U" shaped outlet endwall: 20 ft. Total proposed structure length: 188 ft. Proposed open stream: 205 ± ft. Proposed stream length: 393 ± ft.	
- Sta. 114+00 to Sta. 115+00	Associated impact: outfall structure, proposed "V" bottom sodded ditch.	

No mitigation required.

Alternatives: A box culvert \ slab culvert (bottomless culvert) was considered for this impact, but due the existing and proposed flows conditions of the stream a box \ slab structure was not chosen. The estimated cost of the bridge at this location was around \$150,000.00. The estimated cost for the pipe will be around \$14,500.00. Therefore a bridge would not be cost effective in this instance. Disturbance of riparian vegetation along the stream channel shall be kept to a minimum, only removing what is needed to place the proposed pipe and construct the relocation.

Replacement in-kind: As part of on site in-kind replacement we propose to plant two rows of trees on both sides of the new channel. The proposed stream channel has been designed to mimic existing channel characteristics (size, shape, etc.) as closely as possible. For more detail see the proposed roadway plans.

Site #2

Sta. 131+44

Longitude 86.4525°, Latitude 35.5202°

	Stream Encapsulation	GARAP
- Sta. 131+44	Stream (STR-10- intermittent) Proposed structure: 112 ft. of 24 inch reinforced concrete pipe. Proposed "U" shaped inlet endwall: 12 ft. Proposed "U" shaped outlet endwall: 10 ft. Total proposed structure length: 134 ± ft.	

No Mitigation Required

Alternatives: Due to cost, a reinforced concrete pipe has been proposed along the streams existing flow path. Disturbance of riparian vegetation along the stream channel shall be kept to a minimum, only removing what is needed to place the proposed pipe.

- Sta. 132+75	Stream Encapsulation	GARAP
	Stream (STR-10- intermittent) Proposed private drive, 24 ft of 24 inch side drain.	

Mitigation: No Mitigation Required

Alternatives: The proposed 24 ft of 24 inch side drain and private drive will need to be installed to provide access to the adjacent property owner's property; therefore, a no build was not considered at this location.

Site #3

Sta. 136+37 Longitude 86.4525°, Latitude 35.5202°

	<p>Stream Encapsulation GARAP Stream (STR-11- intermittent) Proposed structure: 110 ft. of 42 inch reinforced concrete pipe.</p>
No Mitigation Required	
<p><u>Alternatives:</u> Due to cost, a reinforced concrete pipe has been proposed along the streams existing flow path. Disturbance of riparian vegetation along the stream channel shall be kept to a minimum, only removing what is needed to place the proposed pipe.</p>	
Site #4	
Sta. 146+16 Longitude 86.4457°, Latitude 35.5182°	
	<p>Stream Encapsulation GARAP Stream (STR-12- intermittent) Proposed structure: 120 ft. of 36 inch reinforced concrete pipe.</p>
No Mitigation Required	
<p><u>Alternatives:</u> A reinforced concrete pipe has been proposed along the stream's existing flow path. Disturbance of riparian vegetation along the stream channel shall be kept to a minimum, only removing what is needed to place the proposed pipe.</p>	
Site #5	
Sta. 155+91 to Sta. 158+90 Longitude 86.4432°, Latitude 35.5165°	
<p>- Sta. 19+21 (Fairfield Pike)</p> <p>- Sta. 158+90</p>	<p>Stream Encapsulation IARAP Stream (STR-13- intermittent) -Section 1- Existing open stream: 130 ± ft.; Existing culvert length: 40 ft.; Existing stream length: 170 ft.; Proposed structure: 124 ft. of dual 14 ft. by 7 ft. box culvert.; Proposed stream length: 124 ft.; Proposed stream loss: 46 ft. -Section 2- Existing open stream: 165 ± ft.; Proposed structure: 110 ± ft. of dual 14 ft. by 7 ft. box culvert; Proposed stabilization: 25 ± ft of rip-rap at the inlet; Proposed stabilization: 25 ± ft of rip-rap at the outlet.; Proposed stream length: 160 ft.; Proposed stream loss: 5 ft. -Total- Existing open stream: 295 ± ft.; Encapsulated stream: 234 ft.; Proposed rip-rap: 50 ± ft.; Proposed stream: 284 ± ft.; Stream Loss: 51 ± ft.</p>
<p><u>Mitigation:</u> For the above stream impacts, we propose the following mitigation:</p> <ul style="list-style-type: none"> • 285 ft. (51 ft. x 1.0) of stream loss and (234 ft. x 1.0) stream encapsulation; we propose a payment of \$57,000. 	
<p><u>Alternatives:</u> A box and a slab culverts (bottomless culvert) were considered for these crossings, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. The estimated cost of the bridge at Sta. 19+21 is around \$300,000. The estimated cost for the culvert at Sta.158+85 will be around \$110,000.00. The estimated cost of the bridge at Sta. 158+85 is around \$300,000. The estimated cost for the culvert at Sta.158+85 will be around \$100,000.00. Therefore bridges would not be cost effective in either instance. To help minimize over widening of the stream channel TDOT standard drawing STD-15-16A (Low Flow Channel Construction Details for Culvert inlet and Outlet) will be utilized during construction. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>	
Site #6	
Sta. 20+00 Longitude 86.4432°, Latitude 35.5165°	
	<p>Stream Encapsulation GARAP Stream (STR-7- intermittent) Proposed structure: 94 ft. of 12 ft. by 7 ft. box culvert. Proposed stream: 94 ± ft.</p>

No Mitigation Required											
<p><u>Alternatives:</u> A box culvert and slab culvert (bottomless culvert) were both considered for this impact, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. Using a bridge in place of the culvert would have a greater cost and create a larger hydraulic opening than necessary. The estimated cost of the bridge at this location was around \$268,000. The estimated cost for the culvert is around \$73,000. Therefore a bridge would not be cost effective in this instance. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>											
Site #7											
Sta. 210+84 Longitude 86.4365°, Latitude 35.5135°											
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No Mitigation Required.											
<p><u>Alternatives:</u> A box culvert \ slab culvert (bottomless culvert) was considered for this impact, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. Disturbance of riparian vegetation along the stream channel shall be kept to a minimum, only removing what is needed to place the proposed pipe.</p>											
Site #8											
Sta. 224+68 Longitude 86.4256°, Latitude 35.5120°											
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Site #9											
Sta. 231+57 Longitude 86.4171°, Latitude 35.5108°											
- Sta. 231+57 - Sta. 20+82 (Horse Mountain Road)	<table border="1"> <tr> <td style="text-align: center;">Stream Encapsulation</td> <td style="text-align: center;">GARAP</td> </tr> <tr> <td colspan="2">Butler Creek (STR-2- intermittent)</td> </tr> <tr> <td colspan="2">Proposed structure: 90 ft. of dual 12 ft. by 6 ft. concrete box culvert.</td> </tr> <tr> <td colspan="2">Proposed structure: 52 ft. of dual 12 ft. by 6 ft. box culvert.</td> </tr> <tr> <td colspan="2">Total encapsulation: 142 ± ft.</td> </tr> </table>	Stream Encapsulation	GARAP	Butler Creek (STR-2- intermittent)		Proposed structure: 90 ft. of dual 12 ft. by 6 ft. concrete box culvert.		Proposed structure: 52 ft. of dual 12 ft. by 6 ft. box culvert.		Total encapsulation: 142 ± ft.	
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No Mitigation Required											
<p><u>Alternatives:</u> A box culvert and a slab (bottomless) culvert were considered for these impacts based on the size and flow of the stream. Due to geotechnical information and existing structure types a slab culvert was not chosen. During construction, if bedrock is encountered, the contractor will re-evaluate site conditions and a slab culvert may be determined suitable at these locations. To help minimize impacts and mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structures overtime and help provide a more natural stream bottom. Also, rip-rap areas within the stream shall be placed as to mimic the existing contours of the stream channel. The top of the proposed rip-rap shall be at grade with the bottom of the existing stream channel. Voids within the rip-rap shall be filled with native material to prevent loss of stream within rip-rap areas. The construction of the new structures will follow the terms and condition of the General Permit for Construction and Removal of Minor Road Crossing. Therefore, TDOT feels that the proposed culverts would result in no net loss of resource value to the watershed.</p>											
Site #10											
Sta. 11+75 to Sta. 15+00 (Philippi Church Road) Longitude 86.4171°, Latitude 35.5108°											

	<p>Stream Relocation IARAP</p> <p>Stream (STR-15- intermittent) Proposed relocated stream: 300 ± ft.</p>
No Mitigation Required	
<p><u>Alternatives:</u> Early in the design process of this project, stream (STR-15) was considered to be a roadside ditch. It was determined, the widening off the off-system road, Phillippi Church Road, would be located such that it does not affect Butler Creek, (STR-2), to the south.</p> <p><u>Replacement in-kind:</u> As part of on-site, in-kind replacement for the proposed stream relocation, we propose to plant trees along the right side of the new channel. The proposed trees will provide riparian canopy and should reduce water temperature once established. The proposed stream channel has been designed to mimic existing channel characteristics (size, shape, etc.) as closely as possible; therefore habitat and substrate conditions should not be affected and movement of aquatic life should not be restricted within the newly relocated stream channel.</p>	
Sta. 15+50 (Phillippi Church Road)	<p>Utility Crossing GARAP</p> <p>Water Line Wetland (WTL-1) Temporary Impact: bore and jack 16 inch diameter steel casing pipe with 8 inch diameter</p>
Mitigation not required.	
<p><u>Alternatives:</u> Due to the location of the proposed roadway the existing water lines can not be used. Therefore new lines will be needed to supply water to the surrounding area. The proposed water lines will be located outside of proposed roadway slopes when possible, which will allow the utility company to perform maintenance to the lines and prevent damaging the roadway system.</p>	
Site #11	
Sta. 238+91 Longitude 86.4171°, Latitude 35.5108°	
	<p>Stream Encapsulation GARAP</p> <p>Stream (STR-16- intermittent) Proposed structure: 128 ft. of 24 inch reinforced concrete pipe. Proposed "U" shaped inlet endwall: 5 ± ft. Proposed "U" shaped outlet endwall: 5 ± ft. Total proposed structure length: 138 ft.</p>
No Mitigation Required	
<p><u>Alternatives:</u> Due to cost, a reinforced concrete pipe has been proposed along the streams existing flow path. Disturbance of riparian vegetation along the stream channel shall be kept to a minimum, only removing what is needed to place the proposed pipe.</p>	
Sta. 239+90 ±	<p>Utility Crossing GARAP</p> <p>Water Line Wetland (WTL-1) Temporary Impact: bore and jack 16 inch diameter steel casing pipe with 8 inch diameter</p>
Mitigation not required.	
<p><u>Alternatives:</u> Due to the location of the proposed roadway the existing water lines can not be used. Therefore new lines will be needed to supply water to the surrounding area. The proposed water lines will be located outside of proposed roadway slopes when possible, which will allow the utility company to perform maintenance to the lines and prevent damaging the system.</p>	
Site #13	
Sta. 240+75 Longitude 86.4171°, Latitude 35.5108°	
	<p>Stream Encapsulation GARAP</p> <p>Stream (STR-4- intermittent) Proposed structure: 128 ft. of 3 @ 14 ft. by 8 ft. concrete box culvert.</p>

No mitigation required.													
<p><u>Alternatives:</u> A box culvert and slab culvert (bottomless culvert) were both considered for this impact, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. Using a bridge in place of the culvert would have a greater cost and create a larger hydraulic opening than necessary. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom. To help minimize over widening of the stream channel TDOT standard drawing STD-15-16A (Low Flow Channel Construction Details for Culvert inlet and Outlet) will be utilized during construction. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>													
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Sta. 250+04 Longitude 86.4119°, Latitude 35.5102°													
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Site #15													
Sta. 261+20 Longitude 86.4119°, Latitude 35.5102°													
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<p><u>Alternatives:</u> A box culvert and slab culvert (bottomless culvert) were both considered for this impact, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. Using a bridge in place of the culvert would have a greater cost and create a larger hydraulic opening than necessary. The estimated cost of the bridge at this location was around \$712,000. The estimated cost for the culvert is around \$268,000. Therefore a bridge would not be cost effective in this instance. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom. To help minimize over widening of the stream channel TDOT standard drawing STD-15-16A (Low Flow Channel Construction Details for Culvert inlet and Outlet) will be utilized during construction. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>													
Site #16													
Sta. 296+05 Longitude 86.3951°, Latitude 35.5018°													

	<p style="text-align: center;">Stream Encapsulation IARAP</p> <p>Stream (STR-6 - perennial) Proposed structure: 196 ft. of dual 12 ft. by 8 ft. concrete box culvert. Proposed rip-rap for stabilization: 25 ± ft at the inlet. Proposed rip-rap for stabilization: 25 ± ft at the outlet. Total proposed stream: 246 ± ft.</p>
<p>No Mitigation Required.</p>	
<p><u>Alternatives:</u> A box culvert and slab culvert (bottomless culvert) were both considered for this impact, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. Using a bridge in place of the culvert would have a greater cost and create a larger hydraulic opening than necessary. The estimated cost of the bridge at this location was around \$907,200. The estimated cost for the culvert is around \$306,000. Therefore a bridge would not be cost effective in this instance. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom. To help minimize over widening of the stream channel TDOT standard drawing STD-15-16A (Low Flow Channel Construction Details for Culvert inlet and Outlet) will be utilized during construction. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>	
<p>Site #17</p>	
<p>Sta. 323+28 Longitude 86.3945°, Latitude 35.4988°</p>	
	<p style="text-align: center;">Stream Encapsulation GARAP</p> <p>Butler Creek (STR-2 – perennial) Proposed structure: 118 ft. of 3 @ 10 ft. by 8 ft. concrete box culvert.</p>
<p>No mitigation required.</p>	
<p><u>Alternatives:</u> A box culvert and slab culvert (bottomless culvert) were both considered for this impact, but due the existing and proposed soil conditions of the stream a slab structure was not chosen. Using a bridge in place of the culvert would have a greater cost and create a larger hydraulic opening than necessary. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom. To help minimize over widening of the stream channel TDOT standard drawing STD-15-16A (Low Flow Channel Construction Details for Culvert inlet and Outlet) will be utilized during construction. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>	
<p>Site #18</p>	
<p>Sta. 372+03 Longitude 86.3945°, Latitude 35.4848°</p>	
	<p style="text-align: center;">Stream Encapsulation GARAP</p> <p>Stream (STR-17- intermittent) Proposed structure: 125 ft. of 6 ft. by 5 ft. concrete box culvert. Proposed rip-rap for stabilization: 20 ± ft at the inlet. Proposed rip-rap for stabilization: 20 ± ft at the outlet.</p>
<p>No mitigation required.</p>	
<p><u>Alternatives:</u> A box culvert and slab culvert (bottomless culvert) were both considered for this impact, but due the existing and proposed flows conditions of the stream a slab structure was not chosen. Using a bridge in place of the culvert would have a greater cost and create a larger hydraulic opening than necessary. To help mimic natural conditions inside the structure, the structure has been lowered below existing substrate level. This will allow sediment to cover the bottom of the structure overtime and help provide a more natural stream bottom.</p>	

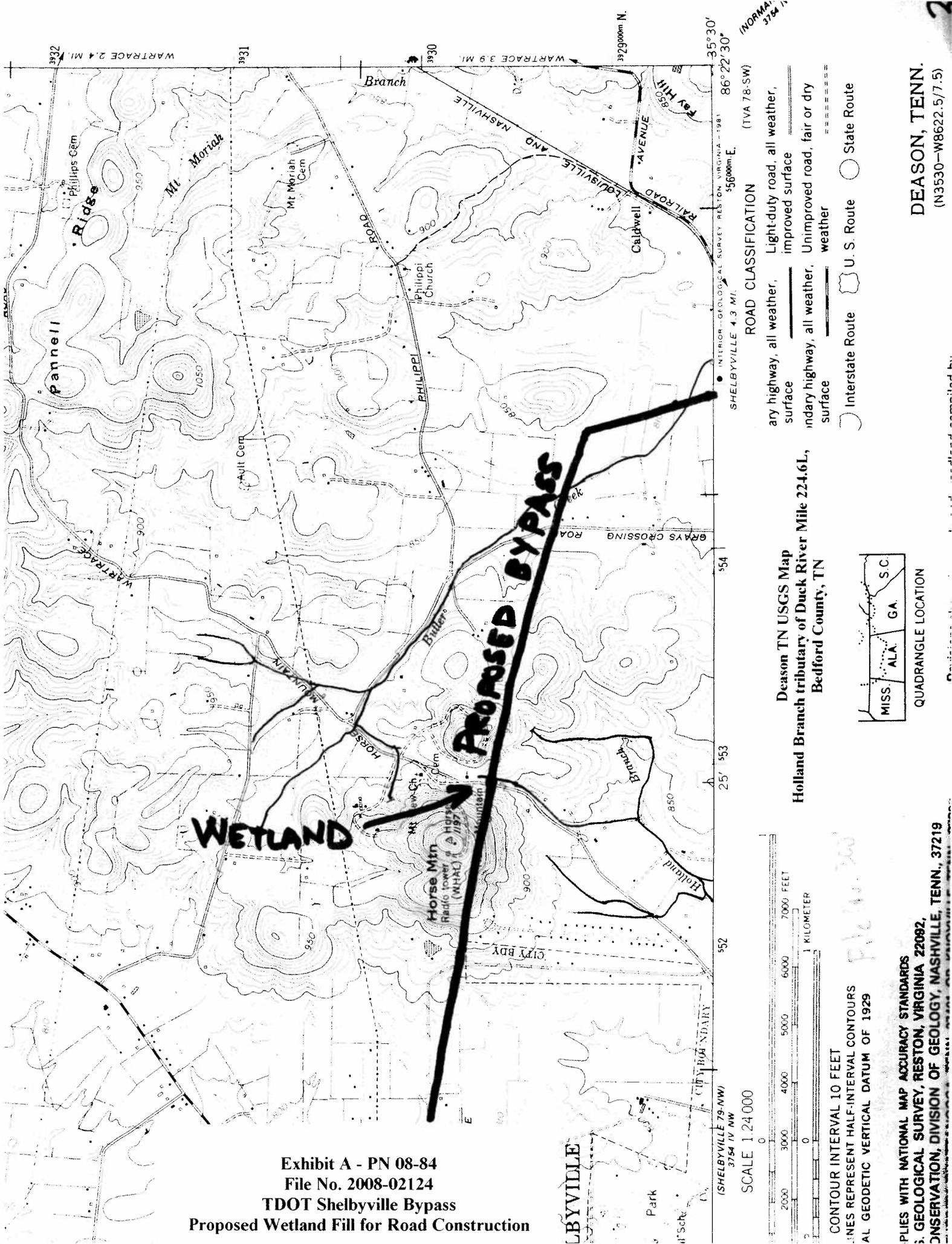


Exhibit A - PN 08-84
 File No. 2008-02124
 TDOT Shelbyville Bypass
 Proposed Wetland Fill for Road Construction

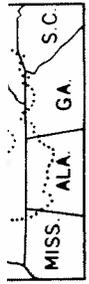
SHELBYVILLE

(SHELBYVILLE 79-NW)
 3754 IV NW
 SCALE 1:24,000



CONTOUR INTERVAL 10 FEET
 LINES REPRESENT HALF-INTERVAL CONTOURS
 AL GEODETTIC VERTICAL DATUM OF 1929

Deason TN USGS Map
 Holland Branch tributary of Duck River Mile 22.4.6L,
 Bedford County, TN



QUADRANGLE LOCATION

ROAD CLASSIFICATION (TVA 78-SW)

- any highway, all weather, surface
- Light-duty road, all weather, improved surface
- undary highway, all weather, surface
- Unimproved road, fair or dry weather

- Interstate Route
- U. S. Route
- State Route

PLIES WITH NATIONAL MAP ACCURACY STANDARDS
 S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22082,
 NSERVATION, DIVISION OF GEOLOGY, NASHVILLE, TENN., 37219

DEASON, TENN.
 (N3530-W8622.5/7.5)

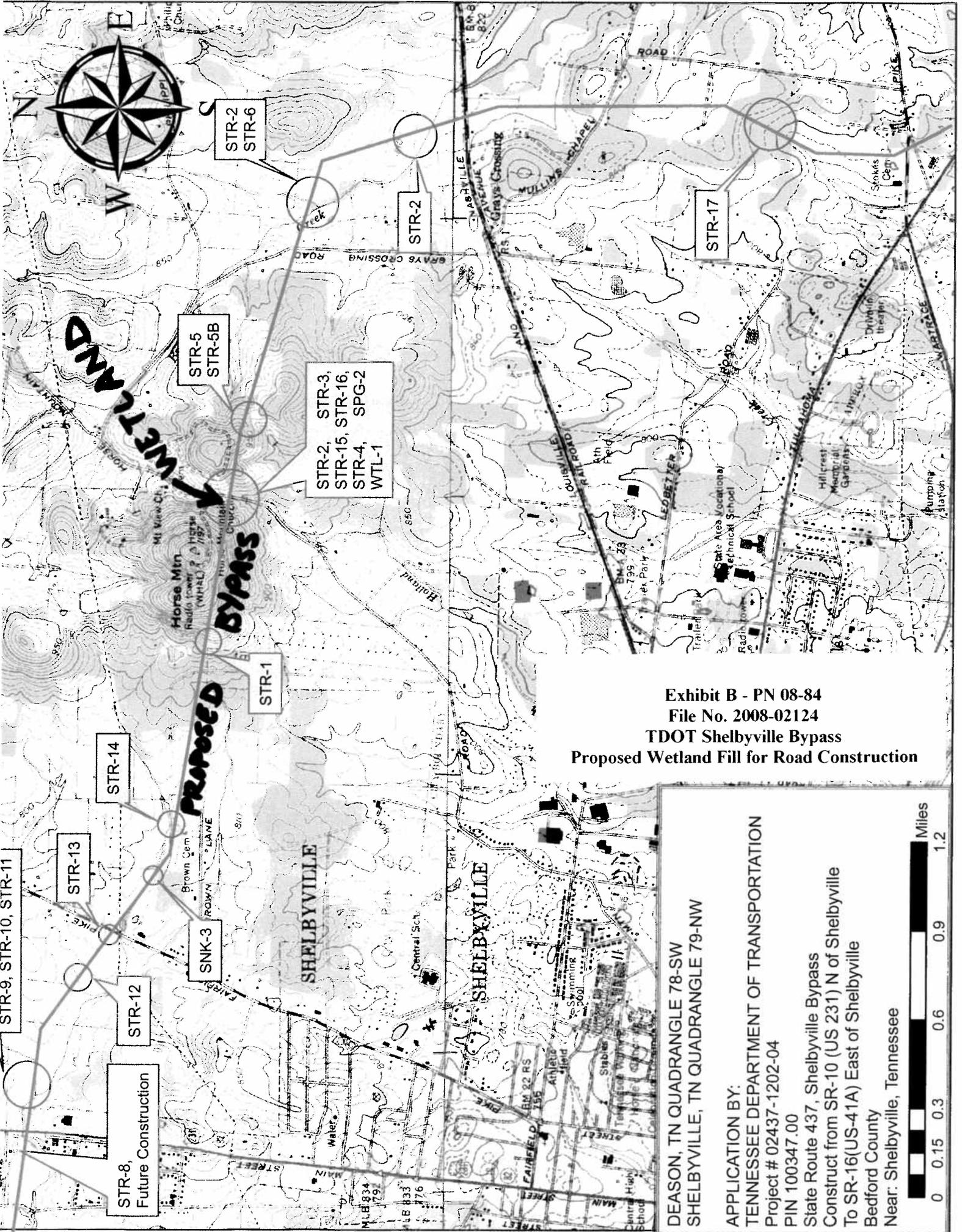


Exhibit B - PN 08-84
 File No. 2008-02124
 TDOT Shelbyville Bypass
 Proposed Wetland Fill for Road Construction

DEASON, TN QUADRANGLE 78-SW
 SHELBYVILLE, TN QUADRANGLE 79-NW

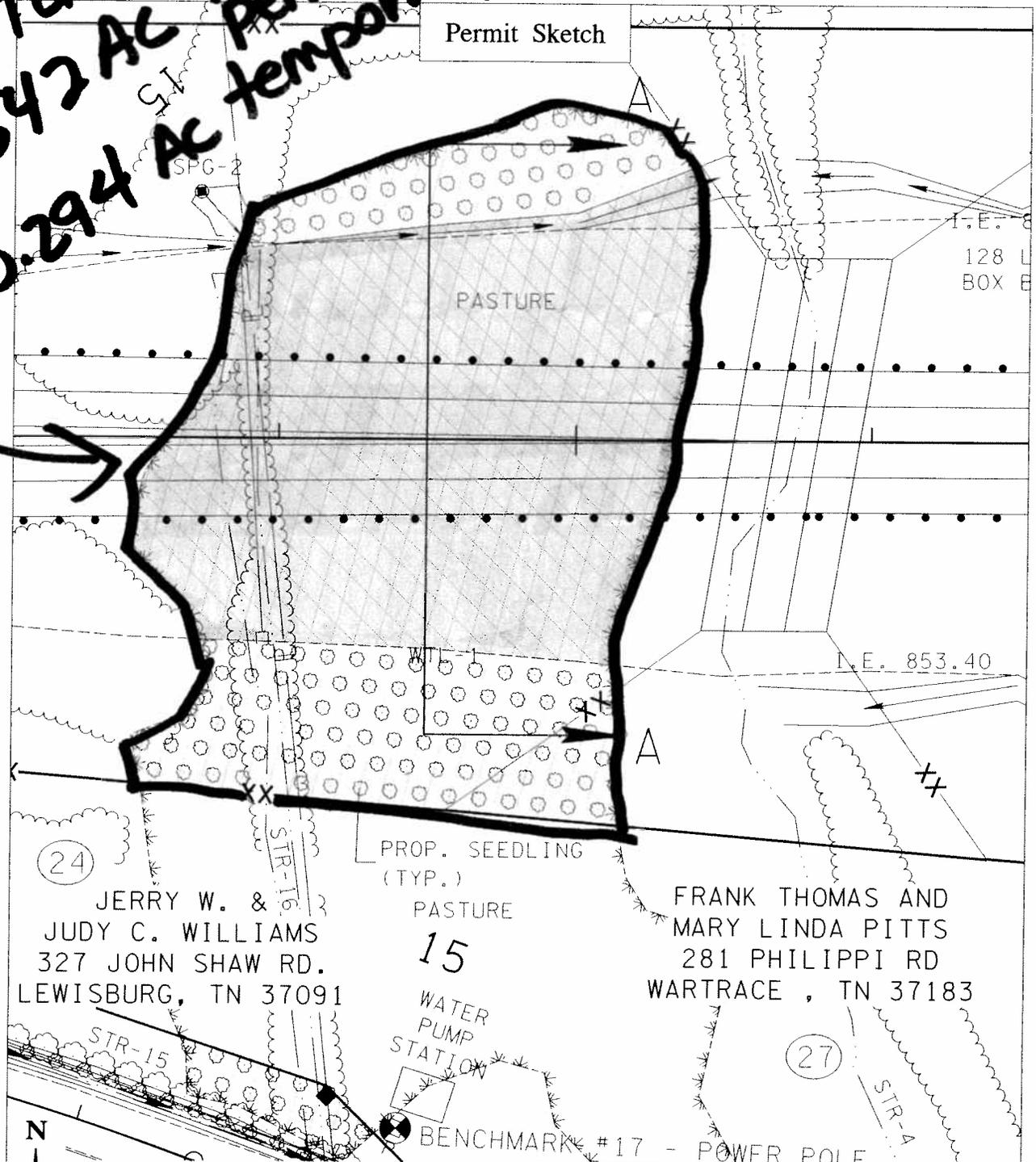
APPLICATION BY:
 TENNESSEE DEPARTMENT OF TRANSPORTATION
 Project # 02437-1202-04
 PIN 100347.00

State Route 437, Shelbyville Bypass
 Construct from SR-10 (US 231) N of Shelbyville
 To SR-16(US-41A) East of Shelbyville
 Bedford County
 Near: Shelbyville, Tennessee

0 0.15 0.3 0.6 0.9 1.2
 Miles

WETLAND FILL
0.542 AC Permanent
0.294 AC temporary

Permit Sketch



(24)
 JERRY W. &
 JUDY C. WILLIAMS
 327 JOHN SHAW RD.
 LEWISBURG, TN 37091

PROP. SEEDLING
 (TYP.)
 PASTURE
 15

FRANK THOMAS AND
 MARY LINDA PITTS
 281 PHILIPPI RD
 WARTRACE, TN 37183



WETLAND IMPACTS (WTL-1)	
	AREA OF PERMANENT IMPACT = 0.542 AC.
	AREA OF TEMPORARY IMPACT = 0.294 AC.

APPLICATION BY:
 TENNESSEE DEPARTMENT OF TRANSPORTATION
 PROJECT No. 02437-2203-14
 PIN 100347.00
 FROM: SR-10 (US-231)
 TO: SR-16 (US-41A)
 NEAREST TOWN: SHELBYVILLE, TENNESSEE

DATE: 10/

SHEET 11 OF 17

4374101-000