



## **Aquatic Resource Alteration Permit NRS23.237**

Pursuant to the *Tennessee Water Quality Control Act of 1977* (T.C.A. § 69-3-101 et seq.) and supporting regulations, a permit is required to alter the properties of waters of the state. Also, pursuant to §401 of the *Clean Water Act* (33 U.S.C. 1341), an applicant for a Federal license or permit which may result in a discharge into the waters of the U.S., shall provide the federal licensing or permitting agency a certification from the State in which the discharge will originate.

Accordingly, the Division of Water Resources requires reasonable assurance that the activity will not violate provisions of the *Tennessee Water Quality Control Act of 1977* (T.C.A. §69-3-101 et seq.) or provisions of §§301, 302, 303, 306 or 307 of the *Clean Water Act*.

Subject to conformance with accepted plans, specifications, and other information submitted in support of the application, the state of Tennessee hereby authorizes pursuant to 33 U.S.C. 1341 certifies and T.C.A. §69-3-101 et seq., the activity described below:

**PERMITTEE:** Tennessee Department of Transportation  
C/o Robbie Stephens  
505 Deaderick Street, Suite 900 J.K. Polk Building  
Nashville, Tennessee 37243

**AUTHORIZED WORK:** The authorized work is permanent and temporary impacts to two streams and three wetlands associated with the widening of State Route 222 to accommodate access to Project Blue Oval. Stream impacts due to encapsulation and fill and replacement result in loss of 522.9 functional feet of stream and are to be offset through the Big Muddy Permittee Restoration Site (NRS23.094). Wetland fill totaling 0.036 acres in the Lower Hatchie Watershed shall be offset at a 2:1 ratio by purchase of 0.07 credits from Hatchie Wetland Mitigation Bank. Temporary impacts to 0.111 acres of wetland are to be restored to existing conditions and monitored for two years. 1,206 linear feet of relocated stream channel will be monitored for five years. Please see authorized work in Part I for detailed information for all approved stream and wetland crossings.

**LOCATION:** State Route 222, from near Hebron Drive to near Thorpe Drive and I-40 Exit 42  
Tributaries to Big Muddy Creek and Unnamed Wetlands  
Fayette, County; Latitude 35.3941, Longitude -89.4115

**EFFECTIVE DATE:** XXX XX, 2024

**EXPIRATION DATE:** XXX XX, 2029

for Jennifer Dodd  
Director, Division of Water Resources

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## PART I

### **Authorized Alterations**

See map in Appendix page 20 for locations

#### STR-1A (Misc. Trib to Big Muddy Creek) Location #4

Latitude: 35.39405                      Longitude: -89.40839

- a. Fill of 1246 linear feet of stream
- b. Construction of 1,207 linear feet of replacement channel (Stream length loss of 32 linear feet)
  - 47 feet of riprap lined channel
- c. Temporary encapsulation of existing stream while new channel is constructed
- d. Mitigation credits for -498.4 functional feet (ff) from Big Muddy PRM

#### STR-2A (Misc. Trib to Big Muddy Creek) Location #6

Latitude: 35.395737                      Longitude: -89.406842

- a. Total structure length 243.84 feet to include:
  - Existing 192.48 feet of 60-inch reinforced concrete pipe (RCP)
  - Remove existing 10.68 feet of endwalls
  - Extend existing 60-inch RCP 25.84 feet (12.05 feet at inlet and 13.79 feet at outlet)
  - 12.76-foot wingwall at inlet
  - 12.76-foot wingwall at outlet
- b. 38 feet of riprap at outlet
- c. Mitigation credits for -24.5 ff from Big Muddy PRM

#### WTL-3A Location #2

Latitude 35.39095                      Longitude -89.41399

- a. Temporary impacts to 0.059 acres
- b. Permanent fill of 0.016 acres
- c. Mitigation required at a ratio of 2:1 = 0.03 credits from Hatchie Wetland Mitigation Bank

#### WTL-2A Location #3

Latitude 35.39161                      Longitude -89.41108

- a. Temporary impacts to 0.006 acres
- b. Permanent fill of 0.001 acres
- c. Mitigation required at a ratio of 2:1 = 0.002 credits from Hatchie Wetland Mitigation Bank

#### WTL-5A Location #7

Latitude 35.393478                      Longitude -89.4120

- a. Temporary impacts to 0.046 acres
- b. Permanent fill of 0.019 acres
- c. Mitigation required at a ratio of 2:1 = 0.04 credits from Hatchie Wetland Mitigation Bank

### Special Conditions

1. The permittee shall submit a post construction inspection report that reflect the “as-constructed” condition of all features authorized or required by this permit:
  - a. The post construction inspection report shall include sufficient information, including photographic documentation, to demonstrate conformance with the approved plans, specifications, and special conditions of this permit.
  - b. The post construction inspection report shall be submitted within **60 days of project completion**.
  - c. The report may be submitted via email to [water.permits@tn.gov](mailto:water.permits@tn.gov) or to the following address:

Division of Water Resources  
Natural Resources Unit  
William R. Snodgrass - Tennessee Tower  
312 Rosa L. Parks Avenue, 11th Floor  
Nashville, Tennessee 37243-1102

2. **A benthic survey shall be conducted for STR-1A, and results submitted to the Division and permit writer prior to commencements of any impacts.**
3. All debris and waste material will be cleaned up or removed from below the ordinary high-water level.
4. The work shall be accomplished in conformance with the accepted plans, specifications, data, and other information submitted in support of application NRS23.237 and the limitations, requirements and conditions set forth herein.
5. The bottom of culverts shall be constructed below the stream bed elevation, in a manner that allows natural substrate to reestablish.
6. Culverts shall not be constructed in a manner that would permanently disrupt the movement of fish and aquatic life.
7. All riprap areas shall be placed as to mimic the existing/proposed contours of the stream channel. Riprap shall be countersunk and placed at the grade with the existing stream substrate.
8. Voids within the riprap shall be filled with suitable substrate to prevent loss of stream within the riprap areas. Do not over-excavate for placement of riprap. Grouting of riprap is prohibited except where specifically authorized.
9. Construction and removal of bridges and culverts shall be in the dry to the maximum extent practicable, by diverting flow utilizing cofferdams, berms, and/or temporary channels or pipes. Temporary diversion channels shall be protected by non-erodible material and lines to the expected high-water level.
10. Any wetlands outside of the permitted impact areas shall be clearly marked so that all work performed by the contractor is solely within the permitted impact area.
11. Only earthen materials consisting of soils, stones or rocks, or a mixture or combination of such materials, which are excavated or extracted from a borrow pit, earthen bank, gravel bank, mine or quarry shall be “Acceptable Fill.” Acceptable Fill shall not contain any sewage, industrial wastes, additives, or materials such as refuse, rubble, muck, metal, glass, concrete pieces, bricks, or asphalt paving materials, wood or other wastes as defined in the Tennessee Water Quality Control Act of 1977. “Other wastes” means any and all other substances or forms of energy, with the exception of

sewage and industrial wastes, including, but not limited to, decayed wood, sand, garbage, silt, municipal refuse, sawdust, shavings, bark, lime, ashes, offal, oil, hazardous materials, tar, sludge, or other petroleum byproducts, radioactive material, chemicals, heated substances, dredged spoil, solid waste, incinerator residue, sewage sludge, munitions, biological materials, wrecked and discarded equipment, rock, and cellar dirt. T.C.A. § 69-3-103(23).

12. Temporary impacts to wetlands shall be mitigated by the removal and stockpiling of the first 12 inches of topsoil, prior to construction. Temporary wetland crossings or haul roads shall utilize timber matting. Gravel, riprap, or other rock is not approved for construction of temporary crossings or haul roads across wetlands. Upon completion of construction activities, all temporary wetland impact areas are to be restored to pre-construction contours, and the stockpiled topsoil spread to restore these areas to pre-construction elevation. Other side-cast material shall not be placed within the temporary impact locations. Permanent vegetative stabilization using native species of all disturbed areas in or near the wetland must be initiated within 14 days of project completion (see also *Landscaping with Natives* at [tneppc.org](http://tneppc.org)). Non-native, non-invasive annuals may be used as cover crops until native species can be established.
13. The use of monofilament-type erosion control netting or blanket is prohibited. To minimize wildlife entanglement and plastic debris pollution, temporary erosion and sediment control products that either do not contain netting, or that contain netting manufactured from 100 percent biodegradable non-plastic materials such as jute, sisal, or coir fiber shall be specified. Netting used in these products should have a loose-weave wildlife-safe design with movable joints between the horizontal and vertical twines, allowing the twines to move independently. Degradable, photodegradable, UVdegradable, oxo-degradable, or oxo-biodegradable plastic netting (including polypropylene, nylon, polyethylene, and polyester) are not acceptable alternatives.
14. Streambeds shall not be used as transportation routes for construction equipment. Temporary stream crossings shall be limited to one point in the construction area and EPSC measures shall be utilized where stream banks are disturbed.

### **Channel Relocation Sequence and Implementation Notes**

1. Erosion and sediment controls will be placed onsite prior to any groundwork or soil destabilization and remain in place and maintained during land disturbing activities. The new stream channel shall be excavated and stabilized during low-flow conditions. Temporary flow diversion may be used if necessary. Mulch and seeding shall be installed immediately following channel completion in accordance with accepted plans. Trees shall be installed in the first planting season following channel excavation. Water shall be diverted into the new channel **ONLY** after it is completely stabilized, and **ONLY** during a low-water period.
2. Channel relocation sequence:
  - a. Flag edge of the new channel top of bank prior to clearing. Do not clear large trees in position to shade the new channel. Leave as many native trees and shrubs as possible.
  - b. Excavate the new channel “in the dry” by leaving areas of undisturbed earth (diversion berms) in place at both ends.
  - c. Shape channel according to accepted plans. Any water collected in the new stream channel during construction shall be filtered prior to discharge.
  - d. Place topsoil, erosion control blanket or turf reinforcement, seed, and sod as specified in accepted plans.

- e. Please notify the Jackson Environmental Field Office or permit coordinator in the division's Natural Resources Unit to receive concurrence prior to diverting the stream into the new channel.
- f. Remove diversion berms, beginning with the most downstream. Banks and bottom elevation of the old channel shall transition smoothly into the new channel. The elevations of the new channel at both ends of the relocation shall match the elevations of the old channel.
- g. A minimum of 72 hours must be allowed from initial diversion of flow until alteration/filling of the original stream to allow emigration of semi-aquatic organisms.
- h. Install plantings along stream banks as specified in accepted plans.

### General Conditions

1. It is the responsibility of the permittee to convey all terms and conditions of this permit to all contractors. A copy of this permit, approved plans, and any other documentation pertinent to the activities authorized by this permit shall be maintained on site at all times during periods of construction activity.
2. Temporary or permanent soil stabilization shall be accomplished within 14 days after final grading or other earth work. Permanent stabilization with perennial vegetation or other permanently stable, non-eroding surface shall replace any temporary measures as soon as practicable. Vegetative species must be on approved native species planting list, (*Landscaping with Native Plants*; [https://www.tnipc.org/wp-content/uploads/2017/10/landscaping\\_2016\\_forweb.pdf](https://www.tnipc.org/wp-content/uploads/2017/10/landscaping_2016_forweb.pdf)).
3. Work shall not commence until the permittee has received the federal §404 permit from the U. S. Army Corps of Engineers, a §26a permit from the Tennessee Valley Authority or authorization under a Tennessee NPDES Storm Water Construction Permit where necessary. The permittee is responsible for obtaining these permits.
4. Best Management Practices (BMPs) shall be stringently implemented throughout the construction period to prevent sediments, oils, or other project-related pollutants from being discharged.
5. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the state. Any equipment proposed to be used in-stream shall be free of noticeable leaks of fluids; e.g., hydraulic, transmission, crankcase, and engine coolant fluids and oils. All spills must be reported to the appropriate emergency management agency, and measures shall be taken immediately to prevent the pollution of waters of the state, including groundwater, should a spill occur.
6. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in Rule 0400-40-03-.03 of the Rules of the Tennessee Department of Environment and Conservation. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impair the usefulness of waters of the state for any of the uses designated by Rule 0400-40-04. These uses include fish and aquatic life (including trout streams and naturally reproducing trout streams), livestock watering and wildlife, recreation, irrigation, industrial water supply, domestic water supply, and navigation.
7. Adverse impact to formally listed state or federal threatened or endangered species or their critical habitat is prohibited. If any state or federally listed aquatic species are discovered during construction, TDEC and TWRA shall be notified, and the permittee shall await and follow instructions on how to proceed.

8. This permit does not authorize adverse impacts to cultural, historical, or archeological features or sites.

## PART II

### **Mitigation Requirements**

1. Compensatory mitigation activities shall be carried out utilizing best professional efforts to comply with approved plans and the conditions of this permit. Mitigation activities shall be deemed complete when the Division determines that the permitted impact on aquatic resources has been adequately addressed through successful achievement of the compensatory mitigation activities, and a no further action letter has been provided to the permittee.
2. The goal of this permit and its mitigation success criteria is to ensure there is no net loss of resource value due to the impacts of the permitted activity. In accordance with adaptive management, the Division incorporates safety factors into compensatory mitigation requirements. Therefore, once successful mitigation has been achieved the Division reserves the right to revise performance standards and mitigation criteria to account for any changes documented in the compensatory mitigation project. While final mitigation activities may not result in a net loss of resource value, they may be revised to reflect approved changes from the original mitigation proposal and the success criteria in the permit. Upon acceptance of closure of the project, the Division shall record any such revisions of the mitigation plan or success criteria through formal modification of the permit conditions with public notice.
3. Wetland impacts totaling 0.036 acres in the Lower Hatchie Watershed shall be offset through purchase at a 2:1 ratio from Hatchie Wetland Mitigation Bank for a total of 0.07 credits. Please be advised that the wetland impacts associated with this mitigation are not authorized to proceed until the specified mitigation credits have been purchased. Payment must be made within 60 days of invoice. **Proof of credit purchase shall be submitted to this office within 30 days of payment.** With the purchase of the wetland mitigation credits, legal responsibility for completion of this wetland mitigation is legally transferred to the Hatchie Wetland Mitigation Bank.
4. Stream impacts totaling 522.9 functional feet of resource loss shall be offset through Permittee Responsible Mitigation on stream reaches X,Y, Z... at the Big Muddy Creek Tributary Restoration Site (See Appendix).
5. Upon receipt of the permit, TDOT's Office of Environmental Planning and Permitting will institute a "plans revision" to the Regional Right-of-Way Division where the property is located. The plans revision will indicate that permit restrictions apply to a specific tract/tracts of property. Upon Right-Of-Way's receipt of the "plans revision" the following notice shall be entered on the applicable plan sheet:

NOTICE: The use or disposal of this tract, or any part thereof, is restricted by ARAP/§401 Permit, NRS #23.237 on file at the Office of Environmental Planning and Permitting, Tennessee Department of Transportation, Ninth Floor, James K. Polk Bldg., 505 Deaderick Street, Nashville, TN. Any action affecting this tract of land must comply with the provisions of said permit.



### **Permittee Responsible Mitigation**

Aquatic resource losses to streams for TDOT project PIN 132132.04 will be offset through permittee responsible mitigation at the Big Muddy Creek Tributary Restoration site. TDOT will be responsible for the success and long term-management of the stream reaches at this site providing the lift to offset the impacts authorized by the permit and for the long-term management of the impacted sites within TDOT Right-of-Way.

Mitigation shall be accomplished and maintained in accordance with the reviewed and approved 12-point mitigation plan. (See Appendix; page 28)

### **Stream Relocation Requirements:**

#### STR-1A Unnamed Tributary to Misc Tribs. To Big Muddy Creek TN08010209016

1,246 linear feet of stream fill with a replacement channel of 1,206 linear feet within the TDOT Right-of-Way. Due to site constraints, a functioning vegetated riparian zone is not possible. Stream impacts are to be offset with mitigation for 1,246 feet at a Tier 6 loss.

Latitude: 35.39405, Longitude: -89.40839

#### Conditions for Relocations:

- a. No turf reinforced matting is authorized with these relocations.
- b. No fescue sod shall be used in the stream bed or bank.
- c. The permittee shall remove existing native slab rock, cobble, and gravels in the current channel for placement in the newly constructed channel prior to hydrologic connection.
- d. All new streams must demonstrate lateral and vertical channel stability and have a natural channel bottom.
- e. All watercourses must maintain or improve flow and classifies uses after mitigation is complete.
- f. Construction of the new channels (relocated) shall take place in the dry. Blasting is prohibited. Plugs shall be left intact at the up and downstream segments of the relocated channels. After completion, the downstream plug shall be removed first in the new channel and then the upstream plug. If flow is present, it shall be conveyed through the new channel for approximately 72 hours prior to backfill of the old channel.
- g. The permittee shall notify the Jackson Environmental Field Office or the permit coordinator in the Division's Natural Resource Unit 72 hours prior to establishing flow in the new channel. A site inspection to ensure new channel stability may be performed.

### **Monitoring Requirements**

1. An as-constructed report must be completed within 60 days of construction completion (Special Condition 1 above).
2. The permittee shall monitor the temporary wetland impacts for two years. The report shall be in the form of a narrative with wetland delineation forms and photos.

3. The permittee shall monitor the 1,206 feet of relocation of STR-1A for five years. Annual monitoring reports will include:
  - a. Permit Number(s)
  - b. Names of party(s) responsible for the monitoring
  - c. A brief narrative of the key elements of the proposed mitigation work
  - d. A description of the baseline conditions (e.g., soils, hydrology, vegetation, and wildlife)
  - e. A listing of measurable success factors with quantifiable criteria for determining success
  - f. Definitions for success factors and other terms used in the plan
  - g. Descriptions of equipment, materials, and methods to be used
  - h. Proposed protective measures (e.g., restrictive covenants or conservation easements)
  - i. Hydrological monitoring
  - j. Conclusions
  - k. Recommendations
  
4. In the event the restoration of the temporary impacts or the stream restoration at the Big Muddy site fails, in the Commissioner's opinion, to produce sufficient credits to fully offset the impacts of this project on waters of the state, the permittee must, as directed by the commissioner, compensate for the deficit by (1) purchasing credits from a mitigation banks if credits are available within the watershed, or (2) purchasing credits from an approved In-Lieu Fee mitigation program, or (3) performing additional permittee responsible mitigation.

### **Performance Standards**

Departure from a performance standard does not automatically require corrective action. Proposed values of stream parameters provided in the mitigation plan shall not vary more than 15%. Visual observations and a review of the entire stream system will be conducted to determine if and what actions are warranted if there is a departure from the performance standards.

1. Hydrology:
  - a. The State's Hydrologic Determination procedure shall be part of the monitoring requirements. They hydrologic assessments can be conducted anytime from February 1- April 15<sup>th</sup> during year 1, 3 and 5. Failure for this water feature to rank as a jurisdictional stream will require corrective action and/or mitigation on the part of the permittee.
  - b. Monitoring reports shall include quantitative and qualitative data to demonstrate the replacement channel maintains or improves hydrology. Appropriate stream hydrographs may be included to demonstrate baseflow discharge.
  - c. A bankfull event must be documented in a minimum of 2 of the 5-year monitoring period. Visual observations of the bankfull events can be included.

### **Submission of Monitoring Procedures**

1. Annual monitoring reports shall be due by April 30<sup>th</sup> of each year with the first due by April 30<sup>th</sup>, 2025. Failure to submit the report may result in enforcement actions and civil penalties.
  
2. All reports must be submitted in report form to the Division's Natural Resources Unit located on the 11th Floor of the William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243, via email at [water.permits@tn.gov](mailto:water.permits@tn.gov), or to the permit writer Alicia Douglas at [Alicia.Douglas@tn.gov](mailto:Alicia.Douglas@tn.gov). Please be sure to indicate the ARAP permit number on your submittal.

### **PART III**

#### **Duty to Reapply**

Permittee is not authorized to discharge or conduct an activity that alters the properties of waters of the state after the expiration date of this permit. In order to receive authorization to discharge or to conduct an activity that alters the properties of waters of the state beyond the expiration date, the permittee shall submit such information and forms as are required to the director of the Division of Water Resources. Such applications must be properly signed and certified.

If any portion of the permitted activities, including the authorized impacts to water resources, compensatory mitigation requirements, or post-project monitoring is not completed before the expiration date of this permit the permittee must apply for permit extension or re-issuance. The permittee shall submit such information and forms as are required to the director of the Division of Water Resources at least ninety (90) days prior to its expiration date. Such applications must be properly signed and certified.

#### **Property Rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

#### **Water Rights**

The waters of Tennessee are the property of the state and are held in public trust for the use of the people of the state. This permit does not grant or convey any prescriptive rights, appropriation, or allocation of water, nor does it authorize any injury to the riparian rights of others.

#### **Other Permits**

This permit does not preclude requirements of other federal, state, or local laws. This permit also serves as a state of Tennessee aquatic resource alteration permit (ARAP) pursuant to the *Tennessee Water Quality Control Act of 1977* (T.C.A. §69-3-101 et seq.).

#### **Other Information**

If the permittee becomes aware that he/she failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the director, then he/she shall promptly submit such facts or information.

#### **Changes Affecting the Permit**

##### **Transfer/Change of Ownership**

1. This permit may be transferred to another party, provided there are no activity or project modifications, no pending enforcement actions, or any other changes which might affect the permit conditions contained in the permit, by the permittee if:
  - a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

- b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and contractual liability between them; and
  - c. The Director does not notify the current permittee and the new permittee, within 30 days of his or her intent to modify, revoke, reissue, or terminate the permit, or require that a new application be filed rather than agreeing to the transfer of the permit.
2. The permittee must provide the following information to the division in their formal notice of intent to transfer ownership:
  - a. the permit number of the subject permit;
  - b. the effective date of the proposed transfer;
  - c. the name and address of the transferor;
  - d. the name and address of the transferee;
  - e. the names of the responsible parties for both the transferor and transferee;
  - f. a statement that the transferee assumes responsibility for the subject permit;
  - g. a statement that the transferor relinquishes responsibility for the subject permit;
  - h. the signatures of the responsible parties for both the transferor and transferee, and;
  - i. a statement regarding any proposed modifications to the permitted activities or project, its operations, or any other changes which might affect the permit conditions contained in the permit.

### **Change of Mailing Address**

The permittee shall promptly provide to the director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

## **Noncompliance**

### **Effect of Noncompliance**

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable state and federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

### **Reporting of Noncompliance**

#### **24-Hour Reporting**

1. In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate Environmental Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The

Environmental Field Office should be contacted for names and phone numbers of environmental response personnel).

2. A written submission must be provided within five (5) days of the time the permittee becomes aware of the circumstances unless this requirement is waived by the director on a case-by-case basis. The permittee shall provide the director with the following information:
  - a. A description of the discharge and cause of noncompliance;
  - b. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
  - c. The steps being taken to reduce, eliminate, and prevent recurrence of the non-complying discharge.

### **Scheduled Reporting**

For instances of noncompliance which are not reported under subparagraph a. above, the permittee shall report the noncompliance by contacting the permit coordinator and provide all information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

### **Adverse Impact**

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including but not limited to, accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

## **Liabilities**

### **Civil and Criminal Liability**

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the state of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of pollutants to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its discharge activities in a manner such that public or private nuisances or health hazards will not be created.

### **Liability under State Law**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or the *Federal Water Pollution Control Act*, as amended.

**Reopener:**

This permit may be modified, suspended, or revoked for cause, including:

1. Violation of any of the terms or conditions of this permit or of T.C.A § 69-3-101 et. seq.;
2. Obtaining the permit by misrepresentation or failing to disclose fully all relevant facts;
3. A change in any condition that requires either a temporary or permanent change in the conditions of this permit.

**Appeal:**

An appeal of this action may be made as provided in T.C.A. §69-3-105(i) and Rule 0400-40-05-.12 by submitting a petition for appeal:

1. The petition must be filed within THIRTY (30) DAYS after public notice of the issuance of the permit.
2. The petition must specify the provisions subject to appeal and the basis for the appeal.
3. The petition should be addressed to the technical secretary of the Tennessee Board of Water Quality, Oil and Gas at the following address: Ms. Jennifer Dodd, Director, Division of Water Resources, William R. Snodgrass - Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243-1534, or you may submit such petition electronically to [TDEC.Appeals@tn.gov](mailto:TDEC.Appeals@tn.gov). Any hearing would be in accordance with T.C.A. §§69-3-110 and 4-5-301 et seq.

**Draft Permit Rationale**

Tennessee Department of Transportation  
 State Route 222, from near Hebron Drive to near Thorpe Drive and 1-40 Exit 42  
 Tributaries to Big Muddy Creek and Unnamed Wetlands  
 Fayette County, Tennessee

February 2024  
 Permit Writer: Alicia Douglas

**Summary**

**Tennessee Department of Transportation  
 505 Deaderick Street, Suite 900 J.K. Polk Building  
 Nashville, TN 37243  
 Robbie Stephens, 615-253-7693**

**Location: State Route 222, from near Hebron Drive to near Thorpe Drive and 1-40 Exit 42  
 Fayette County; Tributaries to Big Muddy Creek and unnamed wetlands**

**Latitude 35.3941, Longitude -89.4115**

**Proposed Activity: Permanent and temporary impacts to two streams and three wetlands associated with the widening of State Route 222 to accommodate access to Project Blue Oval. Stream impacts due to encapsulation and fill and replacement result in loss of 522.9 functional feet of stream are to be offset through the Big Muddy Permittee Restoration Site (NRS23.094). Wetland fill totaling 0.036 acres in the Lower Hatchie Watershed shall be offset at a 2:1 ratio by purchase of 0.07 credits from Hatchie Wetland Mitigation Bank. Temporary impacts to 0.111 acres of wetland are to be restored to existing conditions and monitored for two years. 1,206 linear feet of relocated stream channel will be monitored for five years.**

**Permit Status**

<b>Permit Type:</b>	<b>ARAP</b>
<b>Classification:</b>	<b>Major</b>
<b>Issuance Date:</b>	<b>NA</b>
<b>Expiration Date:</b>	<b>NA</b>
<b>Effective Date:</b>	<b>NA</b>

**Status of Affected Waters**

TN08010208007 0400: Unnamed Trib to Big Muddy Creek

Designated Use	Use Support	Causes	Sources
livestock watering & wildlife	fully supporting		
irrigation	fully supporting		
recreation	not supporting	e. coli	unknown
fish and aquatic life	not supporting	physical substrate habitat alternation, alteration in streamside or littoral vegetative covers	crop production, channelization

<b>domestic water supply</b>	<b>not assessed</b>		
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Assessment Date: December 16, 2022

The affected waters have Unavailable Parameters for habitat.  
The affected waters are not known Exceptional Tennessee Waters.

### **Proposed Alterations**

The proposed work is permanent and temporary impacts to two streams and three wetlands associated with the widening of State Route 222 to accommodate access to Project Blue Oval. Stream impacts due to encapsulation and fill and replacement result in loss of 522.9 functional feet of stream are to be offset through the Big Muddy Permittee Restoration Site (NRS23.094). Wetland fill totaling 0.036 acres in the Lower Hatchie Watershed shall be offset at a 2:1 ratio by purchase of 0.07 credits from Hatchie Wetland Mitigation Bank. Temporary impacts to 0.111 acres of wetland are to be restored to existing conditions and monitored for two years. 1,206 linear feet of relocated stream channel will be monitored for five years.

### **Alternatives Analysis and Selection of Least Impactful Practicable Alternative**

The applicant has submitted an analysis of potentially practicable alternatives to the authorized activity. The overall purpose of the activity is to accommodate ongoing development in the region, improve traffic operational efficiency, and improve connections to the Memphis Regional Megasite and the surrounding area. The applicant has analyzed the following alternatives:

*“The following three design options were considered to minimize impacts:*

#### STR-1A (UT to Big Muddy Creek)

- 1) Avoid STR-1A. Design option 1 was not selected due to inability to shift the interchange improvements entirely to the inside of the ramp and the need for additional acceleration lane length along I-40.*
- 2) Reduce impact to STR-1A as well as PND-1A with a retaining wall along Ramp C. Design option 2 was considered but the designer was able to steepen the ramp side slopes and bring the stream relocation closer to the ramp widening and avoid the need for a retaining wall.*
- 3) Relocate STR-1A without a retaining wall and tie to existing STR-1A before the confluence of STR-1A and STR-2A. Design option 3 was selected as it reduces impact length and reduces cost to the project.*

#### STR-2A (UT to Big Muddy Creek)

- 1) Extend existing 60" RCP across the new widening. Steepen roadway embankment slopes to reduce impact. Design option 1 was selected due to optimized impact length.*
- 2) Replace 60" RCP with a sufficiently sized pipe. Design option 2 was not selected due to the impact on lane closures and traffic diversions and increase in impact length.*
- 3) Avoid STR-2A. Design option 3 was not selected due to the need for acceleration lane length along I-40 for both Ramp B & C.*

#### WTL-3A

- 1.) Maintain 6:1 slopes out of preference for driver safety and avoidance of guardrail. Design option 1 was not selected as it is the worst-case scenario for environmental impact.*
- 2) Steepen roadway embankment slopes to reduce impact. Design option 2 was selected along with design option 3 to reduce cost and environmental impact.*



3) *Offsite mitigation. Design option 3 was selected along with design option 2 to reduce cost and environmental impact.*

WTL-2A

1) *Steepen roadway embankment slopes to reduce impact as much as practicable while utilizing guardrail. Design option 1 was not selected due to cost and added risk of adding an obstruction to the roadway.*

2) *Steepen roadway embankment slopes to reduce impact as much as practicable without the addition of guardrail. Design option 2 was selected along with design option 3 as they are the most practical and cost efficient of the three.*

3) *Offsite mitigation. Design option 3 was selected because it is a conventional practice and the best economical fit.*

WTL-5A

1.) *Maintain 6:1 slopes out of preference for driver safety and avoidance of guardrail. Design option 1 was not selected as it is the worst-case scenario for environmental impact.*

2) *Steepen roadway embankment slopes to reduce impact. Design option 2 was partially selected to reduce wetland impacts.*

3) *Offsite mitigation. Design option 3 was selected because it is a conventional practice and the best economical fit.”*

Based on its review of available information, the Division has made a preliminary determination that the least environmentally damaging practicable alternatives are the selected options.



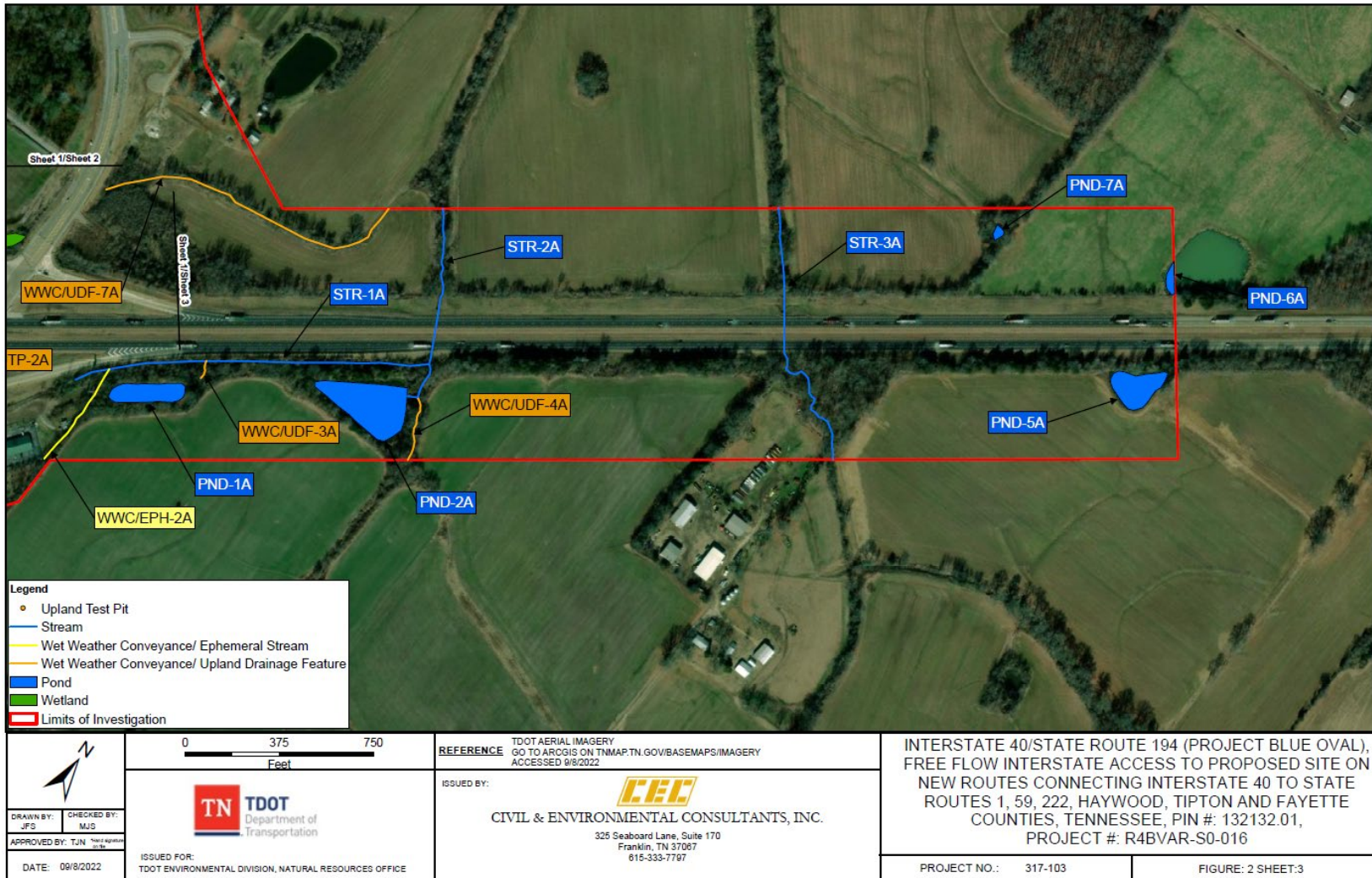
In accordance with the Tennessee Antidegradation Statement (Rule 0400-40-03-.06), the Division has made a preliminary determination that the proposed activities will result in no significant degradation in streams with unavailable parameters for habitat because the applicant proposes mitigation to offset any appreciable permanent loss of resource values.

For more information, please reference Tennessee's Antidegradation Statement which is found in Chapter 0400-40-03 of the Rules of the Tennessee Department of Environment and Conservation.

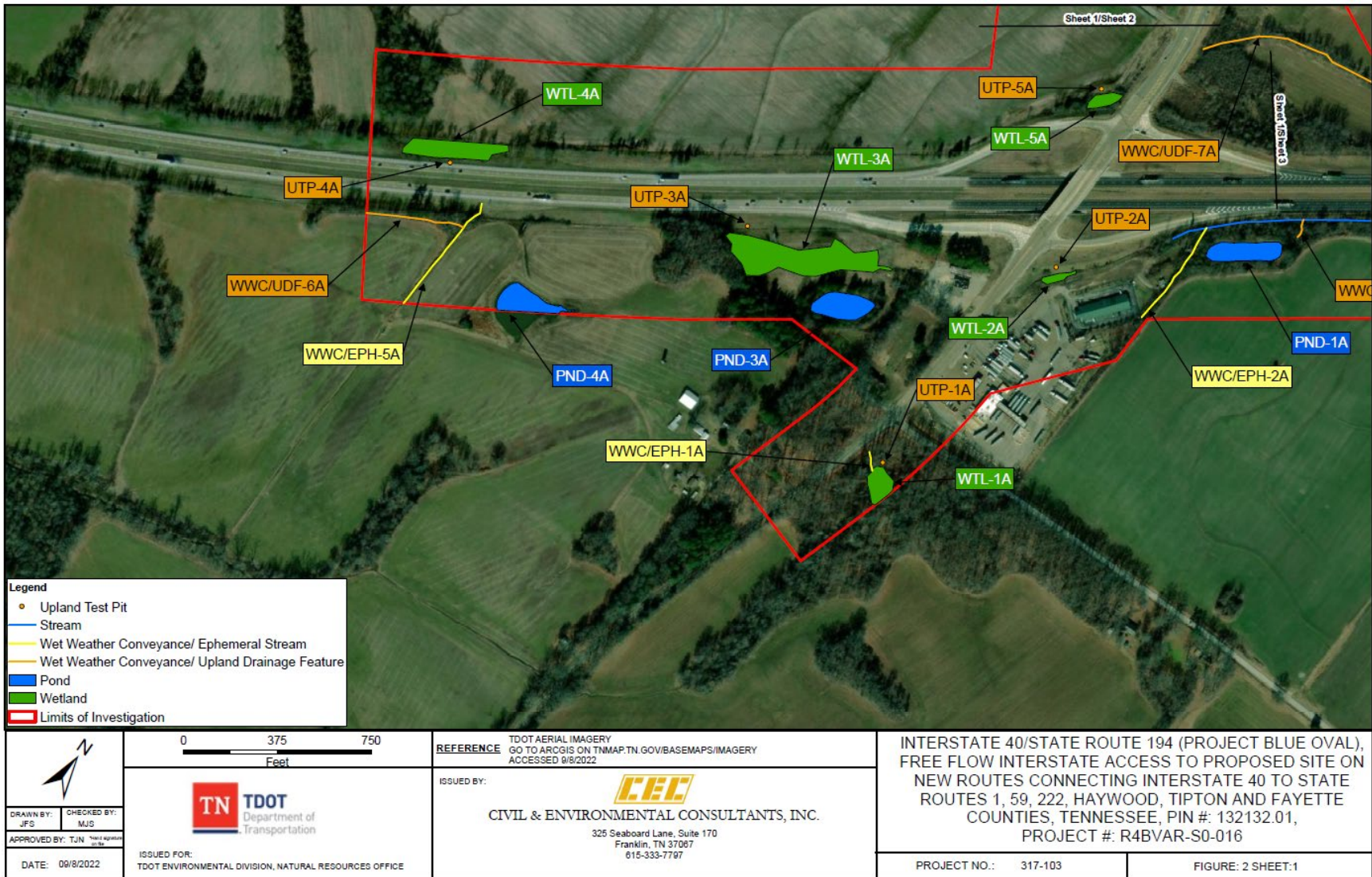
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**PART IV**

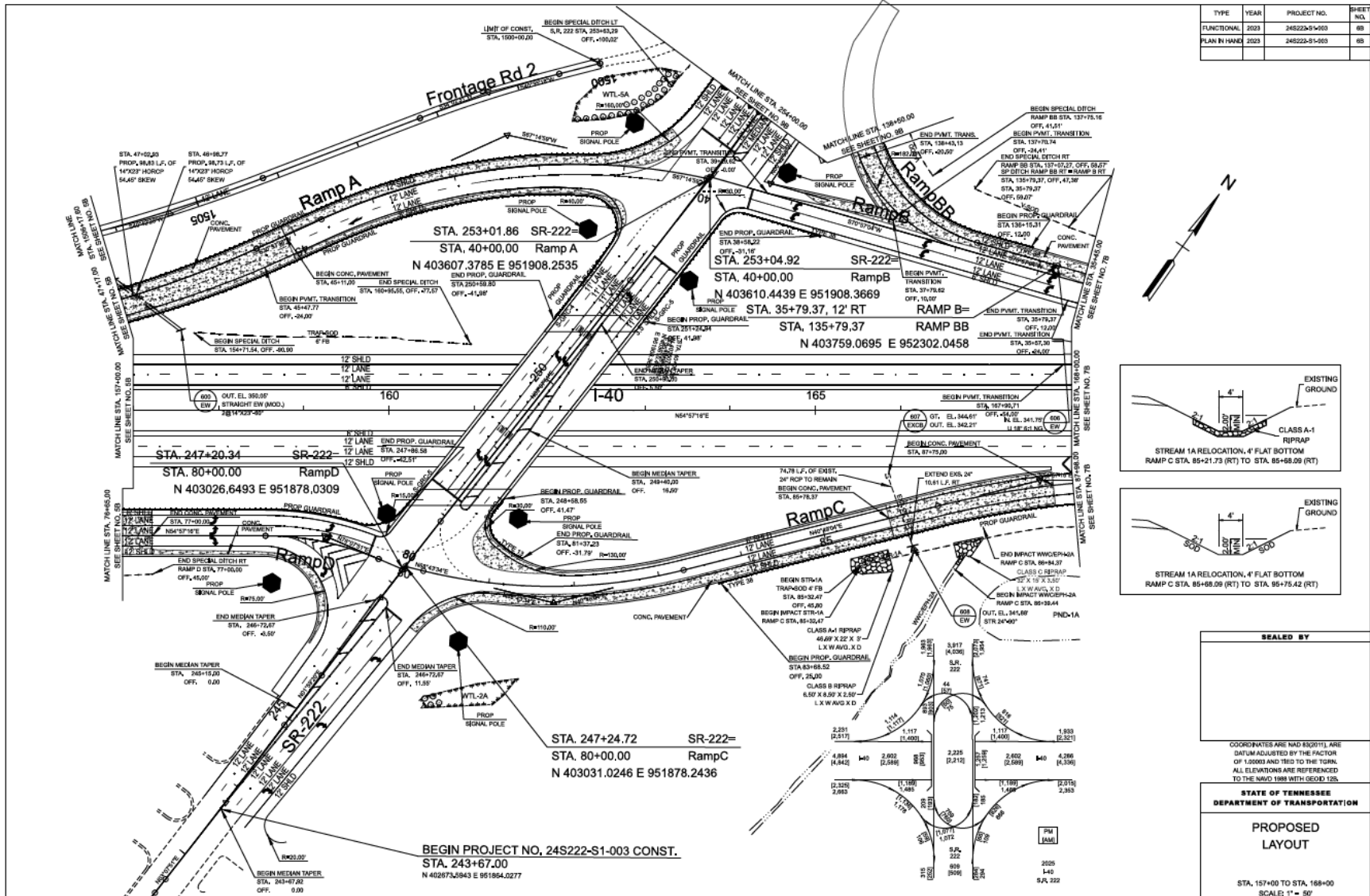
**Appendix**  
 Location/Aerial Map

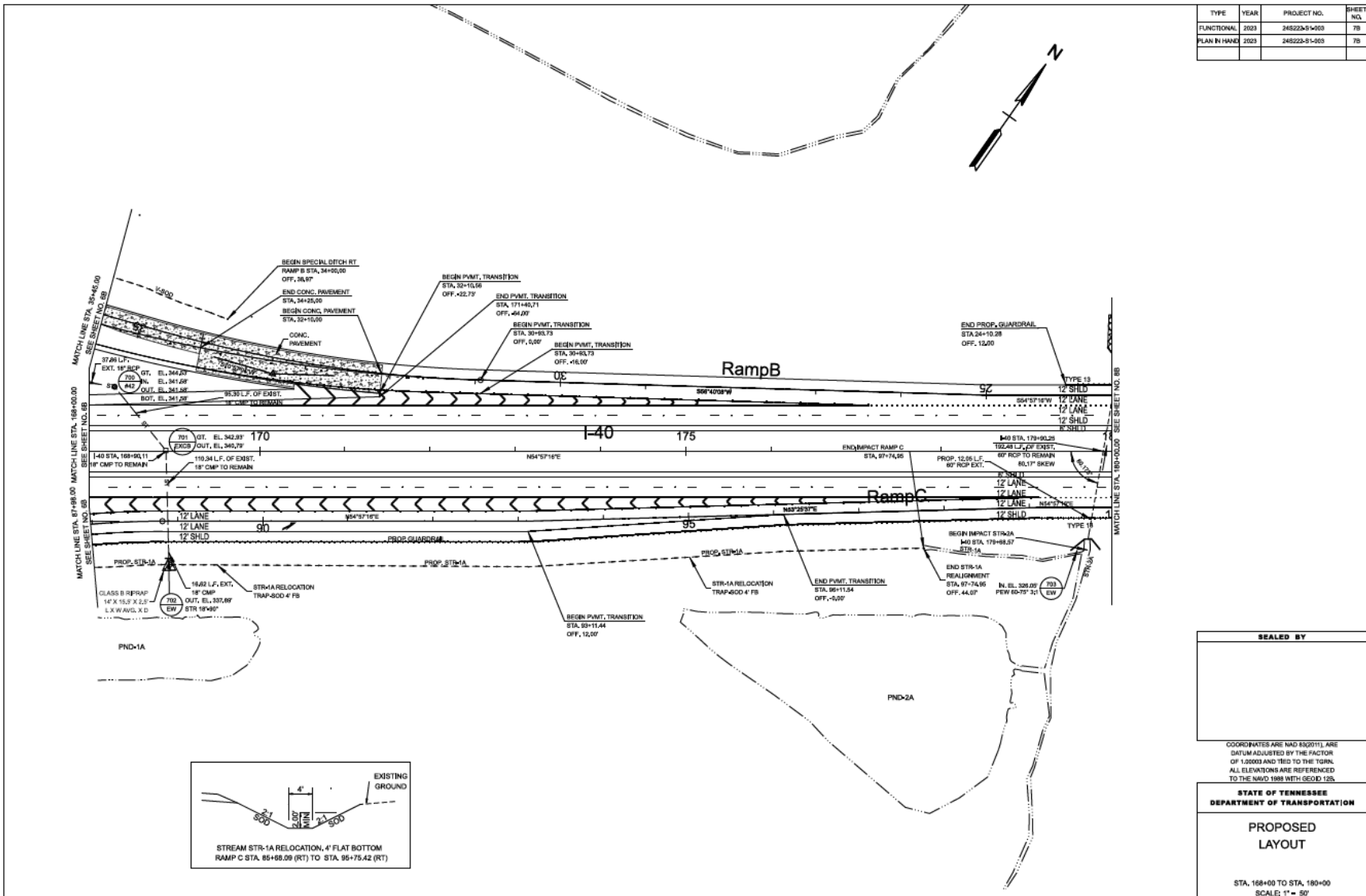


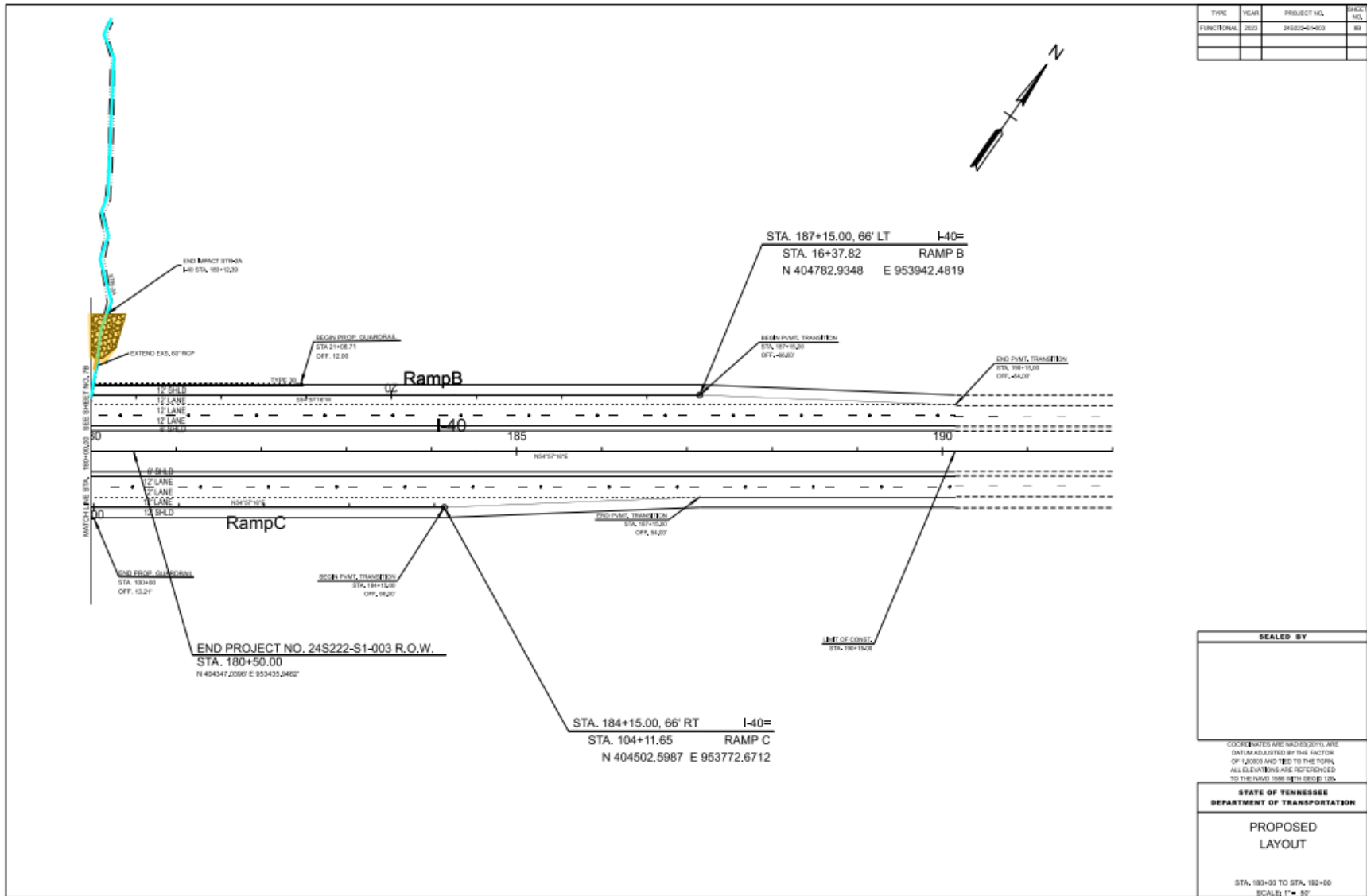




Plans / Specifications







TYPE	YEAR	PROJECT NO.	SHEET NO.
FUNCTIONAL	2023	24S222-S1-003	88



SEALED BY

COORDINATES ARE NAD 83 POINTS ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TORN. ALL ELEVATIONS ARE REFERENCED TO THE 1985 MEAN SEA LEVEL.

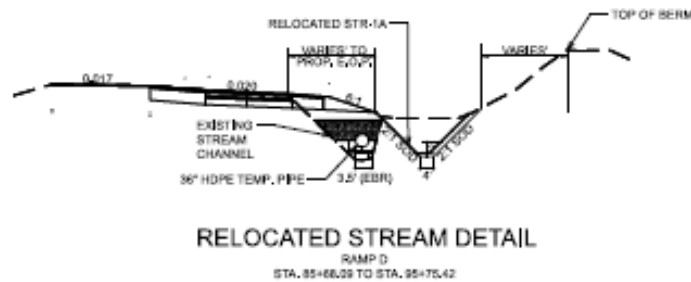
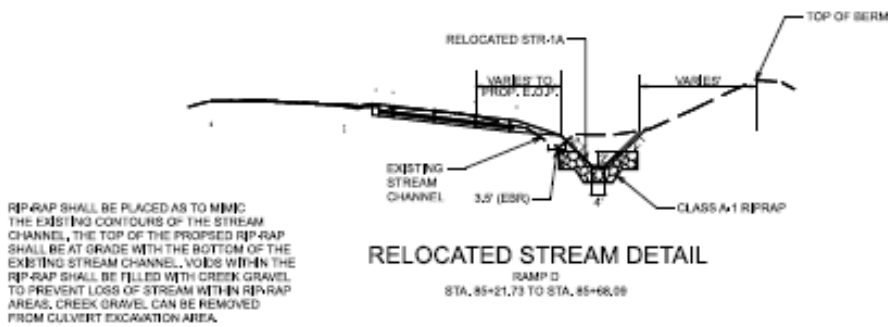
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 180+00 TO STA. 190+00  
 SCALE: 1" = 50'



## STR-1A Permit Sketch



**APPLICATION BY:**  
 TENN. DEPARTMENT OF TRANS.  
 PE # 24S222-S1-003  
 PIN # 132132.04  
 I-40 EXIT 42  
 INTERCHANGE IMPROVEMENTS  
 (PROJECT BLUE OVAL)  
 FAYETTE COUNTY

DATE: 07/31/23

REV: 12/13/23

SHEET 15 OF 25

SQT

Reach Information and Reference Standard Stratification							
Reach ID:	STR-1A	Drainage Area (sqmi):	0.001	ETW/ONRW:	No	Upstream Latitude:	35.393915
Existing Stream Type:	G	Existing Bed Material:	Silt/Clay	Data Collection Season:		Upstream Longitude:	-89.408622
Reference Stream Type:	E	Existing Stream Slope (%):	0.8	Macro Collection Method:		Downstream Latitude:	35.394066
Ecoregion:	74b	Flow Type:	Perennial/Intermittent	Valley Type:	Unconfined Alluvial	Downstream Longitude:	-89.40837

EXISTING CONDITION ASSESSMENT					Roll Up Scoring					
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS		
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.04	0.04	0.04	0.17	Not Functioning	0.39		
	Reach Runoff	Stormwater Infiltration	0.3	0.30	0.30					
Hydraulics	Floodplain Connectivity	Bank Height Ratio	2.8	0.00	0.00	0.00	Not Functioning			
		Entrenchment Ratio	1.3	0.00						
Geomorphology	Large Woody Debris	Large Woody Debris Index	1	0.05	0.05	0.21	Not Functioning			
		# Pieces								
	Lateral Migration	Erosion Rate (ft/yr)	H/M	100	0.30				0.37	
		Dominant BEHI/NBS								
		Percent Streambank Erosion (%)								
	Riparian Vegetation	Riparian Vegetation	Percent Armoring (%)	600	0.50				0.35	
			Left - Average Diameter at Breast Height (DBH; in)					2.04		0.22
			Right - Average DBH (in)					3.85		0.41
			Left - Buffer Width (feet)					26		0.24
			Right - Buffer Width (feet)					66		0.73
Left - Tree Density (#/acre)			760			0.50				
Right - Tree Density (#/acre)			600			0.50				
Left - Native Herbaceous Cover (%)			15			0.20				
Right - Native Herbaceous Cover (%)	45	0.60								
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)									
Bed Form Diversity	Bed Form Diversity	Pool Spacing Ratio	0.5	0.80	0.27					
		Pool Depth Ratio	68	0.00						
		Percent Riffle (%)								
Plan Form	Plan Form	Aggradation Ratio	1.01	0.00	0.00					
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)		0.80	0.80	0.80	Functioning			
	Organic Enrichment	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrogen	Nitrate-Nitrite (mg/L)		0.80			0.80		
	Phosphorus	Phosphorus	Total Phosphorus (mg/L)		0.80			0.80		
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index		0.80	0.80	0.80	Functioning			
		Percent Clingers (%)								
		Percent EPT - Cheumatopsyche (%)								
Fish	Fish	Percent Oligochaeta and Chironomidae (%)								
		Native Fish Score Index								
		Catch per Unit Effort Score								

Reach Information and Reference Standard Stratification							
Reach ID:	STR-2A	Drainage Area (sqmi):	0.17	ETW/ONRW:	No	Upstream Latitude:	35.394955
Existing Stream Type:	G	Existing Bed Material:	Silt/Clay	Data Collection Season:		Upstream Longitude:	-89.406391
Reference Stream Type:	E	Existing Stream Slope (%):	0.6	Macro Collection Method:		Downstream Latitude:	35.395208
Ecoregion:	74b	Flow Type:	Perennial/Intermittent	Valley Type:	Unconfined Alluvial	Downstream Longitude:	-89.406496

EXISTING CONDITION ASSESSMENT					Roll Up Scoring			
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.29	0.31	0.31	0.22	Not Functioning	0.40
	Reach Runoff	Stormwater Infiltration	0.13	0.13	0.13			
Hydraulics	Floodplain Connectivity	Bank Height Ratio	4.9	0.00	0.00	0.00	Not Functioning	
		Entrenchment Ratio	1.4	0.00				
Geomorphology	Large Woody Debris	Large Woody Debris Index	3	0.16	0.16	0.21	Not Functioning	
		# Pieces						
	Lateral Migration	Erosion Rate (ft/yr)	0.64	0.08	0.29			
		Dominant BEHI/NBS	H/M					
		Percent Streambank Erosion (%)	100	0.00				
		Percent Armoring (%)		0.80				
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	3.6	0.39	0.35			
		Right - Average DBH (in)	3.3	0.35				
		Left - Buffer Width (feet)	44	0.56				
		Right - Buffer Width (feet)	30	0.30				
Left - Tree Density (#/acre)		400	0.50					
Right - Tree Density (#/acre)		1200	0.50					
Left - Native Herbaceous Cover (%)		35	0.47					
Right - Native Herbaceous Cover (%)	25	0.33						
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)							
	Bed Form Diversity	Pool Spacing Ratio		0.80	0.27			
Pool Depth Ratio		0.4	0.00					
Percent Riffle (%)		51	0.00					
Plan Form	Sinuosity	1.03	0.00	0.00				
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)		0.80	0.80	Functioning		
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)						
	Nitrogen	Nitrate-Nitrite (mg/L)		0.80				
	Phosphorus	Total Phosphorus (mg/L)		0.80				
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index		0.80	0.80	Functioning		
		Percent Clingers (%)						
		Percent EPT - Cheumatopsyche (%)						
Fish	Fish	Percent Oligochaeta and Chironomidae (%)						
		Native Fish Score Index						
		Catch per Unit Effort Score						

**Permittee Responsible Mitigation**

**PROJECT GOALS**

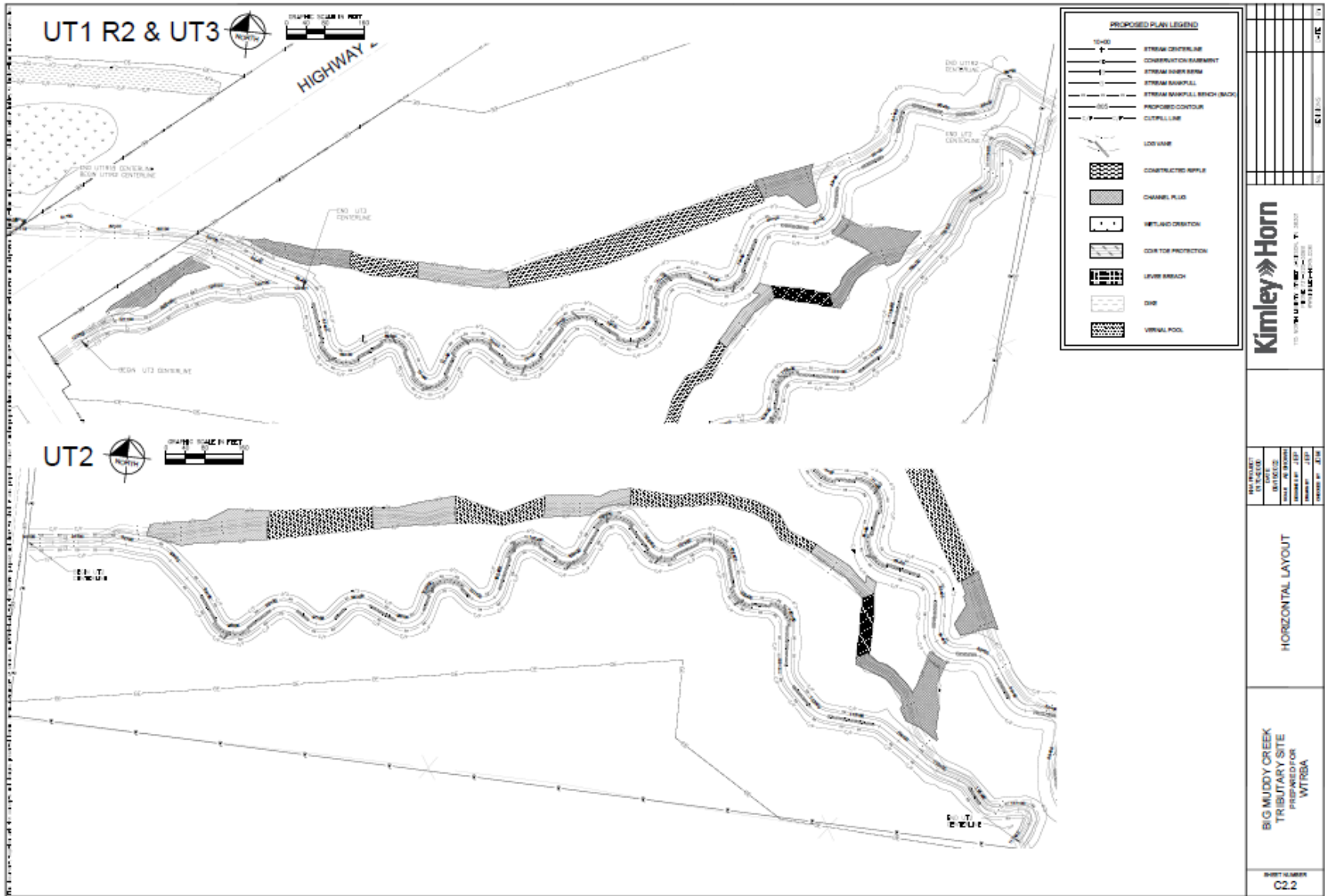
The overall goal with the establishment of the Big Muddy Creek Tributary Restoration Site is to provide functionally based Permittee Responsible Mitigation (PRM) to offset permitted impacts to waters of the United States associated with the development of the Memphis Regional Megaproject. The proposed PRM project will restore 8,193 linear feet of three tributaries to Big Muddy Creek to 9,686 linear feet of streams. The current streams have been impacted by anthropogenic disturbances within the watershed that have caused the streams to exhibit low functional value under Tennessee’s Stream Quantification Tool. The restored channels will correct these deficiencies where it is possible to create functional lift. Please see the following table for project goals and objectives.

For full Mitigation Plan, click [here](#) and search permit number NRS23.094.

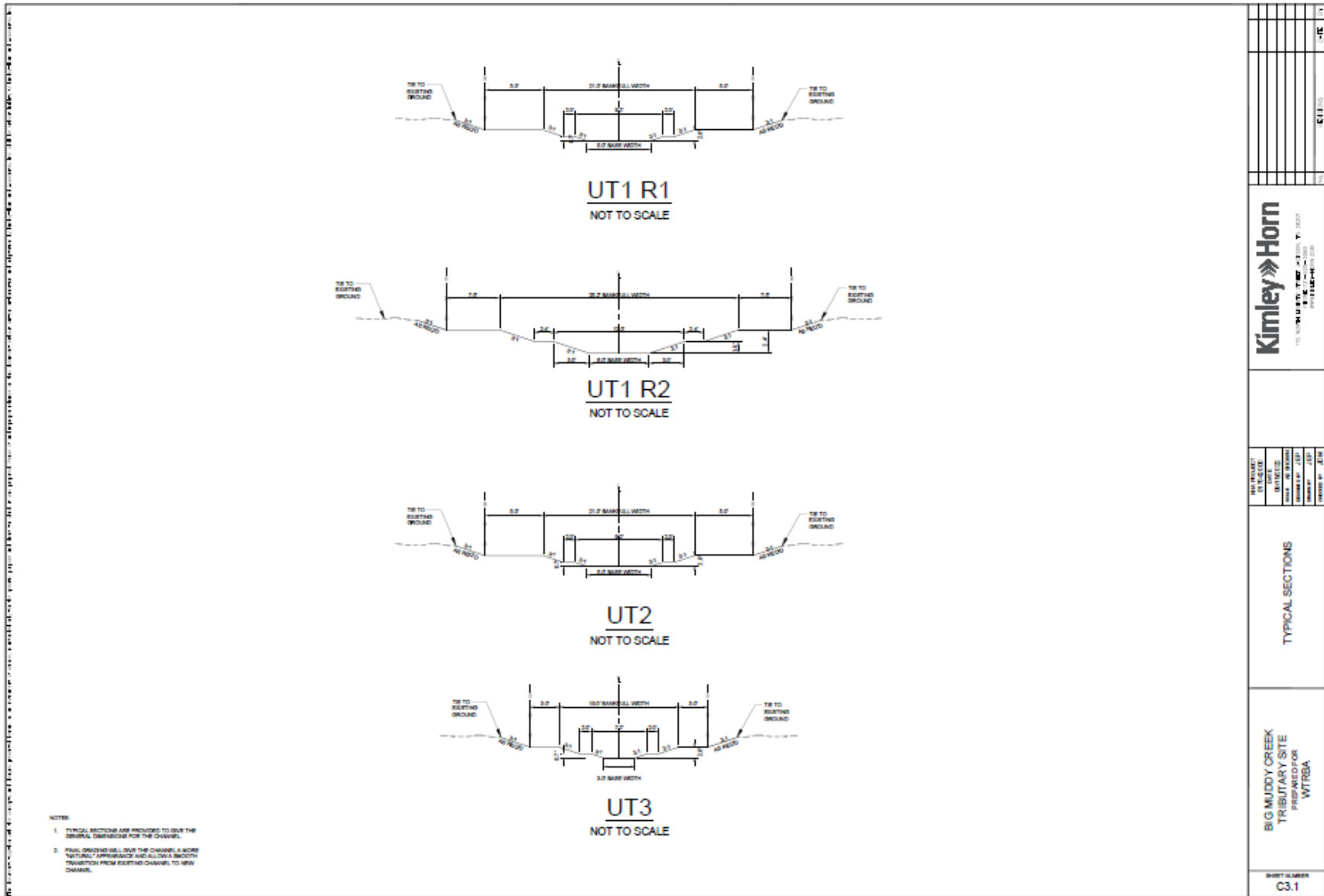
Table 7. Proposed Mitigation Credits (SQT Method)				
Reach Name	Existing Stream Length (ft)	Proposed Stream Length	Change in Functional Condition (PCS-ECS)	Functional Lift (Credits)
UT1 R1	3825	4561	0.28	1372.76
UT1 R2	1,838	2,333	0.27	699.21
UT2	2,530	2,792	0.28	818.44
<b>Total Stream Length</b>	<b>8193</b>	<b>9686</b>	<b>Total Potential Credits</b>	<b>2890.41</b>













**LETTER OF AGREEMENT**  
**BETWEEN THE**  
**TENNESSEE DEPARTMENT OF TRANSPORTATION**  
**AND THE**  
**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**REGARDING POLICIES CONCERNING AQUATIC PERMITS AND SECTION 401**  
**PERMITS**

WHEREAS, both the Tennessee Department of Transportation and the Tennessee Department of Environment and Conservation are dedicated to the preservation of aquatic resources; and

WHEREAS, it is necessary that information concerning specific mitigation is accessible to both the public and to other State agencies;

WHEREAS, the Tennessee Department of Transportation (TDOT) wishes to cooperate with the Tennessee Department of Environment and Conservation (TDEC) in the endeavor to provide said information;

THEREFORE, TDOT and TDEC agree to the following:

1. Upon TDOT's application for an Aquatic Resource Alteration Permit ("ARAP") or § 401 Certification ("§401") permit and pursuant to the required procedures for obtaining said permits, TDEC shall issue the ARAP/§401 where appropriate. In order to expedite the procedure, TDEC shall provide TDOT with the permit number upon application by whatever means is most convenient to both PARTIES. Once the ARAP/§401 is completed, TDEC will forward the permit to the Office of Environmental Planning and Permitting at TDOT for archiving in a permanent, adequate, permit file, accessible to any interested party for inspection and review.
2. Upon receipt of the permit, TDOT's Office of Environmental Planning and Permitting will institute a "plans revision" to the Regional Right-of-Way Division where the property is located. The plans revision will indicate that permit restrictions apply to a specific tract/tracts of property. Upon Right-Of-Way's receipt of the "plans revision" the following notice shall be entered on the applicable plan sheet:

NOTICE: The use or disposal of this tract, or any part thereof, is restricted by ARAP/§401 Permit, NRS # \_\_\_\_\_, on file at the Office of Environmental Planning and Permitting, Tennessee Department of Transportation, Ninth Floor, James K. Polk Bldg., 505 Deaderick Street, Nashville, TN. Any action affecting this tract of land must comply with the provisions of said permit.

3. TDOT will provide written notification to TDEC of the incorporation of the notice set forth in item 2. Such notification shall be sent to Tennessee Department of Environment and Conservation, Division of Water Pollution Control, 1<sup>st</sup> Floor, L&C Annex, 401 Church Street, Nashville, TN 37243.
4. Any subsequent changes to the proposed right-of-way plans affecting the permitted tract must be noted to TDEC.
5. Once the project is completed and closed, the entire set of right-of-way plans, including the permit information, will be filed in the County Clerk's Office in accordance with T.C.A. §54- 5-110.
6. Subsequent to the filing of the plans, TDOT shall submit to TDEC a half-sized set of the recorded plans containing the mitigation information. If TDEC desires a full-size set of plans, such request be made in writing to the Regional Transportation Manager prior to the ordering of the plans.
7. In the event that TDOT sells all or part of this tract of land or any interest in this tract of land, TDOT will attach to the conveyance of that interest a list of restrictive covenants that incorporate the deed restrictions and covenants set out in this permit. The following shall accompany each document of conveyance:

"A deed restriction shall be placed on . . . *description of area* . . . This area (wetlands, springs, etc) and surrounding property will be restored, created, enhanced, and preserved as described in the special conditions of ARAP/§401 Permit, NRS # \_\_\_\_\_ attached to this document. These restrictions are permanent and run with the land in order to protect the aesthetic, educational, or ecological values of certain real property. The covenants shall prohibit certain uses such as, but not limited to: removal, alteration, or destruction of any vegetation or natural habitat; any agricultural, commercial, or industrial activity; any filling, excavating, or dredging; any construction or placing of building or structures; any disruption of any free-flowing waters, or alteration of natural water courses, lakes, ponds, marshes, or wetlands. Any violation of this permit and/or the restrictions contained within shall be subject to enforcement action as defined in T.C.A. §69-3-115.

8. Upon completion of the conveyance, a copy of the instrument of conveyance shall be sent to Tennessee Department of Environment and Conservation, Division of Water Pollution Control, 1<sup>st</sup> Floor, L&C Annex, 401 Church Street, Nashville, TN 37243.
9. A permanent listing of ARAP and §401 permits shall be kept at TDOT's Office of Environmental Planning and Permitting. Semiannually, TDOT will submit its ARAP/§401 listings to TDEC's Division of Water Pollution Control.
10. TDOT may utilize the procedure with already existing ARAP and §401 permits in which there has not yet been compliance with the deed restriction requirements.

