



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243

October 16, 2023

Christian Juru
Tennessee Department of Transportation
505 Deaderick Street, Suite 900 J.K. Polk Building
Nashville, TN 37243

Subject: §401 Water Quality Certification - Aquatic Resource Alteration Permit (ARAP)
NRS23.159; PIN 132709.00, Haywood County

Dear Mr. Juru:

The Division has reviewed and approved your Aquatic Resource Alteration Permit application for permanent impacts to two streams associated with the widening of State Route 222. The STR-4 existing culvert will be extended to 184.5 feet, STR-5 existing culvert extended to 172.3 feet, and a total of 7.6 feet combined stream length loss. No mitigation is required as each extended structure will individually be under 200 linear feet.

The enclosed Aquatic Resource Alteration Permit authorizes the work you proposed in your application. The work must be performed in conformance with the accepted plans and information submitted in support of application NRS23.159 and the limitations and conditions set forth in the enclosed permit.

The activity was reviewed, and the Division has reasonable assurance that the activity as proposed and in accordance with all permit conditions herein will not violate applicable water quality standards. Subject to conformance with the accepted plans, specifications, and other information submitted in support of the referenced application, the state of Tennessee hereby issues certification for the proposed activity. The enclosed permit authorizes the activity pursuant to *The Tennessee Water Quality Control Act of 1977* (T.C.A. §69-3-101 et seq.) and may serve as a §401 water quality certification (pursuant to 40 C.F.R. §121.2).

For federal agency employees and permit holders, the 401 Water Quality Certification Justifications and Citations related to the procedural requirements of §121.7(d) can be found at <https://www.tn.gov/environment/permit-permits/water-permits1/aquatic-resource-alteration-permit--arap-.html>. A paper copy of the certifications and justifications can also be obtained by contacting water.permits@tn.gov or calling (615) 532-0359.

The state of Tennessee may modify, suspend or revoke this authorization or seek modification or revocation should the state determine that the activity results in more than an insignificant violation of applicable water quality standards or violation of the TWQCA. Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.

It is the responsibility of the permittee to read and understand all permit conditions before the project begins. If you need any additional information or clarification, please contact me at 615-804-2409 or by e-mail at

Alicia.Douglas@tn.gov.

Sincerely,

A handwritten signature in blue ink that reads "Alicia Douglas".

Alicia Douglas
Natural Resources Unit

Enclosure

cc: Conner Franklin, Jackson EFO Conner.Franklin@tn.gov
USACE – Memphis District CEMVMRegulatory@usace.army.mil
Khalid Ahmed, TDOT Khalid.Ahmed@tn.gov



Aquatic Resource Alteration Permit NRS23.159

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 Christian Juru
505 Deaderick Street, Suite 900 J.K. Polk Building
Nashville, Tennessee 37243

AUTHORIZED WORK: The authorized work is permanent impacts to two streams associated with the widening of State Route 222. The STR-4 existing culvert will be extended to 184.5 feet, STR-5 existing culvert extended to 172.3 feet, and a total of 7.6 feet combined stream length loss. No mitigation is required as each extended structure will individually be under 200 linear feet.

LOCATION: SR- 222; From near proposed SR-468 to near Campground Road (Project Blue Oval)
Unnamed Tributary to Big Muddy Creek
Haywood County; Midpoint Latitude 35.4339, Longitude -89.4062

EFFECTIVE DATE: October 16, 2023

EXPIRATION DATE: October 15, 2028

A handwritten signature in cursive script that reads "M. Lee Barber". The signature is written in black ink and is positioned above a horizontal line.

for Jennifer Dodd
Director, Division of Water Resources

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PART I

Authorized Alterations

STR-4 (Unnamed Tributary to Big Muddy Creek) Location #1

Latitude: 35.4315 Longitude: -89.4063

- a. Existing condition: 94.7-foot-wide crossing comprised of three 14-foot x 10 foot 4-sided box culverts
- b. Proposed condition: 184.5-foot-wide crossing comprised of original box culverts plus:
 - 25.9 feet inlet extension with three 14-foot x 10-foot box culverts
 - 32.7 feet outlet extension with three 14-foot x 10-foot box culverts
 - 25 feet stream transition at inlet
 - 24.3 feet stream transition at outlet
 - 15.7 feet riprap apron at inlet
 - 15.5 feet riprap apron at outlet
 - 3.9 feet stream length loss
- c. No mitigation required because cumulative impacts to stream reach are less than 200 feet.

STR-5 (Unnamed Tributary to Big Muddy Creek) Location #2

Latitude: 35.4393 Longitude: -89.4063

- a. Existing condition: 98.8 feet of 10-foot x 8-foot box culvert
- b. Proposed condition: 172.3-foot-wide crossing comprised of original box culvert plus:
 - 26.4 feet of structure extension at inlet
 - 23.9 feet of structure extension at outlet
 - 25 feet stream transition at inlet (not included in structure length)
 - 25 feet stream transition at outlet (not included in structure length)
 - 10.3 feet riprap apron with wingwalls at inlet
 - 12.9 feet riprap apron with wingwalls at outlet
 - 3.7 feet stream length loss
- c. No mitigation required because cumulative impacts to stream reach are less than 200 feet.

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 the valid duration of the permit.
 - c. The report may be submitted via email to 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. All debris and waste material will be cleaned up or removed from below the ordinary high water.
3. The work shall be accomplished in conformance with the accepted plans, specifications, data, and other information submitted in support of application NRS23.159 and the limitations, requirements and conditions set forth herein.
4. If the project contractor or subcontractors will be responsible for the identification and permitting of off-site waste and borrow areas, copies of Waste and Borrow Plans and certifications that necessary permits have been received will be shared with TDEC upon receipt by the TDOT District Supervisor. Copies of these documents should be emailed to the TDEC permit writer and/or water.permits@tn.gov, referencing permit NRS23.159 in the email subject line.
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. 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.
12. 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.

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 15 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).
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

No mitigation is required for this activity.

Monitoring Requirements

1. An as-built report must be completed within 30 days of construction completion (Special Condition 1 above).

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. Any hearing would be in accordance with T.C.A. §§69-3-110 and 4-5-301 et seq.

Permit Rationale

Tennessee Department of Transportation
 State Route 222
 Unnamed Tributary to Big Muddy Creek

Haywood County, Tennessee

October 2023

Permit Writer: Alicia Douglas

Summary

Tennessee Department of Transportation
SR- 222; From near proposed SR-468 to near Campground Road (Project Blue Oval)
Haywood County, Tennessee

Christian Juru, 615-741-7792
Location: Haywood County, Unnamed Tributary to Big Muddy Creek
Midpoint Latitude 35.4339, Longitude -89.4062

Authorized Activity: Permanent impacts to two streams associated with the widening of State Route 222. The STR-4 existing culvert will be extended to 184.5 feet, STR-5 existing culvert extended to 172.3 feet, and a total of 7.6 feet combined stream length loss. No mitigation is required as each extended structure will individually be under 200 linear feet.

Permit Status

| | |
|-------------------------|-------------------------|
| Permit Type: | ARAP |
| Classification: | Minor |
| Issuance Date: | October 16, 2023 |
| Expiration Date: | October 15, 2028 |
| Effective Date: | October 16, 2023 |

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 alteration, alteration in stream-side or littoral vegetative covers | crop production, channelization |
| domestic water supply | not assessed | | |

Assessment date: May 2, 2017

The affected waters have unavailable parameters for habitat.
The affected waters are not Exceptional Tennessee Waters.

Authorized Alterations

The primary purpose of the project is reconstruction and widening of State Route 222 from near the proposed SR-468 to near Campground Road (Project Blue Oval). The primary goals of the project are to support and accommodate ongoing development in the regions succah as the construction of the Ford Motor Company manufacturing campus and to improve geometric deficiencies along the existing SR-222.

The authorized work is permanent impacts to two streams associated with the widening of State Route 222. The STR-4 existing culvert will be extended to 184.5 feet, STR-5 existing culvert extended to 172.3 feet, and a total of 7.6 feet combined stream length loss. No mitigation is required as each extended structure will individually be under 200 linear feet.

Alternatives Analysis and Selection of Least Impactful Practicable Alternative

The applicant has submitted an analysis of potentially practicable alternatives to the activity. The overall purpose of the activity is to accommodate development in the region. The applicant has analyzed the following alternatives:

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

STR-4

Design Option 1: Replace existing structure with a bottomless structure for less impact.

Reason Not Chosen: Due to the existing structure being in good condition, it was not economically feasible to replace this structure.

Design Option 2: Reduce the roadway width by removing the right turn lane. By reducing the roadway width, it would reduce the length needed to extend the box bridge.

Reason Not Chosen: Due to the traffic data this alternative would not allow for an adequate amount of storage length or appropriate roadway taper length.

Design Option 3: Extend the existing box at the inlet and outlet and install guardrail at the box bridge crossing.

Reason Why Chosen: This allows for a steeper side slope to be used which results in less length needed to extend the box bridge. The side slopes were changed from 6:1 to 3:1.

STR-5

Design Option 1: Replace existing structure with a bottomless structure for less impact.

Reason Not Chosen: Due to the existing structure being in good condition, it was not economically feasible to replace this structure.

Design Option 2: Extend the Box Culvert along its current skew and alignment at the inlet.

Reason Not Chosen: When extending this Box Culvert along its existing skew and alignment, it resulted in more impact and stream loss due to cutting part of the stream off.

Design Option 3: Install guardrail at the Box Culvert crossing. The extension to the Box Culvert on the upstream end of the Box Culvert is to be place at 90 degrees to the roadway.

Reason Why Chosen: This allows for a steeper side slope to be used which results in less length needed to extend the box bridge. The side slopes were changed from 6:1 to 3:1. Installing the extension at the upstream end of the Box Culvert at 90 degrees to the roadway, allows the design to follow more closely to the existing alignment of STR-5 and reduces the amount of stream loss."

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

Existing Conditions/Loss of Resource Values

STR-4 has silt substrate and banks are covered in giant ragweed and sycamore. Top of bank width is 20 feet, channel bottom width of 10 feet., and a 6-foot bank height. The stream has a rock check dam across it at Blue Oval City. An existing 94.7-foot box bridge with concrete aprons at the inlet and outlet will be extended with an additional 58.6 feet of box bridge and 31.2 feet of riprap apron. 3.9 feet of stream length will be lost.

STR-5 has silt substrate and banks are covered in cottonwood, sweet gum, and black willow. Top of bank width is 12 feet, channel bottom width of 3 feet, and a 5-foot bank height. Channel is incised with standing, ponded water throughout and no benthics were observed. An existing 98.8 box culvert with wingwalls will be extended with an additional 50.3 feet of box culvert and 23.2 feet of riprap apron. 3.7 feet of stream length will be lost.

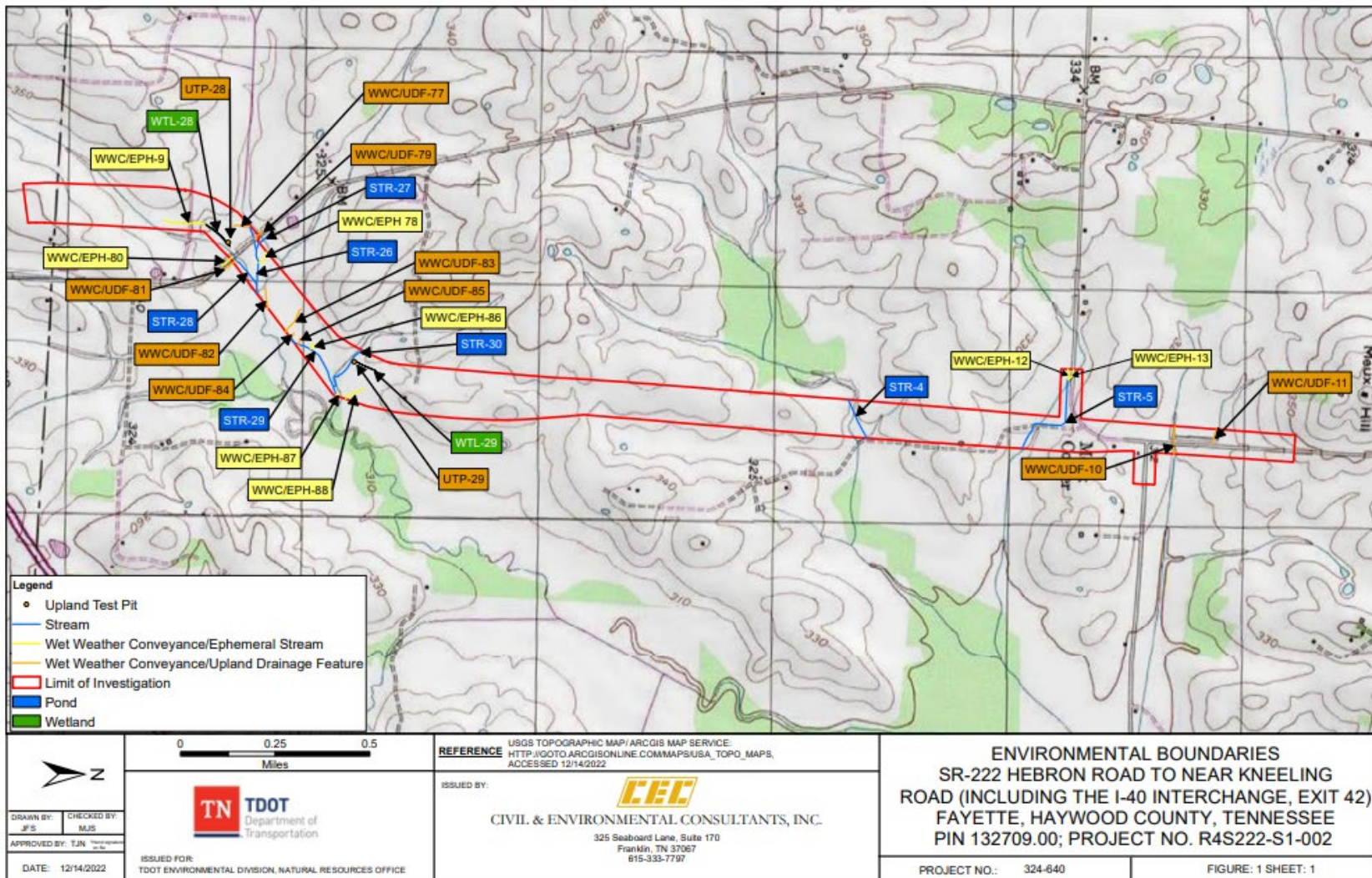
Antidegradation

In accordance with the Tennessee Antidegradation Statement (Rule 0400-40-03-.06), the Division has made a determination that the authorized activities will result in no significant degradation in a waterbody with unavailable parameters for habitat because the activities will not result in an appreciable permanent loss of resource values.

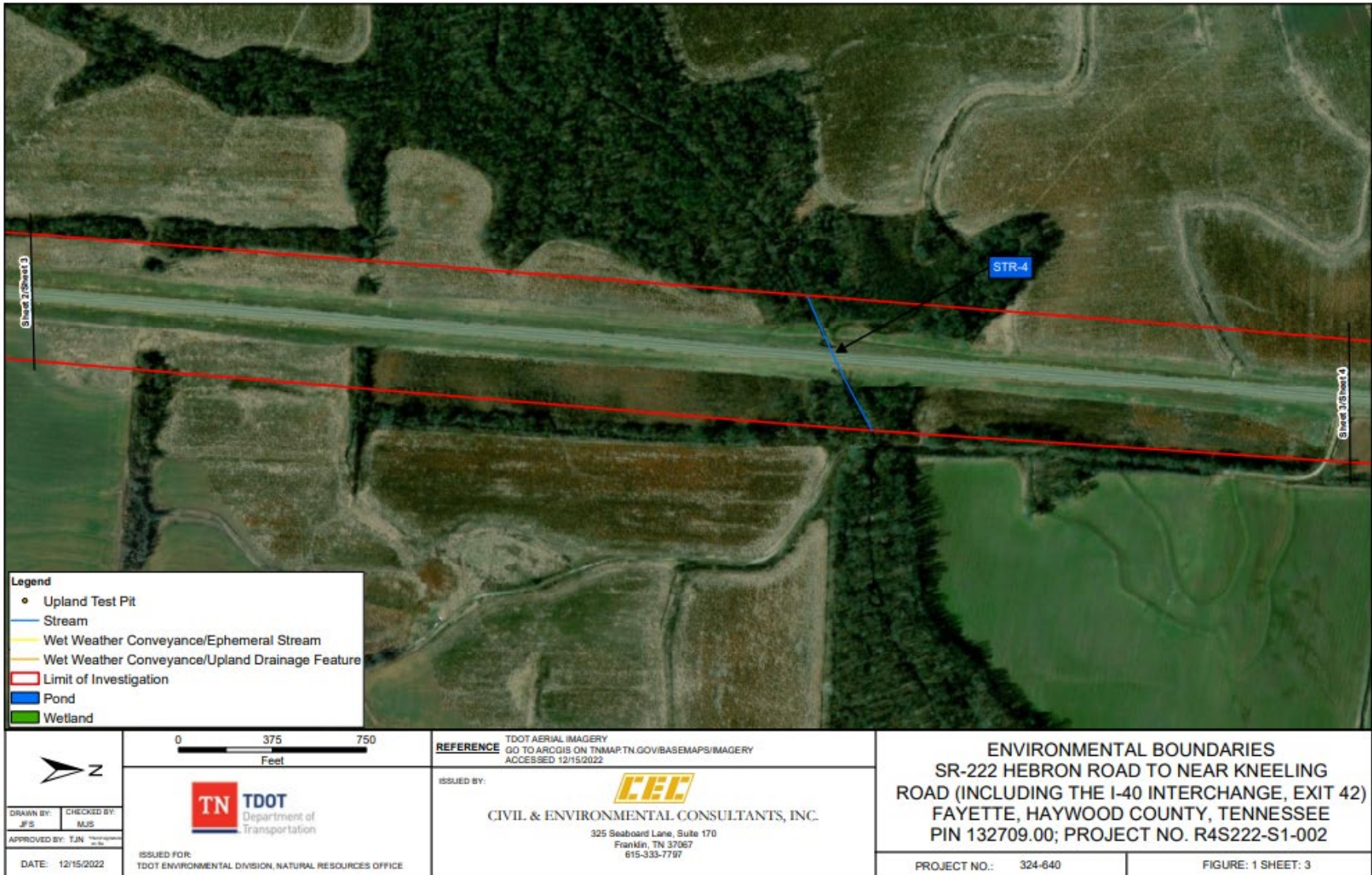
For more information, please reference Tennessee's Antidegradation Statement which is found in Chapter 0400-40-03 of the Rules of the Tennessee Department of Environment and Conservation.

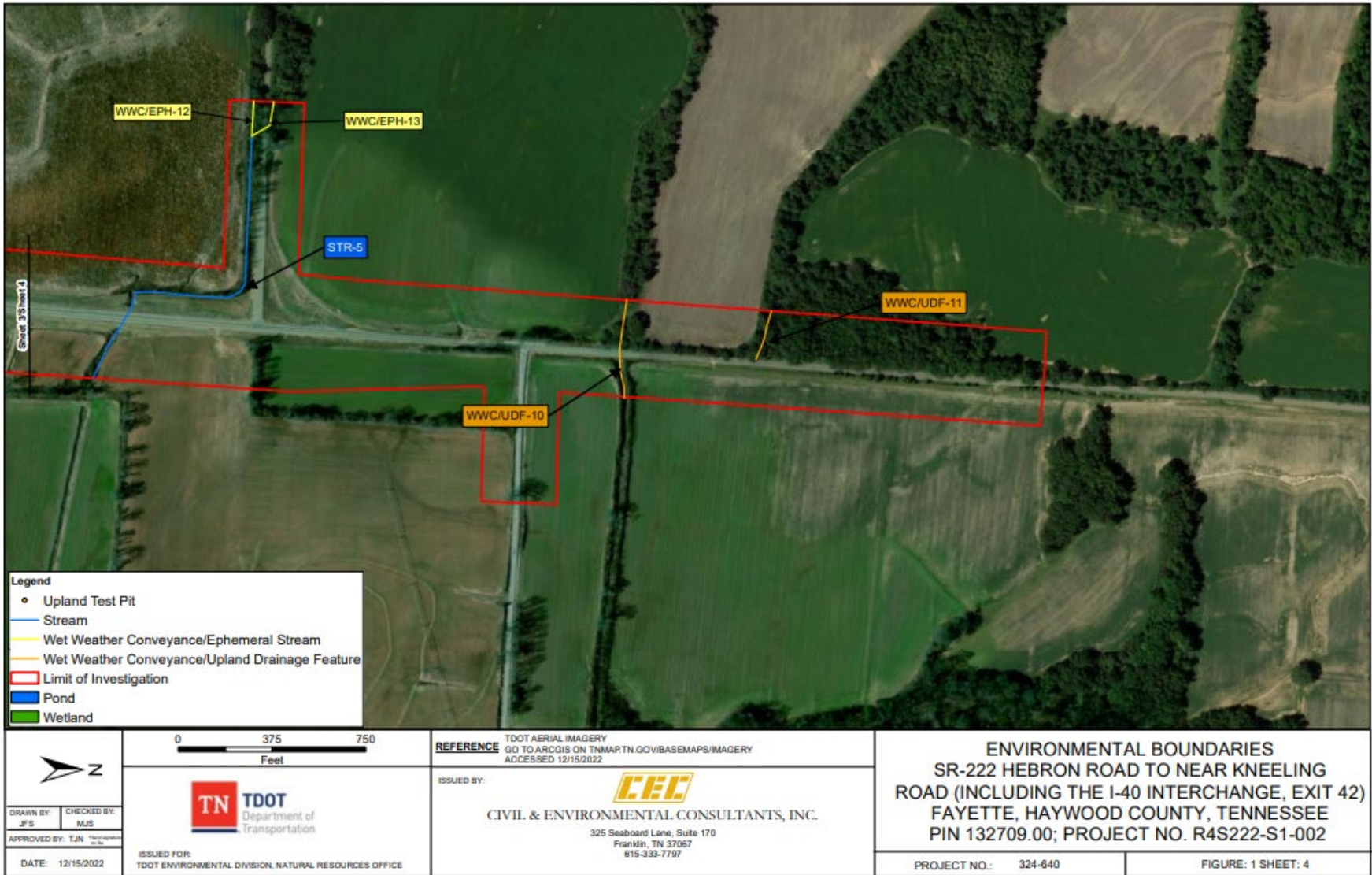
PART IV

Appendix
 Location/Topo Map

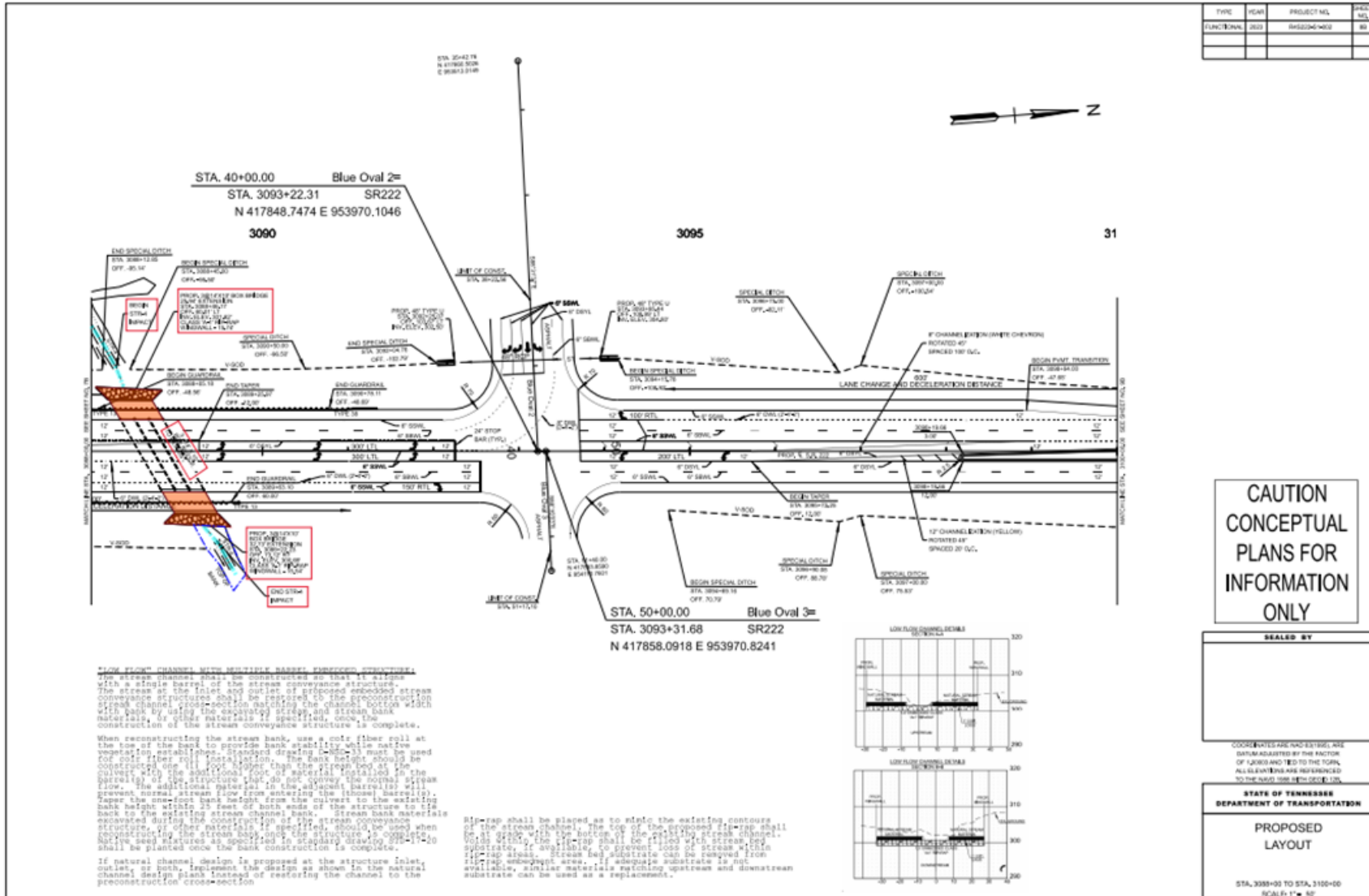


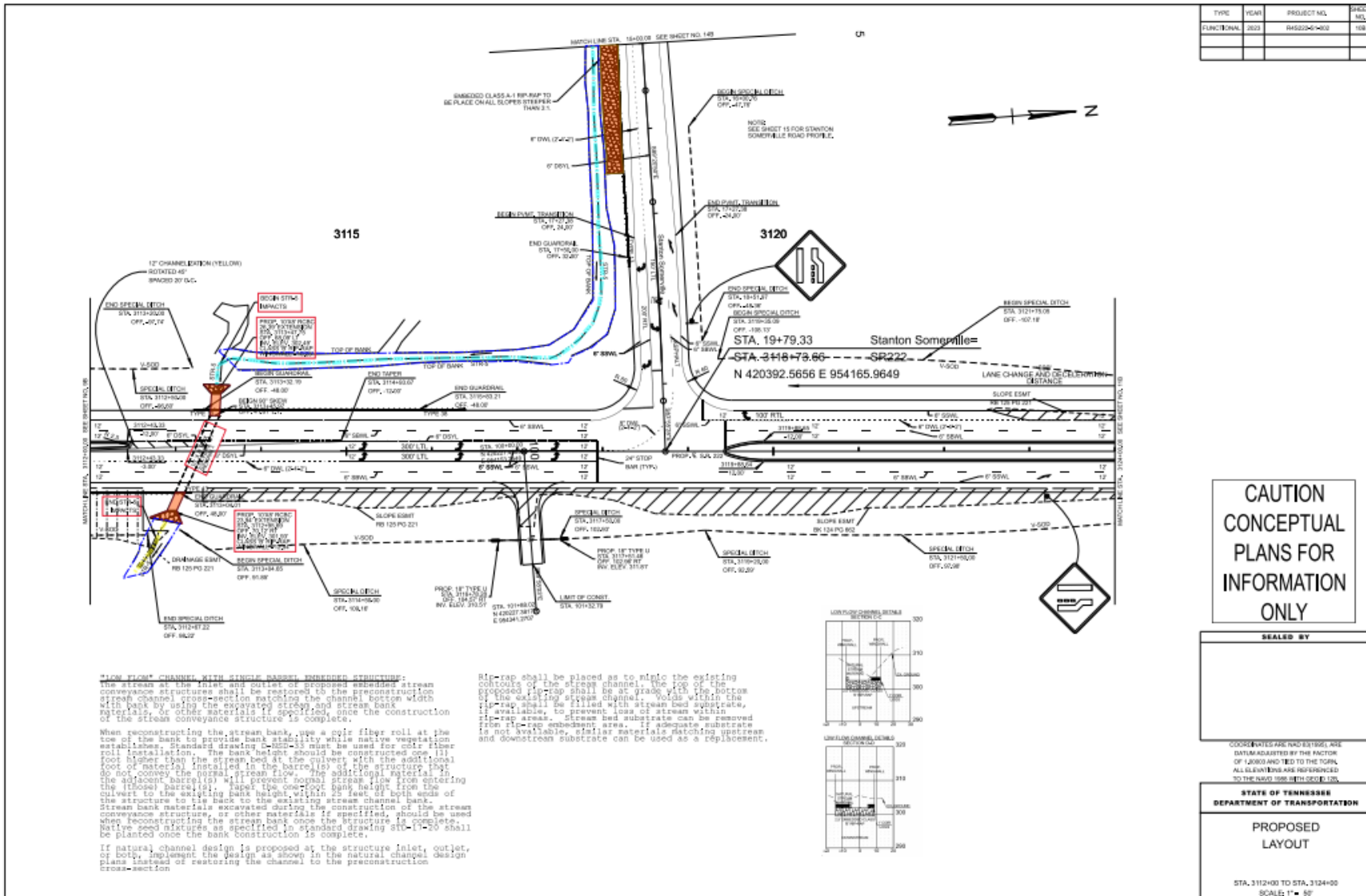
Aerial





Plans / Specifications





Photos



Photo 43: View of STR-4 looking upstream.



Photo 44: View of STR-4 looking downstream.



Photo 45: View of STR-5 looking upstream.



Photo 46: View of STR-5 looking downstream.