STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

September 2, 2022

MEMORANDUM TO: Mr. Drew Cox, P.E., Division Engineer
Division 6

DocuSigned by:
Mack C. Rivenbark III
AAAD1248B309416...

FROM: for Michael Turchy, Group Leader
Environmental Coordination & Permitting

SUBJECT: Environmental Permits for NC 55 from south of SR 1532 (Oak Grove Church Road) in Harnett County to NC 42 in Wake County.
WBS No. 46377.1.1 **STIP R-5705**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act	Individual Section 404	December 31, 2027
NC Division of Water Resources Section 401 Clean Water Act	Individual Water Quality Certification	December 31, 2027

Please feel free to contact our Group for any questions.

ec:
NCDOT Permit Website (https://xfer.services.ncdot.gov/pdea/PermIssued/)

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

PROJECT COMMITMENTS

STIP Project No. R-5705
NC 55 from south of SR 1532 (Oak Grove Church Road) in Harnett County to NC 42 in Wake County
WBS No. 46377.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Divisions 5 and 6, Program Development Branch – Sidewalks

Existing sidewalks will be replaced per NCDOT guidelines. Any additional sidewalks may require cost sharing with the local municipality. The local municipality will be responsible for the maintenance and liability of the proposed sidewalk in accordance with the NCDOT Complete Streets Policy, updated August 2019.

This commitment is still valid.

GeoEnvironmental Section – Impacts to Underground Storage Tanks (USTs)

If further design indicates potential impact to USTs, preliminary site assessments for soil and groundwater contamination will be performed prior to construction.

Tanks on Parcel 244 have been removed as of June 13, 2002. Any other assessments for soil and groundwater contamination will be performed prior to construction.

Environmental Analysis Unit – Traffic Noise and Air Quality Group - Noise Report
A Traffic Noise Report to be completed.

A Traffic Noise Report was completed as of 6/2/22. No noise walls are recommended, so balloting will not be needed.

Environmental Analysis Unit – Biological Surveys Group – Cape Fear Shiner

A biological conclusion for the Cape Fear shiner will be rendered prior to construction. Coordination with the USFWS will occur if necessary.

Aquatic survey reports were completed in December 2021 and April 2022. Sections R-5705 A and B were given a May Affect, Not Likely to Adversely Affect biological conclusion and R-5705 C Section was given a No Effect biological conclusion for Cape Fear Shiner. USWS concurrence was received May 2, 2022.

Project Management Unit, Divisions 5 and 6 – Avoidance and Minimization

Three-to-one (3:1) slopes will be used throughout the project with the exception of the RCBC designed with two-to-one (2:1) slopes to reduce impacts to wetlands and streams. (A March 20, 2020 follow-up meeting with the US Corps of Engineers and the NC Department of Water Resources yielded this decision).

This commitment is still valid.

Project Management Unit, Divisions 5 and 6 – Construction

These groups will coordinate with the NCDOT Aviation concerning temporary impacts due to construction.

Coordination with NCDOT Aviation resulted in determining that a signal is needed at the NC 55 / SR 2763 (Maude Stewart Rd) intersection, which is next to the Fuquay-Angier Airport Fuquay/Angier Field. The signal pole will be a mast arm and will no be as high as the existing and adjacent power line pole. Since the signal pole will not be as high as the power line ole, it was determined that an airspace study would not be needed for the airport.

COMMITMENTS DEVELOPMENT FROM PERMITTING

Divisions 5 and 6 Construction and Roadside Environmental Unit

401 Condition 4
All portions of the proposed project draining to 303(d) listed watersheds shall be designed, constructed, and operated with sediment and erosion control measures that meet *Design Standards in Sensitive Watersheds* (15A NCAC 4B .0124). However, due to the size of the project, NC DOT shall not be required to meet15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres.

401 Condition 5
All portions of the proposed project draining to 303(d) listed watersheds shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.

Environmental Analysis Unit – Environmental Coordination and Permitting Group (ECAP)

401 Condition 6
When final design plans are completed for R-5705 Section C, a modification to the 401 Water Quality Certification and the Neuse River Riparian Buffer Authorization shall be submitted and fees to the NC Division of Water Resources. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and

buffers. No construction activities that impact any wetlands, streams, surface waters, or buffers located in R-5705 Section C shall begin until after the permittee applies for and receives a written modification of the 401 Water Quality Certification and the Neuse River Riparian Buffer Authorization from the NC Division of Water Resources.

Divisions 5 and 6 and Environmental Analysis Unit - ECAP
404 Condition 1
Phased Permit: This permit only authorizes work on Sections R-5705 A and R-5705 B of TIP R-5705. Construction on Sections R-5705 C of TIP R-5705 shall not commence until all the following occur: (a) final design has been completed for those sections and submitted to the U.S. Army Corps of Engineers (Corps); (b) the Permittee has minimized impacts to waters and wetlands to the maximum extent practicable and the Corps concurs with this assessment; (c) any modification to the plans have been approved by the Corps in writing; and (d) a final compensatory mitigation plan has been submitted by the Permittee and approved by the Corps.

Divisions 5 and 6
404 Condition 1
Work Limits: All work authorized by this permit shall be performed in strict compliance with the attached permit plans entitled Wetland and Surface Water Impacts-R-5705 and the Wetland and Surface Water Impacts Summary Tables dated March 1, 2022 (R-5705A), and December 21, 2021 (R-5705 B). The Permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the U.S. Army Corps of Engineers (Corps) prior to any active construction in waters or wetlands

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

September 2, 2022

Regulatory Division

Action ID: SAW-2019-02118

North Carolina Department of Transportation (NCDOT)
Attn: Mr. Michael Turchy
1598 Mail Service Center
Raleigh, North Carolina 27699

Dear Mr. Turchy:

Enclosed is a Department of the Army permit for the R-5705 project which involves construction activities related to the proposed widening of NC 55 from south of SR 1532 (Oak Grove Church Road) to NC 42 and construction of a new location bypass around the Town of Angier to the west, constructed as a four-lane median divided roadway, in Harnett and Wake Counties, North Carolina. The Corps is issuing this permit in response to your written request of December 21, 2021, revisions dated March 1, 2022, and the ensuing administrative record.

Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notifies you that your permit has been modified.

Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant conditions require that:

a. You must complete construction before December 31, 2027.

b. You must notify this office in advance as to when you intend to commence and complete work.

c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

d. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined in the U.S. Army Corps of Engineers, Wilmington District, Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

You should address all questions regarding this authorization to Liz Hair at the Wilmington Regulatory Field Office, telephone 910-251-4049, or email at sarah.e.hair@usace.army.mil.

FOR THE CHIEF, REGULATORY DIVISION

Monte Matthews
Date: 2022.09.02 17:23:47 -04'00'

Monte Matthews
Lead Project Manager
Wilmington District

Enclosures

Electronic copy:

Ms. Hannah Sprinkle, NCDEQ-DWR
Ms. Amanetta Somerville, USEPA
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Ms. Renee Gledhill-Earley, SHPO
NCDMS

DEPARTMENT OF THE ARMY PERMIT

Permittee: **North Carolina Department of Transportation**
Attn: Michael Turchy

Permit No.: **SAW-2019-02118, STIP R-5705**

Issuing Office: **CESAW-RG-L**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: **The North Carolina Department of Transportation (NCDOT) proposes to widen NC 55 from south of SR 1532 (Oak Grove Church Road) to NC 42 and construct a new location bypass around the Town of Angier to the west, constructed as a four-lane median divided roadway, with partially controlled access throughout the project, in Harnett and Wake Counties, North Carolina.**

Proposed total impacts associated with the overall R-5705 project include permanent impacts (fill, excavation, mechanized land clearing, and bank stabilization) to aquatic resources are 18.45 acres wetland and 5,519 linear feet of stream channel. Proposed permanent open water impacts total 8.9-acre. Potential impacts associated with utility relocations of section A are included within these impact amounts.

Project Location: **The project site is located along NC Highway 55 from south of SR 1532 (Oak Grove Church Road) to NC Highway 42, and within agricultural and forested areas to the west of NC Highway 55, in Harnett and Wake Counties, North Carolina.**

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2027. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Michael Turchy

(PERMITTEE) **NC DEPARTMENT OF TRANSPORTAION**
Attn: Michael Turchy

02-September-2022
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Monte Matthews

Date: 2022.09.02 17:38:55 -04'00'

*For*_____
(DISTRICT COMMANDER*)* **BENJAMIN A. BENNETT, COLONEL**

_____
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____
(TRANSFEREE)

_____
(DATE)

*U.S. GOVERNMENT PRINTING OFFICE: 1986 - 717-425

SAW-2019-02118
R-5705
SPECIAL CONDITIONS

WORK LIMITS / NOTIFICATION

1. **Phased Permit:** This permit only authorizes work on Sections R-5705 A and R-5705 B of TIP R-5705. Construction on Sections R-5705 C of TIP R-5705 shall not commence until all the following occur: (a) final design has been completed for those sections and submitted to the U.S. Army Corps of Engineers (Corps); (b) the Permittee has minimized impacts to waters and wetlands to the maximum extent practicable and the Corps concurs with this assessment; (c) any modification to the plans have been approved by the Corps in writing; and (d) a final compensatory mitigation plan has been submitted by the Permittee and approved by the Corps.

2. **Work Limits:** All work authorized by this permit shall be performed in strict compliance with the attached permit plans entitled Wetland and Surface Water Impacts-R-5705 and the Wetland and Surface Water Impacts Summary Tables dated March 1, 2022 (R-5705A), and December 21, 2021 (R-5705 B). The Permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the U.S. Army Corps of Engineers (Corps) prior to any active construction in waters or wetlands.

3. **Unauthorized Dredge and/or Fill:** Except as authorized by this permit or any Corps approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and waste activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

4. **Permit Distribution:** The Permittees shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions and drawings shall be available at the project site during construction and maintenance of this project.

5. **Preconstruction Meeting:** The Permittee shall schedule and attend a preconstruction meeting between its representatives, the contractor's representatives, and the Corps, Wilmington Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of Army Permit. The Permittee shall provide the Corps, Wilmington Field Office, NCDOT Project Manager, with a copy of the final permit plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the preconstruction meeting for a time frame when the Corps and North Carolina Division of Water Resources (NCDWR) Project Managers can attend. The Permittee shall invite the Corps and NCDWR Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting. The thirty (30) day requirement can be waived with the concurrence of the Corps.

6. **Notification of Construction Commencement and Completion:** The Permittees shall notify the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

7. **Reporting Address:** All reports, documentation, and correspondence required by the conditions of this permit shall be submitted to the following: U.S. Army Corps of Engineers, Wilmington District Wilmington Field Office, Attn: Liz Hair at 910-251-4049 / sarah.e.hair@usace.army.mil. The Permittees shall reference the following permit number, SAW-2019-02118, on all submittals.

8. **Permit Revocation:** The Permittees, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

9. **Reporting Violations:** Violation of these permit conditions or violation of Section 404 of the Clean Water Act shall be reported to the Corps in writing and by telephone at: 910-251-4049 / sarah.e.hair@usace.army.mil within 24 hours of the Permittee's discovery of the violation.

10. **Endangered Species Act:** The Permittees shall implement all necessary measures to ensure the authorized activity does not kill, injure, capture, harass, or otherwise harm any federally-listed threatened or endangered species. While

accomplishing the authorized work, if the Permittees discover or observe an injured or dead threatened or endangered species, the U.S. Army Corps of Engineers, Wilmington District Wilmington Field Office, Attn: Liz Hair at 910-251-4049/ sarah.e.hair@usace.army.mil will be immediately notified to initiate the required Federal coordination.

11. **Endangered Species Act (Continued):** The US. Fish and Wildlife Service's (USFWS's) Programmatic Biological Opinion (PBO) titled, "NCDOT Program Effects on the Northern Long-eared Bat in Divisions 1-8", dated November 6, 2020, contains agreed upon conservation measures for the NLEB. As noted in the PBO, applicability of these conservation measures varies depending on the location of the project. Your authorization under this Department of the Army permit is conditional upon your compliance with all applicable agreed upon conservation measures in the PBO, which are incorporated by reference in this permit. Failure to comply with the applicable these conservation measures would constitute non-compliance with your Department of the Army permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO, and with the ESA.

12. **National Historic Preservation Act:** While accomplishing the authorized work, if the Permittees discover any previously unknown cultural resources, the District Engineer will be immediately notified so that required coordination can be initiated with the North Carolina Division of Natural and Cultural Resources.

13. **Culverts:**

    a. Unless otherwise requested in the application and depicted on the approved permit plans, culverts greater than 48 inches in diameter shall be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert shall be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Culverts shall be designed and constructed in a manner that minimizes destabilization and head cutting.

    b. Measures shall be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening shall be such as to pass the average historical low flow and spring flow without

adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

c. The Permittee shall implement all reasonable and practicable measures to ensure that equipment, structures, fill pads, work, and operations associated with this project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, flooding, and/or stream bank erosion. The Permittee shall routinely monitor for these effects, cease all work when detected, take initial corrective measures to correct actively eroding areas, and notify this office immediately. Permanent corrective measures may require additional authorization by the Corps.

d. Culverts placed within wetlands must be installed in a manner that does not restrict the flows and circulation patterns of waters of the United States. Culverts placed across wetland fills purely for the purposes of equalizing surface water shall not be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

14. **Maintain Flows and Circulation Patterns of Waters:** Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters and/or wetlands.

15. **Sediment and Erosion Control:**

a. During the clearing phase of the project, heavy equipment shall not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

b. No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit. This includes, but is not limited to, sediment control fences and other barriers intended to catch sediment losses.

c. The Permittees shall remove all sediment and erosion control measures placed in waters and/or wetlands, and shall restore natural grades on those areas, prior to project completion.

d. The Permittees shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project shall remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures shall be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures shall be inspected and maintained regularly, especially following rainfall events. All fill material shall be adequately stabilized at the earliest practicable date to prevent sediment from entering adjacent waters or wetlands.

16. **Clean Fill:** The Permittees shall use only clean fill material for this project. The fill material shall be free of items such as trash, construction debris, metal and plastic products, and concrete block with exposed metal reinforcement bars. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source.

17. **Temporary Fills:** Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability.

18. **Borrow and Waste:** To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used as borrow and/or waste sites associated with this project. The Permittee shall provide the Corps with appropriate maps indicating the locations of proposed borrow and/or waste sites as soon as such information is available. The Permittee shall submit to the Corps site-specific information needed to ensure that borrow and/or waste sites comply with all applicable Federal requirements, to include compliance with the Endangered Species Act and the National Historic Preservation Act, such as

surveys or correspondence with agencies (e.g., the USFWS, the NC-HPO, etc.). The required information shall also include the location of all aquatic features, if any, out to a distance of 400 feet beyond the nearest boundary of the site. The Permittee shall not approve any borrow and/or waste sites before receiving written confirmation from the Corps that the proposed site meets all Federal requirements, whether or not waters of the U.S., including wetlands, are located in the proposed borrow and/or waste site. All delineations of aquatic sites on borrow and/or waste sites shall be verified by the Corps and shown on the approved reclamation plans. The Permittee shall ensure that all borrow and/or waste sites comply with Special Condition 2 of this permit. Additionally, the Permittee shall produce and maintain documentation of all borrow and waste sites associated with this project. This documentation will include data regarding soils, vegetation, hydrology, any delineation(s) of aquatic sites, and any jurisdictional determinations made by the Corps to clearly demonstrate compliance with Special Condition 2. All information will be available to the Corps upon request. The Permittee shall require its contractors to complete and execute reclamation plans for each borrow and/or waste site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps within 30 days of the completion of the reclamation work.

19. **Water Contamination:** All mechanized equipment shall be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the Permittees shall immediately report it to the N.C. Division of Water Resources at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act shall be followed.

20. **Aquatic Life Movement:** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area. All discharges of dredged or fill material within waters of the United States shall be designed and constructed, except as authorized as indirect impacts, to maintain low flows to sustain the movement of aquatic species.

21. **Prohibitions on Concrete:** The Permittees shall take measures necessary to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering waters of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to waters of the United States when it no longer poses a threat to aquatic organisms (concrete is set and cured).

22. **Compensatory Mitigation:** In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Forms. The requirements of these forms, including any special conditions listed on these forms, are hereby incorporated as special conditions of this permit.

DocuSign Envelope ID: 774ED556-5B7A-4E77-9758-56175700322C

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

April 8, 2022

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Correction to 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Neuse Buffer Rules with ADDITIONAL CONDITIONS for the proposed widening of NC-55 and the construction of a bypass around the town of Angier in Harnett and Wake Counties, TIP R-5705. NCDWR Project No. 20201864

Dear Mr. Harris:

Attached hereto is a copy of Certification No. 004710 issued to The North Carolina Department of Transportation (NCDOT) dated March 22, 2022 and revised April 8, 2022.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,
DocuSigned by:
Amy Chapman
9C9886312DCD474...
Richard E. Rogers, Jr., Director
Division of Water Resources

Attachments

Electronic copy only distribution:
Liz Hair, US Army Corps of Engineers, Wilmington Field Office
Gregory Price, Division 6 Environmental Officer
Heather Montague, Division 5 Environmental Officer
Chris Rivenbark, NC Department of Transportation
Amanetta Somerville, US Environmental Protection Agency
Gary Jordan, US Fish and Wildlife Service

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Travis Wilson, NC Wildlife Resources Commission
Beth Harmon, Division of Mitigation Services
Hannah Sprinkle, NC Division of Water Resources Wilmington Regional Office
File Copy

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401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 9.54 acres (section A), 7.11 acres (section B) of jurisdictional wetlands, and 1925 linear feet (section A), 2771 linear feet (section B) of jurisdictional streams in Harnett and Wake County. The project shall be constructed pursuant to the application dated received December 21, 2021 and revised March 1, 2022. This approval letter replaces the letter issued on March 22, 2022. The authorized impacts are as described below:

R-5705A:

Stream Impact in the Cape Fear River Basin- Section A

Permit Drawing Site Number	NRTR Label	Type	Permanent Impacts (lf)	Temporary Impacts (lf)	Total Impact (lf)	Mitigation Required
1	SAP	Intermittent	---	30	30	No
2	East Buies Creek	Perennial	34	10	44	No
3	SAO	Perennial	116	10	126	No
4	East Buies Creek	Perennial	100	10	110	No
6	SAL	Perennial	268	30	298	No
7	SAM	Intermittent	30	---	30	No
11	Buries Creek	Perennial	224	86	310	No
15	SAJ	Intermittent	102	35	137	No
16	SAJ	Intermittent	57	9	66	No
18	SAI	Intermittent	41	7	48	No
20	SAH	Perennial	216	45	261	No
24	SAG	Perennial	154	33	187	No
28	SAQ	Perennial	19	15	34	No
30	SAS	Intermittent	224	20	244	No
Totals			**1585**	**340**	**1925**	

Total Stream Impact for Project:1925 linear feet.
Bank Stabilization included

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Wetland Impacts in the Cape Fear River Basin-Section A

Permit Drawing Site Number	Permanent Fill (ac)	Temporary Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Impacts (ac)
1	---	---	---	---	0.001	0.001
2	0.02	---	0.003	---	0.03	0.05
3	---	---	---	---	---	0
4	0.22	---	0.1	0.07	0.06	0.45
5	0.05	---	---	---	0.01	0.06
9	0.04	---	---	---	0.002	0.042
10	0.09	---	0.05	---	0.04	0.18
11	1.11	---	0.1	---	0.35	1.56
12	0.09	0.91	0.04	---	0.09	1.13
13	---	---	---	---	0.02	0.02
14	0.004	---	---	---	0.02	0.024
15	0.97	---	0.34	---	0.32	1.63
16	---	---	0.005	---	0.02	0.025
17	0.66	---	0.06	---	0.17	0.89
19	0.05	---	---	---	0.01	0.06
20	0.08	---	0.06	0.02	0.02	0.18
21	0.06	---	0.04	---	0.03	0.13
22	0.04	---	0.03	---	0.005	0.075
23	0.02	---	0.02	---	0.02	0.06
24	0.07	---	0.05	0.03	0.17	0.32
25	0.31	---	0.06	0.03	0.16	0.56
26	0.004	---	---	---	0.02	0.024
27	0.18	---	0.05	0.006	0.02	0.256
29	0.35	---	0.04	0.05	0.04	0.48
30	0.96	---	---	---	0.14	1.1
*Utilities 1	---	---	---	---	0.01	0.01
*Utilities 2	---	---	---	---	0.11	0.11
*Utilities 3	---	---	---	---	0.11	0.11
Totals	5.378	0.91	1.048	0.206	1.998	9.54
Total Wetlands	**9.54 ac**					

Total Wetland Impact for Project: 9.54 acres. Total Permanent Impacts: 6.6 acres.
utilities included

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Open Water Impacts in the Cape Fear River Basin-Section A

Permit Drawing Site Number	Permanent Fill (ac)	Temporary Fill (ac)
8	0.95	---
15	0.21	---
19	0.23	---
25	0.35	---
27	5.05	---
Totals	**6.79**	**---**

Total Open Water Impact for Project: 6.79 acres.

R-5705B:

Stream Impacts in the Cape Fear River Basin-Section B

Permit Drawing Site Number	NRTR Label	Type	Permanent Impacts (lf)	Temporary Impacts (lf)	Total Impact (lf)	Mitigation Required
2	SAF	Perennial	198	61	259	No
3	SAE	Perennial	110	---	110	No
4	SAC	Intermittent	223	39	262	No
8	SAD	Perennial	514	60	574	Yes
9	SAB	Perennial	168	12	180	No
10	SAB	Intermittent	---	51	51	No
12	SY	Perennial	300	39	339	Yes
15	SAA	Intermittent	86	20	106	No
16	SZ	Perennial	207	42	249	No
17	SW	Perennial	235	48	283	Yes
18	SW	Perennial	168	73	241	Yes
19	SV	Perennial	84	17	101	No
23	SX	Intermittent	---	16	16	No
Totals			**2293**	**478**	**2771**	---

Total Stream Impact for Project: 2771 linear feet.
Bank Stabilization included

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Wetland Impacts in the Cape Fear River Basin- Section B

Permit Drawing Site Number	Permanent Fill (ac)	Temporary Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Impacts (ac)
2	0.32	---	0.006	---	0.04	0.366
4	0.5	---	0.007	---	0.04	0.547
5	0.43	---	---	---	0.03	0.46
6	1.16	---	0.04	---	0.19	1.39
8	0.73	---	0.07	0.08	0.07	0.95
9	0.03	---	---	---	---	0.03
10	---	---	0.03	---	0.09	0.12
12	0.22	---	---	---	0.02	0.24
13	0.04	---	0.07	---	0.11	0.22
14	0.006	---	---	---	0.01	0.016
15	0.12	---	---	---	0.01	0.13
16	0.45	---	0.02	---	0.05	0.52
17	1.46	---	0.07	---	0.20	1.73
18	0.14	---	0.013	---	0.07	0.223
19	0.02	---	---	---	0.02	0.04
20	---	---	0.007	---	0.02	0.007
21	---	---	---	0.02	---	0.02
22	0.006	0.006	---	---	---	0.012
24	0.02	---	0.02		0.02	0.06
Totals	5.652	0.006	0.353	0.1	1.0	7.11
Total Wetlands	**7.11 ac**					

Total Wetland Impact for Project: 7.11 acres. Total Permanent Impacts: 6.11 acres.

Open Water Impacts in the Cape Fear River Basin-Section B

Permit Drawing Site Number	Permanent Fill (ac)	Temporary Fill (ac)
1	0.77	---
7	0.11	---
10	0.25	---
11	0.98	---
Totals	**2.11**	**---**

Total Open Water Impact for Project: 2.11 acres.

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R-5705C:

Preliminary proposed Impacts for the Future Section R-5705C:

Steam (lf)	Open Water (ac)	Wetlands (ac)	Riparian Buffer (sq.ft.) Zones 1/2	
			Zone 1	Zone2
1602	0.05*	5.75	97,390	48,123

*includes ponds and tributary

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received December 21, 2021 and revised March 1, 2022. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.

Condition(s) of Certification:

Project Specific Conditions

1. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)

2. Compensatory mitigation for 1083 linear feet of impact to streams is required for Section R-5705B. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has dated December 9, 2021, that agreed to implement the mitigation for the project. The DMS has indicated in a letter they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.

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3. Compensatory mitigation for impacts to 6.59 acres of wetlands for Section R-5705A and 6.11 acres of wetlands for Section R-5705B is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated December 9, 2021, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.

4. All portions of the proposed project draining to 303(d) listed watersheds shall be designed, constructed, and operated with sediment and erosion control measures that meet *Design Standards in Sensitive Watersheds* (15A NCAC 4B .0124). However, due to the size of the project, NC DOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres.

5. All portions of the proposed project draining to 303(d) listed watersheds shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters

6. When final design plans are completed for R-5705 Section C, a modification to the 401 Water Quality Certification and the Neuse River Riparian Buffer Authorization shall be submitted and fees to the NC Division of Water Resources. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams, surface waters, or buffers located in R-5705 Section C shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification and the Neuse River Riparian Buffer Authorization from the NC Division of Water Resources.

7. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]

General Conditions

8. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

9. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

10. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]

11. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]'

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12. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]

13. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]

14. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]

15. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]

16. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]

17. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]

18. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]

19. In accordance with commitments made in your application, all clearing of vegetation for purpose of relocating overhead power lines within jurisdictional wetlands shall be performed without the use of mechanized equipment. [15A NCAC 02H.0506(b)(3)

20. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]

21. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]

22. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506{b)(3) and (c)(3) and 15A NCAC 02B .0200]

23. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual,* or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual.*

24. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

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25. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual.* Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

26. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]

27. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]

28. NCDOT shall be in compliance with the NCS000250 issued to the NCDOT, including the applicable requirements of the NCG010000. Please note the extra protections for the sensitive watersheds.

29. At locations where ponds will be drained, proper measures will be taken to drain the pond with limited impact to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create significant disturbance to native aquatic species, additional measures such as collection and relocation may be necessary to prevent a significant fish kill. NCDOT shall consult with NC Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. The permittee shall observe any natural channel re-establishment, or utilize natural channel construction techniques, to ensure that the jurisdictional stream channel above and below the drained pond remain stable, and that no additional impacts occur within the natural stream channel as a result of draining the pond. *[15A NCAC 2H.0506(b)(3)]*

30. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)

31. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]

32. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]

33. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]

34. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.

35. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)

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36. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0506(b)(2)]

37. Tall fescue shall not be used in the establishment of temporary or permanent groundcover within riparian areas. For the establishment of permanent herbaceous cover, erosion control matting shall be used in conjunction with an appropriate native seed mix on disturbed soils within the riparian area and on disturbed steep slopes with the following exception. Erosion control matting is not necessary if the area is contained by perimeter erosion control devices such as silt fence, temporary sediment ditches, basins, etc. Matting should be secured in place with staples, stakes, or wherever possible, live stakes of native trees. Erosion control matting placed in riparian areas shall not contain a nylon mesh grid, which can impinge and entrap small animals. For the establishment of temporary groundcover within riparian areas, hydroseeding along with wood or cellulose based hydro mulch applied from a fertilizer- and limestone-free tank is allowable at the appropriate rate in conjunction with the erosion control measures. Discharging hydroseed mixtures and wood or cellulose mulch into surface waters in prohibited. Riparian areas are defined as a distance 25 feet landward from top of stream bank.

38. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3):

    a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
    b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
    c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
    d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

39. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]

40. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)

41. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

42. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit. Please be aware that impacting waters without first applying for and securing the issuance of a 401

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Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of $25,000.00 per day for each violation.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of $25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at http://www.ncoah.com/ or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 8th day of April 2022

DIVISION OF WATER RESOURCES

DocuSigned by:
Amy Chapman
9C9886312DCD474...

Richard E. Rogers, Jr., Director

WQC No. 004710

Submitted 3/1/2022

North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.08; Released April 2018)

WBS Element: 46377.1.2 **TIP No.:** R-5705A **County(ies):** Harnett

General Project Information

WBS Element:	46377.1.2	**TIP Number:**	R-5705A	**Project Type:**	New Location
Date:	1/3/2021				
NCDOT Contact:	Nicole Hackler, PE	**Contractor / Designer:**	Kimley-Horn & Associates		
Address:	1000 Birch Ridge Drive 1582 Mail Service Center Raleigh NC 27699		**Address:**	One Bank of America Plaza 421 Fayetteville St, STE 600 Raleigh, NC 27601	
Phone:	919-707-6029		**Phone:**	919-677-2000	
Email:	nmhackler@ncdot.gov		**Email:**	dan.robinson@kimley-horn.com	
City/Town:	Angier	**County(ies):**	Harnett		
River Basin(s):	Cape Fear	**CAMA County?**	No		
Wetlands within Project Limits?	Yes				

Project Description

Project Length (lin. miles or feet):	4.364 miles	**Surrounding Land Use:**	Widening: Rural farmland; New location: Rural farmland, forests

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	51.2 ac.	14.3 ac.
Typical Cross Section Description:	Widening Section: 4 lanes divided (2 lanes each way) with 4' paved shoulder -12' lane widths, 6:1 outside ditch front slopes with 4:1 back slopes. Raised grass median with 1'-6" curb and gutter, rasied concrete islands for turn lanes. New location section: Same as above except 4'-10' varied paved shoulders	2 lanes with paved shoulder and grass ditches - 11' lane widths, 2-4' paved shoulder, 3:1 side slopes or flatter
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 27100 Year: 2045	Existing: 15900 Year: 2022
General Project Narrative: (Description of Minimization of Water Quality Impacts)	This is a Central managed project. Existing drainage patterns have been maintained to the best extent practical. -Direct discharges are avoided where possible. Some pipe outlets have been moved to outlet right before wetlands to avoid impacts. -3:1 slopes with guardrail used for all culvert crossings (the use of 2:1 slopes is not feasible due to Geotech conditions and slope stability). -Erosion control basins have been placed outside of all wetland boundaries. -Vegetated conveyances used throughout the project, many of which which meet swale standards, will have a positive water quality benefit. These were used instead of closed system conveyance to the maximum extent practical. -Excluded driveways/driveway fill from access points that were in wetland areas. -Hand clearing proposed at all wetland locations except for 2 areas where clean water diversions will impact the wetland. -Culvert barrels with sills will be back filled with native material. Native material will consist of material that is excavated from the stream bed or floodplain at the project site during culvert construction. Native material is subject to approval by the engineer and may be subject to permit conditions. -Riprap pads used at the outlet of any open pipe. -Where conditions dictated, ditches were stopped before wetland boundaries with a riprap pad at the end to slow down velocities. -Where a ditch was already running through a wetland and was pushed out in proposed condition, the proposed ditch was designed with slope reduced and base widths increased as much as possible to get velocities down close to or below 2 ft/s. -All box culverts have slopes of less than 1% so there is no need for sills. This should help reduce velocities at culvert outlets. -Bank stabilization and outlet improvements have been proposed at box culverts to minimize erosion. -The pond being drained at site 27 will have a proposed channel with constructed banks and floodplain to match pre-dam conditions and low flow stream conditions as much as possible.	

Waterbody Information

Surface Water Body (1):	UT to East Buies Creek	**NCDWR Stream Index No.:**	18-18-1-(2)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:	SAU, SAP, SAO, SAL, SAM			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Submitted 3/1/2022

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.08; Released April 2018)

WBS Element: 46377.1.2 **TIP No.:** R-5705A **County(ies):** Harnett

Additional Waterbody Information

Surface Water Body (2):	East Buies Creek		**NCDWR Stream Index No.:**	18-18-1-(2)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	East Buies Creek			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**		**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (3):	Buies Creek		**NCDWR Stream Index No.:**	18-18		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	Buies Creek			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (4):	UT to Black River		**NCDWR Stream Index No.:**	18-68-12-1a		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Swamp Waters (Sw)			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	SAJ, SAI			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (5):	UT to West Buies Creek		**NCDWR Stream Index No.:**	18-18-2-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	SAH, SAG, SAQ			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Submitted 3/1/2022

09/08/99

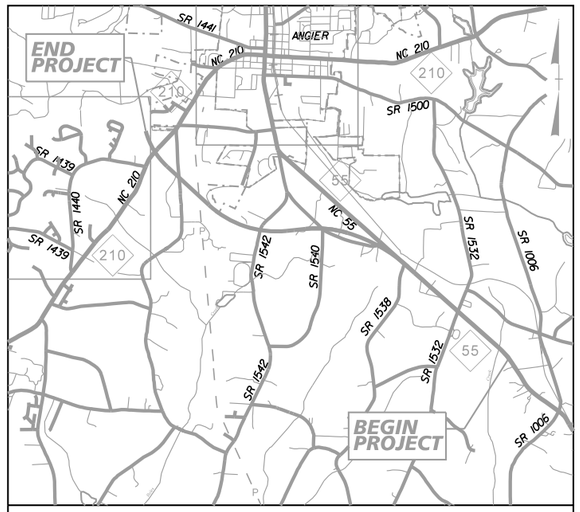
PERMIT REVISIONS: SITES 31, 32, AND 33 HAVE BEEN REMOVED

2/24/2022 $FILE$

TIP PROJECT: R-5705A

CONTRACT:

See Sheet 1B For Conventional Plan Sheet Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HARNETT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5705A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46377.1.2		P.E.
46377.2.1		RIGHT-OF-WAY
46377.2.5		UTILITIES

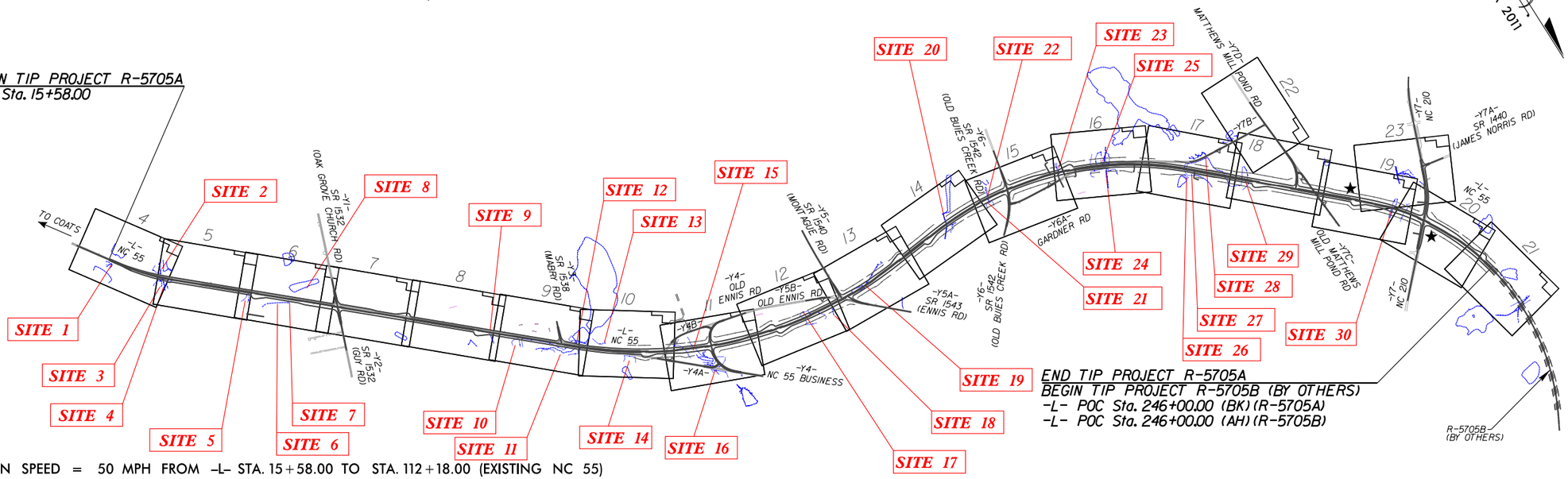
PERMIT DRAWING
SHEET 1 OF 64

ROW PLANS

LOCATION: NC 55 FROM SOUTH OF SR 1532 (OAK GROVE CHURCH ROAD) TO NORTH OF NC 210

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS AND CULVERTS

WETLAND & SURFACE WATER IMPACTS PERMIT



** DESIGN SPEED = 50 MPH FROM -L- STA. 15+58.00 TO STA. 112+18.00 (EXISTING NC 55)
60 MPH FROM -L- STA. 112+18.00 TO STA. 246+00.00 (NEW LOCATION)

★ *TRAFFIC SIGNAL*

THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO ONE DRIVEWAY PER PARCEL AND FULL-CONTROL AT U-TURN BULBS
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 5 2.5 0 5 10

DESIGN DATA

AADT 2022 = 15,900
AADT 2045 = 27,100
K = 9%
D = 60%
T = 4%*
** V = 50/60 MPH
* (TTST 1% + DUAL 3%)
FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5705A = 4.364 MILES

PLANS PREPARED FOR THE NCDOT BY:

Kimley»Horn © 2019
NC LICENSE #P0152
FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 9, 2021

LETTING DATE:
MARCH 2023

JEFFREY W. MOORE, P.E.
PROJECT ENGINEER

EVERETT J. LOVING, P.E.
PROJECT DESIGN ENGINEER

NICOLE M. HACKLER, P.E.
SENIOR PROJECT MANAGER
NCDOT PROJECT MANAGEMENT UNIT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

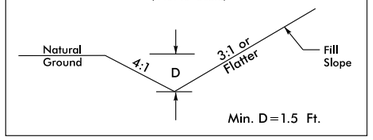
Submitted 3/1/2022

5/14/99

REVISIONS

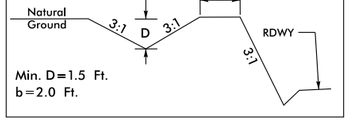
12/30/2021

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



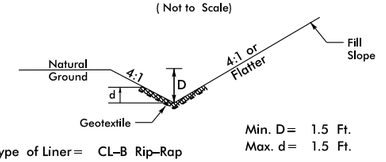
FROM STA. 21+00 TO STA. 23+00 –L– RT
FROM STA. 26+85 TO STA. 28+75 –L– LT
FROM STA. 26+70 TO STA. 31+00 –L– RT
FROM STA. 53+50 TO STA. 59+30 –L– RT
FROM STA. 53+09 TO STA. 57+00 –L– LT
FROM STA. 63+30 TO STA. 64+81 –L– RT
FROM STA. 68+50 TO STA. 72+50 –L– RT
FROM STA. 76+00 TO STA. 77+20 –L– RT
FROM STA. 74+50 TO STA. 76+75 –L– LT
FROM STA. 78+50 TO STA. 80+50 –L– RT
FROM STA. 91+50 TO STA. 94+50 –L– RT
FROM STA. 93+00 TO STA. 96+00 –L– LT
FROM STA. 104+50 TO STA. 109+50 –L– RT
FROM STA. 108+40 TO STA. 110+00 –L– LT
FROM STA. 123+18 TO STA. 124+85 –L– LT
FROM STA. 132+50 TO STA. 133+50 –L– LT
FROM STA. 133+00 TO STA. 134+80 –L– RT
FROM STA. 134+58 TO STA. 140+00 –L– LT
FROM STA. 136+20 TO STA. 142+50 –L– RT
FROM STA. 151+00 TO STA. 153+20 –L– LT
FROM STA. 164+00 TO STA. 164+80 –L– RT
FROM STA. 178+50 TO STA. 180+50 –L– RT
FROM STA. 182+50 TO STA. 186+20 –L– LT
FROM STA. 198+25 TO STA. 201+50 –L– LT
FROM STA. 233+35 TO STA. 234+40 –L– LT
FROM STA. 233+90 TO STA. 235+00 –L– RT
FROM STA. 216+74 TO STA. 221+50 –L– RT
FROM STA. 224+50 TO STA. 227+30 –L– RT
FROM STA. 13+55 TO STA. 14+05 –Y1– LT
FROM STA. 10+70 TO STA. 13+50 –Y2– RT
FROM STA. 19+76 TO STA. 21+73 –Y5– LT
FROM STA. 13+50 TO STA. 15+40 –Y6– LT
FROM STA. 24+70 TO STA. 27+45 –Y7– RT
FROM STA. 29+00 TO STA. 31+95 –Y7– LT

DETAIL 3
BERM 'V' DITCH
(Not to Scale)



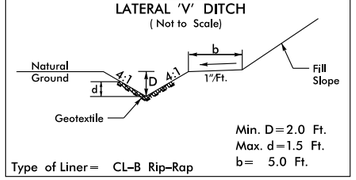
FROM STA. 16+28 TO STA. 17+55 –L– RT
FROM STA. 186+50 TO STA. 188+70 –L– RT
FROM STA. 190+00 TO STA. 190+50 –L– RT

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



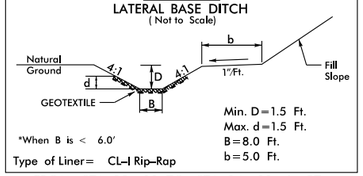
FROM STA. 90+50 TO STA. 91+50 –L– RT
FROM STA. 27+45 TO STA. 29+00 –Y7– LT

DETAIL 5
LATERAL 'V' DITCH
(Not to Scale)



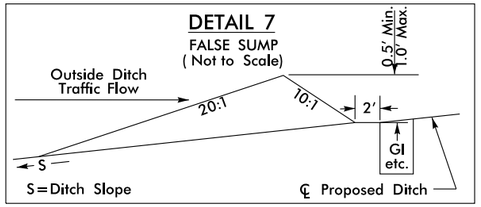
FROM STA. 24+06 TO STA. 26+30 –L– LT.

DETAIL 6
LATERAL BASE DITCH
(Not to Scale)



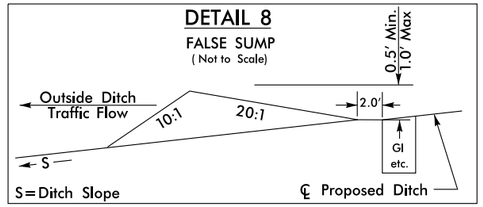
FROM STA. 23+00 TO STA. 24+88 –L– RT.

DETAIL 7
FALSE SUMP
(Not to Scale)



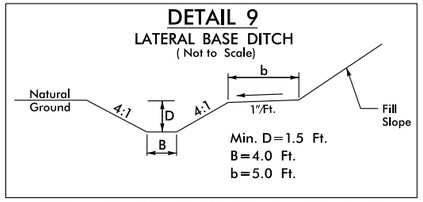
FROM STA. 47+33 TO STA. 47+48 –L– RT
FROM STA. 51+40 TO STA. 51+55 –L– RT
FROM STA. 50+00 TO STA. 50+15 –L– RT
FROM STA. 81+54 TO STA. 81+69 –L– LT
FROM STA. 83+54 TO STA. 83+69 –L– LT
FROM STA. 84+02 TO STA. 84+17 –L– LT
FROM STA. 86+04 TO STA. 86+19 –L– LT
FROM STA. 183+83 TO STA. 183+98 –L– RT

DETAIL 8
FALSE SUMP
(Not to Scale)



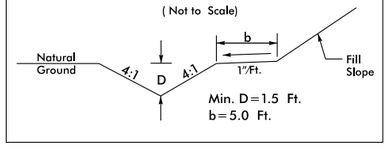
FROM STA. 192+53 TO STA. 192+68 –L– RT
FROM STA. 194+52 TO STA. 194+67 –L– RT
FROM STA. 207+33 TO STA. 207+48 –L– LT
FROM STA. 204+83 TO STA. 204+98 –L– LT
FROM STA. 11+24 TO STA. 11+39 –Y2– LT
FROM STA. 12+00 TO STA. 12+15 –Y2– LT

DETAIL 9
LATERAL BASE DITCH
(Not to Scale)



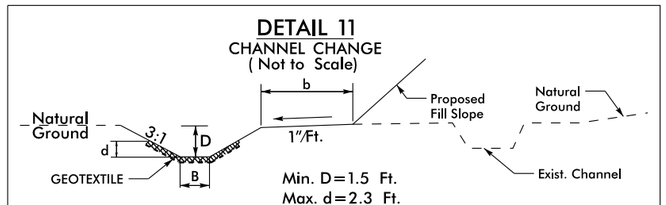
FROM STA. 25+75 TO STA. 26+70 –L– RT.

DETAIL 10
LATERAL 'V' DITCH
(Not to Scale)



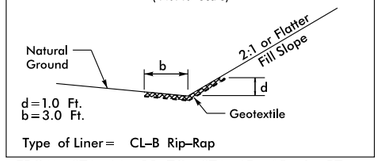
FROM STA. 153+20 TO STA. 154+75 –L– RT.

DETAIL 11
CHANNEL CHANGE
(Not to Scale)



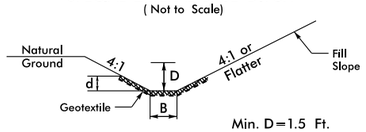
FROM STA. 42+50 TO STA. 43+50 –L– RT

DETAIL 12
TOE PROTECTION
(Not to Scale)



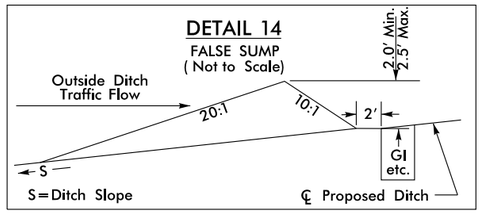
FROM STA. 44+00 TO STA. 45+68 –L– RT.
FROM STA. 161+07 TO STA. 162+43 –L– LT
FROM STA. 196+65 TO STA. 197+50 –L– RT
FROM STA. 227+95 TO STA. 230+45 –L– RT

DETAIL 13
SPECIAL LATERAL BASE DITCH
(Not to Scale)



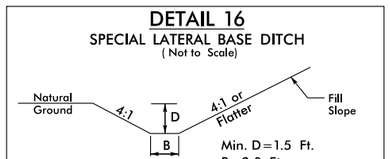
FROM STA. 72+00 TO STA. 73+02 –L– LT.

DETAIL 14
FALSE SUMP
(Not to Scale)



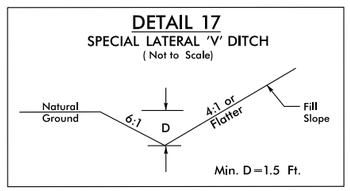
FROM STA. 77+22 TO STA. 77+82 –L– LT
FROM STA. 122+18 TO STA. 122+78 –L– LT
FROM STA. 124+85 TO STA. 125+45 –L– LT
FROM STA. 126+00 TO STA. 126+60 –L– LT

DETAIL 16
SPECIAL LATERAL BASE DITCH
(Not to Scale)



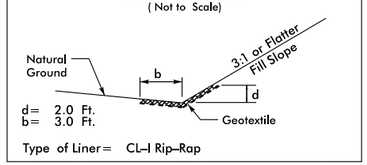
FROM STA. 72+50 TO STA. 73+25 –L– RT
FROM STA. 151+50 TO STA. 153+75 –L– RT
FROM STA. 154+05 TO STA. 156+50 –L– RT
FROM STA. 178+00 TO STA. 179+00 –L– LT

DETAIL 17
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



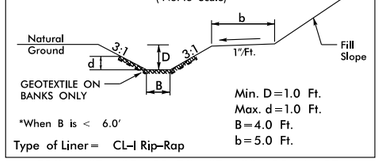
FROM STA. 82+50 TO STA. 85+00 –L– LT.
FROM STA. 146+50 TO STA. 148+50 –L– LT

DETAIL 18
TOE PROTECTION
(Not to Scale)



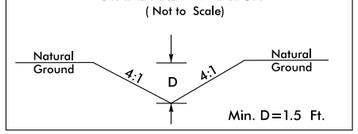
FROM STA. 88+15 TO STA. 90+40 –L– RT.
FROM STA. 90+48 TO STA. 90+58 –L– RT.

DETAIL 19
LATERAL BASE DITCH
(Not to Scale)



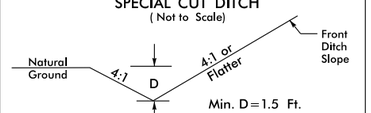
FROM STA. 85+50 TO STA. 88+05 –L– RT

DETAIL 20
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 100+25 TO 101+50 –L– RT
AT STA. 64+81 RT

DETAIL 21
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 103+50 TO STA. 104+50 –L– RT
FROM STA. 159+50 TO STA. 160+50 –L– RT
FROM STA. 177+50 TO STA. 178+50 –L– RT
FROM STA. 209+65 TO STA. 211+00 –L– RT
FROM STA. 23+50 TO STA. 24+50 –Y4– LT
FROM STA. 10+30 TO STA. 11+00 –Y6A– RT
FROM STA. 34+00 TO STA. 36+00 –Y7– LT

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PROJECT REFERENCE NO.	SHEET NO.
R–5705A	2D–1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 2 OF 64

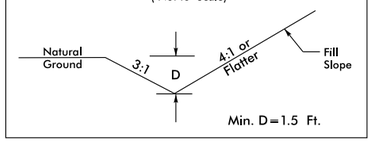
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Submitted 3/1/2022

5/14/99

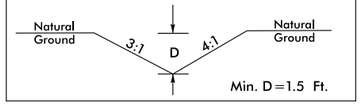
REVISIONS

DETAIL 22
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



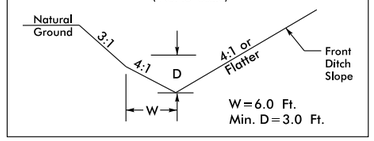
FROM STA. 130+09 TO STA. 132+50 –L– LT
FROM STA. 10+88 TO STA. 12+85 –Y3– RT
FROM STA. 10+88 TO STA. 12+95 –Y3– LT
FROM STA. 13+13 TO STA. 15+00 –Y4– LT
FROM STA. 16+00 TO STA. 16+63 –Y4B– LT
FROM STA. 10+65 TO STA. 13+50 –Y5A– RT
FROM STA. 17+65 TO STA. 22+44 –Y6– RT
FROM STA. 17+50 TO STA. 22+00 –Y6– LT

DETAIL 23
STANDARD 'V' DITCH
(Not to Scale)



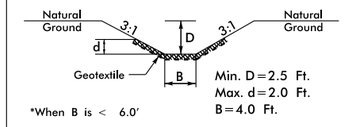
FROM STA. 15+15 TO 16+63 –Y4B– LT.

DETAIL 25
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 112+85 TO STA. 118+75 –L– LT.
FROM STA. 121+00 TO STA. 123+18 –L– LT.
FROM STA. 190+00 TO STA. 192+50 –L– RT.
FROM STA. 211+00 TO STA. 212+00 –L– RT.

DETAIL 26
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= CL–I Rip–Rap
AT STA. 45+00 –L– LT (EST. 70 L.F.)
AT STA. 108+30 –L– LT (EST. 90 L.F.)

PERMIT DRAWING
SHEET 3 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	2D-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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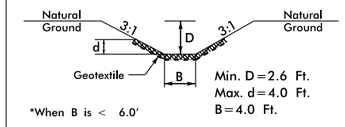
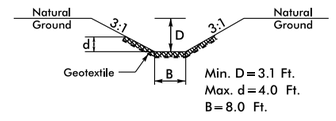
DETAIL 27
STANDARD BASE DITCH
(Not to Scale)



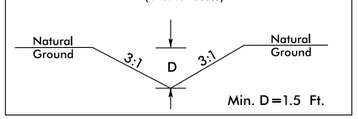
Type of Liner= CL–I Rip–Rap
AT STA. 22+30 –Y4– RT. (EST. 50 L.F.)

DETAIL 28
STANDARD BASE DITCH
(Not to Scale)



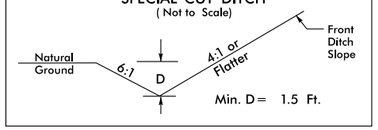
Type of Liner= CL–II Rip–Rap
AT STA. 19+25 –Y4A– RT. (EST. 50 L.F.)

DETAIL 29
STANDARD 'V' DITCH
(Not to Scale)



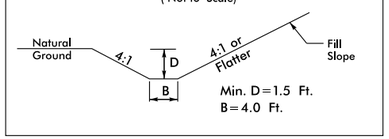
AT STA. 143+50 –L– LT (EST. 55 L.F)
AT STA. 18+50 –Y6A– LT (EST. 50 L.F)

DETAIL 30
SPECIAL CUT DITCH
(Not to Scale)



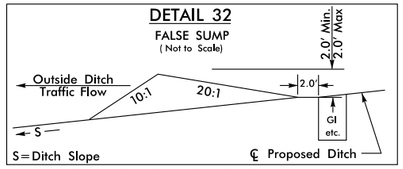
FROM STA. 145+50 TO STA. 146+50 –L– LT.

DETAIL 31
SPECIAL LATERAL BASE DITCH
(Not to Scale)



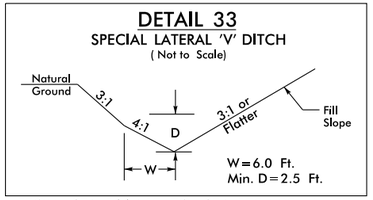
FROM STA. 45+00 TO STA. 46+00 –L– LT
FROM STA. 92+25 TO STA. 93+00 –L– LT
FROM STA. 160+50 TO STA. 161+80 –L– RT
FROM STA. 161+80 TO STA. 164+00 –L– RT
FROM STA. 173+00 TO STA. 173+65 –L– RT
FROM STA. 202+50 TO STA. 203+80 –L– LT
FROM STA. 203+80 TO STA. 205+00 –L– LT
FROM STA. 10+50 TO STA. 13+15 –Y1– LT
FROM STA. 22+00 TO STA. 23+50 –Y4– LT

DETAIL 32
FALSE SUMP
(Not to Scale)



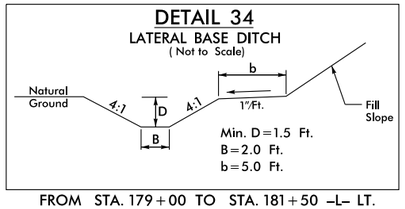
FROM STA. 17+15 TO STA.17+50 –Y6– LT

DETAIL 33
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



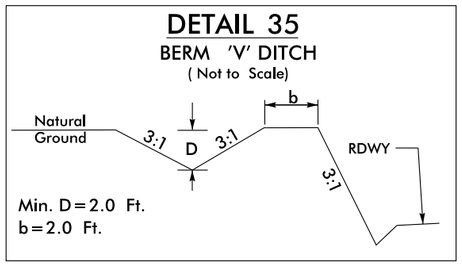
FROM STA. 166+10 TO STA. 170+00 –L– RT
FROM STA. 194+50 TO STA. 195+50 –L– RT

DETAIL 34
LATERAL BASE DITCH
(Not to Scale)



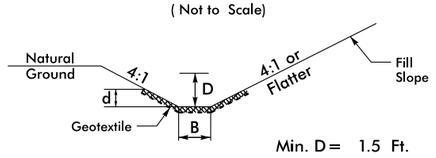
FROM STA. 179+00 TO STA. 181+50 –L– LT.

DETAIL 35
BERM 'V' DITCH
(Not to Scale)



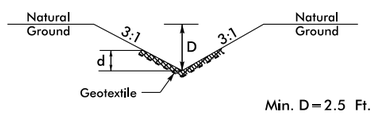
FROM STA. 190+50 TO STA. 192+50 –L– RT.

DETAIL 36
SPECIAL LATERAL BASE DITCH
(Not to Scale)



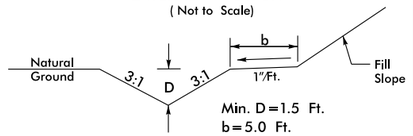
Type of Liner= CL–B Rip–Rap
FROM STA. 20+00 TO STA. 22+00 –Y4– LT

DETAIL 37
STANDARD 'V' DITCH
(Not to Scale)



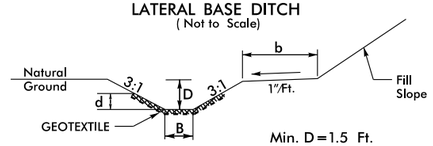
Type of Liner= CL–B Rip–Rap
FROM –L– STA. 132+50 LT. TO –Y5B– STA. 13+90 LT. (EST. 64 L.F, HEAD DITCH THROUGH –Y5B–)

DETAIL 38
LATERAL 'V' DITCH
(Not to Scale)



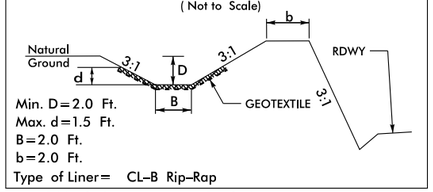
FROM STA. 132+10 TO STA. 133+00 –L– RT

DETAIL 39
LATERAL BASE DITCH
(Not to Scale)



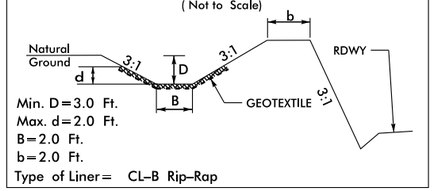
Type of Liner= CL–I Rip–Rap
FROM STA. 197+50 TO STA. 198+90 –L– RT

DETAIL 40
BERM BASE DITCH
(Not to Scale)



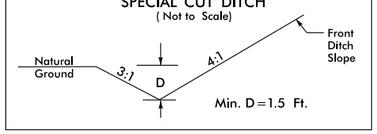
Type of Liner= CL–B Rip–Rap
FROM STA. 205+00 TO STA. 205+50 –L– LT.
FROM STA. 208+50 TO STA. 211+30 –L– LT.

DETAIL 41
BERM BASE DITCH
(Not to Scale)



Type of Liner= CL–B Rip–Rap
FROM STA. 207+50 TO STA. 208+50 –L– LT.

DETAIL 42
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 18+50 TO STA. 19+20 –L– RT
FROM STA. 18+50 TO STA. 19+20 –L– LT

12/30/2021

Submitted 3/1/2022

5/14/99

REVISIONS

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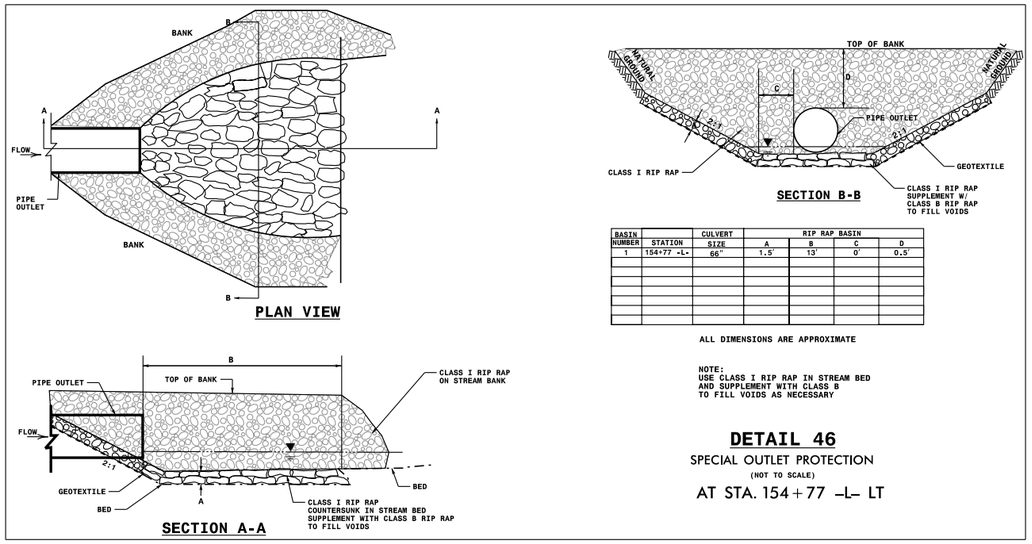
PROJECT REFERENCE NO.	SHEET NO.
R-5705A	2D-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 4 OF 64

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



BASIN NUMBER	STATION	CULVERT SIZE	RIP RAP BASIN A	B	C	D
1	154+77 -L-	66"	1.5'	13'	0'	0.5'

ALL DIMENSIONS ARE APPROXIMATE

NOTE:
USE CLASS I RIP RAP IN STREAM BED AND SUPPLEMENT WITH CLASS B TO FILL VOIDS AS NECESSARY

DETAIL 46

SPECIAL OUTLET PROTECTION

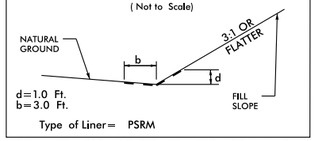
(NOT TO SCALE)

AT STA. 154+77 -L- LT

DETAIL 48

TOE PROTECTION

(Not to Scale)



d=1.0 Ft.
b=3.0 Ft.

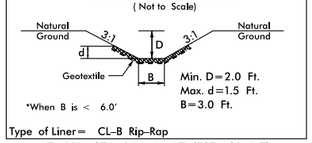
Type of Liner= PSRM

FROM STA. 215+08 TO STA. 215+52 -L- LT.

DETAIL 49

STANDARD BASE DITCH

(Not to Scale)



Min. D=2.0 Ft.
Max. d=1.5 Ft.
B=3.0 Ft.

*When B is < 6.0'

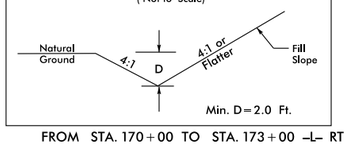
Type of Liner= CL-B Rip-Rap

AT -Y7- STA. 27+45 LT. (EST. 60 L.F)

DETAIL 50

SPECIAL LATERAL 'V' DITCH

(Not to Scale)



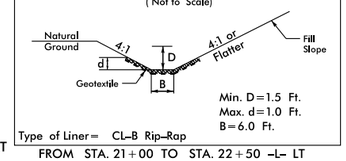
Min. D=2.0 Ft.

FROM STA. 170+00 TO STA. 173+00 -L- RT

DETAIL 51

SPECIAL LATERAL BASE DITCH

(Not to Scale)



Min. D=1.5 Ft.
Max. d=1.0 Ft.
B=6.0 Ft.

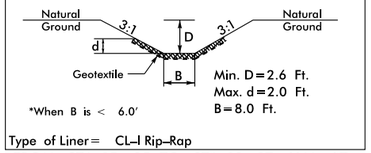
Type of Liner= CL-B Rip-Rap

FROM STA. 21+00 TO STA. 22+50 -L- LT

DETAIL 52

STANDARD BASE DITCH

(Not to Scale)



Min. D=2.6 Ft.
Max. d=2.0 Ft.
B=8.0 Ft.

*When B is < 6.0'

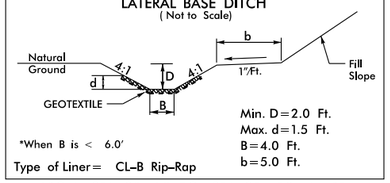
Type of Liner= CL-I Rip-Rap

FROM STA. 15+95 TO STA. 19+17 -Y4A- LT.

DETAIL 53

LATERAL BASE DITCH

(Not to Scale)



Min. D=2.0 Ft.
Max. d=1.5 Ft.
B=4.0 Ft.
b=5.0 Ft.

*When B is < 6.0'

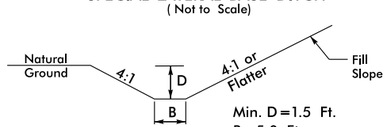
Type of Liner= CL-B Rip-Rap

FROM STA. 25+10 TO STA. 25+50 -L- RT

DETAIL 54

SPECIAL LATERAL BASE DITCH

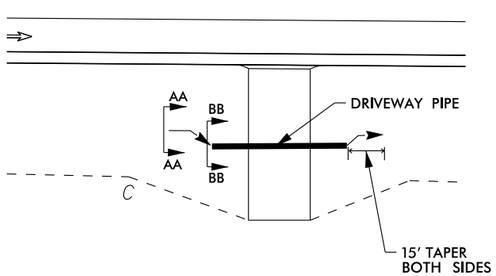
(Not to Scale)

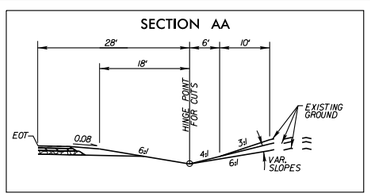


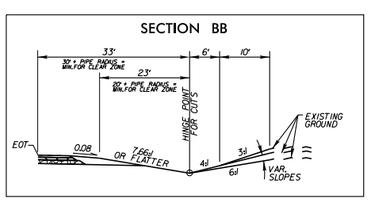
Min. D=1.5 Ft.
B=5.0 Ft.

FROM STA. 80+50 TO STA. 81+82 -L- RT.
FROM STA. 88+64 TO STA. 90+50 -L- LT

DETAIL 55 - PIPE FLARE OUT







AT STA. 95+06 -L- RT
AT STA. 98+24 -L- LT
AT STA. 104+45 -L- LT
AT STA. 119+50 -L- LT

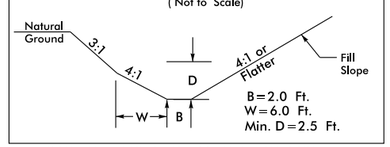
AT STA. 147+00 -L- RT
AT STA. 157+55 -L- RT
AT STA. 177+08 -L- RT
AT STA. 186+69 -L- LT

AT STA. 188+90 -L- RT
AT STA. 235+90 -L- RT

DETAIL 56

SPECIAL LATERAL BASE DITCH

(Not to Scale)



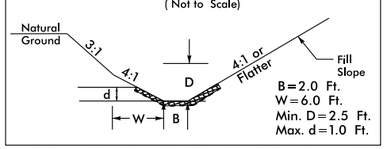
B=2.0 Ft.
W=6.0 Ft.
Min. D=2.5 Ft.

FROM STA. 105+50 TO STA. 106+30 -L- LT

DETAIL 57

SPECIAL LATERAL BASE DITCH

(Not to Scale)



B=2.0 Ft.
W=6.0 Ft.
Min. D=2.5 Ft.
Max. d=1.0 Ft.

FROM STA. 106+30 TO STA. 108+40 -L- LT

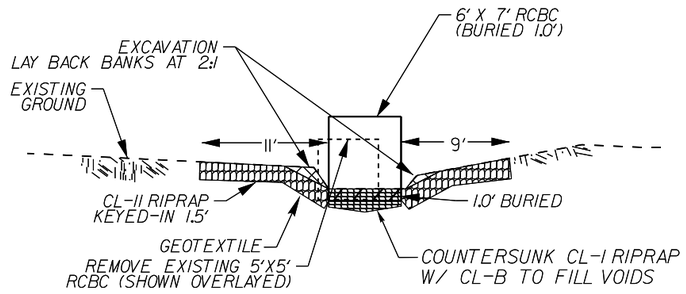
12/30/2021

Submitted 3/1/2022

5/14/99

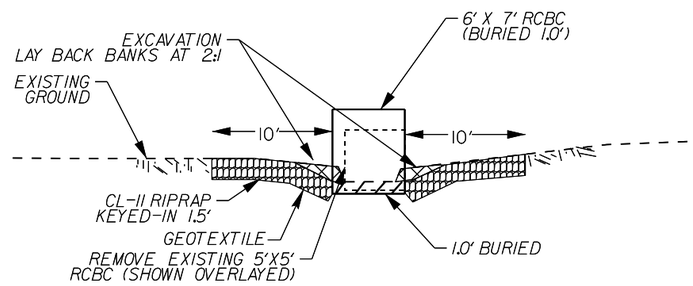
REVISIONS

DETAIL 58 TYPICAL OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM
NOT TO SCALE



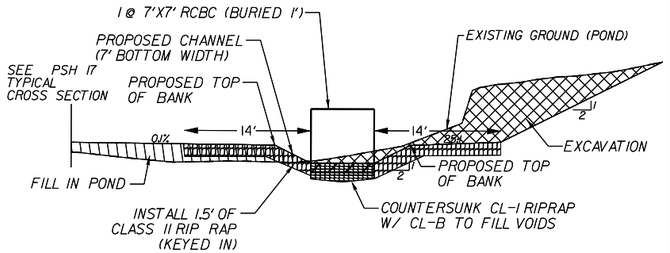
APPROX. STA. 24+10 -L- LT

DETAIL 59 TYPICAL - INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM
NOT TO SCALE

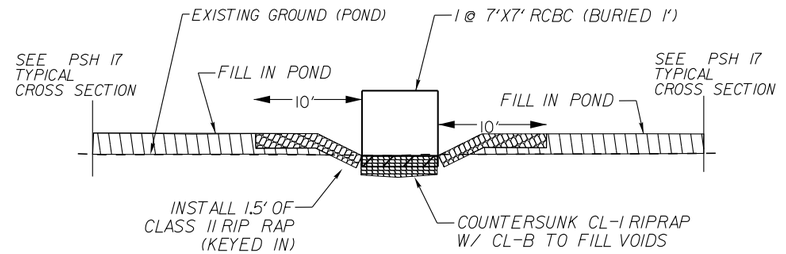


APPROX. STA. 24+70 TO 25+00 -L- RT

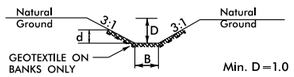
DETAIL 60 TYPICAL OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM
NOT TO SCALE



DETAIL 61 TYPICAL - INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM
NOT TO SCALE



DETAIL 62
STANDARD BASE DITCH
(Not to Scale)



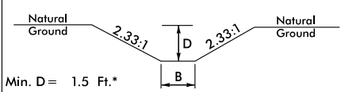
Min. D=1.0 Ft.
Max. d=1.0 Ft.
B=4.0 Ft.

*When B is < 6.0'

Type of Liner= CL-I Rip-Rap

FROM STA. 86+50 TO STA. 86+87 -L- RT

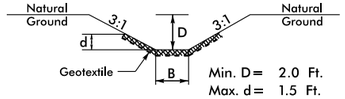
DETAIL 63
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.*
B= 5 Ft.
*MATCH EXIST DITCH INV.

STA. 174+10 -L- LT (EST. 78 L.F.)

DETAIL 64
STANDARD BASE DITCH
(Not to Scale)

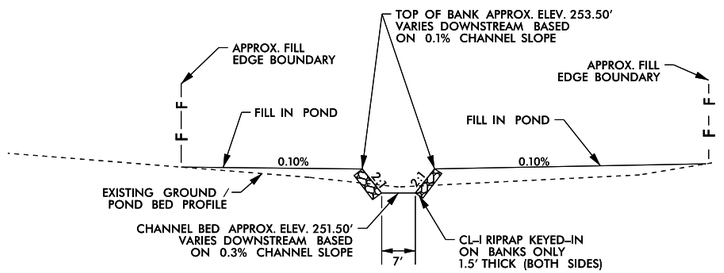


Min. D= 2.0 Ft.
Max. d= 1.5 Ft.
B= 6 Ft.

Type of Liner= Class I Rip-Rap

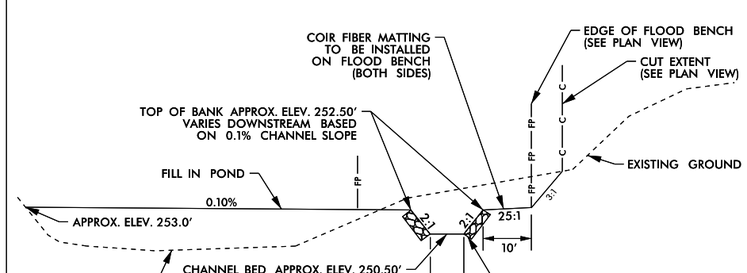
STA. 162+53 -L- LT (EST. 73 L.F.)

DETAIL TYPICAL SECTION P1



NOT TO SCALE

DETAIL TYPICAL SECTION P2



NOT TO SCALE

12/30/2021

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	2D-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 5 OF 64

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Submitted 3/1/2022

5/14/99

REVISIONS

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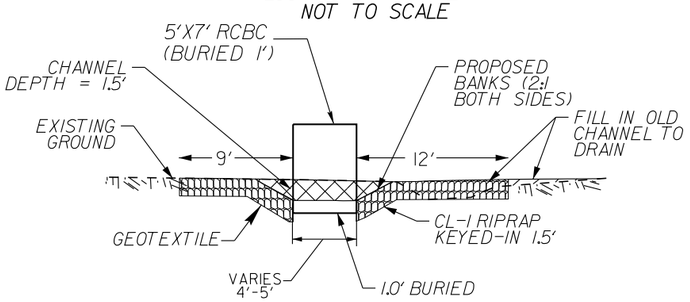
PROJECT REFERENCE NO.	SHEET NO.
R-5705A	2D-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

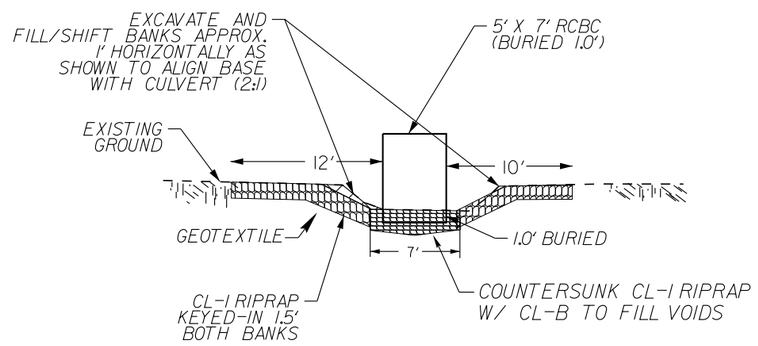
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 6 OF 64

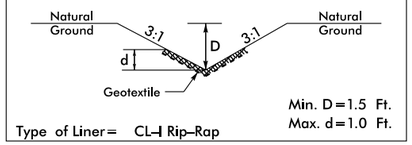
DETAIL 67 TYPICAL - INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM
NOT TO SCALE



DETAIL 68 TYPICAL OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM
NOT TO SCALE



DETAIL 69
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= CL-I Rip-Rap

FROM STA. 20+80 TO STA. 23+30 -Y7B- LT
(EQUATES TO: -L- LT. STA. 195+00 TO STA. 197+26)

12/30/2021

Submitted 3/1/2022

5/14/99

REVISIONS

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
E E — DENOTES EXCAVATION IN WETLAND	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 7 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

VAN COATS
DB 3459 PG 434
PB 2016 PG 364

(1A) JAMES JOHNSON
DB 615 PG 21
PB 2016 PG 364

(1) JAMES JOHNSON
DB 731PG 732

(3) TONY WARREN
DB 3271PG 355

(5) DANNY HEDGEPETH
DB 926 PG 126
PC# E PG 76A

(4) HOWARD BRIDGES
DB 1754 PG 517

DOUGLAS JOHNSON
DB 3605 PG 628
PB 2016 PG 364

(2) JAMES JOHNSON
DB 730 PG 223

BEGIN CONSTRUCTION
-L- POT Sta. 12+60.83

BEGIN TIP PROJECT R-5705A
-L- POT Sta. 15+58.00

15+00

20+00

MATCHLINE -L- STA 24+50 (SEE SHEET 5)

N 34° 10' 11" W
-L-
NC 55

SITE 1

SITE 2

SITE 3

SITE 4

CLEAN OUT PIPE OUTLET & RETAIN

BERM 'V' DITCH SEE DETAIL 3

ACCESS POINT

REMOVE

SPECIAL LATERAL 6' BASE DITCH
SEE DETAIL 51
EST. 100 TONS CL-B RIPRAP
EST. 250 S.Y. GFD

RIPRAP PAD AT OUTLET
EST. 3 TONS CL-B RIPRAP
EST. 10 S.Y. GFD

SEE TYPICAL OUTLET CHANNEL DETAIL 58 QUANTITIES IN TABLE ABOVE

6' x 2' RCBC (1.0' BURIED)

SPECIAL LATERAL 'V' DITCH SEE DETAIL

CLEAN WATER DIVERSION

GRADE TO DRAIN (TAPER PROPOSED DITCH INTO EXIST. DITCH)

LATERAL 8' BASE DITCH
SEE DETAIL 6
EST. 130 C.Y. DDE
EST. 165 TONS CL-I RIPRAP
EST. 380 S.Y. GFD

DITCH ENTERING WETLAND CALCS -L- STA. 21+00 TO 22+50 LT	
DA	1.19 AC.
C (FUTURE)	0.58
I_a	6.2 IN./HR
Q_a (FUTURE)	4.28 C.F.S.
V_a (FUTURE)	2.00 F.P.S.
SLOPE	0.048 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

CULVERT #1
ONE BARREL

	NORTH	EAST	ELEV.
CUL1	624925.48	2088902.82	249.12
CUL2	624928.77	2088898.61	249.13
CE1	624927.00	2088900.66	253.56
HW1	624928.18	2088898.34	255.20
CUL3	624854.02	2088887.29	248.84
CUL4	624857.34	2088882.93	248.64
CE2	624856.33	2088884.79	253.47
HW2	624856.18	2088885.51	255.04

DITCH ENTERING WETLAND CALCS -L- STA. 23+75 TO 24+00 RT	
DA	6.23 AC.
C (FUTURE)	0.50
I_a	6.2 IN./HR
Q_a (FUTURE)	19.30 C.F.S.
V_a (FUTURE)	2.00 F.P.S.
SLOPE	0.017 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 24+00 TO 24+70 RT	
DA	6.64 AC.
C (FUTURE)	0.50
I_a	6.2 IN./HR
Q_a (FUTURE)	20.58 C.F.S.
V_a (FUTURE)	1.22 F.P.S.
SLOPE	0.004 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

RY INVESTMENT
OPERTIES LLC
3497 PG 845

SEE SHEET 25 FOR -L- PROFILE

12/30/2021

Submitted 3/1/2022

5/14/99

REVISIONS

12/30/2021

LEGEND

F / F — DENOTES FILL IN WETLAND	S / S — DENOTES IMPACTS IN SURFACE WATER
E / E — DENOTES EXCAVATION IN WETLAND	TS / TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC / HC — DENOTES HAND CLEARING	DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 8 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

VAN COATS
DB 3459 PG 434
PB 2016 PG 364

(1A) JAMES JOHNSON
DB 615 PG 21
PB 2016 PG 364

(1) JAMES JOHNSON
DB 731PG 732

(3) TONY WARREN
DB 3271PG 355

(4) HOWARD BRIDGES
DB 1754 PG 517

(5) DANNY HEDGEPETH
DB 926 PG 126
PC# E PG 76A

DOUGLAS JOHNSON
DB 3605 PG 628
PB 2016 PG 384

(2) JAMES JOHNSON
DB 730 PG 223

BEGIN CONSTRUCTION
-L- POT Sta. 12+60.83

BEGIN TIP PROJECT R-5705A
-L- POT Sta. 15+58.00

15+00

20+00

MATCHLINE -L- STA 24+50 (SEE SHEET 5)

N 34°10'11.1"W

-L-
NC 55

NC 55 24' BST

SITE 1

SITE 2

SITE 3

SITE 4

CLEAN OUT PIPE
OUTLET & RETAIN

ACCESS POINT

BERM 'V' DITCH
SEE DETAIL 3

REMOVE

SPECIAL LATERAL 6' BASE DITCH
SEE DETAIL 51
EST. 100 TONS CL-B RIPRAP
EST. 250 S.Y. GFD

SEE TYPICAL OUTLET CHANNEL DETAIL 58 QUANTITIES IN TABLE ABOVE

RIPRAP PAD AT OUTLET
EST. 3 TONS CL-B RIPRAP
EST. 10 S.Y. GFD

6' x 3' RCBC (1.0' BURIED)

15" RCP IV

TB 2GL

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

CLEAN WATER DIVERSION

GRADE TO DRAIN (TAPER PROPOSED DITCH INTO EXIST. DITCH)

LATERAL 8' BASE DITCH
SEE DETAIL 6
EST. 130 C.Y. DDE
EST. 165 TONS CL-I RIPRAP
EST. 380 S.Y. GFD

CULVERT #1
ONE BARREL

DITCH ENTERING WETLAND CALCS -L- STA. 21+00 TO 22+50 LT	
DA	1.19 AC.
C (FUTURE)	0.58
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	4.28 C.F.S.
V_{10} (FUTURE)	2.00 F.P.S.
SLOPE	0.048 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

	NORTH	EAST	ELEV.
CUL1	624925.48	2088902.82	249.12
CUL2	624928.77	2088898.61	249.13
CE1	624927.00	2088900.66	253.56
HW1	624928.18	2088898.34	255.20
CUL3	624854.02	2088887.29	248.84
CUL4	624857.34	2088882.93	248.64
CE2	624856.33	2088884.79	253.47
HW2	624856.18	2088885.51	255.04

DITCH ENTERING WETLAND CALCS -L- STA. 23+75 TO 24+90 RT	
DA	6.23 AC.
C (FUTURE)	0.50
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	19.30 C.F.S.
V_{10} (FUTURE)	2.00 F.P.S.
SLOPE	0.017 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 24+00 TO 24+70 RT	
DA	6.64 AC.
C (FUTURE)	0.50
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	20.58 C.F.S.
V_{10} (FUTURE)	1.22 F.P.S.
SLOPE	0.004 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

RY INVESTMENT
PERTIES LLC
3497 PG 845

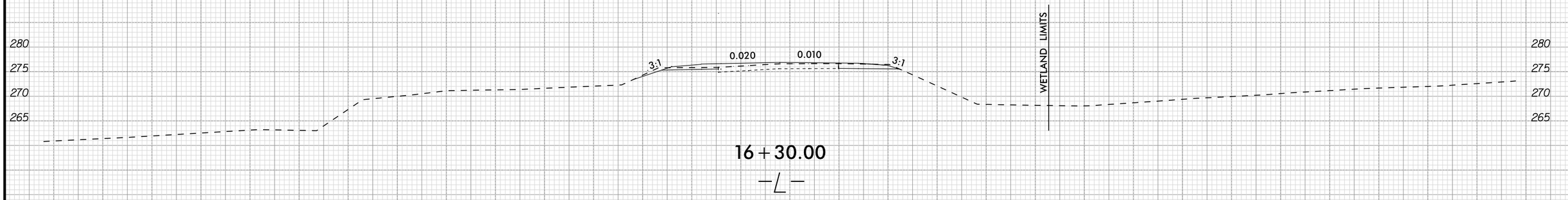
SEE SHEET 25 FOR -L- PROFILE

Submitted 3/1/2022

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

PERMIT DRAWING
SHEET 9 OF 64

SITE 1



16 + 30.00

—L—

12/30/2021

Submitted 3/1/2022

REVISIONS
5/14/99

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
E E — DENOTES EXCAVATION IN WETLAND	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 10 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 24+50 (SEE SHEET 4)

MATCHLINE -L- STA 38+00 (SEE SHEET 6)

25+00 30+00 35+00

(5) DANNY HEDGEPETH
DB 926 PG 126
PC* E PG 76A

(8) DANNY HEDGEPETH
DB 124 PG 820
MB 2004 PG 9

(9) CHARLES GRAY
DB 3252 PG 220

(10) CHARLES GRAY
DB 1442 PG 909
MB 2004 PG 19

(7) JEFFREY WALTERS
DB 968 PG 612

(6) JESSE MABRY
DB 915 PG 464

(2)

LATERAL 'V' DITCH
SEE DETAIL 5
EST. 140 TONS CL-B RIPRAP
EST. 300 S.Y. GFD
EST. 120 C.Y. DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SITE 2

SITE 4

SITE 3

SEDIMENT CONTROL BASIN

ACCESS POINT

PUE

REMOVE

2GI

3GI-A

18" RCP

15" RCP-IV

-L- NC 55

N 48° 17' 28.4" W

EXIST R/W

TREES

DECK

CONC

WOOD RAMP

POND

CULTIVATED

7' RCBC (1' BURIED)

LATERAL 4' BASE DITCH
SEE DETAIL 53
EST. 25 TONS CL-B RIPRAP
EST. 60 S.Y. GFD
EST. 20 C.Y. DDE

LATERAL 4' BASE DITCH
SEE DETAIL 9
EST. 200 C.Y. DDE

SEE TYPICAL INLET
CHANNEL DETAIL 59
QUANTITIES ON SHEET 4

GRADE TO DRAIN

DITCH ENTERING WETLAND CALCS -L- STA. 24+70 TO 24+85 RT	
DA	45.77 AC.
C	0.50
I_m	3.8 IN./HR
Q_m	87 C.F.S
V_m	1.81 F.P.S
SLOPE	0.004 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 25+10 TO 25+50 RT	
DA	2.22 AC.
C	0.59
I_m	6.2 IN./HR
Q_m	8.12 C.F.S
V_m	1.96 F.P.S
SLOPE	0.02 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

SEE SHEET 25 FOR -L- PROFILE

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NAD 83/NA 2011

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS
5/14/99

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
E E — DENOTES EXCAVATION IN WETLAND	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 11 OF 64

MATCHLINE -L- STA 24+50 (SEE SHEET 4)

MATCHLINE -L- STA 38+00 (SEE SHEET 6)

5 DANNY HEDGEPETH
DB 926 PG 126
PC# E PG 76A

8 DANNY HEDGEPETH
DB 124 PG 820
MB 2004 PG 9

9 CHARLES GRAY
DB 3252 PG 220

10 CHARLES GRAY
DB 1742 PG 909
MB 2004 PG 19

7 JEFFREY WALTERS
DB 968 PG 612

6 JESSE MABRY
DB 915 PG 464

2

-L- NC 55
N 48° 17' 28.4" W

LATERAL 'V' DITCH
SEE DETAIL 5
EST. 140 TONS CL-B RIPRAP
EST. 300 S.Y. GFD
EST. 120 C.Y. DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SITE 2

SITE 4

SITE 3

SEDIMENT CONTROL BASIN

ACCESS POINT

REMOVE

15" RCP-IV

18" RCP

2GI

2GI-A

7' RCBC (1' BURIED)

LATERAL 4' BASE DITCH
SEE DETAIL 53
EST. 25 TONS CL-B RIPRAP
EST. 60 S.Y. GFD
EST. 20 C.Y. DDE

LATERAL 4' BASE DITCH
SEE DETAIL 9
EST. 200 C.Y. DDE

SEE TYPICAL INLET
CHANNEL DETAIL 59
QUANTITIES ON SHEET 4

GRADE TO DRAIN

CULTIVATED

TREES

DECK

WOOD RAMP

CONC

EXIST R/W

DITCH ENTERING WETLAND CALCS -L- STA. 24+70 TO 24+85 RT	
DA	45.77 AC.
C	0.50
I_a	3.8 IN./HR
Q_a	87 C.F.S
V_a	1.81 F.P.S
SLOPE	0.004 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 25+10 TO 25+50 RT	
DA	2.22 AC.
C	0.59
I_a	6.2 IN./HR
Q_a	8.12 C.F.S
V_a	1.96 F.P.S
SLOPE	0.02 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

SEE SHEET 25 FOR -L- PROFILE

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	4A/5A

PERMIT DRAWING SHEET 12 OF 64

WETLAND AND STREAM IMPACTS
SITE IMPACT ZOOM: 1"=40'

LEGEND

- F F — DENOTES FILL IN WETLAND
- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING

NAD 83 NSRS 2007

SITE 2

SITE 3

SITE 4

RIPRAP PAD AT OUTLET
EST. 3 TONS CL-B RIPRAP
EST. 10 S.Y. CL-B RIPRAP

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

CLEAN WATER DIVERSION

SEDIMENT CONTROL BASIN

6' x 7' RCBC (1.0' BURIED)

15" RCP-IV

18" RCP

24"

2GI

TB 2GI

DI

REMOVE

PUE

TDE

ACCESS POINT

POND

EXIST R/W

NC 55 24' BST

JEFFREY WA

DB 968 P

SITES 2,3,4

20' 0' 20' 40'
GRAPHIC SCALE

REVISIONS

12/30/2021

Submitted 3/1/2022

WETLAND AND STREAM IMPACTS
SITE IMPACT ZOOM: 1"=40'

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	4A/5A

PERMIT DRAWING SHEET 13 OF 64

LEGEND

- F F — DENOTES FILL IN WETLAND
- S S — DENOTES IMPACTS IN SURFACE WATER
- E E — DENOTES EXCAVATION IN WETLAND
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- HC HC — DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

NAD 83 NSRS 2007

SITE 2

SITE 3

SITE 4

RIPRAP PAD AT OUTLET
EST. 3 TONS CL-B RIPRAP
EST. 10 S.Y. CL-B RIPRAP

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

CLEAN WATER DIVERSION

SEDIMENT CONTROL BASIN

ACCESS POINT

JEFFREY WA
DB 968 P

REMOVE

6'x7' RCBC (1.0' BURIED)

15" RCP-IV

18" RCP

24"

2GI

TB 2GI

DI

PDE

TDE

PUE

SITES 2,3,4

20' 0' 20' 40'
GRAPHIC SCALE

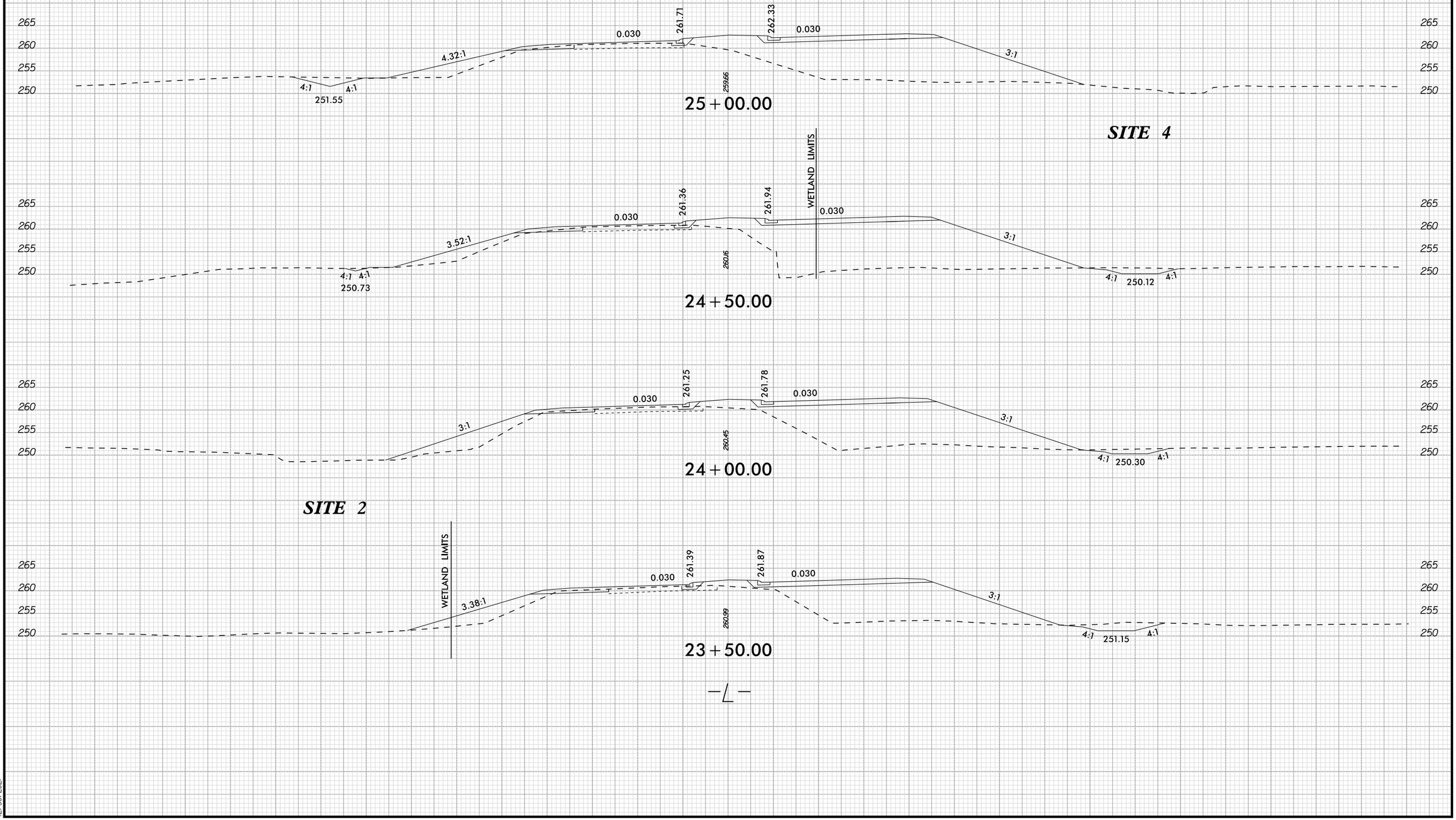
REVISIONS

12/30/2021

Submitted 3/1/2022

PERMIT DRAWING
SHEET 14 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -



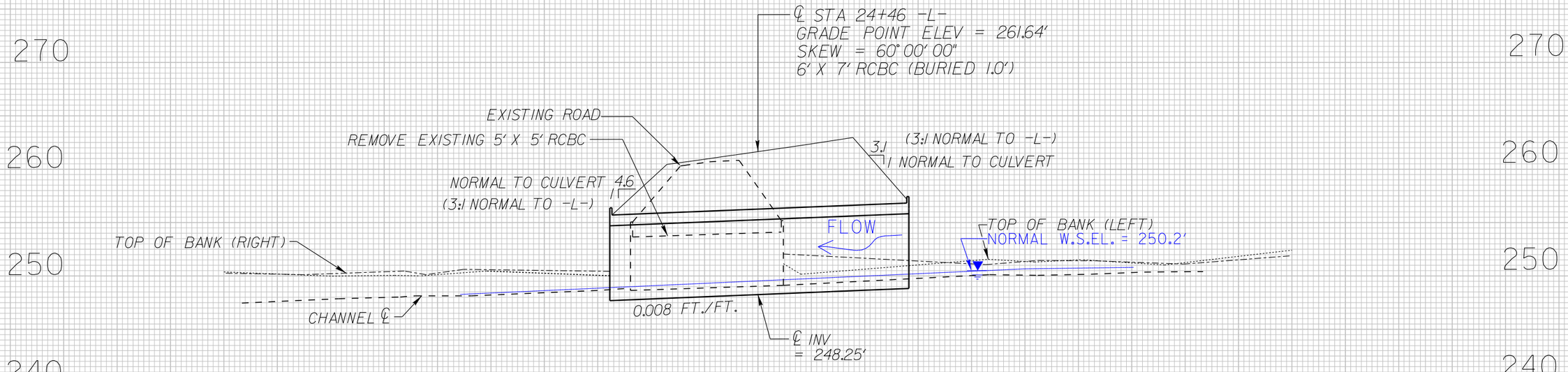
12/30/2021

Submitted 3/1/2022

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

PERMIT DRAWING
SHEET 15 OF 64

SITE 2,3,4



12/30/2021

Submitted 3/1/2022

LEGEND

- F F — DENOTES FILL IN WETLAND
- S S — DENOTES IMPACTS IN SURFACE WATER
- HC HC — DENOTES HAND CLEARING
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- P P — DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING
SHEET 16 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS 5/14/99

MATCHLINE -L- STA 38+00 (SEE SHEET 5)

MATCHLINE -L- STA 50+50 (SEE SHEET 7)

12/30/2021

SITE 5

SITE 6

SITE 7

SITE 8

-L-
NC 55
N 48° 17' 28.4" W

10 CHARLES GRAY
DB 1442 PG 909
MB 2004 PG 19

12 CHARLES GRAY
DB 2830 PG 175

13 SHERRY OATES
DB 1822 PG 69
DB 2007 PG 518

14 SHERRILL MCLAMB
DB 786 PG 810

11 NANCY SILVERS
DB 1101PG 767

6 JESSE MABRY
DB 915 PG 464

15 NANCY SILVERS
DB 1101PG 767

18 SHERRILL MCLAMB
DB 738 PG 754

19 MCLAMB
PG 291

20 VIRGINIA HOLLIDAY
DB 635 PG 530

21 UNKNOWN PROPERTY OWNER

22 NANCY SILVERS
DB 1159 PG 680

100

40+00 45+00 50+00

ACCESS POINT

REMOVE

18" RCP

15" RCP

18" RCP-IV

42" RCP-IV

24" RCP

6' RCP

2GI

2GI-A

O.E.P
10-YR
HWD=0.8

O.E.P
10-YR
HWD=2.0

DRAIN. DITCH W/ FRENCH DRAIN
APPROX. START ELEV. 291.0'
END ELEV. 290.0'
SEE DETAIL 24
EST. 40 TONS CL I RIPRAP
EST. 15 S.Y. GFD
EST. 400 C.Y. DDE

SPECIAL LATERAL
FRENCH DRAIN
SEE DETAIL 24

RIPRAP PAD AT OUTLET
3 TONS CL-B RIPRAP
11 S.Y. GFD

RETAIN

CHANNEL CHANGE (4.0' BASE)
SEE DETAIL 11
EST. 150 C.Y. DDE
EST. 95 TONS CL-I RIPRAP
EST. 210 S.Y. GFD

MIN. DEPTH 2GI-A
SEE DETAIL 840d17
SHEET 2C-1

TOE PROTECTION
SEE DETAIL 12
EST. 40 TONS CL-B RIPRAP
EST. 130 S.Y. GFD

GRADE TO DRAIN
APPROX GRADE 15%
PROTECT W/EST. 15 TONS
CL-B RIPRAP
EST. 40 S.Y. GFD

FALSE SUMP
SEE DETAIL 7

DIMONO CONC ISLAND

HW FULL DEBRIS

REMOVE EXIST JB

REMOVE 24" RCP

JB W/MH

DI

WOODS

POOL

DECK

FOOT BRIDGE

60' WD

48" SPLIT RAIL

48" CHI

EXIST R/W

PUE

PDE

DUE

TDE

SSBW

CONC

RIPRAP

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
P P — DENOTES IMPACTS IN SURFACE WATER (POND)	

PERMIT DRAWING
SHEET 17 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 38+00 (SEE SHEET 5)

MATCHLINE -L- STA 50+50 (SEE SHEET 7)

SITE 5

SITE 6

SITE 7

SITE 8

-L- NC 55
N 48° 17' 28.4" W

10 CHARLES GRAY DB 1442 PG 909 MB 2004 PG 19

11 NANCY SILVERS DB 1101 PG 767

12 CHARLES GRAY DB 2830 PG 175

13 SHERRY QATES DB 1822 PG 69 DB 2007 PG 518

14 SHERRILL MCLAMB DB 786 PG 810

15 NANCY SILVERS DB 1101 PG 767

18 SHERRILL MCLAMB DB 738 PG 754

19 MCLAMB PG 291

20 VIRGINIA HOLLIDAY DB 635 PG 530

21 UNKNOWN PROPERTY OWNER

22 NANCY SILVERS DB 1158 PG 680

6 JESSE MABRY DB 915 PG 464

100

REMOVE 24" RCP

42" RCP-IV

DIMOND CONC ISLAND

18" RCP-IV

REMOVE EXIST JB

HW PULL DEBRIS

RIPRAP PAD AT OUTLET 3' TONS CL-B RIPRAP 17 S.Y. GFD

CHANNEL CHANGE (4.0' BASE) SEE DETAIL 11 EST. 150' C.Y. DDE EST. 95 TONS CL-I RIPRAP EST. 210 S.Y. GFD

MIN I DEPTH 2GI-A SEE DETAIL 840d17 SHEET 2C-Y

TOE PROTECTION SEE DETAIL 12 EST. 40 TONS CL-B RIPRAP EST. 130 S.Y. GFD

GRADE TO DRAIN APPROX. GRADE 15% PROTECT W/EST. 15 TONS CL-B RIPRAP EST. 40 S.Y. GFD

FALSE SUMP SEE DETAIL 7

O.E.P 10-YR HWD = 2.0

RETAIN

ACCESS POINT

TDE

PDE

DUE

PUE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 18 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

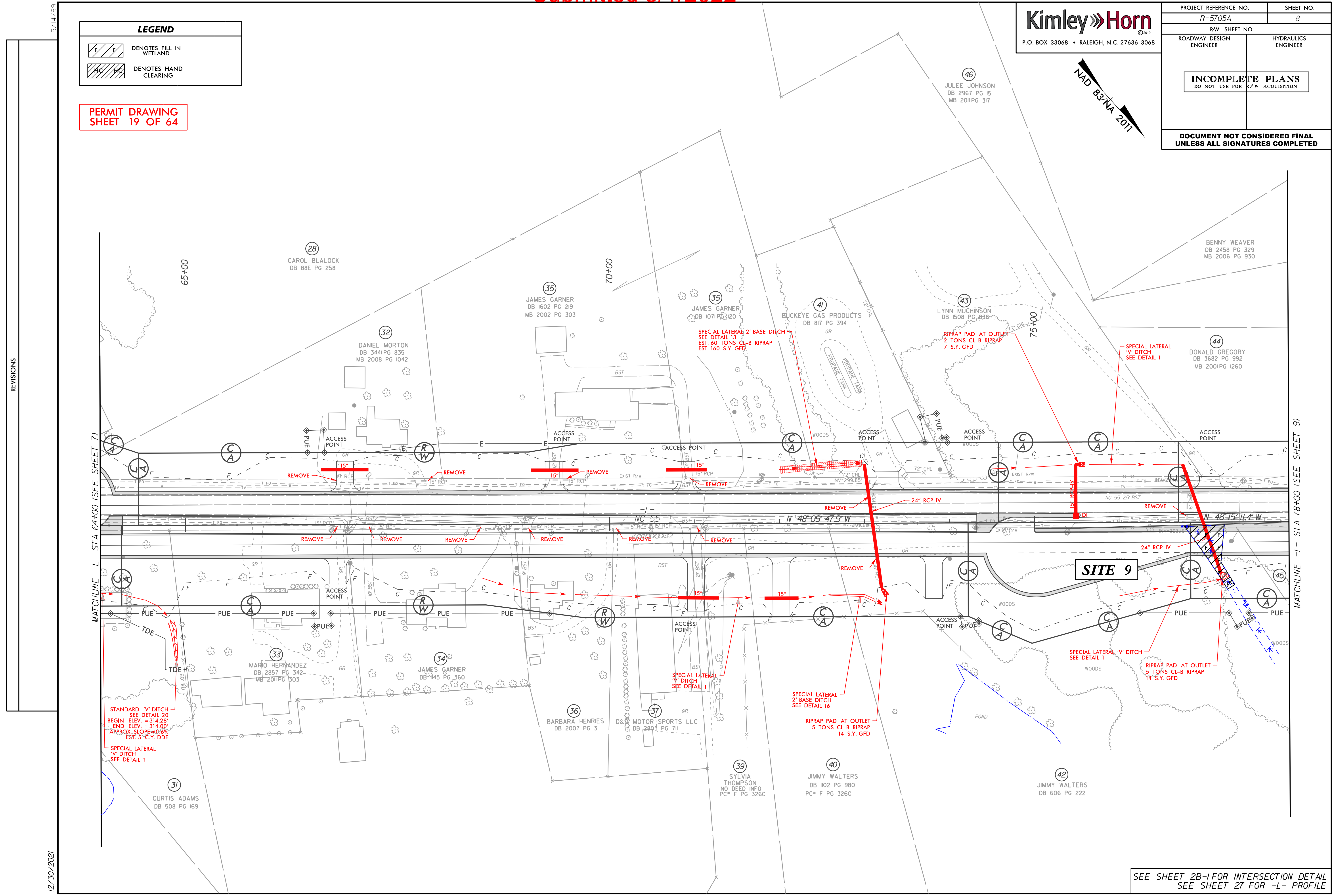
SITE 5

38+30.00

—L—

12/30/2021

Submitted 3/1/2022



Submitted 3/1/2022

5/14/99

REVISIONS

LEGEND

F F — DENOTES FILL IN WETLAND

HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 20 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 64+00 (SEE SHEET 7)

MATCHLINE -L- STA 78+00 (SEE SHEET 9)

65+00 70+00 75+00

(28) CAROL BLALOCK
DB 88E PG 258

(35) JAMES GARNER
DB 1602 PG 219—
MB 2002 PG 303

(35) JAMES GARNER
DB 1071 PG 120

(41) BUCKEYE GAS PRODUCTS
DB 817 PG 394

(43) LYNN MUCHINSON
DB 1508 PG 838

(46) JULEE JOHNSON
DB 2967 PG 15
MB 2011 PG 317

BENNY WEAVER
DB 2458 PG 329
MB 2006 PG 930

(44) DONALD GREGORY
DB 3682 PG 992
MB 2001 PG 1260

(32) DANIEL MORTON
DB 3441 PG 835
MB 2008 PG 1042

(33) MARIO HERNANDEZ
DB 2857 PG 342
MB 2011 PG 303

(34) JAMES GARNER
DB 1145 PG 360

(36) BARBARA HENRIES
DB 2007 PG 3

(37) D&D MOTOR SPORTS LLC
DB 2803 PG 711

(39) SYLVIA THOMPSON
NO DEED INFO
PC# F PG 326C

(40) JIMMY WALTERS
DB 1102 PG 980
PC# F PG 326C

(42) JIMMY WALTERS
DB 606 PG 222

(31) CURTIS ADAMS
DB 508 PG 169

(45)

NC 55 BST

N 48° 09' 47.9" W

N 48° 15' 11.4" W

SITE 9

ACCESS POINT

REMOVE

15" RCP

24" RCP-IV

SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL 13
EST. 60 TONS CL-B RIPRAP
EST. 160 S.Y. GFD

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

STANDARD 'V' DITCH
SEE DETAIL 20
BEGIN ELEV. =314.28'
END ELEV. =314.00'
APPROX. SLOPE=0.6%
EST. 5 C.Y. DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SPECIAL LATERAL
2' BASE DITCH
SEE DETAIL 16

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
14 S.Y. GFD

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
14 S.Y. GFD

SEE SHEET 2B-1 FOR INTERSECTION DETAIL
SEE SHEET 27 FOR -L- PROFILE

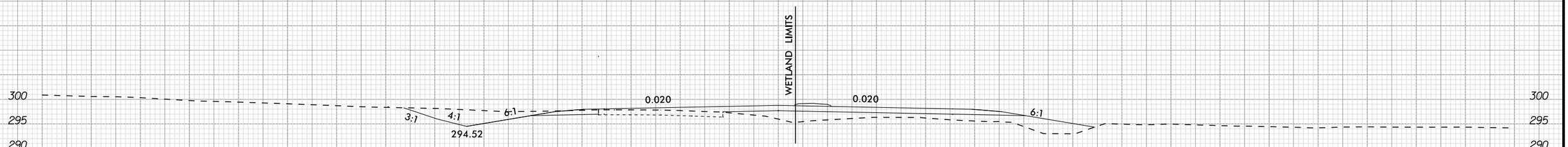
12/30/2021

Submitted 3/1/2022

PERMIT DRAWING
SHEET 21 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 9



77+18.00

—℄—

12/30/2021

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS 5/14/99

12/30/2021

MATCHLINE -L- STA 78+00 (SEE SHEET 8)

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	T T	DENOTES TEMPORARY FILL IN WETLAND

PERMIT DRAWING
SHEET 22 OF 64

-Y3- SR 1538 (MABRY RD) N 19°50'33.4" E

BEGIN CONSTRUCTION -Y3- POT Sta. 10+88.00

80+00 85+00 90+00

(46) WADE BURT DB 3841 PG 131 MB 2011 PG 317

(44) DONALD GREGORY DB 3682 PG 992 MB 2001 PG 1260

(48) JRT MANAGING PROPERTIES, LLC DB 3685 PG 757 MB 2019 PG 99

(48) JRT MANAGING PROPERTIES, LLC DB 3685 PG 757 MB 2019 PG 59

(48) JRT MANAGING PROPERTIES, LLC DB 3685 PG 757 MB 2019 PG 59

(50) FRANK D'ALESIO DB 3604 PG 42 MB 2017 PG 390

(52) W E COLLIER DB 2768 PG 34

(45) JEANETTE STRICKLAND DB 1405 PG 740 MB 2000 PG 84

(47) MR CURRIN DB 1315 PG 641

(42) JIMMY WALTERS DB 606 PG 222

(49) BARBARA SMETZER DB 2038 PG 935

SITE 10

SITE 11

SITE 12

FALSE SUMP SEE DETAIL 7

SPECIAL LATERAL 'V' DITCH SEE DETAIL 17

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

SPECIAL LATERAL 5' BASE DITCH SEE DETAIL 54

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

RIPRAP PAD BEFORE ENTERING WETLAND EST. 6 TONS CL-B RIPRAP EST. 15 S.Y. GFD

RIPRAP PAD AT OUTLET EST. 5.0' WIDTH OF RIPRAP EST. 20.0' X 15.0' LGTH

4' BASE (HEAD) DITCH SEE DETAIL 62 EST. 18 TONS CL-I RIPRAP EST. 47 S.Y. GFD EST. 15 C.Y. DDE APPROX. GRADE = 4.5%

TOE PROTECTION SEE DETAIL 18 EST. 115 TONS CL-I RIPRAP EST. 280 S.Y. GFD

TOE PROTECTION SEE DETAIL 18 EST. 5 TONS CL-I RIPRAP EST. 15 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 4 EST. 60 TONS CL-B RIPRAP EST. 135 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

LATERAL 4' BASE DITCH SEE DETAIL 62 EST. 133 TONS CL-I RIPRAP EST. 130 S.Y. GFD

DITCH ENTERING WETLAND CALCS -L- STA. 80+75 TO 81+82 RT	
DA	0.65 AC.
C	0.59
I_m	6.2 IN./HR
Q_m	2.40 C.F.S
V_m	1.05 F.P.S
SLOPE	0.011 FT/FT
N	0.063
LINER TYPE	RIPRAP PAD

JURISDICTIONAL STREAM / CHANNEL CHANGE DITCH WITHIN WETLAND -L- STA. 85+50 TO 87+00 RT	
DA	35.51 AC.
C (FUTURE)	0.51
I_m	4.27 IN./HR
Q_m (FUTURE)	77.39 C.F.S
V_m (FUTURE)	2.69 F.P.S
SLOPE	0.01 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

JURISDICTIONAL STREAM / CHANNEL CHANGE DITCH WITHIN WETLAND -L- STA. 87+00 TO 88+05 RT	
DA	35.51 AC.
C (FUTURE)	0.51
I_m	4.27 IN./HR
Q_m (FUTURE)	77.39 C.F.S
V_m (FUTURE)	1.76 F.P.S
SLOPE	0.003 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 89+40 TO 90+50 LT	
DA	0.98 AC.
C (FUTURE)	0.53
I_m	6.2 IN./HR
Q_m (FUTURE)	3.22 C.F.S
V_m (FUTURE)	1.94 F.P.S
SLOPE	0.016 FT/FT
N	0.035
LINER TYPE	NONE

DITCH ENTERING WETLAND CALCS -L- STA. 90+50 TO 91+15 RT	
DA	3.69 AC.
C (FUTURE)	0.46
I_m	6.2 IN./HR
Q_m (FUTURE)	10.52 C.F.S
V_m (FUTURE)	2.00 F.P.S
SLOPE	0.018 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

SEE SHEET 2B-1 & 2B-2 FOR INTERSECTION DETAIL
SEE SHEET 27 FOR -L- PROFILE
SEE SHEET 34 FOR -Y3- PROFILE

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS
5/14/99

12/30/2021

MATCHLINE -L- STA 78+00 (SEE SHEET 8)

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	T T	DENOTES TEMPORARY FILL IN WETLAND

PERMIT DRAWING
SHEET 23 OF 64

-Y3- SR 1538 (MABRY RD) N 19°50'33.4" E

BEGIN CONSTRUCTION -Y3- POT Sta. 10+88.00

80+00 85+00 90+00

(46) WADE BURT DB 3841 PG 131 MB 2011 PG 317

(44) DONALD GREGORY DB 3682 PG 992 MB 2001 PG 1260

(48) JRT MANAGING PROPERTIES, LLC DB 3685 PG 757 MB 2019 PG 99

(48) JRT MANAGING PROPERTIES, LLC DB 3685 PG 757 MB 2019 PG 59

(48) JRT MANAGING PROPERTIES, LLC DB 3685 PG 757 MB 2019 PG 59

(50) FRANK D'ALESIO DB 3604 PG 42 MB 2017 PG 390

(52) W E COLLIER DB 2768 PG 34

(45) JEANETTE STRICKLAND DB 1405 PG 740 MB 2000 PG 84

(47) MR CURRIN DB 1315 PG 641

(42) JIMMY WALTERS DB 606 PG 222

(49) BARBARA SMETZER DB 2038 PG 935

SITE 10

SITE 11

SITE 12

FALSE SUMP SEE DETAIL 7

SPECIAL LATERAL 'V' DITCH SEE DETAIL 17

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

SPECIAL LATERAL 5' BASE DITCH SEE DETAIL 54

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 5' BASE DITCH SEE DETAIL 19

RIPRAP PAD BEFORE ENTERING WETLAND EST. 6 TONS CL-B RIPRAP EST. 15 S.Y. GFD

RIPRAP PAD AT OUTLET EST. 52 TONS CL-I RIPRAP EST. 105 S.Y. GFD

4' BASE (HEAD) DITCH SEE DETAIL 62 EST. 18 TONS CL-I RIPRAP EST. 47 S.Y. GFD EST. 15 C.Y. DDE APPROX. GRADE = 4.5%

TOE PROTECTION SEE DETAIL 18 EST. 115 TONS CL-I RIPRAP EST. 280 S.Y. GFD

TOE PROTECTION SEE DETAIL 18 EST. 5 TONS CL-I RIPRAP EST. 15 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 4 EST. 60 TONS CL-B RIPRAP EST. 135 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

ACCESS POINT

REMOVE

PUE

TDE

JS

MONO CONC ISLAND

N 48°15'11.4" W

NC 55

DITCH ENTERING WETLAND CALCS -L- STA. 80+75 TO 81+82 RT	
DA	0.65 AC.
C	0.59
I_{10}	6.2 IN./HR
Q_p	2.40 C.F.S
V_p	1.05 F.P.S
SLOPE	0.011 FT/FT
N	0.063
LINER TYPE	RIPRAP PAD

JURISDICTIONAL STREAM / CHANNEL CHANGE DITCH WITHIN WETLAND -L- STA. 85+50 TO 87+00 RT	
DA	35.51 AC.
C (FUTURE)	0.51
I_{10}	4.27 IN./HR
Q_p (FUTURE)	77.39 C.F.S
V_p (FUTURE)	2.69 F.P.S
SLOPE	0.01 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

JURISDICTIONAL STREAM / CHANNEL CHANGE DITCH WITHIN WETLAND -L- STA. 87+00 TO 88+05 RT	
DA	35.51 AC.
C (FUTURE)	0.51
I_{10}	4.27 IN./HR
Q_p (FUTURE)	77.39 C.F.S
V_p (FUTURE)	1.76 F.P.S
SLOPE	0.003 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 89+40 TO 90+50 LT	
DA	0.98 AC.
C (FUTURE)	0.53
I_{10}	6.2 IN./HR
Q_p (FUTURE)	3.22 C.F.S
V_p (FUTURE)	1.94 F.P.S
SLOPE	0.016 FT/FT
N	0.035
LINER TYPE	NONE

DITCH ENTERING WETLAND CALCS -L- STA. 90+50 TO 91+15 RT	
DA	3.69 AC.
C (FUTURE)	0.46
I_{10}	6.2 IN./HR
Q_p (FUTURE)	10.52 C.F.S
V_p (FUTURE)	2.00 F.P.S
SLOPE	0.018 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

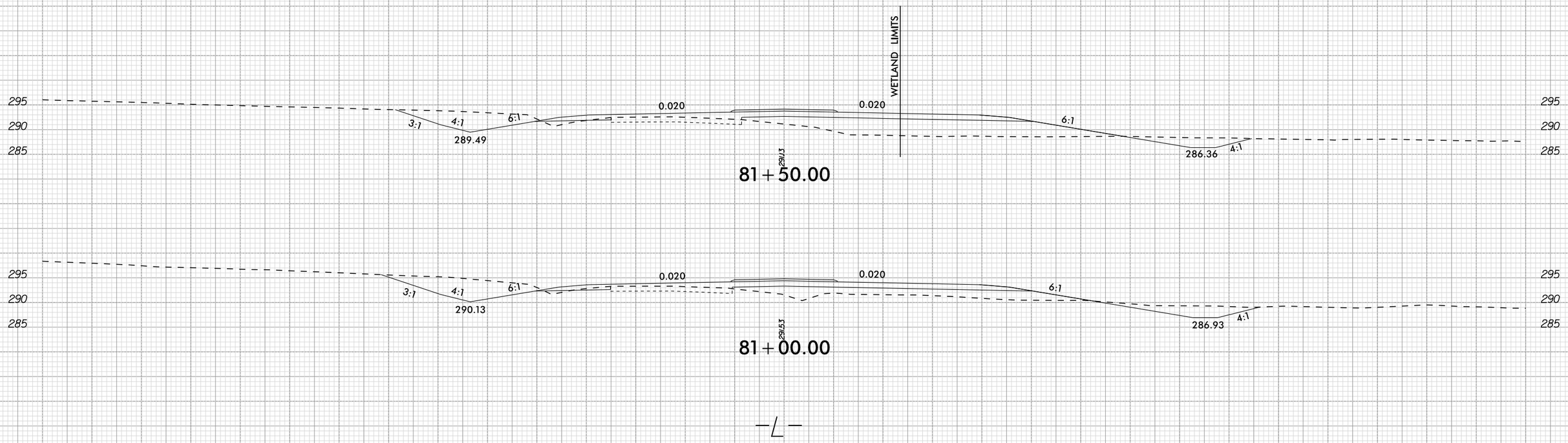
SEE SHEET 2B-1 & 2B-2 FOR INTERSECTION DETAIL
SEE SHEET 27 FOR -L- PROFILE
SEE SHEET 34 FOR -Y3- PROFILE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 24 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 10



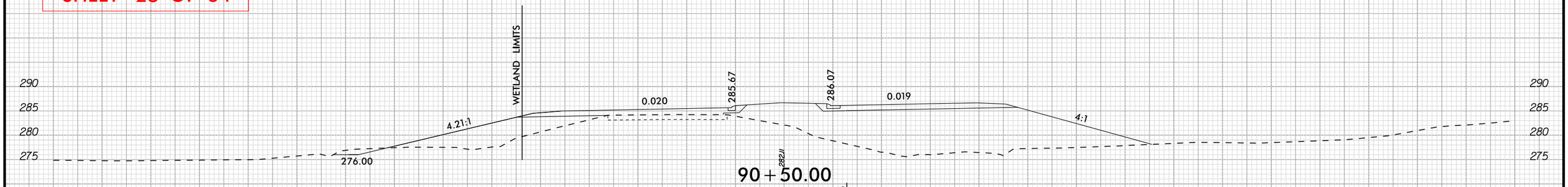
12/30/2021

Submitted 3/1/2022

PERMIT DRAWING
SHEET 25 OF 64

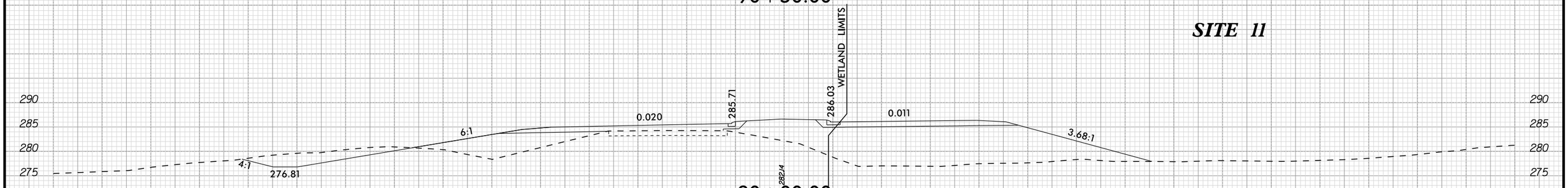
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 12

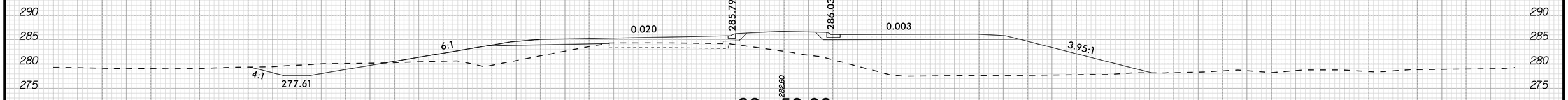


90 + 50.00

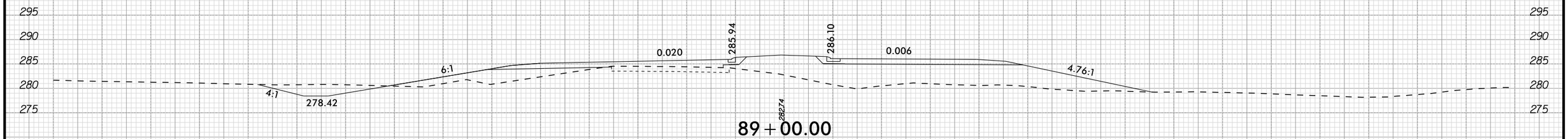
SITE 11



90 + 00.00



89 + 50.00



89 + 00.00

12/30/2021

Submitted 3/1/2022

REVISIONS
5/14/99

12/30/2021

LEGEND

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 26 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 92+50 (SEE SHEET 9)

MATCHLINE -L- STA 105+50 (SEE SHEET 11)

95+00

100+00

105+00

POND

WOODS

CULTIVATED

51 ISABEL LOREDO
DB 3258 PG 986
MB 2014 PG 313

52 W E COLLIER
DB 2768 PG 34

53 RILDA COLLIER LIFE ESTATE
DB 3278 PG 598

54 RILDA COLLIER LIFE ESTATE
DB 3278 PG 600

55 CLAY GARDNER
DB 2627 PG 807
MB 2009 PG 275

56 JERRY TUCKER
DB 2208 PG 537
MB 2001PG 641

57 RIVER RUN DEVELOPERS
DB 3454 PG 424

58

49 BARBARA SMETZER
DB 2038 PG 935

KENNETH SNIPES
DB 3372 PG 76

SITE 13

SITE 14

-L- NC 55

FILL IN WETLAND

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

DRIVEWAY FLARE OUT SEE DETAIL 55

GRADE TO DRAIN SEE CROSS SECTIONS APPROX GRADE = 4.0%

REMOVE

15" RCP-IV

TB 2GI

DI

18"

15"

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'V' DITCH SEE DETAIL 20 EST. 55 C.Y. DDE

SPECIAL CUT 'V' DITCH SEE DETAIL 21

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

ACCESS POINT

PUE

DITCH ENTERING WETLAND CALCS -L- STA 100+25 RT	
DA	0.66 AC.
C	0.50
I_{10}	6.2 IN./HR
Q_{10}	2.06 C.F.S
V_{10}	1.24 F.P.S
SLOPE	0.004 FT/FT
N	0.035
LINER TYPE	NONE

N 48° 15' 11.4" W

Y4A ACCESS ROAD

TERMINAL END SECTION
BEGIN CONSTRUCTION
-Y4A- POT Sta. 11+40.00

SEE SHEET 2B-2 FOR INTERSECTION DETAIL
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 37 FOR -Y4A- PROFILE

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 27 OF 64

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P.O. BOX 33068 • RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 92+50 (SEE SHEET 9)

MATCHLINE -L- STA 105+50 (SEE SHEET 11)

SITE 13

SITE 14

POND

WOODS

CULTIVATED

51 ISABEL LOREDO
DB 3288 PG 986
MB 2014 PG 313

56 JERRY TUCKER
DB 2208 PG 537
MB 2001PG 641

57 RIVER RUN DEVELOPERS
DB 3454 PG 424

52 W E COLLIER
DB 2768 PG 34

53 RILDA COLLIER LIFE ESTATE
DB 3278 PG 598

54 RILDA COLLIER LIFE ESTATE
DB 3278 PG 600

55 CLAY GARDNER
DB 2627 PG 807
MB 2009 PG 275

49 BARBARA SMETZER
DB 2038 PG 935

68 KENNETH SNIPES
DB 3372 PG 76

95+00

100+00

105+00

NC 55

N 48° 15' 11.4" W

Y4A ACCESS ROAD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

DRIVEWAY FLARE OUT SEE DETAIL 55

DRIVEWAY FLAREOUT SEE DETAIL 55

ACCESS POINT

REMOVE

15" RCP-IV

TB 2GI

18"

15"

DI

GRADE TO DRAIN SEE CROSS SECTIONS APPROX GRADE = 4.0%

FILL IN WETLAND

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'V' DITCH SEE DETAIL 20 EST. 55 C.Y. DDE

SPECIAL CUT 'V' DITCH SEE DETAIL 21

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

LATERAL 'V' DITCH SEE DETAIL 1

TERMINAL END SECTION

BEGIN CONSTRUCTION
-Y4A- POT Sta. 11+40.00

DITCH ENTERING WETLAND CALCS
-L- STA. 100+25 RT

DA	0.66 AC.
C	0.50
I_m	6.2 IN./HR
Q_p	2.06 C.F.S.
V_p	1.24 F.P.S.
SLOPE	0.004 FT/FT
N	0.035
LINER TYPE	NONE

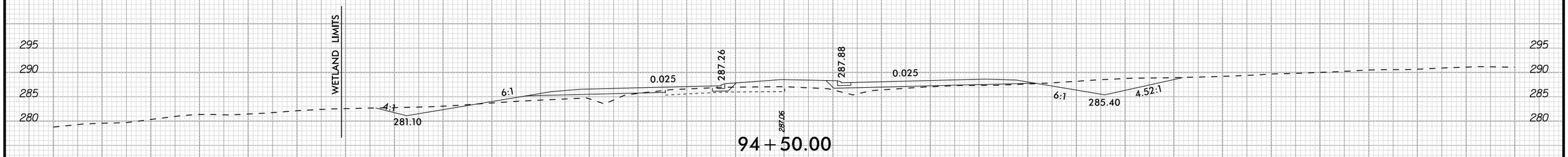
SEE SHEET 2B-2 FOR INTERSECTION DETAIL
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 37 FOR -Y4A- PROFILE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 28 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 13



12/30/2021

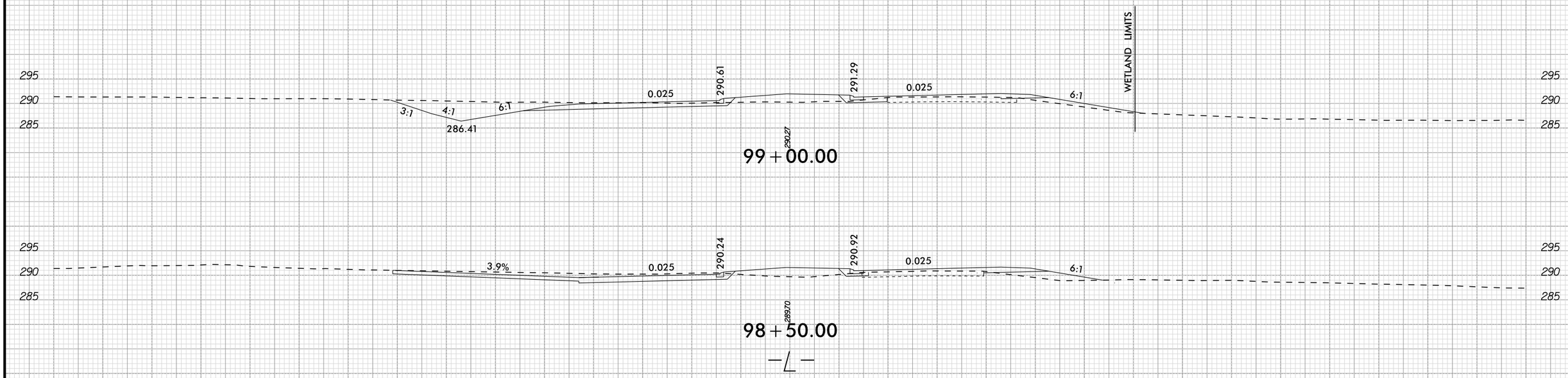
Submitted 3/1/2022

PERMIT DRAWING
SHEET 29 OF 64

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-5705A	PERMIT SHEET - OF -

SITE 14



12/30/2021

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	P P	DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING SHEET 30 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NC 2011

MATCHLINE -L- STA 105+50 (SEE SHEET 10)

MATCHLINE -L- STA 119+00 (SEE SHEET 12)

-Y4B- ACCESS ROAD 2 N 76° 21' 12.4" W

BEGIN CONSTRUCTION -Y4B- POT Sta. 15+05.00

BEGIN CONSTRUCTION -Y4- POT Sta. 13+03.00

-Y4- OLD ENNIS RD S 76° 21' 12.4" E

-Y4- ENNIS RD 20' BST

-L- NC 55

-Y4A- ACCESS ROAD 1 N 48° 15' 11.4" W

-Y4A- ACCESS ROAD 1 N 41° 59' 00.9" W

END CONSTRUCTION -Y4A- POT Sta. 12+90.74

BEGIN CONSTRUCTION -Y4A- POT Sta. 17+50.00

END CONSTRUCTION -Y4- POT Sta. 25+77.00

-Y4- NC 55 BUSINESS N 48° 18' 23.2" W

N 29° 36' 44.9" W

N 22° 29' 23.7" E

S 78° 06' 51.3" W

SITE 15

SITE 16

(57) IVER RUN DEVELOPERS DB 3454 PG 424

(58) CLAY GARDNER DB 3454 PG 422 MB 2009 PG 275

(59) CLAY GARDNER DB 3454 PG 424 MB 2009 PG 277

(55) CLAY GARDNER DB 2627 PG 807 MB 2009 PG 275

(102) CLAY GARDNER DB 2933 PG 858 MB 2009 PG 277

CURRIN HEIRS LLC DB 2612 PG 367

(101) LINDA SEALE DB 3454 PG 424

(60) HERMAN WOOD DB 904 PG 981

PROPOSED WORK (BY OTHERS)

GRADE TO DRAIN

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

GRADE TO DRAIN TO 15" RCP INLET

REMOVE

STANDARD 'V' DITCH SEE DETAIL 23

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

DO NOT DISTURB TREE

RETAIN

STANDARD 4' BASE DITCH SEE DETAIL 26 BEGIN ELEV. 284.09 END ELEV. 281.50 GRADE AT 3.35% EST. 40 C.Y. DDE EST. 100 TONS CL-I RIPRAP EST. 220 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 56

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

RIPRAP PAD AT OUTLET 26 TONS CL-I RIPRAP 50 S.Y. GFD

BACKFILL POND AS NECESSARY TO ESTABLISH MIN. DEPTH IN DITCH. EST. 420 C.Y. BACKFILL

DRAIN POND VIA STANDARD 8' BASE DITCH SEE DETAIL 52 APPROX. GRADE =1.0% EST. 450 TONS CL-I RIPRAP EST. 800 S.Y. GFD EST. 150 C.Y. DDE

SPECIAL CUT 'V' DITCH SEE DETAIL 25

RIPRAP PAD AT OUTLET 11 TONS CL-I RIPRAP 22 S.Y. GFD

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 36 EST. 180 TONS CL-I RIPRAP EST. 410 S.Y. GFD

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

SPECIAL CUT DITCH SEE DETAIL 21

REMOVE

STANDARD 4' BASE DITCH SEE DETAIL 28 GRADE AT 0.6% EST. 100 C.Y. DDE EST. 60 TONS CL-II RIPRAP EST. 150 S.Y. GFD

STANDARD 4' BASE DITCH SEE DETAIL 27 GRADE AT 0.6% EST. 110 C.Y. DDE EST. 45 TONS CL-I RIPRAP EST. 140 S.Y. GFD

DITCH ENTERING WETLAND CALCS -L- STA. 106+30 TO 108+40 LT	
DA	2.05 AC.
C (FUTURE)	0.52
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	6.63 C.F.S
V_{10} (FUTURE)	1.88 F.P.S
SLOPE	0.022 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 108+40 TO 109+00 LT	
DA	1.63 AC.
C (FUTURE)	0.50
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	5.05 C.F.S
V_{10} (FUTURE)	1.94 F.P.S
SLOPE	0.008 FT/FT
N	0.035
LINER TYPE	NONE

OUTFALL DITCH THROUGH WETLAND CALCS -L- STA. 108+30 HEAD DITCH	
DA	20.53 AC.
C (FUTURE)	0.50
I_{10}	5.2 IN./HR
Q_{10} (FUTURE)	53.45 C.F.S
V_{10} (FUTURE)	3.76 F.P.S
SLOPE	0.033 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 108+50 TO 109+50 RT	
DA	0.78 AC.
C	0.33
I_{10}	6.2 IN./HR
Q_{10}	1.59 C.F.S
V_{10}	1.10 F.P.S
SLOPE	0.004 FT/FT
N	0.035
LINER TYPE	NONE

DITCH ENTERING WETLAND CALCS -Y4- STA. 22+00 TO 22+40 LT	
DA	2.01 AC.
C (FUTURE)	0.51
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	6.32 C.F.S
V_{10} (FUTURE)	1.98 F.P.S
SLOPE	0.009 FT/FT
N	0.035
LINER TYPE	NONE

DITCH ENTERING WETLAND CALCS -Y4- STA. 21+10 TO 22+00 LT	
DA	4.98 AC.
C (FUTURE)	0.56
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	17.20 C.F.S
V_{10} (FUTURE)	2.92 F.P.S
SLOPE	0.05 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

SEE SHEET 2B-2 & 2B-5 FOR INTERSECTION DETAIL
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 34 FOR -Y4- PROFILE
SEE SHEET 37 FOR -Y4A- PROFILE
SEE SHEET 38 FOR -Y4B- PROFILE

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	P P	DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING SHEET 31 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NC 2011

BEGIN CONSTRUCTION -Y4B- POC Sta. 10+02.00
END CONSTRUCTION -Y4B- POC Sta. 11+10.00
BEGIN CONSTRUCTION -Y4B- POT Sta. 15+05.00
BEGIN CONSTRUCTION -Y4- POT Sta. 13+03.00
END CONSTRUCTION -Y4A- POT Sta. 12+90.74
BEGIN CONSTRUCTION -Y4A- POT Sta. 17+50.00
END CONSTRUCTION -Y4- POT Sta. 25+77.00

MATCHLINE -L- STA 105+50 (SEE SHEET 10)
MATCHLINE -L- STA 119+00 (SEE SHEET 12)

N 76° 21' 12.4" W ACCESS ROAD 2
N 48° 15' 11.4" W ACCESS ROAD 1
N 47° 59' 00.9" W
N 29° 36' 44.9" W
S 76° 21' 12.4" E OLD ENNIS RD
N 22° 29' 23.7" E
S 78° 06' 51.3" W
NC 55 BUSINESS N 48° 18' 23.2" W

SITE 15
SITE 16

RIVER RUN DEVELOPERS DB 3454 PG 424
CURRIN HEIRS LLC DB 2612 PG 367
CLAY GARDNER DB 3454 PG 424 MB 2009 PG 277
CLAY GARDNER DB 3454 PG 422 MB 2009 PG 275
CLAY GARDNER DB 2627 PG 807 MB 2009 PG 275
CLAY GARDNER DB 2933 PG 858 MB 2009 PG 277
HERMAN WOOD DB 904 PG 981
LINDA BEALE DB 3454 PG 424

PROPOSED WORK (BY OTHERS)
GRADE TO DRAIN
REMOVE
SPECIAL LATERAL 'V' DITCH SEE DETAIL 22
GRADE TO DRAIN TO 15" RCP INLET
STANDARD 'V' DITCH SEE DETAIL 23
RETAIN
DO NOT DISTURB TREE
STANDARD '4' BASE DITCH SEE DETAIL 26 BEGIN ELEV. 284.09 END ELEV. 281.50 GRADE AT 3.35% EST. 40 C.Y. DDE EST. 100 TONS CL-I RIPRAP EST. 220 S.Y. GFD
SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 56
SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
SPECIAL CUT 'V' DITCH SEE DETAIL 25
RIPRAP BASIN OUTLET 26 TONS CL-I RIPRAP 50 S.Y. GFD
RIPRAP PAD AT OUTLET 11 TONS CL-I RIPRAP 22 S.Y. GFD
BACKFILL POND AS NECESSARY TO ESTABLISH MIN. DEPTH IN DITCH. EST. 420 C.Y. BACKFILL
DRAIN POND VIA STANDARD 8" BASE DITCH SEE DETAIL 52 APPROX. GRADE =1.0% EST. 458 TONS CL-I RIPRAP EST. 800 S.Y. GFD EST. 150 C.Y. DDE
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 36 EST. 180 TONS CL-I RIPRAP EST. 410 S.Y. GFD
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31
SPECIAL CUT DITCH SEE DETAIL 21
STANDARD 4' BASE DITCH SEE DETAIL 28 GRADE AT 0.6% EST. 100 C.Y. DDE EST. 60 TONS CL-I RIPRAP EST. 150 S.Y. GFD
STANDARD 4' BASE DITCH SEE DETAIL 27 GRADE AT 0.6% EST. 110 C.Y. DDE EST. 45 TONS CL-I RIPRAP EST. 140 S.Y. GFD

15" RCP-IV
30" RCP-IV
48" RCP-IV
TB 2GI
DI
PDE
TDE

DITCH ENTERING WETLAND CALCS -L- STA. 106+30 TO 108+40 LT	
DA	2.05 AC.
C (FUTURE)	0.52
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	6.63 C.F.S.
V_{10} (FUTURE)	1.88 F.P.S.
SLOPE	0.022 FT/FT
N	0.063
LINER TYPE	CL-B RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 108+40 TO 109+00 LT	
DA	1.63 AC.
C (FUTURE)	0.50
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	5.05 C.F.S.
V_{10} (FUTURE)	1.94 F.P.S.
SLOPE	0.008 FT/FT
N	0.035
LINER TYPE	NONE

OUTFALL DITCH THROUGH WETLAND CALCS -L- STA. 108+30 HEAD DITCH	
DA	20.53 AC.
C (FUTURE)	0.50
I_{10}	5.2 IN./HR
Q_{10} (FUTURE)	53.45 C.F.S.
V_{10} (FUTURE)	3.76 F.P.S.
SLOPE	0.033 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

DITCH ENTERING WETLAND CALCS -L- STA. 108+50 TO 109+50 RT	
DA	0.78 AC.
C	0.33
I_{10}	6.2 IN./HR
Q_{10}	1.59 C.F.S.
V_{10}	1.10 F.P.S.
SLOPE	0.004 FT/FT
N	0.035
LINER TYPE	NONE

DITCH ENTERING WETLAND CALCS -Y4- STA. 22+00 TO 22+40 LT	
DA	2.01 AC.
C (FUTURE)	0.51
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	6.32 C.F.S.
V_{10} (FUTURE)	1.98 F.P.S.
SLOPE	0.009 FT/FT
N	0.035
LINER TYPE	NONE

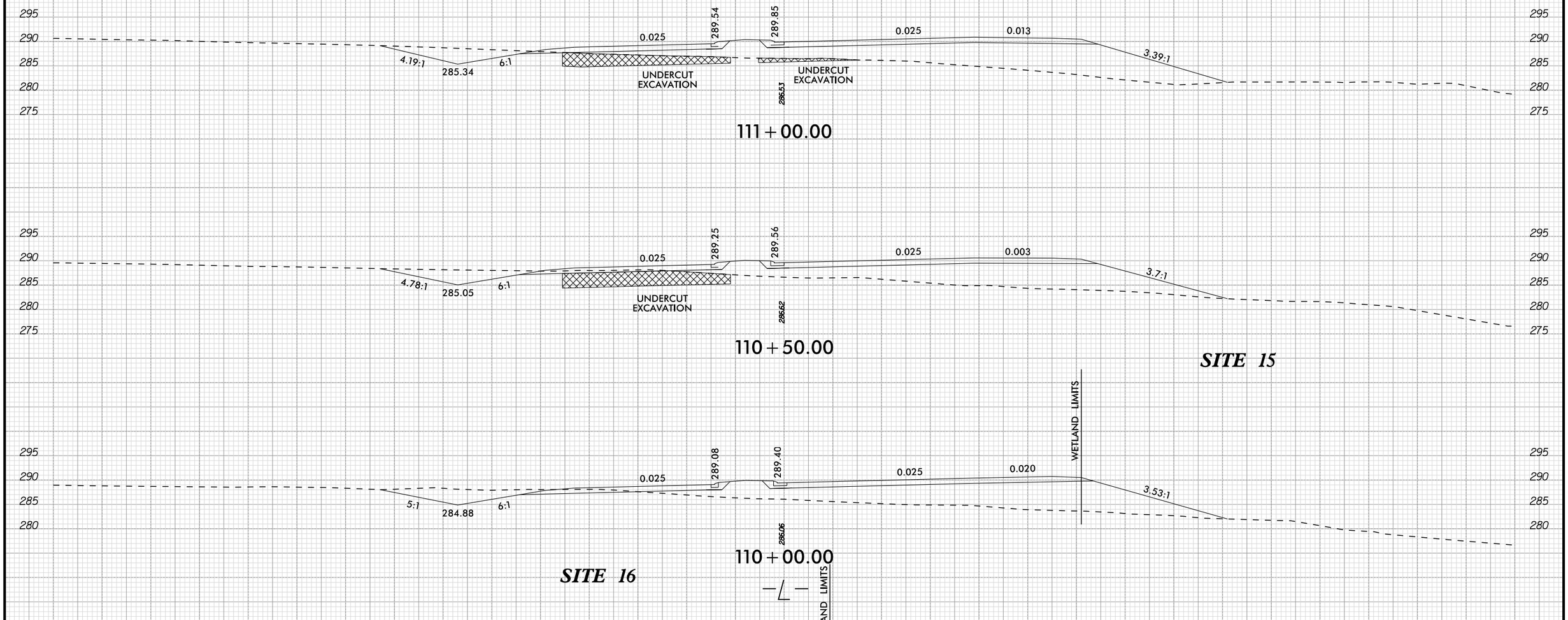
DITCH ENTERING WETLAND CALCS -Y4- STA. 21+10 TO 22+00 LT	
DA	4.98 AC.
C (FUTURE)	0.56
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	17.20 C.F.S.
V_{10} (FUTURE)	2.92 F.P.S.
SLOPE	0.05 FT/FT
N	0.072
LINER TYPE	CL-I RIPRAP

SEE SHEET 2B-2 & 2B-5 FOR INTERSECTION DETAIL
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 34 FOR -Y4- PROFILE
SEE SHEET 37 FOR -Y4A- PROFILE
SEE SHEET 38 FOR -Y4B- PROFILE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 32 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -



12/30/2021

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING		

PERMIT DRAWING SHEET 33 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

CHRISTOPHER SCOTT DB 1268 PG 466
CLYDE SNYDER DB 1223 PG 264
JOHNNY PEARCE DB 3011 PG 477
CECIL AUSLEY DB 2006 PG 688
DETRICE JOHNSON DB 3544 PG 730
ADRIANO ALVAREZ DB 2199 PG 280
JUAN GONZALEZ DB 2377 PG 712 PC# F PG 620A
DAVID FELDMANN DB 3586 PG 623 PC# F PG 620A
HERMAN WOOD DB 904 PG 981
HERMAN WOOD DB 612 PG 58
JAMES BURGIN DB 1880 PG 98 MB 2000 PG 565
JAMES BURGIN DB 1321 PG 0296
TONY MABRY DB 1417 PG 6 MB 2000 PG 279

WOODS
CULTIVATED
HEDGE ROW
CON MON
EOI
EOT VINYL
ENNIS RD (SR 2307)

MATCHLINE -L- STA 119+00 (SEE SHEET 11)
MATCHLINE -L- STA 133+00 (SEE SHEET 13)
120+00
125+00
130+00
10+00

OLD ENNIS RD
N 67° 11' 39.9" W

BEGIN CONSTRUCTION
-Y5B- POT Sta. 12+15.00

TERMINAL END SECTION
END CONSTRUCTION
-Y5B- POT Sta. 13+19.00

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
SPECIAL CUT DITCH SEE DETAIL 25
FALSE SUMP TO ELEV. 286.7' SEE DETAIL 14
FALSE SUMP TO ELEV. 287.0' SEE DETAIL 14
FALSE SUMP TO ELEV. 286.5' SEE DETAIL 14
STANDARD 'V' DITCH SEE DETAIL 37 EST. 40 TONS CL-B RIPRAP EST. 90 S.Y. GFD EST. 180 C.Y. DDE GRADE AT 2.7%
SPECIAL LATERAL 'V' DITCH SEE DETAIL 22
SPECIAL LATERAL 'V' DITCH SEE DETAIL 38 EST. 20 C.Y. DDE
REMOVE

CLEAN WATER DIVERSION
ACCESS POINT
PIPE FLAREOUT SEE DETAIL 55

TB 2GI
15" RCP-IV
24" RCP-IV
48" RCP-IV (BURIED 0.8')
48" HW
DI
RETAIN

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
14 S.Y. GFD

RIPRAP PAD AT OUTLET
3 TONS CL-B RIPRAP
10 S.Y. GFD

RIPRAP PAD AT OUTLET
15 TONS CL-I RIPRAP
30 S.Y. GFD

SITE 17
SITE 18

SEE SHEET 2B-2 & 2B-3 FOR INTERSECTION DETAIL
SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 38 FOR -Y5A- PROFILE

Submitted 3/1/2022

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
E E — DENOTES EXCAVATION IN WETLAND	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	

PERMIT DRAWING
SHEET 34 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS 5/14/99

12/30/2021

MATCHLINE -L- STA 119+00 (SEE SHEET 11)

MATCHLINE -L- STA 133+00 (SEE SHEET 13)

CLYDE SNYDER DB 1223 PG 264

JOHNNY PEARCE DB 3011 PG 477

CECIL AUSLEY DB 2006 PG 688

DETRICE JOHNSON DB 3544 PG 730

ADRIANO ALVAREZ DB 2199 PG 280

JUAN GONZALEZ DB 2377 PG 712 PC* F PG 620A

DAVID FELDMANN DB 3586 PG 623 PC* E PG 620A

HERMAN WOOD DB 904 PG 981

HERMAN WOOD DB 612 PG 58

JAMES BURGIN DB 1880 PG 98 MB 2000 PG 565

JAMES BURGIN DB 1321 PG 0296

TONY MABRY DB 1417 PG 6 MB 2000 PG 278

OLD ENNIS RD N 67° 11' 39.9" W

ENNIS RD EST

TERMINAL END SECTION
END CONSTRUCTION
-Y5B- POT Sta. 13+19.00

BEGIN CONSTRUCTION
-Y5B- POT Sta. 12+15.00

SITE 17

SITE 18

RETAIN

REMOVE

SPECIAL CUT DITCH SEE DETAIL 25

FALSE SUMP TO ELEV. 286.7' SEE DETAIL 14

FALSE SUMP TO ELEV. 287.0' SEE DETAIL 14

FALSE SUMP TO ELEV. 286.5' SEE DETAIL 14

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

SPECIAL LATERAL 'V' DITCH SEE DETAIL 38 EST. 20 C.Y. DDE

STANDARD 'V' DITCH SEE DETAIL 37 EST. 40 TONS CL-B RIPRAP EST. 90 S.Y. GFD EST. 180 C.Y. DDE GRADE AT 2.7%

CLEAN WATER DIVERSION

ACCESS POINT

PIPE FLAREOUT SEE DETAIL 55

15" RCP-IV

24" RCP-IV

48" HW

48" RCP-IV (BURIED 0.8')

TB 2GI

TB 2GI-A

DI

RIPRAP PAD AT OUTLET 5 TONS CL-B/RIPRAP 14 S.Y. GFD

RIPRAP PAD AT OUTLET 5 TONS CL-B RIPRAP 14 S.Y. GFD

RIPRAP PAD AT OUTLET 3 TONS CL-B RIPRAP 10 S.Y. GFD

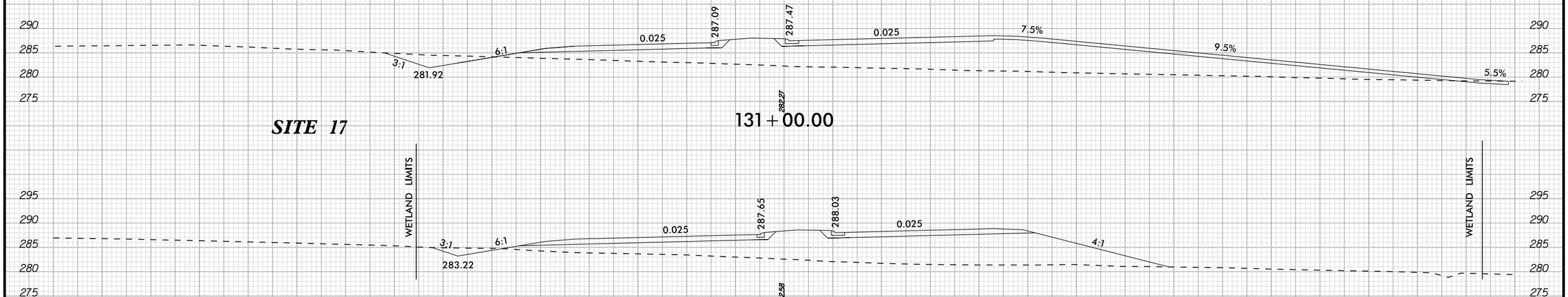
RIPRAP PAD AT OUTLET 15 TONS CL-I RIPRAP 30 S.Y. GFD

SEE SHEET 2B-2 & 2B-3 FOR INTERSECTION DETAIL
SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 38 FOR -Y5A- PROFILE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 35 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -



12/30/2021

Submitted 3/1/2022

REVISIONS
5/14/99
12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND
F F — DENOTES IMPACTS IN SURFACE WATER (POND)
HC HC — DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 36 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

JON SALSBURY
DB 2382 PG 966
PC# F PG 620A

JUAN GONZALEZ
DB 2377 PG 712
PC# F PG 620A

DAVID FELDMANN
DB 3586 PG 623
PC# F PG 620A

-Y5- SR 1540 (MONTAGUE RD) N 07° 58' 22" E

BEGIN CONSTRUCTION
-Y5- POT Sta. 19+76.00

135+00
140+00
145+00
20+00

BENNIE MANGUM
DB 799 PG 611

CULTIVATED

DITCH WETLAND CALCS -L- STA. 140+00 LT.

DA	2.05 AC.
C (FUTURE)	0.55
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	6.99 C.F.S
V_{10} (FUTURE)	1.96 F.P.S
SLOPE	0.007 FT/FT
N	0.04
LINER TYPE	GRASS

STANDARD 'V' DITCH
SEE DETAIL 29
EST. 5 C.Y. DDE
APPROX. GRADE = 3.6%

SPECIAL CUT 'V' DITCH
SEE DETAIL 30

WILLIAM HAWLEY
DB 1889 PG 108
MB 2016 PG 67

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

RETAIN

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

20' RIPRAP PAD AT OUTLET
16 TONS CL-B RIPRAP
44 S.Y. GFD

GRADE TO DRAIN APPROX. GRADE = 4.0%

GRADE TO DRAIN
REMOVE ABANDONED DRIVEWAY

ACCESS POINT

JOSEPH LIPSCOMB
DB 1903 PG 67

N 22° 47' 34.0" W

SITE 19

-L- NC 55

S 84° 06' 40.8" W

REMOVE

30" RCP-IV
24" RCP-IV
15" RCP-IV
TB 2GI
TB 2GI-A
DI

MATCHLINE -L- STA 133+00 (SEE SHEET 12)

MATCHLINE -L- STA 146+50 (SEE SHEET 14)

JOSEPH LIPSCOMB
DB 1903 PG 67

WILLIAM HAWLEY
DB 1889 PG 108
MB 2016 PG 67

CULTIVATED

TONY MABRY
DB 1417 PG 6
MB 2000 PG 279

CHRISTY JORDAN
DB 3524 PG 729
MB 2000 PG 466

N 46° 27' 13.9" W

STEPHEN YEO
DB 3359 PG 962
MB 2000 PG 466

END CONSTRUCTION
-Y5A- POT Sta. 13+80.00

-Y5A- SR 1543 (ENNIS RD)

N 41° 29' 43.8" W

LETESHA WYNN
DB 2436 PG 830
MB 2000 PG 466

BOBBY MABRY
DB 3404 PG 350
MB 2016 PG 25

SHIRLEY HAWLEY
DB 3184 PG 180

DANIEL HONEYCUTT
DB 3182 PG 966

THOMAS NORMAN
DB 2175 PG 234

SEE SHEET 2B-3 FOR INTERSECTION DETAIL
SEE SHEET 29 FOR -L- PROFILE
SEE SHEETS 34 AND 35 FOR -Y5- PROFILE

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND

F F — DENOTES IMPACTS IN SURFACE WATER (POND)

HC HC — DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 37 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

JON SALSBURY
DB 2382 PG 966
PC# F PG 620A

JUAN GONZALEZ
DB 2377 PG 712
PC# F PG 620A

DAVID FELDMANN
DB 3586 PG 623
PC# F PG 620A

BENNIE MANGUM
DB 799 PG 611

JOSEPH LIPSCOMB
DB 1903 PG 67

WILLIAM HAWLEY
DB 1889 PG 108
MB 2016 PG 67

TONY MABRY
DB 1417 PG 6
MB 2000 PG 279

CHRISTY JORDAN
DB 3524 PG 729
MB 2000 PG 466

STEPHEN YEO
DB 3359 PG 962
MB 2000 PG 466

LETESHA WYNN
DB 2436 PG 830
MB 2008 PG 466

BOBBY MABRY
DB 3404 PG 350
MB 2016 PG 25

SHIRLEY HAWLEY
DB 3184 PG 180

DANIEL HONEYCUTT
DB 3182 PG 966

THOMAS NORMAN
DB 2175 PG 234

SR 1540 (MONTAGUE RD)
N 07° 58' 22" E

SR 1543 (ENNIS RD)
N 41° 29' 43.8" W

NC 55
S 84° 06' 40.8" W

N 22° 47' 34.0" W

N 46° 27' 13.9" W

BEGIN CONSTRUCTION
-Y5- POT Sta. 19+76.00

END CONSTRUCTION
-Y5A- POT Sta. 13+80.00

SITE 19

DITCH WETLAND CALCS -L- STA. 140+00 LT	
DA	2.05 AC.
C (FUTURE)	0.55
I_{10}	6.2 IN/HR
Q_{10} (FUTURE)	6.99 C.F.S
V_{10} (FUTURE)	1.96 F.P.S
SLOPE	0.007 FT/FT
N	0.04
LINER TYPE	GRASS

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

GRADE TO DRAIN APPROX. GRADE=4.0%

REMOVE

15" RCP-IV

24" RCP-IV

30" RCP-IV

TB 2GI

TB 2GI-A

DI

20' RIPRAP PAD AT OUTLET
16 TONS CL-B RIPRAP
44 S.Y. GFD

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'V' DITCH SEE DETAIL 29
EST. 5 C.Y. DDE
APPROX. GRADE=3.6%

SPECIAL CUT 'V' DITCH SEE DETAIL 30

GRADE TO DRAIN REMOVE ABANDONED DRIVEWAY

RETAIN

ACCESS POINT

PUE

CULTIVATED

FABRICATION LINE (F.B.F.)

MATCHLINE -L- STA 133+00 (SEE SHEET 12)

MATCHLINE -L- STA 146+50 (SEE SHEET 14)

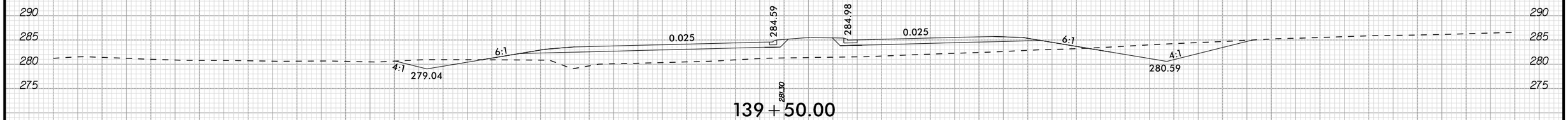
SEE SHEET 2B-3 FOR INTERSECTION DETAIL
SEE SHEET 29 FOR -L- PROFILE
SEE SHEETS 34 AND 35 FOR -Y5- PROFILE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 38 OF 64

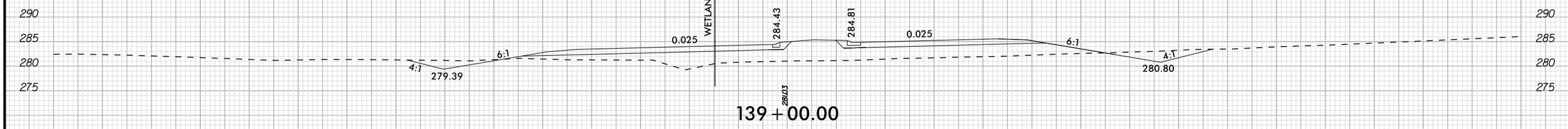
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

140+00.00



139+50.00

SITE 19



139+00.00

12/30/2021

Submitted 3/1/2022

REVISIONS 5/14/99

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING		

PERMIT DRAWING
SHEET 39 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

66 WILLIAM HAWLEY
DB 1889 PG 108
MB 2016 PG 67

67 DANIEL HONEYCUTT
DB 3182 PG 966

68 SUNFLIGHT LLC
DB 1690 PG 178

69 STEVEN WICKER
DB 1889 PG 51
MB 2004 PG 81

70 NORDAN FARMS INC
DB 1690 PG 178

MATCHLINE -L- STA 146+50 (SEE SHEET 13)

MATCHLINE -L- STA 160+50 (SEE SHEET 15)

150+00 155+00 160+00

-L- NC 55

S 84° 06' 40.8" W

SITE 20

CULTIVATED

POND

GR

SOIL

ACCESS POINT

SEDIMENT CONTROL BASIN

CLEAN WATER DIVERSION

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 17

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

LATERAL 'V' DITCH
SEE DETAIL 10
EST. 80 C.Y. DDE

EST. 45 TONS CL-I RIPRAP ON BANKS
EST. 10 TONS COUNTERSUNK
CL-I RIPRAP IN STREAM BED
SUPPLEMENT VOIDS W/
EST. 3 TONS CL-B RIPRAP
EST. 70 S.Y. GFD
SEE DETAIL 46

66" RCP-IV
(1.0' BURIED)

TB 2GI-A
15" RCP-IV
TB 2GI
REMOVE

SPECIAL LATERAL
2' BASE DITCH
SEE DETAIL 16

PIPE FLAREOUT
SEE DETAIL 55

SPECIAL CUT 'V' DITCH
SEE DETAIL 21

DITCH WETLAND CALCS -L- STA. 154+05 RT.	
DA	8.21 AC.
C (FUTURE)	0.50
I	5.2 IN./HR
Q_p (FUTURE)	21.32 C.F.S
V_s (FUTURE)	3.46 F.P.S
SLOPE	0.015 FT/FT
N	0.035
LINER TYPE	GRASS

DESIGN NOTE:
UNABLE TO ACHIEVE <2 FPS VELOCITY INTO WETLAND DUE TO EXISTING DITCH HAVING >2 FPS VELOCITY INTO WETLAND (SEE CALCULATIONS ABOVE)

SEE SHEET 2B-3 FOR INTERSECTION DETAIL
SEE SHEET 30 FOR -L- PROFILE

12/30/2021

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	14

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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REVISIONS 5/14/99

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
E E — DENOTES EXCAVATION IN WETLAND	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	

PERMIT DRAWING
SHEET 40 OF 64

NAD 83/NA 2011

MATCHLINE -L- STA 146+50 (SEE SHEET 13)

MATCHLINE -L- STA 160+50 (SEE SHEET 15)

150+00

155+00

160+00

-L-

NC 55

S 84° 06' 40.8" W

SITE 20

DANIEL HONEYCUTT
DB 3182 PG 966

SUNFLIGHT LLC
DB 1690 PG 178

STEVEN WICKER
DB 1889 PG 51
MB 2004 PG 81

NORDAN FARMS INC
DB 1690 PG 178

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 17

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

LATERAL 'V' DITCH
SEE DETAIL 10
EST. 80 C.Y. DDE

EST. 45 TONS CL-I RIPRAP ON BANKS
EST. 10 TONS COUNTERSUNK
CL-I RIPRAP IN STREAM BED
SUPPLEMENT VOIDS W/
EST. 3 TONS CL-B RIPRAP
EST. 70 S.Y. GFD
SEE DETAIL 46

66" RCP-IV
(1.0' BURIED)

TB 2GI-A
15" RCP-IV

TB 2GI
15" RCP-IV

REMOVE

SPECIAL LATERAL
2' BASE DITCH
SEE DETAIL 16

SPECIAL CUT 'V' DITCH
SEE DETAIL 21

PIPE FLAREOUT
SEE DETAIL 55

ACCESS POINT

SEDIMENT CONTROL BASIN

CLEAN WATER DIVERSION

PDE

CULTIVATED

POND

DITCH WETLAND CALCS -L- STA. 154+05 RT.	
DA	8.21 AC.
C (FUTURE)	0.50
I	5.2 IN./HR
Q_{10} (FUTURE)	21.32 C.F.S.
V_{10} (FUTURE)	3.46 F.P.S.
SLOPE	0.015 FT/FT
N	0.035
LINER TYPE	GRASS

DESIGN NOTE:
UNABLE TO ACHIEVE <2 FPS VELOCITY INTO WETLAND DUE TO EXISTING DITCH HAVING >2 FPS VELOCITY INTO WETLAND (SEE CALCULATIONS ABOVE)

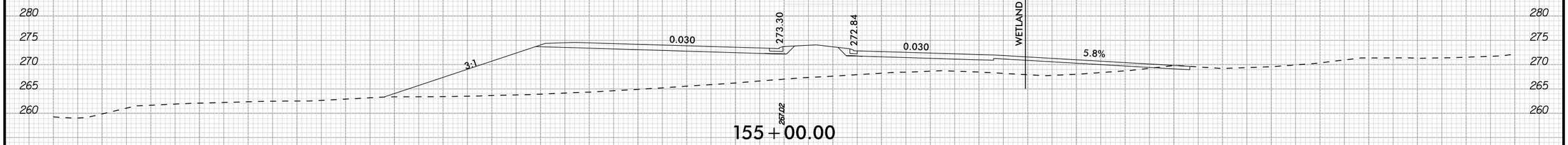
SEE SHEET 2B-3 FOR INTERSECTION DETAIL
SEE SHEET 30 FOR -L- PROFILE

Submitted 3/1/2022

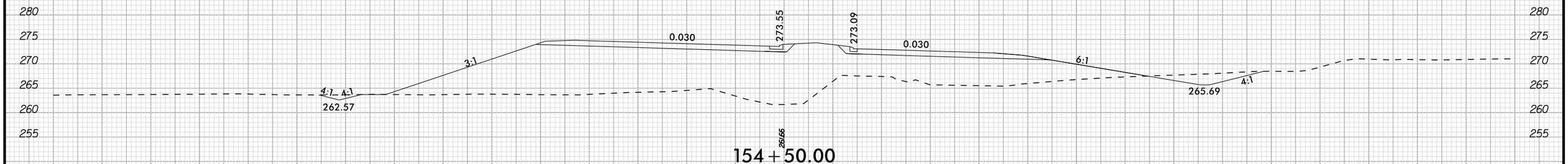
PERMIT DRAWING
SHEET 41 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 20



155 + 00.00



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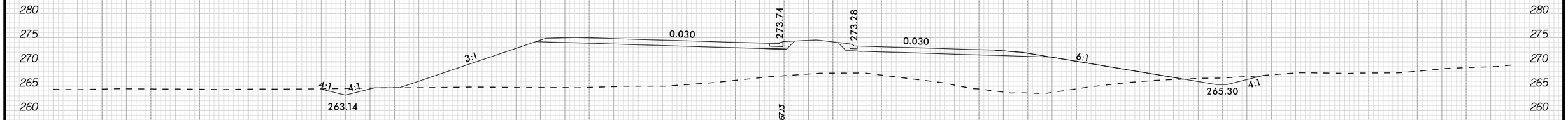

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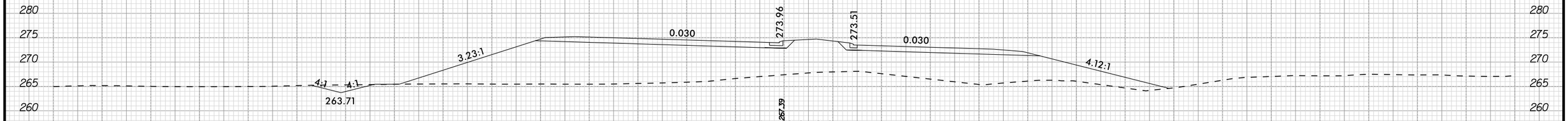


154 + 00.00

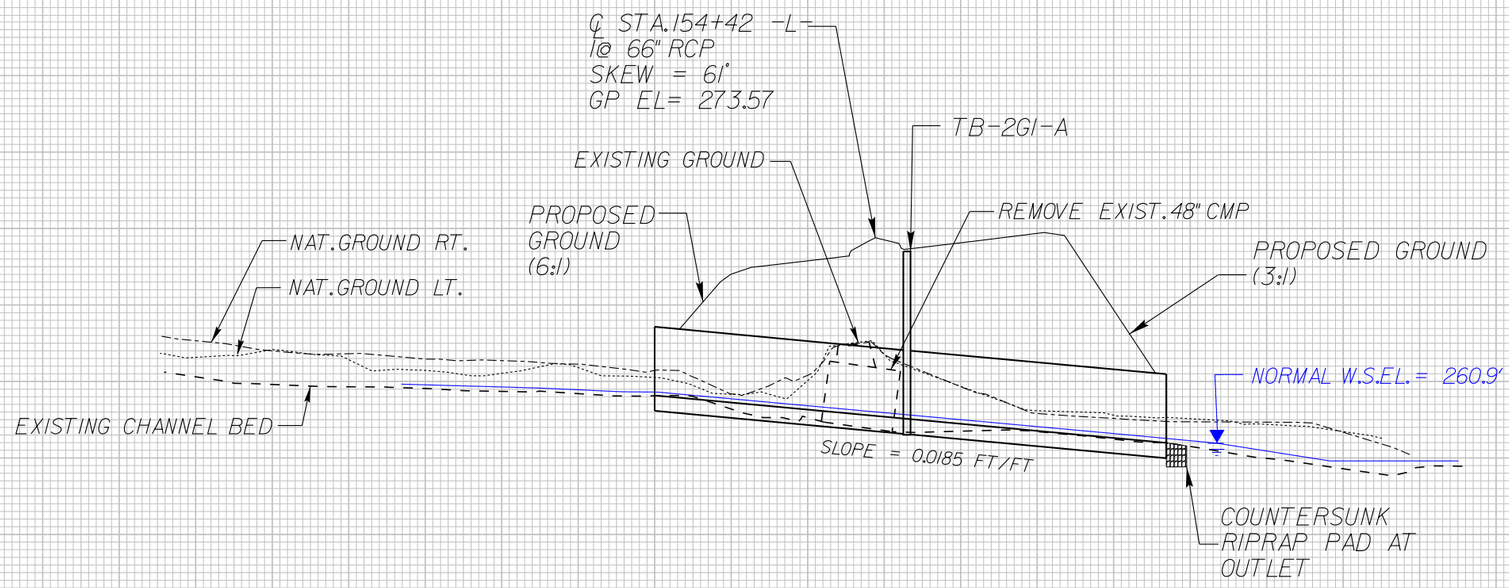
12/30/2021

Submitted 3/1/2022

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

PERMIT DRAWING
SHEET 42 OF 64

SITE 20



12/30/2021

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

- F F — DENOTES FILL IN WETLAND
- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 43 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 160+50 (SEE SHEET 14)

MATCHLINE -L- STA 174+50 (SEE SHEET 16)

SITE 22

SITE 21

SITE 23

-Y6- SR 1542 (OLD BUIES CREEK RD) N 12° 08' 31" E

-Y6- SR 1542 (OLD BUIES CREEK RD) N 46° 38' 57" E

-L- NC 55

-Y6A- GARDNER RD N 85° 26' 54.9" W

N 87° 24' 27.9" W

N 89° 47' 18.6" W

BEGIN CONSTRUCTION -Y6- POT Sta.13+41.00

END CONSTRUCTION -DRW2- PT Sta. 12+00.00

END CONSTRUCTION -Y6- POT Sta.22+44.00

BEGIN CONSTRUCTION -Y6A- POC Sta.16+66.00

END CONSTRUCTION -Y6A- POC Sta.11+17.00
DO NOT DISTURB TREES

END CONSTRUCTION -Y6A- POC Sta.18+19.00

TERMINAL END SECTION

SUNFLIGHT LLC DB 1690 PG 178 — (72), (73), (68)

DOUGLAS WILLIAMS DB 2663 PG 491 — (74)

JAMIE MASON DB 2721 PG 84 — (71)

NORDAN FARMS INC DB 1690 PG 178 — (70)

CONNIE ADAMS DB 950 PG 790 — (106)

GILBERT RITTER DB 1183 PG 808 — (107)

CONNIE RITTER DB 1857 PG 257

CHRISTIAN CRUZ DB 3447 PG 522

RICHARD MILLER DB 3415 PG 856 MB 2004 PG 428

SUNNY DEAN DB 3502 PG 424 MB 2015 PG 249

DITCH WETLAND CALCS -L- STA. 161+80 RT	
DA	0.63 AC.
C (FUTURE)	0.56
I_m	6.2 IN./HR
Q_m (FUTURE)	2.17 C.F.S.
V_m (FUTURE)	1.76 F.P.S.
SLOPE	0.016 FT/FT
N	0.035
LINER TYPE	GRASS

DITCH WETLAND CALCS -L- STA. 161+80 RT	
DA	2.42 AC.
C (FUTURE)	0.55
I_m	6.2 IN./HR
Q_m (FUTURE)	7.78 C.F.S.
V_m (FUTURE)	1.53 F.P.S.
SLOPE	0.004 FT/FT
N	0.35
LINER TYPE	GRASS

Submitted 3/1/2022

LEGEND

- F F — DENOTES FILL IN WETLAND
- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 44 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS 5/14/99

12/30/2021

NAD 83/NA 2011

MATCHLINE -L- STA 160+50 (SEE SHEET 14)

MATCHLINE -L- STA 174+50 (SEE SHEET 16)

BEGIN CONSTRUCTION
-Y6- POT Sta.13+41.00

END CONSTRUCTION
-DRW2- PT Sta. 12+00.00

END CONSTRUCTION
-Y6A- POC Sta.11+17.00
DO NOT DISTURB TREES

BEGIN CONSTRUCTION
-Y6A- POC Sta.16+66.00

END CONSTRUCTION
-Y6A- POC Sta.18+19.00

END CONSTRUCTION
-Y6- POT Sta.22+44.00

-Y6- SR 1542 OLD BUIES CREEK RD
N 12° 08' 31" E

-Y6- SR 1542 OLD BUIES CREEK RD
N 46° 38' 57.9" E

-Y6A- GARDNER RD
N 85° 26' 54.9" W

N 87° 24' 27.9" W

N 89° 47' 18.6" W

-L- NC 55

SITE 22

SITE 21

SITE 23

STANDARD 6' BASE DITCH
SEE DETAIL 64
EST. 70 C.Y. DDE
EST. 50 TONS CL-I RIP RAP
EST. 100 S.Y. GFD

TOE PROTECTION
SEE DETAIL 12
EST. 42 TONS CL-B RIPRAP
EST. 130 S.Y. GFD

RETAIN

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

SPECIAL LATERAL 'V' DITCH SEE DETAIL 32

SPECIAL LATERAL 'V' DITCH SEE DETAIL 33

SPECIAL LATERAL 'V' DITCH SEE DETAIL 50

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

SPECIAL CUT DITCH SEE DETAIL 21

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
14 S.Y. GFD

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

FALSE SUMP TO ELEV. 279.9' SEE DETAIL 32

STANDARD 'V' DITCH SEE DETAIL 29
EST. 35 C.Y. DDE
APPROX. GRADE=2.0%

GRADE TO DRAIN

REMOVE

36" RCP-IV
30" RCP-IV
24" RCP-IV
18" RCP-IV
15" RCP-IV

TB 2GI-A
TB 2GI

DI

ACCESS POINT

DITCH WETLAND CALCS -L- STA. 161+80 RT

DA	0.63 AC.
C (FUTURE)	0.56
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	2.17 C.F.S.
V_{10} (FUTURE)	1.76 F.P.S.
SLOPE	0.016 FT/FT
N	0.035
LINER TYPE	GRASS

DITCH WETLAND CALCS -L- STA. 161+80 RT

DA	2.42 AC.
C (FUTURE)	0.55
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	7.78 C.F.S.
V_{10} (FUTURE)	1.53 F.P.S.
SLOPE	0.004 FT/FT
N	0.35
LINER TYPE	GRASS

SUNFLIGHT LLC (72) DB 1690 PG 178
SUNFLIGHT LLC (73) DB 1690 PG 178
SUNFLIGHT LLC (68) DB 1690 PG 178
DOUGLAS WILLIAMS (74) DB 2863 PG 491
JAMIE MASON (71) DB 2721 PG 84
NORDAN FARMS INC (70) DB 1690 PG 178
CONNIE ADAMS (106) DB 956 PG 790
GILBERT RITTER (107) DB 1183 PG 808
CONNIE RITTER DB 1857 PG 257
CHRISTIAN CRUZ DB 3447 PG 522
RICHARD MILLER DB 3416 PG 856 MB 2004 PG 428
SUNNY DEAN DB 3502 PG 424 MB 2015 PG 249
(81)

DO NOT DISTURB WELL

CULTIVATED

POND

DECK

36" CONC

TERMINAL END SECTION

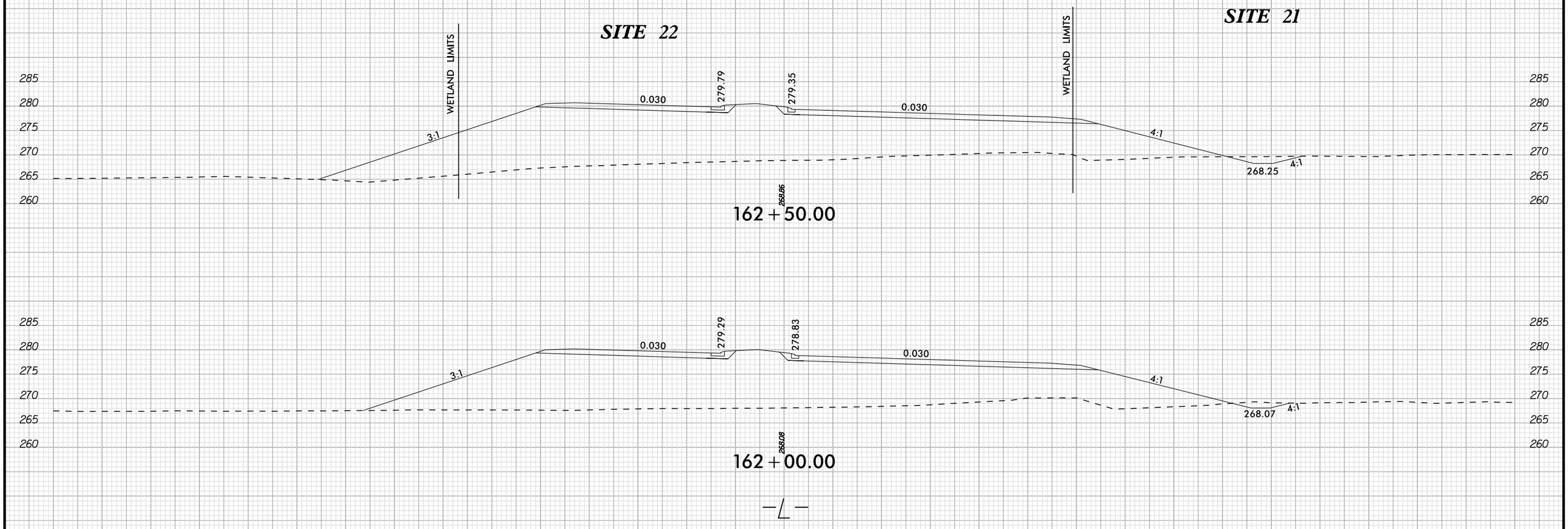
GARDNER RD 20' BST

EXIST R/W

Submitted 3/1/2022

PERMIT DRAWING
SHEET 45 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -



12/30/2021

Submitted 3/1/2022

PERMIT DRAWING
SHEET 46 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 23

12/30/2021

Submitted 3/1/2022

REVISIONS 5/14/99

12/30/2021

LEGEND

- F F — DENOTES FILL IN WETLAND
- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- P P — DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING SHEET 47 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 174+50 (SEE SHEET 15)

MATCHLINE -L- STA 188+00 (SEE SHEET 17)

76 ILLIAM TYSON DB 1446 PG 986

REALIGN AND WIDEN EXISTING DITCH TO PROPERTY LINE MATCH EXISTING DITCH INVERT ELEVATIONS SEE DETAIL 63 EST 10 CY DDE

175+00

20' RIPRAP PAD AT OUTLET 20 TONS CL-B RIPRAP 45 S.Y. GFD

78 DAVID GARDNER DB 1085 PG 714

80 DAVID GARDNER DB 1085 PG 714 MB 2003 PG 1243

180+00

GRADE TO DRAIN (FILL)

FILL POND TO ELEV. 250.0' AT THIS SIDE FILL TO ELEV. 249.0' AT OPPOSITE SIDE GRADE AT APPROX. 1.2% TO DRAIN (SEE GRADE TO DRAIN ARROWS) EST. 1030 C.Y. BACKFILL

SITE 25

LATERAL 2' BASE DITCH SEE DETAIL 34 EST. 60 C.Y. DDE DITCH TO BE EXCAVATED AFTER POND HAS BEEN FILLED

ACCESS POINT

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 16

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 45 S.Y. GFD

15" RCP-IV

TB 2GI

INV=245.6

NC 55

EXIST R/W

RIPRAP

SPECIAL CUT 'V' DITCH SEE DETAIL 21

REMOVE

GREU TL-3

N 22°04'22.0" E

54' 36.2" E

G.T.D

GARDNER RD (SR 2057)

REMOVE

PIPE FLAREOUT SEE DETAIL 55

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

TYPICAL INLET IMPROVEMENTS SEE DETAIL 67 & QUANTITIES IN TABLE ABOVE GRADE CHANNEL AT 1.0%

79 DAVID ADAMS DB 1635 PG 609

SITE 24

REMOVE FENCE AND BRICK COLUMNS

REMOVE & BACKFILL TO DRAIN

77 JERRY GREGORY DB 1684 PG 453 MB 2000 PG 477

75 MIRANDA GUALBERTO DB 13403 PG 599 MB 2000 PG 477

81 CLINTON ADAMS DB 1291 PG 300 MB 2003 PG 1071

S 76°53'18.3" E
END CONSTRUCTION
-DRW4- POT Sta. 11+26.90

N 5°24'08.4" E
END CONSTRUCTION
-DRW3- POT Sta. 12+38.00

CONTRACTOR SHALL COORDINATE DRIVEWAY REPLACEMENT LIMITS WITH THE PROPERTY OWNER. CONTRACTOR TO ADJUST AS DIRECTED BY THE ENGINEER.

DITCH WETLAND CALCS -L- STA. 181+50 LT.	
DA	1.32 AC.
C (FUTURE)	0.43
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	3.48 C.F.S
V_c (FUTURE)	1.5 F.P.S
SLOPE	0.005 FT/FT
N	0.035
LINER TYPE	GRASS

DITCH WETLAND CALCS -L- STA. 182+50 LT.	
DA	0.74 AC.
C (FUTURE)	0.34
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	1.55 C.F.S
V_c (FUTURE)	1.8 F.P.S
SLOPE	0.015 FT/FT
N	0.035
LINER TYPE	GRASS

DITCH WETLAND CALCS -L- STA. 180+50 RT.	
DA	1.51 AC.
C (FUTURE)	0.53
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	4.94 C.F.S
V_c (FUTURE)	1.31 F.P.S
SLOPE	0.003 FT/FT
N	0.035
LINER TYPE	GRASS

PROPOSED SINGLE GATE, 47" HIGH, 12' WIDE, 12' OPENING STA 182+00 TO 182+12 LT

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

PIPE FLAREOUT SEE DETAIL 55

FALSE SUMP SEE DETAIL 7

2GI-D

18" N 32°54'14.5" E

2GI

15" CSP W/ELBOWS

B.D.O.

N 48°01'02.1" E

SEDIMENT CONTROL BASIN

END CONSTRUCTION
-DRW5- POT Sta. 11+07.00

BERM 'V' DITCH SEE DETAIL 3

84 JEREMY SKOLOZYNSKI DB 3258 PG 306 PC# E PG 118D

185+00

82 JAMES ALLEN DB 3355 PG 413

85 MICHAEL ANTHONY DB 1286 PG 579 PC# F PG 26B

83 RICHARD HALL DB 982 PG 219

30' SS EASEMENT PER TOWN OF ANGIER

POND

WOODS

48" ELEC

CONC

GR

SS

PUE

ACCESS POINT

SEE SHEET 2B-4 FOR INTERSECTION DETAIL
SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 40 FOR -DRW3- PROFILE
SEE SHEET 40 FOR -DRW4- PROFILE

Submitted 3/1/2022

5/14/99

REVISIONS

12/30/2021

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	P P	DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING
SHEET 48 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

(76) WILLIAM TYSON DB 1446 PG 986

REALIGN AND WIDEN EXISTING DITCH TO PROPERTY LINE MATCH EXISTING DITCH INVERT ELEVATIONS SEE DETAIL 63 EST 10 CY DDE

175+00

20' RIPRAP PAD AT OUTLET 20 TONS CL-B RIPRAP 45 S.Y. GFD

(78) DAVID GARDNER DB 1085 PG 714

(80) DAVID GARDNER DB 1085 PG 714 MB 2003 PG 1283

180+00

DITCH WETLAND CALCS -L- STA. 181+50 LT.	
DA	1.32 AC.
C (FUTURE)	0.43
I_{10}	6.2 IN./HR
Q_p (FUTURE)	3.48 C.F.S
V_p (FUTURE)	1.5 F.P.S.
SLOPE	0.005 FT/FT
N	0.035
LINER TYPE	GRASS

GRADE TO DRAIN/ (FILL)

FILL POND TO ELEV. 250.0' AT THIS SIDE FILL TO ELEV. 249.0' AT OPPOSITE SIDE GRADE AT APPROX. 1.2% TO DRAIN (SEE GRADE TO DRAIN ARROWS) EST. 1030 C.Y. BACKFILL

SITE 25

LATERAL 2' BASE DITCH SEE DETAIL 34 EST. 60 C.Y. DDE DITCH TO BE EXCAVATED AFTER POND HAS BEEN FILLED

DITCH WETLAND CALCS -L- STA. 182+50 LT.	
DA	0.74 AC.
C (FUTURE)	0.34
I_{10}	6.2 IN./HR
Q_p (FUTURE)	1.55 C.F.S
V_p (FUTURE)	1.8 F.P.S
SLOPE	0.015 FT/FT
N	0.035
LINER TYPE	GRASS

TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 68 & QUANTITIES IN TABLE ABOVE

(82) JAMES ALLEN DB 3355 PG 413

PROPOSED SINGLE GATE, 4' HIGH, 12' WIDE, 12' OPENING STA 182+00 TO 182+12 LT

185+00

(84) JEREMY SKOLOZYNSKI DB 3258 PG 306 PC* L PG 180

(85) MICHAEL ANTHONY DB 1286 PG 579 PC* F PG 268

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

ACCESS POINT

PUE

PIPE FLAREOUT SEE DETAIL 55

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 16

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

NC 55

GREU TL-3

SPECIAL CUT 'V' DITCH SEE DETAIL 21

N 22° 04' 22.0" E

54' 36.2" E

G.T.D

MATCHLINE -L- STA 174+50 (SEE SHEET 15)

MATCHLINE -L- STA 188+00 (SEE SHEET 17)

REMOVE FENCE AND BRICK COLUMNS

REMOVE & BACKFILL TO DRAIN

(79) DAVID ADAMS DB 1635 PG 609

SITE 24

(77) JERRY GREGORY DB 4684 PG 453 MB 2000 PG 477

(75) MIRANDA GUALBERTO DB 3403 PG 599 MB 2000 PG 477

S 76° 53' 18.3" E
END CONSTRUCTION
-DRW4- POT Sta. 11+26.90

DITCH WETLAND CALCS -L- STA. 180+50 RT.	
DA	1.51 AC.
C (FUTURE)	0.53
I_{10}	6.2 IN./HR
Q_p (FUTURE)	4.94 C.F.S
V_p (FUTURE)	1.31 F.P.S
SLOPE	0.003 FT/FT
N	0.035
LINER TYPE	GRASS

(81) CLINTON ADAMS DB 1291 PG 300 MB 2003 PG 1071

N 5° 24' 08.4" E
END CONSTRUCTION
-DRW3- POT Sta. 12+38.00

CONTRACTOR SHALL COORDINATE DRIVEWAY REPLACEMENT LIMITS WITH THE PROPERTY OWNER. CONTRACTOR TO ADJUST AS DIRECTED BY THE ENGINEER.

FALSE SUMP SEE DETAIL 7

2GI-D

18" N 32° 54' 14.5" E

2GI

15" CSP W/ELBOWS

B.D.O.

N 48° 01' 02.1" E

TYPICAL INLET IMPROVEMENTS SEE DETAIL 67 & QUANTITIES IN TABLE ABOVE, GRADE CHANNEL AT 1.0%

PUE SEDIMENT CONTROL BASIN

END CONSTRUCTION
-DRW5- POT Sta. 11+07.00

BERM 'V' DITCH SEE DETAIL 3

(83) RICHARD HALL DB 982 PG 219

30' SS EASEMENT PER TOWN OF ANGIER

SEE SHEET 2B-4 FOR INTERSECTION DETAIL
SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 40 FOR -DRW3- PROFILE
SEE SHEET 40 FOR -DRW4- PROFILE

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	16A/B

WETLAND AND STREAM IMPACTS

SITE IMPACT ZOOM: 1"=40'

PERMIT DRAWING SHEET 49 OF 64

LEGEND

- F F — DENOTES FILL IN WETLAND
- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- P P — DENOTES IMPACTS IN SURFACE WATER (POND)

SITE 25

LATERAL 2' BASE DITCH
SEE DETAIL 34
EST. 60 C.Y. DDE
DITCH TO BE EXCAVATED AFTER POND HAS BEEN FILLED

TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 68 & QUANTITIES IN TABLE ABOVE

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

5' x 7' RCBC (1.0' BURIED)

15" RCP-IV

TB 2GI

REMOVE

SITE 24

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

FALSE SUMP SEE DETAIL 7

18"

ACCESS POINT

JAMES ALLE
DB 3355 PG

NAD 83 NSRS 2007

PROPOSED SINC
47" HIGH, 12' WIDE
STA 182+00 TO

WOODS

NC 55

GREU TL-3

PUE

20' 0' 20' 40'
GRAPHIC SCALE

SITE 24,25

REVISIONS

12/30/2021

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	16A/B

WETLAND AND STREAM IMPACTS

SITE IMPACT ZOOM: 1"=40'

PERMIT DRAWING SHEET 50 OF 64

LEGEND

- F F — DENOTES FILL IN WETLAND
- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- P P — DENOTES IMPACTS IN SURFACE WATER (POND)

SITE 25

LATERAL 2' BASE DITCH
SEE DETAIL 34
EST. 60 C.Y. DDE
DITCH TO BE EXCAVATED AFTER POND HAS BEEN FILLED

TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 68 & QUANTITIES IN TABLE ABOVE

RIPRAP PAD AT OUTLE
2 TONS CL-B RIPRAP
7 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

ACCESS POINT

15"

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

15" RCP-IV

5' x 7' RCBC (1.0' BURIED)

TB 2GI

REMOVE

SITE 24

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

FALSE SUMP SEE DETAIL 7

18"

PROPOSED SINC
42" HIGH, 12' WIDE
STA 182+00 TO

JAMES ALLE
DB 3355 PG

NAD 83
NSRS 2007

SITE 24,25

20' 0' 20' 40'
GRAPHIC SCALE

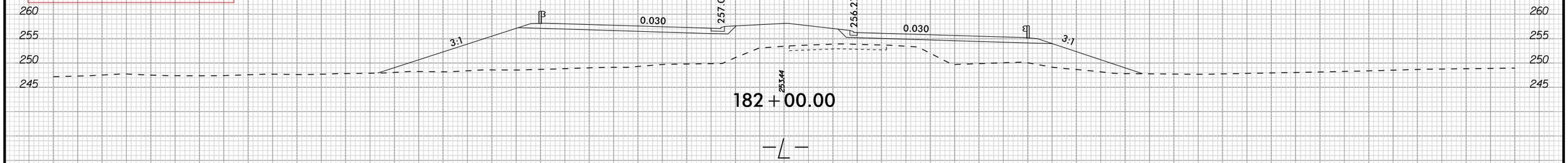
REVISIONS

12/30/2021

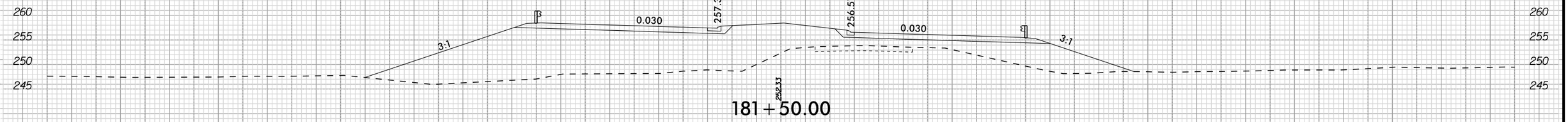
Submitted 3/1/2022

PERMIT DRAWING
SHEET 51 OF 64

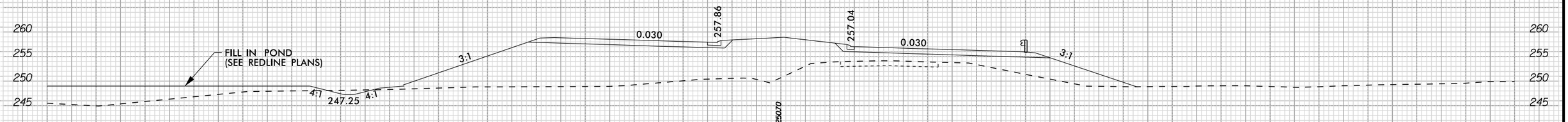
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -



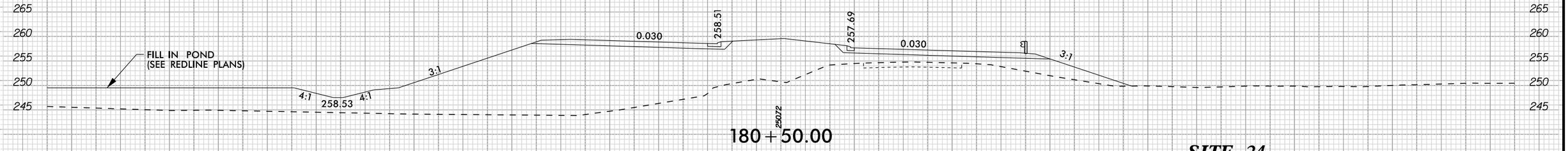
182 + 00.00



181 + 50.00



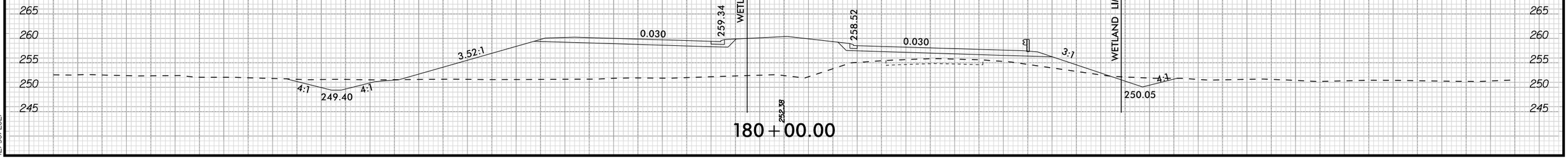
181 + 00.00



180 + 50.00

SITE 25

SITE 24



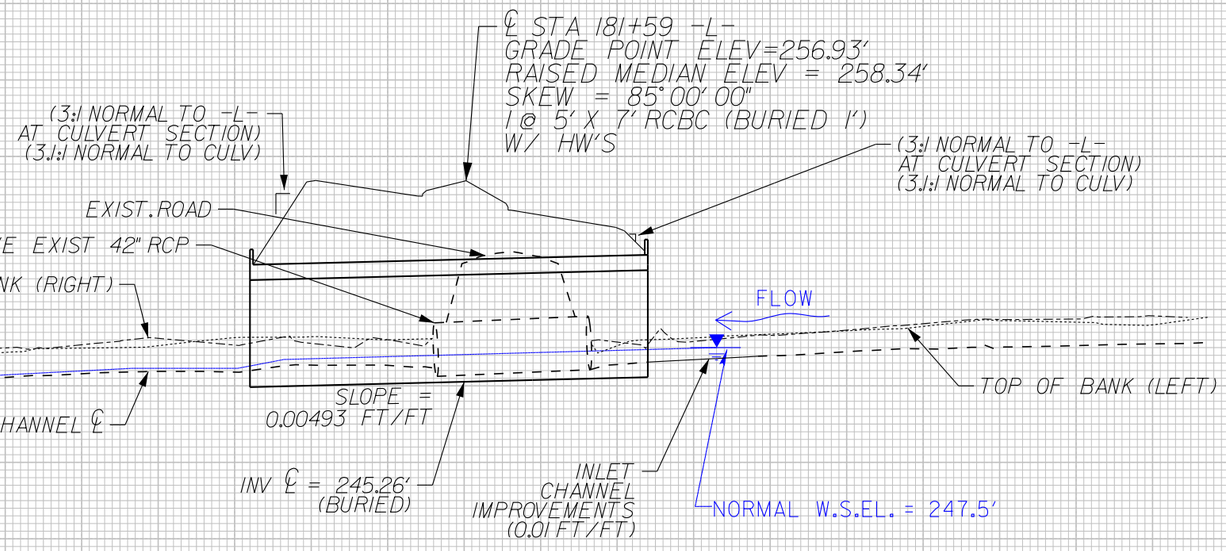
180 + 00.00

12/30/2021

Submitted 3/1/2022

PERMIT DRAWING
SHEET 52 OF 64

SITE 24,25



12/30/2021

Submitted 3/1/2022

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	P P	DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING
SHEET 53 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS
5/14/99

12/30/2021

MATCHLINE -L- STA 188+00 (SEE SHEET 16)

MATCHLINE -L- STA 202+00 (SEE SHEET 18)

SITE 28
SITE 27
SITE 26

BEGIN CONSTRUCTION -Y7B- POT Sta. 18+00.00
END CONSTRUCTION -Y7B- POT Sta. 19+00.00
END CONSTRUCTION -DRW7- POT Sta. 11+45.00

S 85°16'23.4" E
N 38°28'32" W
N 42°40'25" E
N 38°28'29.2" W

ACCESS ROAD 3 -Y7B-
GARDNER RD 20' BST
GREU TL-3

GORDAN SARTIN
DB 2321 PG 153
MB 2005 PG 923

CLAY GARDNER
DB 2983 PG 694
MB 2005 PG 923

WILLIAM ARMENTROUT
DB 1061 PG 509
PC# F PG 26B

EVERETT BLAKE
DB 1327 PG 119
PC# F PG 26B

KBNK HOLDINGS LLC
DB 2441 PG 803
MB 2004 PG 1274

ROBERT COHEN
DB 2725 PG 684
MB 2004 PG 688

RICHARD HALL
DB 982 PG 219

REMOVE EXIST GUARDRAIL
REMOVE CMAP W/WEIR WALL
TERMINAL END SECTION
RETAIN
SEE TYPICAL SECTION P2
SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
CLEAN WATER DIVERSION
TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 60 QUANTITIES IN TABLE ABOVE
TYPICAL INLET IMPROVEMENTS SEE DETAIL 60 QUANTITIES IN TABLE ABOVE
RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD
STANDARD JS-1 STITCH SEE DETAIL 69 EST. 95 C.Y. DIE EST. 122 TONS CL-1 RIPRAP EST. 285 S.Y. GFD
RIPRAP PAD AT OUTLET 8 TONS CL-B RIPRAP 21 S.Y. GFD
GRADE TO DRAIN SEE CROSS SECTIONS APPROX GRADE = 2.0-4.0%
GRADE TO DRAIN SEE CROSS SECTIONS APPROX GRADE = 4.0%
GRADE TO DRAIN (SEE DETAIL)
GRADE TO DRAIN SEE DETAIL
GRADE TO DRAIN W/CL-B RIPRAP EST. 9 TONS EST. 30 S.Y. GFD
TOE PROTECTION SEE DETAIL 12 EST. 40 TONS CL-B RIPRAP EST. 100 S.Y. GFD
LATERAL 3 BASE DITCH SEE DETAIL 39 EST. 63 TONS CL-1 RIPRAP EST. 160 S.Y. GFD
MIN DEPTH 2GI-A SEE DETAIL 840d17 SHEET 2C-1
SPECIAL LATERAL 'V' DITCH SEE DETAIL 33
FALSE SUMP SEE DETAIL 8
SPECIAL CUT 'V' DITCH SEE DETAIL 25
15" CSP W/ELBOWS
2GI
B.D.O.
BERM 'V' DITCH SEE DETAIL 3
BERM 'V' DITCH SEE DETAIL 35
PIPE FLAREOUT SEE DETAIL 55
ACCESS POINT
GRADE CULVERT ENTRANCE TO DRAIN W/7' BASE DITCH & 2:1 SIDE SLOPES (SEE DETAIL TYPICAL SECTION P1)
START ELEVATION = APPROX. 252.0'
END ELEV. = APPROX. 251.2'
APPROX. GRADE =0.3%

THIS POND WASN'T LOCATED,WERE ASKED TO LEAVE BY THE PROPERTY OWNER AND TOLD NOT TO GET BACK ON HER PROPERTY.

SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 39 FOR -Y7B- PROFILE

Submitted 3/1/2022

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS
5/14/99

12/30/2021

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	P P	DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING SHEET 54 OF 64

NAD 83/NA 2011

MATCHLINE -L- STA 188+00 (SEE SHEET 16)

MATCHLINE -L- STA 202+00 (SEE SHEET 18)

SITE 28

SITE 27

SITE 26

BEGIN CONSTRUCTION -Y7B- POT Sta. 18+00.00

END CONSTRUCTION -Y7B- POT Sta. 19+00.00

END CONSTRUCTION -DRW7- POT Sta. 11+45.00

S 85°16'23.4" E
-Y7B- ACCESS ROAD 3

N 38°28'32" W

N 42°40'25" E

N 38°28'29.2" W

REMOVE EXIST GUARDRAIL

REMOVE CMAP W/WEIR WALL

RETAIN

TERMINAL END SECTION

SEE TYPICAL SECTION -P2

SPECIAL LATERAL V' DITCH SEE DETAIL 1

CLEAN WATER DIVERSION

TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 60 QUANTITIES IN TABLE ABOVE

6' FCMC TO BURIED

TYPICAL INLET IMPROVEMENTS SEE DETAIL 60 QUANTITIES IN TABLE ABOVE

GRADE CULVERT ENTRANCE TO DRAIN W/7' BASE DITCH & 2:1 SIDE SLOPES (SEE DETAIL TYPICAL SECTION P1) START ELEVATION = APPROX. 252.0' END ELEV. = APPROX. 251.2' APPROX. GRADE =0.3%

GRADE TO DRAIN SEE CROSS SECTIONS APPROX GRADE = 2.0-4.0%

GRADE TO DRAIN SEE CROSS SECTIONS APPROX GRADE = 4.0%

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

STANDARD I.S. STATION SEE DETAIL 69 EST. 95 C.Y. DIE EST. 125 TONS CL-I RIPRAP EST. 285 S.Y. GFD

REMOVE

RETAIN

FALSE SUMP SEE DETAIL 8

MIN. DEPTH 2GI-A SEE DETAIL 840d17 SHEET 2C-1

2GI

15" CSP W/ELBOWS

B.D.O.

SPECIAL CUT 'V' DITCH SEE DETAIL 25

BERM 'V' DITCH SEE DETAIL 3

BERM 'V' DITCH SEE DETAIL 35

PIPE FLAREOUT SEE DETAIL 55

GRADE TO DRAIN PROTECT INLET W/CL-B RIPRAP EST. 9 TONS EST. 30 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 33

MIN. DEPTH 2GI-A SEE DETAIL 840d17 SHEET 2C-1

TOE PROTECTION SEE DETAIL 12 EST. 40 TONS CL-B RIPRAP EST. 100 S.Y. GFD

LATERAL 3 BASE DITCH SEE DETAIL 39 EST. 63 TONS CL-I RIPRAP EST. 160 S.Y. GFD

RIPRAP PAD AT OUTLET 8 TONS CL-B RIPRAP 21 S.Y. GFD

SEE TYPICAL SECTIONS P3

GRADE TO DRAIN SEE DETAIL

THIS POND WASN'T LOCATED, WERE ASKED TO BY THE PROPERTY OWNER AND TOLD NOT TO GET BACK ON HER PROPERTY

WILLIAM ARMENTROUT DB 1061 PG 309 PC "F" PG 26B — (88)

EVERETT BLAKE DB 1327 PG 119 PC "F" PG 26B — (86)

GORDAN SARTIN DB 2321 PG 153 MB 2005 PG 923 — (116)

CLAY GARDNER DB 2983 PG 694 MB 2005 PG 923 — (90)

KBNK HOLDINGS LLC DB 2441 PG 803 MB 2004 PG 1274 — (87)

ROBERT COHEN DB 2725 PG 684 MB 2004 PG 688 — (89)

RICHARD HALL DB 982 PG 219 — (83)

SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 39 FOR -Y7B- PROFILE

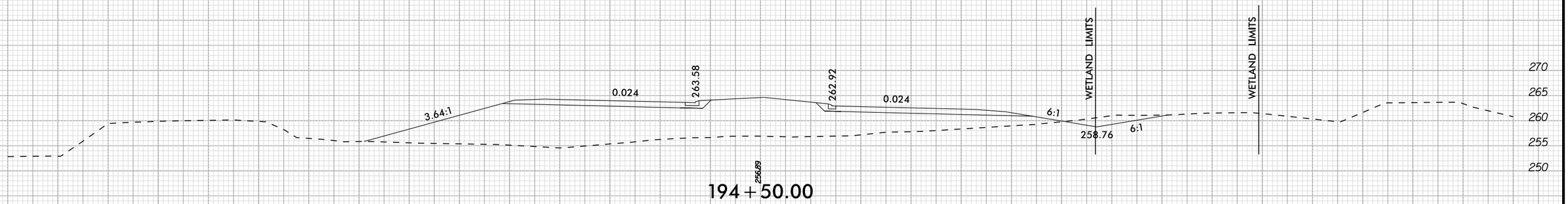
Submitted 3/1/2022

PERMIT DRAWING
SHEET 55 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 27

SITE 26



194 + 50.00

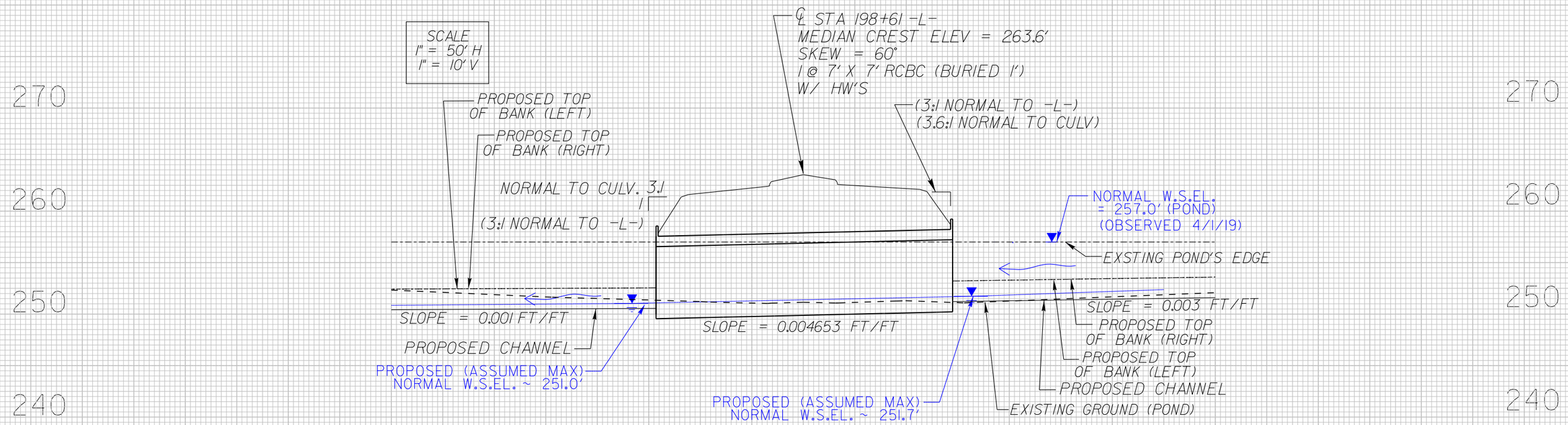
12/30/2021

Submitted 3/1/2022

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

PERMIT DRAWING
SHEET 56 OF 64

SITE 27,28



12/30/2021

Submitted 3/1/2022

5/14/99

REVISIONS

12/30/2021

LEGEND

- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 57 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE (SEE SHEET 22)

MATCHLINE (SEE SHEET 23)

MATCHLINE (SEE SHEET 23)

MATCHLINE -L- STA 202+00 (SEE SHEET 17)

MATCHLINE -L- STA 216+00 (SEE SHEET 19)

DITCH WETLAND CALCS -L- STA. 203+80 LT.	
DA	1.60 AC.
C (FUTURE)	0.50
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	4.96 C.F.S.
V_{10} (FUTURE)	1.37 F.P.S.
SLOPE	0.004 FT/FT
N	0.04
LINER TYPE	GRASS

DITCH WETLAND CALCS -L- STA. 203+80 LT.	
DA	0.36 AC.
C (FUTURE)	0.50
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	1.12 C.F.S.
V_{10} (FUTURE)	1.98 F.P.S.
SLOPE	0.055 FT/FT
N	0.04
LINER TYPE	GRASS

205+00

(90) CLAY GARDNER
DB 2983 PG 694
MB 2005 PG 923

210+00

215+00

(92) REBECCA PARTIN
DB 693 PG 508

CONTINUE DITCH TO TYP. -L- DITCH

BERM 2' BASE DITCH
SEE DETAIL 40
EST. 50 TONS CL-B RIPRAP
EST. 380 S.Y. GFD

CULTIVATED

SITE 29

SPECIAL LATERAL
4' BASE DITCH
SEE DETAIL 31

SPECIAL LATERAL
4' BASE DITCH
SEE DETAIL 31

BERM 2' BASE DITCH
SEE DETAIL 40
EST. 20 TONS CL-B RIPRAP
EST. 55 S.Y. GFD

BERM 2' BASE DITCH
SEE DETAIL 41
EST. 50 TONS CL-B RIPRAP
EST. 135 S.Y. GFD

CLEAN WATER DIVERSION

B.D.O.

B.D.O.

18" CSP W/ELBOWS

24" CSP W/ELBOWS

24"

24"

2GI-A

3GI-A

FALSE SUMP SEE DETAIL 8

FALSE SUMP SEE DETAIL 8

MIN DEPTH 2GI-A
SEE DETAIL 3 UNIT
SHEET 2C-1

END CONSTRUCTION
-Y7C- POT Sta. 16+00.00

TERMINAL END SECTION

-Y7C-
ACCESS ROAD 4

TOE PROTECTION
SEE DETAIL 12
EST. 35 S.Y. PSRM

GRADE TO DRAIN

18" RCP-IV

N 42° 40' 27.3" E

N 35° 28' 35.5" W

CONTINUE TYP. -L- DITCH TO 18" INVERT

N 47° 19' 32.7" W

-L-
NC 55

DI C

15" RCP-IV

-Y7C-
OLD MATTHEWS MILL POND RD

TIE TO EXIST. DITCH

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

SPECIAL CUT 'V' DITCH
SEE DETAIL 21

RIPRAP PAD AT OUTLET
2 TONS
CL-B RIPRAP
7 S.Y. GFD

SPECIAL CUT 'V' DITCH
SEE DETAIL 25

CULTIVATED

N 3° 42' 43.0" W

RIPRAP PAD AT OUTLET
15 TONS CL-I RIPRAP
30 S.Y. GFD

PUE PUE PUE PUE

ACCESS POINT

TDE TDE TDE TDE TDE

SITE 27

(90) CLAY GARDNER
DB 2983 PG 694
MB 2005 PG 923

(91) CLAY GARDNER
DB 3363 PG 296

REBECCA PARTIN
DB 693 PG 508

SEE SHEET 32 FOR -L- PROFILE
SEE SHEET 39 FOR -Y7C- PROFILE
SEE SHEET 40 FOR -DRW5 PROFILE

Submitted 3/1/2022

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS 5/14/99

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND	E E — DENOTES EXCAVATION IN WETLAND
HC HC — DENOTES HAND CLEARING	DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 58 OF 64

MATCHLINE (SEE SHEET 22)

MATCHLINE (SEE SHEET 23)

MATCHLINE -L- STA 202+00 (SEE SHEET 17)

MATCHLINE -L- STA 216+00 (SEE SHEET 19)

DITCH WETLAND CALCS -L- STA 203+80 LT.	
DA	1.60 AC.
C (FUTURE)	0.50
I_m	6.2 IN./HR
Q_m (FUTURE)	4.96 C.F.S
V_m (FUTURE)	1.37 F.P.S
SLOPE	0.004 FT/FT
N	0.04
LINER TYPE	GRASS

DITCH WETLAND CALCS -L- STA 203+80 LT.	
DA	0.36 AC.
C (FUTURE)	0.50
I_m	6.2 IN./HR
Q_m (FUTURE)	1.12 C.F.S
V_m (FUTURE)	1.98 F.P.S
SLOPE	0.055 FT/FT
N	0.04
LINER TYPE	GRASS

205+00 · 210+00 · 215+00

90 CLAY GARDNER DB 2983 PG 694 MB 2005 PG 923

91 CLAY GARDNER DB 3363 PG 296

92 REBECCA PARTIN DB 693 PG 508

CULTIVATED

SITE 29

SITE 27

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

BERM 2' BASE DITCH SEE DETAIL 40 EST. 20 TONS CL-B RIPRAP EST. 55 S.Y. GFD

BERM 2' BASE DITCH SEE DETAIL 40 EST. 80 TONS CL-B RIPRAP EST. 135 S.Y. GFD

BERM 2' BASE DITCH SEE DETAIL 40 EST. 140 TONS CL-B RIPRAP EST. 380 S.Y. GFD

CONTINUE DITCH TO TYP. -L- DITCH

CLEAN WATER DIVERSION

B.D.O.

18" CSP W/ELBOWS

24" CSP W/ELBOWS

24"

2GI-A

3GI-A

FALSE SUMP SEE DETAIL 8

MIN. DEPTH 2GI-A SEE DETAIL 3 SHEET 2C-1

HC HC HC HC

PUE

RIPRAP PAD AT OUTLET 15 TONS CL-I RIPRAP 30 S.Y. GFD

TDE

ACCESS POINT

-YTC- PQT Sta. 16+00.00

END CONSTRUCTION

TERMINAL END SECTION

-YTC- ACCESS ROAD 4

TOE PROTECTION SEE DETAIL 12 EST. 35 S.Y. PSRM

GRADE TO DRAIN

18" RCP-IV

N 42° 40' 27.3" E

N 35° 28' 35.5" W

CONTINUE TYP. -L- DITCH TO 18" INVERT

N 47° 19' 32.7" W

NC 55

DI C

15" RCP-IV

TIE TO EXIST. DITCH

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

SPECIAL CUT 'V' DITCH SEE DETAIL 21

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

SPECIAL CUT 'V' DITCH SEE DETAIL 25

-YTC- OLD MATT HAWS MILL POND RD

N 3° 42' 43.0" W

REBECCA PARTIN DB 693 PG 508

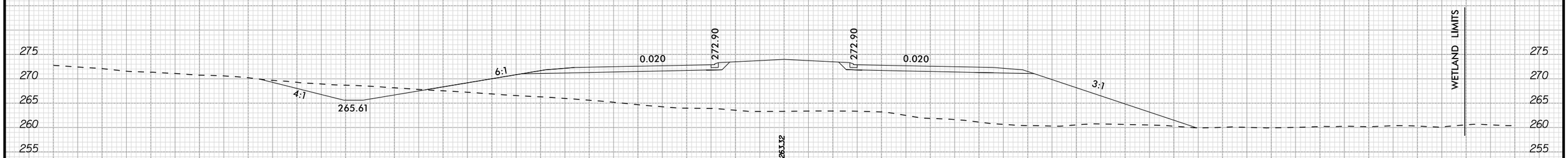
SEE SHEET 32 FOR -L- PROFILE
SEE SHEET 39 FOR -YTC- PROFILE
SEE SHEET 40 FOR -DRW5 PROFILE

Submitted 3/1/2022

PERMIT DRAWING
SHEET 59 OF 64

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET - OF -

SITE 29



204 + 00.00

12/30/2021

Submitted 3/1/2022

5/14/99

REVISIONS

12/30/2021

LEGEND

F F	DENOTES FILL IN WETLAND	S S	DENOTES IMPACTS IN SURFACE WATER
HC HC	DENOTES HAND CLEARING	TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 60 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE (SEE SHEET 23)

MATCHLINE (SEE SHEET 24)

MATCHLINE -L- STA 216+00 (SEE SHEET 18)

MATCHLINE -L- STA 230+00 (SEE SHEET 20)

220+00

225+00

20+00

CULTIVATED

(92) REBECCA PARTIN
DB 693 PG 508

RIPRAP PAD AT OUTLET
8 TONS CL-B RIPRAP
21 S.Y. GFD

30" RCP

N 47° 19' 32.7" W

-L-

NC 55

SITE 30

15" RCP-IV

DI

TB 2GI

54" RCP-IV

SEDIMENT CONTROL BASIN

WOODS

RIPRAP PAD AT OUTLET
EST. 15 TONS CL-A RIPRAP
EST. 60 S.Y. GFD

REMOVE & BACKFILL

GRADE TO DRAIN

CLEAN WATER DIVERSION

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

RIPRAP PAD AT OUTLET
EST. 3 TONS CL-B RIPRAP
EST. 10 S.Y. GFD

TOE PROTECTION
SEE DETAIL 12
EST. 100 TONS CL-B RIPRAP
EST. 280 S.Y. GFD

(94) DEBORAH MATTHEWS
DB 903 PG 584

(113) WALLACE DUNCAN
DB 1615 PG 136
MB 2002 PG 431

END CONSTRUCTION
-Y7C- POT Sta. 20+84.00

BEGIN CONSTRUCTION
-Y7C- POT Sta. 19+84.00
TERMINAL END SECTION

OLD MATTHEWS MILL POND RD -Y7C-

RETAIN EXIST. ROADWAY EMBANKMENT TO ACT AS FALSE SUMP DURING HIGH FLOW

EXIST R/W

16' CONC

48" CMP

48" CML

48" SPLIT RAIL

CONC

REBECCA PARTIN
DB 693 PG 508

(92) REBECCA PARTIN
DB 693 PG 508

(93) CUTTS CHAPEL FWB CHURCH
DB 2124 PG 562
MB 2002 PG 1391

NUNEZ CONCRETE INC
DB 2433 PG 335
MB 2006 PG 892

DITCH WETLAND CALCS -L- STA 227+30 RT	
DA	0.9 AC
C (FUTURE)	0.5
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	2.79 C.F.S
V_{10} (FUTURE)	1.18 F.P.S
SLOPE	0.003 FT/FT
N	0.035
LINER TYPE	GRASS

★ TRAFFIC SIGNAL
SEE SHEET 2B-4 FOR INTERSECTION DETAIL
SEE SHEET 32 FOR -L- PROFILE
SEE SHEET 39 FOR -Y7C- PROFILE

Submitted 3/1/2022

5/14/99

REVISIONS

12/30/2021

LEGEND

F F — DENOTES FILL IN WETLAND	S S — DENOTES IMPACTS IN SURFACE WATER
HC HC — DENOTES HAND CLEARING	TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 61 OF 64

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE (SEE SHEET 23)

MATCHLINE (SEE SHEET 24)

MATCHLINE -L- STA 216+00 (SEE SHEET 18)

MATCHLINE -L- STA 230+00 (SEE SHEET 20)

220+00

225+00

20+00

CULTIVATED

WOODS

(92) REBECCA PARTIN
DB 693 PG 508

(95)

(94) DEBORAH MATTHEWS
DB 903 PG 584

(113) WALLACE DUNCAN
DB 1615 PG 136
MB 2092 PG 431

(93) CUTTS CHAPEL FWB CHURCH
DB 2124 PG 562
MB 2002 PG 391

NUNEZ CONCRETE INC
DB 2433 PG 335
MB 2006 PG 892

SITE 30

N 47° 19' 32.7" W

-L-
NC 55

RIPRAP PAD AT OUTLET
8 TONS CL-B RIPRAP
21 S.Y. GFD

30" RCP

REMOVE & BACKFILL

GRADE TO DRAIN

CLEAN WATER DIVERSION

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

END CONSTRUCTION
-Y7C- POT Sta. 20+84.00

BEGIN CONSTRUCTION
-Y7C- POT Sta. 19+84.00
TERMINAL END SECTION

RETAIN EXIST. ROADWAY EMBANKMENT TO ACT AS FALSE SUMP DURING HIGH FLOW

OLD MATTHEWS MILL POND RD -Y7C-

MATTHEWS MILL POND RD -Y7C-

15" RCP-IV

DI

TB 2GI

54" RCP-IV

SEDIMENT CONTROL BASIN

RIPRAP PAD AT OUTLET
EST. 13 TONS CL-B RIPRAP
EST. 10 S.Y. GFD

TOE PROTECTION
SEE DETAIL 12
EST. 100 TONS CL-B RIPRAP
EST. 280 S.Y. GFD

DITCH WETLAND CALCS -L- STA 227+30 RT	
DA	0.9 AC.
C (FUTURE)	0.5
I_{10}	6.2 IN./HR
Q_{10} (FUTURE)	2.79 C.F.S
V_{10} (FUTURE)	1.18 F.P.S
SLOPE	0.003 FT/FT
N	0.035
LINER TYPE	GRASS

★ TRAFFIC SIGNAL
SEE SHEET 2B-4 FOR INTERSECTION DETAIL
SEE SHEET 32 FOR -L- PROFILE
SEE SHEET 39 FOR -Y7C- PROFILE

Submitted 3/1/2022

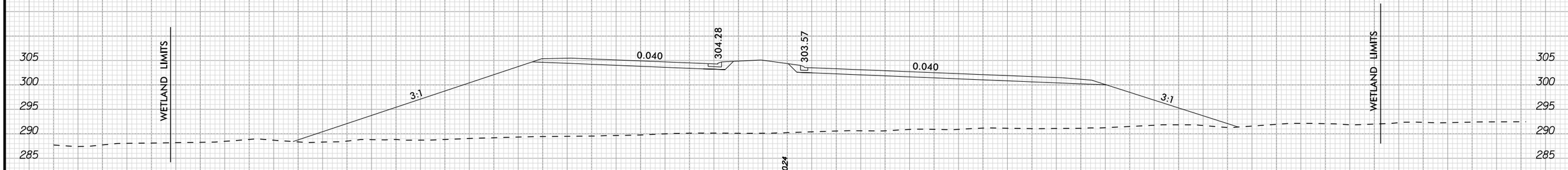
PERMIT DRAWING
SHEET 62 OF 64

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-5705A	PERMIT SHEET - OF -

229+00.00

SITE 30



228+50.00

—L—

12/30/2021

Submitted 3/1/2022

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 16+20 to 16+40 LT/RT	24" RCP					< 0.01		< 0.01		30	
2	-L- 23+03 to 24+16 LT/RT	6' x 7' RCBC	0.02		< 0.01		0.03	< 0.01	< 0.01	34	10	
3	-L- 24+28 to 24+54 RT	Roadway Fill						0.01	< 0.01	116	10	
4	-L- 24+54 to 24+83 RT	6' x 7' RCBC	0.22		0.10	0.07	0.06	< 0.01		51		
4	-L- 24+83 to 25+09 RT	Bank Stabilization						< 0.01	< 0.01	49	10	
5	-L- 37+97 to 38+48 RT	24" RCP	0.05				0.01					
6	-L- 42+50 to 44+74 RT	42" RCP						0.05	< 0.01	268	30	
7	-L- 44+74 to 45+04 RT	42" RCP						< 0.01	< 0.01	30		
8	-L- 44+50 to 49+00 LT	42" RCP						0.95				
9	-L- 76+77 to 77+38 RT	24" RCP	0.04				< 0.01					
10	-L- 80+58 to 81+90 RT	Roadway Fill	0.09		0.05		0.04					
11	-L- 82+04 to 91+50 RT	Roadway Fill	1.11		0.10		0.35	0.01	< 0.01	224	86	
12	-L- 89+35 to 92+38 LT	54" RCP	0.09	0.91	0.04		0.09					
13	-L- 94+02 to 94+88 LT	Roadway Fill					0.02					
14	-L- 98+38 to 99+24 RT	Roadway Fill	< 0.01				0.02					
15	-L- 106+38 to 113+76 LT/RT	48" RCP	0.97		0.34		0.32	< 0.01	< 0.01	102	35	
15	-L- 106+38 to 113+76 LT/RT	48" RCP						0.21				
16	-Y4A- 18+96 to 19+58 RT	48" RCP			< 0.01		0.02	0.01	< 0.01	57	9	
17	-L- 127+00 to 130+67 RT/LT	Roadway Fill	0.66		0.06		0.17					
18	-L- 132+03 to 132+13 RT	48" RCP						< 0.01	< 0.01	41	7	
19	-L- 136+18 to 140+48 RT	Roadway Fill	0.05				0.01					
19	-L- 136+18 to 140+48 RT	Roadway Fill						0.23				
20	-L- 153+56 to 154+84 RT/LT	66" RCP	0.08		0.06	0.02	0.02	0.04	< 0.01	204	31	
20	-L- 154+84 LT	Bank Stabilization						< 0.01	< 0.01	12	14	
TOTALS*:			3.36	0.91	0.76	0.09	1.17	1.53	0.03	1186	270	0

*Rounded totals are sum of actual impacts

NOTES:

0.055 acres of mechanized clearing on Site 4 is for clean water diversion erosion control feature

0.008 acres of mech. clearing on Site 4 is for temporary excavation associated with a temporary pipe for culvert phasing (shown as "E" hatching on plans but quantified as mechanized clearing in this table)

0.91 acres of temporary fill in wetland on Site 12 is being used to quantify the impact for the potential that the ponded water in the wetland will need to be temporarily drained during construction

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
09-13-2021
Harnett
R-5705A
46377.1.2

Submitted 3/1/2022

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
21	-L- 161+48 to 162+68 RT	36" RCP	0.06		0.04		0.03					
22	-L- 162+58 to 162+77 LT	36" RCP	0.04		0.03		< 0.01					
23	-L- 173+93 to 174+24 LT	30" RCP	0.02		0.02		0.02					
24	-L- 179+18 to 183+23 RT	5' x 7' RCBC	0.07		0.05	0.03	0.17	0.02	< 0.01	154	33	
25	-L- 179+25 to 182+36 LT	5' x 7' RCBC	0.31		0.06	0.03	0.16					
25	-L- 179+25 to 182+36 LT	5' x 7' RCBC						0.35				
26	-L- 194+11 to 194+75 RT	30" RCP	< 0.01				0.02					
27	-L- 194+13 to 202+60 RT/LT	Roadway Fill	0.18		0.05	< 0.01	0.02					
27	-L- 194+13 to 202+60 RT/LT	7' x 7' RCBC						5.05				
28	-Y7B- 20+53 to 20+69 RT	Bank Stabilization						< 0.01	< 0.01	19	15	
29	-L- 203+22 to 204+58 RT/LT	36" RCP	0.35		0.04	0.05	0.04					
30	-L- 227+38 to 229+82 RT/LT	54" RCP	0.96				0.14	0.02	< 0.01	224	20	
SHEET TOTALS*:			1.99		0.29	0.11	0.61	5.44	< 0.01	397	68	0
PROJECT TOTALS*:			5.35	0.91	1.05	0.20	1.78	6.97	0.03	1583	338	

*Rounded totals are sum of actual impacts

NOTES:

0.006 Acres of mechanized clearing on site 27 represents remnant wetland piece which will have significantly less supporting hydrology post-construction. The plans still call for hand clearing per guidance from 4B meeting

0.004 acres of mechanized clearing on Site 20 is for temporary excavation associated with culvert construction and phasing (shown as "E" hatching on plans but quantified as mechanized clearing in this table)

0.012 acres of mechanized clearing on Site 24 is for temporary excavation associated with culvert construction and phasing (shown as "E" hatching on plans but quantified as mechanized clearing in this table)

0.005 acres of mechanized clearing on Site 25 is for temporary excavation associated with culvert construction and phasing (shown as "E" hatching on plans but quantified as mechanized clearing in this table)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
REV 02/24/2022
Harnett
R-5705A
46377.1.2
SHEET 64 OF 64

Submitted 12/21/2021

North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.08; Released April 2018)

WBS Element:	46377.1.3	TIP No.:	R-5705B	County(ies):	WAKE/HARNETT	Page	1	of	4

General Project Information

WBS Element:	46377.1.3	**TIP Number:**	R-5705B	**Project Type:**	Roadway Relocation	**Date:**	9/20/2021
NCDOT Contact:	Nicole Hackler, PE			**Contractor / Designer:**	TGS Engineers (Rusty Lassiter)		
Address:	1000 Birch Ridge Drive Raleigh, NC 27610			**Address:**	706 Hillsborough Street Suite 200 Raleigh, NC 27603		
Phone:	919-707-6029			**Phone:**	919-773-8887 ext. 121		
Email:	nmhackler@ncdot.gov			**Email:**	rlassiter@tgsengineers.com		
City/Town:	Angier			**County(ies):**	Wake	Harnett	
River Basin(s):	Cape Fear	Neuse		**CAMA County?**	No	No	
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	4.437 miles	**Surrounding Land Use:**	Business; Residential; Rural Farmland

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	51.0 ac.	12.0 ac.
Typical Cross Section Description:	4-lane divided roadway with a 30-foot raised median and 10-foot shoulders (4-foot paved shoulders)	Two 11-foot lanes with 3-foot paved shoulders
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 44400 Year: 2042	Existing: 30200 Year: 2022

General Project Narrative: (Description of Minimization of Water Quality Impacts)

Currently, NC 55 is primarily a two-lane roadway throughout the R5705B corridor, with turn lanes at major intersections. To relieve congestion and improve mobility, R5705B is proposing to widen portions of NC 55 to a median-divided, four-lane roadway and build a multi-lane bypass west of Angier. Proposed typical section for widening of NC 55 will be a 4-lane divided roadway with a 23-foot raised median, curb and gutter with a 10-foot berm. Proposed typical section for new location of NC 55 will be a 4-lane divided roadway with a 30-foot raised median and 10-foot shoulders (including 4-foot paved shoulders).

Waterbody Information

Surface Water Body (1):	UT to Neills Creek		**NCDWR Stream Index No.:**	18-16-(0.7)a	
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

WBS Element:	46377.1.3	TIP No.:	R-5705B	County(ies):	Wake Harnett	Page	2	of	4

Additional Waterbody Information

Surface Water Body (2):	UT to Neills Creek		**NCDWR Stream Index No.:**	18-16-(0.7)a	
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:			
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:	SAF,SAE,SAC,SAD,SAB,SY,SAA,SZ,SW,SV,SX			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

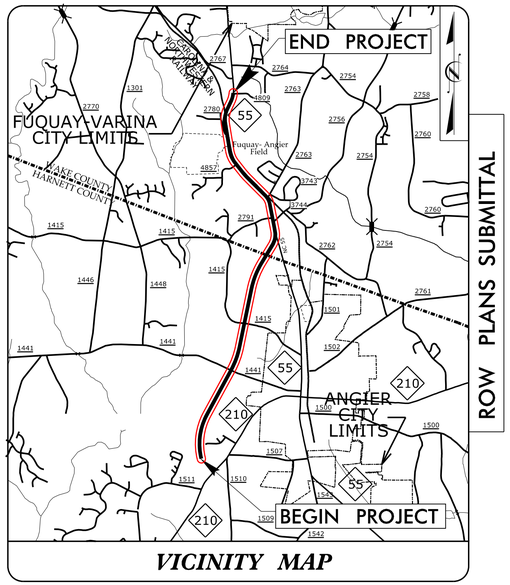
Submitted 12/21/2021

09/08/09

TIP PROJECT: R-5705B

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HARNETT & WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5705B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46377.1.3		PE
46377.2.2		ROW
46377.2.6		UTILITIES

LOCATION: NC 55 FROM NC 210 TO SR 4809 (JICARILLA LANE)

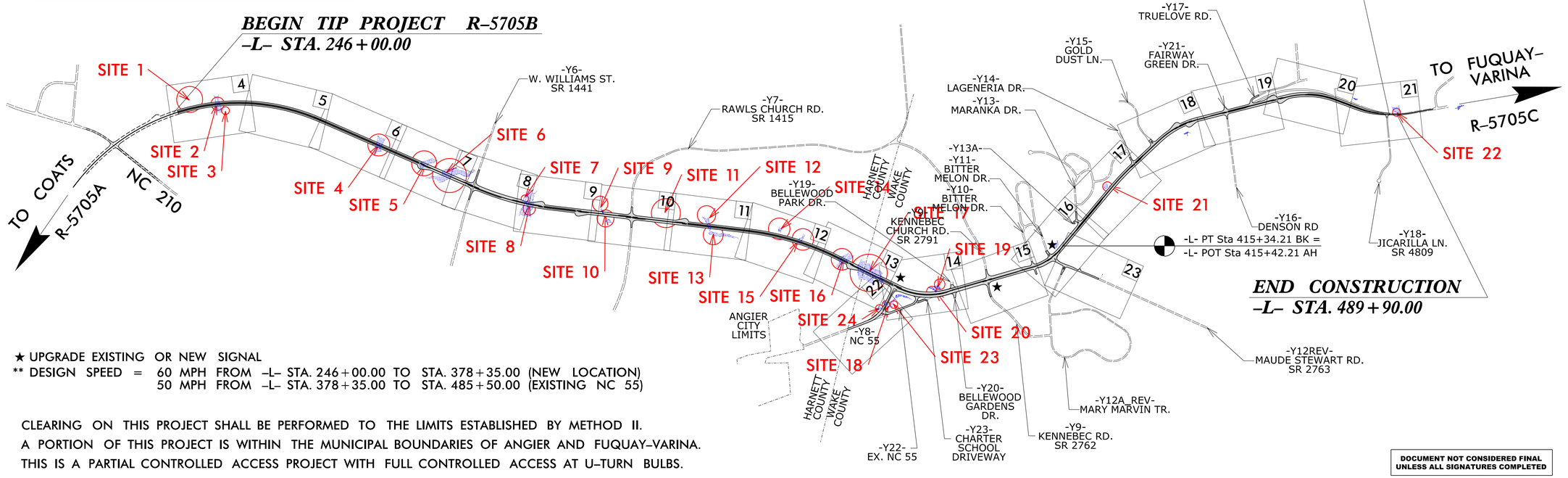
TYPE OF WORK: PAVING, GRADING, DRAINAGE, SIGNALS & CULVERT

NAD 83/NA 2011

WETLAND AND SURFACE WATER IMPACTS PERMIT

BEGIN TIP PROJECT R-5705B
-L- STA. 246+00.00

END TIP PROJECT R-5705B
-L- STA. 485+57.00



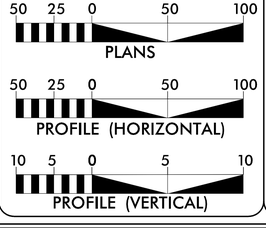
END CONSTRUCTION
-L- STA. 489+90.00

★ UPGRADE EXISTING OR NEW SIGNAL
** DESIGN SPEED = 60 MPH FROM -L- STA. 246+00.00 TO STA. 378+35.00 (NEW LOCATION)
50 MPH FROM -L- STA. 378+35.00 TO STA. 485+50.00 (EXISTING NC 55)

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ANGIER AND FUQUAY-VARINA.
THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH FULL CONTROLLED ACCESS AT U-TURN BULBS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2022 = 30,200
ADT 2045 = 44,200
K = 9 %
D = 60 %
T = 4 % *
**V = 50 & 60 MPH
* TTST =1% DUAL 3%
FUNC CLASS = MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT R-5705B = 4.536 MILES
TOTAL LENGTH PROJECT = 4.536 MILES

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610
By:
TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 3, 2021

LETTING DATE:
OCTOBER 18, 2022

TOMMY REGISTER, P.E.
PROJECT ENGINEER

NICOLE M. HACKLER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

9/17/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_tsh.dgn
User:rlassiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

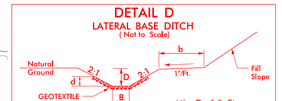
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _1_ OF _47_

NAD 83/NA 2011

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

*When B is < 6.0'
Type of Liner= CLASS 'B' Rip-Rap

FROM STA.252+00 TO STA.253+16 –L– LT.

DETAIL K
LATERAL BASE DITCH
(Not to Scale)

Min. D= 1.0 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
b= 5.0 Ft.

*When B is < 6.0'
Type of Liner= Class 'I' Rip-Rap

FROM –L– STA. 254+16 TO STA. 255+50 RT

DETAIL U
LATERAL BASE DITCH
(Not to Scale)

Min. D= 1.0 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
b= 10.0 Ft.

*When B is < 6.0'
Type of Liner= Class 'I' Rip-Rap

FROM –L– STA. 253+67 TO STA. 254+18 RT

DETAIL N
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner= CL I Rip-Rap

FROM STA. 253+15 –L– LT.

SITE 1

3' STANDARD BASE DITCH
SEE DETAIL 'AE'
S=1.3%
L=325'
EST. 475 CY DDE

CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 14 SY

SEE NCDOT TIP PROJECT R-5705A FOR RIGHT OF WAY PURCHASED UNDER NCDOT TIP PROJECT R-5705A

END PROPOSED R/W TIP PROJECT R-5705A
BEGIN PROPOSED R/W TIP PROJECT R-5705B
℄
100' LT

RIP RAP AT EMBANKMENT
SEE DETAIL 'N'

CLASS 'I' RIP RAP

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

PROPOSED 15" RCP COMING FROM CB#2104 (R-5705A) DESIGNED BY OTHERS

15" RCP-IV
24" RCP-IV

SURFACE WATER IMPACT

BURY PIPE

PUE

ACCESS POINT

WOODS

CULTIVATED

ROBERTA WOOLARD

ROY GARDNER

WILLIAM WHEELER

ROBERT PHELPS

JESUS GARCIA

JAMES JOHNSON

CLARENCE LYON

ISFD

SITE 2

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

4.0' LATERAL BASE DITCH
SEE DETAIL U
CLASS 'I' RIP RAP
(54' STREAM RELOCATION)

4.0' LAT. BASE DITCH
SEE DETAIL K
CLASS 'I' RIP RAP

END PROPOSED R/W TIP PROJECT R-5705A
BEGIN PROPOSED R/W TIP PROJECT R-5705B
℄
111.85' RT

SITE 3

MATCHLINE SHEET 5
–L– STA. 259+00.00

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
P P	DENOTES IMPACTS IN SURFACE WATER (POND)
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 24 FOR –L– PROFILE

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_04.dgn
User:cassiter

Submitted 12/21/2021

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	4

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

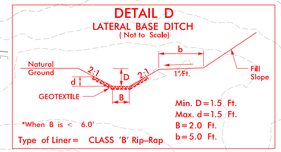
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _2_ OF _47_

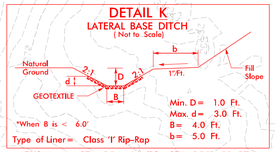
NAD 83/NA 2011

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



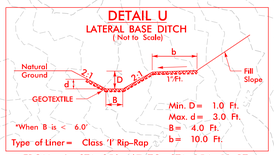
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = CLASS 'B' Rip-Rap
FROM STA. 252+00 TO STA. 253+16 -L- LT.

DETAIL K
LATERAL BASE DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 3.0 Ft.
B = 4.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 254+16 TO STA. 255+50 RT

DETAIL U
LATERAL BASE DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 3.0 Ft.
B = 4.0 Ft.
b = 10.0 Ft.
*When B is < 6.0'
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 253+67 TO STA. 254+18 RT

DETAIL N
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner = CL I Rip-Rap
FROM STA. 253+15 -L- LT.

SITE 1

3' STANDARD BASE DITCH
SEE DETAIL 'AE'
S = 1.3%
L = 325'
EST. 475 CY DDE

CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 14 SY

SEE NCDOT TIP PROJECT R-5705A FOR RIGHT OF WAY PURCHASED UNDER NCDOT TIP PROJECT R-5705A

END PROPOSED R/W TIP PROJECT R-5705A
BEGIN PROPOSED R/W TIP PROJECT R-5705B
℄
100' LT

RIP RAP AT EMBANKMENT
SEE DETAIL 'N'

CLASS 'I' RIP RAP

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

ACCESS POINT

PROPOSED 15" RCP COMING FROM CB#2104 (R-5705A) DESIGNED BY OTHERS

15" RCP-IV
24" RCP-IV
CAT-1
GREU TL-3
PDE
TDE
PUE
SURFACE WATER IMPACT
BURY PIPE
HW
TS
JS
SS
WOODS
CULTIVATED
ROBERTA WOOLARD
ROY GARDNER
WILLIAM WHEELER
JESUS GARCIA
ROBERT PHELPS
JAMES JOHNSON
CLARENCE LYON
ISFD
EIP
98
200
201
255

SEE NCDOT TIP PROJECT R-5705A FOR RIGHT OF WAY PURCHASED UNDER NCDOT TIP PROJECT R-5705A

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

4.0' LATERAL BASE DITCH
SEE DETAIL 'U'
CLASS 'I' RIP RAP
(54' STREAM RELOCATION)

4.0' LAT. BASE DITCH
SEE DETAIL 'K'
CLASS 'I' RIP RAP

END PROPOSED R/W TIP PROJECT R-5705A
BEGIN PROPOSED R/W TIP PROJECT R-5705B
℄
111.85' RT

SITE 2

SITE 3

MATCHLINE SHEET 5
-L- STA. 259+00.00

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
P P	DENOTES IMPACTS IN SURFACE WATER (POND)
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 24 FOR -L- PROFILE

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_04_con.dgn
User:jasier

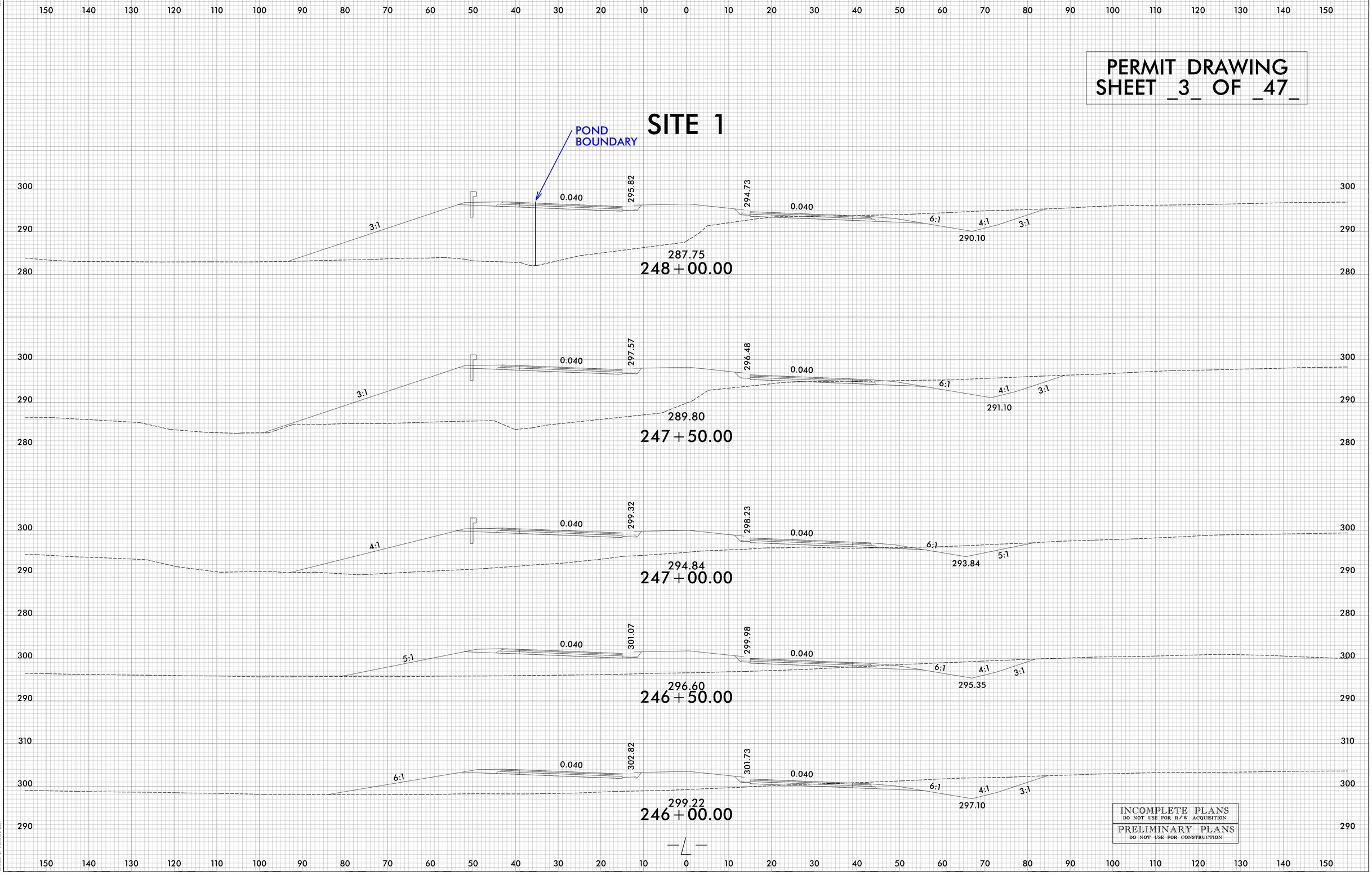
Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-1

PERMIT DRAWING
SHEET _3_ OF _47_

SITE 1



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl.L(1).dgn
User:lassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-3

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING
SHEET _4_ OF _47_

SITE 2 and SITE 3

290 280 270 260

0.040 284.28 283.19 0.040

3:1 4:1

WETLANDS

270.53
253+50.00

290 280 270 260

0.040 284.45 283.36 0.040

3:1 10.43:1 3:1

2:1 2:1 271.11

273.03
253+00.00

290 280 270 260

0.040 284.79 283.70 0.040

3:1 11.89:1 3:1

2:1 2:1 274.07

275.65
252+50.00

290 280 270 260

0.040 285.32 284.23 0.040

3:1 3:1

2:1 2:1 279.53 279.16

279.72
252+00.00

290 280 270 260

0.040 286.03 284.94 0.040

5.99:1 6:1 6:1 5.79:1

284.11 280.31

284.11
251+50.00

290 280 270 260

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_L(1).dgn
User:lossiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

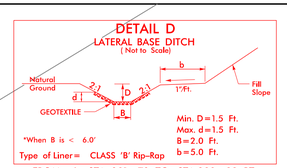
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _5_ OF _47_

NAD 83/NA 2011

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



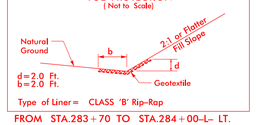
*When B is < 6.0'

Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM –L– STA. 281+72 TO STA.283+89 RT
FROM –L– STA. 283+92 TO STA. 287+00 RT

DETAIL A
TOE PROTECTION
(Not to Scale)



d=2.0 Ft.
b=2.0 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM STA.283+70 TO STA.284+00–L– LT.

MATCHLINE SHEET 5
–L– STA. 273+00.00

MATCHLINE SHEET 7
–L– STA. 287+00.00

BEGIN SBG 282+00 LT. AND 281+71 RT.
END SBG 286+60 LT. AND 286+35 RT.

203 RONALD E WHEELER (TIC) & REDDIN ADAMS WHEELER (TIC)

204 BARBARA ENNIS

205 LEOTERRA HONEYCUTT OAKS LLC

202 LEOTERRA HONEYCUTT OAKS LLC

206 JERRY SMITH

POND

CENTURY LINK-COPPER

CULTIVATED

LATERAL BASE DITCH SEE DETAIL C

CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

CLASS 'I' RIP RAP

CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

TOE PROTECTION SEE DETAIL 'A'

ACCESS POINT

15" RCP-IV

48" RCP-IV

15" CSP

CAT–1

GREU TL–3

SURFACE WATER IMPACT

HW

RIP RAP AT EMBANKMENT SEE DETAIL N

PUE

2.0' LATERAL BASE DITCH SEE DETAIL 'D' CLASS 'B' RIP RAP

–L– ST Sta. 273+65.93

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 4

100' 0' 100'
HORIZONTAL SCALE

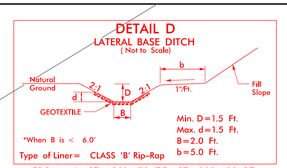
SEE SHEET 25 FOR –L– PROFILE

8/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_06.dgn
User: lassiter

Submitted 12/21/2021

8/17/99

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



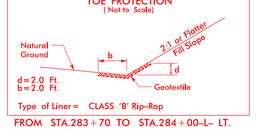
*When B is < 6.0'

Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM -L- STA. 281+72 TO STA.283+89 RT
FROM -L- STA. 283+92 TO STA. 287+00 RT

DETAIL A
TOE PROTECTION
(Not to Scale)



d=2.0 Ft.
b=2.0 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM STA.283+70 TO STA.284+00-L- LT.

PERMIT DRAWING
SHEET _6_ OF _47_

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

MATCHLINE SHEET 5
-L- STA. 273+00.00

MATCHLINE SHEET 7
-L- STA. 287+00.00

POND

203 RONALD E WHEELER (TIC) & REDDIN ADAMS WHEELER (TIC)

204 BARBARA ENNIS

205 LEOTERRA HONEYCUTT LLC

202 LEOTERRA HONEYCUTT OAKS LLC

206 JERRY SMITH

LEOTERRA HONEYCUTT OAKS LLC

CENTER OF LITTLE CREEK

CULTIVATED

BEGIN SBG 282+00 LT. AND 281+71 RT.
END SBG 286+60 LT. AND 286+35 RT.

LATERAL BASE DITCH SEE DETAIL C

CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

CLASS 'I' RIP RAP

CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

TOE PROTECTION SEE DETAIL 'A'

ACCESS POINT

15" RCP-IV

48" RCP-IV

15" CSP

CAT-1

GREU TL-3

SURFACE WATER IMPACT

HW

RIP RAP AT EMBANKMENT SEE DETAIL N

CURB INLET

CURB PIPE 0.9%

2.0' LATERAL BASE DITCH SEE DETAIL 'D' CLASS 'B' RIP RAP

PUE

-L- ST Sta. 273+65.93

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 4

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 25 FOR -L- PROFILE

8/26/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_06_con.dgn
User: lassiter

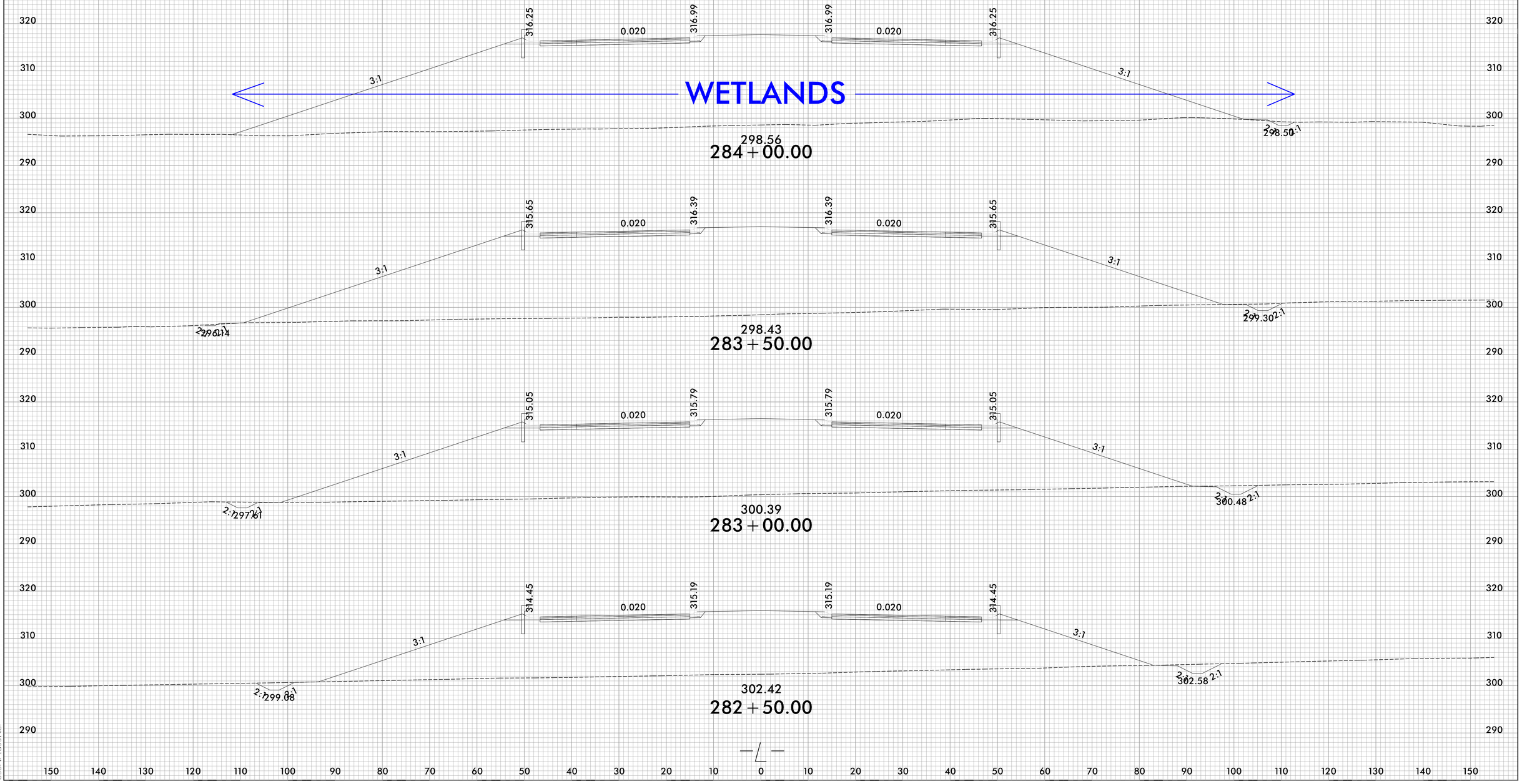
Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-14

PERMIT DRAWING
SHEET _7_ OF _47_

SITE 4



9/20/2021
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User:lassiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

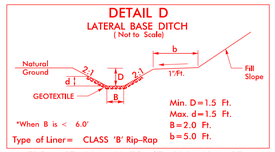
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING
SHEET _8_ OF _47_

NAD 83/NA 2011

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



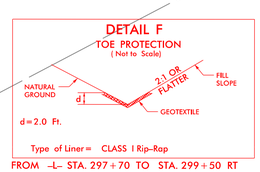
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CLASS 'B' Rip-Rap

FROM STA.290+50 TO STA.295+58–L– RT.
FROM STA.290+00 TO STA.293+50–L– LT.
FROM STA.299+50 TO STA.301+17–L– LT.

DETAIL F
TOE PROTECTION
(Not to Scale)



d = 2.0 Ft.

Type of Liner = CLASS I Rip-Rap

FROM –L– STA. 297+70 TO STA. 299+50 RT

SITE 5

BEGIN SBG 291+66 LT. AND 290+70 RT.
END SBG 301+16 LT. AND 301+00 RT.

MATCHLINE SHEET 6
–L– STA. 287+00.00

MATCHLINE SHEET 8
–L– STA. 300+00.00

204 BARBARA ENNIS
207 BARRY DOYLE
206 JERRY SMITH
207 BARRY DOYLE
208 WILLIAM FARMER

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

2' LATERAL BASE DITCH
SEE DETAIL D
CLASS 'B' RIP RAP

CLASS 'I' RIP RAP

ACCESS POINT

CAT-1

GREU TL-3

SURFACE WATER IMPACT

BURY PIPE 0.8'

15" RCP-IV

15" CSP

HW

PUE

CULTIVATED

WOODS

POND

TOE PROTECTION
SEE DETAIL 'F'

SITE 6

CHALYBEATE Ssprings OFF RD NC

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 25 FOR –L– PROFILE

8/20/2021
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User: Lossiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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RALEIGH, NC 27603
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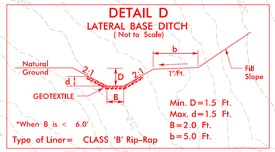
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _9_ OF _47_

NAD 83/NA 2011

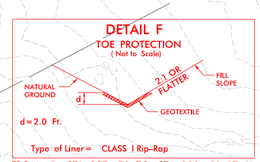
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Type of Liner = CLASS 'B' Rip-Rap

FROM STA. 290+50 TO STA. 295+58 –L– RT.
FROM STA. 290+00 TO STA. 293+50 –L– LT.
FROM STA. 299+50 TO STA. 301+17 –L– LT.

DETAIL F
TOE PROTECTION
(Not to Scale)



Type of Liner = CLASS I Rip-Rap

FROM –L– STA. 297+70 TO STA. 299+50 RT

SITE 5

BEGIN SBG 291+66 LT. AND 290+70 RT.
END SBG 301+16 LT. AND 301+00 RT.

204 BARBARA ENNIS
207 BARRY DOYLE
206 JERRY SMITH
207 BARRY DOYLE

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

2' LATERAL BASE DITCH
SEE DETAIL D
CLASS 'B' RIP RAP

CLASS 'I' RIP RAP

MATCHLINE SHEET 6
–L– STA. 287+00.00

MATCHLINE SHEET 8
–L– STA. 300+00.00

ACCESS POINT
CAT-1
GREU TL-3
SURFACE WATER IMPACT
BURY PIPE 0.8'
15" RCP-IV
15" CSP
PUE
WOODS
CULTIVATED
POND

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP

WILLIAM FARMER
208

TOE PROTECTION
SEE DETAIL 'F'

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

100' 0' 100'
HORIZONTAL SCALE

SITE 6

CHALYBEATE SPRINGS OFF RD NC

SEE SHEET 25 FOR –L– PROFILE

8/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_07_con.dgn
User:Lossiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-18

PERMIT DRAWING
SHEET _10_ OF _47_

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

320 / 310 / 300 / 290

313.81 | 0.020 | 314.79 | 314.57 | 0.020 | 313.50

3:1 | 3:1 | 2:1 | 2:1

297.97

298.20

294+00.00

314.36 | 0.020 | 315.39 | 315.10 | 0.020 | 313.74

3:1 | 3:1 | 2:1 | 2:1

294.44 | 300.50

298.60

293+50.00

SITE 5

WETLAND BOUNDARY

WETLAND BOUNDARY

314.91 | 0.020 | 315.95 | 315.65 | 0.020 | 313.98

3:1 | 3:1 | 2:1 | 2:1

295.49 | 301.19

298.59

293+00.00

315.46 | 0.020 | 0.020 | 314.44

3:1 | 3:1 | 2:1 | 2:1

298.34 | 301.89

300.01

292+50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_L(1).dgn
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Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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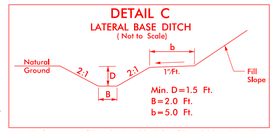
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

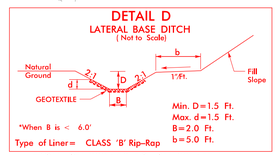
PERMIT DRAWING SHEET _11_ OF _47_

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 300+68 TO STA. 302+50 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



FROM STA.299+50 TO STA.301+17–L– LT.

NAD 83/NA 2011

–Y6– POT Sta. 10+00.00

–L– PC Sta. 303+16.42

–Y6– POT Sta. 19+42.34

BEGIN SBG 291+66 LT. AND 290+70 RT.
END SBG 301+16 LT. AND 301+00 RT.

24" RCP-IV
CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
11 SY
2' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP
JB W/MH
15" RCP-IV
CAT-1
15" CSP
GREU TL-3
CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
7 SY
2' LATERAL BASE DITCH
SEE DETAIL 'C'
CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY
TOE PROTECTION
SEE DETAIL 'A'
18" CSP
ACCESS POINT
FS
ROD AND LUG
CB

MATCHLINE SHEET 7
–L– STA. 300+00.00

MATCHLINE SHEET 9
–L– STA. 312+00.00

BARRY DOYLE 207
RECIE FARMER 209
LINWOOD MATTHEWS 212
LAURA DICKENS 210
JERRY SMITH 211
SUSAN CHRISCOE 216

POND
ISFD
BK B
ISBKD
2SBKG
ISBFD
3SBFD
WOODS
CULTIVATED
CONC
GR
GRV

SITE 6

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

100' 0' 100'
HORIZONTAL SCALE

SEE SHEETS 25 THRU 26 FOR –L– PROFILE
SEE SHEET 33 FOR –Y6– PROFILE

8/20/2021
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User: lassiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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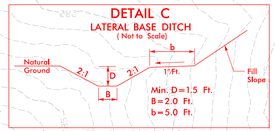
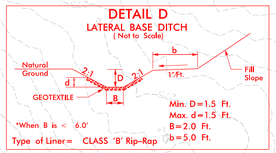
PERMIT DRAWING SHEET _12_ OF _47_

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 300+68 TO STA. 302+50 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



FROM STA.299+50 TO STA.301+17-L- LT.

NAD 83/NA 2011

-Y6- POT Sta. 10+00.00

BEGIN SBG 291+66 LT. AND 290+70 RT.
END SBG 301+16 LT. AND 301+00 RT.

24" RCP-IV
CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
11 SY
2' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP
JB W/MH
-L- PC Sta. 303+16.42
TOE PROTECTION
SEE DETAIL 'A'
18" CSP
ACCESS POINT
FS
CAT-1
CB
ROD AND LUG
GREU TL-3
15" RCP-IV
15" CSP
CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
7 SY
2' LATERAL BASE DITCH
SEE DETAIL 'C'
CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY
-Y6- POT Sta. 19+42.34

MATCHLINE SHEET 7
-L- STA. 300+00.00

MATCHLINE SHEET 9
-L- STA. 312+00.00

BARRY DOYLE 207
RECIE FARMER 209
LINWOOD MATTHEWS 212
LAURA DICKENS 210
JERRY SMITH 211
SUSAN CHRISCOE 216

POND
ISFD
BK B
ISBKD
2SBKD
ISBFD
3SBFD
WOODS
CULTIVATED
CONC
14" BST
12" NO
48" CMP
48" CHL
SR 1445 (OLD NC 48)
SR 1445 (OLD NC 48) 2ND EAST
SR 1445 (OLD NC 48) 1ST EAST

SITE 6

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

100' 0' 100'
HORIZONTAL SCALE

SEE SHEETS 25 THRU 26 FOR -L- PROFILE
SEE SHEET 33 FOR -Y6- PROFILE

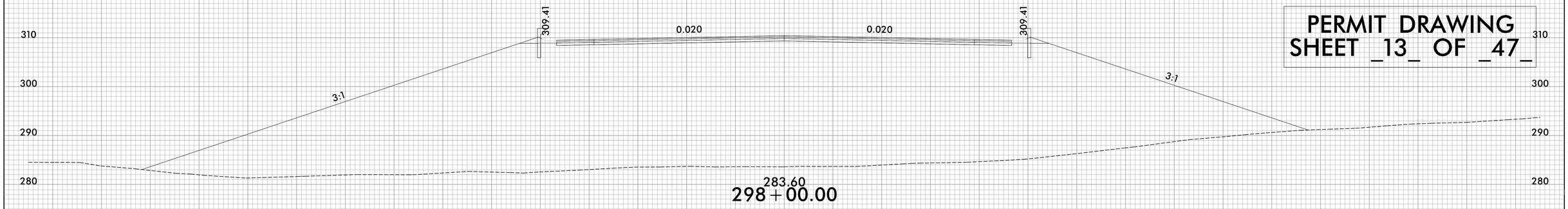
8/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\0-awings\With Contours\R5705B_Rdy_psh_08_con.dgn
User: jassler

Submitted 12/21/2021

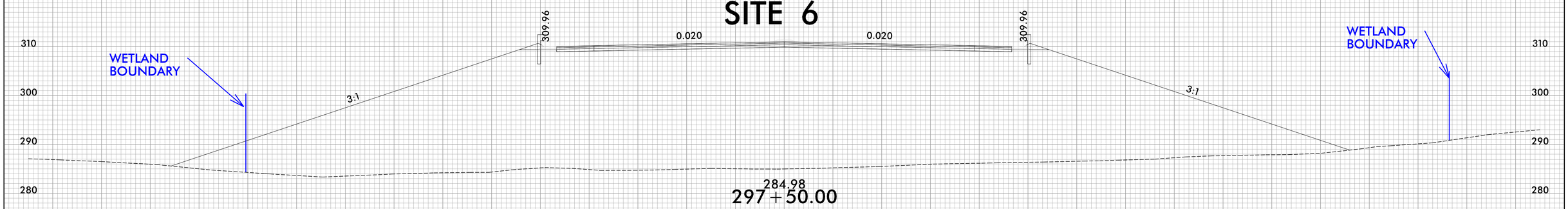
6/23/16

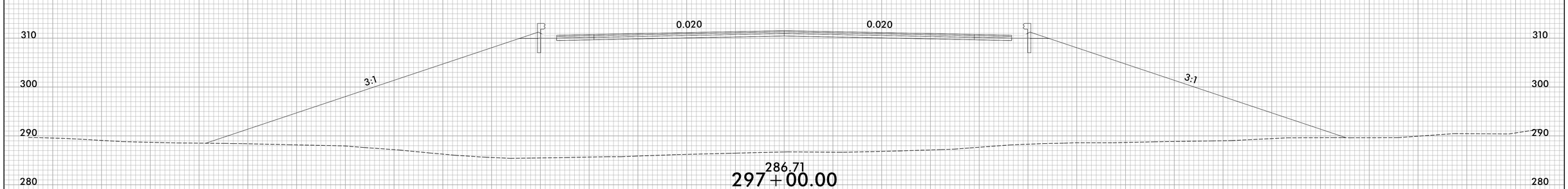
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-20

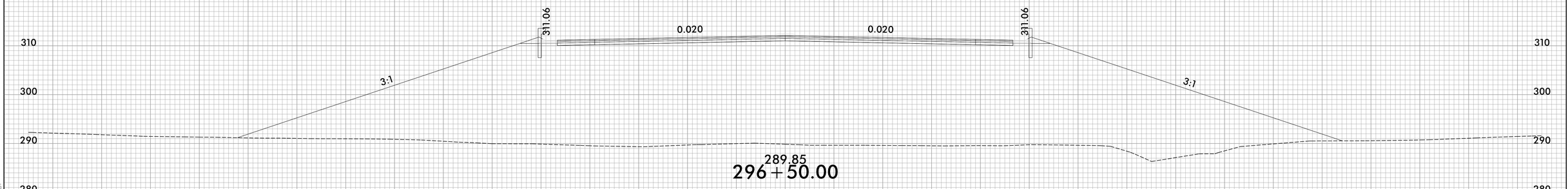
PERMIT DRAWING
SHEET _13_ OF _47_



SITE 6







9/20/2021
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User:lossiter

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8/17/99

PERMIT DRAWING
SHEET _14_ OF _47_

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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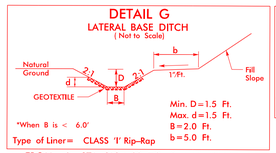
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

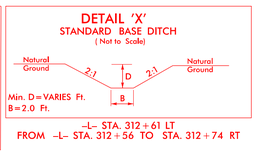
DETAIL G
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
*When B is < 6.0'
Type of Liner= CLASS 'I' Rip-Rap

FROM –L– STA. 312+69 TO STA. 317+00 RT
FROM –L– STA. 313+82 TO STA. 317+50 LT

DETAIL 'X'
STANDARD BASE DITCH
(Not to Scale)



Min. D=VARIES Ft.
B=2.0 Ft.

–L– STA. 312+61 LT
FROM –L– STA. 312+56 TO STA. 312+74 RT

SITE 7

BEGIN SBG 311+87 LT. AND END SBG 315+75 LT.

212
LINWOOD MATTHEWS

315

2' LAT. BASE DITCH
SEE DETAIL G
CLASS 'I' RIP RAP

2' STANDARD BASE DITCH
SEE DETAIL 'X'
EST. DDE= 25 CY
L= 53'
S= 1.9%

CLASS 'B' RIP RAP
EST. 2 TONS

218
ANN BLALOCK

–L– PT Sta. 317+84.22

320

18" CSP

15" RCP-IV

AT-1

2GI

SURFACE WATER IMPACT

SURFACE WATER IMPACT

15" RCP-IV

2@ 7'x7' RCBC WITH SILLS

CAT-1

15" RCP-IV

ACCESS POINT

CULTIVATED

WOODS

218
ANN BLALOCK

325

MATCHLINE SHEET 8
–L– STA. 312+00.00

MATCHLINE SHEET 10
–L– STA. 326+00.00

PUE

2' LAT. BASE DITCH
SEE DETAIL G
CLASS 'I' RIP RAP

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 10 SY

2' STANDARD BASE DITCH
SEE DETAIL 'X'
EST. DDE=10 CY
L= 20'
S= 1.0%

DANNY HONEYCUTT

216
SUSAN CHRISCOE

217

SITE 8

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
P P	DENOTES IMPACTS IN SURFACE WATER (POND)
E E	DENOTES EXCAVATION IN WETLAND
	DENOTES MECHANIZED CLEARING
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 26 FOR –L– PROFILE

8/20/2021
R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_09.dgn
User: jassler

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _15_ OF _47_

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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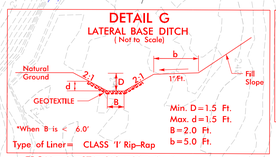
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

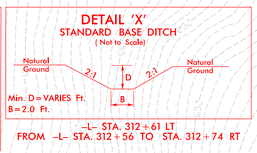
DETAIL G
LATERAL BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = CLASS 'I' Rip-Rap

FROM -L- STA. 312+69 TO STA. 317+00 RT
FROM -L- STA. 313+82 TO STA. 317+50 LT

DETAIL 'X'
STANDARD BASE DITCH
(Not to Scale)



Min. D = VARIES Ft.
B = 2.0 Ft.

-L- STA. 312+61 LT
FROM -L- STA. 312+56 TO STA. 312+74 RT

SITE 7

BEGIN SBG 311+87 LT. AND END SBG 315+75 LT.

212
LINWOOD MATTHEWS

315

2' STANDARD BASE DITCH
SEE DETAIL 'X'
EST. DDE = 25 CY
L = 53'
S = 1.9%

CLASS 'B' RIP RAP
EST. 2 TONS

2' LAT. BASE DITCH
SEE DETAIL G
CLASS 'I' RIP RAP

218
ANN BLALOCK

-L- PT Sta. 317+84.22

320

18" CSP

15" RCP-IV

AT-1

2GI

SURFACE WATER IMPACT

85' RCP-B

2@ 7'x7' RCBC WITH SILLS

CAT-1

ACCESS POINT

PUE

2' LAT. BASE DITCH
SEE DETAIL G
CLASS 'I' RIP RAP

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 10 SY

2' STANDARD BASE DITCH
SEE DETAIL 'X'
EST. DDE = 10 CY
L = 20'
S = 1.0%

DANNY HONEYCUTT
217

SUSAN CHRISCOE
216

325

ANN BLALOCK
218

CULTIVATED

WOODS

MATCHLINE SHEET 8
-L- STA. 312+00.00

MATCHLINE SHEET 10
-L- STA. 326+00.00

SITE 8

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

P P DENOTES IMPACTS IN SURFACE WATER (POND)

E E DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

HC HC DENOTES HAND CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 26 FOR -L- PROFILE

8/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_09_con.dgn
User: lassiter

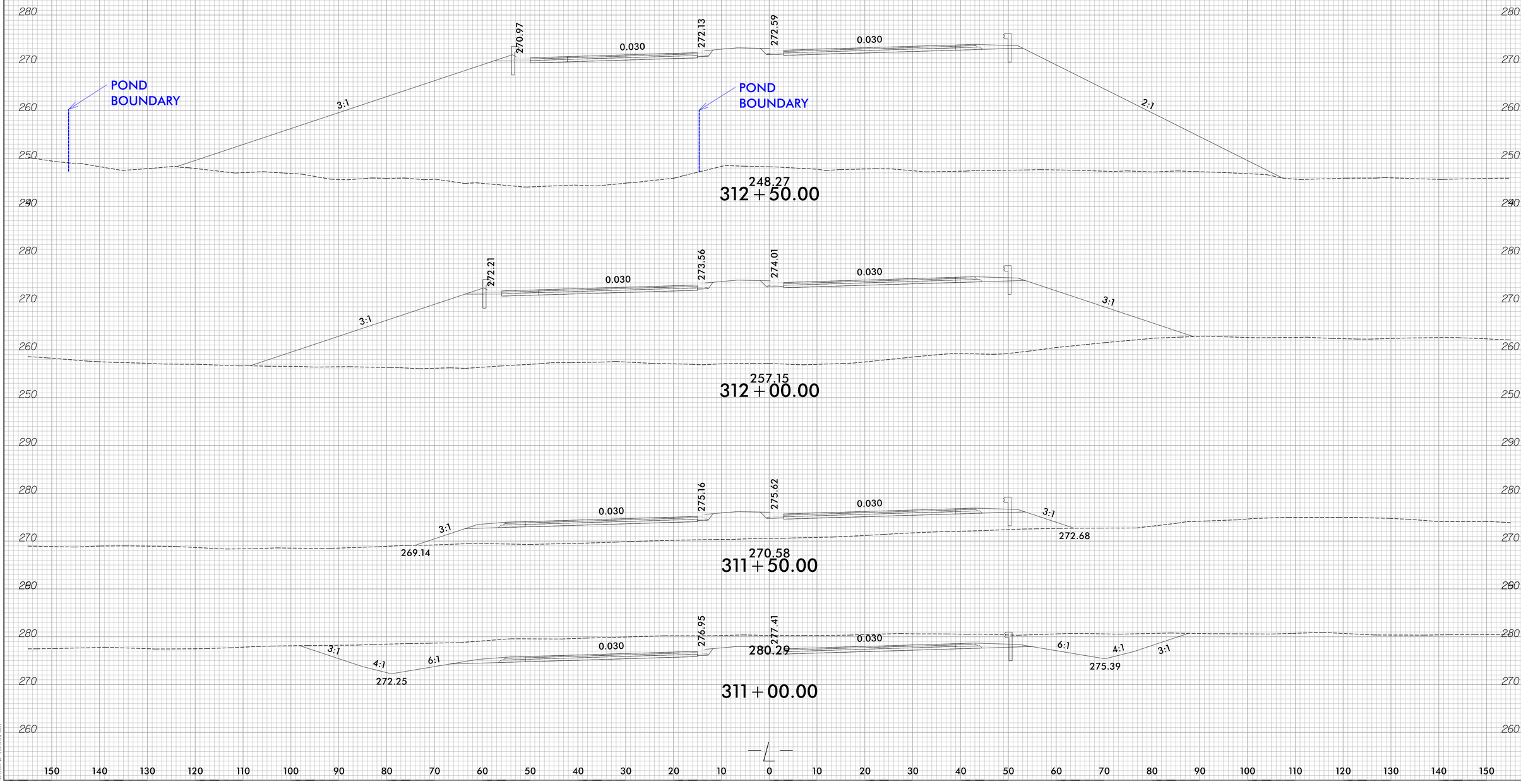
Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-26

PERMIT DRAWING
SHEET _16_ OF _47_

SITE 7



9/20/2021
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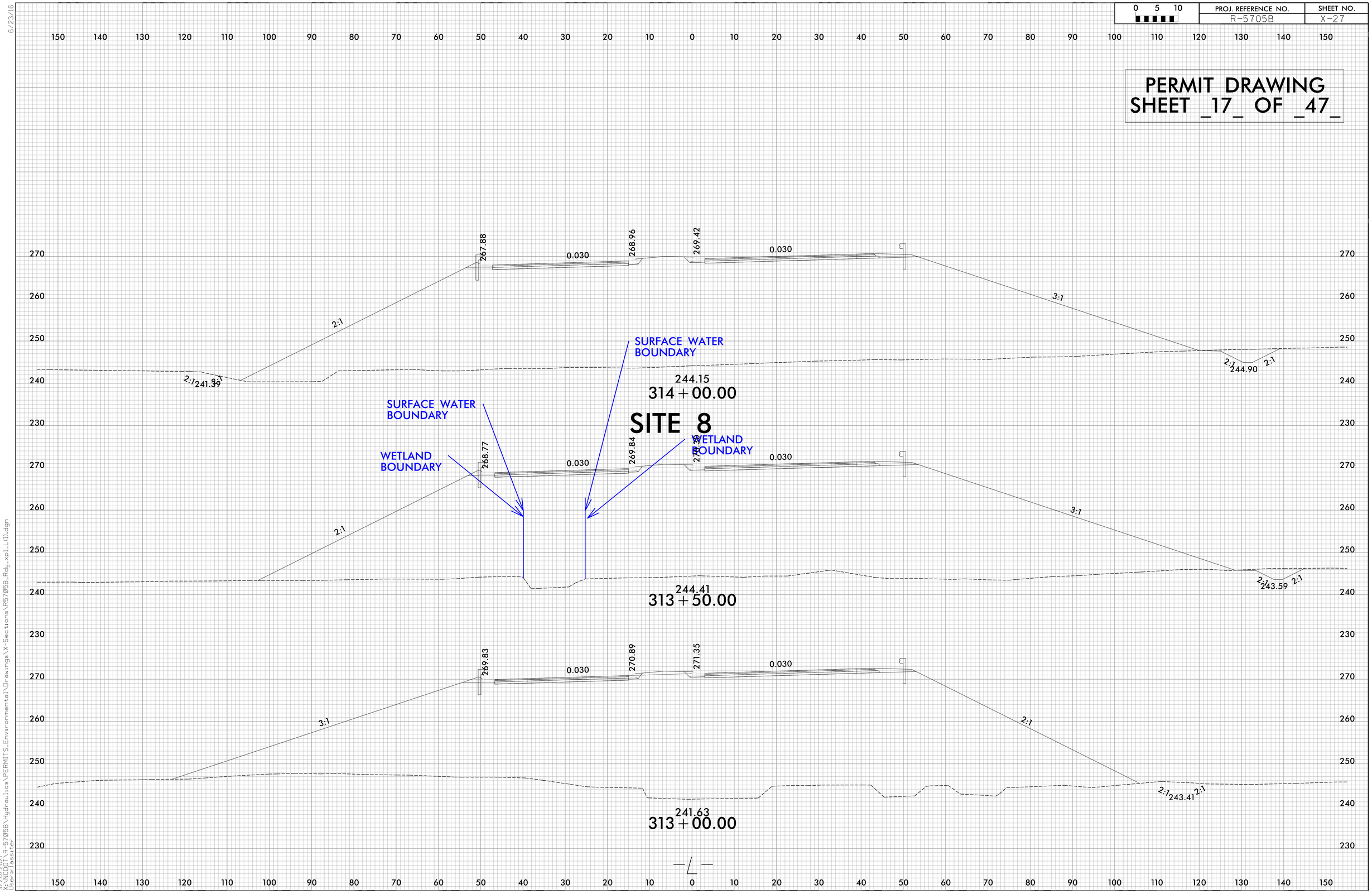
User:tlassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-27

PERMIT DRAWING
SHEET _17_ OF _47_



9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_L(1).dgn
User:lassiter

PERMIT DRAWING
SHEET _18_ OF _47_

(NOT TO SCALE)

SKEWED MULTI–BARREL CULVERT LOW FLOW CHANNEL,SILLS AND FLOOD PLAIN

*NOTES:

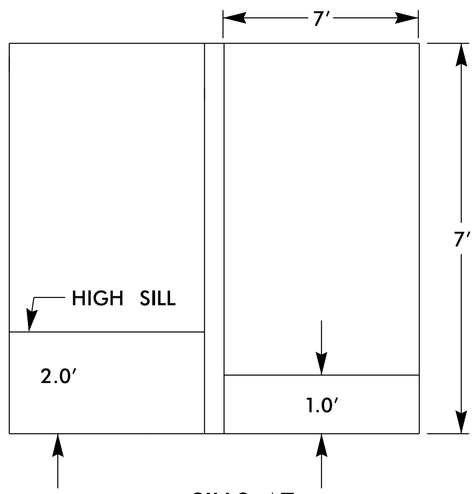
1) NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE THE STREAM OR FLOODPLAIN AT THE PROJECT SITE DURING CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO LINE THE LOW FLOW CULVERT BARREL. RIP–RAP MAY BE USED TO SUPPLEMENT THE NATIVE MATERIAL IN THE HIGH FLOW CULVERT BARREL(S). IF RIP–RAP IS USED TO LINE THE HIGH FLOW CULVERT BARREL(S), NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS AND PROVIDE A FLAT SURFACE FOR ANIMAL PASSAGE. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

2) SILLS ARE TO BE 1.0 FT. WIDE, CAST SEPARATELY AND ATTACHED BY DOWELS.

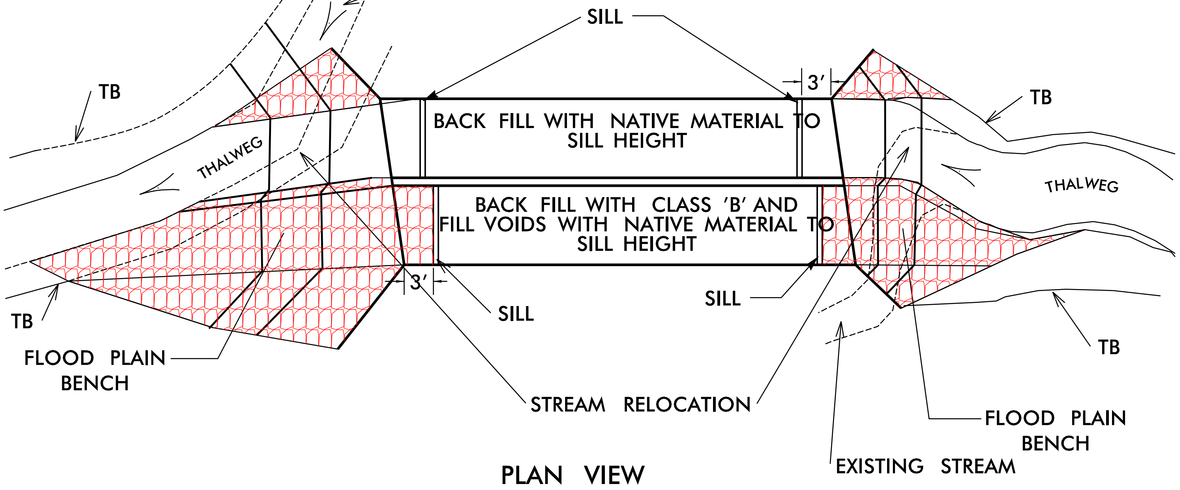
3) TOP OF LOW FLOW SILLS SHOULD MATCH STREAM BED ELEVATION IN LOW FLOW CHANNEL OF STREAM. (THALWEG)

4) DO NOT SET ELEVATION OF HIGH SILL ABOVE BANK FULL.

5) PLACE SILLS 3.0′ INSIDE INLET AND OUTLET



SILLS AT
INLET AND OUTLET



PLAN VIEW

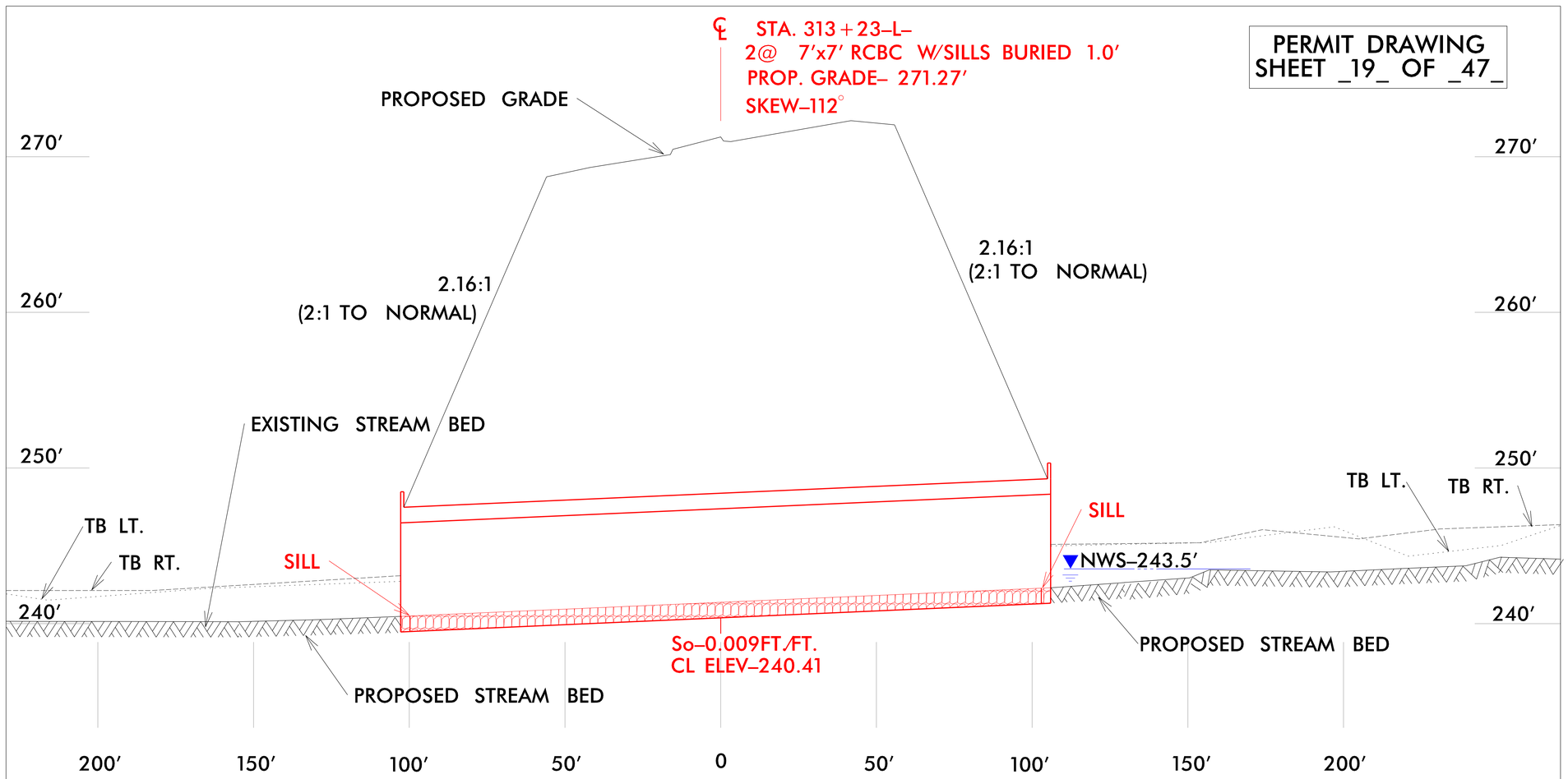
CULVERT DETAIL SHEET

SITE 8

Submitted 12/21/2021

Submitted 12/21/2021

PERMIT DRAWING
SHEET _19_ OF _47_



CULVERT AND STREAM PROFILE

SITE 8

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _20_ OF _47_

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

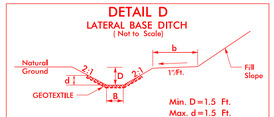
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

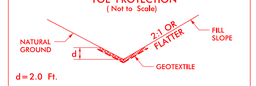


Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
*When B is < 6.0'
Type of Liner= CLASS 'B' Rip-Rap
FROM -L- STA. 328+10 TO STA. 331+50 RT

DETAIL C
LATERAL BASE DITCH
(Not to Scale)

Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
FROM -L- STA. 337+50 TO STA. 339+00 RT

DETAIL F
TOE PROTECTION
(Not to Scale)



d=2.0 Ft.
Type of Liner= CLASS I Rip-Rap
FROM -L- STA. 337+50 TO STA. 337+96 LT

SITE 9

SITE 10

SITE 11

-Y7- POT Sta. 10+00.00

-Y7- PT Sta. 16+43.65

MATCHLINE SHEET 9
-L- STA. 326+00.00

MATCHLINE SHEET 11
-L- STA. 339+50.00

2' STANDARD BASE DITCH SEE DETAIL Q CLASS I RIP RAP
CL 'I' RIP RAP
CLASS 'B' RIP RAP EST. 7 TONS GEOTEXTILE EST. 7 SY
15" CSP
SURFACE WATER IMPACT
GREU TL-3
CAT-1
15" RCP-IV
48" RCP-IV
DRAIN POND
ACCESS POINT
PUE
TDE
PDE
2' LATERAL BASE DITCH SEE DETAIL 'D' CLASS 'B' RIP RAP
2' LATERAL BASE DITCH SEE DETAIL C
CLASS 'I' RIP RAP SEE DETAIL 'C' GEOTEXTILE SEE 23 SY
CULTIVATED
WOODS
ISFD
BOBBY ELKINS
SUNFLIGHT LLC
ANN BLALOCK
RAMS CHURCH RD 27 EST
EXISTING

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
P P	DENOTES IMPACTS IN SURFACE WATER (POND)
E E	DENOTES EXCAVATION IN WETLAND
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEETS 26 & 27 FOR -L- PROFILE
SEE SHEET 33 FOR -Y7- PROFILE

8/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_10.dgn
User: jassiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET _21_ OF _47_

NAD 83/NA 2011

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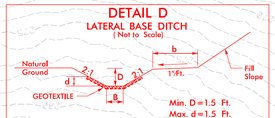
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



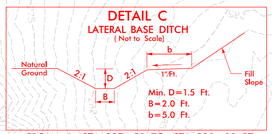
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

*When B is < 6.0'

Type of Liner= CLASS 'B' Rip-Rap

FROM -L- STA. 328+10 TO STA. 331+50 RT

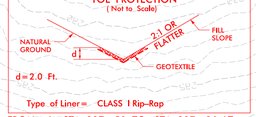
DETAIL C
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

FROM -L- STA. 337+50 TO STA. 339+00 RT

DETAIL F
TOE PROTECTION
(Not to Scale)



d=2.0 Ft.

Type of Liner= CLASS I Rip-Rap

FROM -L- STA. 337+50 TO STA. 337+96 LT

SITE 9

SITE 10

SITE 11

-Y7- POT Sta. 10+00.00

-Y7- PT Sta. 16+43.65

MATCHLINE SHEET 9
-L- STA. 326+00.00

MATCHLINE SHEET 11
-L- STA. 339+50.00

2' STANDARD BASE DITCH
SEE DETAIL Q
CLASS I RIP RAP

CL 'I' RIP RAP

CLASS 'B' RIP RAP
EST. 7 TONS
GEOTEXTILE
EST. 7 SY

15" CSP

48" RCP-IV

15" RCP-IV

SURFACE WATER IMPACT

ACCESS POINT

DRAIN POND

PUE

TDE

PDE

2' LATERAL BASE DITCH
SEE DETAIL 'D'
CLASS 'B' RIP RAP

2' LATERAL BASE DITCH
SEE DETAIL C

CLASS 'I' RIP RAP
(SEE PP BOTH)
GEOTEXTILE
SEE 23 BY

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
P P	DENOTES IMPACTS IN SURFACE WATER (POND)
E E	DENOTES EXCAVATION IN WETLAND
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

HORIZONTAL SCALE
100' 0' 100'

SEE SHEETS 26 & 27 FOR -L- PROFILE
SEE SHEET 33 FOR -Y7- PROFILE

8/20/2021
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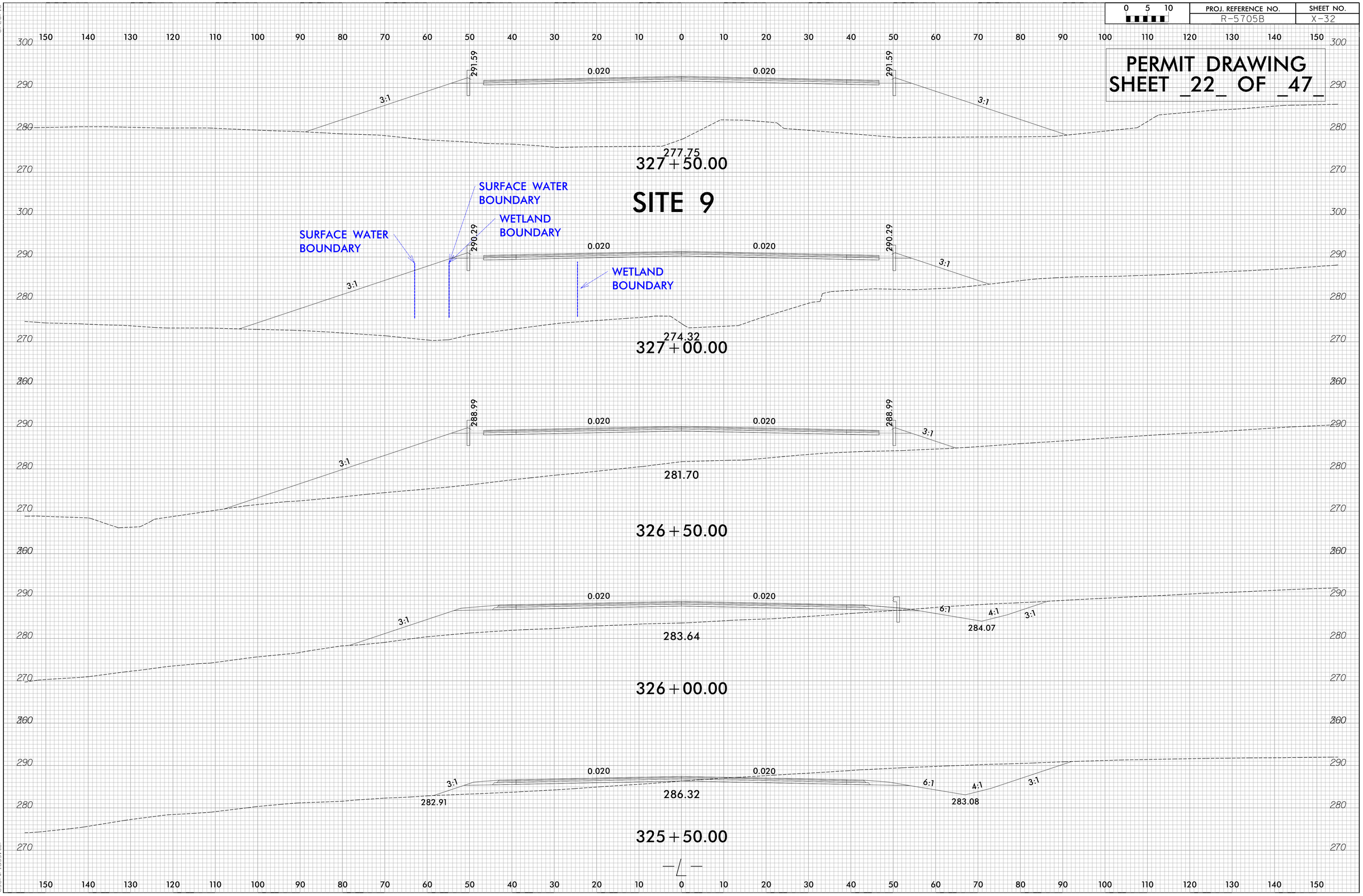
User: lassiter

Submitted 12/21/2021

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-32

PERMIT DRAWING
SHEET _22_ OF _47_

SITE 9



6/23/16
9/20/2021
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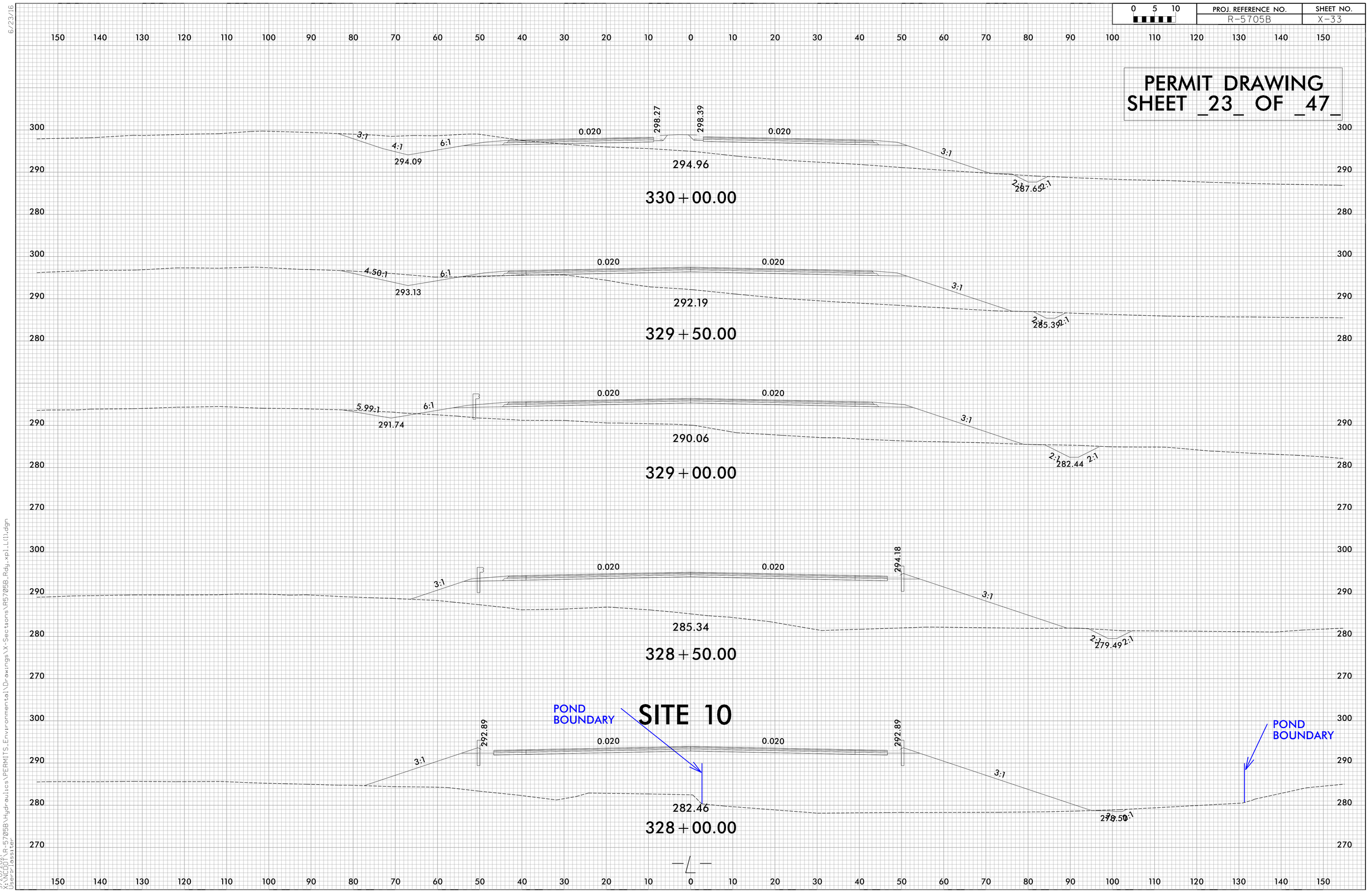
User:lassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-33

PERMIT DRAWING
SHEET _23_ OF _47_



9/20/2021
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User:lassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-36

PERMIT DRAWING
SHEET _24_ OF _47_

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

300
290
280

0.020 0.020
4:1 6:1 4.05:1
291.89
290.24
339+00.00

SITE 11

POND BOUNDARY

0.020 0.020
4:1 3:1 2:1 2:1
286.63
288.15
338+50.00

0.020 0.020
4:1 3:1 2:1
290.77
291.00
338+00.00

0.020 0.020
3:1 6:1 5.62:1
294.58
294.78
337+50.00

0.020 0.020
5.17:1 6:1 6:1 4:1 3:1
295.43
299.79
295.43
337+00.00

0.020 0.020
3:1 4:1 6:1 6:1 4:1 3:1
296.07
303.71
296.07
336+50.00

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_L(1).dgn
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8/17/99

PERMIT DRAWING
SHEET _25_ OF _47_

NAD 83/NA 2011

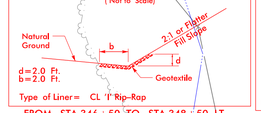
PROJECT REFERENCE NO.	SHEET NO.
R-5705B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL A
TOE PROTECTION
(Not to Scale)

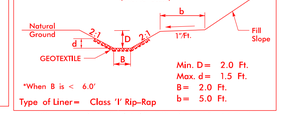


d=2.0 Ft.
b=2.0 Ft.

Type of Liner= CL 'I' Rip-Rap

FROM STA.346+50 TO STA.348+50 LT

DETAIL S
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
Max. d= 1.5 Ft.
B= 2.0 Ft.
b= 5.0 Ft.

*When B is < 6.0'

Type of Liner= Class 'I' Rip-Rap

FROM -L- STA. 346+68 TO STA. 354+00 RT
FROM -L- STA. 343+50 TO STA. 346+65 RT

SITE 11

SITE 12

BEGIN SBG 344+92 LT. AND 344+34 RT.
END SBG 348+35 LT. AND 350+63 RT.

CULTIVATED

WOODS

219
SUNFLIGHT LLC

220
DWIGHT STEPHENSON

TOE

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

CL 'I' RIP RAP

2' LATERAL BASE DITCH
SEE DETAIL C

SURFACE WATER IMPACT

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

TOE PROTECTION
SEE DETAIL A

ACCESS POINT

GREU TL-3

CAT-1

15" RCP-IV

60" RCP-IV

BURY PIPE 1.0'

HW

2' LATERAL BASE DITCH
DETAIL S
CLASS 'I' RIP RAP

PUE

MATCHLINE SHEET 10
-L- STA. 339+50.00

MATCHLINE SHEET 12
-L- STA. 353+50.00

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND
P P	DENOTES IMPACTS IN SURFACE WATER (POND)
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SITE 13

SEE SHEET 27 FOR -L- PROFILE

8/20/2021
R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_11.dgn
User: lassiter

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _26_ OF _47_

NAD 83/NA 2017

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL A
TOE PROTECTION
(Not to Scale)

d=2.0 Ft.
b=2.0 Ft.

Type of Liner= CL 'I' Rip-Rap

FROM STA.346+50 TO STA.348+50 LT

DETAIL S
LATERAL BASE DITCH
(Not to Scale)

Min. D= 2.0 Ft.
Max. d= 1.5 Ft.
B= 2.0 Ft.
b= 5.0 Ft.

*When B is < 6.0'

Type of Liner= Class 'I' Rip-Rap

FROM -L- STA. 346+68 TO STA. 354+00 RT
FROM -L- STA. 343+50 TO STA. 346+65 RT

SITE 11

SITE 12

SITE 13

BEGIN SBG 344+92 LT. AND 344+34 RT.
END SBG 348+35 LT. AND 350+63 RT.

MATCHLINE SHEET 10
-L- STA. 339+50.00

MATCHLINE SHEET 12
-L- STA. 353+50.00

219
SUNFLIGHT LLC

220
DWIGHT STEPHENSON

CULTIVATED

WOODS

TDE

ACCESS POINT

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

CL 'I' RIP RAP

2' LATERAL BASE DITCH
SEE DETAIL C

15" RCP-IV

15" CSP

FS

SURFACE WATER IMPACT

TOE PROTECTION
SEE DETAIL A

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

GREU TL-3

CAT-1

60" RCP-IV

BURY PIPE 1.0'

HW

PUE

2' LATERAL BASE DITCH
DETAIL S
CLASS 'I' RIP RAP

F F — DENOTES FILL IN WETLAND

S S — DENOTES IMPACTS IN SURFACE WATER

E E — DENOTES EXCAVATION IN WETLAND

P P — DENOTES IMPACTS IN SURFACE WATER (POND)

HC HC — DENOTES HAND CLEARING

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 27 FOR -L- PROFILE

8/20/2021
K:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_11.dgn
User: lassiter

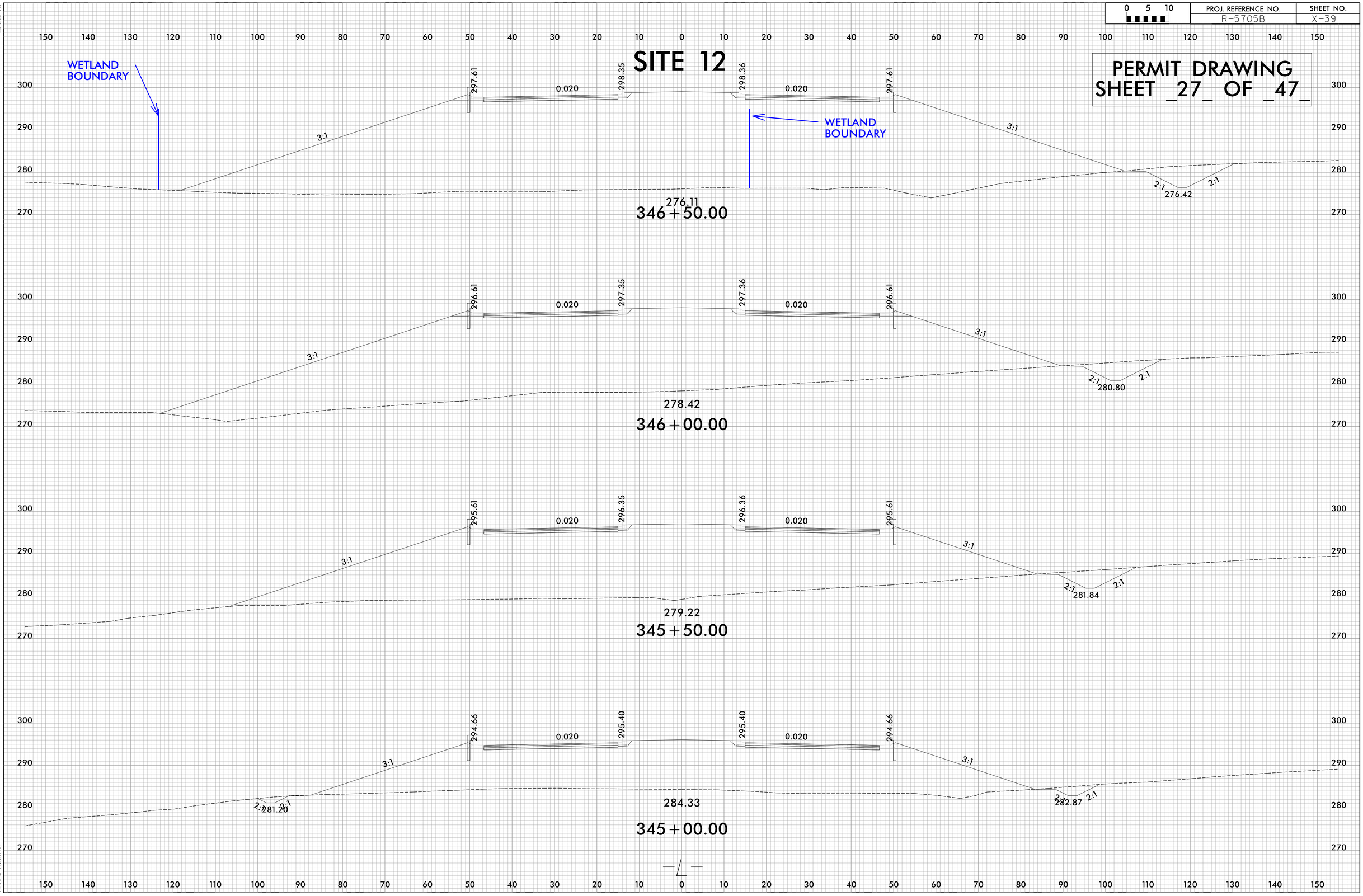
Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-39

SITE 12

PERMIT DRAWING
SHEET _27_ OF _47_



9/20/2021
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User:lossiter

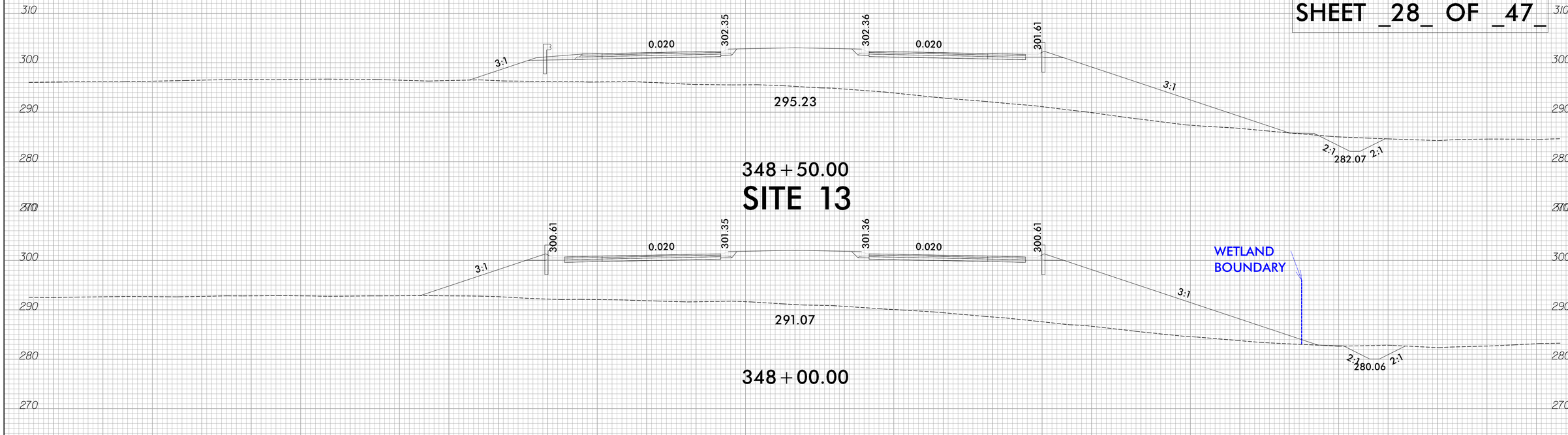
Submitted 12/21/2021

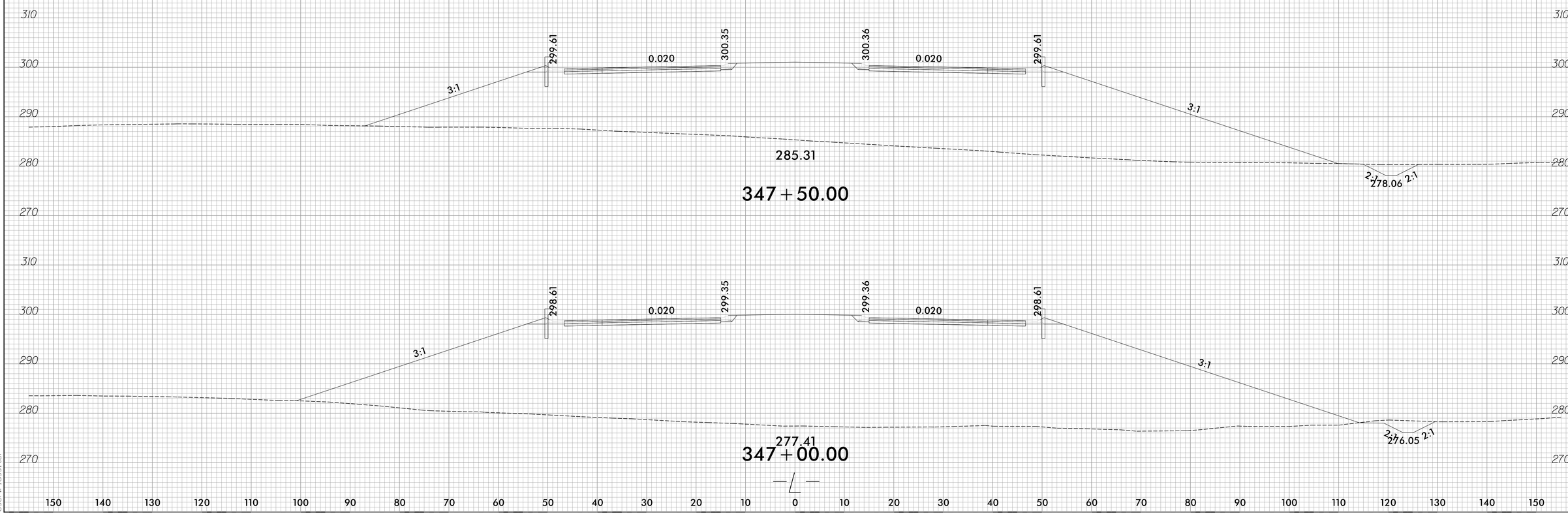
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-40

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING
SHEET _28_ OF _47_





9/20/2021
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User:lossiter

Submitted 12/21/2021

8/17/99

SITE 14

SITE 15

PERMIT DRAWING
SHEET _29_ OF _47_

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

MATCHLINE SHEET 11
-L- STA. 353+50.00

-L- PC Sta. 353+67.90

MATCHLINE SHEET 13
-L- STA. 367+50.00

220 DWIGHT STEPHENSON

221 ROBERTA WOOLARD

355 360 365

CULTIVATED

15" RCP-IV

24" RCP-IV

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 11 SY

SURFACE WATER IMPACT

ACCESS POINT

2' LATERAL BASE DITCH
SEE DETAIL C

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 27 THRU 28 FOR -L- PROFILE

8/20/2021
8:30:00 AM
User: lassiter
R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_12.dgn

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _30_ OF _47_

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

SITE 14

220 DWIGHT STEPHENSON

221 ROBERTA WOOLARD

355 360 365

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 11 SY

SURFACE WATER IMPACT

ACCESS POINT

2' LATERAL BASE DITCH
SEE DETAIL C

15" RCP-IV

24" RCP-IV

CULTIVATED

MATCHLINE SHEET 11
-L- STA. 353+50.00

-L- PC Sta. 353+67.90

MATCHLINE SHEET 13
-L- STA. 367+50.00

SITE 15

220 DWIGHT STEPHENSON

221 ROBERTA WOOLARD

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 27 THRU 28 FOR -L- PROFILE

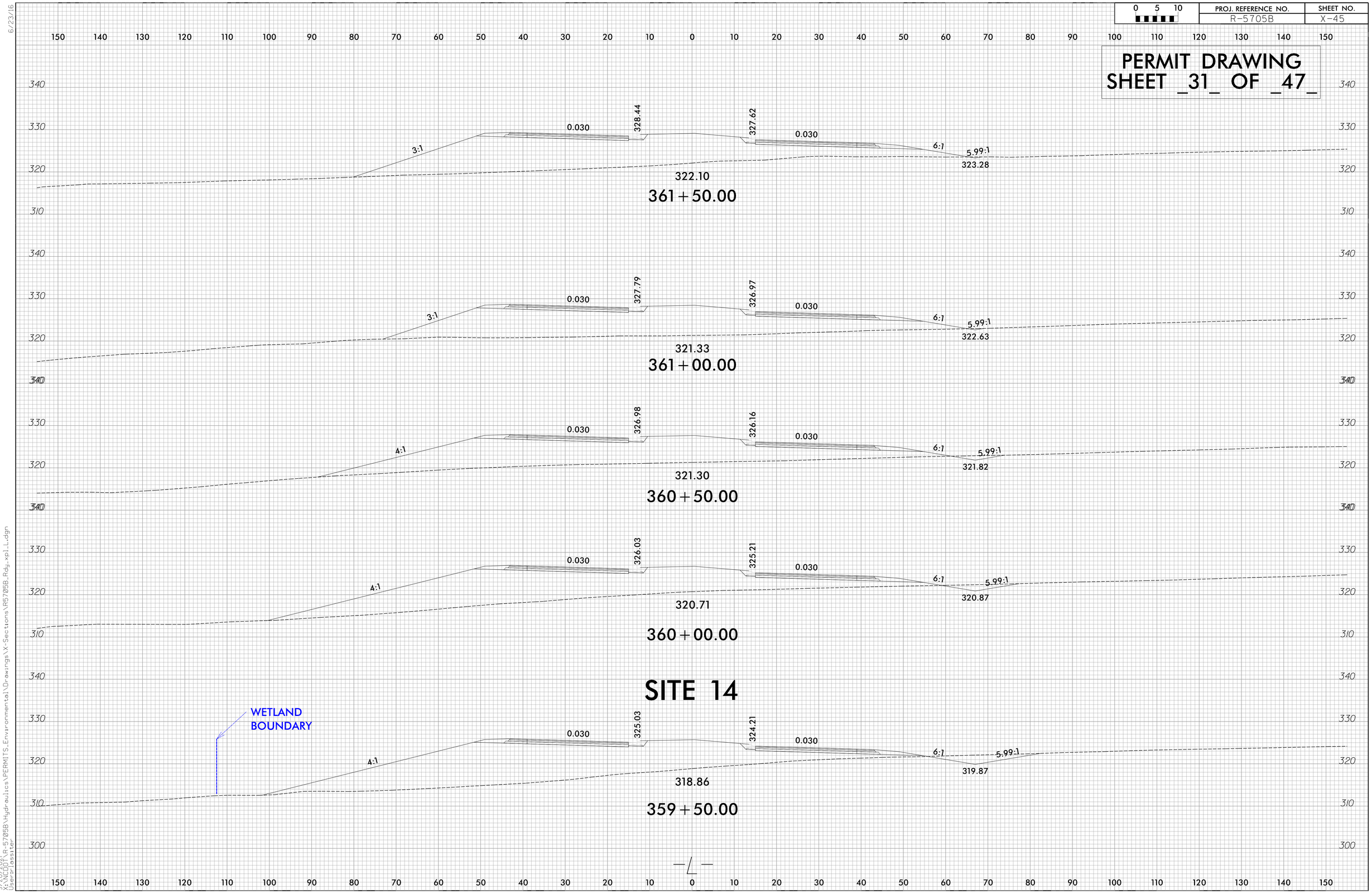
8/20/2021
R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_12_con.dgn
User: lassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-45

PERMIT DRAWING
SHEET _31_ OF _47_



9/20/2021
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User:tlassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-46

PERMIT DRAWING
SHEET _32_ OF _47_

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

330 320 310 300

329.47 328.65

0.030 0.030

4:1 3:1 2:1 2:1

319.29

318.10

364+00.00

SITE 15

WETLAND BOUNDARY

WETLAND BOUNDARY

329.56 328.74

0.030 0.030

4:1 3:1 2:1 2:1

315.61

317.84

363+50.00

329.51 328.69

0.030 0.030

4:1 3:1 2:1 2:1

314.78

318.85

363+00.00

329.30 328.48

0.030 0.030

4:1 3:1 2:1

319.42

319.86

362+50.00

328.95 328.13

0.030 0.030

4:1 3:1 2:1

320.37

320.87

362+00.00

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_L(1).dgn
User:lossiter

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _33_ OF _47_

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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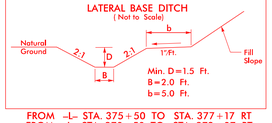
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

SITE 16

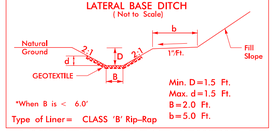
SITE 17

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 375+50 TO STA. 377+17 RT
FROM –L– STA. 370+50 TO STA. 372+07 RT
FROM –L– STA. 372+10 TO STA. 373+00 RT
FROM –L– STA. 380+00 TO STA. 381+50 RT

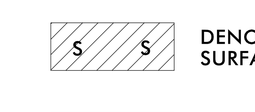
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



*When B is < 6.0'
Type of Liner= CLASS 'B' Rip-Rap

FROM –L– STA. 377+28 TO STA. 380+00 RT
FROM –L– STA. 370+00 TO STA. 372+39 LT.

DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM –L– STA. 375+00 TO STA. 375+50 RT

DETAIL AB
STANDARD BASE DITCH
(Not to Scale)

–L– STA. 376+07 LT

370

375

380

221
ROBERTA WOOLARD

223
RUTH PETREA

222
RICHARD BULLOCK

WAKE COUNTY
HARNETT COUNTY

CULTIVATED

WOODS

30' EASEMENT

ACCESS POINT

2' LATERAL BASE DITCH
SEE DETAIL D
CLASS 'B' RIP RAP

CLASS 'I' RIP RAP

15" CSP

15" RCP-IV

SURFACE WATER IMPACT

BURY PIPE 0.6'

2' LATERAL BASE DITCH
SEE DETAIL C

–L– PT Sta. 370+67.12

STANDARD BASE DITCH
SEE DETAIL AB

CLASS 'I' RIP RAP
EST. 40 TONS
GEOTEXTILE
EST. 75 SY

BURY PIPE 1.0

30" CMP

ALT. PIPE

SPECIAL LAT. 'V' DITCH
SEE DETAIL J

2' LATERAL BASE DITCH
SEE DETAIL C
CLASS 'B' RIP RAP
EST. 3 TON
GEOTEXTILE
EST. 10 SY

24" RCP

PUE

MATCHLINE SHEET 12
–L– STA. 367+50.00

MATCHLINE SHEET 14
–L– STA. 381+00.00

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 28 FOR –L– PROFILE

8/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\0-awings\R5705B_Rdy_psh_13.dgn
User: lassiter

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _34_ OF _47_

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

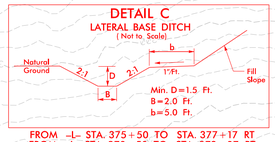
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

SITE 16

SITE 17

NAD 83/NA 2011

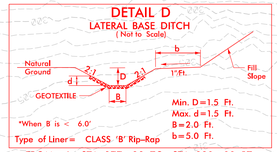
DETAIL C
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

FROM –L– STA. 375+50 TO STA. 377+17 RT
FROM –L– STA. 370+50 TO STA. 372+07 RT
FROM –L– STA. 372+10 TO STA. 373+00 RT
FROM –L– STA. 380+00 TO STA. 381+50 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

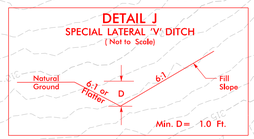


*When B is < 6.0'
Type of Liner = CLASS 'B' Rip-Rap

Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

FROM –L– STA. 377+28 TO STA. 380+00 RT
FROM –L– STA. 370+00 TO STA. 372+39 LT.

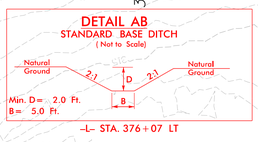
DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.

FROM –L– STA. 375+00 TO STA. 375+50 RT

DETAIL AB
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 5.0 Ft.

–L– STA. 376+07 LT

MATCHLINE SHEET 12
–L– STA. 367+50.00

MATCHLINE SHEET 14
–L– STA. 381+00.00

2' LATERAL BASE DITCH
SEE DETAIL D
CLASS 'B' RIP RAP

CLASS 'I' RIP RAP

STANDARD BASE DITCH
SEE DETAIL AB

CLASS 'I' RIP RAP
EST. 40 TONS
GEOTEXTILE
EST. 75 SY

SURFACE WATER IMPACT

ACCESS POINT

15" CSP

15" RCP-IV

BURY PIPE 0.6'

BURY PIPE 1.0'

ALT. PIPE

2' LATERAL BASE DITCH
SEE DETAIL C

–L– PT Sta. 370+67.12

SPECIAL LAT. 'V' DITCH
SEE DETAIL J

2' LATERAL BASE DITCH
SEE DETAIL C
CLASS 'B' RIP RAP
EST. 3 TON
GEOTEXTILE
EST. 10 SY

2' LATERAL BASE DITCH
SEE DETAIL D
CLASS 'B' RIP RAP

ROBERTA WOOLARD

RUTH PETREA

RICHARD BULLOCK

HARNETT COUNTY
WAKE COUNTY

WAKE COUNTY
HARNETT COUNTY

CULTIVATED

WOODS

F F — DENOTES FILL IN WETLAND

S S — DENOTES IMPACTS IN SURFACE WATER

E E — DENOTES EXCAVATION IN WETLAND

HC HC — DENOTES HAND CLEARING

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 28 FOR –L– PROFILE

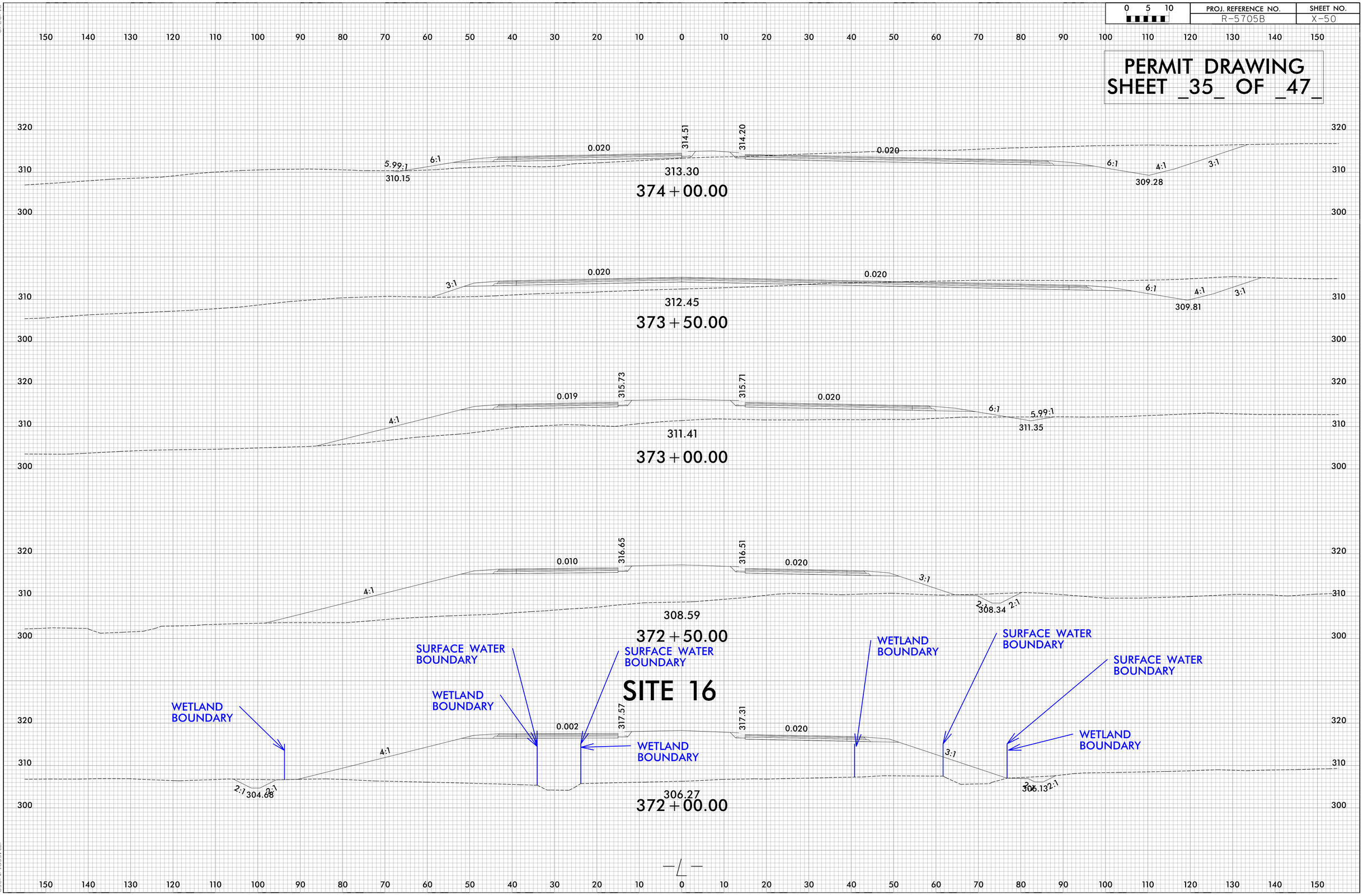
8/20/2021
R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_13_con.dgn
User: jassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-50

PERMIT DRAWING
SHEET _35_ OF _47_



9/20/2021
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User:lassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-51

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING
SHEET _36_ OF _47_

320 310 300 290

0.020 313.60 313.35 0.020
3.59:1 3:1
304.83
376+50.00
304.50 2:1

SURFACE WATER BOUNDARY
SURFACE WATER BOUNDARY
WETLAND BOUNDARY
WETLAND BOUNDARY
WETLAND BOUNDARY

SITE 17

320 310 300 290

0.020 313.41 313.16 0.020
3:1 3:1
304.80
376+00.00
306.06 2:1

WETLAND BOUNDARY
SURFACE WATER BOUNDARY
SURFACE WATER BOUNDARY

320 310 300 290

0.020 313.40 313.15 0.020
3:1 6:1 4.14:1
308.10
375+50.00
307.63

320 310 300

0.020 313.57 313.32 0.020
3:1 6:1 4.11:1
310.92
375+00.00
309.19

320 310 300

0.020 313.96 313.67 0.020
5.99:1 6:1 6:1 4:1 3:1
309.62
312.14
374+50.00
309.07

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_L(1).dgn
User:lossiter

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	14

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

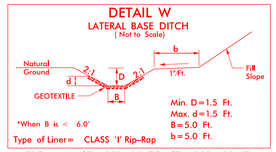
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _37_ OF _47_

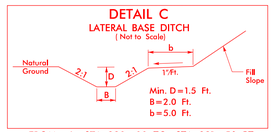
NAD 83/NA 2011

DETAIL W
LATERAL BASE DITCH
(Not to Scale)



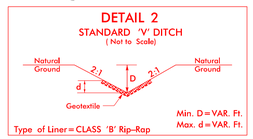
FROM –L– STA. 391+00 TO STA. 392+00 LT

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



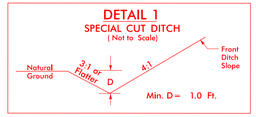
FROM –L– STA. 380+00 TO STA. 381+50 RT
FROM –Y8– STA. 12+92 TO STA. 13+00 RT

DETAIL 2
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 17+00 –Y22– LT.

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



FROM –Y22– STA. 11+00 TO STA. 12+30 RT
FROM –Y22– STA. 14+63 TO STA. 16+50 RT.

S S DENOTES IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

F F DENOTES FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 18

SITE 19

SITE 20

MATCHLINE SHEET 13
–L– STA. 381+50.00

MATCHLINE SHEET 22
–Y8– STA. 13+00.00

MATCHLINE SHEET 15
–L– STA. 395+00.00

223 RUTH PETREA

308 BELLEWOOD HOMEOWNERS ASSOC. INC

KRYSTAL LAUREN MOORE

LENNAR CAROLN

MICHAEL LANCE REESE

PROPOSED DITCH CLEAN-OUT
LENGTH– +/–240'
EXCAVATION– +/–70cu.yds
TO ELEV– 324.0'

5' LAT. BASE DITCH
SEE DETAIL W
CLASS 'I' RIP RAP

STANDARD V DITCH
SEE DETAIL 2
DDE– 5cu.yds.
FF– 9sq.yds
RIP RAP– 7 TONS

SPECIAL CUT DITCH
SEE DETAIL 1

RETAIN CB

15" RCP–IV
18" RCP–IV
24" RCP–IV
30" RCP
48" RCP–IV

305A SUMMER DISALVO & JUSTIN DISALVO
305B PETER CAMPBELL
305C ROBERT CRAIG EVANS
305D NATASSIA SANTANA & JOEL J. GOMEZ
307 BELLEWOOD GARDENS DR 28' BST
306 DAVID ALEXANDER BERNAL
304 BELLEWOOD HOMEOWNERS ASSOCIATION, INC.
303 CAROLINA CHARTER ACADEMY HOLDINGS LLC

UPGRADE EXISTING OR NEW SIGNAL

100' 0' 100'
HORIZONTAL SCALE

SEE SHEETS 28 THRU 29 FOR –L– PROFILE
SEE SHEET 33 FOR –Y8– PROFILE

8/6/2021
W:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\R5705B_Rdy_psh_14.dgn
User:jassler

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

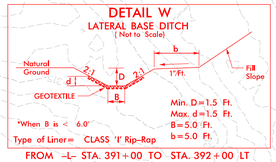
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _38_ OF _47_

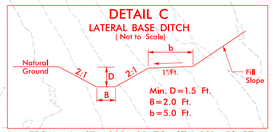
NAD 83/NA 2011

DETAIL W
LATERAL BASE DITCH
(Not to Scale)



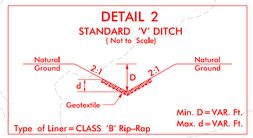
FROM –L– STA. 391+00 TO STA. 392+00 LT

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



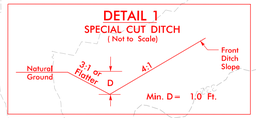
FROM –L– STA. 380+00 TO STA. 381+50 RT
FROM –Y8– STA. 12+92 TO STA. 13+00 RT

DETAIL 2
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 17+00 –Y22– LT.

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



FROM –Y22– STA. 11+00 TO STA. 12+30 RT
FROM –Y22– STA. 14+63 TO STA. 16+50 RT.

S S DENOTES IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

HC HC DENOTES HAND CLEARING

F F DENOTES FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 18

SITE 19

SITE 20

MATCHLINE SHEET 13
–L– STA. 381+50.00

MATCHLINE SHEET 22
–Y8– STA. 13+00.00

MATCHLINE SHEET 15
–L– STA. 395+00.00

15" RCP-IV
18" RCP-IV
24" RCP-IV
30" RCP-IV
48" RCP-IV

STANDARD V DITCH
SEE DETAIL 2
DDE– 5cu.yds.
FF– 9sq.yds
RIP RAP– 7 TONS

SPECIAL CUT DITCH
SEE DETAIL 1

PROPOSED DITCH CLEAN-OUT
LENGTH– >240'
EXCAVATION– +/–70cu.yds
TO ELEV– 324.0'

5' LAT. BASE DITCH
SEE DETAIL W
CLASS 'I' RIP RAP

RETAIN CB

INV. 326.9'

223 RUTH PETREA

385 390 395

BELLEWOOD HOMEOWNERS ASSOC. INC

308

KRYSTAL LAUREN MOORE

LENNAR CAROLN

MICHAEL LANCE REESE

305A SUMMER DISALVO & JUSTIN DISALVO

305B PETER CAMPBELL

305C 305D ROBERT CRAIG EVANS

NATASSIA SANTANA & JOEL J. GOMEZ

307

306 DAVID ALEXANDER BERNAL

304 BELLEWOOD HOMEOWNERS ASSOCIATION, INC.

303 CAROLINA CHARTER ACADEMY HOLDINGS LLC

BELLEWOOD GARDENS DR 28' BST

100' 0' 100'
HORIZONTAL SCALE

UPGRADE EXISTING OR NEW SIGNAL

SEE SHEETS 28 THRU 29 FOR –L– PROFILE
SEE SHEET 33 FOR –Y8– PROFILE

1/8/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_14_con.dgn
User:Lassiter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-56

PERMIT DRAWING
SHEET _39_ OF _47_

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

340 330 320

WETLAND BOUNDARY

WETLAND BOUNDARY

SITE 20

329.66 333.73

4:1 0.040 0.040 4:1

2:1 2:1

325.30 330.80

391+00.00

328.82 332.94

4:1 0.040 0.040 4:1

330.30

390+50.00

SITE 19

WETLAND BOUNDARY

328.01 332.13

4:1 0.040 0.040 4:1

328.95

390+00.00

327.20 331.32

4:1 0.040 0.040 4:1

328.12

389+50.00

326.52 330.64

4:1 0.040 0.040 4:1

328.15

389+00.00

326.00 330.12

4:1 0.040 0.040 4:1

328.05

388+50.00

9/20/2021
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User:lassiter

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8/17/99

PERMIT DRAWING
SHEET _40_ OF _47_

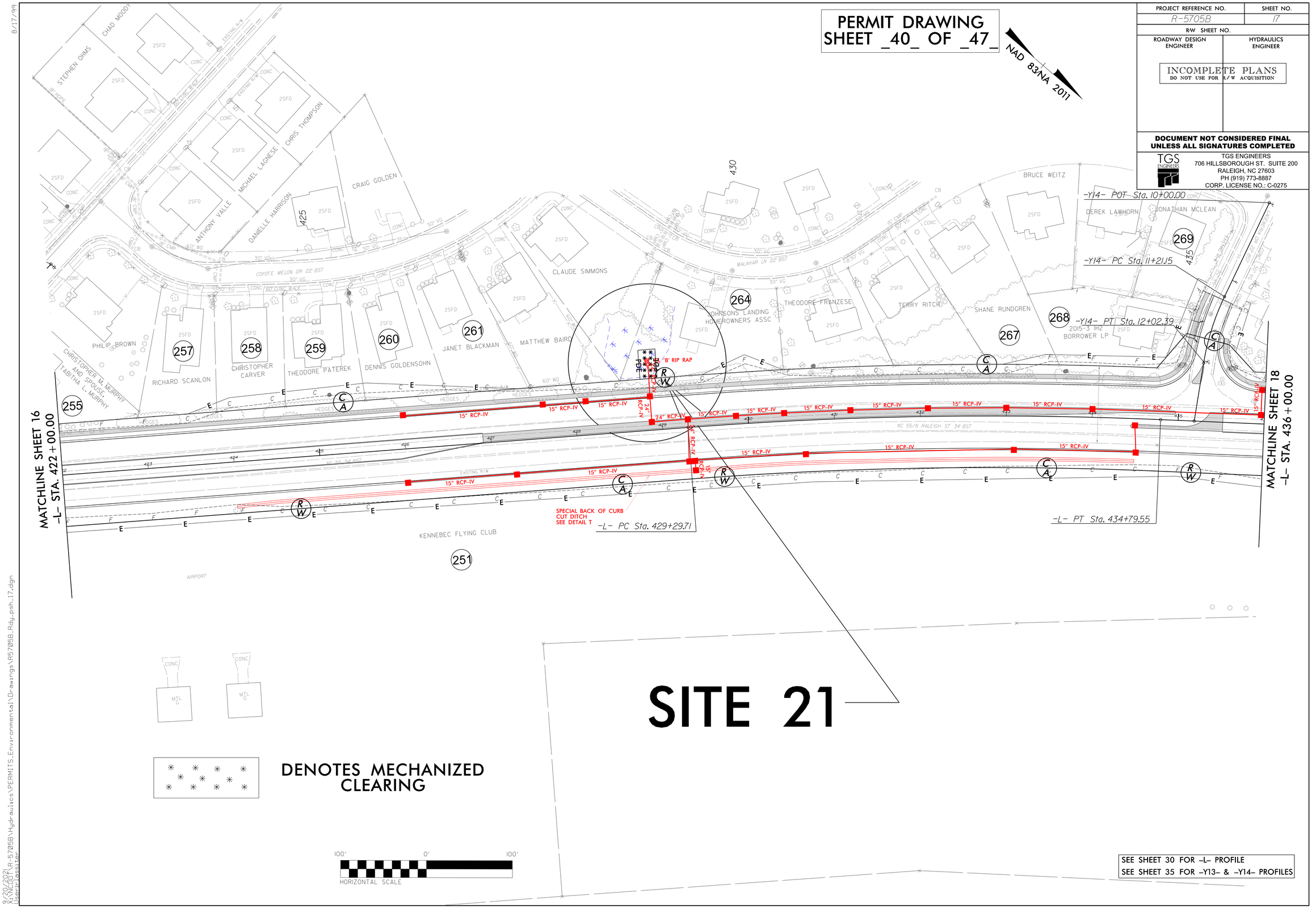
NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



SITE 21

DENOTES MECHANIZED CLEARING

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 35 FOR -Y13- & -Y14- PROFILES

9/20/2021
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User: lasiter

Submitted 12/21/2021

8/17/99

PERMIT DRAWING
SHEET _41_ OF _47_

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

MATCHLINE SHEET 16
-L- STA. 422+00.00

MATCHLINE SHEET 18
-L- STA. 436+00.00

-Y14- POT Sta. 10+00.00

-Y14- PC Sta. 11+21.15

-Y14- PT Sta. 12+02.39

-L- PC Sta. 429+29.71

-L- PT Sta. 434+79.55

SPECIAL BACK OF CURB CUT DITCH SEE DETAIL T

STEPHEN OMMS · CHAD MOODY · ANTHONY VALLE · MICHAEL LAGNESE · DANIELLE HARRISON · CHRIS THOMPSON · CRAIG GOLDEN · CLAUDE SIMMONS · JOHNSONS LANDING HOMEOWNERS ASSC · THEODORE FRANZESE · TERRY RITCH · SHANE RUNDGREN · BRUCE WEITZ · DEREK LAWHORN · JONATHAN MCLEAN · 2015-3 IH2 BORROWER LP · PHILIP BROWN · CHRISTOPHER M. MURPHY AND SPOUSE, TABITHA L. MURPHY · RICHARD SCANLON · CHRISTOPHER CARVER · THEODORE PATEREK · DENNIS GOLDENSOHN · JANET BLACKMAN · MATTHEW BAIRD · KENNEBEC FLYING CLUB · AIRPORT

255 · 257 · 258 · 259 · 260 · 261 · 264 · 267 · 268 · 269 · 251

COYOTE MELON DR 22' BST · MALAHAR LN 22' BST · NC 55/N RALEIGH ST 34' BST · EXISTING R/W · 60' WD · 30' VG · 15" RCP-IV · 24" RCP-IV · 18" RCP-IV · 'B' RIP RAP · CONC · MTL

SITE 21

DENOTES MECHANIZED CLEARING

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 35 FOR -Y13- & -Y14- PROFILES

9/20/2021
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[beir.lassiter]

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING
SHEET _42_ OF _47_

NAD 83/NA 2011

MATCHLINE SHEET 20
-L- STA. 477+50.00

-L- PC Sta. 480+20.81

-L- PT Sta. 485+54.32

-L- POT Sta. 486+80.31

-L- PT Sta. 489+35.98

ANS TRUST THE 289
ANS TRUST THE 292
ALESSANDRO BIANCO 294
SHIREY JO BAIRD 297
ANS TRUST THE 292
GLENN POND 290
DANA HALEY 291
DONALD HESTER 293
BRYAN ZIMMERMAN 295
JIMMIE HANKS 296
PEGGY WATERS
LISA WILSHIRE
CLAYTON FAMILY LLC
CITIMORTGAGE INC

15" RCP-IV
18" RCP-IV
24" RCP-IV
CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY
SPECIAL CUT DITCH SEE DETAIL L
CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY.
STANDARD 'V' DITCH SEE DETAIL AA *
CLASS 'B' RIP RAP EST. 5 TONS GEOTEXTILE EST. 14 SY
ACCESS POINT
PUE
TOE
SR 2141 BALDWINS RD BST
NC 55 34' BST
JICARILLA LN 18' BST
EXISTING R/W
POND
ISFD
HTR
WOODS
CULTIVATED

F F DENOTES FILL IN WETLAND

T T DENOTES TEMPORARY FILL IN WETLAND

SITE 22

100' 0' 100'
HORIZONTAL SCALE

-L-	
PI Sta 482+90.42	PI Sta 488+08.47
△ = 20° 22' 43.0" (LT)	△ = 9° 59' 32.3" (LT)
D = 3° 49' 11.0"	D = 3° 54' 30.0"
L = 533.51'	L = 255.67'
T = 269.60'	T = 128.16'
R = 1,500.00'	R = 1,465.99'
SE = 04	
RO = 200'	

SEE SHEET 32 FOR -L- PROFILE

10/6/2021
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User: tassler

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET _43_ OF _47_

NAD 83/NA 2011

MATCHLINE SHEET 20
-L- STA. 477+50.00

-L- PC Sta. 480+20.81

-L- PT Sta. 485+54.32

-L- POT Sta. 486+80.31

-L- PT Sta. 489+35.98

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

SPECIAL CUT DITCH
SEE DETAIL L

STANDARD 'V' DITCH
SEE DETAIL AA *
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 14 SY

15" RCP-IV
18" RCP-IV
24" RCP-IV

ACCESS POINT
PUE
PUE POINT
TOE
EXISTING R/W
45.00'

289 ANS TRUST THE
290 GLENN POND
291 DANA HALEY
292 ANS TRUST THE
293 DONALD HESTER
294 ALESSANDRO BIANCO
295 BRYAN ZIMMERMAN
296 JIMMIE HANKS
297 SHIREY JO BAIRD
PEGGY WATERS
LISA WILSHIRE
CLAYTON FAMILY LLC
CITIMORTGAGE INC

F F DENOTES FILL IN WETLAND

T T DENOTES TEMPORARY FILL IN WETLAND

SITE 22

100' 0' 100'
HORIZONTAL SCALE

-L-	
PI Sta 482+90.42	PI Sta 488+08.47
Δ = 20° 22' 43.0" (LT)	Δ = 9° 59' 32.3" (LT)
D = 3° 49' 11.0"	D = 3° 54' 30.0"
L = 533.51'	L = 255.67'
T = 269.60'	T = 128.16'
R = 1,500.00'	R = 1,465.99'
SE = 04	
RO = 200'	

SEE SHEET 32 FOR -L- PROFILE

10/26/2021
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8/17/99

PERMIT DRAWING
SHEET _44_ OF _47_

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

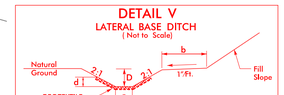
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL N
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner = Class 'I' Rip-Rap
FROM –Y8– STA. 13+62 TO STA. 13+78 RT

DETAIL V
LATERAL BASE DITCH
(Not to Scale)



*When B is < 6.0'
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=5.0 Ft.
b=5.0 Ft.
Type of Liner = CLASS 'B' Rip-Rap
FROM –Y8– STA. 13+84 TO STA. 18+50 RT

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)

FROM –Y22– STA. 11+00 TO STA. 12+30 RT
FROM –Y22– STA. 14+63 TO STA. 16+50 RT.

–Y8– STA. 22+38.00
END CONST.

SITE 24

NAD 83/NA 2011

SITE 18

SITE 23

MATCHLINE SHEET 14
–Y8– STA. 13+00.00

OCEAN 3 LLC
LINDERMAN PROPERTIES LLC
RICHARD BULLOCK
NANCY GILES
MICKEY BARBOUR
RUTH PETREA
STUART MATTHEWS
RANDY SMITH
RICHARD DWIGHT BULLOCK
SUNNI SKYS LLC
CAROLINA CHARTER ACADEMY HOLDINGS LLC
DB 18395 PG 1890
PB 2018 PG2405

224 225 226 227 228 229 230 231 309 223 303

5' LAT. BASE DITCH SEE DETAIL V CLASS 'B' RIP RAP
CLASS I RIP RAP
RIP RAP AT EMBANKMENT SEE DETAIL N
SURFACE WATER IMPACT
BURY PIPE 1.0'
DO NOT DISTURB USTs
CLASS B RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY.
SPECIAL CUT DITCH SEE DETAIL 1
CLASS B RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY.
TB JB w/MH
RIM=328.8
INV=316.8

F F DENOTES FILL IN WETLAND
S S DENOTES IMPACTS IN SURFACE WATER
E E DENOTES EXCAVATION IN WETLAND
HC HC DENOTES HAND CLEARING
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 33 FOR –Y8– PROFILE

1/8/2021
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8/17/99

PERMIT DRAWING
SHEET _45_ OF _47_

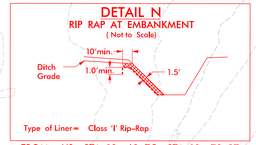
PROJECT REFERENCE NO.	SHEET NO.
R-5705B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

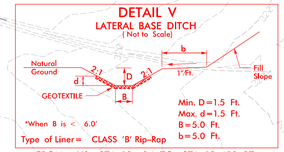
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL N
RIP RAP AT EMBANKMENT
(Not to Scale)



FROM –Y8– STA. 13+62 TO STA. 13+78 RT

DETAIL V
LATERAL BASE DITCH
(Not to Scale)



FROM –Y8– STA. 13+84 TO STA. 18+50 RT

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)

FROM –Y22– STA. 11+00 TO STA. 12+30 RT
FROM –Y22– STA. 14+63 TO STA. 16+50 RT.

–Y8– STA. 22+38.00
END CONST.

NAD 83/NA 2011

SITE 24

SITE 18

SITE 23

MATCHLINE SHEET 14
–Y8– STA. 13+00.00

OCEAN 3 LLC
LINDERMAN PROPERTIES LLC
RICHARD BULLOCK
NANCY GILES
MICKEY BARBOUR
STUART MATTHEWS
RUTH PETREA
RANDY SMITH
RICHARD DWIGHT BULLOCK
SUNNISKYS LLC
CAROLINA CHARTER ACADEMY (TGS DINGUS LLC)
DB 18395 PG 1890
PB 2018 PG2405

224 225 226 227 228 229 230 231 309 223 303

RIP RAP AT EMBANKMENT SEE DETAIL N
5' LAT. BASE DITCH SEE DETAIL V CLASS 'B' RIP RAP
CLASS I RIP RAP
SURFACE WATER IMPACT
DO NOT DISTURB USTs
CLASS B RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY.
SPECIAL CUT DITCH SEE DETAIL 1
CLASS B RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY.
BURY PIPE 1.0'
TB JB w/MH
RIM=320.8'
INV=316.8'

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND
HC HC	DENOTES HAND CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100'
HORIZONTAL SCALE

SEE SHEET 33 FOR –Y8– PROFILE

I:\8x80\TVR-5705B\Hydraulics\PERMITS_Environmental\Drawings\With Contours\R5705B_Rdy_psh_22_con.dgn
1/8/2021
User: lasalter

Submitted 12/21/2021

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705B	X-101

PERMIT DRAWING
SHEET _46_ OF _47_

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

320
310

6:1 0.040 0.040 4:1
319.08
313.65
16+00.00

320
310

0.040 0.040 4:1
318.04
313.29
15+50.00

WETLAND BOUNDARY

SITE 24

320
310

0.040 0.040 4:1
316.54
312.75
15+00.00

300
320
310

0.040 0.040 DRIVEWAY 18.75%
316.27
14+50.00

300
320
310

3:1 32 0.030 0.030
315.86
311.57
14+00.00

WETLAND BOUNDARY

SITE 18

300
320
310

3:1 32 0.020 0.020
316.95
13+50.00

-Y8-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9/20/2021
X:\NCDOT\R-5705B\Hydraulics\PERMITS_Environmental\Drawings\X-Sections\R5705B_Rdy_xpl_Y8_Site18-24.dgn
User:lassiter

Submitted 12/21/2021

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	247+50-250+00-L-(Pond)	Roadway Fill						0.77				
2	253+00-253+70-L-	66" RCP/Roadway Fill	0.32		< 0.01		0.04	< 0.01	< 0.01	183	61	
	253+00-L- Lt	Bank Stabilization								15		
3	254+00-L- Rt	Roadway Fill						< 0.01		110		
4	283+62-284+64-L-	48"RCP/Roadway Fill	0.50		< 0.01		0.04	0.02	< 0.01	213	39	
	284+00-L- Lt	Bank Stabilization								10		
5	292+37-293+74-L-	Roadway Fill	0.43				0.03					
6	296+76-298+52-L-	48"RCP/Roadway Fill	1.16				0.19					
	298+52-301+10 Lt.	Lateral Ditch			0.04							
7	312+53-L- Lt(Pond)	Roadway Fill						0.11				
8	312+77-314+35-L-	2@7'x7' RCBC/Roadway Fill	0.73		0.07	0.08	0.07	0.07	0.01	400	60	
	313+50-L- Lt&Rt	Bank Stabilization								114		
9	327+00-327+29-L-	48"RCP	0.03					0.01	< 0.01	168	12	
10	327+00-329+00-L- Rt.	48"RCP/Roadway Fill			0.03		0.09	0.25				
11	338+41-L-(Pond)	36"RCP						0.98				
12	346+34-346+96-L-	60" RCP/Roadway Fill	0.22				0.02	0.02	< 0.01	300	39	
13	346+68-349+95-L- Rt.	Lateral Ditch	0.04		0.07		0.11					
14	359+42-L- Lt.	Roadway Fill	< 0.01				0.01					
15	363+50-L-Lt.	24"RCP	0.12				0.01	< 0.01	< 0.01	86	20	
16	371+11-372+36-L-	48"RCP/Roadway Fill	0.45		0.02		0.05	0.02	< 0.01	207	42	
17	375+00-380+00-L-	60"RCP/Roadway Fill	1.46				0.20	0.02	< 0.01	235	48	
	375+80-378+61-L- Rt.	Lateral Ditch			0.07							
18	13+85-Y8-Rt.&Lt.	Bank Stabilization 60"/54"							< 0.01	20		
	13+40-13+84-Y8-	60"RCP/Roadway Fill	0.14		< 0.01		0.05	0.01	< 0.01	136	39	
	12+31-Y22-	54"RCP	< 0.01		< 0.01		0.02	< 0.01	< 0.01	12	34	
19	390+30-L-Lt.	Roadway Fill	0.02				0.02	< 0.01	< 0.01	84	17	
20	391+15-L-Lt.	Ditch Excavation			< 0.01		0.02					
21	428+90-L-Lt.	24"RCP				0.02						
22	486+80-L-Lt.	24"RCP	< 0.01	< 0.01								
23	13+68-Y8-Lt.	60"RCP							< 0.01		16	
24	15+00-Y8-Rt.	15"RCP	0.02		0.02		0.02					
SHEET TOTALS*:			5.65	< 0.01	0.35	0.09	0.97	2.31	0.05	2293	427	

*Rounded totals are sum of actual impacts

**Notes:

There will be 0.08 acres of Temporary Fill in wetlands in the Hand Clearing areas for Erosion Control measures.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/8/2021
HARNETT/WAKE
R-5705B
46377.1.3
SHEET 47 OF 47

TIP PROJECT: R–5705C

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R–5705C	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46377.1.1		

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

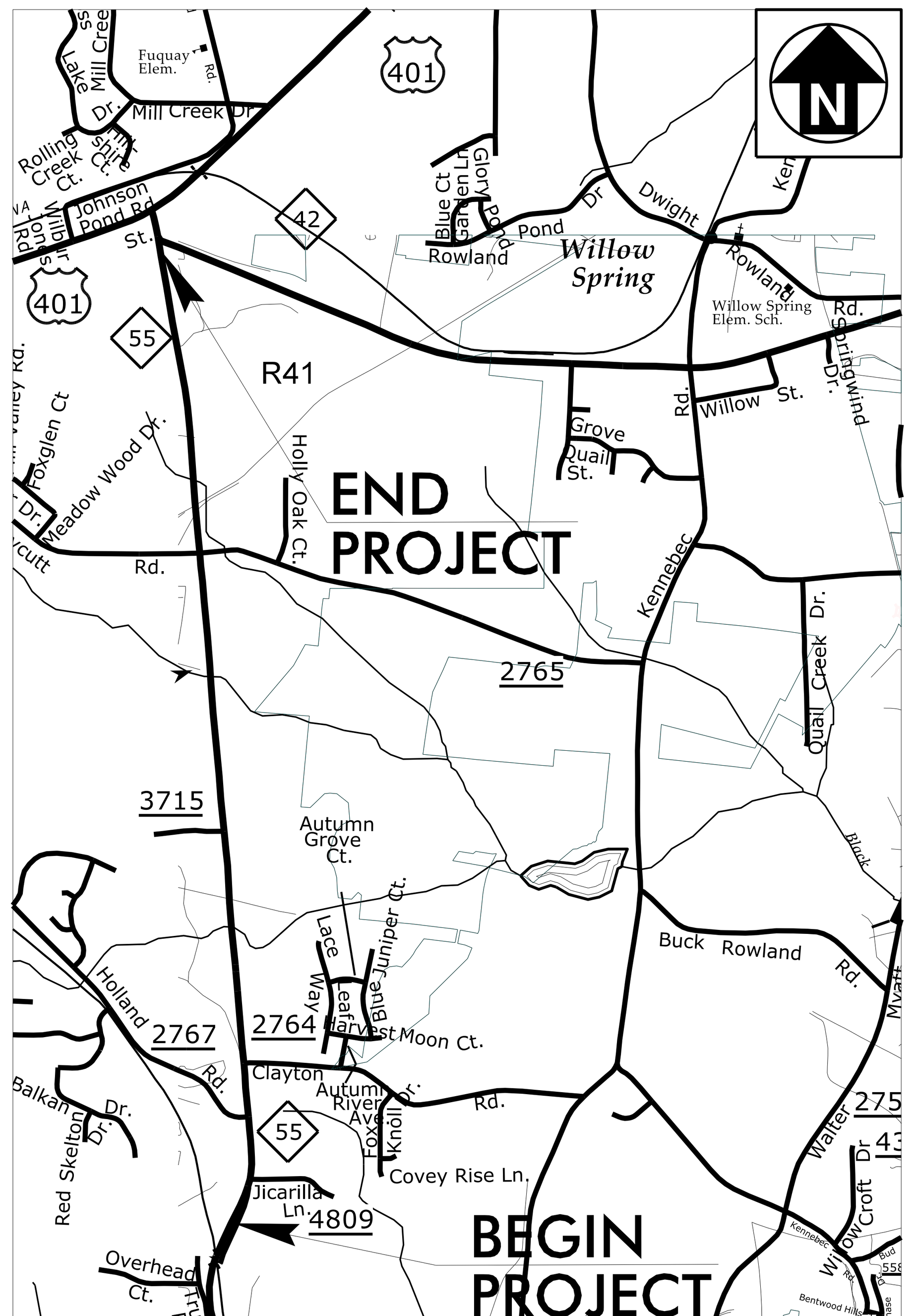
PERMIT DRAWING
SHEET 1 OF 26

WAKE COUNTY

LOCATION: NC 55 FROM SOUTH OF SR 4809 (JICARILLA LANE) TO NC 42 IN FUQUAY–VARINA

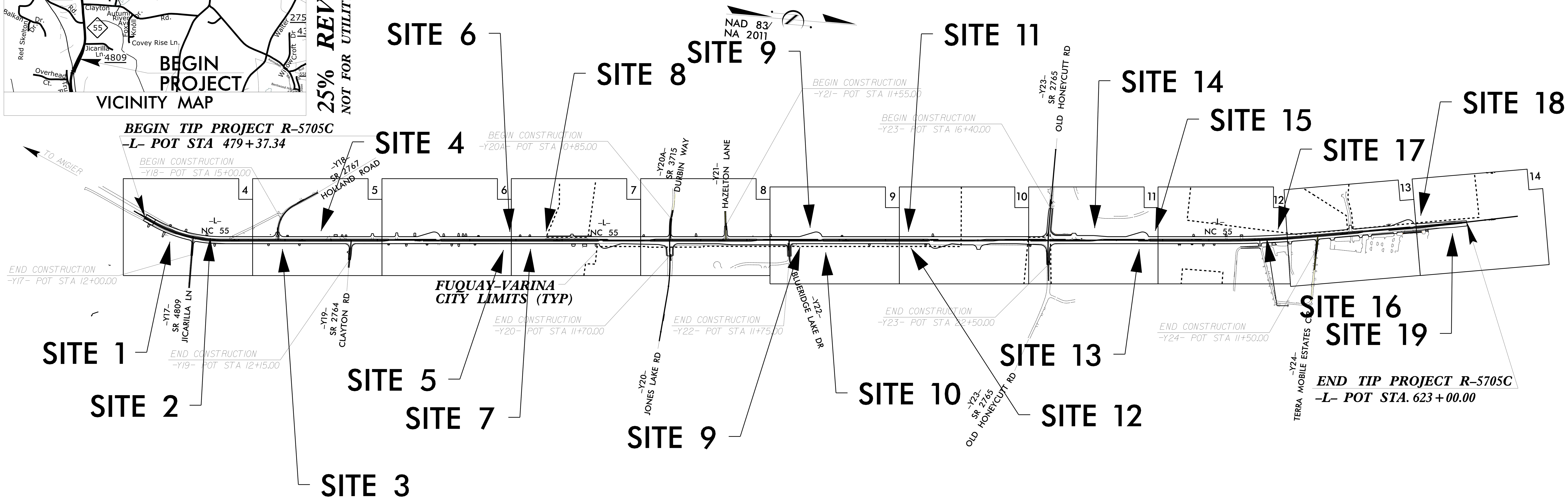
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT EXTENSIONS

WETLAND AND SURFACE WATER IMPACTS PERMIT



VICINITY MAP

25% REVIEW PLANS
NOT FOR UTILITY OR HYDRAULIC DESIGN



PORTIONS OF THIS PROJECT ARE WITHIN THE MUNICIPAL BOUNDARIES OF FUQUAY–VARINA
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD __.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 50 100
PLANS

50 25 50 100
PROFILE (HORIZONTAL)

10 5 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2022 = 28800
ADT 2045 = 46500
K = 9 %
D = 60 %
T = 4 % *
V = 50 MPH
* (TTST =1% DUAL 3%)
FUNC CLASS =
MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R–5705C = 2.692 MILES
TOTAL LENGTH OF TIP PROJECT R–5705C = 2.692 MILES

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 17, 2020

LETTING DATE:

GLENN W. MUMFORD, PE
PROJECT ENGINEER

HERB TURNER, PE
HYDRAULICS ENGINEER

NICOLE M. HACKLER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

$$$$$$SYSTIME$$$$$ $$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$$USERNAME$$$$

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 15

FOR –Y17– PROFILE SEE SHEET 21

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 2 OF 26

NAD 83/2011

REVISIONS 8/17/99

BEGIN TIP PROJECT R-5705C
END TIP PROJECT R-5705B
–L– STA. 479+39.87

–L– POT Sta. 478+10.00

–L– PC Sta. 480+20.81

–L– POC Sta. 485+03.91

–Y17– POT Sta. 10+00.00

TIE PROPOSED R/W TO R/W BY OTHERS FROM TIP PROJECT R-5705B

–L– PT Sta. 488+13.34

MATCHLINE –L– STA. 491+50.00 SEE SHEET NO. 5

ABANDONED RR R/W

ANS TRUST THE
DB 15463 PG 1242

ANS TRUST THE
DB 15463 PG 1242
MB 1997 PG 217

ALESSANDRO BIANCO
DB 16667 PG 561
MB 2016 PG 361

SHIREY JO BAIRD
DB 4976 PG 589
MB 2016 PG 361

ANS TRUST THE
DB 15463 PG 1242
MB 1997 PG 217

PEGGY WATERS
DB 8568 PG 1614

GLENN POND
DB 15271 PG 1414
MB 1990 PG 464

DANA HALEY
DB 8060 PG 312

DONALD HESTER
DB 5150 PG 389
MB 2005 PG 372

BRYAN ZIMMERMAN
DB 11490 PG 1062
MB 2005 PG 372

JIMMIE HANKS
DB 4890 PG 294
MB 1986 PG 56

LISA M. OSHIRE
DB 14985 PG 1237
MB 1986 PG 56

CLAYTON FAMILY LLC
DB 13908 PG 1871
MB 2009 PG 1003

CITIMORTGAGE INC
DB 14649 PG 300

SITE 1
R5705-AZ18

SITE 2

PROPOSED C/A ROW FROM TIP PROJECT R-5705B FURTHER COORDINATION IS REQUIRED WITH TRS

END CONSTRUCTION
–Y17– STA 12+00.00

–L–
PI Sta 484+26.56
Δ = 30° 16' 20.6" (LT)
D = 3° 49' 11.0"
L = 792.53'
T = 405.75'
R = 1,500.00'
SE = .04
RUNOFF = 200'

R/W BY OTHERS

EASEMENT BY OTHERS

ISFD

ISF/BKD

HTR

WOODS

CULTIVATED

POND

EXISTING R/W

36" WD RAIL

48" CHL

15" RCP

12" RCP

48" CONC

2'-6" C&G

2'-9" C&G

1'-6" C&G

NC 55 34' BST

BST

CONC

GR

S 17°38'18" E 1078.87'

N 25°22'00" E 1,000.00'

N 14°36'05" E 69.98'

N 36°21'05" E 49.09'

N 36°21'05" E 154.12'

N 05°56'47" E 105.00'

N 03°58'56" E 37.73'

N 01°56'14" E 306.21'

N 00°30'06" W 43.04'

N 89°39'16" E 1,000.00'

N 02°28'58" E 31.50'

N 02°28'58" E 459.67'

N 4°54'20.2" W

S 00°15'29" E 199.17'

S 00°20'59" E 177.54'

N 69°17'29" E 1133.50'

S 30°51'22" E 355.20'

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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FOR –L– PROFILE SEE SHEET 15

FOR –Y17– PROFILE SEE SHEET 21

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 3 OF 26

NAD 83/2011

8/17/99

REVISIONS

BEGIN TIP PROJECT R-5705C
END TIP PROJECT R-5705B
–L– STA. 479+39.87

–L– POT Sta. 478+10.00

–L– PC Sta. 480+20.81

–L– POC Sta. 485+03.91

–Y17– POT Sta. 10+00.00
TIE PROPOSED R/W TO R/W BY OTHERS FROM TIP PROJECT R-5705B

–L– PT Sta. 488+13.34

MATCHLINE –L– STA. 491+50.00 SEE SHEET NO. 5

ANS TRUST THE
DB 15463 PG 1242

ANS TRUST THE
DB 15463 PG 1242
MB 1997 PG 217

ALESSANDRO BIANCO
DB 16667 PG 561
MB 2016 PG 361

SHIREY JO BAIRD
DB 4976 PG 589
MB 2016 PG 361

GLENN POND
DB 15271 PG 1414
MB 1990 PG 464

DANA HALEY
DB 8060 PG 312

DONALD HESTER
DB 5150 PG 389
MB 2005 PG 372

BRYAN ZIMMERMAN
DB 11490 PG 1062
MB 2005 PG 372

JIMMIE HANKS
DB 4890 PG 294
MB 1986 PG 56

LISA WISHIRE
DB 14967 PG 1237
MB 1986 PG 56

CITIMORTGAGE INC
DB 14649 PG 300

PEGGY WATERS
DB 8568 PG 1614

CLAYTON FAMILY LLC
DB 13908 PG 1871
MB 2009 PG 1003

SITE 1
R5705-AZ18

SITE 2

PROPOSED C/A ROW FROM TIP PROJECT R-5705B FURTHER COORDINATION IS REQUIRED WITH TGS

END CONSTRUCTION
–Y17– STA 12+00.00

CAT-1

R/W BY OTHERS

EASEMENT BY OTHERS

CULTIVATED

–L–
PI Sta 484+26.56
Δ = 30° 16' 20.6" (LT)
D = 3° 49' 11.0"
L = 792.53'
T = 405.75'
R = 1,500.00'
SE = .04
RUNOFF = 200'

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: MOTT MACDONALD, PO Box 700, Fuquay-Varina, NC 27526, www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 15
FOR –Y18– PROFILE SEE SHEET 21
FOR –Y19– PROFILE SEE SHEET 22

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

NAD 83/2011

PERMIT DRAWING SHEET 4 OF 26

REVISIONS 8/17/99

MATCHLINE –L– STA. 491+50.00 SEE SHEET NO. 4

MATCHLINE –L– STA. 505+50.00 SEE SHEET NO. 6

GRAPHIC SCALE 50' 0' 50' 100' 150'

JEFFERY JUDD
DB 13520 PG 1434
MB 1986 PG 2262

LLYOD OLIVE
DB 8669 PG 2505
MB 2000 PG 810

EDNA RUSSELL
MB 1988 PG 374

SARAH MURRAY
DB 1049 PG 11
MB 1988 PG 374

JEROME RUSSEL
WILL 214100-E
MB 1985 PG 1307

JUAN RODRIGUEZ
DB 11304 PG 1094
MB 1985 PG 1307

RICHARD RUSSELL
DB 3625 PG 66
MB 1985 PG 1307

PEGGY WATERS
DB 8568 PG 1614

WILLIAM BAGLIANI
DB 15322 PG 543

RUBEN AGUIRRE
DB 15730 PG 85
MB 1988 PG 374

CLAYTON FAMILY LLC
DB 13908 PG 1871
MB 2009 PG 1003

KATHY MOORE
DB 9460 PG 2526
MB 1983 PG 508

BEGIN CONSTRUCTION
–Y18– STA 16+42.89

–Y18– PT Sta. 16+39.21

–Y18– POT Sta. 10+00.00

–Y18– PC Sta. 12+95.22

–L– POT Sta. 494+25.75
–Y18– POT Sta. 17+29.94

–L– POT Sta. 502+17.48
–Y19– POT Sta. 10+00.00

END CONSTRUCTION
–Y19– STA 12+15.00

–Y19– POT Sta. 12+99.02

HIGH POINT
–L– 502+68.63

SITE 3

SITE 4

–Y18–
PI Sta 14+86.17
△ = 61° 55' 01.7" (LT)
D = 18° 00' 00.0"
L = 343.98'
T = 190.95'
R = 318.31'

$$$$SYSTIME$$$$
$$$$SCALE$$$$
$$$$DESIGN$$$$
$$$$DRAWN$$$$
$$$$CHECK$$$$
$$$$QUANTITY$$$$

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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FOR –L– PROFILE SEE SHEET 15

FOR –Y18– PROFILE SEE SHEET 21

FOR –Y19– PROFILE SEE SHEET 22

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

NAD 83/2011

PERMIT DRAWING SHEET 5 OF 26

8/17/99

REVISIONS

MATCHLINE –L– STA. 491+50.00 SEE SHEET NO. 4

MATCHLINE –L– STA. 505+50.00 SEE SHEET NO. 6

GRAPHIC SCALE 50 0' 50' 100' 150'

JEFFERY JUDD
DB 13520 PG 1434
MB 1986 PG 2262

MB 1986 PG 2262

LLYOD OLIVE
DB 8669 PG 2505
MB 2000 PG 810

SARAH MURRAY
DB 1049 PG 11
MB 1988 PG 374

EDNA RUSSELL
MB 1988 PG 374

JEROME RUSSEL
WILL 214100-E
MB 1985 PG 1307

JUAN RODRIGUEZ
DB 11304 PG 1094
MB 1985 PG 1307

PEGGY WATERS
DB 8568 PG 1614

WILLIAM BAGLIANI
DB 15322 PG 543

RUBEN AGUIRRE
DB 15730 PG 85
MB 1988 PG 374

CLAYTON FAMILY LLC
DB 13908 PG 1871
MB 2009 PG 1003

RICHARD RUSSELL
DB 3625 PG 66
MB 1985 PG 1307

KATHY MOORE
DB 9460 PG 2526
MB 1983 PG 508

BEGIN CONSTRUCTION
–Y18– STA 16+42.89

–Y18– PT Sta. 16+39.21

–L– POT Sta. 494+25.75
–Y18– POT Sta. 17+29.94

–Y18– POT Sta. 10+00.00

–L– POT Sta. 502+17.48
–Y19– POT Sta. 10+00.00

HIGH POINT
–L– 502+68.63

END CONSTRUCTION
–Y19– STA 12+15.00

–Y19– POT Sta. 12+99.02

–Y18– PI Sta 14+86.17
△ = 61° 55' 01.7" (LT)
D = 18° 00' 00.0"
L = 343.98'
T = 190.95'
R = 318.31'

SITE 3

SITE 4

S 33°24'25.3" E

N 4°54'20.2" W

S 89°36'05.5" E 157.38'

N 89°00'00" E 1317.47'

N 00°19'50" E 365.44'

S 00°30'03" E 276.64'

S 85°54'05" W 668.57'

N 02°28'58" E 124.07'

N 02°28'58" E 85.37'

S 00°27'10" W 183.88'

S 00°27'10" W 29.25'

N 00°17'49" E 406.07'

N 00°17'49" E 53.89'

S 61°59'26" W 626.91'

S 62°43'07" W 286.00'

N 81°01'24" E 278.34'

N 80°09'50" E 102.87'

N 04°46'36" W 100.59'

S 78°36'47" W 6.80'

S 81°49'55" W 14.83'

N 65°56'59" E 264.00'

S 65°51'40" E 1226.98'

136.23'
S 04°55'36" E 116.74'

63.46'
N 28°08'33" W

S 85°54'05" W 668.57'

WOODS

CULTIVATED

EXISTING R/W

Century Link, FO

Spirit Communications, FO

Century Link, FO/TV

Spectrum TV/FO

Century Link, Copper

BL-67

BY-18-120

–Y18– POT Sta. 12+95.22

Submitted 12/21/2021

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
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Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 15
FOR –Y18– PROFILE SEE SHEET 21
FOR –Y19– PROFILE SEE SHEET 22

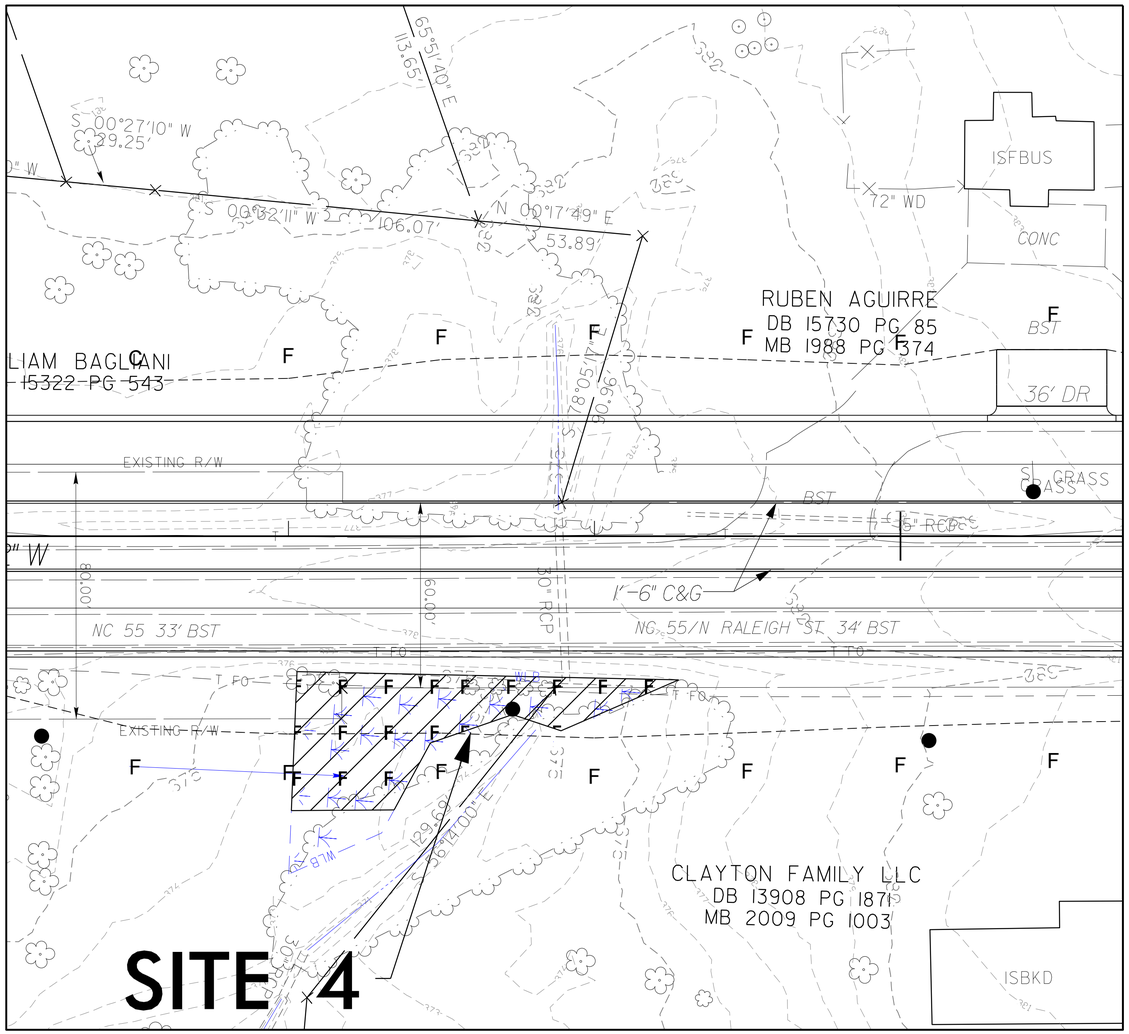
25′ 0′ 25′ 50′ 75′
GRAPHIC SCALE

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

NAD 83/2011

PERMIT DRAWING
SHEET 6 OF 26



SITE 4 DESIGN
DATE: 12/21/2021
TIME: 8:58:27 AM

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEETS 15 & 16

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

PERMIT DRAWING SHEET 7 OF 26

GRAPHIC SCALE 50' 0' 50' 100' 150'

NAD 83/2011

REVISIONS 8/17/99

MATCHLINE –L– STA. 505+50.00 SEE SHEET NO. 5

MATCHLINE –L– STA. 519+50.00 SEE SHEET NO. 7

18.25' S 42°56' W
312.91' N 08°05'32" W
S 87°11'32" W 14.87'
S 85°10'22" W 519.31'
S 84°56'59" E 292.25'
N 85°02'45" E 272.28'
100.00' S 06°02'44" E
115.83' S 09°38'09" E
130.00' N 05°17'36" W
151.58' N 05°17'36" W
5/0
5/5
BL 6
BL 7
BEGIN FULL C/A
END FULL C/A
N 4°54'20.2" W
N 85°00'06" E 290.25'
S 84°42'24" W 300.00'
N 84°14'36" E 300.00'
S 85°05'47" W 300.65'
S 85°05'47" W 176.10'
N 85°06'27" E 220.34'
S 85°06'19" W 230.39'
N 85°05'47" E 260.72'
S 85°05'47" W 208.48'
243.72' S 00°29'54" E
221.15' S 00°29'00" E
200.59' S 00°30'02" E
154.42' S 00°29'59" E
36.45' N 00°29'59" W
97.53' N 00°32'40" W
102.91' S 00°32'40" E
294.60' S 00°22'33" E

PATRICIA SCOTT
DB 16853 PG 2077

SITE 6

SITE 5

SITE 5

BILE HOME PARK LLC
B 14611 PG 1896

LOUIS WOOTEN
DB 8646 PG 379
MB 1983 PG 508

ROBERT SULLIVAN
DB 12904 PG 680
MB 1983 PG 508

CURTIS NESMITH
DB 15499 PG 2370
MB 1999 PG 877

CURTIS NESMITH
DB 15499 PG 2370
MB 1999 PG 877

JEFFERSON BRACKETT
DB 3326 PG 618
MB 1983 PG 508

BOBBY CAPPS
DB 13152 PG 217
MB 1988 PG 368

MARTIN DAVIS
DB 14008 PG 1179

ANN JAMES
DB 4504 PG 540
MB 1988 PG 368

WILLIAM BARNHOUSE
DB 2385 PG 368

MARY WILLIFORD
NO DEED INFO

THELMA MELVIN
WILL 553 ODE
MB 1993 PG 431

JOHN KELLY
DB 4745 PG 78
MB 1988 PG 368

POND

PROP. CONC. MONOLITHIC ISLAND

EXISTING R/W

2'-6" C&G

150' APER

425' LEFT TURN LANE

Century Link, COPPER

Spectrum, TV

Spirit Communications, FO

NC 55 34' BST

WOODS

CONC

DECK

2SFD

ISFD

ISBKD

HTR

BST

S

B

G

TV

02

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: MOTT MACDONALD, PO Box 700, Fuquay-Varina, NC 27526, www.mottmac.com/americas

FOR –L– PROFILE SEE SHEETS 15 & 16

REVISIONS
8/17/99

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING
SHEET 8 OF 26

NAD 83/2011

MATCHLINE –L– STA. 505+50.00 SEE SHEET NO. 5

MATCHLINE –L– STA. 519+50.00 SEE SHEET NO. 7

SITE 6

SITE 5

SITE 5

PATRICIA SCOTT
DB 16853 PG 2077

MARY WILLIFORD
NO DEED INFO

THELMA MELVIN
WILL 553-106
MB 1989 PG 431

CURTIS NESMITH
DB 15499 PG 2370
MB 1999 PG 877

CURTIS NESMITH
DB 15499 PG 2370
MB 1999 PG 877

MARTIN DAVIS
DB 14008 PG 1179

WILLIAM BARNHOUSE
DB 2385 PG 368

ROBERT SULLIVAN
DB 12904 PG 680
MB 1983 PG 508

BOBBY CAPPS
DB 13152 PG 217
MB 1988 PG 368

ANN JAMES
DB 4504 PG 540
MB 1988 PG 368

JOHN KELLY
DB 4745 PG 78
MB 1988 PG 368

LOUIS WOOTEN
DB 8646 PG 379
MB 1983 PG 508

JEFFERSON BRACKETT
DB 3326 PG 618
MB 1983 PG 508

BILE HOME PARK LLC
B 1461 PG 1896

BEGIN FULL C/A

END FULL C/A

BL 69

BL 70

EXISTING R/W

PROP. CONC. MONOLITHIC ISLAND

2'-6" C&G

30" DR RCP

15" RCP

18" RCP

24" DR RCP

36" CMP

48" CHL

WOODS

POND

Century Link, Copper

Spectrum, TV

Spirit Communications, FO

N 4° 54' 20.2" W

S 87°11'32" W 14.87'

312.91' N 08°05'32" W

18.25' 42°56" W

S 86°56'39" E 29.25'

N 85°02'45" E 272.28'

S 85°10'22" W 519.36'

100.00' S 06°02'44" E

115.83' S 09°38'09" E

130.00' N 05°17'36" W

151.58' N 05°17'36" W

5/0

5/5

S 84°42'24" W 300.00'

N 85°05'47" E 290.25'

S 85°05'47" W 116.40'

S 85°05'47" W 208.48'

N 85°06'21" E 220.34'

S 85°06'39" W 230.39'

N 85°05'47" E 260.72'

243.72' S 00°29'54" E

22.15' S 00°30'00" E

200.59' S 00°30'02" E

154.42' S 00°29'59" E

36.45' N 00°29'59" W

97.53' N 00°32'40" W

102.91' S 00°32'40" E

294.60' S 00°22'33" E

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 16

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

PERMIT DRAWING SHEET 9 OF 26

NAD 83/2011

50' 0' 50' 100' 150'
GRAPHIC SCALE

8/17/99
REVISIONS

MATCHLINE –L– STA. 519 + 50.00 SEE SHEET NO. 6

MATCHLINE –L– STA. 533 + 50.00 SEE SHEET NO. 8

SITE 5
SITE 6
SITE 7
SITE 8

520
525
530

EUGENE LOCKHART
DB 13576 PG 1993

ABUNDANT SPACE SELF STORAGE LLC
DB 14218 PG 510
MB 2010 PG 600

GARLAND MCLAMB LLC
DB 17141 PG 2683

LOUISE FREEMAN
DB 11541 PG 1249
MB 1993 PG 204

HILDA WILSON
DB 15707 PG 2688
MB 1993 PG 204

IMPERIAL SELF STORAGE LLC
DB 16715 PG 2194
MB 2017 PG 274

GARLAND MCLAMB LLC
DB 17141 PG 2683

PROPOSED 5' SIDEWALK
PROP. CONC. MONOLITHIC ISLAND
EXISTING R/W
Century Link, Copper
Other, FO Spirit Communications
Town of Fuquay-Varina, 12" PVC
425' LEFT TURN LANE
400' TAPER
BEGIN FULL C/A
END FULL C/A
NC 55/N RALEIGH ST 34' BST
NC 55 37' BST
WOODS
GRV
GR.
BST
ISBLKBUS
ISBKBUS
ISBK/FD
ISFB
ISMTL
2SFD
DECK
HTR
BM#25
CBL
DI
18" RCP
15" RCP
24" RCP
30" RCP
36" RCP
60" CONC. WALK
72" CHL
72" WD
48" CHL
-L-
N 4° 54' 20.2" W
S 85°17'08" W 2727.38'
N 03°29'21" W 405.57'
N 85°17'08" E 905.3'
N 84°38'23" E 460.21'
N 27°41'46" W 389.58'
S 10°47'04" W 219.53'
N 09°51'26" W 253.97'
S 81°58'47" W 325.27'
N 43°13'30" W 308.28'
S 85°50'29" E 143.48'
S 02°59'41" E 104.78'
719.07' N 00°22'37" W
320.04'
50.00'
EXISTING R/W
POINT -L- 520+15.34

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
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www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 16

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 10 OF 26

NAD 83/2011

REVISIONS
8/17/99

MATCHLINE –L– STA. 519+50.00 SEE SHEET NO. 6

MATCHLINE –L– STA. 533+50.00 SEE SHEET NO. 8

SITE 5
SITE 6
SITE 7
SITE 8
SITE 8
SITE 8

EUGENE LOCKHART
DB 13576 PG 1993

ABUNDANT SPACE SELF STORAGE LLC
DB 14218 PG 510
MB 2010 PG 600

GARLAND MCLAMB LLC
DB 17141 PG 2683

GARLAND MCLAMB LLC
DB 17141 PG 2683

LOUISE FREEMAN
DB 11541 PG 1249
MB 1993 PG 204

HILDA WILSON
DB 15707 PG 2688
MB 1993 PG 204

IMPERIAL SELF STORAGE LLC
DB 16715 PG 2194
MB 2017 PG 274

-L- POINT OF BEGINNING STA. 520+75.34

BEGIN FULL C/A

END FULL C/A

425' LEFT TURN LANE

400' TAPER

-L-
N 4°54'20.2" W

N 03°29'21" W 405.57'

N 84°38'23" E 460.21'

S 85°17'08" W 272.38'

N 85°17'08" E 305.35'

S 10°47'04" W 219.23'

N 09°51'26" W 253.97'

N 27°41'46" W 382.56'

S 85°50'29" E 104.78'

N 00°22'37" W 719.07'

S 85°50'29" E 1434.48'

EXISTING R/W

50.00'

60' CONC. WALK

PROPOSED 5' SIDEWALK

PROP. CONC. MONOLITHIC ISLAND

NC 55/N RALEIGH ST 34' BST

Century Link Copper

Fiber Fo Spirit Communications

Town of Fuquay-Varina, 12" PVC

ISBLKBUS

ISBKBUS

ISBK/FD

ISFB

ISMTL

2SFD

DECK

WOODS

GRAV

GR.

72" WD

72" CHL

18" RCP

15" RCP

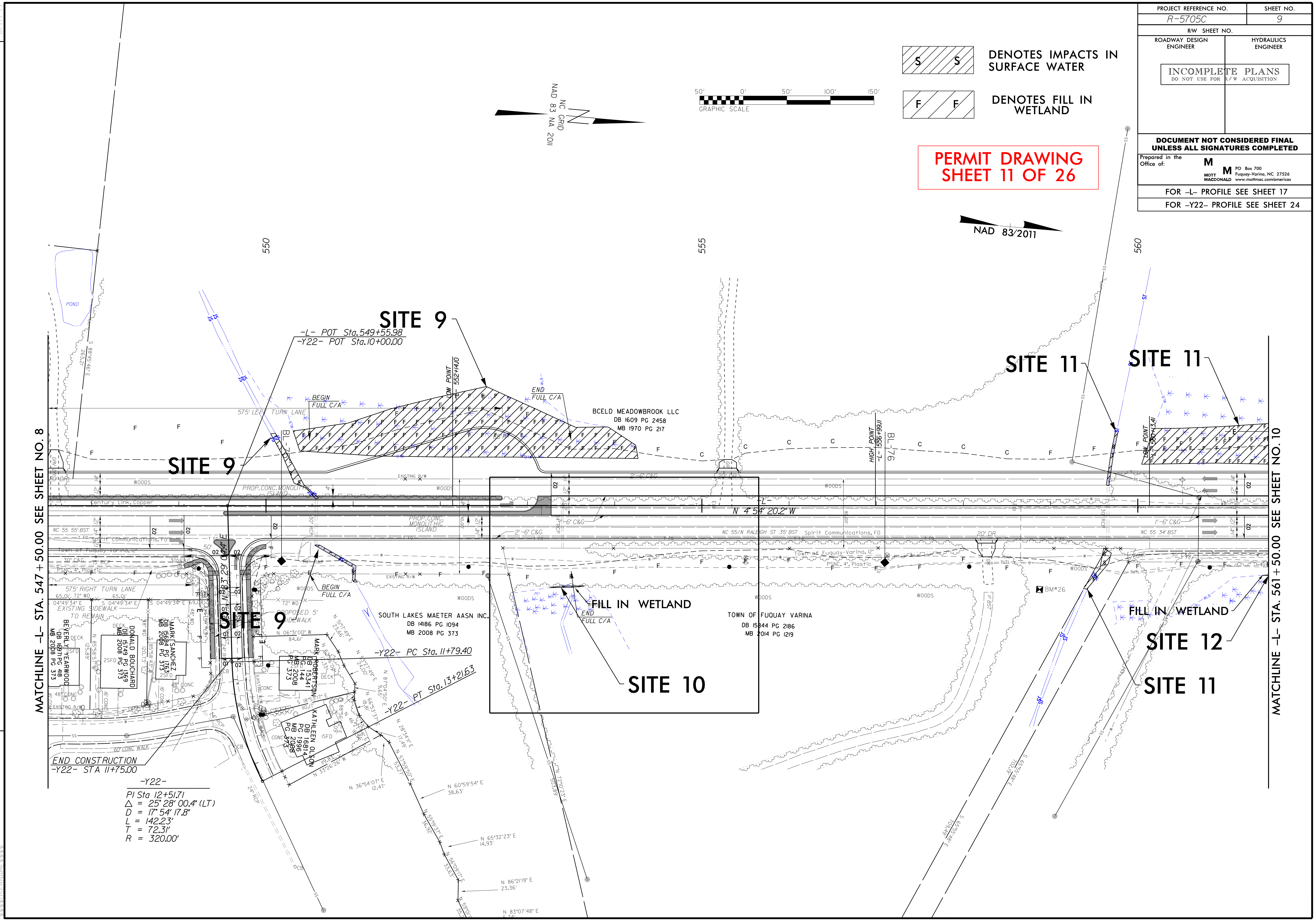
20' DR

40' DR

44' DR

85'R

Submitted 12/21/2021



Submitted 12/21/2021

Submitted 12/21/2021

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
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www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 17
FOR –Y22– PROFILE SEE SHEET 24

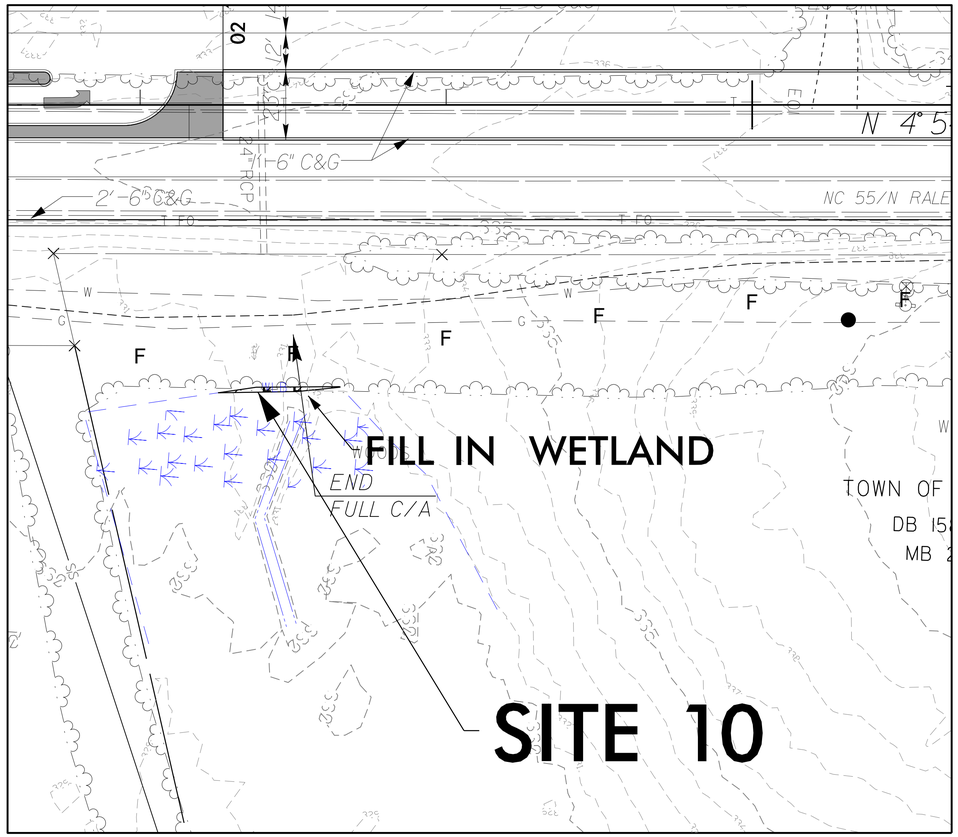
NAD 83/2011

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

25′ 0′ 25′ 50′ 75′
GRAPHIC SCALE

PERMIT DRAWING
SHEET 13 OF 26



USER:tlee
DGN:Letter
TIME:12:51:39 PM
DATE:12/21/2021

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEETS 17 & 18

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 14 OF 26

NAD 83/2011

8/17/99
REVISIONS

565 570 575

SITE 11

SITE 12

BEGIN FULL C/A

END FULL C/A

425' LEFT TURN LANE

150' TAPER

100' RIGHT TURN LANE

120' TAPER

HIGH POINT
-L- 569+63.00

+17.50

MICHAEL RODGERS
DB 8108 PG 1165

MIDDLEBY MARSHALL INC.
DB 4533 PG 318
MB 1997 PG 1694

DEERE & COMPANY
DB 14947 PG 362
MB 1996 PG 998

Other Town of Fuquay-Varina

N 4°54'20.2" W

N 88°56'27.7" W 935.25'

S 89°10'08.9" W 925.24'

S 89°10'08.9" W 2091.12'

S 89°10'08.9" W 2052.68'

MATCHLINE –L– STA. 561+50.00 SEE SHEET NO. 9

MATCHLINE –L– STA. 575+50.00 SEE SHEET NO. 11

POND

PROP.CONC. MONOLITHIC ISLAND

NC 55 48' BST

NC 55 50' BST

2'-6" C&G

1'-6" C&G

20' DR

18" C&G

30" C&G

30" RCP

18" RCP

50'R

BST

WOODS

EXISTING R/W

Century Link, FO

Century Link, Copper/FO

Spectrum, TV/FO

Spirit Communications, FO

Duke Energy Progress

Town of Fuquay-Varina, 16", DIP

Town of Fuquay-Varina, 6", Unknown

Public Service Company of N C Inc., 4", Plastic

PSNC, 4", Plastic

FULL OF DEBRIS

260' T

-L- 7+78

CONSTRUCTION LIMITS

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEETS 17 & 18

S S NADDENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 15 OF 26

NAD 83/2011

REVISIONS 8/17/99

SITE 11

SITE 12

565 570 575

BEGIN FULL C/A

END FULL C/A

HIGH POINT -L- 569+63.00

425' LEFT TURN LANE

150' TAPER

100' RIGHT TURN LANE

120' TAPER

MICHAEL RODGERS DB 8108 PG 1165

MIDDLEBY MARSHALL INC. DB 4533 PG 318 MB 1997 PG 1694

DEERE & COMPANY DB 14947 PG 362 MB 1996 PG 998

N 4° 54' 20.2" W

N 88° 27' 39.5" W 955.25'

S 89° 05' 26.4" W 925.24'

Other Town of Fuquay-Varina Century Link, FO

Spectrum, TV/FO
Spirit Communications, FO
Duke Energy Progress
Town of Fuquay-Varina, 16", DIP
Town of Fuquay-Varina, 6", Unknown

Century Link, Copper/FO
Spirit Communications, FO
Duke Energy Progress
Town of Fuquay-Varina, 16", DIP
Town of Fuquay-Varina, 6", Unknown

Public Service Company of N C Inc., 4", Plastic

PSNC, 4", Plastic

MATCHLINE –L– STA. 561+50.00 SEE SHEET NO. 9

MATCHLINE –L– STA. 575+50.00 SEE SHEET NO. 11

Submitted 12/21/2021

8/17/99

REVISIONS

DENOTES IMPACTS IN SURFACE WATER

DENOTES FILL IN WETLAND

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 16 OF 26

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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FOR –L– PROFILE SEE SHEET 18

FOR –Y23– PROFILE SEE SHEET 24

MATCHLINE –L– STA. 575+50.00 SEE SHEET NO. 10

MATCHLINE –L– STA. 589+50.00 SEE SHEET NO. 12

BEGIN CONSTRUCTION
-Y23- STA 16+40.00

-L- POT Sta.577+60.99
-Y23- POC Sta.19+84.50

-Y23- PC Sta. 18+23.36

-Y23- PT Sta. 21+21.27

END CONSTRUCTION
-Y23- STA 22+50.00

-Y23- POT Sta. 24+25.47

LOW POINT
-L- 580+66.54

SITE 14

SITE 15

SITE 13

SITE 13

BUY & GO INC
DB 14156 PG 292

DONALD CHESSON F
DB 10616 PG 2213

DONALD CHESSON
DB 10614 PG 2448

TOWN OF FUQUAY VARINA
DB 15545 PG 1152

WILLOW CREEK HOMEOWNERS ASSOC INC
DB 8265 PG 264
MBF 1998 PG 180E

WILLOW CREEK HOA

-Y23-
PI Sta 19+72.45
Δ = 5° 57' 29.5" (LT)
D = 2° 00' 00.0"
L = 297.91'
T = 149.09'
R = 2,864.79'

2022/2045 TRAFFIC VOLUMES		
	13800 / 21700	–Y23– SR 2765 OLD HONEYCUTT RD
24500 / 39600 NC 55 –L–	6860 / 9000	2900 / 6800
	300 / 400	1000 / 2400
	5300 / 8700	–Y23– SR 2765 OLD HONEYCUTT RD
		21200 / 39400

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
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PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR –L– PROFILE SEE SHEET 18

FOR –Y23– PROFILE SEE SHEET 24

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 17 OF 26

NAD 83/2011

REVISIONS 8/17/99

MATCHLINE –L– STA. 575+50.00 SEE SHEET NO. 10

MATCHLINE –L– STA. 589+50.00 SEE SHEET NO. 12

BEGIN CONSTRUCTION
–Y23– STA 16+40.00

S 89°51'46.5" E 145.61'

–L– POT Sta. 577+60.99
–Y23– POC Sta. 19+84.50

–Y23– RC Sta. 18+23.36

END CONSTRUCTION
–Y23– STA 22+50.00

N 84°08'40.0" E 107.61'

–Y23– PT Sta. 21+21.27

–Y23– POT Sta. 24+25.47

N 4°54'20.2" W

LOW POINT
–L– 580+66.54

SITE 14

SITE 15

SITE 13

SITE 13

BUY & GO INC
DB 14156 PG 292

DONALD CHESSON F
DB 10616 PG 2213

DONALD CHESSON
DB 10614 PG 2448

TOWN OF FUQUAY VARINA
DB 15545 PG 1152

WILLOW CREEK HOMEOWNERS ASSOC INC
DB 8265 PG 264
MBF 1998 PG 1805

WILLOW CREEK HOA

DENNIS HARMON DB 16505 PG 958

KELLI MOON DB 8526 PG 1889

AARON ROGERS DB 14956 PG 1425

ALICIA L. ARK DB 18554 PG 1609

CARLOS PIMLIA DB 6428 PG 2715

JOHN BOWEN DB 6122 PG 2316

KEITH SMITH DB 8376 PG 1870

VIPUL KARUNDIA DB 14694 PG 1234

CHRISSY MILLS DB 11030 PG 350

RHONDA LEMAY DB 16931 PG 2208

PAUL STALLINGS DB 16938 PG 450

LUVIER TRIANA DB 11076 PG 1098

LAURA SHIPMAN DB 12068 PG 283

LIVINTON SUAREZ DB 12588 PG 2393

GREGORY BRYANT DB 9577 PG 477

JANE HOANG DB 8[illegible] PG 2004

PROPOSED 5' SIDEWALK

RETAINING WALL 1

CANOPY

ISBKD

DECK

425' LEFT TURN LANE

PROP. CONC. MONOLITHIC ISLAND

NC 55 45' BST

NC 55 34' BST

–Y23–
PI Sta 19+72.45
Δ = 5°57'29.5" (LT)
D = 2°00'00.0"
L = 297.91'
T = 149.09'
R = 2,864.79'

2022/2045 TRAFFIC VOLUMES

–Y23–
SR 2765
OLD HONEYCUTT RD

13800 / 21700

6860 / 9000

2900 / 6800

24500 / 39600 NC 55 –L– 21200 / 39400

300 / 400

1000 / 2400

5300 / 8700

–Y23–
SR 2765
OLD HONEYCUTT RD

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: MOTT MACDONALD — PO Box 700, Fuquay-Varina, NC 27526, www.mottmac.com/americas

FOR –L– PROFILE SEE SHEETS 18 & 19

8/17/99

REVISIONS

50' 0' 50' 100' 150'
GRAPHIC SCALE

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

NAD 83/2011

PERMIT DRAWING
SHEET 18 OF 26

–L–
PI Sta 601+03.53
△ = 4° 52' 12.6" (LT)
D = 0° 34' 22.6"
L = 850.00'
T = 425.26'
R = 10,000.00'
SE = NC
RUNOFF = N/A

MATCHLINE –L– STA. 589+50.00 SEE SHEET NO. 11

MATCHLINE –L– STA. 603+50.00 SEE SHEET NO. 13

SITE 15

SITE 13

SITE 16

SITE 17

WILLOW CREEK II HOMEOWNERS ASSN INC
DB 11837 PG 2400

LIBERTY FELICIANO
DB 14057 PG 1121
MB 2004 PG 414

DEBORAH DOVER
DB 12902 PG 2485
MB 2004 PG 414

WILLOW CREEK II HOMEOWNERS ASSN INC
DB 11837 PG 2619

WILLOW CREEK II HOMEOWNERS ASSN INC
593 PG 1449

FRANCISCO RODRIGUEZ
DB 9256 PG 1784

SUE STEPHENSON
DB 11463 PG 1167

6240 NC 55 LLC
DB 11633 PG 1846

JCLU LTD VPTNRP LTD
PTNRP THE
DB 13910 PG 1929

ENGLISH FUQUAY VARINA CONGREGATION OF JEHOVAHS WIT
DB 11734 PG 1853

JOEL RAY SMITH
DB 13422 PG 755

MICHAEL LLOYD LESSARD
DB 15619 PG 1888

BRYANT ESTATE DR

TERRA MOBILE ESTATE CIRCLE

ETTA GRAY
DB 11028 P

ISB CHURCH

ISBLK BUS.

METAL CANOPY

Century Link, Copper

Town of Fuquay-Varina, 12", Unknown

Town of Fuquay-Varina, 16" Spiral Communications

CenturyLink, Spectrum, Copper

SSFM Valve

595

600

Submitted 12/21/2021

8/17/99

REVISIONS

50' 0' 50' 100' 150'
GRAPHIC SCALE

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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FOR –L– PROFILE SEE SHEETS 18 & 19

PERMIT DRAWING
SHEET 19 OF 26

–L–
PI Sta 601+03.53
△ = 4° 52' 12.6" (LT)
D = 0° 34' 22.6"
L = 850.00'
T = 425.26'
R = 10,000.00'
SE = NC
RUNOFF = N/A

MATCHLINE –L– STA. 589+50.00 SEE SHEET NO. 11

MATCHLINE –L– STA. 603+50.00 SEE SHEET NO. 13

SITE 15
SITE 15
SITE 13
SITE 16
SITE 16
SITE 17

LIBERTY FELICIANO
DB 14057 PG 1121
MB 2004 PG 414

DEBORAH DOVER
DB 12902 PG 2445
MB 2004 PG 414

WILLOW CREEK II HOMEOWNERS ASSN INC
DB 11837 PG 2400

WILLOW CREEK II HOMEOWNERS ASSN INC
DB 11837 PG 2400
593 PG 1449

FRANCISCO RODRIGUEZ
DB 9256 PG 1784

SUE STEPHENSON
DB 11463 PG 1167

6240 NC 55 LLC
DB 11633 PG 1846

JCLU LTD VPTNRP LTD
PTNRP THE
DB 13910 PG 1929

ENGLISH FUQUAY VARINA CONGREGATION OF JEHOVAHS WIT
DB 11734 PG 1853

JOEL RAY SMITH
DB 13422 PG 755

MICHAEL LLOYD LESSARD
DB 15619 PG 1888

ETTA GRAY
DB 11028 P

–L– PC Sta. 596+78.27

–L– N 4°54'20.2" W

S 01°45'40" W 280.19'
S 01°45'40" W 220.50'
S 01°45'40" W 104.29'
N 88°14'20" W 100.00'
S 04°57'01" E 86.64'
S 04°57'01" E 180.26'
N 85°03'42" W 116.82'
N 85°03'42" W 104.58'
S 87°28'56" W 143.52'
S 89°59'20" E 246.58'
N 89°59'20" W 219.67'
N 89°59'20" W 219.67'
S 89°59'20" E 246.58'

595
600

EXISTING R/W
20' DR
28' DR
34' DR
NC 55 34' BST
20' BST 33' BST
8" PVC
6" C&G
2'-6"MC885
HTR
ISBKD
ISFD
ISB CHURCH
WOODS
CONC
METAL CANOPY
ISBLK BUS.
TERRA MOBILE ESTATE CIRCLE
BRYANT ESTATE DR
BRYANT ESTATE LN
Kentucky Tank, Copper
Town of Fuquay-Varina, 12", Unknown
Town of Fuquay-Varina/Johnston County Spliced Commingled
TV Spectrum
Century Link, Copper
SSRM Valve

Submitted 12/21/2021

Submitted 12/21/2021

Submitted 12/21/2021

Submitted 12/21/2021

PERMIT DRAWING
SHEET 23 OF 26

NAD 83/2011

50' 0' 50' 100' 150'
GRAPHIC SCALE

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

-L-
PI Sta 619+98.87
△ = 1° 43' 48.1" (LT)
D = 0° 17' 11.3"
L = 603.89'
T = 301.97'
R = 20,000.00'
SE = NC
RUNOFF = N/A

SITE 18

SITE 19

-L- PT Sta. 623+00.79

554' TAPER

END FULL C/A

225' TAPER

150' TAPER

(Not In Service)

MILLENNIUM TRUST CO LLCFBO
JAMES SERINO IRA
DB 17057 PG 1834

ANCHOR PROPERTIES OF RALEIGH LLC
DB 16377 PG 2389

MAYO JONES
NO DEED

LINDA THOMAS
DB 5446 PG 145

ACC INVESTMENTS
DB 4375 PG 319
MB 1988 PG 1352

ACC INVESTMENTS
DB 4840 PG 744
MB 1991 PG 24

VICTOR PRIETO
DB 9598 PG 387

BRYAN FAMILY LTD
DB 8442 PG 942
MB 1989 PG 1942

HAROLD JOHNSON
DB 2926 PG 177

PROPERTIES ALC
DB 13455 PG 1114
MB 1995 PG 120

PRY ROGERS
DB 1995 PG 1205

-L- POT Sta. 628+56.49

-EY2 LT-

-EY2 RT-

-L- STA. 623+00.00

MATCHLINE -L- STA. 617+50.00 SEE SHEET NO. 13

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR -L- PROFILE SEE SHEETS 19 & 20

Submitted 12/21/2021

WETLAND AND SURFACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	From Sta. 482+54 to	Roadway Fill						0.01				
	Sta. 483+02 Rt											
2	From Sta. 486+27 to	Roadway Fill	0.15									
	Sta. 487+51 -L- Lt											
3	From Sta. 494+32 to	Roadway Fill						0.03				
	Sta. 495+08 -L- Rt											
4	From Sta. 498+01 to	Roadway Fill	0.07									
	Sta. 499+28 -L- Rt/Lt											
5	From Sta. 517+27 to	Roadway Fill	0.17									
	Sta. 519+72 -L- Rt											
6	From Sta. 518+36 to	Roadway Fill	0.28									
	Sta. 520+22 -L- Lt											
7	From Sta. 519+56 to	Roadway Fill	0.15					0.01		116		
	Sta. 522+84 -L- Rt											
8	From Sta. 522+74 to	Roadway Fill	0.03					0.01		140		
	Sta. 523+151 -L- Lt/Rt											
THIS PAGE SUBTOTAL*:			0.86					0.07		256	0	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/10/2021
WAKE COUNTY
R-5705C
46377.1.1
SHEET 24 OF 26

Submitted 12/21/2021

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
9	From Sta. 550+05 to	Roadway Fill	0.45					0.02		159		
	Sta. 554+27 -L- Lt/Rt											
10	From Sta. 553+25 to	Roadway Fill	< 0.01									
	Sta. 553+66 -L- Rt											
11	From Sta. 559+37 to	Roadway Fill	0.45					0.01		115		
	Sta. 564+73 -L- Lt/Rt											
12	From Sta. 561+43 to	Roadway Fill	0.01									
	Sta. 563+02 -L- Rt											
13	From Sta. 579+43 to	Roadway Fill	0.98					0.14		582		
	Sta. 590+37 -L- Rt											
14	From Sta. 581+10 to	Roadway Fill	0.92									
	Sta. 586+74 -L- Lt											
15	From Sta. 586+93 to	Roadway Fill	0.97					0.06		357		
	Sta. 592+43 -L- Lt											
THIS PAGE SUBTOTAL*:			3.78					0.22		1214	0	0
PAGE 1 SUBTOTALS*:			0.86					0.07		256	0	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/10/2021
WAKE COUNTY
R-5705C
46377.1.1

Submitted 12/21/2021

WETLAND AND SURFACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
							Hand			Existing	Existing	
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Channel Impacts Permanent (ft)	Channel Impacts Temp. (ft)	Natural Stream Design (ft)
16	From Sta. 599+85 to	Roadway Fill	0.31					< 0.01		93		
	Sta. 602+02 -L- Lt											
17	From Sta. 602+10 to	Roadway Fill	0.08									
	Sta. 602+85 -L- Lt											
18	From Sta. 613+01 to	Roadway Fill	0.65					< 0.01		155		
	Sta. 622+39 -L- Lt/Rt											
19	From Sta. 619+79 to	Roadway Fill	0.06									
	Sta. 621+47 -L- Rt											
THIS PAGE SUBTOTAL*:			1.11					0.01		248	0	0

PAGE 1 SUBTOTALS*:	0.86					0.07		256	0	0
PAGE 2 SUBTOTALS*:	3.78					0.22		1214	0	0

PROJECT TOTALS*:	5.75	0	0	0	0	0.31	0	1718	0	0

*Rounded totals are sum of actual impacts

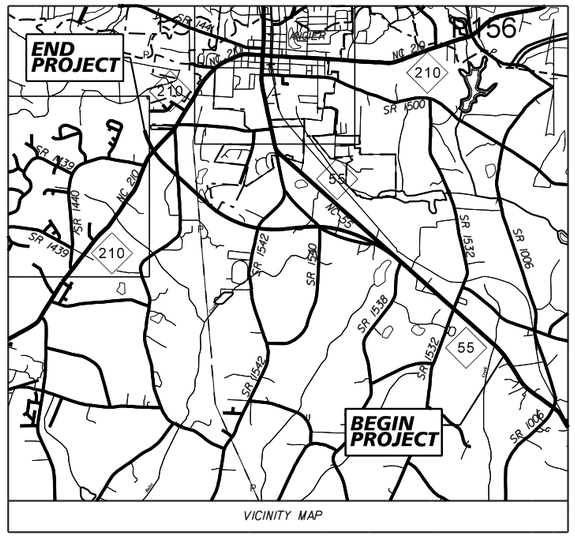
NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/10/2021
WAKE COUNTY
R-5705C
46377.1.1

Submitted 12/21/2021

09/08/99

TIP PROJECT: R-5705A



65% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY ENVIRONMENTAL PERMIT PLANS
HARNETT COUNTY

T.I.P. NO.	SHEET NO.
R-5705A	UE-01

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

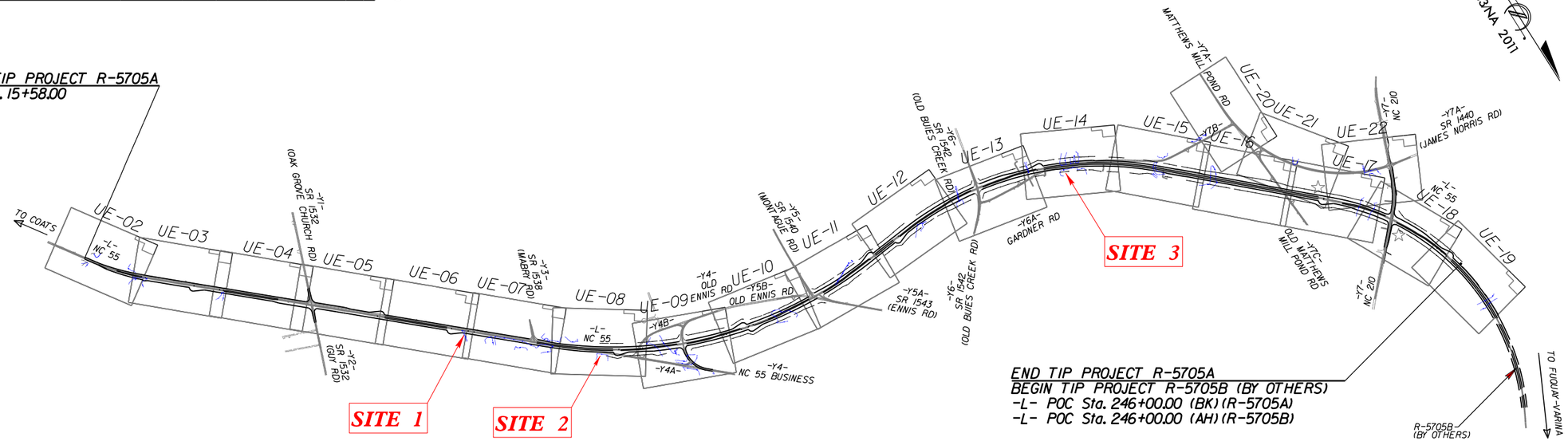
PERMIT DRAWING
SHEET 1 OF 14

PRELIMINARY

LOCATION: NC 55 FROM SOUTH OF SR 1532 (OAK GROVE CHURCH ROAD) TO NORTH OF NC 210

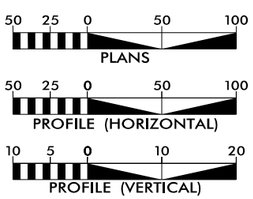
TYPE OF WORK: AERIAL AND UNDERGROUND RELOCATIONS OF WATER, SANITARY SEWER, POWER AND COMMUNICATIONS LINES

UTILITIES WETLAND & SURFACE WATER IMPACTS PERMIT



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	*DESCRIPTION:*
UE-1	*TITLE SHEET*
UE-02 THRU UE-22	*ENVIRONMENTAL PERMIT PLAN SHEETS*

UTILITY OWNERS WITH CONFLICTS

(A) POWER – DUKE ENERGY
(B) COMMUNICATIONS – CHARTER
(C) WATER – HARNETT REGIONAL WATER
(D) TOWN OF ANGIER

PREPARED IN THE OFFICE OF:

KCI
http://www.kci.com

KCI Associates of N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
Fax (919) 783-9266

JOHN FAISON	*UTILITY PROJECT MANAGER*
L. KELSEY BARTLETT	*PROJECT UTILITY COORDINATOR*
DANIEL ALLEN	*PROJECT UTILITY DESIGNER IN TRAINING*

DIVISION OF HIGHWAYS
UTILITIES UNIT
1555 BIRCH SERVICE CENTER
RALEIGH, NC 27699

KELVIN MARTIN	*UTILITY ENGINEER*
VACANT	*UTILITY AREA COORDINATOR*
KELVIN MARTIN	*UTILITY COORDINATOR*

8/20/2021
M:\2010\05\10058 3AM R-5705 AB&C\R-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\01_290_001_R-5705A_ut_U001_tsh.dgn
Shannon.Emrich

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-06

UTILITIES BY OTHERS

REFERENCE ROADWAY PLAN SHEET 08

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 2 OF 14

NAD 83/NA 2011

MATCHLINE -L- STA 64+00 (SEE UO-05)

MATCHLINE -L- STA 78+00 (SEE UO-07)

-L- PC Sta. 75+52.36

-L- PT Sta. 76+69.99

HARNETT REGIONAL WATER PROPOSED 16" WATER LINE

PROPOSED DUKE ENERGY, CENTURYLINK, & CHARTER/SPECTRUM JOINT USE LINE

SEGRA TO DIRECTIONALLY BORE PROPOSED U/G FOC CONDUITS

PROPOSED SEGRA HANDHOLE

ABANDONED COMM LINES

PROPOSED CENTURYLINK HANDHOLE & TEL LINE TO TIE INTO AERIAL

30'L x 10'W BORE PIT

BORE AND JACK OF 8" WATER LINE

10'L x 10'W RECEIVING PIT

SITE 1

HC

(28) CAROL BLALOCK
DB 88E PG 258

(32) DANIEL MORTON
DB 3441 PG 835
MB 2008 PG 1042

(35) JAMES GARNER
DB 1602 PG 2197
PG 303

(38) JAMES GARNER
DB 1071 PG 120

(41) BUCKEYE GAS PRODUCTS
DB 817 PG 394

(43) LYNN MUCHINSON
DB 1508 PG 838

(46) JULEE JOHNSON
DB 2967 PG 15
MB 2011 PG 317

(48) BENNY WEAVER
DB 2458 PG 329
MB 2006 PG 930

(44) JEAN GARNER
DB 1665 PG 80
MB 2001 PG 1260

(45)

(33) MARIO HERNANDEZ
DB 2857 PG 342
MB 2011 PG 303

(34) JAMES GARNER
DB 1145 PG 360

(36) BARBARA HENRIES
DB 2007 PG 3

(37) D&Q MOTOR SPORTS LLC
DB 2803 PG 711

(39) WILLIAM HART
NO DEED INFO
PC* F PG 326C

(40) JIMMY WALTERS
DB 1102 PG 980
PC* F PG 326C

(42) JIMMY WALTERS
DB 606 PG 222

(31) CURTIS ADAMS
DB 508 PG 169

N 48°09'47.9"W

N 48°15'11.4"W

NC 55

Harnett Co Dept Public Utilities, 16", DIP

Harnett Co Dept Public Utilities, 8" PVC

Century Link, Fo

Century Link, Copper

Spirit Comm, FO

TV, Spectrum

ABANDONED

REM

BM#4

PROP U/G (FO) TEL CABLES

PROPOSED 8" WL

EXIST 16" WL

EXIST 8" WL

PUE

TDE

BST

GR

WOODS

POND

8/17/99

8/22/2021
M:\Projects\5100583AM R-5705 AB&C\R-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\02_R5705A_ut_prm_rdy08A_UO06A_psh.dgn
Shannon Emrich

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-06

UTILITIES BY OTHERS

REFERENCE ROADWAY PLAN SHEET 08

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 3 OF 14

NAD 83/NA 2011

MATCHLINE -L- STA 64+00 (SEE UO-05)

MATCHLINE -L- STA 78+00 (SEE UO-07)

-L- PC Sta. 75+52.36

-L- PT Sta. 76+69.99

65+00

70+00

75+00

HARNETT REGIONAL WATER PROPOSED 16" WATER LINE

28 CAROL BLALOCK DB 88E PG 258

32 DANIEL MORTON DB 3441 PG 835 MB 2008 PG 1042

35 JAMES GARNER DB 1602 PG 2197 PG 303

38 JAMES GARNER DB 1071 PG 120

41 BUCKEYE GAS PRODUCTS DB 817 PG 394

43 LYNN MUCHINSON DB 1508 PG 838

46 JULEE JOHNSON DB 2967 PG 15 MB 2011 PG 317

48 BENNY WEAVER DB 2458 PG 329 MB 2006 PG 930

44 JEAN GARNER DB 1665 PG 80 MB 2001 PG 1260

33 MARIO HERNANDEZ DB 2857 PG 342 MB 2011 PG 303

34 JAMES GARNER DB 1145 PG 360

36 BARBARA HENRIES DB 2007 PG 3

37 D&Q MOTOR SPORTS LLC DB 2803 PG 711

31 CURTIS ADAMS DB 508 PG 169

39 WILLIAM HART NO DEED INFO PC* F PG 326C

40 JIMMY WALTERS DB 1102 PG 980 PC* F PG 326C

42 JIMMY WALTERS DB 606 PG 222

45

BM#4

N 48-09-47.9 W

N 48-15-11.4 W

NC 55

Harnett Co Dept Public Utilities, 16", DIP

Harnett Co Dept Public Utilities, 8", PVC

Century Link, Fo

Century Link, Copper

Spirit Comm, Fo

TV Spectrum

ABANDONED

REM

RPL

PROP U/G (90) TEL CABLES

PROP U/G (90) FOC

PROPOSED DUKE ENERGY, CENTURYLINK, & CHARTER/SPECTRUM JOINT USE LINE

SEGRA TO DIRECTIONALLY BORE PROPOSED U/G FOC CONDUITS

PROPOSED SEGRA HANDHOLE

ABANDONED COMM LINES

PROPOSED CENTURYLINK HANDHOLE & TEL LINE TO TIE INTO AERIAL

SITE 1

30'L x 10'W BORE PIT

BORE AND JACK OF 8" WATER LINE

10'L x 10'W RECEIVING PIT

HC

POND

WOODS

8/17/99

8/20/2021
M:\Projects\5100583AM R-5705 AB&C\R-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\03_R5705A_ut_prm_rdy08_U006_psh.dgn
Shannon Emrich

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-06A

WETLAND AND STREAM IMPACTS
SITE IMPACT ZOOM: 1" = 40'

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 4 OF 14

NAD 83/NA 2011

Harnett Co Dept Public Utilities , 16", DIP

16" WL

EXIST R/W

TV, Spectrum

Century Link, FO

ABANDONED

REM

NC 55 25' BST

15" RCP-IV

Harnett Co Dept Public Utilities , 8", P

DI

N 48°15' 11.4" W

Century Link, Copper

FO, Spirit Comm

PROP O/H POW & TEL LINES

WOODS

8" WL

PROP U/G (FO) TEL CABLES

PUE

+24.41
106.48' RT

30'L x 10'W BORE PIT

SITE 1

HC

8" TL IN

+56.02
113.58' RT

+52.21
106.98' RT

+89.74
107.5' RT

+29.07

PROPOSED DUKE ENERGY, CENTURYLINK,
& CHARTER/SPECTRUM JOINT USE LINE

8/17/99

8/20/2021 10:05:00 AM R-5705 AB&C\R-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\04_R5705A_ut_prm_rdy08_U006_psh_zoom wo con.dgn

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-06A

WETLAND AND STREAM IMPACTS
SITE IMPACT ZOOM: 1" = 40'

UTILITIES BY OTHERS

NOTE:
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LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 5 OF 14

NAD 83/NA 2011

Harnett Co Dept Public Utilities , 16", DIP

Century Link, FO

TV, Spectrum

ABANDONED

NC 55 25' BST

15" RCP-IV

Harnett Co Dept Public Utilities , 8", PVC

N 48°15' 11.4" W

Century Link, Copper

FO, Spirit Comm

REM

16" WL

8" WL

8" TL IN

PROP U/G (FO) TEL CABLES

PROP O/H POW & TEL LINES

PUE

+24.41
106.48' RT

+56.02
113.58' RT

+52.21
106.98' RT

+89.74
107.5' RT

+29.07

30'L x 10'W BORE PIT

SITE 1

HC

PROPOSED DUKE ENERGY, CENTURYLINK, & CHARTER/SPECTRUM JOINT USE LINE

WOODS

8/17/99

8/20/2021
R-5705_ut_prm_rdy08_U006_psh_zoom w con.dgn
Shannon Emrich
R-5705 AB&C\R-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\05_R5705A_ut_prm_rdy08_U005B3AM

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-08

UTILITIES BY OTHERS

REFERENCE ROADWAY PLAN SHEET 10

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 6 OF 14

NAD 83/NA 2011

MATCHLINE -L- STA 92+00 (SEE SHEET UO-07)

MATCHLINE -L- STA 105+50 (SEE SHEET UO-07)

95+00

100+00

105+00

HARNETT REGIONAL WATER PROPOSED 16" WATER LINE

SEGRA TO DIRECTIONALLY BORE PROPOSED U/G FOC CONDUITS

ABANDONED COMM LINES

PROPOSED CHARTER/SPECTRUM AERIAL SPAN

DUKE ENERGY EXISTING POLE NOT SHOWN IN FINAL SURVEY

PROPOSED DUKE ENERGY, CENTURYLINK, & CHARTER/SPECTRUM JOINT USE LINE

HARNETT REGIONAL WATER PROPOSED 8" WATER LINE

PROPOSED CHARTER/SPECTRUM U/G 2" CONDUIT SERVICE LINE AT A DEPTH OF 36"

PROPOSED SEGRA HANDHOLE

-L- NC 55

SITE 2

-Y4A- POT Sta. 10+00.00

BEGIN CONSTRUCTION -Y4A- POT Sta. 11+40.00

TERMINAL END SECTION

ITEM 4A ACCESS TO BE REPLACED

N 48°15'11.4"W

51 ISABEL LOREDO
DB 3258 PG 986
MB 2014 PG 313

52 W E COLLIER
DB 2768 PG 34

53 A M COLLIER
DB 3278 PG 598

54 A M COLLIER
DB 3278 PG 600

55 NANCY CURRIN
DB 2627 PG 807
MB 2009 PG 275

56 JERRY TUCKER
DB 2208 PG 537
MB 2001PG 641

57 CLAY GARDNER
DB 3454 PG 424

58 KENNETH SNIPES
DB 3372 PG 76

59

49 BARBARA SMETZER
DB 2038 PG 935

POND

WOODS

CULTIVATED

ABANDONED

Century Link, Copper

55BW ELEC

PROP U/G (FO) TEL CABLES

PROP O/H POW & TEL LINES

EXIST R/W

BM#5

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Shannon.Emrich

Submitted 12/21/2021

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-08

UTILITIES BY OTHERS

REFERENCE ROADWAY PLAN SHEET 10

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 7 OF 14

NAD 83/NA 2011

MATCHLINE -L- STA 92+00 (SEE SHEET U0-07)

MATCHLINE -L- STA 105+50 (SEE SHEET U0-07)

HARNETT REGIONAL WATER
PROPOSED 16" WATER LINE

SEGRA TO DIRECTIONALLY BORE
PROPOSED U/G FOC CONDUITS

ABANDONED COMM LINES

PROPOSED CHARTER/SPECTRUM
AERIAL SPAN

DUKE ENERGY EXISTING POLE
NOT SHOWN IN FINAL SURVEY

PROPOSED DUKE ENERGY, CENTURYLINK,
& CHARTER/SPECTRUM JOINT USE LINE

HARNETT REGIONAL WATER
PROPOSED 8" WATER LINE

PROPOSED CHARTER/SPECTRUM U/G 2"
CONDUIT SERVICE LINE AT A DEPTH OF 36"

PROPOSED SEGRA HANDHOLE

SITE 2

-Y4A- POT Sta. 10+00.00

TERMINAL END SECTION
BEGIN CONSTRUCTION
-Y4A- POT Sta. 11+40.00

N 48°15'11.4" W

RPL

ISABEL LOREDO
DB 3258 PG 986
MB 2014 PG 313

KENNETH SNIPES
DB 3372 PG 16

JERRY TUCKER
DB 2208 PG 537
MB 2001PG 641

CLAY GARDNER
DB 3454 PG 424

W E COLLIER
DB 2768 PG 34

A M COLLIER
DB 3278 PG 598

A M COLLIER
DB 3278 PG 600

BARBARA SMETZER
DB 2038 PG 935

NANCY CURRIN
DB 2627 PG 807
MB 2009 PG 275

POND

WOODS

CULTIVATED

NC 55

8/20/2021
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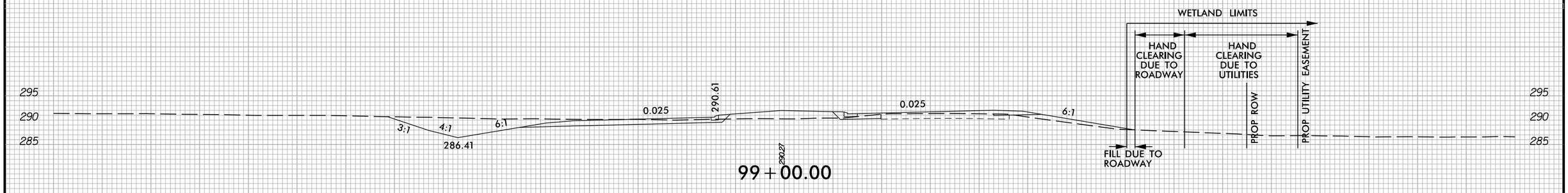
Shannon.Emrich

Submitted 12/21/2021

PERMIT DRAWING
SHEET 8 OF 14

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET _ OF _

SITE 2



8/20/2021

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-14

UTILITIES BY OTHERS

REFERENCE ROADWAY SHEET 16

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 9 OF 14

NAD 83/NA 2011

MATCHLINE -L- STA 174+00 (SEE UO-13)

MATCHLINE -L- STA 188+00 (SEE UO-15)

WILLIAM TYSON
DB 1446 PG 986

DAVID GARDNER
DB 1085 PG 714
MB 2003 PG 1243

DAVID GARDNER
DB 1085 PG 714

JEREMY SKOLOZYNSKI
DB 3258 PG 306
PC* C PG 118D

JAMES ALLEN
DB 3355 PG 413

MICHAEL ANTHONY
DB 1286 PG 579
PC* F PG 26B

DAVID ADAMS
DB 1635 PG 609

JERRY GREGORY
DB 1684 PG 453
MB 2000 PG 477

RAFAEL CERVANTES
DB 3403 PG 599
MB 2000 PG 477

CLINTON ADAMS
DB 1291PG 300
MB 2003 PG 1071

CLINTON ADAMS

RICHARD HALL
DB 982 PG 219

HARNETT REGIONAL WATER
PROPOSED 6" WATER LINE

-L- POC Sta.174+00.00 =
-DRW3- POT Sta.10+00.00
Δ = 90°

-L- POC Sta.176+76.00 =
-DRW4- POT Sta.10+00.00
Δ = 90°

-L- POC Sta.186+21.00 =
-DRW5- POT Sta.10+00.00
Δ = 90°

PROPOSED SINGLE GATE.
47" HIGH, 12' WIDE, 12' OPENING
STA 182+00 TO 182+12 LT

-DRW3- PC Sta.10+76.13
-DRW3- PT Sta.10+93.81
-DRW4- PC Sta.10+94.27
-DRW4- PT Sta.11+22.56
S 76° 53' 18.3" E
END CONSTRUCTION
-DRW4- POT Sta.11+26.90
-DRW4- POT Sta.11+37.00
-Y6A- POT Sta.19+06.00
N 5° 24' 08.4" E
END CONSTRUCTION
-DRW3- POT Sta.12+38.00
-DRW3- POT Sta.12+50.00
N 18° 54' 36.2" E
N 22° 04' 22.0" E
N 32° 54' 14.5" E
N 48° 01' 02.1" E
-DRW5- PC Sta.10+78.15
-DRW5- PT Sta.10+91.33
END CONSTRUCTION
-DRW5- POT Sta.11+07.00
-DRW5- POT Sta.11+30.00

10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT

10'L x 10'W x 5'D
EXIT POINT SLURRY
CONTAINMENT PIT

DIRECTIONAL DRILLING
OF 12" WATER LINE

TOWN OF ANGIER PROPOSED
12" WATER LINE BETTERMENT

PROPOSED DUKE ENERGY, CENTURYLINK,
& CHARTER/SPECTRUM JOINT USE LINE

SITE 3

HC

REMOVE FENCE AND BRICK COLUMNS

CONTRACTOR SHALL COORDINATE DRIVEWAY REPLACEMENT LIMITS WITH THE PROPERTY OWNER. CONTRACTOR TO ADJUST AS DIRECTED BY THE ENGINEER.

BEGIN WWF
+74.94
130' RT
+76.67
144.31' RT

+54.32
130' RT
+56.2
146.55' RT

+82.32
118.57' RT
+80
130.31' RT

+86.77(L)
126.57' RT

+25.51
105.39' RT

+29.39
101.04' LT

+27.92
115.35' LT

+49.22
100' LT

Duke Energy Progress

Century Link Copper

POND

WOODS

RIPRAP

EXIST R/W

48" WD

48" ELEC

CONC

GREU TL-3

6" WL

12" WL

WWF

PUE

SS

30' SS EASEMENT PER TOWN OF ANGIER

ABANDON

REM

BL-22

NC 55

8/17/99

8/20/2021
K:\2018\05100583AM R-5705 AB&CV-R-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\16_R5705A_ut_prm_rdy16A_U014A_psh.dgn
Shannon Emrich

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-14

UTILITIES BY OTHERS

REFERENCE ROADWAY SHEET 16

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING SHEET 10 OF 14

NAD 83/NA 2011

HARNETT REGIONAL WATER
PROPOSED 6" WATER LINE

MATCHLINE -L- STA 174+00 (SEE U0-13)

MATCHLINE -L- STA 188+00 (SEE U0-15)

WILLIAM TYSON
DB 1446 PG 986

DAVID GARDNER
DB 1085 PG 714

DAVID GARDNER
DB 1085 PG 714
MB 2093 PG 1243

JAMES ALLEN
DB 3355 PG 413

JEREMY SKOLOZYNSKI
DB 3258 PG 306
PC* E /PG 1180

MICHAEL ANTHONY
DB 1286 PG 579
PC* F/PG 26B

DAVID ADAMS
DB 1635 PG 609

JERRY GREGORY
DB 1684/PG 453
MB 2000 PG 417

RAFAEL CERVANTES
DB 3803/PG 599
MB 2000 PG 417

CLINTON ADAMS
DB 1291PG 300
MB 2003 PG 1071

CLINTON ADAMS

RICHARD HALL
DB 982 PG 219

-L- POC Sta.174+00.00 =
-DRW3- POT Sta.10+00.00
Δ = 90°

-L- POC Sta.176+76.00 =
-DRW4- POT Sta.10+00.00
Δ = 90°

-L- POC Sta.186+21.00 =
-DRW5- POT Sta.10+00.00
Δ = 90°

-DRW3- PC Sta.10+76.13

-DRW3- PT Sta.10+93.81

-DRW4- PC Sta.10+94.27

-DRW4- PT Sta.11+22.56

S 76° 53' 18.3" E
END CONSTRUCTION
-DRW4- POT Sta.11+26.90
-DRW4- POT Sta.11+37.00

-Y6A- POT Sta.19+06.00
N 5° 24' 08.4" E
END CONSTRUCTION
-DRW3- POT Sta.12+38.00
-DRW3- POT Sta.12+50.00

-DRW5- PC Sta.10+78.15

-DRW5- PT Sta.10+91.33

END CONSTRUCTION
-DRW5- POT Sta.11+07.00
-DRW5- POT Sta.11+30.00

N 18° 54' 36.2" E

N 22° 04' 22.0" E

N 32° 54' 14.5" E

N 46° 01' 02.1" E

10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT

10'L x 10'W x 5'D
EXIT POINT SLURRY
CONTAINMENT PIT

DIRECTIONAL DRILLING
OF 12" WATER LINE

TOWN OF ANGIER PROPOSED
12" WATER LINE BETTERMENT

PROPOSED DUKE ENERGY, CENTURYLINK,
& CHARTER/SPECTRUM JOINT USE LINE

PROPOSED SINGLE GATE.
47' HIGH, 12' WIDE, 12' OPENING
STA 182+00 TO 182+12 LT

SITE 3

ABANDON

REMOVE FENCE AND BRICK COLUMNS

CONTRACTOR SHALL COORDINATE DRIVEWAY REPLACEMENT LIMITS WITH THE PROPERTY OWNER. CONTRACTOR TO ADJUST AS DIRECTED BY THE ENGINEER.

8/17/99

8/20/2021
K:\2010\051005834M R-5705 AB&CVR-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\17_R5705A_ut_prm_rdy16_U014_psh.dgn
Shannon Emrich

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-14A

WETLAND AND STREAM IMPACTS
SITE IMPACT ZOOM: 1" = 40'

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 11 OF 14

POT Sta. 10+00.00 -L-
NC 55
REM
REM
REM
GREW TL-3
6" WL
12" WL
12" WL INSTALL
PUE
+82.32
118.57' RT
+80
130.31' RT
+25.31
105.39' RT
10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT
HC
SITE 3
DIRECTIONAL DRILLING
OF 12" WATER LINE
TOWN OF ANGIER PROPOSED
12" WATER LINE BETTERMENT
79
DAVID ADAMS
B 1635 PG 609
10+94.27
N 16°59'49" E
217.46'
202.09
S 63°44'21" E
WOODS
-DRW5- PC
-DRW5- F
NAD 83/NA 2011

8/17/99

8/20/2021
M:\2010\05100583AM R-5705 AB&CVR-5705A\Utilities\Impacts Assessment Utilities\Utility Impacts Sheets\18_R5705A_ut_prm_rdy16_U014_psh_zoom wo con.dgn
Shannon Emrich

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	UE-14A

WETLAND AND STREAM IMPACTS
SITE IMPACT ZOOM: 1" = 40'

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LEGEND

- DENOTES TEMPORARY IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- DENOTES PERMANENT IMPACTS DUE TO ROADWAY (DETERMINED BY OTHERS)
- HC HC — DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 12 OF 14

POT Sta. 10+00.00

NC 55

REM

REM

REM

6" WL

12" WL

12" WL INSTALL

PUE

HC

+82.32
118.57' RT

+80
130.31' RT

+25.31
105.39' RT

10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT

DIRECTIONAL DRILLING
OF 12" WATER LINE

TOWN OF ANGIER PROPOSED
12" WATER LINE BETTERMENT

SITE 3

79
DAVID ADAMS
B 1635 PG 609
10+94.27

N 16°59'49" E
217.46

202.09
S 63°44'21" E

WOODS

-DRW5- PC

-DRW5- PT

NAD 83/NA 2011

8/17/99

8/20/2021
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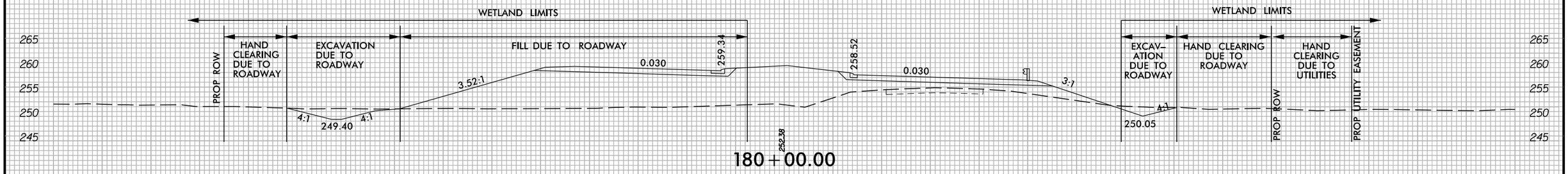
Shannon Emrich

Submitted 12/21/2021

PERMIT DRAWING
SHEET 13 OF 14

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5705A	PERMIT SHEET _ OF _

SITE 3



8/20/2021

Submitted 12/21/2021

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L-77+27/77+56 RT	OH Power & Telephone Line					0.01					
2	-L- 98+43/100+17 RT	OH Power & Telephone Line					0.11					
3	-L-179+12/183+33 RT	OH Power & Telephone Line					0.11					
TOTALS*:							0.23			0	0	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
August 2021
Harnett County
R-5705A Utility Permit Plans
46377.1.2

Submitted 12/21/2021

TIP PROJECT: R-5705C

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5705C	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46377.1.1		

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

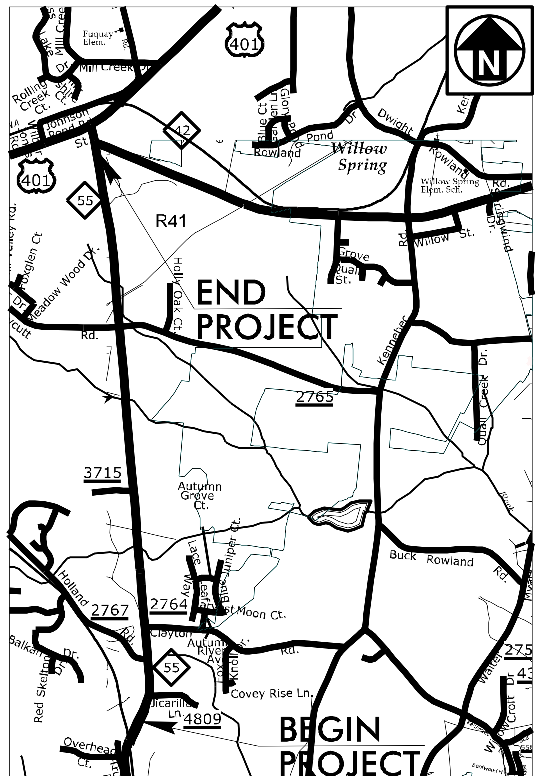
PERMIT DRAWING
SHEET 1 OF 8

WAKE COUNTY

LOCATION: NC 55 FROM SOUTH OF SR 4809 (JICARILLA LANE) TO NC 42 IN FUQUAY-VARINA

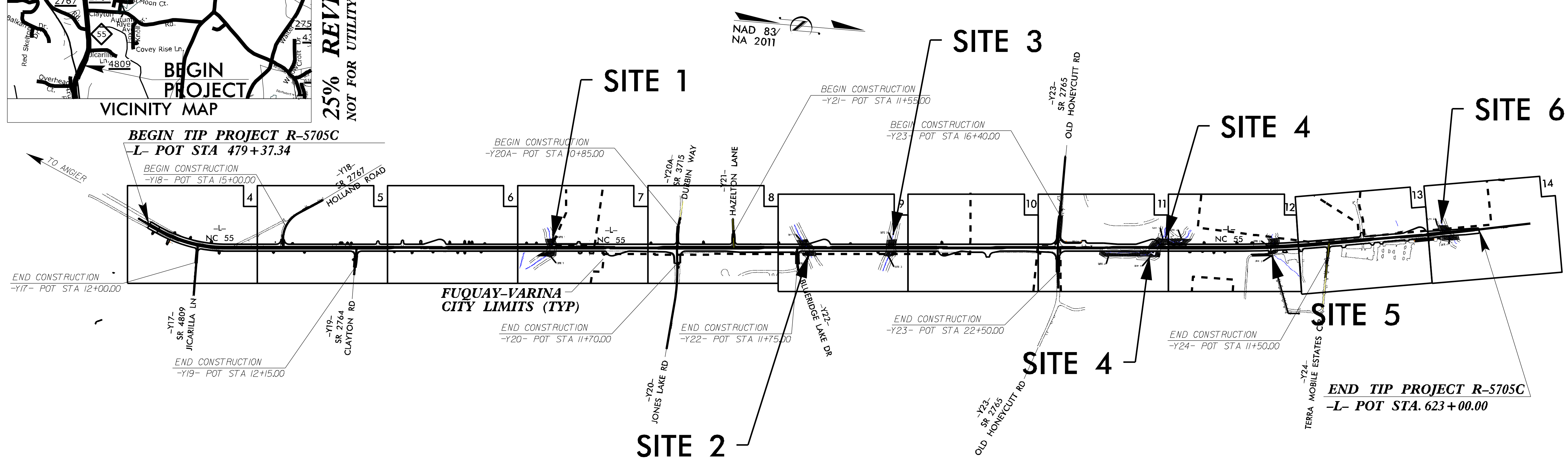
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT EXTENSIONS

BUFFER IMPACTS PERMIT



VICINITY MAP

25% REVIEW PLANS
NOT FOR UTILITY OR HYDRAULIC DESIGN



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PORTIONS OF THIS PROJECT ARE WITHIN THE MUNICIPAL BOUNDARIES OF FUQUAY-VARINA
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD __.

GRAPHIC SCALES

50 25 50 100
PLANS

50 25 50 100
PROFILE (HORIZONTAL)

10 5 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2022 = 28800
ADT 2045 = 46500
K = 9 %
D = 60 %
T = 4 % *
V = 50 MPH
* (TTST =1% DUAL 3%)
FUNC CLASS = MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5705C = 2.692 MILES
TOTAL LENGTH OF TIP PROJECT R-5705C = 2.692 MILES

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 17, 2020

LETTING DATE:

GLENN W. MUMFORD, PE
PROJECT ENGINEER

HERB TURNER, PE
HYDRAULICS ENGINEER

NICOLE M. HACKLER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

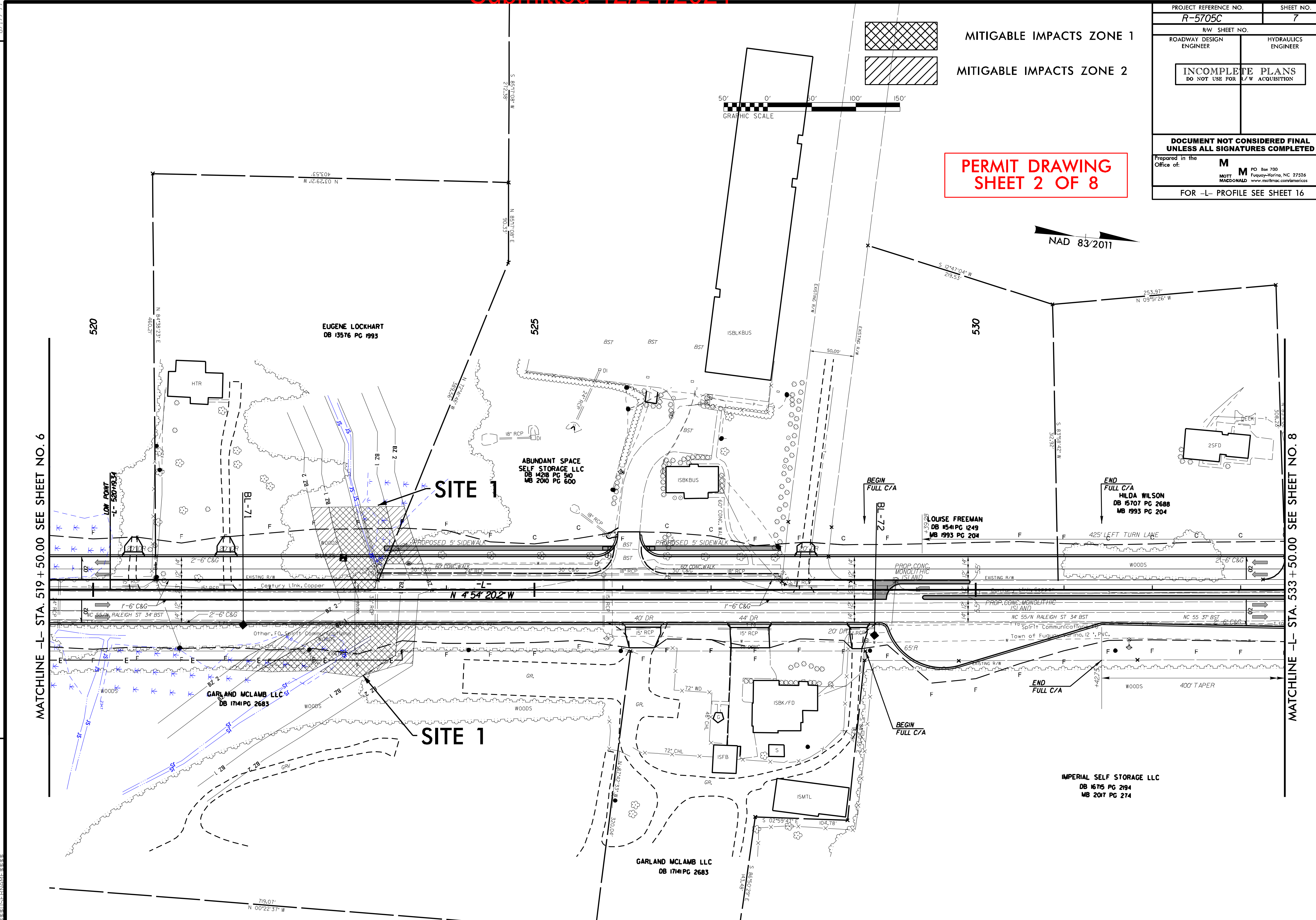
ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA ★ DEPARTMENT OF TRANSPORTATION ★

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

Submitted 12/21/2021



PROJECT REFERENCE NO.	SHEET NO.
R-5705C	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: MOTT MACDONALD, PO Box 700, Fuquay-Varina, NC 27526, www.mottmac.com/americas

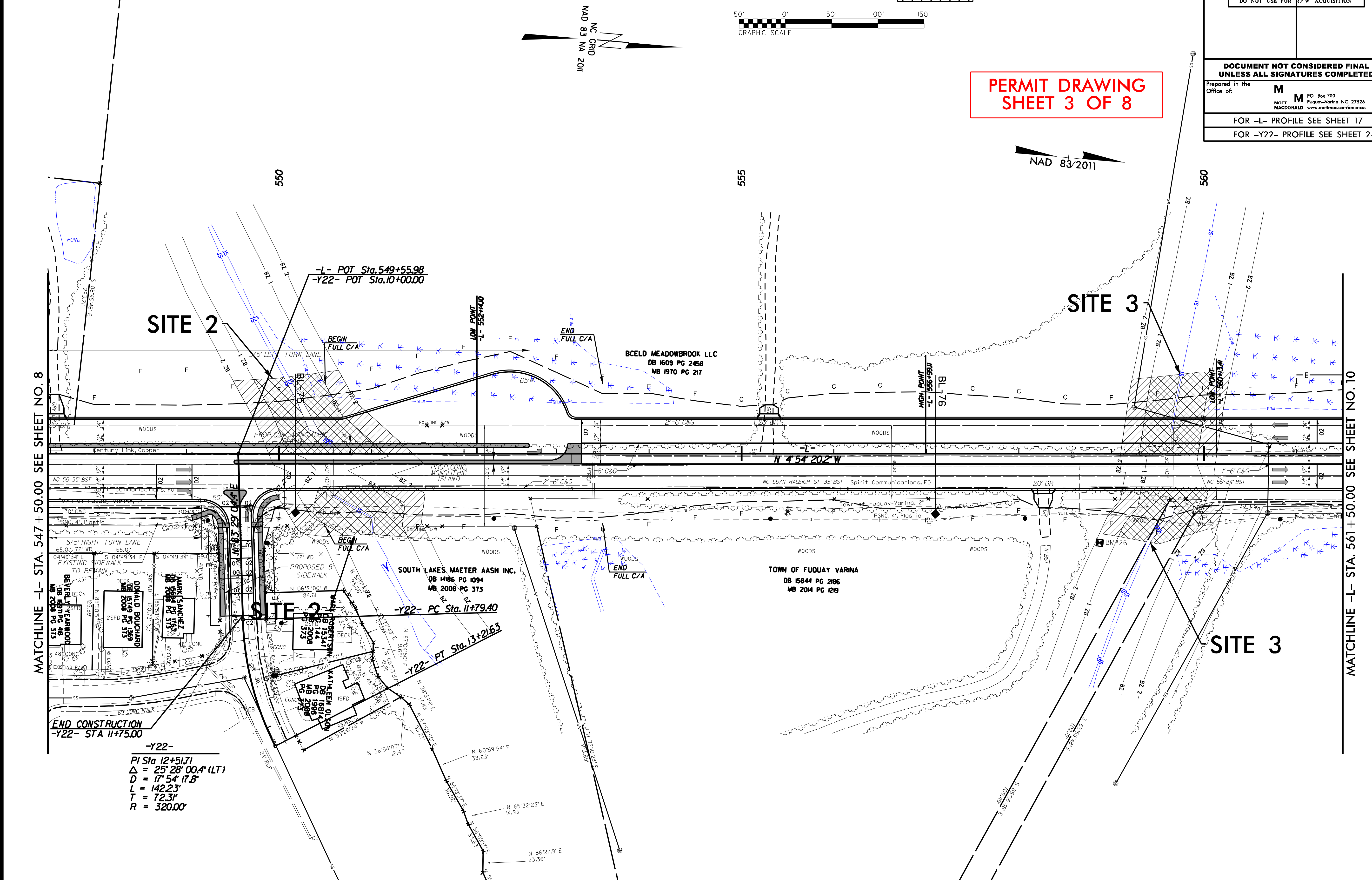
FOR -L- PROFILE SEE SHEET 17

FOR -Y22- PROFILE SEE SHEET 24

PERMIT DRAWING SHEET 3 OF 8

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2



Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: MATT MACDONALD — PO Box 700 Fuquay-Varina, NC 27526 www.mattmac.com/americas

FOR –L– PROFILE SEE SHEET 18

FOR –Y23– PROFILE SEE SHEET 24

50' 0' 50' 100' 150'
GRAPHIC SCALE

PERMIT DRAWING SHEET 4 OF 8

NAD 83/2011

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

REVISIONS 8/17/99

MATCHLINE –L– STA. 575+50.00 SEE SHEET NO. 10

MATCHLINE –L– STA. 589+50.00 SEE SHEET NO. 12

BEGIN CONSTRUCTION
–Y23– STA 16+40.00

–L– POT Sta. 577+60.99
–Y23– POC Sta. 19+84.50

–Y23– PC Sta. 18+23.36

–Y23– PT Sta. 21+21.27

END CONSTRUCTION
–Y23– STA 22+50.00

–Y23– POT Sta. 24+25.47

–Y23–
PI Sta 19+72.45
Δ = 5° 57' 29.5" (LT)
D = 2° 00' 00.0"
L = 297.91'
T = 149.09'
R = 2,864.79'

SITE 4

SITE 4

SITE 4

2022/2045 TRAFFIC VOLUMES	–Y23– SR 2765 OLD HONEYCUTT RD	NC 55 –L–
	13800 / 21700	
	6860 / 9000	2900 / 6800
24500 / 39600		21200 / 39400
	300 / 400	1000 / 2400
	5300 / 8700	

–Y23– SR 2765 OLD HONEYCUTT RD

DONALD CHESSON F
DB 10616 PG 2213

DONALD CHESSON
DB 10674 PG 2448

BUY & GO INC
DB 14156 PG 292

TOWN OF FUQUAY VARINA
DB 15545 PG 152

WILLOW CREEK HOMEOWNERS ASSOC INC
DB 8265 PG 2661
MB 1998 PG 1806

WILLOW CREEK HOA

LOW POINT
–L– 580+66.54

Submitted 12/21/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: MOTT MACDONALD, PO Box 700 Fuquay-Varina, NC 27526 www.mottmac.com/americas

FOR -L- PROFILE SEE SHEETS 18 & 19

8/17/99

REVISIONS

GRAPHIC SCALE 50' 0' 50' 100' 150'

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

NAD 83/2011

BUFFER DRAWING
SHEET 5 OF 8

-L-
PI Sta 601+03.53
Δ = 4° 52' 12.6" (LT)
D = 0° 34' 22.6"
L = 850.00'
T = 425.26'
R = 10,000.00'
SE = NC
RUNOFF = N/A

MATCHLINE -L- STA. 589+50.00 SEE SHEET NO. 11

MATCHLINE -L- STA. 603+50.00 SEE SHEET NO. 13

SITE 4

SITE 5

SITE 5

-L- PC Sta. 596+78.27

-L- N 4°54'20.2"W

LIBERTY FELICIANO
DB 14057 PG 1121
MB 2004 PG 414

DEBORAH DOVER
DB 13902 PG 2423
MB 2004 PG 414

YELLOW CREEK II HOMEOWNERS ASSN INC
DB 11837 PG 2400

YELLOW CREEK II HOMEOWNERS ASSN INC
DB 8593 PG 1449

FRANCISCO RODRIGUEZ
DB 9256 PG 1784

SUE STEPHENSON
DB 11463 PG 1167

6240 NC 55 LLC
DB 11633 PG 1846

JCLU LTD VPTNRP LTD PTNRP THE
DB 13910 PG 1929

ENGLISH FUQUAY VARINA CONGREGATION OF JEHOVAHS WIT
DB 11734 PG 1853

JOEL RAY SMITH
DB 13422 PG 755

MICHAEL LLOYD LESSARD
DB 15619 PG 1888

ETTA GRAY
DB 11028 P

ISB CHURCH

ISBLK BUS.

METAL CANOPY

TERRA MOBILE ESTATE CIRCLE 18' BST

BRYANT ESTATE DR 16' BST

Century Link, Copper

Town of Fuquay-Varina, 12", Unknown

Town of Fuquay-Varina 16" DIP (Not In Service)

Spirit Communications, FO

TV, Spectrum

SSFM Valve

595

600

$$$$SYSTIME$$$$
$$$$SIGN$$$$
$$$$USERNAME$$$$

Submitted 12/21/2021

PERMIT DRAWING
SHEET 6 OF 8

PROJECT REFERENCE NO.	SHEET NO.
R-5705C	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
MATT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com/americas

FOR -L- PROFILE SEE SHEETS 19 & 20

50' 0' 50' 100' 150'
GRAPHIC SCALE

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

NAD 83/2011

-L-
PI Sta. 619+98.87
Δ = 1° 43' 48.1" (LT)
D = 0° 17' 11.3"
L = 603.89'
T = 301.97'
R = 20,000.00'
SE = NC
RUNOFF = N/A

SITE 6

END FULL C/A

554' TAPER

225' TAPER

150' TAPER

-L- PT Sta. 623+00.79

END TIP PROJECT R-5705C
-L- STA. 623+00.00

MATCHLINE -L- STA. 617+50.00 SEE SHEET NO. 13

REVISIONS

8/17/99

MILLENNIUM TRUST CO LLC FBO JAMES SERINO IRA
DB 17057 PG 1834

ANCHOR PROPERTIES OF RALEIGH LLC
DB 16377 PG 2359

MAYO JONES
NO DEED

LINDA THOMAS
DB 5446 PG 145

ACC INVESTMENTS
DB 4375 PG 316
MB 1988 PG 1352

ACC INVESTMENTS
DB 4840 PG 744
MB 1991 PG 24

VICTOR PRETO
DB 9598 PG 387

HAROLD JOHNSON
DB 2928 PG 177

BRYAN FAMILY LTD
DB 1438 PG 373
DB 1438 PG 342

TERRY ROGERS PROPERTIES LLC
DB 1999 PG 1205

PROPERTIES OF RALEIGH LLC
DB 1856 PG 1856

Town of Fuquay-Varina, 12", Unknown

Century Link Copper

FO, Spirit Communications

Town of Fuquay-Varina, 6", DIP, (Not In Service)

Town of Fuquay-Varina, 6", Unknown

U5751-AZ22

-EY2 LT-

-EY2 RT-

BL-106=

Submitted 12/21/2021

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	From -L- Sta. 521+54 to	Roadway Fill	x						10742	6748	17489		
	Sta. 523+74 Lt/Rt												
2	From -L- Sta. 549+50 to	Roadway Fill	x						10851	6638	17489		
	Sta. 551+59 Lt/Rt												
3	From -L- Sta. 558+86 to	Roadway Fill	x						9364	5469	14833		
	Sta. 560+30 Lt/Rt												
4	From -L- Sta. 582+07 to	Roadway Fill	x						13950	6502	20452		
	Sta. 592+01 Lt/Rt												
4	From -L- Sta. 582+07 to	Roadway Fill			x				34255	11164	45418		
	Sta. 592+01 Lt/Rt												
5	From -L- Sta. 600+16 to	Roadway Fill	x			7682	5039	12721					
	Sta. 601+49 Lt/Rt												
6	From -L- Sta. 618+85 to	Roadway Fill	x						10546	6563	17108		
	Sta. 620+74 Lt/Rt												
TOTALS*:						**7682**	**5039**	**12721**	**89706**	**43084**	**132790**	**0**	**0**

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
12/20/21
WAKE COUNTY
R-5705C
46377.1.1
SHEET 7 OF 8

Submitted 12/21/2021

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS ZONE 1 (ft^2)	WETLANDS IN BUFFERS ZONE 2 (ft^2)
1	From -L- 521+54	to 523+52 Rt/Lt	2944	1750
2	From -L- 550+31	to 550+81 Lt	371	640
3	From -L- 560+04	to 560+30 Lt	0	550
4	From -L- 582+07	to 591+98 Rt/Lt	41380	12552
5	From -L- 600+18	to 601+49 Lt	3977	3121
6	From -L- 618+59	to 620+78 Rt/Lt	3350	982
TOTAL:			**52022**	**19595**

Revised 2018 Feb

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
12/20/21
WAKE COUNTY
R-5705C
46377.1.1
SHEET 8 OF 8

Rev. Jan 2009

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	4
R/W SHEET NO. 4	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

5/14/99

REVISIONS

ROW REV. - 7/08/21 - SHIFTED PUE ON PARCEL 2. - JWM

7/14/2022

-L-
PI Sta 21+82.71
△ = 14° 07' 17.3" (LT)
D = 1° 38' 13.3"
L = 862.63'
T = 433.51'
R = 3,500.00'
SE = 0.03
RO = 72°

BEGIN CONSTRUCTION
-L- POT Sta. 12+60.83

BEGIN TIP PROJECT R-5705A
-L- POT Sta. 15+58.00

-L- PC Sta. 17+49.20

VAN COATS
DB 3459 PG 434
PB 2016 PG 364

(1A) JAMES JOHNSON
DB 615 PG 21
PB 2016 PG 364

(1) JAMES JOHNSON
DB 731 PG 732

(3) TONY WARREN
DB 3271 PG 355

(5) DANNY HEDGEPETH
DB 926 PG 126
PC* E PG 76A

(4) HOWARD BRIDGES
DB 1754 PG 517

DOUGLAS JOHNSON
DB 3605 PG 628
PB 2016 PG 364

(2) JAMES JOHNSON
DB 730 PG 223

GREGORY INVESTMENT PROPERTIES LLC
DB 3497 PG 845

QUANTITY ESTIMATE

GEOTEXTILE	140 S.Y.
CLASS-II RIPRAP	
CULVERT	90 TONS
CLASS-I RIPRAP	
CHANNEL BED-COUNTERSUNK	10 TONS
CLASS-B RIPRAP	
CHANNEL BED-COUNTERSUNK	3 TONS
EXCAVATION	
CULVERT	50 CY
CHANNEL	5 CY

CULVERT #1
ONE BARREL

	NORTH	EAST	ELEV.
CUL1	624925.48	2088902.82	249.12
CUL2	624928.77	2088898.61	249.13
CE1	624927.00	2088900.66	253.56
HW1	624928.18	2088898.34	255.20
CUL3	624854.02	2088887.29	248.84
CUL4	624857.34	2088882.93	248.64
CE2	624856.33	2088884.79	253.47
HW2	624856.18	2088885.51	255.04

SEE SHEET 24 FOR -L- PROFILE
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	5
R/W SHEET NO. 5	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS
5/14/99
ROW REV. – 5/14/21 – ADDED EASEMENT LABEL ON PARCEL 6. – JWM
ROW REV. – 7/08/21 – ADDED PUE AND SHIFTED ACCESS POINT ON PARCEL 6. – JWM
ROW REV. – 01/12/22 – REVISED PUE ON PARCELS 6, 9, 10, 13, 14, AND 15. REMOVED PUE ON PARCELS 10 AND 12. – JWM
7/14/2022

-L-
PI Sta 21+82.71
Δ = 14° 07' 17.3" (LT)
D = 1° 38' 13.3"
L = 862.63'
T = 433.51'
R = 3,500.00'
SE = 0.03
RO = 150'

-L- PT Sta. 26+11.83

25+00 30+00 35+00

MATCHLINE -L- STA 24+50 (SEE SHEET 4)

MATCHLINE -L- STA 38+00 (SEE SHEET 6)

(5) DANNY HEDGEPETH
DB 926 PG 126
PC# E PG 76A

(8) DANNY HEDGEPETH
DB 1241 PG 820
MB 2014 PG 9

(9) CHARLES GRAY
DB 3252 PG 220

(10) CHARLES GRAY
DB 1442 PG 909
MB 2004 PG 19

(7) JEFFREY WALTERS
DB 968 PG 612

(6) JESSE MABRY
DB 915 PG 464

(2)

LATERAL 'V' DITCH
SEE DETAIL 5
EST. 140 TONS CL-B RIPRAP
EST. 300 S.Y. GFD
EST. 120 C.Y. DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

LATERAL 4' BASE DITCH
SEE DETAIL 53
EST. 25 TONS CL-B RIPRAP
EST. 60 S.Y. GFD
EST. 20 C.Y. DDE

LATERAL 4' BASE DITCH
SEE DETAIL 9
EST. 200 C.Y. DDE

SEDIMENT CONTROL BASIN

SEE TYPICAL INLET CHANNEL DETAIL 59
QUANTITIES ON SHEET 4

6' x 7' RCBC (1.0' BURIED)

15" RCP-IV

18" RCP

REMOVE

100' TAPER

ACCESS POINT

BEGIN C/A +90 90' LT
END FULL C/A +11.83 110' LT
+14.37 128.9' LT
+87.10 109.82' LT
+09.69 129.2' LT
BEGIN FULL C/A +20 110' LT
+06 145' LT
+92.52 110' LT
+79.77 110' LT
+98.98 90' LT
+18 145' LT
END C/A +70 90' LT
BEGIN C/A +30 90' LT
+82.57 111.83' LT
+82.49 90' LT
+02.57 111.73' LT
+02.42 90' LT
END C/A +86 90' LT
BEGIN C/A +46 90' LT
END C/A +60 90' LT
BEGIN C/A +20 90' LT
+00.01 100.64' LT
+03.35 90' LT
+19.10 106.62' LT
+24.31 90' LT
+71 133' RT
+21.60 128.92' RT
+21.53 144.68' RT
END FULL C/A +11.83 130' RT
+01.95 130' RT
+01.94 144.6' RT
BEGIN FULL C/A +20 130' RT
+48 143' RT
+05 122.71' RT
+49.57 111.95' RT
+27 95' RT
+42.25 95' RT
+81.52 95' RT
+81.46 105.55' RT
+01.52 95' RT
+01.46 105.65' RT
+26.24 95' RT
+27.61 107.13' RT
+46 95' RT
+47.49 104.88' RT
END C/A +70 95' RT
BEGIN C/A +30 95' RT
+95.32 95' RT
+99.75 109.15' RT
+16.28 95' RT
+18.84 103.19' RT
END C/A +45 95' RT
BEGIN C/A +05 95' RT
+01.83 124.65' RT
+86.76 120.3' RT
GRADE TO DRAIN
+63.53 119.06' RT

2GI 0512
3GI-A 0513
0516

CULTIVATED

Harnett Co Dept Public Utilities 6" PVC
Century Link, Copper

SEE SHEET 2B-1 FOR INTERSECTION DETAILS 1 AND 2
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 24 FOR -L- PROFILE

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	6
R/W SHEET NO. 6	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS

ROW REV. – 7/08/21 – ADDED DUE ON PARCELS 16 AND 17. – JWM
ROW REV. – 9/02/21 – CLOSED ACCESS POINT AND REMOVED DRIVEWAY ON PARCEL 18. – JWM
ROW REV. – 11/16/21 – ADDED ACCESS POINT AND DRIVEWAY TO PARCEL 13. CONSOLIDATED PARCEL NUMBERS 15, 16, AND 17 TO PARCEL 15. – JWM
ROW REV. – 01/12/22 – REVISED PUE ON PARCELS 6, 9, 10, 13, 14, AND 15. REMOVED PUE ON PARCELS 10 AND 12. – JWM

5/14/99

7/14/2022

MATCHLINE -L- STA 38+00 (SEE SHEET 5)

MATCHLINE -L- STA 50+50 (SEE SHEET 7)

-L- NC 55 N 48° 17' 28.4" W

10 CHARLES GRAY DB 1442 PG 909 MB 2004 PG 19

11 NANCY SILVERS DB 1101 PG 767

12 CHARLES GRAY DB 2830 PG 173

13 SHERRY OATES DB 1822 PG 69 DB 2007 PG 518

14 SHERRILL MCLAMB DB 786 PG 810

15 NANCY SILVERS DB 1101 PG 767

18 SHERRILL MCLAMB DB 738 PG 754

19 SHERRILL MCLAMB DB 839 PG 291

20 VIRGINIA HOLLIDAY DB 635 PG 530

21 UNKNOWN PROPERTY OWNER

22 NANCY SILVERS DB 1159 PG 680

6 JESSE MABRY DB 915 PG 464

100 NANCY SILVERS DB 1101 PG 767

DRAIN. POND W/4' BASE DITCH
APPROX. START ELEV. 297.0'
END ELEV. 296.0'
SEE DETAIL 26
EST. 60 TONS CL-I RIPRAP
EST. 145 S.Y. GFD
EST. 400 C.Y. DDE

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

RIPRAP PAD AT OUTLET
3 TONS CL-B RIPRAP
11 S.Y. GFD

CHANNEL CHANGE (4.0' BASE)
SEE DETAIL 11
EST. 150 C.Y. DDE
EST. 95 TONS CL-I RIPRAP
EST. 210 S.Y. GFD

TOE PROTECTION
SEE DETAIL 12
EST. 40 TONS CL-B RIPRAP
EST. 130 S.Y. GFD

GRADE TO DRAIN
APPROX. GRADE 15%
PROTECT W/EST. 15 TONS CL-B RIPRAP
EST. 40 S.Y. GFD

FALSE SUMP SEE DETAIL 7

SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 25 FOR -L- PROFILE

5/14/99

REVISIONS
ROW REV. - 6/07/21 - SHIFTED ACCESS POINT AND DRIVEWAY ON PARCEL 28. ADDED ACCESS POINT ND DRIVEWAY AT STA. 60+50. - JWM
ROW REV. - 7/08/21 - ADDED PUE ON PARCELS 24 AND 28. REVISED PUE TO TDE ON PARCEL 99. - JWM
ROW REV. - 8/09/21 - REVISED TDE BACK TO PUE ON PARCEL 99. - JWM
ROW REV. - 11/16/21 - ADDED DRIVEWAY TO PARCEL 23. REMOVED PUE ON PARCELS 24 AND 28. - JWM

7/14/2022

2022 ADT / 2045 ADT	-Y1- SR 1532 (OAK GROVE CHURCH RD)	DHV = 9%, DIR = 60%, TTST = 1%, DUAL = 3%
3300 / 7300		
9300 / 14100	500 / 1100	1700 / 3000 — 11000 / 17100
-L- NC 55		-L- NC 55
DHV = 9%, DIR = 60%, TTST = 2%, DUAL = 2%	300 / 800	900 / 1900 — DHV = 9%, DIR = 60%, TTST = 2%, DUAL = 2%
	2300 / 5900 -Y2- SR 1532 (GUY RD)	DHV = 9%, DIR = 60%, TTST = 1%, DUAL = 4%

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	7
R/W SHEET NO. 7	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA 50+50 (SEE SHEET 6)

MATCHLINE -L- STA 64+00 (SEE SHEET 8)

-L-
PI Sta 57+12.71
Δ = 0° 07' 40.5" (RT)
D = 0° 06' 52.5"
L = 111.64'
T = 55.82'
R = 50,000.00'
SE = NC
RO = NONE

-Y1- POT Sta. 10+00.00
BEGIN CONSTRUCTION
-Y1- POT Sta. 10+45.00
-L- POT Sta. 52+56.13 =
-Y1- POT Sta. 14+55.00
Δ = 111° 00' 17.1"
-L- POT Sta. 52+55.16 =
-Y2- POT Sta. 10+00.00
Δ = 110° 56' 35.7"
-L- PC Sta. 56+56.89
-L- PT Sta. 57+68.53
END CONSTRUCTION
-Y2- POT Sta. 13+60.00

SR 1532 (OAK GROVE CHURCH RD) -Y1-
N 20° 42' 14.4" E
SR 1532 (GUY RD) -Y2-
N 20° 45' 55.9" E
N 48° 17' 28.4" W
N 48° 09' 47.9" W

(99) KMB BUILDING, LLC
DB 2609 PG 517
MB 2009 PG 136

(24) A AND L PROPERTIES LLC
DB 3350 PG 890

(27) CARRIE BULLARD
DB 502 PG 121

(28) CAROL BLALOCK
DB 88E PG 258

(21) UNKNOWN PROPERTY OWNER

(22) NANCY SILVERS
DB 1229 PG 887

(23) NANCY SILVERS
DB 1101 PG 767

(26) JEAN SMITH
DB 3175 PG 397
MB 2013 PG 271

(25) TONI GAINES
DB 3183 PG 524
MB 2013 PG 271

(29) CARRIE BULLARD
DB 695 PG 318

(30) LUCILLE PATE
DB 634 PG 613

(31) CURTIS ADAMS
DB 508 PG 169

R5705-5

SEE SHEET 2B-1 FOR INTERSECTION DETAILS 3 AND 4
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 25 FOR -L- PROFILE
SEE SHEET 32 FOR -Y1- PROFILE
SEE SHEET 33 FOR -Y2- PROFILE

5/14/99

REVISIONS

ROW REV. - 7/08/21 - REVISED DUE TO TDE ON PARCEL 31. ADDED PUE ON PARCEL 32. SHIFTED PUE ON PARCEL 33. REMOVED PUE ON PARCEL 39 - JWM.
ROW REV. - 11/16/21 - CONSOLIDATED PARCEL NUMBERS 35 AND 38 TO PARCEL 35. - JWM
ROW REV. - 12/07/21 - ADDED ACCESS POINT TO PARCEL 43 AND SHIFTED FULL C/A TO STA 74+58. - JWM

7/14/2022

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	8
R/W SHEET NO. 8	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NA 2011

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PI Sta 76+11.18
△ = 0° 05' 23.5" (LT)
D = 0° 04' 35.0"
L = 117.63'
T = 58.82'
R = 75,000.00'
SE = NC
RO = NONE

-L- PC Sta. 75+52.36
-L- PT Sta. 76+69.99

MATCHLINE -L- STA 64+00 (SEE SHEET 7)
MATCHLINE -L- STA 78+00 (SEE SHEET 9)

65+00 70+00 75+00

(28) CAROL BLALOCK
DB 88E PG 258

(32) DANIEL MORTON
DB 3441 PG 835
MB 2008 PG 1042

(35) JAMES GARNER
DB 1602 PG 219
MB 2002 PG 303

(35) JAMES GARNER
DB 1071 PG 120

(41) BUCKEYE GAS PRODUCTS
DB 817 PG 394

(43) LYNN MUCHINSON
DB 1508 PG 838

(46) JULEE JOHNSON
DB 2967 PG 15
MB 2011 PG 317

BENNY WEAVER
DB 2458 PG 329
MB 2006 PG 930

(44) DONALD GREGORY
DB 3682 PG 992
MB 2001 PG 1260

(45) JEANETTE STRICKLAND
DB 1405 PG 740
MB 2000 PG 84

(31) CURTIS ADAMS
DB 508 PG 169

(33) MARIO HERNANDEZ
DB 2857 PG 342
MB 2011 PG 303

(34) JAMES GARNER
DB 1145 PG 360

(36) BARBARA HENRIES
DB 2007 PG 3

(37) D&O MOTOR SPORTS LLC
DB 2803 PG 711

(39) SYLVIA THOMPSON
NO DEED INFO
PC* F PG 326C

(40) JIMMY WALTERS
DB 1102 PG 980
PC* F PG 326C

(42) JIMMY WALTERS
DB 606 PG 222

SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL 13
EST. 60 TONS CL-B RIPRAP
EST. 160 S.Y. GFD

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'V' DITCH
SEE DETAIL 20
BEGIN ELEV. = 314.28'
END ELEV. = 314.00'
APPROX. SLOPE = 0.6%
EST. 5 C.Y. DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL 16

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
14 S.Y. GFD

NC 55 N 48° 09' 47.9" W
N 48° 15' 11.4" W

SEE SHEET 2B-2 FOR INTERSECTION DETAIL 5
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 26 FOR -L- PROFILE

REVISIONS
ROW REV. - 5/14/21 - REVISED EASEMENTS ON PARCEL 49 AND ACCESS POINT BETWEEN PARCELS 47 AND 49 - JWM
ROW REV. - 7/08/21 - REMOVED PUE ON PARCEL 49. REMOVED PUE AND ADJUSTED TDE ON PARCEL 50. - JWM
ROW REV. - 12/07/21 - ADDED PUE TO PARCEL 46. UPDATED FINAL SURVEY AND ADDED ACCESS POINT TO PARCEL 48 AT STA. 82+65. - JWM
ROW REV. - 2/02/22 - SHIFTED DRIVEWAY AND ACCESS POINT ON PARCEL 46. -JWM
ROW REV. - 6/07/22 - UPDATED PROPERTY OWNER INFORMATION FOR PARCEL 49. -JWM

7/14/2022

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	9
R/W SHEET NO. 9	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

2022 ADT
2045 ADT

-Y3-
SR 1538
(MABRY RD)
DHV = 9%
DIR = 65%
TTST = 1%
DUAL = 3%
600 / 800

-L- NC 55
11000 / 17100 | 100 / 200
DHV = 9%
DIR = 60%
TTST = 2%
DUAL = 2%

-L- NC 55
500 / 600 | 11400 / 17500
DHV = 9%
DIR = 60%
TTST = 2%
DUAL = 2%

-L-
PI Sta 119+02.62
Δ = 47° 38' 07.8" (LT)
D = 0° 52' 53.3"
L = 5,404.08'
T = 2,869.25'
R = 6,500.00'
SE = 0.025
RO = 150'

(46) WADE BURT
DB 3841 PG 131
MB 2011 PG 317

(44) DONALD GREGORY
DB 3682 PG 992
MB 2001 PG 1260

(48) JRT MANAGING PROPERTIES, LLC
DB 3685 PG 757
MB 2019 PG 99

(48) JRT MANAGING PROPERTIES, LLC
DB 3685 PG 757
MB 2019 PG 59

(48) JRT MANAGING PROPERTIES, LLC
DB 3685 PG 757
MB 2019 PG 59

(50) FRANK D'ALESIO
DB 3604 PG 42
MB 2017 PG 390

(51) ISABEL LOREDO
DB 3258 PG 986
MB 2014 PG 313

(52) W E COLLIER
DB 2768 PG 34

(45) JEANETTE STRICKLAND
DB 1405 PG 740
MB 2000 PG 84

(47) MR CURRIN
DB 1315 PG 641

(42) JIMMY WALTERS
DB 606 PG 222

(49) CLAY E. GARDNER
DENISE P. GARDNER
DB 3677 PG 997

MATCHLINE -L- STA 78+00 (SEE SHEET 8)

MATCHLINE -L- STA 92+00 (SEE SHEET 10)

-Y3- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y3- POT Sta. 10+88.00

-L- POT Sta. 88+43.18 =
-Y3- POT Sta. 13+75.00
Δ = 111°54'15.0"

-L- PC Sta. 90+33.37

SEE SHEET 2B-2 FOR INTERSECTION DETAIL 6
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 26 FOR -L- PROFILE
SEE SHEET 33 FOR -Y3- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	10
R/W SHEET NO. 10	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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5/14/99

REVISIONS

ROW REV. – 5/14/21 – REVISED ACCESS POINT BETWEEN PARCELS 56 AND 57. – JWM
ROW REV. – 7/08/21 – SHIFTED PUE ON PARCELS 51, 52, 53, 54, AND 55. – JWM
ROW REV. – 6/07/22 – UPDATED PROPERTY OWNER INFORMATION FOR PARCELS 49 AND 55. –JWM

7/14/2022

-L-
PI Sta 119+02.62
Δ = 47° 38' 07.8" (LT)
D = 0° 52' 53.3"
L = 5,404.08'
T = 2,869.25'
R = 6,500.00'
SE = 0.025
RO = 150'

NAD 83/NA 2011

MATCHLINE -L- STA 92+00 (SEE SHEET 9)

MATCHLINE -L- STA 105+50 (SEE SHEET 11)

95+00

100+00

105+00

51 ISABEL LOREDO
DB 3258 PG 986
MB 2014 PG 313

56 JERRY TUCKER
DB 2208 PG 537
MB 2001 PG 641

57 RIVER RUN DEVELOPERS
DB 3454 PG 424

KENNETH SNIPES
DB 3372 PG 76

52 W E COLLIER
DB 2768 PG 34

53 RILDA COLLIER LIFE ESTATE
DB 3278 PG 598

54 RILDA COLLIER LIFE ESTATE
DB 3278 PG 600

49 CLAY E. GARDNER
DENISE P. GARDNER
DB 3677 PG 997

55 CLAY E. GARDNER
DENISE P. GARDNER
DB 3636 PG 222
MB 2009 PG 275

58 WWF

-L- NC 55

-Y4A- ACCESS ROAD I

-Y4A- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y4A- POT Sta. 11+40.00

TERMINAL END SECTION

280' MEDIAN TAPER (LT/RT)

GRADE TO DRAIN
SEE CROSS SECTIONS
APPROX GRADE = 4.0%

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'V' DITCH
SEE DETAIL 20
EST. 55 C.Y. DDE

DRIVEWAY FLARE OUT
SEE DETAIL 55

DRIVEWAY FLAREOUT
SEE DETAIL 55

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SPECIAL LATERAL
4' BASE DITCH
SEE DETAIL 31

SPECIAL CUT
'V' DITCH
SEE DETAIL 21

SEDIMENT CONTROL BASIN

ACCESS POINT

No Associated Piping found

CULTIVATED

POND

WOODS

SEE SHEET 2B-2 FOR INTERSECTION DETAIL 7
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 27 FOR -L- PROFILE
SEE SHEET 35 FOR -Y4A- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	11
R/W SHEET NO. 11	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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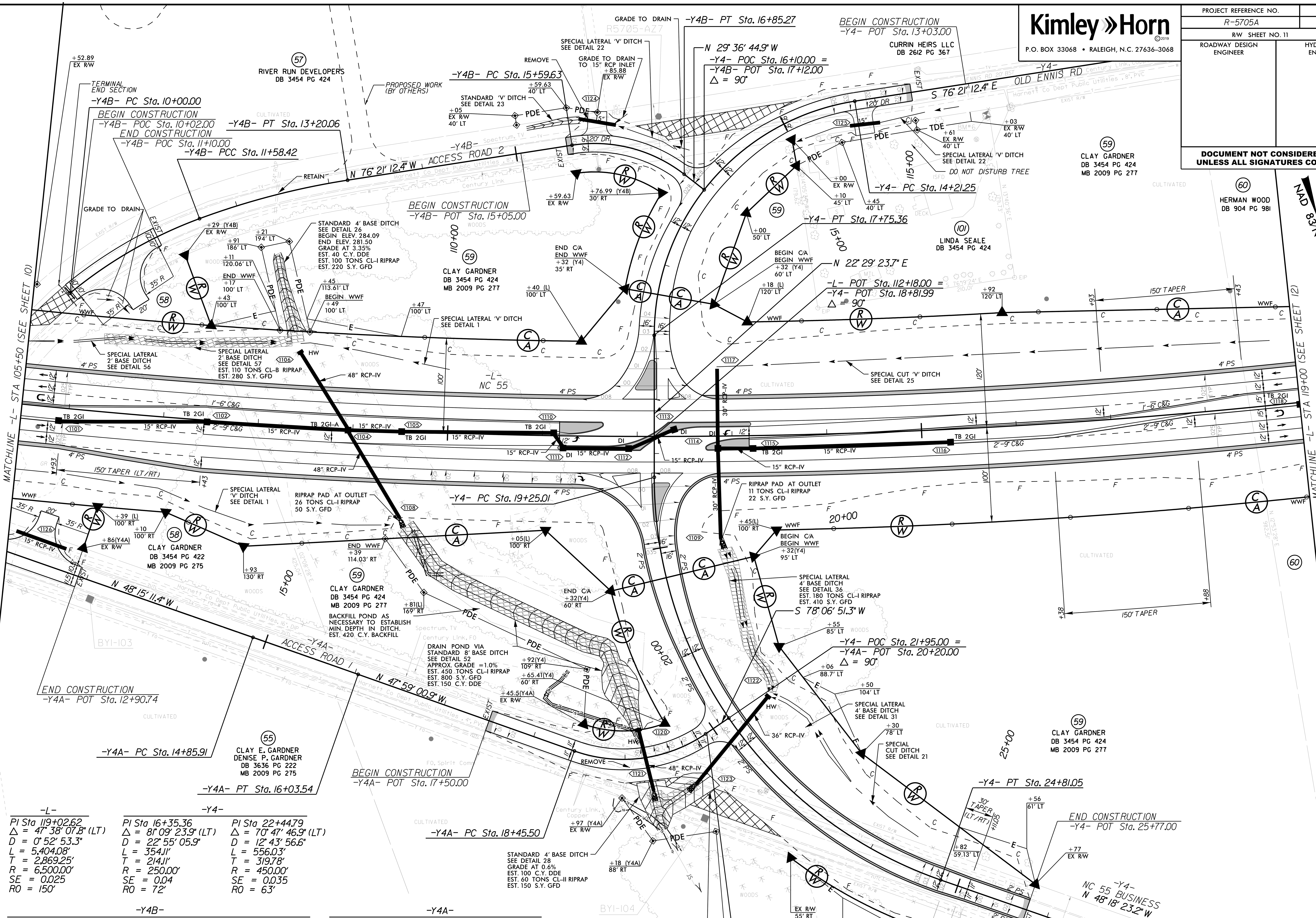
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REV. - 6/07/21 - ADDED NOTE "DO NOT DISTURB TREE" TO PARCEL 101. - JWM
ROW REV. - 6/07/22 - UPDATED PROPERTY OWNER INFORMATION FOR PARCELS 55 AND 102. -JWM

5/14/99

7/14/2022



-L-

PI Sta 119+02.62
△ = 47° 38' 07.8" (LT)
D = 0° 52' 53.3"
L = 5,404.08'
T = 2,869.25'
R = 6,500.00'
SE = 0.025
RO = 150'

-Y4-

PI Sta 16+35.36
△ = 81° 09' 23.9" (LT)
D = 22° 55' 05.9"
L = 354.11'
T = 214.11'
R = 250.00'
SE = 0.04
RO = 72'

PI Sta 22+44.79
△ = 70° 47' 46.9" (LT)
D = 12° 43' 56.6"
L = 556.03'
T = 319.78'
R = 450.00'
SE = 0.035
RO = 63'

-Y4B-

PI Sta 10+79.97
△ = 19° 18' 46.2" (RT)
D = 12° 11' 26.1"
L = 158.42'
T = 79.97'
R = 470.00'

PI Sta 12+39.51
△ = 11° 26' 00.5" (RT)
D = 7° 04' 24.8"
L = 161.64'
T = 81.09'
R = 810.00'

PI Sta 16+26.18
△ = 46° 44' 27.5" (RT)
D = 37° 12' 18.2"
L = 125.63'
T = 66.55'
R = 154.00'
SE = 0.02
RO = NONE

-Y4A-

PI Sta 15+44.73
△ = 0° 16' 10.5" (RT)
D = 0° 13' 45.1"
L = 117.63'
T = 58.82'
R = 25,000.00'

PI Sta 19+23.80
△ = 53° 54' 07.8" (LT)
D = 37° 12' 18.2"
L = 144.88'
T = 78.30'
R = 154.00'
SE = NC
RO = NONE

SEE SHEET 2B-2 FOR INTERSECTION DETAIL 8
SEE SHEET 2B-5 FOR INTERSECTION DETAILS 18 AND 19
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 27 FOR -L- PROFILE
SEE SHEET 33 FOR -Y4- PROFILE
SEE SHEET 35 FOR -Y4A- PROFILE
SEE SHEETS 35 & 36 FOR -Y4B- PROFILE

REVISIONS

ROW REV. – 5/14/21 – ADDED MISSING PROPERTY LINE TO FINAL SURVEY AND CREATED PARCEL 61A. – JWM
ROW REV. – 7/08/21 – SHIFTED PUE AND TCE ON PARCEL 60. SHIFTED PUE, UPDATED PIPE CONFIGURATION AND SHIFTED FALSE SUMP ON PARCEL 61. REMOVED PUE ON PARCEL 61A. – JWM
ROW REV. – 11/16/21 – CONSOLIDATED PARCEL NUMBERS 60A AND 60 TO PARCEL 60. – JWM
ROW REV. – 12/07/21 – ADDED TWO DRIVEWAYS TO PARCEL 60. SHIFTED ACCESS POINT AND ADDED DRIVEWAY TO PARCEL 61 AT STA. 131+00. – JWM

5/14/99

7/14/2022

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	12
R/W SHEET NO. 12	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-Y5B-
PI Sta 13+19.80
Δ = 11° 15' 53.4" (RT)
D = 7° 00' 00.3"
L = 160.92'
T = 80.72'
R = 818.50'

-L-
PI Sta 119+02.62
Δ = 47° 38' 07.8" (LT)
D = 0° 52' 53.3"
L = 5,404.08'
T = 2,869.25'
R = 6,500.00'
SE = 0.025
RO = 150'

PATSY JONES
DB 748 PG 498

JOHNNY PEARCE
DB 2705 PG 775

CHRISTOPHER SCOTT
DB 1268 PG 466

CLYDE SNYDER
DB 1223 PG 264

JOHNNY PEARCE
DB 3011 PG 477

CECIL AUSLEY
DB 2006 PG 688

DETRICE JOHNSON
DB 3544 PG 730

ADRIANO ALVAREZ
DB 2199 PG 280

JUAN GONZALEZ
DB 2377 PG 712
PC# F PG 620A

(104) DAVID FELDMANN
DB 3586 PG 623
PC# F PG 620A

(60) HERMAN WOOD
DB 904 PG 981

(60) HERMAN WOOD
DB 612 PG 58

(61) JAMES BURGIN
DB 1880 PG 98
MB 2000 PG 565

(62) TONY MABRY
DB 1417 PG 6
MB 2000 PG 279

(60) HERMAN WOOD
DB 904 PG 981

(61A) JAMES BURGIN
DB 1321 PG 0296

-Y5B- POT Sta. 10+00.00
-Y5B- POT Sta. 13+19.00
-Y5B- PC Sta. 12+39.08
-Y5B- PT Sta. 14+00.00
-Y5B- OLD ENNIS RD N 67° 11' 39.9" W
-L- NC 55
BL-14
HEDGE ROW
Hornett Co Dept Public Utilities, 8" PVC
Century Link, Copper
ENNIS RD SBST
TERMINAL END SECTION
END CONSTRUCTION -Y5B- POT Sta. 13+19.00
BEGIN CONSTRUCTION -Y5B- POT Sta. 12+15.00
120+00
125+00
130+00
10+00
MATCHLINE -L- STA 119+00 (SEE SHEET 11)
MATCHLINE -L- STA 133+00 (SEE SHEET 13)

BEGIN C/A
+79.5
100' LT

+98.97
128.99' LT

+09.18
129.47' LT

+98.81
100' LT

END C/A
END WWF
+19.5
100' LT
125'

SPECIAL CUT DITCH
SEE DETAIL 25

+63.43
134.92' LT

+25
150' LT

+85.39
152.86' LT

END WWF
+59.56
136.49' LT

FALSE SUMP TO ELEV. 286.7'
SEE DETAIL 14

+91.14
136.71' LT

+13.89
161.60' LT

+24
136.77' LT

BEGIN WWF
+50
100' LT

BEGIN FULL C/A
BEGIN WWF
+30
100' LT

CLEAN WATER DIVERSION

ACCESS POINT

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

+55.47
132.60' LT

END WWF
+60
90' LT

END FULL C/A
+50
90' LT

+58.71
148.70' LT

+78.78
144.79' LT

+76.12
131.84' LT

BEGIN WWF
+80
90' LT

FALSE SUMP TO ELEV. 287.0'
SEE DETAIL 14

FALSE SUMP TO ELEV. 286.5'
SEE DETAIL 14

150' TAPER

END WWF
+91
90' LT

+14
113.35' LT

+44.64
110.99' LT

BEGIN WWF
+42.91
90' LT

+14.28
118.35' LT

+19.78(Y5B)
EX RW

+73(L)
90' LT

+73(L)
100' LT

END WWF
+40.09
100' LT

+69 (Y5B)
44' LT
EX RW

STANDARD 'V' DITCH
SEE DETAIL 37
EST. 40 TONS
CL-B RIPRAP
EST. 90 S.Y. GFD
EST. 180 C.Y. DDE
GRADE AT 2.7%

REMOVE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 22

48" RCP-IV (BURIED 0.8')

48" HW

24" RCP-IV
15" RCP-IV
2'-9" C&G
1'-6" C&G
TB 2GI
TB 2GI-A
20' DR
4' PS
6' ABC
100'
PIPE FLAREOUT
SEE DETAIL 55

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
14 S.Y. GFD

+50
100' RT

+20
145' RT

END C/A
END WWF
+20
100' RT

BEGIN C/A
BEGIN WWF
+80
100' RT

BEGIN FULL C/A
+30
100' RT

END FULL C/A
+50
100' RT

RIPRAP PAD AT OUTLET
3 TONS CL-B RIPRAP
10 S.Y. GFD

END C/A
END WWF
+70
100' RT

RIPRAP PAD AT OUTLET
15 TONS CL-I RIPRAP
30 S.Y. GFD

BEGIN C/A
BEGIN WWF
+30
100' RT

+35
100' RT

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 38
EST. 20 C.Y. DDE

SEE SHEET 2B-3 FOR INTERSECTION DETAIL 9
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 36 FOR -Y5B- PROFILE

REVISIONS

ROW REV. - 5/14/21 - REVISED DRIVEWAY RADII TO 25' ON PARCEL 66 AND SHIFTED DRIVEWAY TO ALLOW MORE ROOM FOR TRUCKS. - JWM
ROW REV. - 7/08/21 - REMOVED PUE ON PARCEL 105. - JWM
ROW REV. - 12/07/21 - ADDED DRIVEWAY TO PARCELS 66 AND 103. - JWM
ROW REV. - 6/07/22 - UPDATED PROPERTY OWNER INFORMATION FOR PARCEL 65. -JWM

5/14/99

7/14/2022

-L-
PI Sta 119+02.62
△ = 47° 38' 07.8" (LT)
D = 0° 52' 53.3"
L = 5,404.08'
T = 2,869.25'
R = 6,500.00'
SE = 0.025
RO = 150'

-Y5A-

PI Sta 11+59.64	PI Sta 13+90.74
△ = 23° 39' 39.9" (LT)	△ = 1° 02' 29.9" (LT)
D = 10° 44' 58.8"	D = 1° 00' 00.0"
L = 220.11'	L = 104.16'
T = 111.65'	T = 52.08'
R = 533.00'	R = 5,729.58'
SE = 0.035	SE = EXIST
RO = 63'	RO = EXIST

2022 ADT / 2045 ADT

-Y5- SR 1540 (MONTAGUE RD)
DHV = 12%
DIR = 65%
TTST = 1%
DUAL = 1%

500 / 600

-L- NC 55
DHV = 9%
DIR = 60%
TTST = 1%
DUAL = 3%

8650 / 12300 | 100 / 100 | 300 / 400 | 9100 / 14400

400 / 300 | 600 / 2100

-L- NC 55
DHV = 9%
DIR = 60%
TTST = 3%
DUAL = 1%

1100 / 2500

-Y5A- SR 1540 (ENNIS RD)
DHV = 12%
DIR = 65%
TTST = 1%
DUAL = 1%

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	13
R/W SHEET NO. 13	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

JON SALSBURY
DB 2382 PG 966
PC# F PG 620A

JUAN GONZALEZ
DB 2377 PG 712
PC# F PG 620A

(104) DAVID FELDMANN
DB 3586 PG 623
PC# F PG 620A

(103) BENNIE MANGUM
DB 799 PG 611

(64) JOSEPH LIPSCOMB
DB 1903 PG 67

(65) LORI MCVEIGH PERRY
LAYTON ANDREW PERRY
DB 3743 PG 300

(66) WILLIAM HAWLEY
DB 1889 PG 108
MB 2016 PG 67

(67) DANIEL HONEYCUTT
DB 3182 PG 966

(62) TONY MABRY
DB 1417 PG 6
MB 2000 PG 279

(63) CHRISTY JORDAN
DB 3524 PG 729
MB 2000 PG 466

(105) STEPHEN YEO
DB 3359 PG 962
MB 2000 PG 466

LETESHA WYNN
DB 2136 PG 830
MB 2000 PG 466

BOBBY MABRY
DB 3404 PG 350
MB 2016 PG 25

SHIRLEY HAWLEY
DB 3184 PG 180

THOMAS NORMAN
DB 2175 PG 234

-Y5- SR 1540 (MONTAGUE RD)
N 0° 58' 22" E

-Y5A- SR 1543 (ENNIS RD)
N 47° 29' 43.8" W

MATCHLINE -L- STA 133+00 (SEE SHEET 12)

MATCHLINE -L- STA 146+50 (SEE SHEET 14)

BEGIN CONSTRUCTION
-Y5- POT Sta. 19+76.00

-L- POC Sta. 134+22.65 =
-Y5- POT Sta. 22+62.00
△ = 92° 05' 01.0"

-L- POC Sta. 135+19.00 =
-Y5A- POT Sta. 10+00.00
△ = 79° 51' 06.0"

N 22° 47' 34.0" W

-L- PT Sta. 144+37.45

S 84° 06' 40.8" W

-Y5A- PC Sta. 10+47.99

-Y5A- PT Sta. 12+68.10

N 46° 27' 13.9" W

-Y5A- PC Sta. 13+38.66

END CONSTRUCTION
-Y5A- POT Sta. 13+80.00

-Y5A- PT Sta. 14+42.82

-L- NC 55

20' RIPRAP PAD AT OUTLET
16 TONS CL-B RIPRAP
44 S.Y. GFD

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'V' DITCH
SEE DETAIL 29
EST. 5 C.Y. DDE
APPROX. GRADE = 3.6%

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 14 PS

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 22

SPECIAL CUT 'V' DITCH
SEE DETAIL 30

GRADE TO DRAIN APPROX. GRADE = 4.0%

GRADE TO DRAIN
REMOVE ABANDONED DRIVEWAY

150' TAPER (LT/RT)

160' TAPER (LT/RT)

SEE SHEET 2B-3 FOR INTERSECTION DETAILS 10 AND 11
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 28 FOR -L- PROFILE
SEE SHEET 34 FOR -Y5- PROFILE
SEE SHEET 36 FOR -Y5A- PROFILE

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	14
R/W SHEET NO. 14	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS
5/14/99 ROW REV. - 12/07/21 - ADDED TWO DRIVEWAYS TO PARCEL 67. ADDED DRIVEWAY TO PARCELS 68 AND 70. REMOVED ACCESS POINT ON PARCEL 69. - JWM

7/14/2022

-L-
PI Sta 174+91.54
Δ = 48° 33' 46.5" (RT)
D = 1° 08' 45.3"
L = 4,237.91'
T = 2,255.64'
R = 5,000.00'
SE = 0.03
RO = 180°

NAD 83/NA 2011

(66) WILLIAM HAWLEY
DB 1889 PG 108
MB 2016 PG 67

(67) DANIEL HONEYCUTT
DB 3182 PG 966

(68) SUNFLIGHT LLC
DB 1690 PG 178

(70) NORDAN FARMS INC
DB 1690 PG 178

(69) STEVEN WICKER
DB 1889 PG 51
MB 2004 PG 81

276.28' N 66°45'42" W
544.26' N 34°54'51" E
R=50.00' N 33°03'20" E
350.73' S 86°56'40" E
314.73' S 86°56'40" E
S 84° 06' 40.8" W
N 04°05'55" E 204.68'
N 61°38'55" E 157.38'

150+00 | 155+00 | 160+00

BL-17 | BL-18 | BL-19

MATCHLINE -L- STA 146+50 (SEE SHEET 13)

MATCHLINE -L- STA 160+50 (SEE SHEET 15)

-L- PC Sta. 152+35.90

BEGIN C/A
BEGIN WWF
+36
100' LT

ACCESS POINT

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 17

BEGIN
FULL C/A
+80
100' LT

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

END
FULL C/A
+35.9
110' LT

END C/A
END WWF
+94
110' LT

BEGIN C/A
+54
110' LT

+60
127' LT

LATERAL 'V' DITCH
SEE DETAIL 10
EST. 80 C.Y. DDE

+50
127' LT

EST. 45 TONS. CL-I RIPRAP ON BANKS
EST. 10 TONS COUNTERSUNK
CL-I RIPRAP IN STREAM BED
SUPPLEMENT VOIDS W/
EST. 3 TONS CL-B RIPRAP
EST. 70 S.Y. GFD
SEE DETAIL 46

BEGIN WWF
+15
100' LT
110'

150' TAPER (LT/RT)

66" RCP-IV
(1.0' BURIED)

REMOVE

66" HW

TB 2GI-A
TB 2GI
15" RCP-IV
2'-9" C&G
1'-6" C&G
4' PS
20' DR
6" ABC
WWF
PDE
WOODS
POND
CULTIVATED
SOIL

1409 | 1410 | 1411 | 1412 | 1401 | 1402 | 1403 | 1404 | 1405 | 1407 | 1408

ACCESS POINT
BEGIN C/A
BEGIN WWF
+33
100' RT
PIPE FLAREOUT
SEE DETAIL 55

BEGIN
FULL C/A
+80
100' RT

SEDIMENT CONTROL BASIN
+48
140' RT

END
FULL C/A
+35.9
110' RT

SPECIAL LATERAL
2' BASE DITCH
SEE DETAIL 16

+23
205' RT

+40
188' RT

+70
110' RT

+30
100' RT

+40
122' RT

SPECIAL LATERAL
2' BASE DITCH
SEE DETAIL 16

END C/A
END WWF
+25
100' RT
PIPE FLAREOUT
SEE DETAIL 55

BEGIN C/A
BEGIN WWF
+85
100' RT

ACCESS POINT

CLEAN WATER DIVERSION

+94
132' RT

+50
110' RT

SPECIAL CUT 'V' DITCH
SEE DETAIL 21

SEE SHEET 2B-4 FOR INTERSECTION DETAIL 12
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 29 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	15
R/W SHEET NO. 15	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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5/14/99

REVISIONS

ROW REV. - 6/07/21 - ADDED NOTE "DO NOT DISTURB TREES" TO PARCEL 106. - JWM
ROW REV. - 7/08/21 - REMOVED PUE ON PARCEL 70. ADDED PUE TO PARCELS 74A AND 75. - JWM
ROW REV. - 11/16/21 - MODIFIED PUE AT PARCEL 74A. CONSOLIDATED PARCEL NUMBERS 74A AND 81 TO PARCEL 81. - JWM
ROW REV. - 12/07/21 - REMOVED DRIVEWAY ON PARCEL 71. ADDED DRIVEWAY TO PARCEL 72. REVISED PUE ON PARCEL 81. - JWM
ROW REV. - 05/04/22 - CHANGED PARCEL 72 TO PARCEL 73. - JWM

7/14/2022

-L-
PI Sta 174+91.54
△ = 48° 33' 46.5" (RT)
D = 1° 08' 45.3"
L = 4,237.91'
T = 2,255.64'
R = 5,000.00'
SE = 0.03
RO = 180'

-Y6-
PI Sta 18+72.92
△ = 34° 30' 26.8" (RT)
D = 4° 51' 20.1"
L = 710.68'
T = 366.48'
R = 1,180.00'
SE = 0.03
RO = 57'

-DRW2-
PI Sta 11+92.78
△ = 90° 00' 00.0" (RT)
D = 190° 59' 09.4"
L = 47.12'
T = 30.00'
R = 30.00'

NAD 83/NA 2011

-Y6- POT Sta.13+41.00
BEGIN CONSTRUCTION

-Y6- PC Sta. 15+06.43

-L- POC Sta. 165+57.98 =
-Y6- POC Sta. 16+56.11
△ = 79° 51' 06.0"

-DRW2- POT Sta. 12+40.00
-DRW2- PT Sta. 12+09.90
END CONSTRUCTION
-DRW2- PT Sta. 12+00.00
-DRW2- PC Sta. 11+62.78

-L- POC Sta.172+85.00 =
-DRW2- POT Sta. 10+00.00
△ = 105°

-Y6A- PC Sta. 16+56.17
BEGIN CONSTRUCTION
-Y6A- POC Sta. 16+66.00

-Y6A- PT Sta. 13+23.36

-Y6A- PCC Sta. 11+97.53
END CONSTRUCTION
-Y6A- POC Sta.11+17.00
DO NOT DISTURB TREES

-Y6A- PC Sta. 10+30.38
N 64° 28' 35.4" W
-Y6A- POT Sta. 10+00.00 =
-Y6- POC Sta.18+85.00
△ = 95° 26' 10.0"

-Y6- PT Sta. 22+17.11

-Y6A- PT Sta. 18+29.78
N 89° 47' 18.6" W
END CONSTRUCTION
-Y6A- POC Sta. 18+19.00
TERMINAL END SECTION

-Y6- PT Sta. 22+44.00
END CONSTRUCTION

-Y6A-
PI Sta 11+14.65
△ = 17° 58' 04.9" (LT)
D = 10° 44' 58.8"
L = 167.15'
T = 84.27'
R = 533.00'

PI Sta 12+60.46
△ = 3° 00' 14.6" (LT)
D = 2° 23' 14.4"
L = 125.83'
T = 62.93'
R = 2,400.00'

PI Sta 17+43.01
△ = 4° 20' 23.7" (LT)
D = 2° 29' 59.3"
L = 173.61'
T = 86.85'
R = 2,292.00'
SE = 0.04
RO = 16'

2022 ADT / 2045 ADT	-Y6- SR 1542 (OLD BUIES CREEK RD)	DHV = 10%, DIR = 60%, TTST = 1%, DUAL = 3%
3900 / 3800		
-L- NC 55 BYPASS: 9100 / 14400	600 / 700	2800 / 2200 — 11700 / 18200 -L- NC 55 BYPASS
DHV = 9%, DIR = 60%, TTST = 1%, DUAL = 3%	500 / 200	900 / 2500 — DHV = 9%, DIR = 60%, TTST = 1%, DUAL = 3%
1900 / 3600	-Y6- SR 1542 (OLD BUIES CREEK RD)	DHV = 10%, DIR = 60%, TTST = 1%, DUAL = 3%

SEE SHEET 2B-4 FOR INTERSECTION DETAIL 13
SEE SHEET 2B-6 FOR INTERSECTION DETAIL 20
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 34 FOR -Y6- PROFILE
SEE SHEET 36 FOR -Y6A- PROFILE
SEE SHEET 38 FOR -DRW2- PROFILE

REVISIONS
ROW REV. - 5/14/21 - SHIFTED DRW4 AND ACCESS POINT EAST ON PARCEL 77. REVISED ACCESS POINT BETWEEN PARCELS 84 AND 85. - JWM
ROW REV. - 6/07/21 - UPDATED DRIVEWAY LIMITS ON PARCEL 75. - JWM
ROW REV. - 7/08/21 - SHIFTED PUE AND ADJUSTED TCE ON PARCELS 81 AND 83. ADDED PUE TO PARCELS 74A AND 75. - JWM
ROW REV. - 8/09/21 - ADDED TCE TO ENCOMPASS TEMPORARY DIVERSION DITCH FOR EROSION CONTROL ON PARCEL 81. - JWM
ROW REV. - 11/16/21 - CONSOLIDATED PARCEL NUMBERS 74A AND 81 TO PARCEL 81. - JWM

5/14/99

7/14/2022

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	16
R/W SHEET NO. 16	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-L-
PI Sta 174+91.54
△ = 48° 33' 46.5" (RT)
D = 1° 08' 45.3"
L = 4,237.91'
T = 2,255.64'
R = 5,000.00'
SE = 0.03
RO = 180'

-DRW3-
PI Sta 10+85.01
△ = 13° 30' 27.9" (LT)
D = 76° 23' 39.7"
L = 17.68'
T = 8.88'
R = 75.00'

-DRW4-
PI Sta 11+11.36
△ = 81° 02' 19.7" (RT)
D = 286° 28' 44.0"
L = 28.29'
T = 17.09'
R = 20.00'

-DRW5-
PI Sta 10+84.78
△ = 15° 06' 47.6" (RT)
D = 114° 35' 29.6"
L = 13.19'
T = 6.63'
R = 50.00'

QUANTITY ESTIMATE
(TOTAL FOR ENTIRE CULVERT)

CLASS-I RIPRAP	110 TONS
CLASS-B RIPRAP	3 TONS
GEOTEXTILE	170 SY.
EXCAVATION	
CULVERT	150 CY
CHANNEL	10 CY

(76) WILLIAM TYSON
DB 1446 PG 986

REALIGN AND WIDEN EXISTING DITCH TO PROPERTY LINE
MATCH EXISTING DITCH INVERT ELEVATIONS
SEE DETAIL 63
EST 10 CY DDE

(78) DAVID GARDNER
DB 1085 PG 714

(80) DAVID GARDNER
DB 1085 PG 714
MB 2003 PG 1243

(82) JAMES ALLEN
DB 3355 PG 413

(84) JEREMY SKOLOZYNSKI
DB 3258 PG 306
PC# C PG 118D

(85) MICHAEL ANTHONY
DB 1286 PG 579
PC# F PG 26B

(79) DAVID ADAMS
DB 1635 PG 609

(75) MIRANDA GUALBERTO
DB 3403 PG 599
MB 2000 PG 477

(77) JERRY GREGORY
DB 1684 PG 453
MB 2000 PG 477

(81) CLINTON ADAMS
DB 1291 PG 300
MB 2003 PG 1071

(81) CLINTON ADAMS
DB 528 PG 185

(83) RICHARD HALL
DB 982 PG 219

175+00
180+00
185+00

-L- POC Sta.174+00.00 = -DRW3- POT Sta. 10+00.00 △ = 90°
-L- POC Sta.176+76.00 = -DRW4- POT Sta. 10+00.00 △ = 90°
-L- POC Sta.186+21.00 = -DRW5- POT Sta. 10+00.00 △ = 90°

-DRW3- PC Sta. 10+76.13
N 18° 54' 36.2" E
-DRW3- PT Sta. 10+93.81
N 22° 04' 22.0" E
-DRW4- PC Sta. 10+94.27
S 76° 53' 18.3" E
-DRW4- PT Sta. 11+22.56
END CONSTRUCTION
-DRW4- POT Sta. 11+26.90
-DRW4- POT Sta. 11+37.00
-DRW5- PC Sta. 10+78.15
N 32° 54' 14.5" E
-DRW5- PT Sta. 10+91.33
END CONSTRUCTION
-DRW5- POT Sta. 11+07.00
-DRW5- POT Sta. 11+30.00
-Y6A- POT Sta. 19+06.00
N 5° 24' 08.4" E
END CONSTRUCTION
-DRW3- POT Sta. 12+38.00
-DRW3- POT Sta. 12+50.00
N 48° 01' 02.7" E

-L- NC 55
GREU TL-3
10' PS
20' DR
4' PS
15" RCP-IV
2'-9" C&G
1'-6" C&G
TB 2GI
2GI-D
15" CSP W/ELBOWS
B.D.O.
PUE
ACCESS POINT
RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD
5' x 7' RCBC (1.0' BURIED)
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 16
SPECIAL CUT 'V' DITCH SEE DETAIL 21
SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
PROPOSED SINGLE GATE, 47" HIGH, 12' WIDE, 12' OPENING STA 182+00 TO 182+12 LT
TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 68 & QUANTITIES IN TABLE ABOVE
TYPICAL INLET IMPROVEMENTS SEE DETAIL 67 & QUANTITIES IN TABLE ABOVE GRADE CHANNEL AT 1.0%
FALSE SUMP SEE DETAIL 7
SEDIMENT CONTROL BASIN
PIPE FLAREOUT SEE DETAIL 55
BERM 'V' DITCH SEE DETAIL 3
FILL POND TO ELEV. 250.0' AT THIS SIDE FILL TO ELEV. 249.0' AT OPPOSITE SIDE GRADE AT APPROX. 1.2% TO DRAIN (SEE GRADE TO DRAIN ARROWS) EST. 1030 C.Y. BACKFILL
GRADE TO DRAIN (FILL)
LATERAL 2' BASE DITCH SEE DETAIL 34 EST. 60 C.Y. DDE DITCH TO BE EXCAVATED AFTER POND HAS BEEN FILLED
20' RIPRAP PAD AT OUTLET 20 TONS CL-B RIPRAP 45 S.Y. GFD
REMOVE FENCE AND BRICK COLUMNS
REMOVE & BACKFILL TO DRAIN
REMOVE
CONTRACTOR SHALL COORDINATE DRIVEWAY REPLACEMENT LIMITS WITH THE PROPERTY OWNER. CONTRACTOR TO ADJUST AS DIRECTED BY THE ENGINEER.

MATCHLINE -L- STA 174+00 (SEE SHEET 15)
MATCHLINE -L- STA 188+00 (SEE SHEET 17)

SEE SHEET 2B-4 FOR INTERSECTION DETAIL 14
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 38 FOR -DRW3- PROFILE
SEE SHEET 38 FOR -DRW4- PROFILE
SEE SHEET 38 FOR -DRW5- PROFILE

REVISIONS
ROW REV. – 5/14/22 – REVISED EASEMENTS ON PARCEL 89. – JWM
ROW REV. – 7/08/21 – UPDATED FINAL SURVEY ON PARCEL 87, REMOVED TDE ON PARCEL 88. SHIFTED PUE AND TCE ON PARCEL 89. CHANGED PDE TO ROW ON PARCEL 90. ADJUSTED PIPE CONFIGURATION AND ADDED DITCH TO PARCELS 89 AND 90. – JWM
ROW REV. – 8/09/21 – SHIFTED ACCESS POINT TO PRIVATE ROAD EASEMENT ON PARCEL 87. ADDED 20' DRIVEWAY WITHIN PRIVATE EASEMENT. REMOVED DRW6. – JWM
ROW REV. – 7/05/22 – UPDATED DRIVEWAY, DRAINAGE, AND ACCESS POINT AND REMOVED PUE ON PARCEL 87. – JWM

5/14/22

7/14/2022

-L-
PI Sta 174+91.54
△ = 48° 33' 46.5" (RT)
D = 1° 08' 45.3"
L = 4,237.91'
T = 2,255.64'
R = 5,000.00'
SE = 0.03
RO = 180'

-Y7B-
PI Sta 16+25.89
△ = 1° 09' 04.6" (RT)
D = 1° 00' 00.0"
L = 115.13'
T = 57.57'
R = 5,729.58'

-Y7B-
PI Sta 21+35.08
△ = 4° 46' 36.2" (RT)
D = 4° 05' 33.2"
L = 116.72'
T = 58.39'
R = 1,400.00'

-Y7B-
PI Sta 22+70.46
△ = 19° 26' 04.1" (RT)
D = 12° 43' 56.6"
L = 152.64'
T = 77.06'
R = 450.00'

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	17
R/W SHEET NO. 17	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-Y7B- PT Sta. 16+83.45
BEGIN CONSTRUCTION -Y7B- POT Sta. 18+00.00
END CONSTRUCTION -Y7B- POT Sta. 19+00.00
-Y7B- PC Sta. 20+76.69
-Y7B- PCC Sta. 21+93.41
REMOVE EXIST GUARDRAIL
-Y7B- PT Sta. 23+46.04
-L- POT Sta.195+87.00 =
-DRW7- POT Sta. 10+00.00
△= 90°
-DRW7- PC Sta. 11+02.43
-DRW7- PT Sta. 11+30.76
-DRW7- POT Sta. 11+97.96
END CONSTRUCTION -DRW7- POT Sta. 11+45.00
-L- PT Sta. 194+73.82
MATCHLINE -L- STA 188+00 (SEE SHEET 16)
MATCHLINE -L- STA 202+00 (SEE SHEET 18)
-L-
NC 55
N 47° 19' 32.7" W
N 42° 40' 27.3" E
N 38° 28' 29.2" W
S 85° 16' 23.4" E
-Y7B- ACCESS ROAD 3
20' CONC DR
10' PS
4' PS
20' DR
30' DR
100'
200+00
195+00
190+00
20+00

(83) RICHARD HALL
DB 982 PG 219

(85)

(86) EVERETT BLAKE
DB 1327 PG 119
PC* F PG 26B

(87) KBNK HOLDINGS LLC
DB 2441 PG 803
MB 2004 PG 1274

(88) WILLIAM ARMENTROUT
DB 1061 PG 509
PC* F PG 26B

(89) ROBERT COHEN
DB 2725 PG 684
MB 2004 PG 688

(90) CLAY GARDNER
DB 2983 PG 694
MB 2005 PG 923

(116) GORDAN SARTIN
DB 2321 PG 153
MB 2005 PG 923

GRADE TO DRAIN
SEE CROSS SECTIONS
APPROX GRADE = 2.0-4.0%

GRADE TO DRAIN
SEE CROSS SECTIONS
APPROX GRADE = 4.0%

BEGIN C/A
+04
100' LT
+19.97
125.5' LT
+20.55
100' LT
+39.47
126' LT
+40.12
100' LT
END C/A
+82
100' LT

END C/A
END WWF
+44
100' LT

BEGIN C/A
+42
100' LT

BEGIN WWF
+40
100' LT

ACCESS POINT

RETAIN

REMOVE

RIPRAP PAD AT OUTLET
2 TONS CL-B RIPRAP
7 S.Y. GFD

STANDARD 'Y' DITCH
SEE DETAIL 69
EST. 95 C.Y. DDE
EST. 122 TONS CL-I RIPRAP
EST. 285 S.Y. GFD

END WWF
+73.82
100' LT

REMOVE CMAP
W/WEIR WALL SEE
TYP. SECTION P3
S=0.1%

+00 (Y7B)
EX R/W
55' RT

+40
55' RT

+48.19
EX R/W
RETAIN

+76(Y7B)
EX R/W

+26(Y7B)
EX R/W

+50
70' LT

PROPOSED CHANNEL
SEE TYPICAL SECTION P2
S=0.1%

GRADE TO DRAIN
(FILL)

END WWF
+81
100' LT

BEGIN WWF
+50
100' LT

+99
117' LT

SPECIAL LATERAL
'V' DITCH
SEE DETAIL 1

CLEAN WATER DIVERSION

TYPICAL OUTLET IMPROVEMENTS
SEE DETAIL 60
QUANTITIES IN TABLE ABOVE

END 2'-9" C&G TRANSITION TO 1'-6" C&G
-L- STA 196+44 LT
SEE DETAIL SHEET 2A-1

BEGIN WWF
+60
100' LT

15" RCP-IV

7' x 7' RCBC (1.0' BURIED)

TB 2GI

2'-9" C&G
1'-6" C&G

GREU TL-3

CAT-I

8:1

FALSE SUMP
SEE DETAIL 8

MIN DEPTH 2GI-A
SEE DETAIL 840d17
SHEET 2C-1

2GI

15" CSP
W/ELBOWS

B.D.O.

SPECIAL CUT
'V' DITCH
SEE DETAIL 25

BERM 'V' DITCH
SEE DETAIL 3

BERM 'V' DITCH
SEE DETAIL 35

ACCESS POINT

END C/A
END WWF
+80
130' RT

BEGIN C/A
BEGIN WWF
+40
130' RT

+26.43
124.51' RT

+00
130' RT

+37
100' RT

END WWF
+25
100' RT
118.96'
128'

+73.82
100' RT
116.38'
128'

GRADE TO DRAIN
PROTECT INLET W/CL-B RIPRAP
EST. 9 TONS
EST. 30 S.Y. GFD

SPECIAL LATERAL
'V' DITCH
SEE DETAIL 33

+74
133' RT

+64
111.06' RT

END C/A
+54
100' RT

MIN DEPTH 2GI-A
SEE DETAIL 840d17
SHEET 2C-1

+53.88
105.76' RT

+26
107.4' RT

+67.59
120' RT

TOE PROTECTION
SEE DETAIL 12
EST. 40 TONS CL-B RIPRAP
EST. 100 S.Y. GFD

LATERAL 3' BASE DITCH
SEE DETAIL 39
EST. 63 TONS CL-I RIPRAP
EST. 160 S.Y. GFD

+21
140' RT

BEGIN C/A
BEGIN WWF
+14
100' RT

RIPRAP PAD
AT OUTLET
8 TONS CL-B RIPRAP
21 S.Y. GFD

END WWF
+40
100' RT
120'

+10
120' RT

BEGIN WWF
+65
100' RT
120'

SEE TYPICAL
SECTION P1

GRADE TO
DRAIN
(FILL)

TYPICAL INLET IMPROVEMENTS
SEE DETAIL 61
QUANTITIES IN TABLE ABOVE

+53.5
331' RT

+00
235' RT

+22
262' RT

+99
289' RT

+54
434' RT

GRADE CULVERT ENTRANCE TO
DRAIN W/7' BASE DITCH & 2:1 SIDE SLOPES
(SEE DETAIL TYPICAL SECTION P1)
START ELEVATION = APPROX. 252.0'
END ELEV. = APPROX. 251.2'
APPROX. GRADE = 0.3%

THIS POND WASN'T LOCATED WERE ASKED TO LEAVE BY THE PROPERTY OWNER AND TOLD NOT TO GET BACK ON HER PROPERTY.

QUANTITY ESTIMATE	
GEOTEXTILE	900 S.Y.
CLASS-II RIPRAP	
CULVERT	110 TONS
CLASS-I RIPRAP	
CHANNEL BANKS	395 TONS
CHANNEL BED-COUNTERSUNK	22 TONS
CLASS-B RIPRAP	
CHANNEL BED-COUNTERSUNK	4 TONS
EXCAVATION	
CULVERT	80 CY
CHANNEL	1050 CY
FILL IN POND (EXCLUDING RDY FILL)	3100 CY
NET	2050 CY FILL

-DRW6-
PI Sta 10+79.67
△ = 9° 28' 20.0" (LT)
D = 114° 35' 29.6"
L = 8.27'
T = 4.14'
R = 50.00'

-DRW7-
PI Sta 11+19.56
△ = 81° 08' 56.5" (LT)
D = 286° 28' 44.0"
L = 28.33'
T = 17.13'
R = 20.00'

SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 37 FOR -Y7B- PROFILE
SEE SHEET 39 FOR -DRW7- PROFILE

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	18
R/W SHEET NO. 18	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS
5/14/99
ROW REV. - 3012/22 - REMOVED ACCESS POINT NEAR STA 202+60 ON PARCEL 90. SHIFTED ACCESS POINT FROM STA 207+00 TO STA 208+00 AND ADDED DRIVEWAY TO PARCEL 90.
REMOVED -Y7A- AND ADDED -Y7D- - JWM

7/14/2022

MATCHLINE (SEE SHEET 22)

MATCHLINE -Y7D- STA 12+50 (SEE SHEET 22)

MATCHLINE -L- STA 202+00 (SEE SHEET 17)

MATCHLINE -L- STA 216+00 (SEE SHEET 19)

BEGIN CONSTRUCTION
-Y7D- POT Sta. 13+30.00

-Y7D-
PI Sta 17+31.78
△ = 46° 31' 51.0" (RT)
D = 10° 44' 58.8"
L = 432.86'
T = 229.16'
R = 533.00'

-Y7D- PC Sta. 15+02.62

-Y7D- POC Sta. 17+50.00 =
-Y7C- POT Sta. 13+61.45
△ = 90°

-Y7C- PC Sta. 13+76.82

-Y7C- PT Sta. 14+60.32

N 67° 15' 48.5" W

-L- POT Sta. 212+00.00 =
-Y7D- POT Sta. 20+05.00
△ = 90°

-Y7C- PC Sta. 18+01.16

-Y7C- PT Sta. 19+24.42
N 3° 42' 43.0" W

-Y7D- PT Sta. 19+35.47
N 42° 40' 27.3" E

END CONSTRUCTION
-Y7C- POT Sta. 16+00.00

-Y7C-
PI Sta 14+23.50
△ = 63° 47' 13.1" (RT)
D = 76° 23' 39.7"
L = 83.50'
T = 46.67'
R = 75.00'

PI Sta 18+62.79
△ = 0° 14' 07.5" (LT)
D = 0° 11' 27.5"
L = 123.26'
T = 61.63'
R = 30,000.00'

SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 37 FOR -Y7C- PROFILE
SEE SHEET 38 FOR -Y7D- PROFILE

(117) DAVID GARDER
DB 3103 PG 553

(118) CLAY GARDNER
DB 408 PG 607

(92) REBECCA PARTIN
DB 693 PG 508

(90) CLAY GARDNER
DB 2983 PG 694
MB 2005 PG 923

(91) CLAY GARDNER
DB 3363 PG 296

205+00
210+00
215+00
15+00

BERM 2' BASE DITCH SEE DETAIL 40 EST. 20 TONS CL-B RIPRAP EST. 55 S.Y. GFD

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 31

BEGIN FULL C/A +70 120' LT

END FULL C/A +70 120' LT

BERM 2' BASE DITCH SEE DETAIL 41 EST. 50 TONS CL-B RIPRAP EST. 135 S.Y. GFD

CLEAN WATER DIVERSION

B.D.O.

18" CSP W/ELBOWS

24" CSP W/ELBOWS

MIN DEPTH 2GI-A SEE DETAIL 840d17 SHEET 2C-1

FALSE SUMP SEE DETAIL 8

2GI-A

3GI-A

BERM 2' BASE DITCH SEE DETAIL 40 EST. 117 TONS CL-B RIPRAP EST. 330 S.Y. GFD

RIPRAP PAD AT OUTLET 3 TONS CL-B RIPRAP 10 S.Y. GFD

CONTINUE DITCH TO TYP. -L- DITCH

SPECIAL CUT 'V' DITCH SEE DETAIL 42

GRADE TO DRAIN (SEE -Y7D- XSC 17+00 LT)

REMOVE

BEGIN C/A BEGIN WWF +30(Y7D) EX R/W

END C/A END WWF +30(Y7D) 70' RT

+50(L) 120' LT

+00(L) 110' LT

10' TAPER (LT/RT)

18" RCP-IV

CONTINUE TYP. -L- DITCH TO 18" INVERT SEE DETAIL 21

-Y7C- ACCESS ROAD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 22

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD WWF

OLD MATTHEWS MILL POND RD

-Y7C- MATTHEWS MILL POND RD

-Y7D- MATTHEWS MILL POND RD

-L- NC 55

MONO CONC ISLAND

1'-6" C&G

4' PS

RIPRAP PAD AT OUTLET 15 TONS CL-I RIPRAP 30 S.Y. GFD

BEGIN FULL C/A +70 100' RT

CONTRACTOR TO CLEAR TO LIMITS OF EASEMENT SO PROPERTY OWNER CAN ACCESS IRRIGATION PIPE. SEE UO PLANS.

ACCESS POINT

BEGIN C/A BEGIN WWF +30 100' RT

END FULL C/A END WWF +70 100' RT

TIE TO EXIST. DITCH

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

SPECIAL CUT 'V' DITCH SEE DETAIL 21

SPECIAL CUT 'V' DITCH SEE DETAIL 25

RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD

100' TAPER
180' TAPER
240' TAPER
150' TAPER

PUE
TDE
WWF
ISFD
ISBKD
CULTIVATED

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	19
R/W SHEET NO. 19	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS
5/14/99 - ROW REV. - 30122 - REMOVED -Y7A- AND ADDED -Y7D- - JWM
7/14/2022

-L-
PIs Sta 223+65.74
Θs = 1° 50' 53.7"
Ls = 240.00'
LT = 160.01'
ST = 80.01'

PI Sta 251+52.68
Δ = 72° 05' 05.6" (RT)
D = 1° 32' 24.8"
L = 4,680.20'
T = 2,706.95'
R = 3,720.00'
SE = 0.04

MATCHLINE (SEE SHEET 23)

MATCHLINE -L- STA 216+00 (SEE SHEET 18)

MATCHLINE -L- STA 230+00 (SEE SHEET 20)

220+00

225+00

CULTIVATED

(92) REBECCA PARTIN
DB 693 PG 508

150' TAPER

RIPRAP PAD AT OUTLET
8 TONS CL-B RIPRAP
21 S.Y. GFD

BEGIN FULL C/A +54 100' LT

+05.73 100' LT

END FULL C/A +45 100' LT

+45.73 100' LT

300' TAPER

200' TAPER (LT/RT)

+50 100' LT

+86 117' LT

SEDIMENT CONTROL BASIN

+59 100' LT

END WWF +84 111.69' LT 128'

BEGIN WWF +14 115' LT 128'

+47 100' LT

WOODS

PDE

WWF

4' PS

1'-6" C&G

30" RCP

54" RCP-IV

15" RCP-IV

DI

TB 2GI

2'-9" C&G

TB 2GI-A

33" RCP-IV

N 47° 19' 32.7" W

-L- NC 55

REMOVE & BACKFILL

GRADE TO DRAIN

CLEAN WATER DIVERSION

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

+90(L) 100' RT

+61.66(L) 130' RT

+79(Y7C) EX R/W

+46 130' RT

BEGIN FULL C/A +54 100' RT

+49 155' RT

+44 187' RT

END FULL C/A +45 110' RT

+52 139' RT

+45.73 110' RT

+48 110' RT

+00 115' RT

+48 110' RT

+95.73

150' TAPER (LT/RT)

RIPRAP PAD AT OUTLET
EST. 3 TONS CL-B RIPRAP
EST. 10 S.Y. GFD

TOE PROTECTION
SEE DETAIL 12
EST. 100 TONS CL-B RIPRAP
EST. 280 S.Y. GFD

(94) DEBORAH MATTHEWS
DB 903 PG 584

(95)

(113) WALLACE DUNCAN
DB 1615 PG 136
MB 2002 PG 431

(93) CUTTS CHAPEL FWB CHURCH
DB 2124 PG 562
MB 2002 PG 1391

NUNEZ CONCRETE INC
DB 2433 PG 335
MB 2006 PG 892

REBECCA PARTIN
DB 693 PG 508

END CONSTRUCTION
-Y7C- POT Sta. 20+84.00

BEGIN CONSTRUCTION
-Y7C- POT Sta. 19+84.00
TERMINAL END SECTION

-L- TS Sta. 222+05.73

-L- SC Sta. 224+45.73

-Y7C- POT Sta. 24+67.01

RETAIN EXIST. ROADWAY EMBANKMENT TO ACT AS FALSE SUMP DURING HIGH FLOW

OLD MATTHEWS MILL POND RD -Y7C-

Matthews Mill Pond to Bay

BY4-108

Qwest Corp / CenturyLink - 2" PVC

Century Link Copper

ISBKD

ISFD

CONC

EOI

BL-27

BL-28

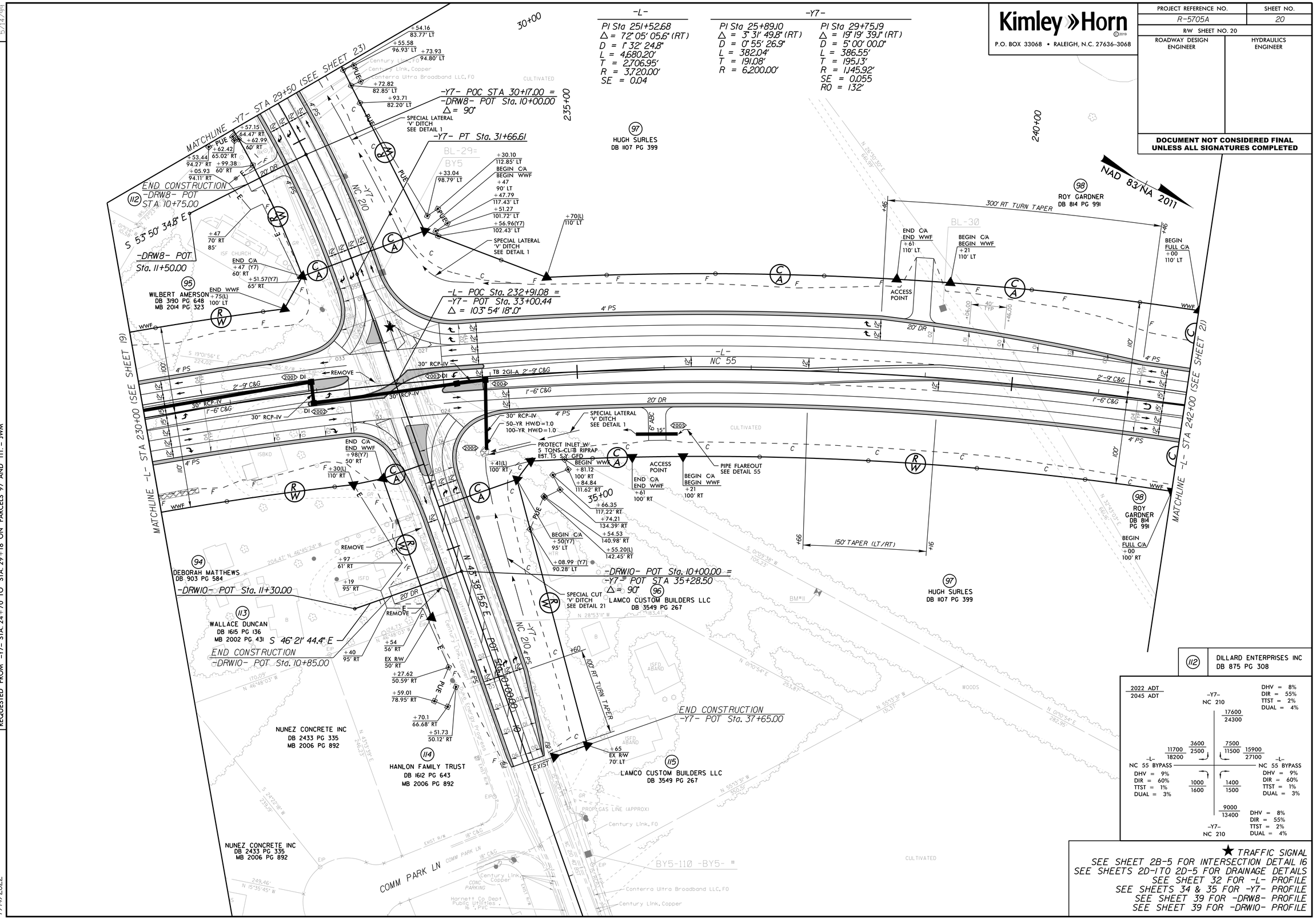
★ TRAFFIC SIGNAL
SEE SHEET 2B-4 FOR INTERSECTION DETAIL 15
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 37 FOR -Y7C- PROFILE

REVISIONS

ROW REV. - 7/08/21 - SHIFTED PUE AND ADJUSTED TCE ON PARCELS 95 AND 112. SHIFTED PUE ON PARCEL 96. SHIFTED PUE ON PARCEL 97. - JWM
ROW REV. - 8/09/21 - ADDED ACCESS POINT TO PARCEL 97 NEAR STATION 239+00 LT. - JWM
ROW REV. - 9/02/21 - MOVED DRW10 TO -Y7- STA 35+28.50. - JWM
ROW REV. - 12/07/21 - SHIFTED ACCESS POINT FROM STA. 239+04 TO STA. 238+91 AND ADDED DRIVEWAY TO PARCEL 97. DITCH HAS BEEN REVISED AND ROW, DUE, AND PUE REDUCED AS REQUESTED FROM -Y7- STA. 24+70 TO STA. 29+18 ON PARCELS 97 AND 111. - JWM

5/14/99

7/14/2022



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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	20
R/W SHEET NO. 20	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	21
R/W SHEET NO. 21	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS

5/14/99 ROW REV. – 70821 – REMOVED PUE ON PARCEL 98. – JWM
ROW REV. – 80921 – REPLACED PUE ON PARCEL 98. – JWM

7/14/2022

-L-
PI Sta 251+52.68
Δ = 72° 05' 05.6" (RT)
D = 1° 32' 24.8"
L = 4,680.20'
T = 2,706.95'
R = 3,720.00'
SE = 0.04

END TIP PROJECT R-5705A
BEGIN TIP PROJECT R-5705B (BY OTHERS)
-L- POC Sta. 246+00.00 (BK) (R-5705A)
-L- POC Sta. 246+00.00 (AH) (R-5705B)

MATCHLINE -L- STA 242+00 (SEE SHEET 20)

245+00 250+00 255+00

WOODS CULTIVATED BL-33 BL-31

N 02°09'35" E 2031.02'

330.59' N 10°50'25" W

435.56' N 77°30'10" E

400.98' N 76°48'18" E

162.98' N 01°09'46" E

886.63' S 10°45'20" E

98 ROY GARDNER DB 814 PG 991

TIE PROPOSED 15" RCP-IV TO PROPOSED 2GI 0421 ON R-5705B (BY OTHERS)

END PROPOSED R/W TIP PROJECT R-5705A
BEGIN PROPOSED R/W TIP PROJECT R-5705B
EX PL
100' RT

END PROPOSED R/W TIP PROJECT R-5705A
BEGIN PROPOSED R/W TIP PROJECT R-5705B
EX PL
111.85' RT

END CONSTRUCTION
-L- POC Sta. 255+42.82

SEE SHEET 2B-5 FOR INTERSECTION DETAIL 17
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEET 32 FOR -L- PROFILE

Kimley»Horn
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P.O. BOX 33068 • RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO.	SHEET NO.
R-5705A	22
R/W SHEET NO. 22	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS

ROW REV. - 30122 - REMOVED -Y7A- AND ADDED -Y7D- - JWM

5/14/99

7/14/2022

-Y7D-
PI Sta 5+48.66
Δ = 2° 28' 38.4" (LT)
D = 0° 50' 00.0"
L = 297.28'
T = 148.66'
R = 6,875.49'

-Y7B-
PI Sta 16+25.89
Δ = 1° 09' 04.6" (RT)
D = 1° 00' 00.0"
L = 115.13'
T = 57.57'
R = 5,729.58'

-Y7B-
PI Sta 21+35.08
Δ = 4° 46' 36.2" (RT)
D = 4° 05' 33.2"
L = 116.72'
T = 58.39'
R = 1,400.00'

PI Sta 22+70.46
Δ = 19° 26' 04.1" (RT)
D = 12° 43' 56.6"
L = 152.64'
T = 77.06'
R = 450.00'

5+00

10+00

(117)
DAVID GARDER
DB 3103 PG 553

DAVID GARDNER
DB 1085 PG 174
PC#1 PG 253

-Y7D- POT Sta. 8+31.64 =
-Y7B- POT Sta. 10+04.75
Δ = 82°34'04.0"

-Y7D- PC Sta. 4+00.00

-Y7D- PT Sta. 6+97.28

WOODS

CULTIVATED

IRRIGATION SYSTEM

+39(Y7D) EX R/W 87' LT
+58(Y7D) EX R/W 53' LT
+80(Y7D) EX R/W 53' LT
+99(Y7D) EX R/W 87' LT

-Y7D-
MATTHEWS MILL POND RD
N 3°51'23.7" W

MATCHLINE -Y7D- STA 12+50 (SEE SHEET 18)

MATTHEWS MILL POND RD 18' BST

Century Link, Copper

Harnett Co Dept Public Utilities , 4 ", PVC

0.60' R/W TO EIP

18" RCP

RETAIN

50' R/W

5.41' R/W TO EIP

FLAG POLE

#5705-AZ32

+99(Y7D) EX R/W 97' RT
+80(Y7D) EX R/W 62' RT
EX R/W 62' RT
EX R/W 97' RT

PUE

E

TRACY PERRY
DB 802 PG 325

S 88°33'58" W 199.49'
N 88°33'58" E 200.07'
S 00°21'08" E 140.00'
EIP
S 88°33'08" W 1046.00'

(116)
GORDAN SARTIN
DB 2321PG 153
MB 2005 PG 923

(119)
GORDON SARTIN
DB 568 PG 60
MB 2005 PG 923

S 88°34'59" W 193.07'
194.89'
N 88°34'59" E
N 03°11'58" W 140.00'

-Y7B-
ACCESS ROAD 3

S 86°25'28.0" E

-Y7B- PC Sta. 15+68.33

15+00

BL-26

(90)
CLAY GARDNER
DB 2983 PG 694
MB 2005 PG 923

MATCHLINE (SEE SHEET 18)

SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS

REVISIONS

ROW REV. – 51421 – REVISED EASEMENTS ON PARCEL 111. – JWM
ROW REV. – 7.0821 – ADJUSTED PUE, PDE, AND DUE ON PARCELS 97 AND 111. ADJUSTED PUE AND TCE ON PARCELS 110 AND 112. – JWM
ROW REV. – 12.07.21 – DITCH HAS BEEN REVISED AND ROW, DUE, AND PUE REDUCED AS REQUESTED FROM –Y7– STA. 24+70 TO STA. 29+18 ON PARCELS 97 AND 111. – JWM
ROW REV. – 3.01.22 – ADDED PUE TO PARCELS 110 AND 112. REMOVED –Y7A– AND ADDED –Y7D–. – JWM
ROW REV. – 5.04.22 – CHANGED PARCEL 110 TO 108 AND UPDATED PROPERTY OWNER INFORMATION ON PARCELS 108 AND 109. – JWM

5/14/22

7/14/2022

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PROJECT REFERENCE NO.	SHEET NO.
R-5705A	23
R/W SHEET NO. 24	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-Y7-
PI Sta 25+89.10
Δ = 3° 31' 49.8" (RT)
D = 0° 55' 26.9"
L = 382.04'
T = 191.08'
R = 6,200.00'

PI Sta 29+75.19
Δ = 19° 19' 39.1" (RT)
D = 5° 00' 00.0"
L = 386.55'
T = 195.13'
R = 1,145.92'
SE = 0.055
RO = 132'

-Y7A-
PI Sta 35+36.87
Δ = 79° 29' 31.6" (LT)
D = 2° 29' 28.0"
L = 3,191.02'
T = 1,912.62'
R = 2,300.00'
SE = 0.05
RO = 135'

JAMES JOHNSON
DB 2386 PG 596
MB 2008 PG 100

(108) NCD CONTRACTING LLC
DB 3852 PG 423
PB 2021 PG 563

JAMES JOHNSON
DB 1969 PG 136
MB 2014 PG 66

KENNETH EDWARDS
DB 3551 PG 561
MB 2004 PG 738

(109) NCD CONTRACTING LLC
DB 4062 PG 344

(111) ROBERT SURLES
DB 537 PG 126

(97) HUGH SURLES
DB 1107 PG 399

(92) REBECCA PARTIN
DB 693 PG 508

(112) DILLARD ENTERPRISES INC
DB 875 PG 308

20+00 | 25+00 | 50+00

BEGIN CONSTRUCTION
-Y7- POT Sta. 21+88.45

-Y7- PC Sta. 23+98.02

-Y7A- POT Sta. 50+32.00

-Y7A- POC Sta. 46+74.10 = -Y7- POC Sta. 24+34.87
Δ = 82° 18' 53.0"

-Y7A- PT Sta. 48+15.26

END CONSTRUCTION
-Y7A- POC Sta. 47+90.00

-Y7- PCC Sta. 27+80.06

-Y7- NC 210

-Y7A- SR 1440 (JAMES NORRIS RD) N 80° 04' 54.0" W

RETAIN

RETAIN SYSTEM

+88.45 EX R/W

+89.46 54.53' LT

+23.87 EX R/W

+23.89 37.42' RT

+28.89 37.37' RT

+48.87 EX R/W

+29.16 67.37' RT

+49.16 67.2' RT

+28.1(Y7) 52.69' LT

+27.97 67.47' LT

+48.08 55.61' LT

+47.97 67.65' LT

+87.88(Y7) EX R/W

+58.75(Y7A) EX R/W

+44.31 EX R/W

+24 40' RT

+80 50' RT

+41.5 50' RT

+70(Y7A) EX R/W

+60.82(Y7A) 53.41' RT

+53.49(Y7A) 53.54' RT

+93.03(Y7) 98.78' LT

+95.83 84.32' LT

+00(Y7) 75' LT

+98 95' LT

+30 60' RT 72'

+85.82 60' LT

+81.88 72' RT

+77.21 86.2' RT

+96.51 92.36' RT

+06 105' RT

+05.81 63.8' RT

+10.62 65.32' RT

+12.34 60' RT

+80.06 60' RT

+79 75' RT

+74 105' RT

+30.90 61.35' RT

+36.14 62.02' RT

+31.10 60' RT

+34.30 75' RT

+31.85 91.75' RT

+80.06

+08.06

+39.79 113.53' LT

+50 115' LT

+42.8 130.19' LT

+59.64 112.92' LT

+61.11 121.16' LT

+62.08 126.6' LT

+65 137' LT

+02 103.75' LT 110.08' 125'

RIPRAP PAD AT OUTLET
15 TONS CL-I RIPRAP
30 S.Y. GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL LATERAL 'V' DITCH SEE DETAIL 4
EST. 65 TONS CL-B RIPRAP
EST. 165 S.Y. GFD

STANDARD 3' BASE DITCH
SEE DETAIL 49
EST. 60 C.Y. DIDE
EST. 35 TONS CL-B RIPRAP
EST. 95 S.Y. GFD
(GRADE AT APPROX. 10%)

REMOVE AND OR PLUG/FILL AS NEEDED FOR PHASING&HORING

136" RCP-IN

MATCHLINE (SEE SHEET 19)

MATCHLINE (SEE SHEET 19)

MATCHLINE -Y7- STA 29+50 (SEE SHEET 20)

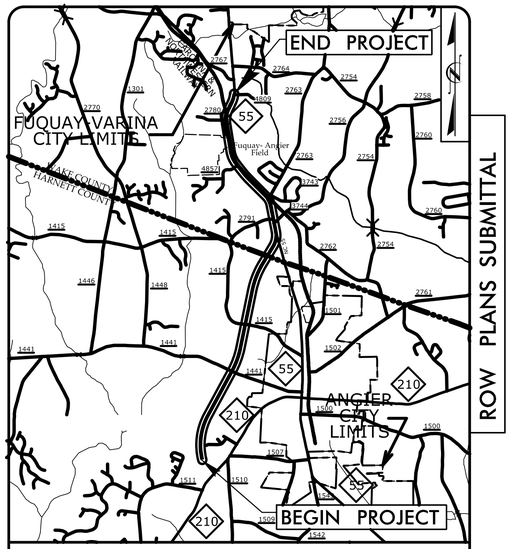
SEE SHEET 2B-6 FOR INTERSECTION DETAIL 23
SEE SHEETS 2D-1 TO 2D-5 FOR DRAINAGE DETAILS
SEE SHEETS 34 & 35 FOR -Y7- PROFILE
SEE SHEET 35 FOR -Y7A- PROFILE

09/08/49

TIP PROJECT: R-5705B

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HARNETT & WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5705B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46377.1.3		PE
46377.2.2		ROW
46377.2.6		UTILITIES

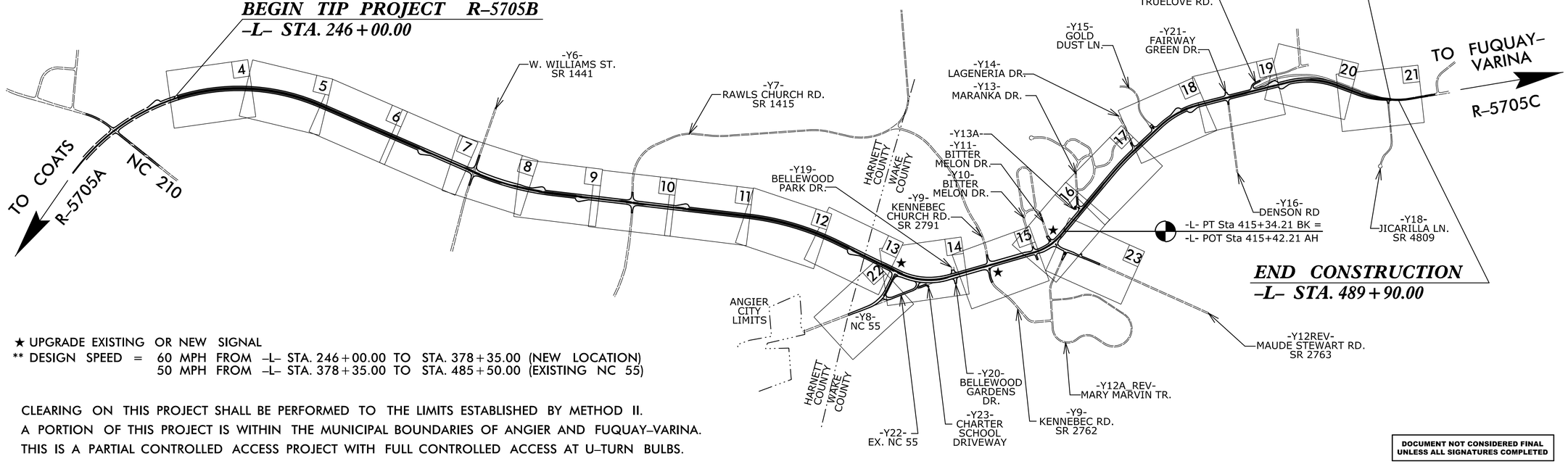
LOCATION: NC 55 FROM NC 210 TO SR 4809 (JICARILLA LANE)

TYPE OF WORK: PAVING, GRADING, DRAINAGE, SIGNALS & CULVERT

NAD 83/NA 2011

BEGIN TIP PROJECT R-5705B
-L- STA. 246+00.00

END TIP PROJECT R-5705B
-L- STA. 485+57.00



END CONSTRUCTION
-L- STA. 489+90.00

★ UPGRADE EXISTING OR NEW SIGNAL
** DESIGN SPEED = 60 MPH FROM -L- STA. 246+00.00 TO STA. 378+35.00 (NEW LOCATION)
50 MPH FROM -L- STA. 378+35.00 TO STA. 485+50.00 (EXISTING NC 55)

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ANGIER AND FUQUAY-VARINA.
THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH FULL CONTROLLED ACCESS AT U-TURN BULBS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2022 = 30,200
ADT 2045 = 44,200
K = 9 %
D = 60 %
T = 4 % *
**V = 50 & 60 MPH
* TTST = 1% DUAL 3%
FUNC CLASS = MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT R-5705B = 4.536 MILES
TOTAL LENGTH PROJECT = 4.536 MILES

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610
By:

TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 3, 2021

LETTING DATE:
OCTOBER 18, 2022

TOMMY REGISTER, P.E.
PROJECT ENGINEER

NICOLE M. HACKLER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

12/2/2021
X:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_tsh.dgn
User:bevans

12/2/2016

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Computed Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easement Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line — RW
- New Right of Way Line with Pin and Cap — RW
- New Right of Way Line with Concrete or Granite R/W Marker — RW
- New Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- New Control of Access — CA
- Existing Easement Line — E
- New Temporary Construction Easement — E
- New Temporary Drainage Easement — TDE
- New Permanent Drainage Easement — PDE
- New Permanent Drainage / Utility Easement — DUE
- New Permanent Utility Easement — PUE
- New Temporary Utility Easement — TUE
- New Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL H
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground, 6:1, D, 6:1, Natural Ground
Min. D= 1.0 Ft.

–L– STA. 246+83 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 2:1, b, 1':1ft., Fill Slope, GEOTEXTILE, B
*When B is < 6.0'
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
Type of Liner= CLASS 'B' Rip–Rap

FROM STA.252+00 TO STA.253+16–L– LT.

DETAIL AD
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 20:1, 10:1, 2', 0.5' Min. 2.0' Max., GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

FROM STA.247+64 RT.

DETAIL K
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 2:1, b, 1':1ft., Fill Slope, GEOTEXTILE, B
*When B is < 6.0'
Min. D= 1.0 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
b= 5.0 Ft.
Type of Liner= Class 'I' Rip–Rap

FROM –L– STA. 254+16 TO STA. 255+50 RT

DETAIL U
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1':1ft., Fill Slope, GEOTEXTILE, B
*When B is < 6.0'
Min. D= 1.0 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
b= 10.0 Ft.
Type of Liner= Class 'I' Rip–Rap

FROM –L– STA. 253+67 TO STA. 254+18 RT

DETAIL 'AE'
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, Natural Ground, B
Min. D=1.5 Ft.
B=3.0 Ft.

–L– STA. 247+50 TO 249+85 LT

DETAIL L
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 6:1 or Flatter, D, 6:1, Front Ditch Slope
Min. D= 1.0 Ft.

FROM –L– STA. 255+50 TO STA. 256+00 RT

DETAIL 'B'
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B
Min. D=1.5 Ft.
B=4.0 Ft.

–L– STA. 254+25 RT

DETAIL 'Y'
VAR. WIDTH BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B
Min. D=1.5 Ft. to 0 Ft.
B=2.0 Ft. to 8.0 Ft.

–L– STA. 255+38 TO 255+65 LT

DETAIL P
SPECIAL CUT DITCH w/HINGE
(Not to Scale)

Natural Ground, VARIABLE, 4:1, D, 6:1 or Flatter, Front Ditch Slope, 6.0'
Min. D= 1.5 Ft.

FROM –L– STA. 247+00 TO STA. 247+50 RT

NAD 83/NA 2011

END TIP PROJECT R–5705A
BEGIN TIP PROJECT R–5705B
–L– STA. 246+00.00

3' STANDARD BASE DITCH
SEE DETAIL 'AE'
S=1.3%
L=325'
EST. 475 CY DDE

SEE NCDOT TIP PROJECT R–5705A FOR RIGHT OF WAY PURCHASED UNDER NCDOT TIP PROJECT R–5705A

CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 14 SY

DRAIN POND

BL–33

BEGIN FENCE (WW) +00

PROPOSED 15" RCP COMING FROM CB#2104 (R–5705A) DESIGNED BY OTHERS

TB 2GI

15" RCP–IV

24" RCP–IV

2'–9" C&G

1'–6" C&G

CAT–1

GREU TL–3

8:1

12' MED. WIDTH

END FENCE (WW) +25

BEGIN FENCE (WW) +85

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'

CLASS 'I' RIP RAP

END PROPOSED R/W TIP PROJECT R–5705A
BEGIN PROPOSED R/W TIP PROJECT R–5705B
℄
100' LT

N 17°29'10" E
431.56'

WOODS

200
ROBERTA WOOLARD
DB 586 PG 209

VAR. WIDTH BASE DITCH
SEE DETAIL 'Y'
L=36'
S=1.4%

+92
100'
123'

+94
150'

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

+32
100'

END FENCE (WW)
+65.00
100' LT

BEGIN FENCE (WW)
+25.00
100' LT

ACCESS POINT

650.94'
S 10°47'40" E

MATCHLINE SHEET 5
–L– STA. 259+00.00

+15.00
100' RT

+65.00
100' RT

END FENCE (WW)

+25.00
100' RT

BEGIN FENCE (WW)

ACCESS POINT

201
WILLIAM WHEELER
DB 3438 PG 741

SPECIAL CUT DITCH
SEE DETAIL L

N 16°48'18" E
402.56'

WOODS

FALSE SUMP
SEE DETAIL 'AD'

SPECIAL CUT DITCH w/HINGE
SEE DETAIL P

STANDARD 'V' DITCH
SEE DETAIL H
EST. DDE 5 CY
L= 63'
S= 5.9%

SEE NCDOT TIP PROJECT R–5705A FOR RIGHT OF WAY PURCHASED UNDER NCDOT TIP PROJECT R–5705A

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

BURY PIPE 1.0' F
HW

LOW POINT
–L– STA. 253+70.00
EL. 283.75'

4.0' LATERAL BASE DITCH
SEE DETAIL U
CLASS 'I' RIP RAP

STANDARD BASE DITCH
SEE DETAIL B

4.0' LAT. BASE DITCH
SEE DETAIL K
CLASS 'I' RIP RAP
EST. 350 TONS
GEOTEXTILE
EST. 410 SY

END PROPOSED R/W TIP PROJECT R–5705A
BEGIN PROPOSED R/W TIP PROJECT R–5705B
℄
111.85' RT

–L–
PI Sta 251+52.68
Δ = 72° 05' 05.6" (RT)
D = 1° 32' 24.8"
L = 4,680.20'
T = 2,706.95'
R = 3,720.00'
SE= 0.04
R0 = 240'

ROY GARDNER
DB 814 PG 991

CULTIVATED

BL–31

S 10°45'20" E
886.63'

S 10°09'46" E
52.98'

ROBERT PHELPS
DB 1368 PG 48

JESUS GARCIA
DB 2299 PG 755

JAMES JOHNSON
DB 2310 PG 997

CLARENCE LYON
DB 2979 PG 572

ISFD

14" CONIC

12" CONIC

206.46'
N 22°34'07" W

N 17°08'56" E
90.00'

S 17°08'56" E
26.05'

N 17°58'04" E
123.58'

N 17°58'04" E
115.50'

SEE SHEET 24 FOR –L– PROFILE

3/3/2021
X:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_04.dgn
User:bevans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

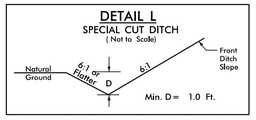
REVISIONS

7-19-2021 PARCEL 203 HAS BEEN SUBDIVIDED. REVISED PROPERTY LINES, OWNERS, DEED BOOK DATA AND EASEMENTS FOR PARCELS 203 & 203A.
10-19-2021 ADDED PARCEL NUMBER 203A (DBE)
REVISED PROPERTY OWNER & DEED BOOK DATA FOR PARCEL 202 (DBE)

8/17/99

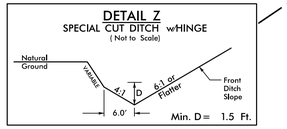
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_05.dgn
10/19/2021
User: Evans

DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 272+50 TO STA. 273+50 LT

DETAIL Z
SPECIAL CUT DITCH wHINGE
(Not to Scale)



FROM –L– STA. 259+00 TO STA. 261+00 LT

NAD 83/NA 2011

MATCHLINE SHEET 4
–L– STA. 259+00.00

MATCHLINE SHEET 6
–L– STA. 273+00.00

Century Link, Copper

260 265 270

200
ROBERTA WOOLARD
DB 586 PG 209

N 46°32'20" E
140.00'

201
WILLIAM WHEELER
DB 3438 PG 741

WOODS

CULTIVATED

CL 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY
+00.00
100' LT

+75.00
100' LT

+00.00
110' LT

SPECIAL CUT DITCH
W/HINGE
SEE DETAIL Z

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 CY

END FENCE (WW)
+89.00
100' LT

BEGIN FENCE (WW)
+49.00
100' LT

ACCESS POINT

15" RCP-IV
CB
<050>

200' RW WIDTH

2'-9" C&G
1'-6" C&G
MED.
12' 12'
04
03
02

–L–

N 02°29'05" W
N 35°

ISLAND

S 77°44'05" W
100.00'

N 12°00'55" E
100.00'

6:1
3,150.62.20

PUE

+35
120'

+33
124'

+67
142'

+00
100'

+24.66
149'

+28
144'

+57
159'

HIGH POINT
–L– STA. 267+14.61
ELEV. = 313.09'

+35.00
100' RT
END FENCE (WW)

+95.00
100' RT
BEGIN FENCE (WW)

BL-35

BL-34

N 02°29'05" W
996.60' (TOTAL)

RONALD E WHEELER (TIC)
& REDDIN ADAMS WHEELER (TIC)
DB 3566 PG 722
203

+25.93
100' LT

END FENCE (WW)
+15.00
100' LT

BEGIN FENCE (WW)
+75.00
100' LT

SPECIAL CUT DITCH
SEE DETAIL L

60' TYP

–L– CS Sta. 271+25.93

203A
REDDIN ADAM WHEELER
& MEGHAN JORDAN ERICKSON
DB 3566 PG 722

202
LEOTERRA HONEYCUTT OAKS, LLC
DB 3882 PG 703

POND

203
RONALD E WHEELER (TIC)
& REDDIN ADAMS WHEELER (TIC)
DB 3566 PG 722

–L–
PIs Sta 272+05.94
Θs = 1° 50' 53.7"
Ls = 240.00'
LT = 160.01'
ST = 80.01'

SEE SHEET 24 FOR –L– PROFILE

8/17/99

REVISIONS

7-19-2021 REVISED PROPERTY LINES,OWNER & DEED BOOK DATA FOR PARCELS 203 & 205.ADDED PARCEL NUMBER 205A.(DBE)
10-19-2021 REVISED PROPERTY OWNER FOR PARCEL 205.RENUMBERED PARCEL 205A TO PARCEL 202.(DBE)

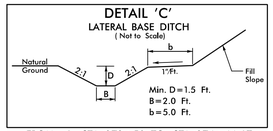
10/19/2021
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_06.dgn
tsmith.evans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

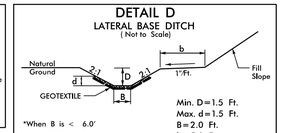
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL 'C'
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 273+50 TO STA. 274+44 LT.
FROM –L– STA. 282+00 TO STA. 283+58 LT.

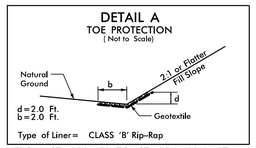
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 281+72 TO STA.283+89 RT
FROM –L– STA. 283+92 TO STA. 287+00 RT

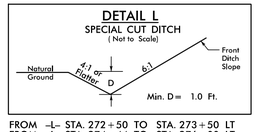
CULTIVATED

DETAIL A
TOE PROTECTION
(Not to Scale)



FROM STA.283+70 TO STA.284+00–L– LT.

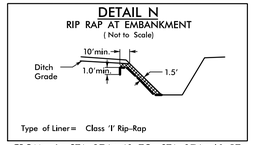
DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 272+50 TO STA. 273+50 LT
FROM –L– STA. 274+44 TO STA. 276+00 LT
FROM –L– STA. 274+00 TO STA. 274+60 RT
FROM –L– STA. 274+79 TO STA. 275+50 RT

CULTIVATED

DETAIL N
RIP RAP AT EMBANKMENT
(Not to Scale)



FROM –L– STA. 274+40 TO STA. 274+60 RT
FROM –L– STA. 275+00 TO STA. 275+50 RT

NAD 83/NA 2011

MATCHLINE SHEET 5
–L– STA. 273+00.00

MATCHLINE SHEET 7
–L– STA. 287+00.00

203 RONALD E WHEELER (TIC) & REDDIN ADAMS WHEELER (TIC) DB 3566 PG 722

204 BARBARA ENNIS DB 2235 PG 534 MB 2006 PG 182

205 LEOTERRA HONEYCUTT LLC DB 3882 PG 713 MB 2020 PG 367

202 LEOTERRA HONEYCUTT OAKS LLC DB 3882 PG 703 MB 2020 PG 367

206 JERRY SMITH DB 3087 PG 394 MB 2013 PG 63

R5705-AZ34

Century 2 Link Copper

POND

CULTIVATED

–L– N 28°27'20.3" E

–L– ST Sta. 273+65.93

BEGIN SBG 282+00 LT. AND 281+71 RT.
END SBG 286+60 LT. AND 286+35 RT.

LEOTERRA HONEYCUTT LLC
DB 3882 PG 713
MB 2020 PG 367

CLASS 'I' RIP RAP

2.0' LATERAL BASE DITCH SEE DETAIL 'C'

CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

LATERAL BASE DITCH SEE DETAIL G

CLASS 'B' RIP RAP EST. 2 TONS LOW POINT GEOTEXTILE –L– STA. 274+45.04 EST. 7 SY ELEV. = 306.82'

SPECIAL CUT DITCH SEE DETAIL L

SPECIAL CUT DITCH SEE DETAIL L

TOE PROTECTION SEE DETAIL 'A'

RIP RAP AT EMBANKMENT SEE DETAIL N

ROD AND LUG CONNECTORS W/ELBOWS

2.0' LATERAL BASE DITCH SEE DETAIL 'D' CLASS 'B' RIP RAP

BURY PIPE 0.8'

50' TRANSITION CURB

15" RCP-IV

15" CSP

GREU TL-3

CAT-1

2GI

PUE

ACCESS POINT

BEGIN FENCE (WW)

END FENCE (WW)

SEE SHEET 25 FOR –L– PROFILE

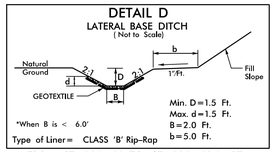
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

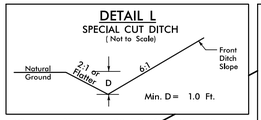
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= CLASS 'B' Rip-Rap

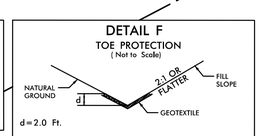
FROM STA.290+50 TO STA.295+58–L– RT.
FROM STA.290+00 TO STA.293+50–L– LT.
FROM STA.299+50 TO STA.301+17–L– LT.

DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 287+00 TO STA. 287+50 RT

DETAIL F
TOE PROTECTION
(Not to Scale)



Type of Liner= CLASS I Rip-Rap

FROM –L– STA. 297+70 TO STA. 299+50 RT

NAD 83/NA 2011

MATCHLINE SHEET 6
–L– STA. 287+00.00

MATCHLINE SHEET 8
–L– STA. 300+00.00

290 295 300

CULTIVATED

S 00°45'15" W 101.40'

S 78°49'55" E 216.10'

204
BARBARA ENNIS
DB 2235 PG 534
MB 2006 PG 182

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

207
BARRY DOYLE
DB 737 PG 829
MB 21PG 18

BEGIN SBG 291+66 LT. AND 290+70 RT.
END SBG 301+16 LT. AND 301+00 RT.

206
JERRY SMITH
DB 3087 PG 394
MB 2013 PG 63

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

207
BARRY DOYLE
DB 737 PG 829
MB 21PG 18

2' LATERAL BASE DITCH
SEE DETAIL D
CLASS 'I' RIP RAP +70.00 174' LT

END FENCE (WW) +10.00 100' LT
BEGIN FENCE (WW) +70.00 100' LT
END FENCE (WW) +28.00 100' LT
BEGIN FENCE (WW) +88.00 100' LT

ACCESS POINT

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'
+17.00 100' LT

+46 119.64' 129'
+44 150'
+60.00 137' LT
+50.00 127' LT
+65.00 115' LT

WOODS

15" CSP
ROD AND LUG CONNECTORS W/ELBOWS

N 87°29'45" W 376.80'

271.00' S 00°45'45" W

CAT-1

0705 0706 0707 0708 0710

15" RCP-IV 2GI

N 28° 27' 20.3" E

–L–

200' R/W WIDTH

12' 12' 02 MED. 30'

1'-6" C&G

4'R

100' TAPER

+90.70

+67.70 27.00' OFF.

65'R

0700 0701 0702 0703 0712 0714 0716

GREU TL-3

S 78°49'55" E 183.38'

HIGH POINT
–L– STA. 287+79.61
ELEV. = 320.74'

SPECIAL CUT DITCH
SEE DETAIL L

+50.00 100' RT
+65 120'
+10.00 100' RT END FENCE (WW)
+70.00 100' RT BEGIN FENCE (WW)
+17.00 100' RT
+12 120'

206
JERRY SMITH
DB 3087 PG 394
MB 2013 PG 63

+60.00 165' RT
+58 187'
+83 159'
180'

2.0' LATERAL BASE DITCH
SEE DETAIL 'D'

+50.00 123' RT

BURY PIPE 0.8'

+73.00 138' RT

208
WILLIAM FARMER
DB 1214 PG 551

+50.00 130' RT
+90 158'
TOE PROTECTION
SEE DETAIL 'F'

+35.00 100' RT END FENCE (WW)
+95.00 100' RT BEGIN FENCE (WW)
+73 120'

839.03' S 0°22'06" E

BL-38

BL-37

POND

931.79' S 0°38'16" E

CHALYBEATE SPRINGS OFF RD NC
DB 685 PG 947

SEE SHEET 25 FOR –L– PROFILE

3/3/2021
X:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_07.dgn
User:bevans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

8/17/99

REVISIONS

10-19-2021 COMBINED PROPERTY LINES FOR PARCELS 212,213,214 & 215 INTO PARCEL 212,DELETED PARCEL NUMBERS 213,214 & 215.(DBE)

10/19/2021
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_ps08.dgn
User:Reyons

DETAIL A
TOE PROTECTION
(Not to Scale)

Natural Ground; 2:1 or Flatter Fill Slope; b; d; Geotextile

d=2.0 Ft.
b=2.0 Ft.

Type of Liner= CL 'I' Rip-Rap

FROM STA.311+50 TO STA.312+60 LT
FROM STA.311+50 TO STA.312+50 RT

DETAIL P
SPECIAL CUT DITCH w/HINGE
(Not to Scale)

Natural Ground; Hinge; 4:1; D; 6:1 or Flatter; Front Ditch Slope; 6.0'

Min. D= 1.5 Ft.

FROM -L- STA. 303+50 TO STA. 306+00 RT
FROM -L- STA. 307+50 TO STA. 309+00 RT

DETAIL C
LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 2:1; D; 2:1; b; 1'Ft.; Fill Slope; B

Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

FROM -L- STA. 300+68 TO STA. 302+50 RT

DETAIL I
FALSE SUMP
(Not to Scale)

0.5' Min. 1.0' Max.; Outside Ditch Traffic Flow; 20:1; 10:1; 2'; GI etc.; S; S=Ditch Slope; ℄ Proposed Ditch

-L- STA.311+13 LT

DETAIL AC
FALSE SUMP
(Not to Scale)

0.5' Min. 1.0' Max.; Outside Ditch Traffic Flow; 10:1; 20:1; 2.0'; GI etc.; S; S=Ditch Slope; ℄ Proposed Ditch

FROM STA.311+13 RT.

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 2:1; d; GEOTEXTILE; b; D; 2:1; 1'Ft.; Fill Slope; B

*When B is < 6.0'

Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM STA.299+50 TO STA.301+17-L- LT.

-Y6- STA. 12+25.00
BEGIN CONST.
BARRY DOYLE
DB 737 PG 829
207

BEGIN SBG 291+66 LT. AND 290+70 RT.
END SBG 301+16 LT. AND 301+00 RT.

BY6-111
-Y6- POT Sta. 10+00.00

-L- PC Sta. 303+16.42

-Y6- STA. 18+00.00
END CONST.

-Y6- POT Sta. 19+42.34

BL-39=BY6

BL-40

BL-41

-L-
PI Sta 310+55.64
△ = 16° 49' 11.4" (LT)
D = 1° 08' 45.3"
L = 1,467.81'
T = 739.22'
R = 5,000.00'
SE = 03
RO = 180'

ANNUAL AVERAGE DAILY TRAFFIC
(Vehicles per Day)

4600 / 9500
2100 / 4100
400 / 500
16000 / 25700
800 / 400
800 / 400
14900 / 24300
2300 / 3600
2022 / 2042
SR 1441
W. WILLIAMS ST.

NAD 83/NA 2011

MATCHLINE SHEET 7
-L- STA. 300+00.00

MATCHLINE SHEET 9
-L- STA. 312+00.00

209 RECIE FARMER DB 407 PG 480

210 LAURA DICKENS DB 485 PG 202

211 JERRY SMITH DB 755 PG 458
JERRY SMITH DB 3139 PG 53

212 LINWOOD MATTHEWS
DB 617 PG 770
DB 918 PG 720
DB 1253 PG 191

216 SUSAN CHRISCOE
WB 12E PG 114
SUSAN CHRISCOE DB 3075 PG 893

BARRY DOYLE DB 737 PG 829 207

Town of Angier 8" PVC
Century Link, Copper
SR 1441 (W. WILLIAMS ST.) 24' BST
SR 1441 EAST WILLIAMS ST 24' BST
Spectrum Copper
Town of Angier 8" PVC

ISFD
BK B
2SBKG
3SBFD
WOODS
CULTIVATED

S 66°12'57.8" E 968.00'
N 01°18'41" E 968.00'
S 01°15'45" E 249.01'
S 00°39'45" E 237.46'
N 00°48'20" E 222.12'
N 00°48'20" E 222.12'
S 01°43'29" W 200.00'
S 01°43'29" W 50.00'
S 88°16'31" E 100.00'
N 01°43'29" E 50.00'
S 01°43'29" W 779.69'
N 01°38'16" W 282.71'
S 01°37'40" E 301.35'

SEE SHEETS 25 THRU 26 FOR -L- PROFILE
SEE SHEET 33 FOR -Y6- PROFILE

8/17/99

REVISIONS

10-19-2021 RENUMBERED PARCEL 215 TO 212.(DBE)

10/18/2021
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psht_09.dgn
User:Revons

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

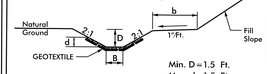
DETAIL F
TOE PROTECTION
(Not to Scale)

d=2.0 Ft.

Type of Liner= CLASS I Rip-Rap

FROM –L– STA. 311+50 TO STA. 312+60 LT
FROM –L– STA. 311+50 TO STA. 312+50 RT

DETAIL G
LATERAL BASE DITCH
(Not to Scale)



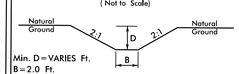
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

*When B is < 6.0'

Type of Liner= CLASS 'I' Rip-Rap

FROM –L– STA. 312+69 TO STA. 317+00 RT
FROM –L– STA. 313+82 TO STA. 317+50 LT

DETAIL 'X'
STANDARD BASE DITCH
(Not to Scale)



Min. D=VARIES Ft.
B=2.0 Ft.

–L– STA. 312+61 LT
FROM –L– STA. 312+56 TO STA. 312+74 RT

–L–

PI Sta 310+55.64
Δ = 16° 49' 11.4" (LT)
D = 1° 08' 45.3"
L = 1,467.81'
T = 739.22'
R = 5,000.00'
SE = 03
RO = 180'

BEGIN SBG 311+87 LT. AND END SBG 315+75 LT.

NAD 83/NA 2011

WOODS

CULTIVATED

212
LINWOOD MATTHEWS
DB 617 PG 770
DB 918 PG 720
DB 1253 PG 191

218
ANN BLALOCK
WB 93E PG 169

–L– PT Sta. 317+84.22

MATCHLINE SHEET 8
–L– STA. 312+00.00

MATCHLINE SHEET 10
–L– STA. 326+00.00

BL-43

BL-42

BL-44

N 11° 38' 08.9" E
–L–

N 30°39'57" E
1938.62'

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 10 SY

+50.00
152' LT

2' STANDARD BASE DITCH
SEE DETAIL 'X'
EST. DDE= 25 CY
L= 53'
S= 1.9%

+55.00
174' LT

+00
172.05'

CLASS 'B' RIP RAP
EST. 2 TONS

+00
181'

2' LAT. BASE DITCH
SEE DETAIL G
CLASS 'I' RIP RAP
EST. 500 TONS
GEOTEXTILE
EST. 610 SY

+68
175'

+84.00
160' LT

TOE PROTECTION
SEE DETAIL 'A'

ROD AND LUG ELBOWS

18" CSP

+47
END FENCE (WW)

100' TAPER

+75
BEGIN FENCE (WW)

180'

ROD AND LUG CONNECTORS W/ELBOWS

+77.00
100' LT

+84.22
100' LT

END FENCE (WW)
+80.00
100' LT

BEGIN FENCE (WW)
+40.00
100' LT

ACCESS POINT

+75.00
100' LT

+00
125'

+61.00
100' LT

+55
100'

+00.00
100' LT

+80.00
27.00' OFF.

65'R

60' TYP

2GI

AT-1

CAT-1

TB2GI

4'R

1'-6" C&G

2'-9" C&G

15" RCP-IV

CB

200' RW WIDTH

12' 12'

5.5'

2'-9" C&G TRANSITION CURB

54.22' MED.

2'R
16.06

3'

6'

+97.13

100' TAPER

+71
END FENCE (WW)
TOE PROTECTION
SEE DETAIL 'A'

+99
BEGIN FENCE (WW)

ELBOWS
ROD AND LUG

8:1

+77.00
100' RT

+84.22
100' RT

END FENCE (WW)

+44.23
100' RT

BEGIN FENCE (WW)

+30
100'

+75.00
100' RT

+83.75
107'

+55.00
164' RT

+05
157'

+61.00
100' RT

+61
110'

+90
100'

+71.93
27.00' OFF.

ANN BLALOCK
WB 93E PG 169

CULTIVATED

SEE SHEET 26 FOR –L– PROFILE

216
SUSAN CHRISCOE
DB 3075 PG 893

217
DANNY HONEYCUTT
DB 3127 PG 706
MB 2008 PG 171

2' STANDARD BASE DITCH
SEE DETAIL 'X'
EST. DDE=10 CY
L= 20'
S= 1.0%

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 10 SY

+80.00
165' RT

+55.00
160' RT

+17.00
152' RT

+45
164'

2' LAT. BASE DITCH
SEE DETAIL G
CLASS 'I' RIP RAP
EST. 700 SY
GEOTEXTILE
EST. 550 TONS

LOW POINT
–L– STA. 316+14.21
ELEV. = 267.71'

+05.00
100' RT
END FENCE (WW)
+26

BEGIN FENCE (WW)
+46

PUE

S 27°13'39" E
118.58'

S 30°16'07" E
118.58'

N 62°34'40" W
64.05'

N 27°13'49" W
91.76'

S 71°04'58" W
30.05'

N 69°43'23" W
57.63'

S 52°52'57" W
29.71'

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

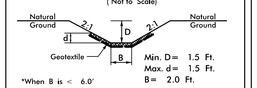
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS
8/17/99
7-19-2021 REVISED PUE ON PARCEL 218.(DBE)

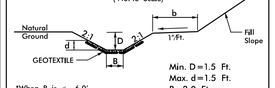
12/14/2021
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_10.dgn
User: revans

DETAIL Q
STANDARD BASE DITCH
(Not to Scale)



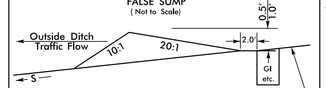
Type of Liner= Class 'I' Rip-Rap
FROM –L– STA. 326+29 TO STA. 326+50 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



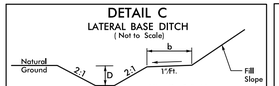
Type of Liner= CLASS 'B' Rip-Rap
FROM –L– STA. 328+10 TO STA. 331+50 RT

DETAIL AC
FALSE SUMP
(Not to Scale)



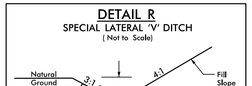
FROM STA.329+00 LT.

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 337+50 TO STA. 339+00 RT

DETAIL R
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

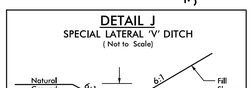


FROM –Y7– STA. 11+00 TO STA. 12+25 LT
FROM –Y7– STA. 14+00 TO STA. 16+00 LT
FROM –Y7– STA. 11+00 TO STA. 11+75 RT
FROM –Y7– STA. 14+00 TO STA. 16+00 RT

DETAIL F
TOE PROTECTION
(Not to Scale)

Type of Liner= CLASS I Rip-Rap
FROM –L– STA. 337+50 TO STA. 337+96 LT

DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM –L– STA. 339+00 TO STA. 339+50 RT
FROM –L– STA. 331+50 TO STA. 332+00 RT

–Y7–
PI Sta 148+0.22
Δ = 4° 05' 16.8" (RT)
D = 1° 15' 00.7"
L = 326.99'
T = 163.57'
R = 4,583.00'

–Y7– POT Sta. 10+00.00
0.93' EIP TO R/W
S 84°06'26.8" E
–Y7– STA. 10+80.00
BEGIN CONST.
S 15°47'33" W
419.37'
N 88°51'57" E
482.17'
NAD 83/NA 2011

BOBBY ELKINS
DB 2488 PG 543
MB 2008 PG 126

219
SUNFLIGHT LLC
DB 2724 PG 826

218
ANN BLALOCK
WB 93E PG 169

–L– STA. 332+45.75
–Y7– STA. 13+16.00

–Y7– STA. 15+00.00
END GRADE

–Y7– STA. 16+00.00
END CONST.

–Y7– PT Sta. 16+43.65

S 80° 00' 10.0" E

R5705-AZ36 = BY7

BL-45

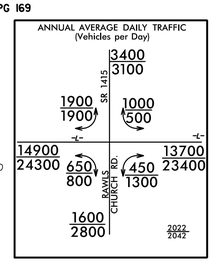
MATCHLINE SHEET 9
–L– STA. 326+00.00

MATCHLINE SHEET 11
–L– STA. 339+50.00

BEGIN SBG 326+23 LT. AND 326+47 RT.
END SBG 328+48 LT. AND 328+75 RT.

2' STANDARD BASE DITCH SEE DETAIL Q CLASS I RIP RAP
CL 'I' RIP RAP
CLASS 'B' RIP RAP EST. 2 TONS GEOTEXTILE EST. 7 SY
ROD AND LUG CONNECTORS W/ELBOWS
15" CSP
48" RCP-IV
15" RCP-IV
FALSE SUMP SEE DETAIL AC
ACCESS POINT
DRAIN POND
REMOVE DRAIN POND
BURY PIPE 0.8'
2' LATERAL BASE DITCH SEE DETAIL C
CLASS 'B' RIP RAP EST. 220 TONS GEOTEXTILE EST. 575 SY
SPECIAL LAT. 'V' DITCH SEE DETAIL J
SPECIAL LAT. 'V' DITCH SEE DETAIL R
TOE PROTECTION SEE DETAIL F
CLASS 'I' RIP RAP EST 10 TONS GEOTEXTILE SET. 23 SY
HIGH POINT –L– STA. 333+91.00 ELEV. = 301.95'
RAWLS CHURCH RD 23' EST
Century Link Conduit
Town of Angier
CULTIVATED
WOODS
ISFD
GR
Duke Energy Progress
TOP=254.78'
TOP=262.10'

ANNUAL AVERAGE DAILY TRAFFIC
(Vehicles per Day)



SEE SHEETS 26 & 27 FOR –L– PROFILE
SEE SHEET 33 FOR –Y7– PROFILE

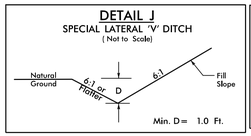
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

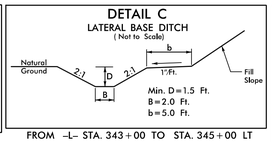
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



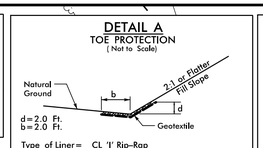
FROM –L– STA. 343+00 TO STA. 343+50 RT
FROM –L– STA. 342+50 TO STA. 343+00 LT

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 343+00 TO STA. 345+00 LT

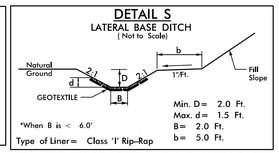
DETAIL A
TOE PROTECTION
(Not to Scale)



Type of Liner= CL 'I' Rip-Rap

FROM STA.346+50 TO STA.348+50 LT

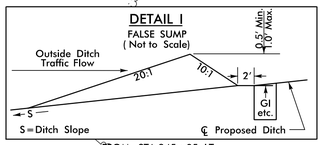
DETAIL S
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= Class 'I' Rip-Rap

FROM –L– STA. 346+68 TO STA. 354+00 RT
FROM –L– STA. 343+50 TO STA. 346+65 RT

DETAIL I
FALSE SUMP
(Not to Scale)



FROM STA.345+05 LT.

NAD 83/NA 2011

CULTIVATED

BL-47

BL-48

BL-49

BL-46

N 89°50'56" W 293.84'

WOODS

340

345

350

BEGIN SBG 344+92 LT. AND 344+34 RT.
END SBG 348+35 LT. AND 350+63 RT.

TDE

+11
289'

219
SUNFLIGHT LLC
DB 2724 PG 826

BEGIN FENCE (WW)
+25.00
100' LT

END FENCE (WW)
+65.00
100' LT

ACCESS POINT

180'

+16.00
150' LT

+67.00
100' LT

+40.00
100' LT

SPECIAL LAT. 'V' DITCH
SEE DETAIL J

2' LATERAL BASE DITCH
SEE DETAIL C

+80.00
100' LT

FALSE SUMP
SEE DETAIL I

CLASS 'B' RIP RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

+05
120.13'

+57.00
162' LT

CL 'I' RIP RAP
+45
135.77'

+58
167'

+82
100'
125'

+65.00
100' LT

TRANSITION STONE
CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 15 SY

END FENCE (WW)
+75.00
100' LT

BEGIN FENCE (WW)
+35.00
100' LT

ACCESS POINT

TOE PROTECTION
SEE DETAIL A

GREU TL-3

+18.34
27.00' OFF.

65'R

+27.90

60' TYP

CULTIVATED

100' TAPER

+93.13

1'-6" C&G

4'R

200' R/W WIDTH

50' TRANSITION CURB

2'-9" C&G

30' MED.

12' 12' 15' 12' 12'

02 6%

01 6%

00 6%

MATCHLINE SHEET 10
–L– STA. 339+50.00

MATCHLINE SHEET 12
–L– STA. 353+50.00

–L–

N 11° 38' 08.9" E

2GI

ELBOWS ROD AND LUG

CAT-1

15" RCP-IV

1101

1102

1103

1104

1105

1106

1107

1108

CSPH

ELBOW

GREU TL-3

2.5%

15%

S 61°45'53" W 323.59'

N 28°27'07" W 213.25'

BURY PIPE 1.0'

1100

HW

+73.00
146' RT

+73
167'

2' LATERAL BASE DITCH
DETAIL S
CLASS 'I' RIP RAP
EST. 535 TONS
GEOTEXTILE
EST. 650 SY

2' LATERAL BASE DITCH
DETAIL S
CLASS 'I' RIP RAP
EST. 960 TONS
GEOTEXTILE
EST. 1,195 SY

LOW POINT
–L– STA. 342+52.27
ELEV. = 293.61'

SPECIAL LAT. 'V' DITCH
SEE DETAIL J

+00
100'

+25.00
100' RT

+50
120'

+13
100'

+85
129'

+40.00
100' RT

+49.00
100' RT

+90
129'

+17
100'

+88
130'

+35.00
100' RT
BEGIN FENCE (WW)

+51.00
117' RT
END FENCE (WW)

PUE

SOIL

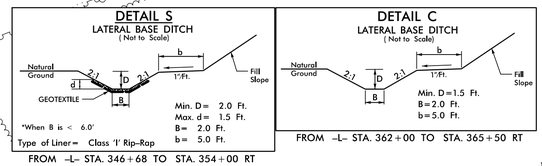
219
SUNFLIGHT LLC
DB 2724 PG 826

220
DWIGHT STEPHENSON
DB 2179 PG 585

SEE SHEET 27 FOR –L– PROFILE

3/3/2021
X:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_11.dgn
User:bevans

8/17/99



FROM –L– STA. 346+68 TO STA. 354+00 RT

FROM –L– STA. 362+00 TO STA. 365+50 RT

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

360

355

365

220
DWIGHT STEPHENSON
DB 2179 PG 585

221
ROBERTA WOOLARD
DB 1275 PG 306

N 89°45'42" W
1283.55'

MATCHLINE SHEET 11
–L– STA. 353+50.00

MATCHLINE SHEET 13
–L– STA. 367+50.00

+67.90
100' LT

+80
100'

+30
120'

+00
118'

+70
100'

+40.00
100' LT

+72.30
156' LT

CLASS 'B' RIP RAP
EST. 3 TONS
GEOTEXTILE
EST. 11 SY

END FENCE (WW)
+90.00
100' LT

BEGIN FENCE (WW)
+50.00
100' LT

ACCESS POINT

HIGH POINT
–L– STA. 363+43.33
ELEV. = 329.12'

CULTIVATED

15" RCP-IV

24" RCP-IV

CB

1200
1201
1202
1203
1204
1205
1206
1207

2'-9" C&G

1'-6" C&G

12' 12' MED.

30' MED.

200' R/W WIDTH

2' LATERAL BASE DITCH
SEE DETAIL S

2' LATERAL BASE DITCH
SEE DETAIL C

+67.90
100' RT
–L– PC Sta. 353+67.90

+71
100'

+78
114'

+94
100'

+50.00
100' RT
END FENCE (WW)

+10.00
100' RT
BEGIN FENCE (WW)

BL-51

BL-50

BM#17

–L–
PI Sta 362+25.78
Δ = 19° 28' 17.8" (RT)
D = 1° 08' 45.3"
L = 1,699.22'
T = 857.88'
R = 5,000.00'
SE = 0.3
R0 = 180'

SEE SHEET 27 THRU 28 FOR –L– PROFILE

3/3/2021
X:\NW2001\R-5705B\Roadway\Proj\R5705B_Rdy_psh_12.dgn
User:bevans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

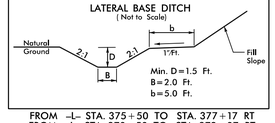
8/17/99

REVISIONS

10-19-2021 REVISED ACCESS POINT FOR PARCEL 222 TO BE 100' WIDE.(DBE)

10/19/2021
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_13.dgn
User:Revons

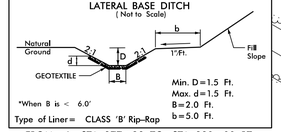
DETAIL C
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

FROM –L– STA. 375+50 TO STA. 377+17 RT
FROM –L– STA. 370+50 TO STA. 372+07 RT
FROM –L– STA. 372+10 TO STA. 373+00 RT
FROM –L– STA. 380+00 TO STA. 381+50 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

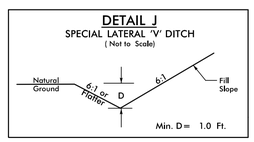


Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

*When B is < 6.0'
Type of Liner= CLASS 'B' Rip-Rap

FROM –L– STA. 377+28 TO STA. 380+00 RT
FROM –L– STA. 370+00 TO STA. 372+39 LT.

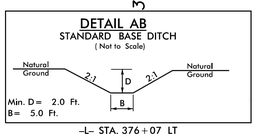
DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.

FROM –L– STA. 375+00 TO STA. 375+50 RT

DETAIL AB
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 5.0 Ft.

–L– STA. 376+07 LT

SEE SHEET 28 FOR –L– PROFILE

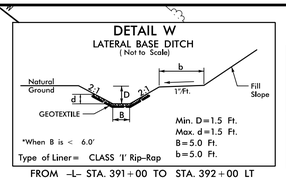
PROJECT REFERENCE NO.	SHEET NO.
R-5705B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

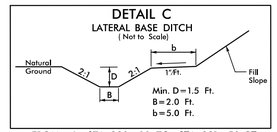
NAD 83/NA 2011

DETAIL W
LATERAL BASE DITCH
(Not to Scale)



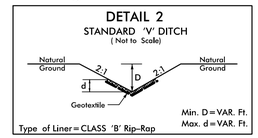
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=5.0 Ft.
b=5.0 Ft.
*When B is < 6.0'
Type of Liner= CLASS 'I' Rip-Rap
FROM –L– STA. 391+00 TO STA. 392+00 LT

DETAIL C
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
FROM –L– STA. 380+00 TO STA. 381+50 RT
FROM –Y8– STA. 12+92 TO STA. 13+00 RT

DETAIL 2
STANDARD 'V' DITCH
(Not to Scale)

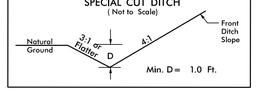


Min. D=VAR. Ft.
Max. d=VAR. Ft.
Type of Liner=CLASS 'B' Rip-Rap
FROM STA. 17+00 –Y22– LT.

–Y19–
PI Sta 10+95.22
Δ = 22° 07' 54.7" (LT)
D = 22° 55' 05.9"
L = 96.57'
T = 48.89'
R = 250.00'

–L–
PI Sta 387+98.92
Δ = 42° 06' 28.1" (LT)
D = 4° 35' 01.2"
L = 918.65'
T = 481.18'
R = 1,250.00'
SE = 04
RO = 200'

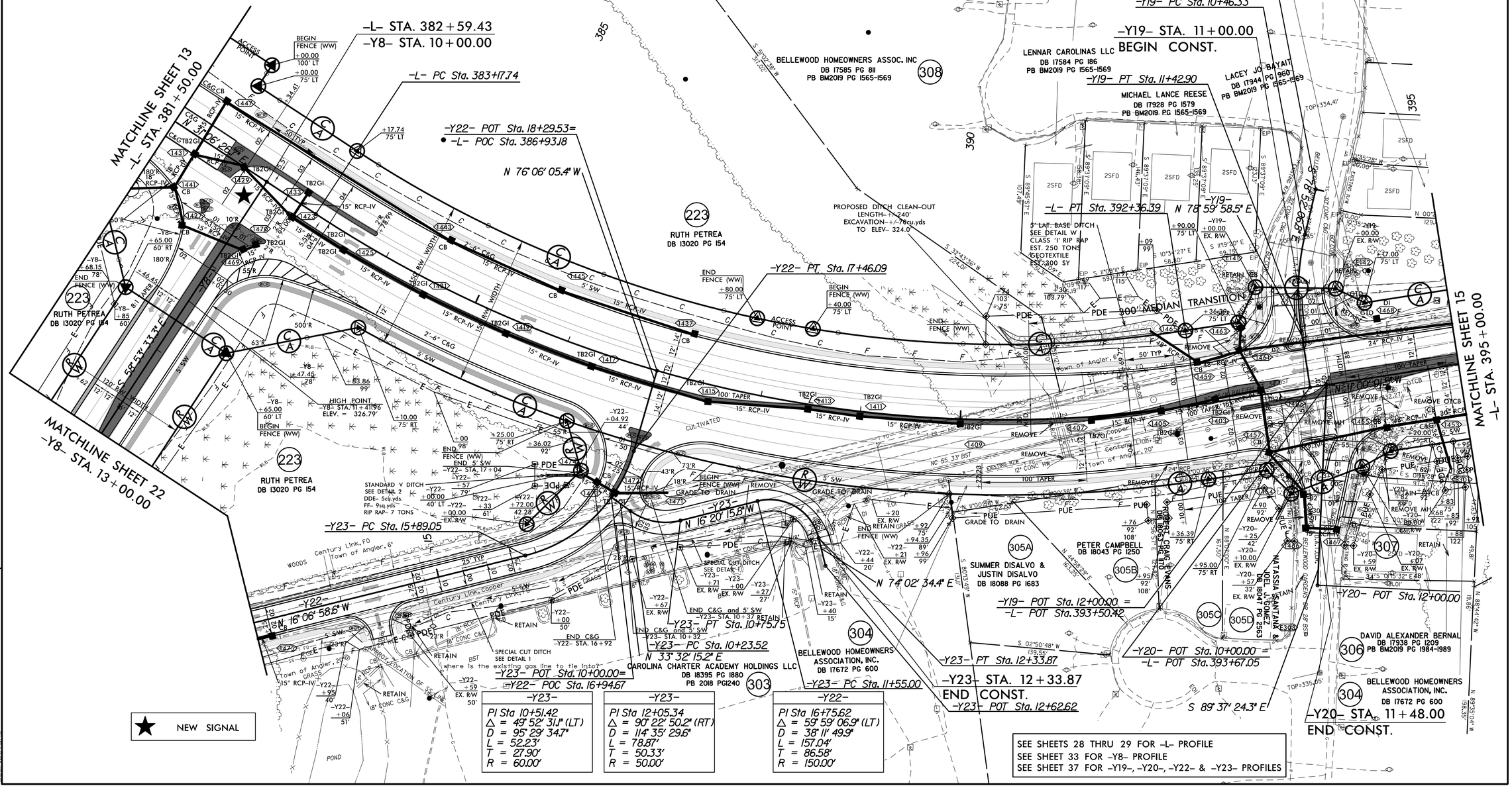
DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.0 Ft.
FROM –Y22– STA. 11+00 TO STA. 12+30 RT
FROM –Y22– STA. 14+63 TO STA. 16+50 RT.

ANNUAL AVERAGE DAILY TRAFFIC
(Vehicles per Day)

13700 / 23400	NC 55	28800 / 42200	
400 / 1100		15500 / 19900	
16000 / 21000			2022 / 2042



–Y23–
PI Sta 10+51.42
Δ = 49° 52' 31.1" (LT)
D = 95° 29' 34.7"
L = 52.23'
T = 27.90'
R = 60.00'

–Y23–
PI Sta 12+05.34
Δ = 90° 22' 50.2" (RT)
D = 114° 35' 29.6"
L = 78.87'
T = 50.33'
R = 50.00'

–Y22–
PI Sta 16+75.62
Δ = 59° 59' 06.9" (LT)
D = 38° 11' 49.9"
L = 157.04'
T = 86.58'
R = 150.00'

REVISIONS

5-20-2021 DELETED PARCEL NUMBER 305. UPDATED SURVEYS AND ADDED PARCEL NUMBERS AND PROPERTY OWNER DATA FOR PARCELS 305A,305B,305C & 305D.
7-16-2021 REVISED EASEMENTS ON PARCELS 304,305A,305B,305C,305D,306 & 307. REMOVED PUE FROM PARCEL 308.
9-1-2021 REMOVED C/A FENCE FROM –L– STA.389+00 RT TO THE END OF THE SHEET.(DBE)
ADDED DESIGN FOR –Y22– AND –Y23–. REVISED R/W AND EASEMENTS ON PARCELS 223 & 303. REVISED –L– MEDIAN TO ALLOW A LEFTOVER AND U-TURN AT –Y20–.REVISED DESIGN ALONG –Y8–(DBE)
10-19-2021 REVISED PROPERTY OWNER & DEED BOOK DATA FOR PARCEL 304.(DBE)
11-15-2021 REVISED DESIGN FOR –Y8– AND MEDIAN DESIGN FOR –L–, REVISED R/W AND EASEMENTS ON PARCELS 223 & 303. UPDATED WETLANDS ON PARCEL 223.(DBE)

8/17/99

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User:bevans

8/17/99

REVISIONS

7-19-2021 REVISED EASEMENTS ON PARCELS 232,234,236,237,238,239,240,241 & 242. REMOVED PUE FROM PARCELS 233 & 308.
UPDATED SURVEY ON PARCEL 240 TO SHOW GARAGE.REMOVED C/A FENCE FROM ENTIRE SHEET.(JDBE)
10-19-2021 REVISED PROPERTY OWNER & DEED BOOK DATA FOR PARCELS 233,236,243 & 304.ADDED 'DO NOT DISTURB GRAVESITE' NOTE TO PARCEL 234.(JDBE)

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

ANNUAL AVERAGE DAILY TRAFFIC (Vehicles per Day)
2100 / 4200
1000 / 850 — 800 / 2900
28900 / 42200 — 1550 / 1250 — 1200 / 1100 — 28300 / 44200
3100 / 2900
2022 / 2042

NAD 83/NA 2011

MATCHLINE SHEET 14 –L– STA. 395+00.00

MATCHLINE SHEET 16 –L– STA. 408+00.00

–Y9– STA. 9+64.00 BEGIN CONST.

–Y9– PT Sta. 10+15.96

–L– STA. 400+00.01 –Y9– STA. 12+15.32

–L– PC Sta. 403+02.62

–Y9– PC Sta. 12+58.03

–Y9– PT Sta. 13+49.27

–Y9– PC Sta. 13+99.88

–Y9– STA. 15+25.00 END CONST.

–Y9– PT Sta. 16+80.36

–EY9– POT STA. 22+84.76

–L DRV1– PT Sta. 9+95.44

–L DRV1– PT Sta. 12+25.99

–L– STA. 407+20 BEGIN RETAINING WALL w/HANDRAIL 49.50' RT

N 77° 00' 27.0" E

N 11° 00' 01.5" W

N 87° 40' 20.5" E

–L–	–Y9–		
PI Sta 405+97.57	PI Sta 8+87.62	PI Sta 13+03.66	PI Sta 15+35.75
Δ = 3° 22' 43.8" (LT)	Δ = 10° 17' 43.8" (RT)	Δ = 2° 36' 50.2" (LT)	Δ = 40° 13' 39.7" (LT)
D = 0° 34' 22.6"	D = 4° 00' 00.0"	D = 2° 51' 53.2"	D = 15° 26' 37.0"
L = 589.72'	L = 257.39'	L = 91.24'	L = 260.48'
T = 294.94'	T = 129.04'	T = 45.63'	T = 135.87'
R = 10,000.00'	R = 1,432.39'	R = 2,000.00'	R = 371.00'
SE = NC			

REMOVE EXISTING SIGNAL

SEE SHEET 29 FOR –L– PROFILE
SEE SHEET 32 FOR –L–DRV1– PROFILE
SEE SHEET 34 FOR –Y9– PROFILE

10/19/2021
X:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh15.dgn
User:Revans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS

6-23-2021 REVISED DESIGN FOR -Y12 REV- ALONG WITH R/W AND EASEMENTS FOR PARCELS 244,246 & 251.(DBE)
7-19-2021 REVISED EASEMENTS ON PARCELS 242,244,245 & 250.REMOVED C/A FENCE FROM ENTIRE SHEET.(DBE)
10-19-2021 REVISED PROPERTY OWNER & DEED BOOK DATA FOR PARCELS 243,245 & 255. ADDED "DO NOT DISTURB SIGN" NOTES TO PARCEL 245.(DBE)

8/17/99

10/19/2021
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User:ReVans

ANNUAL AVERAGE DAILY TRAFFIC (Vehicles per Day)

BITTER MELON ROAD

500 / 800
200 / 400 — 250 / 300
28300 / 44200 — 25700 / 37200
3250 / 7650 SR 2763 — 600 / 800
3900 / 8600
2022 / 2042

NAD 83/NA 2011

CHRISTOPHER M. MURPHY AND SPOUSE, TABITHA L. MURPHY DB 17405 PG 1935

VIRGINIA EDWARDS MB 2005 PG 2248 DB 15663 PG 343

-Y11- POT Sta. 10+00.00

-Y13- POT Sta. 10+00.00

MOHLER INVESTMENTS, LLC DB 17569 PG 1018

SUSAN HARMITH DB 9825 PG 388 MB 2005 PG 2248

MARY CHANCE DB 10338 PG 2828 MB 2005 PG 2248

RICHARD MESTLER DB 16168, PG 1503 MB 2005 PG 2248

GEOFFREY ARNOLD DB 16571 PG 1018 MB 2010 PG 431

KDC CAPITAL, LLC DB 17610 PG 2151

JOHNSONS LANDING HOMEOWNERS ASSOC INC DB 16581 PG 1977 MB 2005 PG 347

JAMES CLARKE DB 16530 PG 1783 MB 2007 PG 2731

JOSEPH SCUNZIANO DB 14846 PG 280 MB 2007 PG 2731

IHG INVESTMENT DB 15757 PG 489 MB 2010 PG 431

BERYL ROAD PROPERTIES LLC DB 13860 PG 198 MB 2006 PG 1754

BYRD PROPERTIES INC DB 5658 PG 814

ROBERT PEELE DB 16139 PG 1326 MB 2007 PG 487

NC PROPERTY NETWORK INC DB 16217 PG 1180 MB 2008 PG 2308

RUDINE BODDIE DB 16782 PG 1365 MB 2008 PG 2308

KENNEBEC FLYING CLUB DB 10991 PG 2406 MB 2004 PG 1049

-Y10- STA. 14+50.00
BEGIN CONST.

-L- STA. 408+77.03
-Y10- STA. 15+39.60
POT Sta. 10+00.00

-Y11- PC Sta. 13+27.04

-Y11- STA. 13+50.00
BEGIN CONST.

-Y11- PT Sta. 14+30.38

-L- STA. 412+35.12
-Y11- STA. 14+88.12

-Y13- STA. 10+40.00
BEGIN CONST.

-Y13- PC Sta. 11+55.51

-Y13- STA. 12+03.37
-Y13A- STA. 10+00.00

-Y13A- PC Sta. 10+44.43

-Y13A- PT Sta. 10+81.61

-Y13A- POT Sta. 11+17.49

-L- PCC Sta. 408+92.34

-L_DRV2- PT Sta. 12+17.98

-L_DRV2- POT Sta. 12+72.34

-L_DRV2- PC Sta. 10+37.57

-L_DRV2- PRC Sta. 11+27.78

-Y12- PC Sta. 11+10.31

-L- STA. 412+30.54
-Y12- STA. 9+84.16

-L- STA. 412+57.05
-Y12_REV- STA. 10+00.00

-Y12_REV- PC Sta. 10+08.44

-Y12_REV- PT Sta. 11+67.86

-L- PT Sta 415+34.21 BK =
-L- POT Sta 415+42.21 AH

-L- STA. 420+32.37
-Y13- STA. 13+10.60

-Y13- PT Sta. 12+59.50
N 55° 40' 51.1" E

MATCHLINE SHEET 15
-L- STA. 408+00.00

MATCHLINE SHEET 23
-Y12_REV- STA. 12+07.69

MATCHLINE SHEET 17
-L- STA. 422+00.00

N 74° 33' 51.0" E

N 76° 52' 14.7" E

N 57° 07' 57.8" E

N 45° 01' 34.1" W

DO NOT DISTURB SIGNS

DO NOT DISTURB CURB OR PARKING LOT

DO NOT DISTURB RUNWAY LIGHTS

-L- STA. 408+72
END RETAINING WALL
OFFSET 49.50'

LOW POINT
-L- STA. 418+32.26
ELEV. = 335.69'

-Y12-	-Y12_REV-
PI Sta 11+80.56	PI Sta 10+90.08
Δ = 14° 33' 28.7" (LT)	Δ = 30° 26' 50.5" (LT)
D = 10° 25' 02.7"	D = 19° 05' 54.9"
L = 139.75'	L = 159.42'
T = 70.25'	T = 81.64'
R = 550.00'	R = 300.00'

-L_DRV2-	
PI Sta 10+83.46	PI Sta 11+73.66
Δ = 25° 50' 31.0" (RT)	Δ = 25° 50' 31.0" (LT)
D = 28° 38' 52.4"	D = 28° 38' 52.4"
L = 90.21'	L = 90.21'
T = 45.88'	T = 45.88'
R = 200.00'	R = 200.00'

-L-		-Y11-	-Y13-	-Y13A-
PI Sta 405+97.57	PI Sta 412+21.15	PI Sta 13+79.23	PI Sta 12+09.32	PI Sta 10+65.88
Δ = 3° 22' 43.8" (LT)	Δ = 30° 38' 48.7" (LT)	Δ = 19° 44' 16.9" (LT)	Δ = 36° 19' 57.2" (LT)	Δ = 71° 07' 09.5" (LT)
D = 0° 34' 22.6"	D = 4° 46' 28.7"	D = 19° 05' 54.9"	D = 34° 56' 11.2"	D = 190° 59' 09.4"
L = 589.72'	L = 641.87'	L = 103.35'	L = 104.00'	L = 37.24'
T = 294.94'	T = 328.91'	T = 52.19'	T = 53.81'	T = 21.45'
R = 10,000.00'	R = 1,200.00'	R = 300.00'	R = 164.00'	R = 30.00'
SE = NC	SE = 04			
	R0 = 200'			

★ UPGRADE EXISTING OR NEW SIGNAL

SEE SHEETS 29 THRU 30 FOR -L- PROFILE
SEE SHEET 32 FOR -L_DRV2- PROFILE
SEE SHEET 34 FOR -Y10- & -Y11- PROFILES
SEE SHEET 35 FOR -Y12-, -Y13-, & -Y13A- PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

REVISIONS

7-19-2021 REMOVED C/A FENCE FROM ENTIRE SHEET.(DBE)
10-19-2021 REVISED PROPERTY OWNER & DEED BOOK DATA FOR PARCEL 255.(DBE)

8/17/99

MATCHLINE SHEET 16
-L- STA. 422+00.00

MATCHLINE SHEET 18
-L- STA. 436+00.00

-Y14- POT Sta. 10+00.00

-Y14- STA. 11+15.00
BEGIN CONST.

-Y14- PC Sta. 11+21.15

-Y14- PT Sta. 12+02.39

-L- PC Sta. 429+29.71

-L- PT Sta. 434+79.55

-L- STA. 435+18.61
-Y14- STA. 12+70.61

HIGH POINT
-L- STA. 423+94.37
ELEV. = 342.99'

LOW POINT
-L- STA. 429+30.73
ELEV. = 339.44'

PHILIP BROWN
DB 16498 PG 346
MB 2016 PG 227
255

CHRISTOPHER M. MURPHY AND SPOUSE, TABITHA L. MURPHY
DB 17405 PG 1935

RICHARD SCANLON
DB 16692 PG 1538
MB 2007 PG 2273
257

CHRISTOPHER CARVER
DB 16686 PG 495
MB 2007 PG 2731
258

THEODORE PATERECK
DB 16560 PG 1268
MB 2007 PG 2273
259

DENNIS GOLDENSOHN
DB 16702 PG 1021
MB 2007 PG 2273
260

JANET BLACKMAN
DB 16664 PG 324
MB 2007 PG 2273
261

MATTHEW BAIRD
DB 16485 PG 1195
MB 2007 PG 2730

CLAUDE SIMMONS
DB 15914 PG 57
MB 2007 PG 2730

JOHNSONS LANDING HOMEROWNERS ASSC
DB 17131PG 1400
MB 2007 PG 2273
264

THEODORE FRANZESE
DB 16875 PG 2030
MB 2007 PG 2273

TERRY RITCH
DB 15798 PG 2080
MB 2007 PG 2273

SHANE RUNDGREN
DB 15781PG 445
MB 2007 PG 2273
268

2015-3 1H2 BORROWER LP
DB 16072 PG 310
MB 2006 PG 1060
267

DEREK LAWHORN
DB 15813 PG 261
MB 2007 PG 2273

JONATHAN MCLEAN
DB 13174 PG 1304
MB 2006 PG 1060
269

KENNEBEC FLYING CLUB
DB 10991PG 2406
MB 2004 PG 1049
251

STEPHEN OMMS
DB 15178 PG 241
MB 2007 PG 2731

CHAD MOODY
DB 15165 PG 1102
MB 2008 PG 366

MICHAEL LAGNESE
DB 16178 PG 585
MB 2008 PG 366

CHRIS THOMPSON
DB 15434 PG 2602
MB 2008 PG 366

ANTHONY VALLE
DB 15662 PG 2546
MB 2007 PG 2731

DANIELLE HARRISON
DB 15662 PG 730
MB 2007 PG 2731

CRAIG GOLDEN
DB 15596 PG 198
MB 2007 PG 2730

BRUCE WEITZ
DB 16786 PG 1463
MB 2007 PG 2273

COYOTE MELON DR 22' BST

MALAHAR LN 22' BST

NC 55/N RALEIGH ST 34' BST

N 45°01'34" W

BL-59

R5705-AZ16

R5705-AZ17

-L-	-Y14-
PI Sta 432+04.95	PI Sta 11+62.05
Δ = 6° 48' 15.4" (RT)	Δ = 16° 16' 29.0" (LT)
D = 1° 14' 15.0"	D = 20° 02' 00.6"
L = 549.85'	L = 81.24'
T = 275.25'	T = 40.89'
R = 4,630.00'	R = 286.00'
SE = 02	
RO = 100'	

SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 35 FOR -Y13- & -Y14- PROFILES

10/19/2021
12:00:02 PM
User:Revans
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PROJECT REFERENCE NO.	SHEET NO.
R-5705B	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS

7-9-2021 REMOVED C/A FENCE FROM ENTIRE SHEET.(DBE)

8/17/99

NAD 83/NA 2011

277 PULTE HOME COMPANY
DB 16984 PG 2790
MB 2011 PG 422

273 BETHEL CHURCH INC
DB 10629 PG 1277

272 CHRISTOPHER LEE GRAINGER
DB 15448 PG 1736
MB 1994 PG 1865

271 MITCHELL HAM
DB 16708 PG 1894
MB 1994 PG 1865

PHILLIP BROWN
DB 1542 PG 1588
MB 2008 PG 1060

MICHAEL QUINTILONE
DB 16405 PG 949
MB 2006 PG 1060

270

274 JEFFREY ZDENEK
DB 11414 PG 697
MB 1995 PG 174

JAMES HARTE
DB 16238 PG 2540

276

277

KENNEBEC FLYING CLUB
DB 10991 PG 2406
MB 2004 PG 1049

251

KENNEBEC FLYING CLUB
DB 12789 PG 261
MB 1994 PG 1856

275

-Y15- POT Sta. 10+00.00

-Y15- STA. 11+50.00
BEGIN CONST.

-L- STA. 440+25.90
-Y15- STA. 12+75.00

LOW POINT
-L- STA. 444+94.65
ELEV. = 345.00'

HIGH POINT
-L- STA. 437+35.59
ELEV. = 352.74'

-L- PC Sta. 441+49.51

-L- PT Sta. 449+60.45

BL-60

BL-61

MATCHLINE SHEET 17
-L- STA. A36+00.00

MATCHLINE SHEET 19
-L- STA. 450+00.00

-L-
PI Sta 445+63.89
Δ = 29° 02' 22.4" (RT)
D = 3° 34' 51.6"
L = 810.94'
T = 414.38'
R = 1,600.00'
SE = 04
RO = 200'

SEE SHEETS 30 THRU 31 FOR -L- PROFILE
SEE SHEETS 36 FOR -Y15- PROFILE

K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy_psh_18.dgn
12/14/2021
User:bevans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83/NA 2011

REVISIONS
7-19-2021 REMOVED C/A FENCE FROM ENTIRE SHEET.(DBE)

8/17/99

MATCHLINE SHEET 18
–L– STA. 450+00.00

MATCHLINE SHEET 20
–L– STA. 464+00.00

JAMES HARTE
DB 16298 PG 2540

PULTE HOME COMPANY
DB 16984 PG 2790
MB 2011 PG 422
277

278
ISBKD
ISFD
WARREN BROOKS

280

281
GIDEON BURNETT
DB 16868 PG 1805
MB 1976 PG 330

BENJAMIN DICKENS
DB 15685 PG 675

282
HARTELAND LLC
DB 15559 PG 213
MB 2000 PG 479

284
THOMAS TRUELOVE
DB 1961 PG 1058
MB 8002 PG 2441

KENNEBEC FLYING CLUB
DB 12789 PG 261
MB 1994 PG 1856
275

A E SAUNDERS
MB 1989 PG 544
279

–Y21– STA. 10+05.00
BEGIN CONST.
–Y21– POT Sta. 11+00.00 =
–L– POT Sta. 454+87.65

–Y21– POT Sta. 10+00.00

–Y17– STA. 10+75.00
BEGIN ROAD CONST.

–Y17– PC Sta. 11+77.92

–Y17– STA. 9+44.62
BEGIN DRAINAGE

–Y17– PT Sta. 10+00.00

–Y17– PT Sta. 13+13.38

–L– STA. 454+92.43
–Y16– STA. 10+00.00

–Y16– STA. 11+25.00
END CONST.

–L– STA. 459+58.88
–Y17– STA. 13+44.09

–Y16– POT Sta. 11+96.72

PROPOSED DITCH CLEAN-OUT
LENGTH = 35 LF
EXCAVATION = 3 cu yds

–L–	–Y17–	–Y17–
PI Sta 445+63.89	PI Sta 12+58.34	PI Sta 8+95.42
Δ = 29° 02' 22.4" (RT)	Δ = 77° 36' 35.0" (LT)	Δ = 12° 35' 58.8" (LT)
D = 3° 34' 51.6"	D = 57° 17' 44.8"	D = 5° 59' 58.4"
L = 810.94'	L = 135.45'	L = 210.01'
T = 414.38'	T = 80.42'	T = 105.43'
R = 1,600.00'	R = 100.00'	R = 955.00'
SE = 04		
R0 = 200'		

SEE SHEET 31 FOR –L– PROFILE
SEE SHEET 36 FOR –Y16 & –Y17– PROFILES
SEE SHEET 37 FOR –Y21– PROFILE

12/14/2021
K:\NCDOT\R-5705B\Roadway\Proj\R5705B_Rdy.pstx 19.dgn
User:bevans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS
8/17/99
7-19-2021 REVISED PUE ON PARCEL 286.REMOVED C/A FENCE FROM ENTIRE SHEET.(DBE)

12/14/2021
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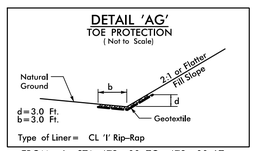
User:bevans

DETAIL 'AG'
TOE PROTECTION
(Not to Scale)



Type of Liner = CL 'I' Rip-Rap
FROM -L- STA. 472+00 TO 473+00 LT

NAD 83/NA 2011

-Y17- PC Sta. 7+89.99
-Y17- POT Sta. 7+75.00

THOMAS TRUELOVE
DB 11307 PG 1058
MB 2002 PG 211
285

MARK HORSFIELD
DB 17056 PG 2755
MB 1997 PG 1258

WILLIAM BANISTER
DB 17081PG 1561
410

RACHEL TURNER
DB 3229 PG 262
285

PRENTICE MCLEAN
DB 16904 PG 2492
MB 1983 PG 1382
288

ANS TRUST THE
DB 15463 PG 1242
289

JACK SEARCY
DB 1744 PG 405 TB 2GI
286

HARTELAND LLC
DB 15559 PG 213
MB 2000 PG 479
282

JACK SEARCY
DB 2475 PG 142
286

JACK SEARCY
DB 1744 PG 405
286

JACK SEARCY
DB 2798 PG 346

A E SAUNDERS
MB 1989 PG 544
279

GLENN POND
DB 15271PG 1414
MB 1990 PG 464
290

TOE PROTECTION
SEE DETAIL 'AG'

-L- PC Sta. 466+19.13

-L- PT Sta. 475+23.62

HIGH POINT
-L- STA. 473+94.02
ELEV. = 375.14'

MATCHLINE SHEET 19
-L- STA 464+00.00

MATCHLINE SHEET 21
-L- STA. 477+50.00

SEE SHEETS 31 THRU 32 FOR -L- PROFILE

-L-
PI Sta 470+85.59
△ = 34° 32' 56.7" (RT)
D = 3° 49' 11.0"
L = 904.49'
T = 466.47'
R = 1,500.00'
SE = 04
RO = 200'

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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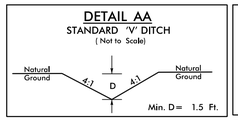
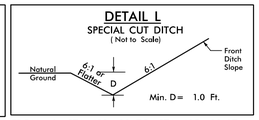
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DETAIL AA
STANDARD 'V' DITCH
(Not to Scale)



FROM –L– STA. 485+50 TO STA. 486+80 LT

DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 482+00 TO STA. 485+00 LT

NAD 83/NA 2011

MATCHLINE SHEET 20
–L– STA. 477+50.00

END TIP PROJECT R-5705B
–L– STA. 485+57.00

–L– PC Sta. 480+20.81

–L– PT Sta. 485+54.32

–L– POT Sta. 486+80.31

–L– STA. 486+90.00
END CONSTRUCTION

–L– PT Sta. 489+35.98

510.13' ROADWAY TRANSITION (LT\RT)
(USE 1500' RADIUS CURVES FOR PROPOSED EOT)

R5705-AZ18

REMOVE –L– N 4°59'17.4" E 1,435.24'

N 5°00'14.9" W

N 14°36'05" E 69.98'

N 36°21'05" E 49.23'

N 36°21'05" E 65.00'

N 85°51'50" W 704.38'

S 17°09'53" E 326.82'

S 89°43'34" E 333.28'

N 01°56'14" E 306.21'

N 00°30'06" W 43.04'

N 03°58'56" E 37.73'

N 02°28'58" E 459.67'

N 02°28'58" E 31.50'

N 05°56'47" E 103.00'

S 30°31'22" E 355.20'

–L–	
PI Sta 482+90.42	PI Sta 488+08.47
Δ = 20° 22' 43.0" (LT)	Δ = 9° 59' 32.3" (LT)
D = 3° 49' 11.0"	D = 3° 54' 30.0"
L = 533.51'	L = 255.67'
T = 269.60'	T = 128.16'
R = 1,500.00'	R = 1,465.99'
SE = 04	
RO = 200'	

SEE SHEET 32 FOR –L– PROFILE
SEE SHEET 36 FOR –Y18– PROFILE

ANS TRUST THE
DB 15463 PG 1242
289

290
GLENN POND
DB 15271 PG 1414
MB 1990 PG 464

291
DANA HALEY
DB 8060 PG 312

292
ANS TRUST THE
DB 15463 PG 1242
MB 1997 PG 217

293
DONALD HESTER
DB 5150 PG 389
MB 2005 PG 372

294
ALESSANDRO BIANCO
DB 16667 PG 561
MB 2016 PG 361

295
BRYAN ZIMMERMAN
DB 11490 PG 1062
MB 2005 PG 372

296
JIMMIE HANKS
DB 4890 PG 294
MB 1986 PG 56

297
SHIREY JO BAIRD
DB 4976 PG 589
MB 2016 PG 361

292
ANS TRUST THE
DB 15463 PG 1242
MB 1997 PG 217

PEGGY WATERS
DB 8568 PG 1614

LISA WILSHIRE
DB 14923 PG 1237
MB 1986 PG 56

CLAYTON FAMILY LLC
DB 13908 PG 1871
MB 2009 PG 1003

CITIMORTGAGE INC
DB 14649 PG 300

CULTIVATED

HIGH POINT
–L– STA. 483+40.41
ELEV. = 367.85'

LOW POINT
–L– STA. 482+50.00
ELEV. = 367.62'

SPECIAL CUT DITCH
SEE DETAIL L

STANDARD 'V' DITCH
SEE DETAIL AA

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

CLASS 'B' RIP RAP
EST. 5 TONS
GEOTEXTILE
EST. 14 SY

REMOVE

RETAIN

ACCESS POINT

PUE

EXISTING R/W

EX. R/W

WOODS

HTR

CULVERT

CB

RCP

CMP

7-19-2021 REMOVED C/A FENCE FROM ENTIRE SHEET.(DBE)

REVISIONS

8/17/99

12/14/2021
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User:bevans

PROJECT REFERENCE NO.	SHEET NO.
R-5705B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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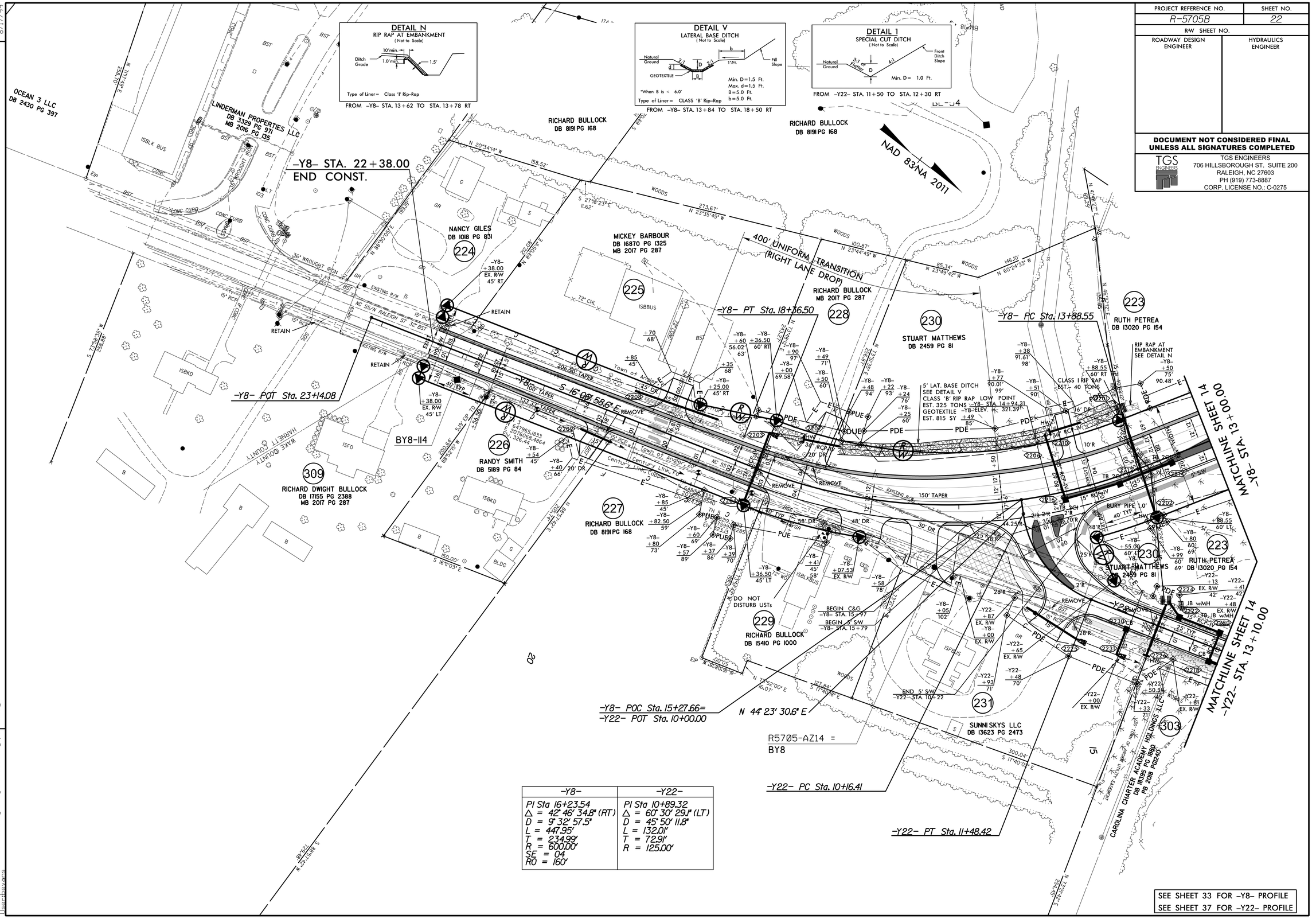
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS

7-19-2021 ADDED OWNER,DEED BOOK DATA AND PARCEL NUMBER TO PARCEL 309.(DBE)
12-8-2021 ADDED DESIGN FOR -Y22-, REVISED R/W AND EASEMENTS ON PARCELS 223,230,231 & 303.(DBE)
8/17/99 UPDATED WETLANDS ON PARCELS -Y8- ALONG DESIGN REVISED



-Y8-	-Y22-
PI Sta 16+23.54	PI Sta 10+89.32
Δ = 42° 46' 34.8" (RT)	Δ = 60° 30' 29.1" (LT)
D = 9° 32' 57.5"	D = 45° 50' 11.8"
L = 447.95'	L = 132.01'
T = 234.99'	T = 72.91'
R = 600.00'	R = 125.00'
SE = 04	
RO = 160'	

12/14/2021
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PROJECT REFERENCE NO.	SHEET NO.
R-5705B	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

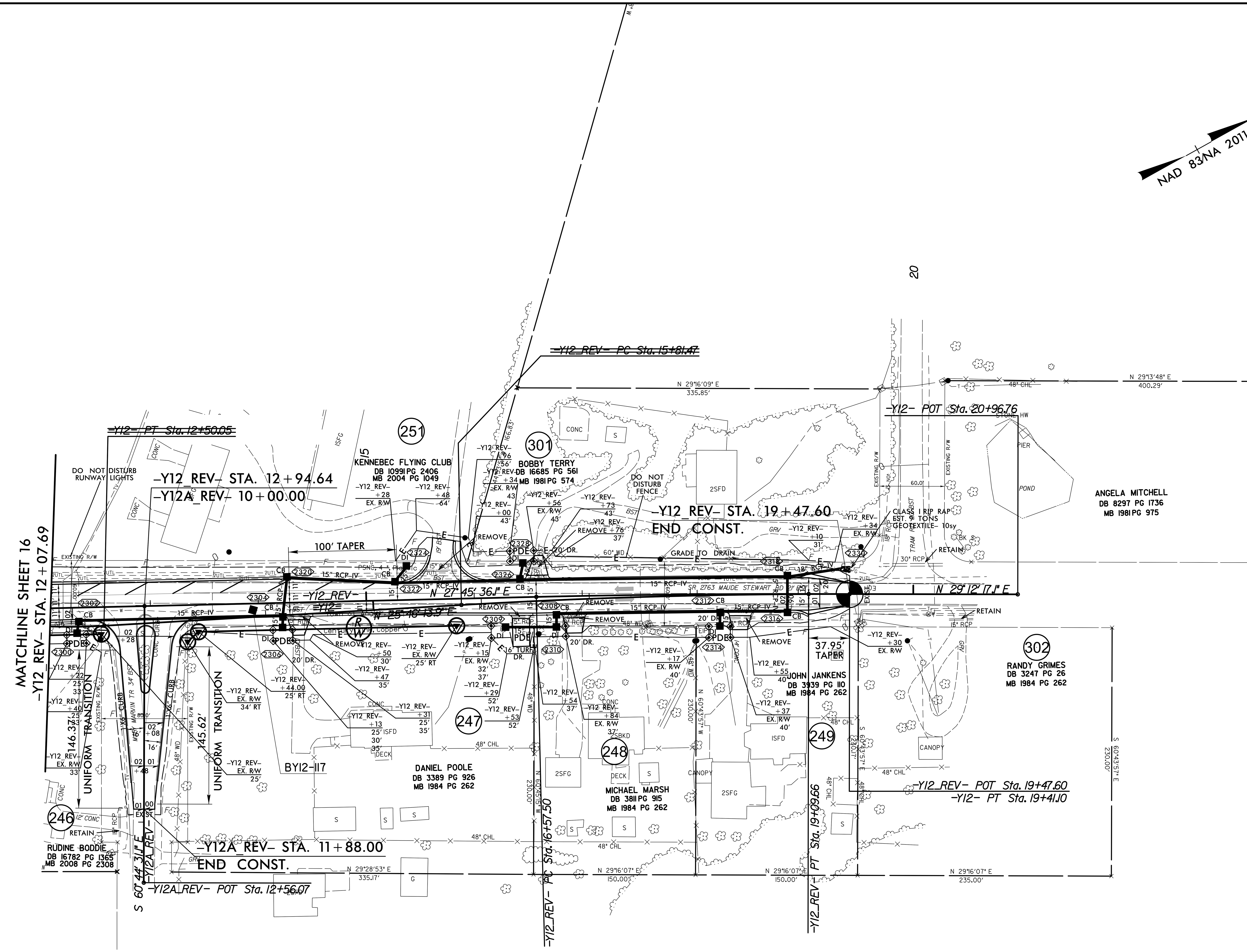
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS

6-23-2021 REVISED DESIGN FOR -Y12_REV- AND -Y12A_REV- ALONG WITH R/W AND EASEMENTS FOR PARCELS 246,247,248,249,251 & 301.(DBE)

8/17/99



-Y12-	
~~PI Sta 11+80.56~~	~~PI Sta 17+61.34~~
~~Δ = 14° 33' 28.7" (LT)~~	~~Δ = 3° 26' 03.2" (RT)~~
~~D = 10° 25' 02.7"~~	~~D = 0° 57' 17.7"~~
~~L = 139.75'~~	~~L = 359.63'~~
~~T = 70.25'~~	~~T = 179.87'~~
~~R = 550.00'~~	~~R = 6,000.00'~~

-Y12_REV-
PI Sta 17+83.59
Δ = 1° 26' 41.0" (RT)
D = 0° 34' 22.6"
L = 252.15'
T = 126.08'
R = 10,000.00'

SEE SHEET 35 FOR -Y12_REV- & -Y12A_REV- PROFILES

6/23/2021
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