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May 25, 2022

Lin Xu
Department of Environmental Quality - Division of Mitigation Services
1652 Mail Service Center
Raleigh, NC 27699

Subject: Task 3 Final Mitigation Plan Comments – Pickle Creek Mitigation Project (DMS #100184)
Neuse River 03020201; Wayne County, NC
Contract No. 0402-08

Mr. Xu:

On behalf of Environmental Banc & Exchange, LLC (EBX), a wholly owned subsidiary of Resource Environmental Solutions (RES), I am pleased to submit the Final of the Pickle Creek Buffer Mitigation Plan (DMS Project #100184) along with a response to all of your comments provided on February 14, 2022.

Thank you for your time and consideration and we look forward to continuing to work with you all as this Project progresses. Please contact me at 919-623-9889 or jmceachran@res.us if you have any questions or require any additional information.

Thank you,

Jamey McEachran

Jamey McEachran, Project Manager
jmceachran@res.us | 919.623.9889

M E M O R A N D U M

3600 Glenwood Avenue, Suite 100 Raleigh, North Carolina 27612 919.770.5573 tel. 919.829.9913 fax

TO: **Katie Merritt, Department of Water Resources**

FROM: **JAMEY MCEACHRAN – RES**

DATE: **May 27, 2022**

RE: **Response to Final Draft Mitigation Plan Comments – Pickle Creek Mitigation Project (DMS #100184) Neuse River 03020201; Wayne County, NC; Contract No. 0402-08**

Katie Merritt - NCDWR:

1. Add a DWR ID # on the title page. The number is 2021-0348v2.
   The title page has been updated with the DWR ID#

2. Photos provided in this section are dated August 2020 and do not adequately represent "existing" conditions upon submittal of the mitigation plan. Provided more current photos of the riparian areas and features.
   Updated photos have been added to this section.

3. Current land use does not indicate that the riparian areas are also used for the land application of animal waste. Add that detail here.
   A sentence was added to indicate that land application of animal waste currently occurs in the riparian areas.

4. Modify Figure 2 to show areas where the land application of animal waste is currently permitted. Then, reference Figure 2 in this same section after adding the requested language/detail in Section 1.1.
   A Figure 2B was created to show the areas within the project easement that were permitted for land application, prior to the updating of the Waste Utilization Plan. Figure 2B is now referenced in Section 1.1.

5. In Section 1.1, ephemeral channels are not considered to be 'unnamed tributaries" just Intermittent and Perennial channels get this classification. make sure to use stream, ephemeral channel and ditch when describing the features within the project boundary or that are draining into the project boundary such as D2.
   Section 1.1 has been updated to state “one unnamed stream tributary, two ephemeral channels, and one ditch” are within the project boundary. Additionally, “stream, ephemeral channel and ditch” are used when describing the features throughout the plan.

6. In Section 1.1, make sure to describe project by using "riparian buffer and riparian areas" and not limiting it to "riparian buffer".
   Within Section 1.1, project descriptions now use “riparian buffer and riparian areas” and are not limited to “riparian buffer”. This was checked throughout the document and updated as necessary.

7. In the last paragraph of Section 1.1, this should read "project stream, ephemeral channels and ditches"
   In the last paragraph, the first sentence has been changed to read as follows “project stream, ephemeral channels and ditches”.

8. The viability assessment performed by DWR was for buffer mitigation AND nutrient offset. please correct existing language. Correct date to April 17, 2021.
   The language was updated to state “DWR staff performed an onsite visit to determine the potential for riparian buffer mitigation and nutrient offset on the 17th of April, 2021.

9. Reference Table 4 and Figure 8 in this paragraph somewhere appropriate.
   Table 4 and Figure 8 are referenced in this paragraph when mentioning Nutrient Offset Credits.

10. This date may be unrealistic considering the site constraints with existing infrastructure that need to be removed as well as the land application permit affiliated with the land within the easement boundary. The land within the easement boundary needs to be removed from the Waste Utilization Plan before the easement is secured (deeded and recorded).
    Planting date has been updated to March 2023.

11. If the project easement boundary will not be less than 50' adjacent to all the features being proposed in the project area, then I’d prefer it state that in this section since all areas have to be at least 50' to be convertible to nutrient offsets.
    This paragraph was changed to indicate that all riparian areas will be a minimum of 50 feet.

12. Section 2.1 doesn't appear to be the correct reference here.
    This reference has been changed to now say Section 3.1 and Section 4.

13. Outdated photos. Need more current photos documenting conditions of riparian areas and features post-site viability letter.
    Updated photos have been added to this section.

14. Since there will be a mitigation bank CE and restoration along D2, there will no non-diffused flow. Therefore, no deductions are necessary. However, in order to benefit from this, add language that speaks to the Bank and that since D2 is part of the Bank, deductions aren't required. When referencing the Bank, indicate that the riparian restoration plan has already been submitted for DWR review (DWR ID# 2021-0348v3). Modify Figure 4 to include the easement boundary for the proposed mitigation bank. Then reference Figure 4 appropriately in this section.
    The deduction language has been deleted as no credits will be deduced. Additionally, a sentence was added to clarify that D2 is part of a Nutrient Offset and Riparian Buffer Bank Project.

15. As indicated in previous comment, no deductions for non-diffused flow are necessary.
    Table 4 has been updated to remove the non-diffuse flow deduction.

16. In Section 3.2.4, need to reference the site viability letter issued by DWR and that the letter indicated certain criteria that would need to be addressed prior to using this land as a mitigation site. What were those criteria, and then add a reference to Section 4.2.4 where it appears those criteria are further explained. I have provided further comments in 4.2.4 as well.
    Information has been added to Section 3.2.4 to reference the site viability letter and the certain criteria that need to be addressed. Additionally, a reference was added Section 2.4 (formerly 4.2.4).

17. Add language to this section that describes what documentation will be submitted with the As-built Report confirming full compliance with the criteria indicated in the site viability letter. This documentation should be any and all approvals from DWR related to permits affiliated with the project and Waste plans. There are two permits affiliated with this land proposed for the DMS project (AWS960127 and AWI960127). Add that the provider will consult with DWR staff within the Certified Animal Feeding Operation Branch of the Water Quality Permitting Section.
    Language has been added to Section 3.2.4 that describes the constraints around the Project and the necessary documentation required with the As-Built Report. A paragraph was added to this section to describe constraints with the two permits associated with the project and the process to remove the easement area from the Waste Utilization Plan.

18. It needs to be noted in Section 4.1, that site preparation includes activities related to activities described in 4.2.4 considering many of these activities are required to be done prior to riparian restoration activities as indicated in the Site Viability Letter. Site preparation for this site doesn't just include land prep for planting...but also includes hydrant removals, infrastructure capping and deadheading, etc.
    Added two sentences that discuss the other site preparations that include hydrant removals and infrastructure capping and deadheading.

19. Add "ephemeral channels" in the first sentence of section 4.2. Ephemeral channels and "streams" are referred to differently in our buffer mitigation rule (and buffer protection rule 0714), therefore it is important to use correct terminology of features within the project boundary throughout the Plan
    The first sentence in Section 4.2 now correctly states restoration activity will happen along streams and ephemeral channels.

20. This rule reference (o)(7) is specific to Ephemerals. But the title of this sub section says "Perennial". Remove this citation if not applicable to 4.2.1. Based upon my reading of 4.2.1 and 4.2.2, it appears that riparian restoration of Streams & Ephemeral could be defined together within the same subsection.
    Section 4.2.1 and 4.2.2 have been combined into a Perennial and Ephemeral section.

21. Based upon my reading of section 4, it may be best if 4.2.2 and 4.2.3 were included under section 3.0 "regulatory considerations" since both of these subsections are describing how the Ephemeral channels and Ditches are complying with the rules specific to Eph. and Ditches. Riparian restoration activities should be the same for all features, so you could lump riparian restoration activities into one subsection to avoid confusion. All information provided in 4.2.2 and 4.2.3 is relevant for DWR review, just likely better provided for in Section 3.0.
    Section 4.2.2 and 4.2.3 were combined and moved to Section 3.0, Regulatory Considerations.

22. First sentence of 4.2.2, two Ephemeral channels.
    This sentence is changed to say two ephemeral channels.

23. The allowable Ephemeral credit may change when Diffused flow deductions are removed. I don't think so but check before finalizing the numbers referenced here.
    RES doubled-checked that the total allowable ephemeral credit did not change after removing the deduction area.

24. Section 3.1 is "Determination of Credits". I'm not sure this is the correct reference here.
    The correct reference has been added, as it should state Section 4.2.3

25. There is no Section 3.3 in this Plan. What section should be noted here?
    The correct reference should be 4.3, the Planting Plan. This has been corrected.

26. Second Paragraph of 4.2.4 lacks information needed to confirm that the criteria and expectations identified in the site viability letter are addressed adequately. Please give DWR an itemized plan on how they will ensure compliance with the criteria noted in that letter. It is recommended that the provider respond to this comment as follows: Copying each bulleted item as it is worded in the Site Viability Letter and indicate how the provider will comply with each item. Furthermore,1) indicate any actions that the provider has already taken to address those bulleted items (include any letters or correspondence in the Appendix that support the response), and 2) indicate what actions need to be further addressed, and 3) provide a timeline as to when the remaining items will be addressed. (DWR is specifically looking for 1) what will be addressed BEFORE planting, 2) BEFORE infrastructure is removed or modified, 3) BEFORE Conservation Easement is secured, ETC). Look at the site viability letter for guidance to make sure activities are done when they are required to be done before providing that language in this section. Lastly, there needs to be a commitment that the provider will provide DMS & DWR all necessary documentation indicated above, in the As-Built Report. Without documentation confirming full compliance of the items in the site viability letter, DWR cannot guarantee the buffer mitigation credits proposed by this project are in compliance with rule, permits, etc.
    The criteria from the Site Viability Letter have been added into section 4.2.3, and a paragraph has been added that further explains what RES will do to comply with DWR's criteria.

27. I don't recall seeing that the Bank will incorporate "additional stream features". The bank's Plan includes D2 in its entirety but doesn't really include "additional stream features". The bank mostly just incorporates wider riparian areas. correct existing language that may be misleading.
    Adjusted language to say additional ditch features instead of stream features.

28. In Section 4.3, should this be 50 instead of 30 or are there areas adjacent to ditches where 50 is not the minimum? If there are areas <50 along the ditch or other features, then the figures and Table 4 need to depict those areas and exclude them from being convertible to Nutrient Offsets.
    Language was changed to indicate that planted areas will be from the top of bank to at least 50 feet from the streams and ditches on site

29. Add language committing to mixing the stems during initial planting efforts in order to ensure diversity at initial planting.
    The sentence "The suite of bare root stems will be thoroughly mixed prior to planting to ensure maximum diversity throughout the planted areas." has been added to indicate that tree species will be mixed during initial planting.

30. On Figure 2, depict land application areas affiliated with a permit.
    A Figure 2B has been created to show the land application areas affiliated with a permit.

31. On Figure 4, depict the Bank CE boundary and then remove the diffused flow deduction area along D2.
    Figure 4 has been updated to depict the Bank CE boundary along with the DMS CE. The diffused flow deduction area has also been removed.

32. On Figure 8, depict Bank CE boundary
    Figure 8 has been updated to show the Bank CE boundary

33. On Figure 9, add a call-out where there are areas <50.
    There are no areas that are less than 50 feet, so no callouts are necessary.

ROY COOPER
Governor
JOHN NICHOLSON
Interim Secretary
TIM BAUMGARTNER
Director

NORTH CAROLINA
Environmental Quality

October 4, 2021

Jamey McEachran, Carolinas Ecology Team Leader
Resource Environmental Solutions, LLC
3600 Glenwood Ave., Suite 100
Raleigh, NC 27612

Subject: Task 3 Draft Mitigation Plan Comments – Pickle Creek Mitigation Project (DMS #100184)
Neuse River 03020201; Wayne County, NC
Contract No. 0402-08

Dear Ms. McEachran:

On September 23, 2021, DMS received the Draft Mitigation Plan for the Pickle Creek Buffer Mitigation Project from Resource Environmental Solutions, LLC (RES). DMS has completed our review of the Draft Mitigation Plan and has the following comments:

1. On the title page – Please remove the DWR project number. DMS was the told that DWR's project number on the stream call / determination letter is only associated with that propose. A new number will be assigned to the project during the mitigation review by DWR and will need to be include the final mitigation plan.

2. On page 3 of Section 1.1 – Near the end of first paragraph, suggesting to change from "pollution from active crop production" to "nutrient loadings from active crop production".

3. On page 3 of Table 1 – The unit of total credit for the project should be BMU, not square feet. Please change. The table 1 indicated that the project would provide up to 662,545.322 buffer mitigation credit. Please be mindful that the project is contracted to provide 646,469.871 buffer mitigation credit.

4. On page 8 of Section 3.1 – Based on the Table 4, the proposed project will restore 667,507 square feet of buffer, which equals to 662,545.322 BMU. Please make changes.

5. As required by contract and in Section 4.7 of RFP 16-007703, RES must submit the required Performance Bond as part of the final mitigation plan. This must be approved prior to invoice submittal.

6. This is a reminder that Task 2 has not been completed and will not be complete until the Conservation Easement is recorded for this project and all required deliverables have been submitted to the DMS Project Manager and State Property Office.

Please make the requested revisions and provide one (1) pdf copy of the revised mitigation plan, the required digital data and a response to comments letter for DMS review. Once DMS verifies all revisions have been made and the required digital files have been submitted, RES will be instructed when to submit the final copies of the Task 3 deliverable. If you have any questions, please contact me at any time. I can be reached at (919) 219-8476 or email me at lin.xu@ncdenr.gov.

Sincerely,

Lin Xu

Lin Xu
Project Manager
NCDEQ Division of Mitigation Services

Attachment

cc: file

M E M O R A N D U M

3600 Glenwood Avenue, Suite 100 Raleigh, North Carolina 27612 919.770.5573 tel. 919.829.9913 fax

TO: **Lin Xu - NCDEQ Division of Mitigation Services**

FROM: **JAMEY MCEACHRAN – RES**

DATE: **OCTOBER 5, 2021**

RE: **Response to Draft Mitigation Plan Comments – Pickle Creek Mitigation Project (DMS #100184) Neuse River 03020201; Wayne County, NC; Contract No. 0402-08**

Lin Xu - NCDMS:

1. On the title page – Please remove the DWR project number. DMS was the told that DWR's project number on the stream call / determination letter is only associated with that propose. A new number will be assigned to the project during the mitigation review by DWR and will need to be include the final mitigation plan.
   DWR number has been removed. RES understands that a new one will be provided during the mitigation review.

2. On page 3 of Section 1.1 – Near the end of first paragraph, suggesting to change from "pollution from active crop production" to "nutrient loadings from active crop production".
   "Pollution from active crop production" has been changed to "nutrient loadings from active crop production".

3. On page 3 of Table 1 – The unit of total credit for the project should be BMU, not square feet. Please change. The table 1 indicated that the project would provide up to 662,545.322 buffer mitigation credit. Please be mindful that the project is contracted to provide 646,469.871 buffer mitigation credit.
   Table 1 has been changed to say BMU instead of square feet. RES also understands that we are providing more than the contracted amount but decided that it would be a good idea to have additional credits being offered in case of any issues.

4. On page 8 of Section 3.1 – Based on the Table 4, the proposed project will restore 667,507 square feet of buffer, which equals to 662,545.322 BMU. Please make changes.
   Section 3.1 has been changed to reference the square feet being restored and how that equals the BMUs.

5. As required by contract and in Section 4.7 of RFP 16-007703, RES must submit the required Performance Bond as part of the final mitigation plan. This must be approved prior to invoice submittal.
   RES understands that we must submit the Performance Bond with the final mitigation plan in order to invoice for Task 3. We will begin this review with the procurement office.

6. This is a reminder that Task 2 has not been completed and will not be complete until the Conservation Easement is recorded for this project and all required deliverables have been submitted to the DMS Project Manager and State Property Office.
   RES understands that Task 2 has not been completed. RES will get the Conservation Easement recorded and all required deliverables to DMS, in order to complete Task 2.

Final Buffer Mitigation Plan
Pickle Creek Mitigation Project

May 2022

DMS Project #: 100184 | Contract #: 0402-08 | RFP: 16-20200402 | DWR ID #: 2021-0348v2

Neuse River Basin | HUC 03020201 | Wayne County, North Carolina

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Prepared For:
NC Department of Environmental Quality
Division of Mitigation Services
1652 Mail Service Center
Raleigh, NC 27699-1652

Prepared By:
Resource Environmental Solutions, LLC
For Environmental Banc & Exchange, LLC (EBX, LLC)
3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612
919-623-9889

This mitigation plan has been written in conformance with the requirements of the following:

- *The Consolidated Buffer Mitigation Rule, 15A NCAC 02B .0295, effective November 1, 2015*
- *Nutrient Offset Credit Trading Rule, 15A NCAC 02B .0703, effective April 1, 2020*

These documents govern NCDMS operations and procedures for the delivery of compensatory mitigation.

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FIGURES

APPENDIX

1 MITIGATION PROJECT SUMMARY

Environmental Banc & Exchange, LLC (EBX), a wholly-owned subsidiary of Resource Environmental Solutions (RES), is pleased to provide the Pickle Creek Mitigation Project (Project), a full-delivery buffer mitigation project for the Division of Mitigation Services (DMS) (DMS Project #100184). This buffer project is designed to provide riparian buffer mitigation credits for unavoidable impacts due to development within the Neuse River Basin, United States Geological Survey (USGS) 8-digit Cataloguing Unit 03020201 (Neuse 01), excluding Falls Lake Watershed (**Figure 1**). This Buffer Mitigation Plan is in accordance with the Consolidated Buffer Mitigation Rule 15A NCAC 02B .0295 and Nutrient Offset Credit Trading Rule 15A NCAC 02B .0703.

1.1 Project Overview

The Pickle Creek Project consists of a conservation easement that will total approximately 18.06 acres that includes one unnamed stream tributary, two ephemeral channels, and one ditch that drain into Thunder Swamp (**Figure 2A**). Thunder Swamp is a USGS-named stream that eventually drains to the Neuse River. This Project will be co-developed with a buffer mitigation and nutrient offset bank that will extend riparian buffer and riparian areas associated with this Project's streams as well as incorporate an additional ditch feature on the property, ditch D2, which drains into the DMS project boundary and into J1. Current land use within the Project is primarily crop production which is irrigated with permitted land application of animal waste, and riparian forest (**Figure 2B**). Much of the Project area has been used extensively for agricultural purposes for at least 40 years (**Figure 3**), and currently, the Project reaches, and adjacent areas are in mainly in crop production also utilizing permitted land application with a small strip of the project in forest. Water quality stressors currently affecting the Project include heavily manipulated/relocated and maintained stream channels, nutrient loadings from active crop production and use of land application as fertilizer and irrigation, and lack of forested and vegetated riparian buffer and surrounding riparian areas. Current buffer conditions demonstrate significant degradation with the loss of stabilizing vegetation because of continued crop production.

The goal of the Project is to restore riparian buffer and riparian areas by establishing appropriate plant communities while minimizing temporal and land disturbing impacts. Buffer and surrounding riparian area improvements will filter runoff from agricultural fields, thereby reducing nutrient and sediment loads to Project channels and provide water quality benefit to the overall watershed. Uplift to hydrology will be accomplished by regulating surface runoff from adjacent agricultural lands by diffusing flow through a restored buffer, removal of shallow, and localized areas of concentrated flow and the protection of all Project features (stream, ephemeral channel, and ditches) in a perpetual conservation easement. Lastly, uplift to habitat will be accomplished by restoring and protecting the riparian buffer and riparian area, which will provide more suitable aquatic habitat that can support biodiversity and life histories of aquatic and terrestrial animals.

The Pickle Creek Project is composed of one intermittent/perennial stream, J1, two ephemeral channels, D3 and D4, and one ditch feature, D1 (**Figure 2A**). Additionally, one ditch feature, which is included in the bank project, D2, enters the project and drains to J1. All features have been straightened and are incised. Furthermore, only the fifty-foot riparian buffer of J1 was determined to be subject to the Neuse buffer

protection rules, and stream determinations were verified by the DWR site visit on March 10th, 2021. Whereas D3 and D4 were determined to be ephemeral and therefore not subject to the Neuse buffer protection rules ("non-subject"), as well as D1 which was determined to be a ditch. Correspondence regarding this determination is in **Appendix A**.

Buffer and riparian area mitigation efforts along the Project stream, ephemeral channels, and ditches will be accomplished through the planting, establishment, and protection of a hardwood forest community. The result will be a riparian area that functions to mitigate nutrient and sediment inputs from the surrounding uplands. The buffer mitigation plan proposed is being submitted for review under the Consolidated Buffer Mitigation Rule 15A NCAC 02B .0295 and Nutrient Offset Credit Trading Rule 15A NCAC 02B .0703. In addition to traditional riparian restoration, the Project will also incorporate the alternative buffer mitigation options: Restoration on Ephemeral Reaches and Restoration on Ditches as outlined in 15A NCAC 02B .0295 (o)(7) and 15A NCAC 02B .0295 (o)(8). DWR staff performed an onsite visit to determine the potential for riparian buffer mitigation and nutrient offset on 17th of April 2021. The letter is provided in **Appendix A**. The Project will provide significant functional uplift to the project watershed and will assist DMS with achieving its mitigation goals in the Neuse 01 watershed, excluding the Falls Lake Watershed. The Project presents the opportunity to provide riparian buffer mitigation credits, all of which are convertible to Nutrient Offset credits (**Figure 8, Table 4**). These will be derived from restoration of the riparian buffer and surrounding riparian areas.

Table 1. Project Attributes

Parameter	Attribute
Project Name	Pickle Creek
Hydrologic Unit Code	030202011170030 (14 digit)
River Basin	Neuse River (excluding the Falls Lake Watershed)
Geographic Location (Lat, Long)	35.2333, -78.1132
Site Protection Instrument (DB, PG)	2832, 501-506 Wayne (Jernigan)
Total Credits (BMU)	666,800.322 BMU
Types of Credits	Riparian Buffer (with flexibility to convert to Nutrient Offset if needed)
Mitigation Plan Date	September 2021
Initial Planting Date	TBD; estimated March 2023
Baseline Report Date	TBD; estimated June 2023
MY1 Report Date	TBD; estimated December 2023
MY2 Report Date	TBD; estimated December 2024
MY3 Report Date	TBD; estimated December 2025
MY4 Report Date	TBD; estimated December 2026
MY5 Report Date	TBD; estimated December 2027

The riparian buffer mitigation credits will be produced by establishing a native forested and herbaceous riparian plant community and protecting buffers in perpetuity with a conservation easement. For all

features, the riparian buffer and riparian areas will have a minimum width of 50 feet and a maximum of 200 feet from the edge of the channels. The new plant community will be established in conjunction with the treatment of any existing exotic or undesirable plant species as well as the removal of any infrastructure associated with the irrigation land application on the surrounding crops and updating of an existing culvert. **Figure 4** shows the Conceptual Design Plan for Buffer and Credit Determination Map, and **Section 3.1 and Section 4** provide details of the mitigation plan on the Pickle Creek Project.

1.1.1 Parcel Ownership

The land required for the construction, management, and stewardship of this mitigation project includes a portion of the parcel listed below in **Table 2**. EBX, LLC (an entity of RES) will record a conservation easement from the current landowner for the project area. The easement deed and survey plat will be submitted to DMS and State Property Office (SPO) for approval and will be held by the State of North Carolina. The easement deed will follow the NCDMS Full Delivery Conservation Easement Template dated May 5, 2017, and included in **Appendix B**. Once recorded, the secured easement will allow EBX, LLC to proceed with the project development and protect the mitigation assets in perpetuity. Once finalized, a copy of the land protection instrument(s) will be included in **Appendix B**.

Table 2. Parcel and Landowner Information

Landowner	Pin or Tax Parcel ID	Agreement Type	County
Douglas Allen Jernigan	2564319379	Conservation Easement	Wayne

1.2 Project Location

The Pickle Creek Project is within the Neuse River Basin within the 8-digit HUC 03020201, 14-digit HUC 030202011170030 and DWR Sub-basin Number 03-04-12.

The Project is in Mount Olive in Wayne County, NC (**Figure 1**). To access the Project from the town of Mount Olive, travel north on Highway 117 for about a mile, then turn left on NC-55 W for 2.5 miles, then right on Thunder Swamp Rd, after 2 miles the destination will be on the left (**Figure 5**). The coordinates are 35.2333, -78.1132.

2 EXISTING CONDITIONS

2.1.1 Surface Water Classification

The main feature onsite, J1, eventually drains to Thunder Swamp just downstream of the project easement. Thunder Swamp has been assigned class C and Nutrient Sensitive Waters (NSW). Class C waters are protected for uses such as secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival and maintenance of biological integrity, and agriculture. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. NSW designation is intended for waters needing additional nutrient management due to being subject to excessive growth of microscopic or macroscopic vegetation (NCDWQ 2011).

2.1.2 Physiography and Soils

The Project is located within the Rolling Coastal Plain Level IV ecoregion within the Southeastern Plains Level III Ecoregion. Cretaceous or Tertiary-age sands, silts and clays are characteristic of the Southeastern Plains ecoregion. The Rolling Coastal Plain is made up of middle and early Pleistocene marine sand, silt, and clay. This ecoregion contains both dissected irregular and smooth plains. Low to moderate gradient sandy-bottomed streams branch from broad interstream divides with steep to moderately gentle side slopes. The Project area has mostly gentle side slopes that are dissected by drainages with elevations ranging from 100 feet to 200 feet (**Figure 6**). The ecoregion also contains better drained soils and a slightly cooler and shorter growing season than the Mid-Atlantic Coastal Plain; however, it is still a productive agricultural region with typical crops of corn, soybeans, tobacco, cotton, sweet potatoes, peanuts, and wheat. Soils in this region are mainly Ultisols (Kandiudults, Paleudults, Hapludults, Paleaquults, and some kanhapludults on sideslopes) that are thermic/udic and some aquic.

The Natural Resource Conservation Service (NRCS) depicts five soil mapping units across the Project in the most recent published NRCS county soil survey (1974, **Figure 7**). The Project contains Kenansville loamy sand, Lynchburg sandy loam 0 to 2 percent slopes, Norfolk loamy sand 2 to 6 percent slopes, Rains sandy loam 0 to 2 percent slopes, and Wagram loamy sand 0 to 6 percent slopes. The soil characteristics of all soils within the Project are summarized in **Table 3.**

Table 3. Project Mapped Soil Series

Map Unit Symbol	Map Unit Name	Percent Hydric	Drainage Class	Hydrologic Soil Group	Landscape Setting
Ke	Kenansville loamy sand	0%	Well drained	A	Stream terraces
Ly	Lynchburg sandy loam, 0 to 2 percent slopes	8%	Somewhat poorly drained	B/D	Flats on marine terraces, broad interstream divides on marine terraces
NoB	Norfolk loamy sand, 2 to 6 percent slopes	0%	Well drained	A	Broad interstream divides on marine terraces, flats on marine terraces
Ra	Rains sandy loam, 0 to 2 percent slopes	90%	Poorly drained	A/D	Flats on marine terraces
WaB	Wagram loamy sand, 0 to 6 percent slopes	5%	Well drained	A	Ridges on marine terraces

2.1.3 Wetlands

The Pickle Creek floodplain does not contain any wetlands from preliminary site visits. National Wetland Inventory (NWI) mapping depicts no wetlands within the Project area. However, there is one mapped NWI wetland (PFO4Ad) just outside of the project area to the west of D1 (**Figure 2A**).

2.1.4 Landscape Communities

A. Existing Vegetation Communities

Currently, the vegetative cover of the Project is primarily comprised of active cropland. Current crops onsite consist of corn and *Miscanthus giganteus*. However, the crop fields not in *Miscanthus giganteus* are regularly rotated between soybeans and corn. The forested areas adjacent to J1 and downstream of the Project is classified as a mixed-mesic hardwood forest (Coastal Plain subtype). Common species within the Project include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), water oak (*Quercus nigra*), willow oak (*Quercus phellos*), and some scattered loblolly pine (*Pinus taeda*). Invasive species were not observed within the Project at this time, however with the adjacency of the mixed hardwood forest and agricultural operations it can be assumed there are invasive species seed sources.

B. Riparian Vegetation

In general, Project reaches do not function to their full potential. Current conditions demonstrate significant habitat and water quality degradation with a loss of stabilizing vegetation as a result of impacts from ongoing crop production. D3 runs through crop field and then connects to J1. Throughout the crop fields, the reach has no riparian buffer, minus some herbaceous vegetation. The current crop in production along J1 is corn and about an 800-foot stretch of *Miscanthus giganteus*. At the confluence with J1, there is a small area of a mixed hardwood riparian buffer on the left bank of J1.

D4 runs through crop field and then connects to J1. Throughout the crop fields, the reach has no riparian buffer, minus some herbaceous vegetation. The current crop in production is corn on the right bank and *Miscanthus giganteus* on left bank. At the confluence with J1, there is no riparian buffer.

D1 runs through crop field and then joins J1, at its origin. Generally, the banks contain weedy, herbaceous vegetation and little to no woody vegetation, and the current crop within the fields is corn. As the reach confluences with J1, there is still no riparian area.

2.1.5 Existing Conditions Photos

Buffer conditions near confluence of J1 and D5
August 13, 2020

Looking downstream on D4
March 17, 2022

Looking downstream on J1 from culvert
July 15, 2021

Confluence of D1 and J1
March 17, 2022

Confluence of J1 and D4
July 15, 2021

Cross section on D3
August 13, 2020

Culvert crossing at confluence of D4 and J1
March 17, 2022

Looking downstream on J1
July 15, 2021

3 REGULATORY CONSIDERATIONS

3.1 Determination of Credits

This Project has the potential to generate up to 671,761 ft^2 (15.42 acres) which equals 666,800.322 riparian buffer mitigation credits (BMUs) within an 18.06-acre conservation easement as depicted in **Figure 4**. These will be derived from buffer restoration. The riparian buffer mitigation credits generated will service the Neuse 01 watershed, excluding the Falls Lake Watershed. Also, some of these buffer mitigation credits, where viable, can be converted to nutrient offset credit in accordance with the Nutrient Offset Credit Trading Rule, 15A NCAC 02B .0703. The total potential buffer mitigation credits that the Pickle Creek Mitigation Project will generate and the detailed Project credit breakdown, including buffer credits that are convertible to nutrient offset credit, utilizing the DWR "Project Credit Table Template (Updated October 2020)," is provided in **Table 4**. In addition, **Figure 8** depicts buffer restoration areas that are convertible to nutrient offset credit. This total area that is convertible to nutrient offset amounts to 671,761 ft^2 which would deliver 35,053.387 lbs. of Nitrogen offset. Furthermore, **Figure 9** depicts riparian zones of 50, 100, and 200 feet from the top of banks to demonstrate width requirements for crediting.

There are two ephemeral channels, D3 and D4, within the project proposed for buffer credit. In accordance with 15A NCAC 02B .0295 (o) (7) "the area of the mitigation site on two ephemeral channels shall comprise no more than 25% of the total area of buffer mitigation." Therefore, the allowable mitigation on ephemeral reaches, for this project, is 167,940 ft^2. Buffer mitigation on ephemeral reaches for the project is allowable and totals 135,145 ft^2.As per the rule, these are natural channels with discernable banks observable within crenulations on a USGS 7.5-minute topographic map (**Figure 6**). Moreover, in accordance with 15A NCAC 02B .0295 (o) (7), the entire area proposed for mitigation along the ephemeral reaches, D3 and D4, are located within the contributing drainage area to the ephemeral channels and is directly connected to a perennial reach downstream **(Figure 4** and **Figure 6**). The channel is contiguously contained within the overall mitigation project and conservation easement.

Additionally, there is one ditch within the Project easement area, D1 (**Figure 4**). This ditch is proposed for riparian buffer restoration in accordance with the alternative mitigation option of Consolidated Buffer Mitigation Rule 15A NCAC 02B .0295 (o)(8) and the DWR site viability assessment (**Appendix A**). As no work is proposed on this ditch, the only restoration activities will include the planting of bare root trees as described in **Section 4.3** and the other activities mentioned in **Section 4**. These restoration activities will begin from the tops of the ditch bank and extend a minimum of 30 feet from the ditch outward to a maximum of 50 feet perpendicular to the ditch channel. All these riparian areas are currently cropland (**Figure 2A**).

The ditch feature meets criteria for riparian buffer restoration according to Rule 15A NCAC 02B .0295 (o) (8) in the following ways:

(A) D1 drains directly to reach J1, a perennial stream.
(B) The stream (J1) and D1, including their confluence, will be protected by a contiguous, perpetual conservation easement that will prevent any future maintenance or manipulation of the ditches.
(C) Stormwater runoff and overland flow drain toward the ditches.

(D) D1 is a maximum of 2.75 feet deep which is between one and three feet in depth (as measured before and during the DWR buffer viability site visit.
(E) The entire length of each ditch has been in place prior to the effective date of the Neuse Buffer Rule (see **Figure 3**).

Additionally, the watershed (DA) draining to the ditch was delineated (**Figure 6**) and determined to be at least four times (multiplier of 4) larger than the restored area along their corresponding ditches, as expressed in the following calculations:

- D1: (12.89 ac. DA) / (1.64 ac. restored area) = 7.86 multiplier

Although, another ditch feature (D2) enters the DMS project easement, it will be wholly encompassed in the adjacent buffer mitigation and nutrient offset bank and therefore no non-diffused flow will enter the project (**Figure 4**).

Table 4. Pickle Creek, 100184, Project Credits

Neuse 03020201 - Outside Falls Lake	**Project Area**
19.16394	**N Credit Conversion Ratio (ft^2/pound)**
N/A	**P Credit Conversion Ratio (ft^2/pound)**

Credit Type	Location	Subject? (enter NO if ephemeral or ditch [1])	Feature Type	Mitigation Activity	Min-Max Buffer Width (ft)	Feature Name	Total Area (ft^2)	Total (Creditable) Area of Buffer Mitigation (ft^2)	Initial Credit Ratio (x:1)	% Full Credit	Final Credit Ratio (x:1)	Convertible to Riparian Buffer?	Riparian Buffer Credits	Convertible to Nutrient Offset?	Delivered Nutrient Offset: N (lbs)	Delivered Nutrient Offset: P (lbs)
Buffer	Rural	Yes	I / P	Restoration	0-100	J1	467,910	467,910	1	100%	1.00000	Yes	467,910.000	Yes	24,416.169	—
Buffer	Rural	Yes	I / P	Restoration	101-200	J1	5,540	5,540	1	33%	3.03030	Yes	1,828.202	Yes	289.085	—
Buffer	Rural	No	Ephemeral	Restoration	0-100	D3	86,666	86,666	1	100%	1.00000	Yes	86,666.000	Yes	4,522.348	—
Buffer	Rural	No	Ephemeral	Restoration	0-100	D4	46,615	46,615	1	100%	1.00000	Yes	46,615.000	Yes	2,432.433	—
Buffer	Rural	No	Ephemeral	Restoration	101-200	D4	1,864	1,864	1	33%	3.03030	Yes	615.121	Yes	97.266	—
Buffer	Rural	No	Ditch	Restoration	0-50	D1	63,166	63,166	1	100%	1.00000	Yes	63,166.000	Yes	3,296.086	—
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						Totals (ft2):	671,761	671,761					666,800.322		35,053.387	0.000
						Total Buffer (ft2):	671,761	671,761								
						Total Nutrient Offset (ft2):	0	N/A								

Total Ephemeral Area (ft^2) for Credit:	135,145	135,145	
Total Eligible Ephemeral Area (ft^2):	167,940	20.1%	**Ephemeral Reaches as % TABM**
Total Eligible for Preservation (ft^2):	223,920	0.0%	**Preservation as % TABM**

Enter Preservation Credits Below

Credit Type	Location	Subject?	Feature Type	Mitigation Activity	Min-Max Buffer Width (ft)	Feature Name	Total Area (sf)	Total (Creditable) Area for Buffer Mitigation (ft^2)	Initial Credit Ratio (x:1)	% Full Credit	Final Credit Ratio (x:1)	Riparian Buffer Credits
												—
												—
												—
												—
												—
						Preservation Area Subtotals (ft^2):	0	0				

TOTAL AREA OF BUFFER MITIGATION (TABM)			
Mitigation Totals		**Square Feet**	**Credits**
Restoration:		671,761	666,800.322
Enhancement:		0	0.000
Preservation:		0	0.000
Total Riparian Buffer:		671,761	666,800.322
TOTAL NUTRIENT OFFSET MITIGATION			
Mitigation Totals		**Square Feet**	**Credits**
Nutrient Offset:	**Nitrogen:**	0	0.000
	Phosphorus:		0.000

1. The Randleman Lake buffer rules allow some ditches to be classified as subject according to 15A NCAC 02B .0250 (5)(a).

last updated 08/03/2020

3.2 Environmental Screening and Documentation

Because DMS mitigation projects are considered to be a category of activities that do not individually or cumulatively have an impact on the human environment, they do not require preparation of an environmental assessment or environmental impact statement. To ensure that a project meets the "Categorical Exclusion" criteria, the Federal Highways Administration (FHWA) and NCDMS have developed a categorical exclusion (CE) checklist that is included as part of each mitigation project's Environmental Screening process. The CE Approval Form for the Pickle Creek Project is included in **Appendix C** and was approved by DMS and FHWA in May 2021.

3.2.1 Threatened and Endangered Species

Plants and animals with a federal classification of endangered or threatened are protected under provisions of Sections 7 and 9 of the Endangered Species Act of 1973, as amended. According to the United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPAC) database review tool (accessed August 20, 2020) and the self-certification process conducted by EBX and submitted to the USFWS on March 15, 2021, the list of threatened and endangered species includes the Red-cockaded woodpecker (*Picoides borealis*), the Neuse River Waterdog (*Necturus lewisi*), the Carolina Madtom (*Noturus furiousus*). The Pickle Creek Mitigation Project does not contain any suitable habitat for the Red-cockaded woodpecker, the Neuse River Waterdog, the Carolina Madtom. A self-certification letter was sent to USFWS (on March 15, 2021) a copy of this letter is enclosed. No response was provided by USFWS. This consultation was conducted as part of the CE process and supporting documentation and correspondence can be found in **Appendix C**.

The Fish and Wildlife Coordination Act requires consultation with state fish and wildlife agencies when "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted…or otherwise controlled or modified. The North Carolina Wildlife Resources Commission (NCWRC) was consulted during the CE process and the NCWRC did not comment on any state or federally listed species; however, they did recommend the use of biodegradable and wildlife-friendly sediment and erosion control devices and to treat invasive species as part of the Project. Documentation is included in **Appendix C**.

3.2.2 Cultural Resources

A review of North Carolina State Historic Preservation Office (SHPO) GIS Web Service (accessed 20 August 2020) database did not reveal any registered occurrences within the Project area; however, two occurrences popped up within in the 0.5-mile radius; (Vernon and Baker Presbyterian). EBX consulted with the SHPO during the CE process and the SHPO had "conducted a review of the project and are aware of no historic resources which would be affected by the project." Cultural Resources screening met the Categorical Exclusion Criteria for FHWA and DMS projects and documentation is included in **Appendix C**.

3.2.3 Federal Emergency Management Agency (FEMA)/ Hydrologic Trespass

No portion of the Pickle Creek project area is in FEMA flood zones (**Figure 2A**). Therefore, no FEMA permitting is required.

3.2.4 Constraints

The Pickle Creek project has a few constraints that will be accounted for prior to project construction. The DWR site viability letter dated May 18, 2021, specifically mentioned three main constraints that would need to be addressed for the site to be viable. These constraints include 1) existing utilities, 2) existing permits (**Figure 2A**), and 3) existing infrastructure associated with the application of animal waste. These criteria will be further explained in **Section 4.2.3** and will be adequately addressed prior to construction.

The landowner has two existing permits (AWS960127 and AWI960127) associated with the land application of animal waste within the proposed mitigation area. EBX worked with a Certified Technician from Agriments Services, Inc to understand the current permits and associated infrastructure that is in place to manage the land application of animal waste within the proposed mitigation area (**Figure 2A**). It was determined that 2.89 acres of Wettable Acres are within the proposed conservation easement and that there are two hydrants within the proposed easement area and some associated underground pipes that connect them to the main irrigation line. The Certified Technician then updated the Nutrient Management Plan and the Wettable Acres Determination for Jernigan Farms, AWS960127, to reflect the removal of the acreage and infrastructure within the proposed Pickle Creek Mitigation Project (including both the DMS and bank easement areas). EBX consulted with the Engineer in the Certified Animal Feeding Operation Branch of the Water Quality Permitting Section to ensure that these updates were adequate. The updated Waste Utilization Plan and email correspondence with the Engineer in the Animal Feeding Operations Program are provided in **Appendix F**. Documentation of DWR approval of these permit updates and renewals will be provided in the as-built report to confirm full compliance with the criteria listed in the site viability letter. Additionally, photographic documentation of the pipe removal within the easement will be provided. EBX will consult with DWR staff within the Certified Animal Feeding Operation Branch of the Water Quality Permitting Section to make sure all criteria are being met.

There are a total of three breaks in the easement. Two of the breaks are to avoid existing pipes used for irrigation that will remain in place and one is due to a powerline easement. There are two existing culverted crossings along J1, one of which also includes the crossing for the irrigation pipe. One culvert is found at the confluence of D4 and J1 and the other is where D5 connects to J1 (**Figure 2A**).

4 RIPARIAN RESTORATION IMPLEMENTATION PLAN

Riparian restoration areas adjacent to features are shown in **Figure 4** and were evaluated by the DWR in the letter dated May 18, 2021 (**Appendix A**).

4.1 Site Preparation

Preparation at the Project will involve spraying crops and exotic invasive species, applying soil amendments, seeding native plants, and planting trees. Soil amendments will be provided across the entire planted area based on the results of soil fertility tests. The soils fertility tests will be based on soil samples collected within proposed riparian restoration areas across the site. A seed mix will be chosen to maximize successful herbaceous growth in all riparian areas while also incorporating valuable pollinator species. All riparian planting areas will be seeded using a no-till drill prior to tree planting. Temporary and permanent riparian seeding, bare root plantings, and live stakes shall be planted according to the planting plan

(**Section 4.3**). Along with the planting site preparation at the Project, the constraints mentioned in the site viability letter and discussed in **Section 3.2.4** and **Section 4.2.3** will be addressed prior to planting. This includes the update to the Waste Utilization Plan, the removal of two irrigation hydrants along J1 and the deadheading and capping of the underground pipes to ensure that no land application will be permitted within the easement area.

The limits of the riparian restoration areas will be surveyed, and the information will be provided in the As-Built report and plat.

4.2 Methods

Riparian restoration activities along streams and ephemeral channels and restoration along a viable ditch will be implemented to generate riparian buffer credits. All restoration areas were determined by the mitigation determination performed during the viability assessment by DWR (**Appendix A**).

4.2.1 Riparian Restoration Activities

For stream and ephemeral channels, the Project will provide riparian buffer and surrounding area restoration in accordance with the Consolidated Buffer Mitigation Rule 15A NCAC 02B .0295 (n) and 15A NCAC 02b .0295 (o) (7). Restoration activities will include the planting of bare root plantings as described in **Section 4.3**. These restoration activities will begin from the tops of the proposed stream banks and extend a minimum of 50 feet from the stream outward to a maximum of 200 feet perpendicular to the stream channel. Restoration will occur where cropland is currently present. Specifically, reaches J1, D1, D3, and D4 will include riparian buffer restoration (**Figure 4**).

4.2.2 Riparian Restoration Activities – Ditches

The eastern easement section of the Project includes one ditch reach: D1 (**Figure 4**). This ditch is proposed for riparian buffer restoration in accordance with the alternative mitigation option of Consolidated Buffer Mitigation Rule 15A NCAC 02B .0295 (o)(8) and the DWR site viability assessment (**Appendix A**). As no stream work is proposed on this ditch, the only restoration activities will include the planting of bare root trees as described in **Section 4.3** and the other activities mentioned in **Section 4.2.3**. These restoration activities will begin from the tops of the ditch bank and extend outward to a maximum of 50 feet perpendicular to the ditch channel. All these riparian areas are currently cropland (**Figure 2A**).

4.2.3 Other Activities

Other activities involved with the buffer mitigation component of the Project include protecting the riparian buffer and riparian areas through a permanent conservation easement, removal of the most upstream culvert crossing on J1, removing localized areas of concentrated flow, stabilizing any banks that show instability, updating the Waste Utilization Plan to ensure removal of any area in conservation easement will not have any land application of waste, and removing two hydrants and the associated pipes that are used for land application for irrigation and fertilization.

According to the site viability letter from DWR, multiple constraints have been revealed and need to be addressed before credits can be generated on site.

UTILITIES: An overhead powerline was observed along feature J1. The utility line shall not be within a conservation easement or within riparian areas where buffer mitigation or nutrient offset credits are proposed to be generated.

- The Title Commitment has been reviewed and a professional licensed surveyor has plotted the 100-foot Carolina Power and Light Easement to ensure that the utility easement is completely outside of the proposed conservation easement. This will officially be addressed when the conservation easement is secured.
- **PERMITS**: An Animal Feeding Operation (AFO) permit is associated with this property. The permit associated with this property is # AWS960127 and allows for some or all the property to be used for the land application of animal waste per an approved Waste Utilization Plan issued by the DWR.
    - Application of animal waste will not be permitted within a conservation easement or within riparian areas where buffer mitigation or nutrient offset credits are proposed to be generated.
    - All riparian areas proposed to be placed in a conservation easement must be removed from the Waste Utilization Plan.
        - As discussed in **Section 3.2.4** EBX worked with a Certified Technician to update the Waste Utilization Plan to remove all areas within the conservation easement from land application. The updated Plan (**Appendix F**) was submitted to an Engineer in the Certified Animal Feeding Operation Branch of the Water Quality Permitting Section on October 8th, 2021.
    - Written approval by DWR of any modification to the existing Waste Utilization Plan and/or the applicable permit will be required, to generate buffer mitigation or nutrient offset credits within these riparian areas.
        - Email correspondence from DWR on the update to the Waste Utilization Plan is provided in the **Appendix F** and if further approval is deemed necessary, a renewal approval will be provided in the As-Built Report.
- **EXISTING INFRASTRUCTURE**: Existing underground and above ground infrastructure is present and is likely for purposes of irrigating the property for the land application of animal waste associated with permit # AWS960127.
    - No infrastructure or impervious areas below or above the ground will be allowed to be within a conservation easement or within riparian areas where buffer mitigation or nutrient offset credits are proposed to be generated.
        - EBX will ensure no infrastructure or impervious areas will remain below or above the ground within the riparian areas where buffer mitigation is proposed. If any infrastructure is to remain in the ground, it will be capped and deadheaded so that there will be no possibility of any underground leakage if they are damaged by tree roots or other activities. These activities will occur prior to planting the site during the construction phase of the project and will include the removal of the two hydrants that are within the conservation easement and the pipelines that connect them (**Figure 4)**. Prior to the removal of these pipes, the land will be closed and prepped so planting can begin almost immediately.
    - Proof of the removal of all infrastructure within riparian areas proposed to be placed in a conservation easement will be required, to generate buffer mitigation or nutrient offset credits.

        - EBX will provide all documentation of the infrastructure removal to NCDWR within the As-Built Baseline Report.
    - Changes to any infrastructure associated with permit # AW1960127 will require prior approval from DWR if they result in a change in the irrigation system design for land application.
        - The hydrant removal was included in the updated Waste Utilization Plan and was discussed with DWR to ensure that it did not require a formal modification as it is not a complete overhaul in infrastructure or irrigation systems.

Additionally, this Project will be co-developed with a buffer mitigation and nutrient offset bank that will extend riparian buffer and riparian areas associated with this Project's streams as well as incorporate an additional ditch feature on the property. Therefore, riparian planting and site preparation activities will extend beyond the limits of this Project's boundaries.

4.3 Planting Plan

All riparian restoration areas will be planted from top of bank back at least 50 feet from streams, ephemeral channels, and ditches with bare root tree seedlings on a nine by six-foot spacing to achieve an initial density of approximately 800 trees per acre. The suite of bare root stems will be thoroughly mixed prior to planting to ensure maximum diversity throughout the planted areas. In addition, these areas will be seeded with an herbaceous seed mix to provide rapid herbaceous cover and promote immediate buffer effectiveness as well as habitat for pollinators and other wildlife. The seed blend will contain both temporary and permanent seed and will include taproot species. The seed will be sown utilizing a no-till drill or broadcasted and disced depending on the conditions of the site at the time of planting. Planting will occur in all areas proposed for riparian buffer restoration and will meet the performance standards outlined in the Rule 15A NCAC 02B .0295. This includes planting at least eleven species of native hardwood bare root trees. Mixed-Mesic Hardwood Forest (Coastal Plain subtype) (Schafale 2012) will be the target community type and will be used for all areas within the Project. This community composition is highly diverse and is suitable given the Project's soil and landscape characteristics and will provide water quality and ecological benefits. The initial planting of bare root trees will occur before Spring 2023. The list of bare root tree species to be planted and their percentage of total species composition can be found in **Table 5**. Wherever possible, mature vegetation will be preserved and incorporated into the buffer. Some areas adjacent to the forested areas may require maintenance due to the rapid regeneration of some species, such as red maple (*Acer rubrum*) and sweetgum (*Liquidambar styraciflua*). Additionally, where needed for localized bank stability banks will be live staked consisting of black willow (*Salix nigra*), silky dogwood (*Cornus amomum*) and cottonwood (*Populus deltoides*).

Table 5. Tree Planting List

Bare Root Planting Tree Species					
Species	**Common Name**	**Spacing**	**Unit Type**	**Canopy or Sub-canopy**	**% Of Total Species Composition**
Platanus occidentalis	American sycamore	9X6	Bare Root	Canopy	10
Betula nigra	River birch	9X6	Bare Root	Canopy	10
Quercus phellos	Willow oak	9X6	Bare Root	Canopy	10
Quercus michauxii	Swamp chestnut oak	9X6	Bare Root	Canopy	10
Quercus nigra	Water oak	9X6	Bare Root	Canopy	10
Quercus rubra	Northern red oak	9X6	Bare Root	Canopy	10
Quercus shumardii	Shumard's oak	9X6	Bare Root	Canopy	10
Quercus lyrata	Overcup oak	9X6	Bare Root	Canopy	10
Diospyros virginiana	Persimmon	9X6	Bare Root	Sub-canopy	10
Fraxinus pennsylvanica	Green ash	9X6	Bare Root	Canopy	5
Cephalanthus occidentalis	Buttonbush	9X6	Bareroot	Sub-canopy	5

4.4 Easement Boundaries

Easement boundaries will be identified in the field to ensure clear distinction between the Project and adjacent properties. Boundaries may be identified by marker, bollard, post, tree-blazing, or other means as allowed by Project conditions and/or conservation easement. Boundaries will be marked with signs identifying the property as a mitigation project and will include the name of the long-term steward and a contact number. Boundary markers disturbed, damaged, or destroyed will be repaired and/or replaced on an as needed basis. The easement boundary will be checked annually as part of monitoring activities and the conditions as well as any maintenance performed will be reported in the annual monitoring reports to DWR.

Again, this Project will be codeveloped with a buffer mitigation and nutrient offset bank that will extend riparian buffer and riparian areas associated with this Project's stream, ephemeral channels, and ditches as well as incorporate an additional ditch features on the property. Therefore, there will be bank conservation easement boundaries extending beyond the boundaries of this Project and will also be marked appropriately.

5 MONITORING PLAN

5.1 Monitoring Protocol and Performance Standards

Annual vegetation monitoring and visual assessments will be conducted. Riparian vegetation monitoring where riparian buffer mitigation credits are being generated will be based on the "Carolina Vegetation Survey-Ecosystem Enhancement Program Protocol for Recording Vegetation: Level 1-2 Plot Sampling Only Version 4.2". Annual vegetation monitoring will occur each year for a minimum of five years and will be conducted during the fall season with the first year occurring at least 6 months from initial planting. Monitoring plots will be installed a minimum of 100 meters squared in size and will cover at least two percent of the planted mitigation area. The planted area is 15.65 acres, and there will be 14 vegetation plots measuring performance standards in all riparian restoration areas. These plots will be randomly placed throughout the planted riparian restoration area and will be representative of the riparian community buffer credit areas (**Figure 10**). The following data will be recorded for all trees in the plots: species, height, planting date (or volunteer), and grid location. All stems in plots will be flagged with flagging tape.

The measures of vegetative success for the Project will be the survival of at least four native hardwood tree species, where no one species is greater than 50 percent of stems, at a density of at least 260 stems per acre at the end of Year 5. Native volunteer species may be included to meet the performance standards upon written approval by DWR. Invasive and noxious species will be monitored and treated so that none become dominant or alter the desired community structure of the site.

Photos will be taken from all photo points each monitoring year and provided in the annual reports. Visual inspections and photos will be taken to ensure that applicable areas are being maintained and compliant.

A visual assessment of the conservation easement will also be performed each year to confirm:

- Easement markers are in good condition throughout the site;
- no encroachment has occurred;
- no invasive species occur in areas where invasive species were treated,
- diffuse flow is being maintained in the conservation easement areas; and
- there has not been any cutting, clearing, filling, grading, or similar activities that would negatively affect the functioning of the buffer.

A summary of project monitoring and maintenance activities can be found in **Table 6**.

Table 6. Summary of Project Monitoring and Maintenance Activities

Component/ Feature	Monitoring	Maintenance through project close-out
Vegetation	Annual vegetation monitoring	Vegetation shall be maintained to ensure the health and vigor of the targeted plant community. Routine vegetation maintenance and repair activities may include supplemental planting, pruning, mulching, and fertilizing. Exotic invasive plant species shall be treated by mechanical and/or chemical methods. Any vegetation requiring herbicide application will be performed in accordance with NC Department of Agriculture (NCDA) rules and regulations. Vegetation maintenance activities will be documented and reported in annual monitoring reports. Vegetation maintenance will continue through the monitoring period.
Invasive and Nuisance Vegetation	Visual Assessment	Invasive and noxious species will be monitored and treated so that none become dominant or alter the desired community structure of the Project. Locations of invasive and nuisance vegetation will be mapped. Also, see **Appendix D** for more details.
Project Boundary	Visual Assessment	Project boundaries shall be identified in the field to ensure clear distinction between the mitigation project and adjacent properties. Boundaries will be marked with signs identifying the property as a mitigation project and will include the name of the long-term steward and a contact number. Boundaries may be identified by fence, marker, bollard, post, tree-blazing, or other means as allowed by Project conditions and/or conservation easement. Boundary markers disturbed, damaged, or destroyed will be repaired and/or replaced on an as-needed basis. Easement monitoring and staking/ signage maintenance will continue in perpetuity as a stewardship activity.

5.2 Adaptive Management Plan and Project Maintenance

Adaptive measures will be developed, or appropriate remedial actions taken if in the event that the project, or a specific component of the project, fails to achieve the defined success criteria. DMS must approve all adaptive management plans prior to submittal to DWR.

Remedial actions will be designed to achieve the success criteria specified in this Mitigation Plan, and will include identification of the causes of failure, remedial design approach, work schedule, and monitoring criteria that will consider physical and climatic conditions.

Initial plant maintenance may include a one-time mowing, prior to initial planting to remove undesirable species. If mowing is deemed necessary by EBX during the monitoring period, EBX must first receive approval by DMS and then by DWR prior to any mowing activities to ensure that no buffer violations will be committed. Failure to receive approval to mow within the Neuse River buffer, as defined in 15A NCAC

02B .0714 by DWR, could result in Neuse River buffer violations and violations of the conservation easement. If necessary, EBX will develop a species-specific control plan.

6 STEWARDSHIP

The Project will be transferred to the NCDEQ Stewardship Program. NCDEQ Stewardship Program shall serve as the conservation easement holder and entity responsible for long term stewardship of the Project. This party shall serve as conservation easement holder and long-term steward for the property and will conduct periodic inspection of the Project to ensure that restrictions required in the conservation easement are upheld. The NCDEQ Stewardship Program is developing an endowment system within the non-reverting, interest-bearing Conservation Lands Conservation Fund Account. The use of funds from the Endowment Account will be governed by North Carolina General Statute GS 113A-232(d)(3). Interest gained by the endowment fund may be used for the purpose of stewardship, monitoring, stewardship administration, and land transaction costs, if applicable.

The Stewardship Program will periodically install signage to identify boundary markings as needed. Any permanent crossings will be the responsibility of the owner of the underlying fee to maintain.

7 REFERENCES

Endangered Species Act of 1973. Public Law 93-205, 87 Stat. 884. 16 USC 1531-1543,

Environmental Laboratory. (1987). *U.S. Army Corps of Engineers Wetlands Delineation Manual, Technical Report* Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

FEMA (Federal Emergency Management Agency). 2018. FEMA Flood Map Service Center. North Carolina Panel 2602; map number 3720260200K, effective 6/20/2018.

Fish and Wildlife Coordination Act of 1934. Public Law 85-72, 79 Stat. 216. 16 USC 661-667(d).

Lee, T.L, Peet, R.K., Roberts, S.D., and Wentworth, T.R. 2006. CVS-EEP Protocol for Recording Vegetation, Version 4.2. http://cvs.bio.unc.edu/protocol/cvs-eep-protocol-v4.2-lev1-2.pdf.

National Historic Preservation Act of 1966 (as amended Section 106). 16 USC 470. 36 CFR 800, 23 CFR 771, 36 CFR 60, 36 CFR 63.

NCDENR. 2010. "N.C. Wetland Assessment Method User Manual Version 4.1." N.C. Wetland Functional Assessment Team.

NCDWQ (North Carolina Division of Water Quality). 2011. A Guide to Surface Freshwater Classifications in North Carolina. Raleigh. http://portal.ncdenr.org/c/document_library/get_file?p_l_id=1169848&folderId=2209568&name=DLFE-35732.pdf; accessed April 2021.

NCDWQ. (North Carolina Division of Water Quality). 2010. Methodology for *Identification of Intermittent and Perennial Streams and Their Origins*. Version 4.11. Raleigh.

NC Environmental Management Commission. 2014. Rule 15A NCAC 02B .0295 – Mitigation Program Requirements for the Protection and Maintenance of Riparian Buffers.

NC Environmental Management Commission. 2014. Rule 15A NCAC 02B .0703 – Nutrient Offset Credit Trading Rule

NC Environmental Management Commission. 2020. Rule 15A NCAC 02B .0714 – Neuse River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Existing Riparian Buffers.

NCNHP (North Carolina Natural Heritage Program). 2019. Natural Heritage Element Occurrences. April 2021

Schafale, M.P. 2012. Classification of the Natural Communities of North Carolina, Fourth Approximation. North Carolina Natural Heritage Program, Division of Parks and Recreation, NCDENR, Raleigh, NC.

U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0), ed. J. S. Wakeley, R. W.

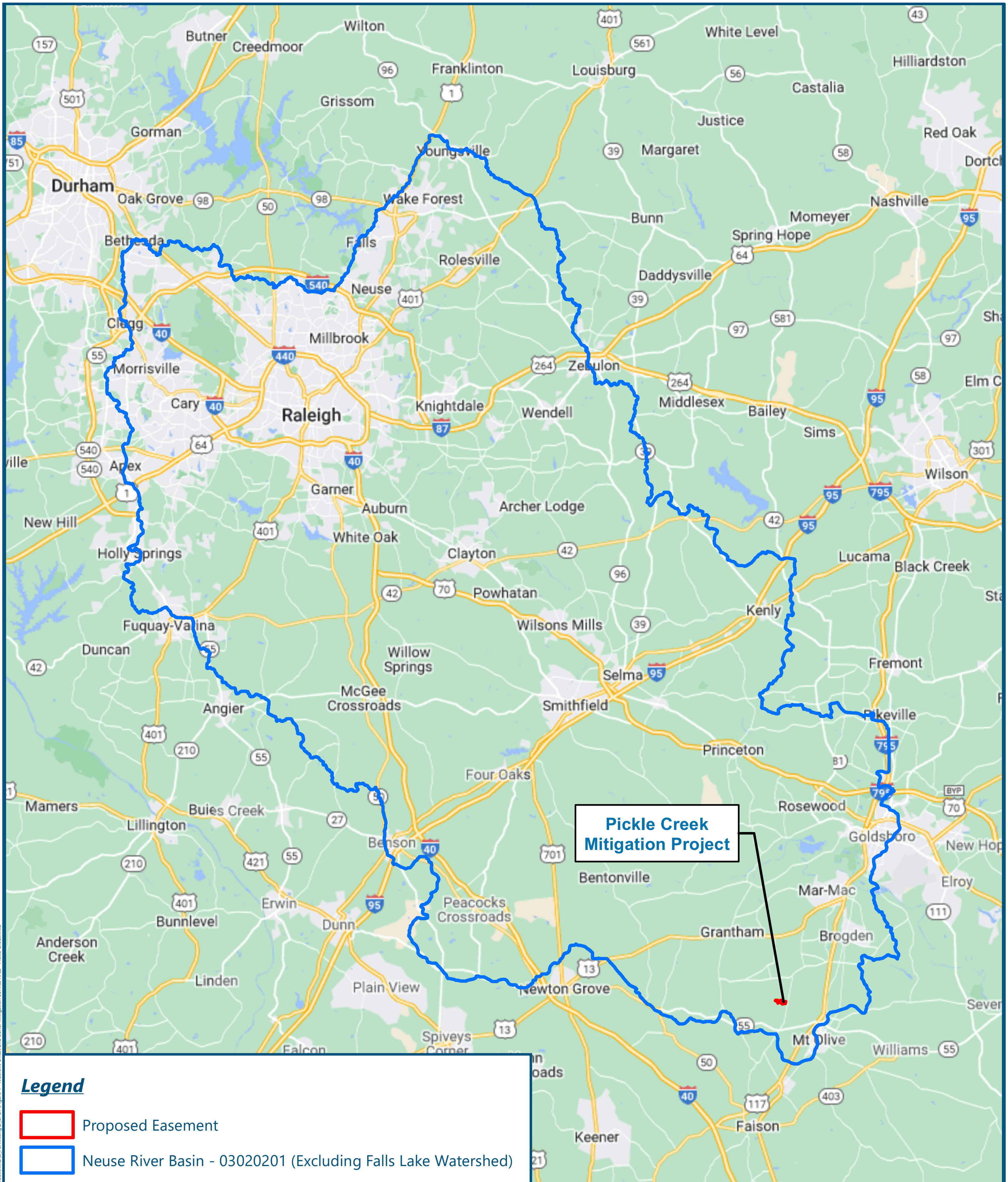
Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS). 1994. Soil Survey of Wayne County, North Carolina.

USDA-NRCS. 2014. Web Soil Survey GIS Data. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm; accessed April 2021.

USFWS (United States Fish and Wildlife Service). 2015. Information, Planning, and Conservation (IPAC) Online Screening Tool. https://ecos.fws.gov/ipac/; accessed April 2021.

Figures



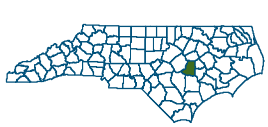


Figure 1
Nutrient Offset & Buffer Mitgation Service Area
Pickle Creek
Mitigation Project

Wayne County, North Carolina

N W E S

0 4 8
Mile

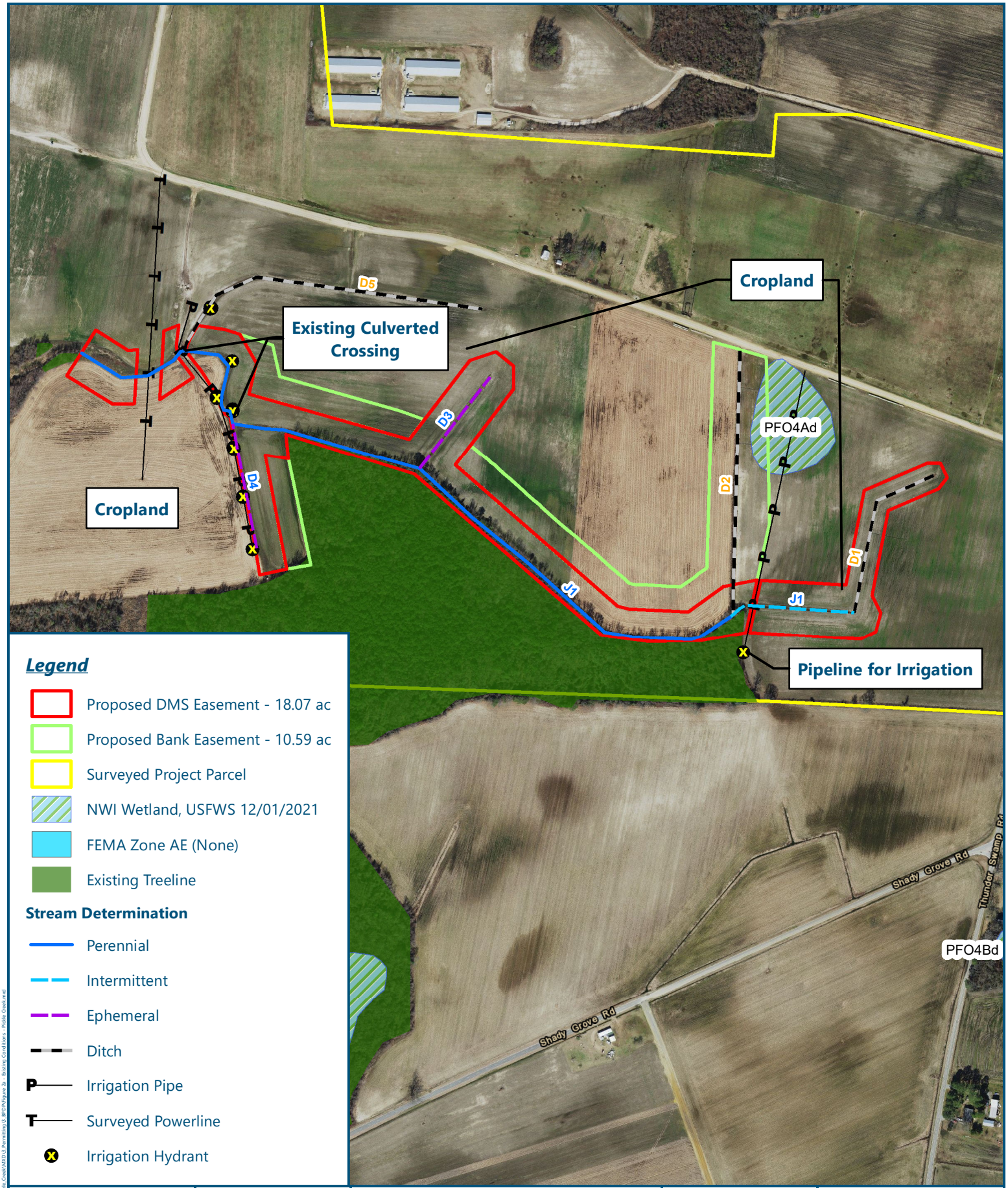
Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 8 mile

res
Restoring a resilient earth for a modern world

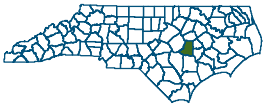


Legend

- Proposed DMS Easement - 18.07 ac
- Proposed Bank Easement - 10.59 ac
- Surveyed Project Parcel
- NWI Wetland, USFWS 12/01/2021
- FEMA Zone AE (None)
- Existing Treeline

Stream Determination

- Perennial
- Intermittent
- Ephemeral
- Ditch
- Irrigation Pipe
- Surveyed Powerline
- Irrigation Hydrant



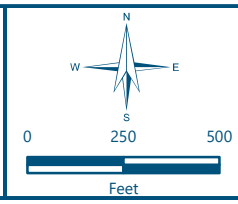


Figure 2a - Existing Conditions

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

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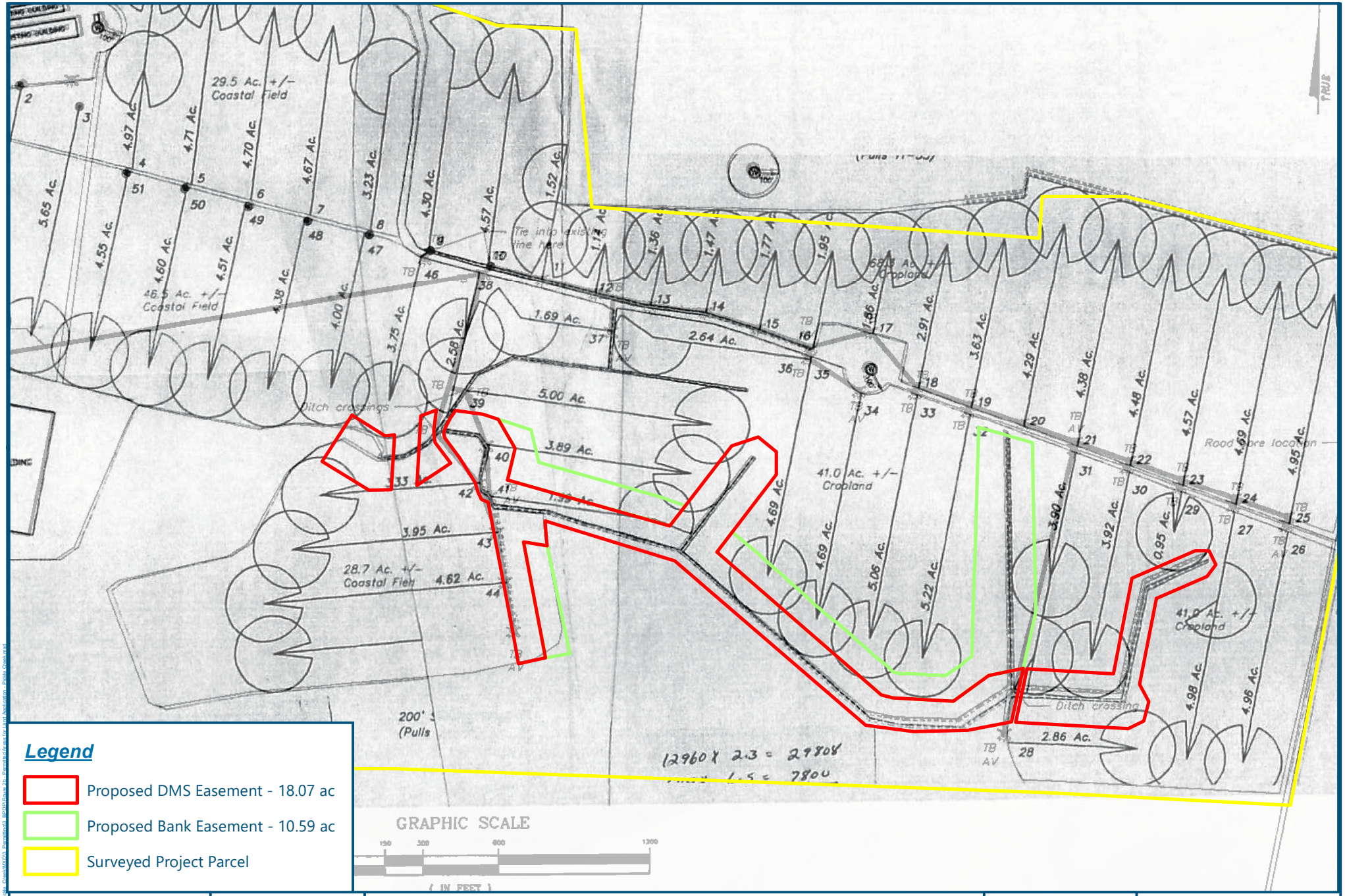

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Figure 2b - Permitted Areas for Land Application (Pre-2022)

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date:	4/5/2022
Drawn by:	GDS
Checked by:	JRM
	1 inch = 500 feet

res
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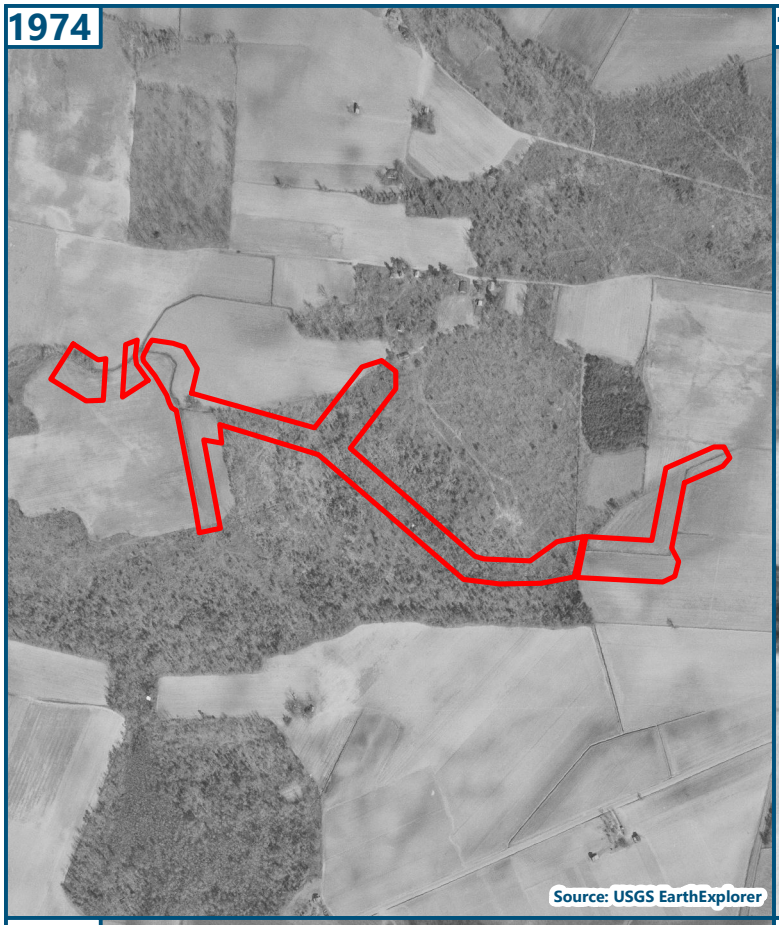
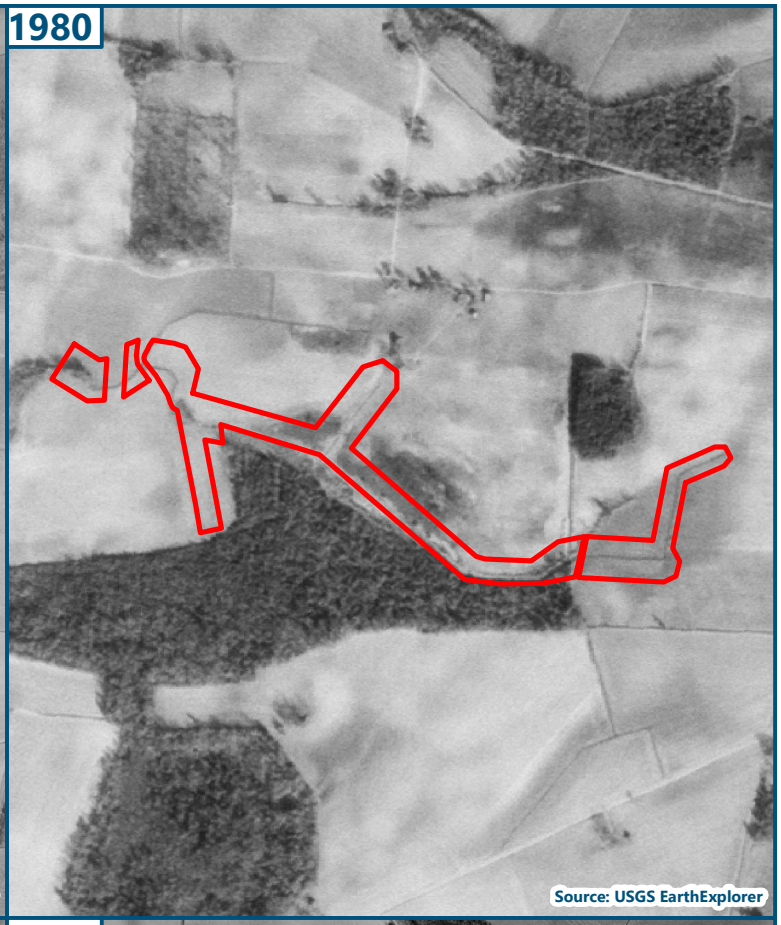
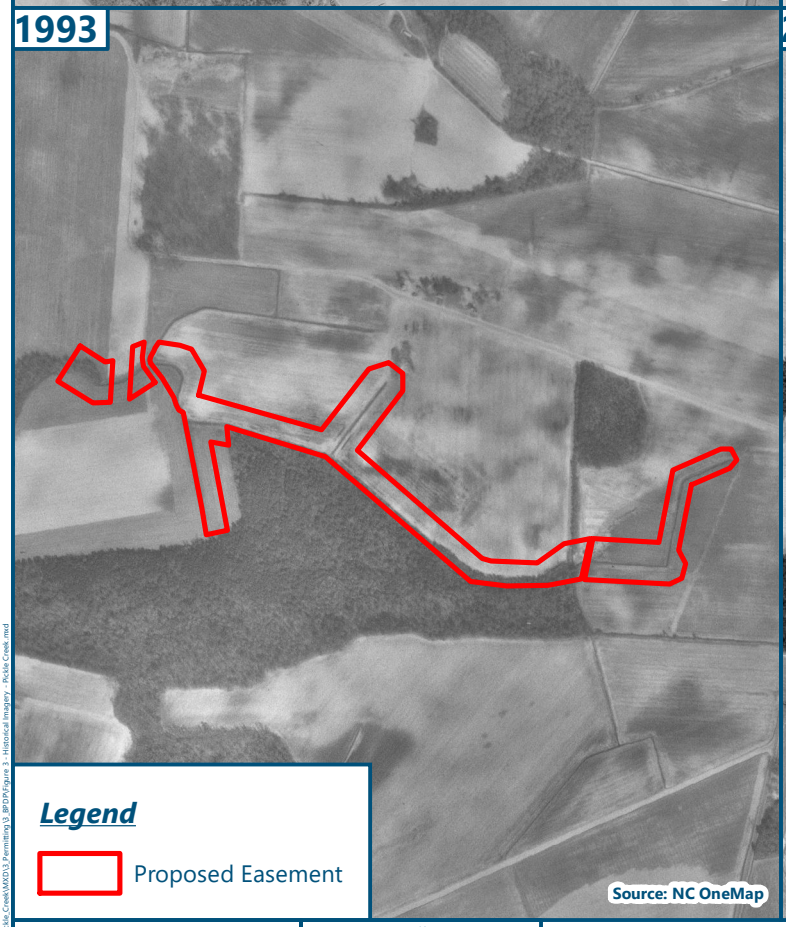
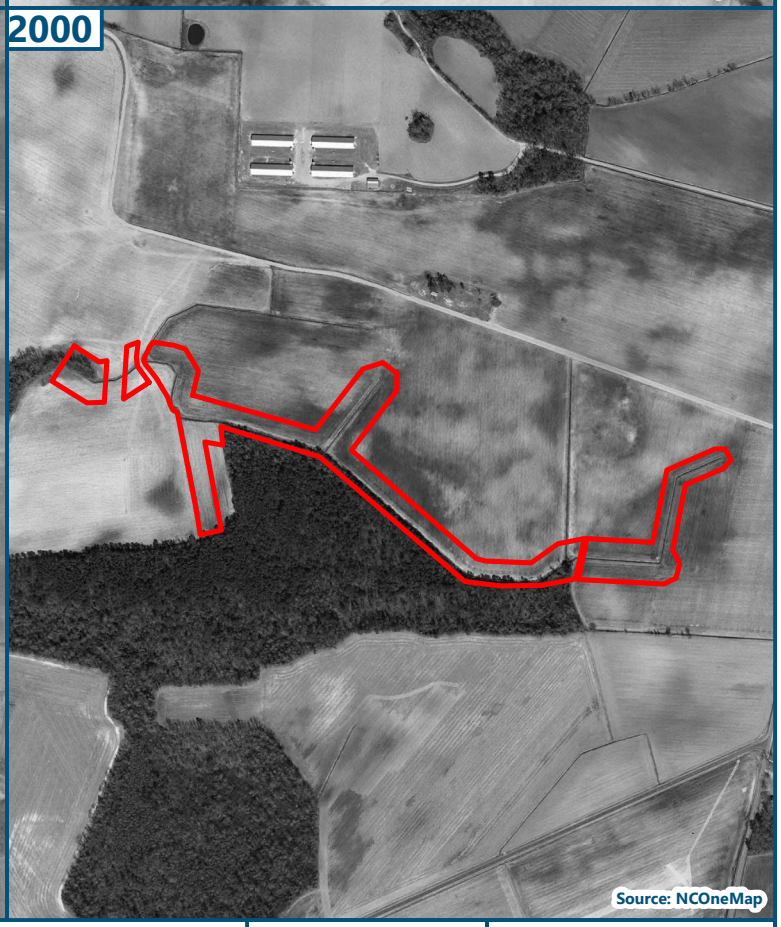


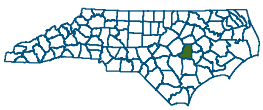






Legend

Proposed Easement



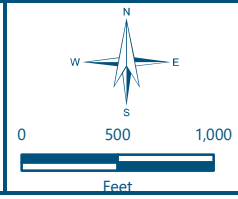


Figure 3 - Historical Imagery

Pickle Creek
Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 1,000 feet

res

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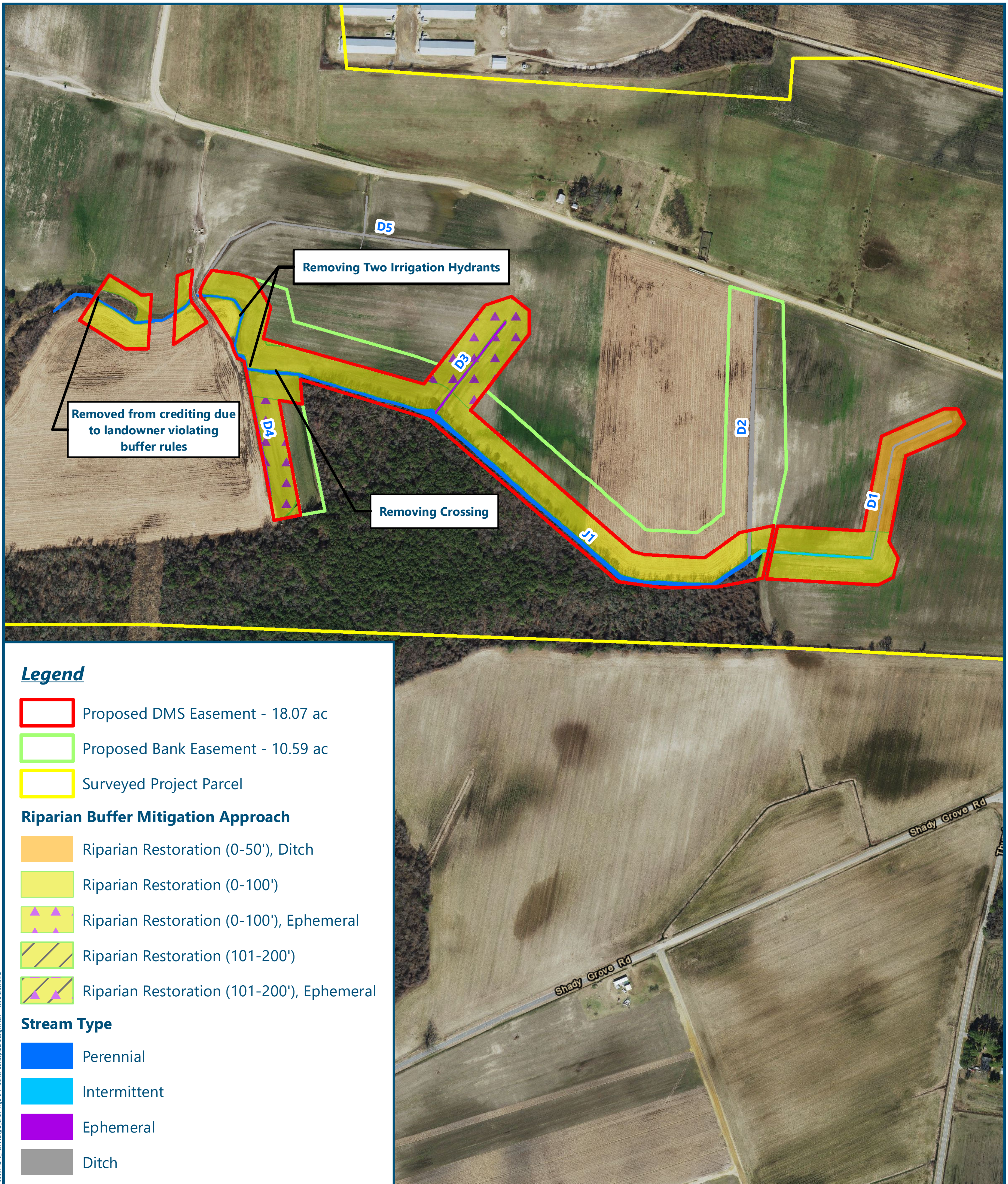
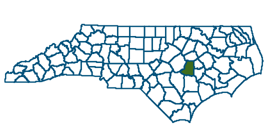
Document Path: R:\Projects\wmp\Projects\102870_Pickle_Creek\MXD\3_Permitting\3_8\PDF\Figure 3 - Historical Imagery - _Pickle Creek .mxd





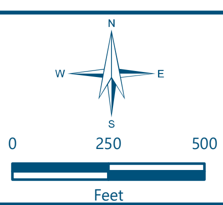


Figure 4 - Buffer Conceptual Design Plan

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

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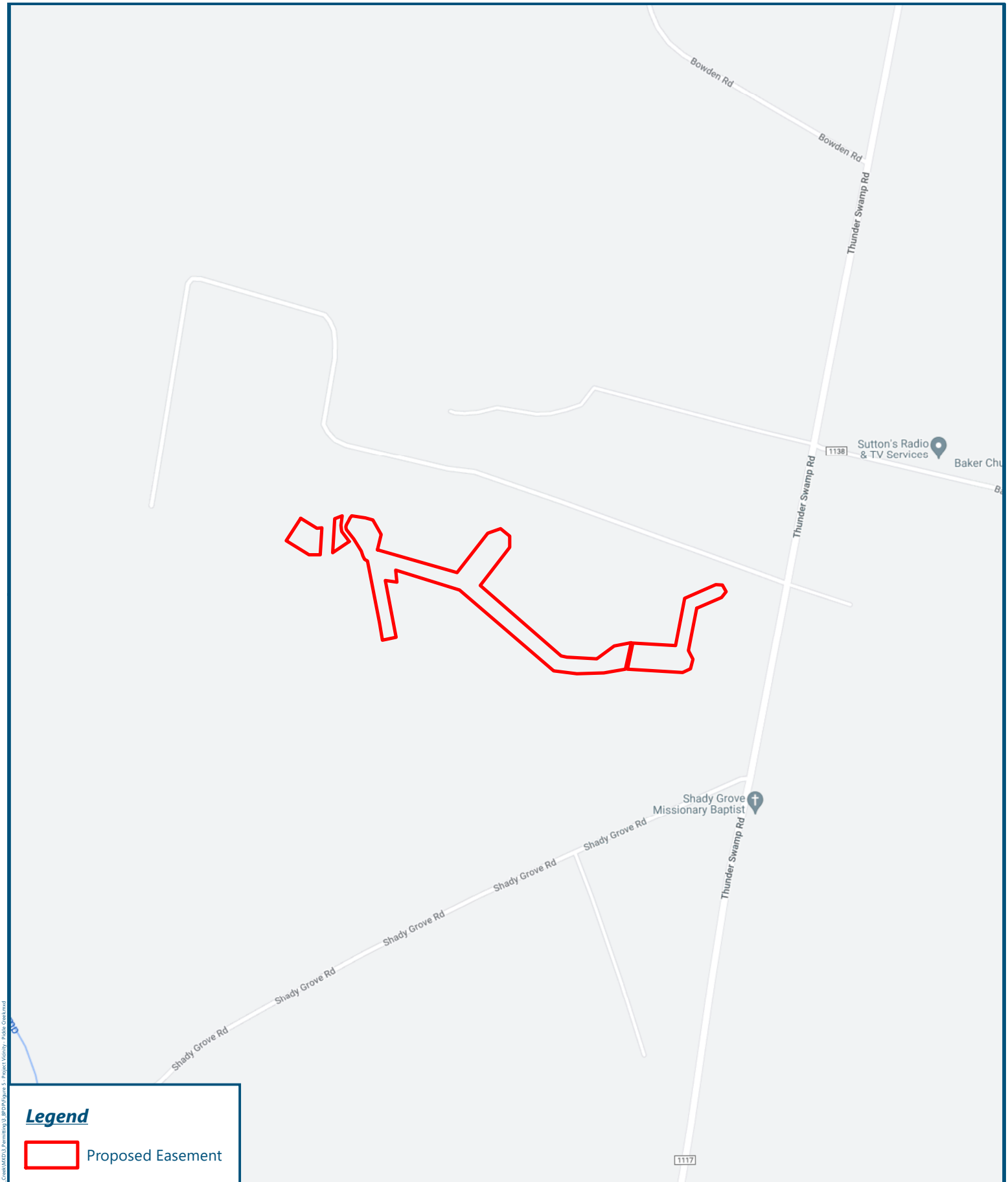

Legend

Proposed Easement

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Figure 5 - Project Vicinity

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 1,000 feet

res

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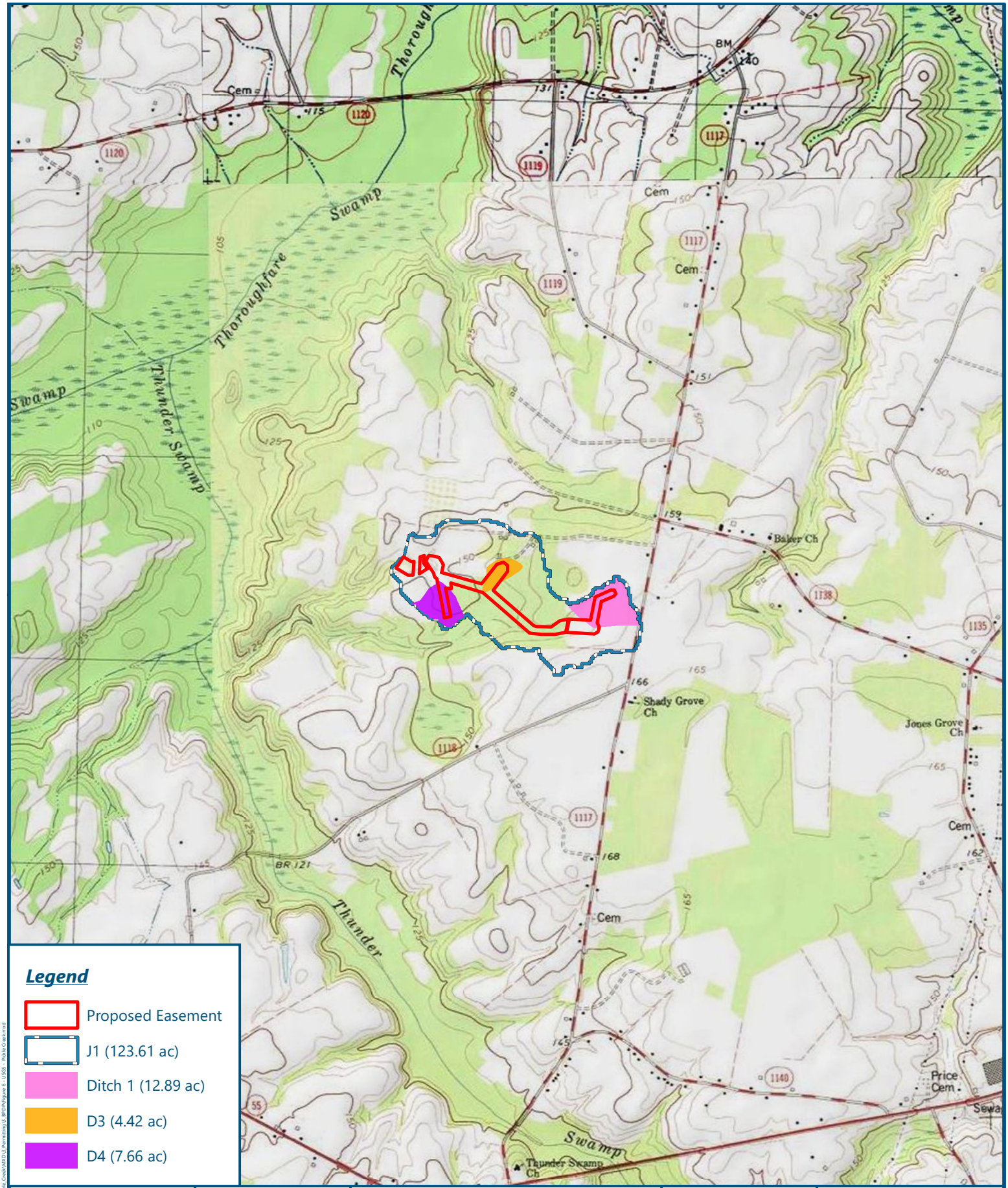
Document Path: R:\Raleigh\arm\gis\Projects\102870_Pickle_Creek\MXD\3_Permitting\3_WP\DP\Figure 5 - Project Vicinity - Pickle Creek.mxd



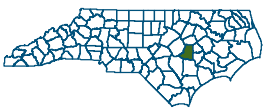


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Figure 6 - USGS Quadrangle
Mount Olive (1977)

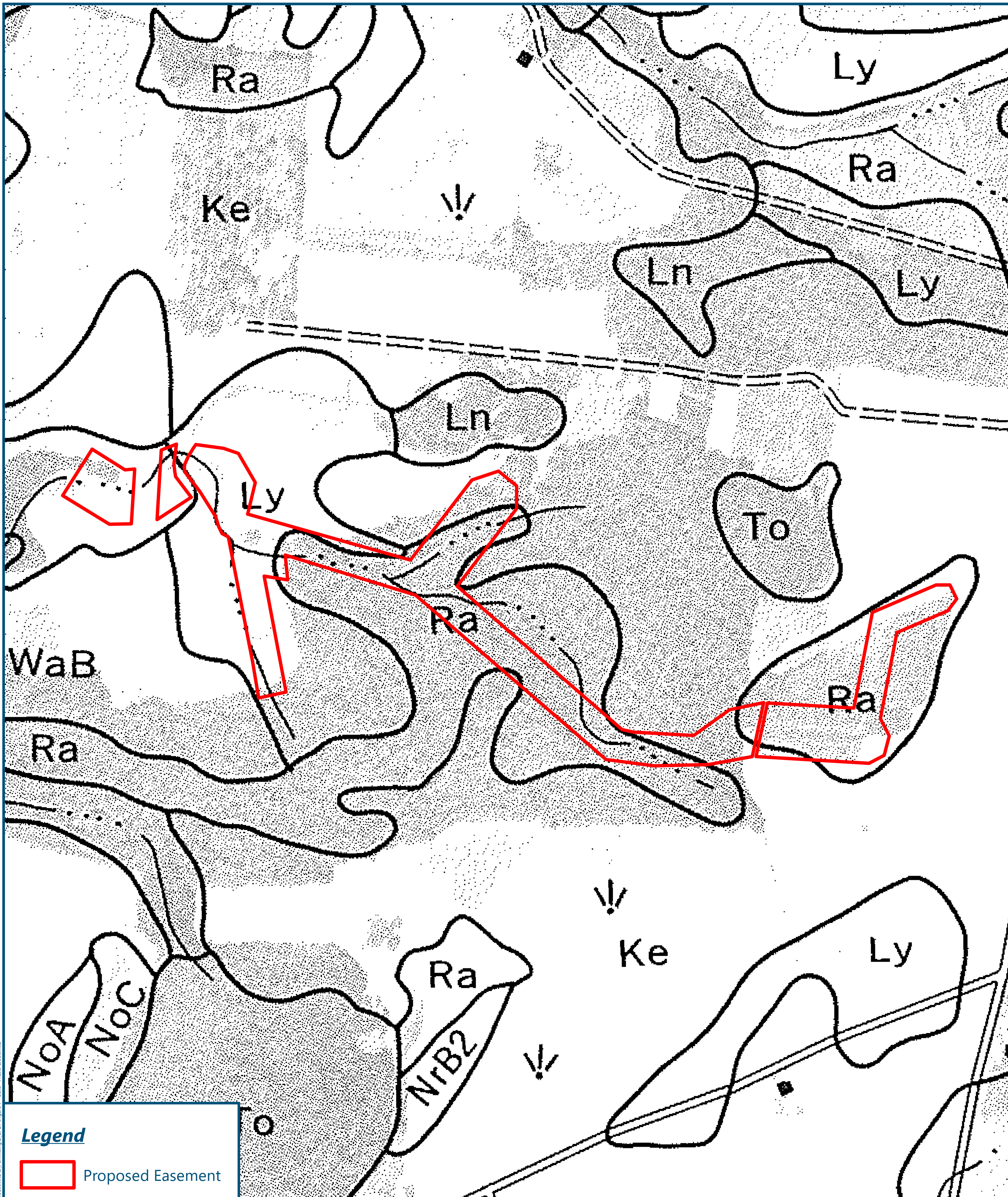
Pickle Creek
Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022
Drawn by: GDS
Checked by: MDE
1 inch = 2,000 feet

res
Restoring a resilient earth for a modern world

Document Path: R:\Projects\Wayne\Projects\102870_Pickle_Creek\MXD\3_Permitting\3_8\PDF\Figure 6 - USGS - Pickle Creek.mxd



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Proposed Easement

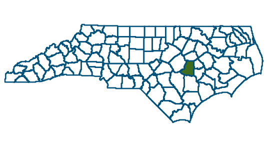

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Figure 7 - NRCS Soil Survey (1974)

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

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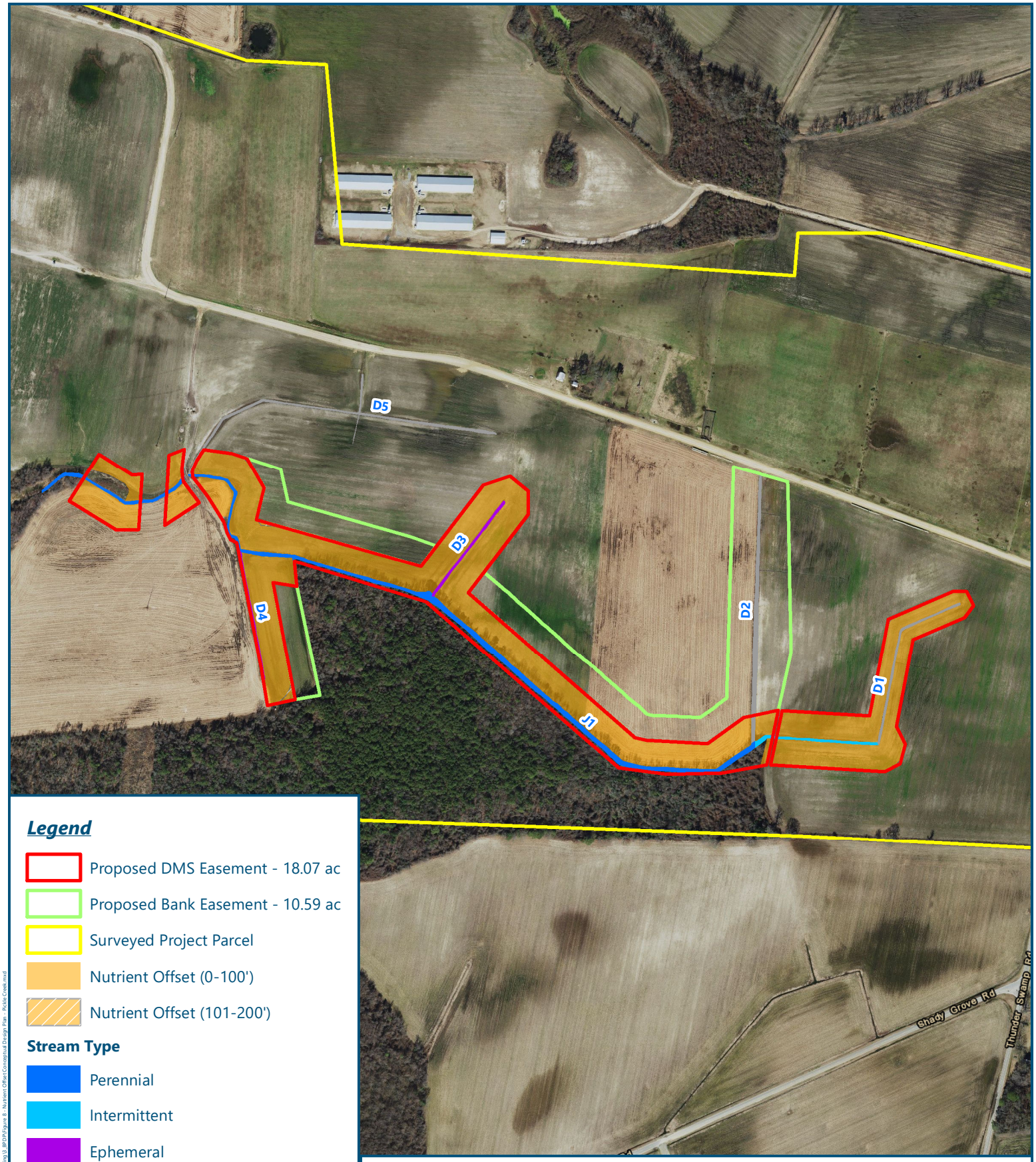
Document Path: R:\Resgis\entgis\Projects\102870_Pickle_Creek\MXD\3_Permitting\3_BPDP\Figure 7 - Soils - Pickle Creek.mxd



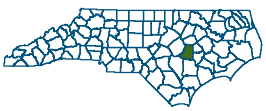
Legend

- Proposed DMS Easement - 18.07 ac
- Proposed Bank Easement - 10.59 ac
- Surveyed Project Parcel
- Nutrient Offset (0-100')
- Nutrient Offset (101-200')

Stream Type

- Perennial
- Intermittent
- Ephemeral
- Ditch

This figure only represents areas that are viable to be converted from Riparian Buffer Credits to Nutrient Offset Credits.



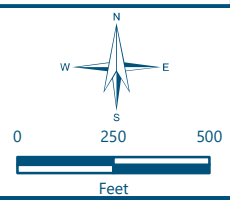


Figure 8 - Nutrient Offset Conceptual

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

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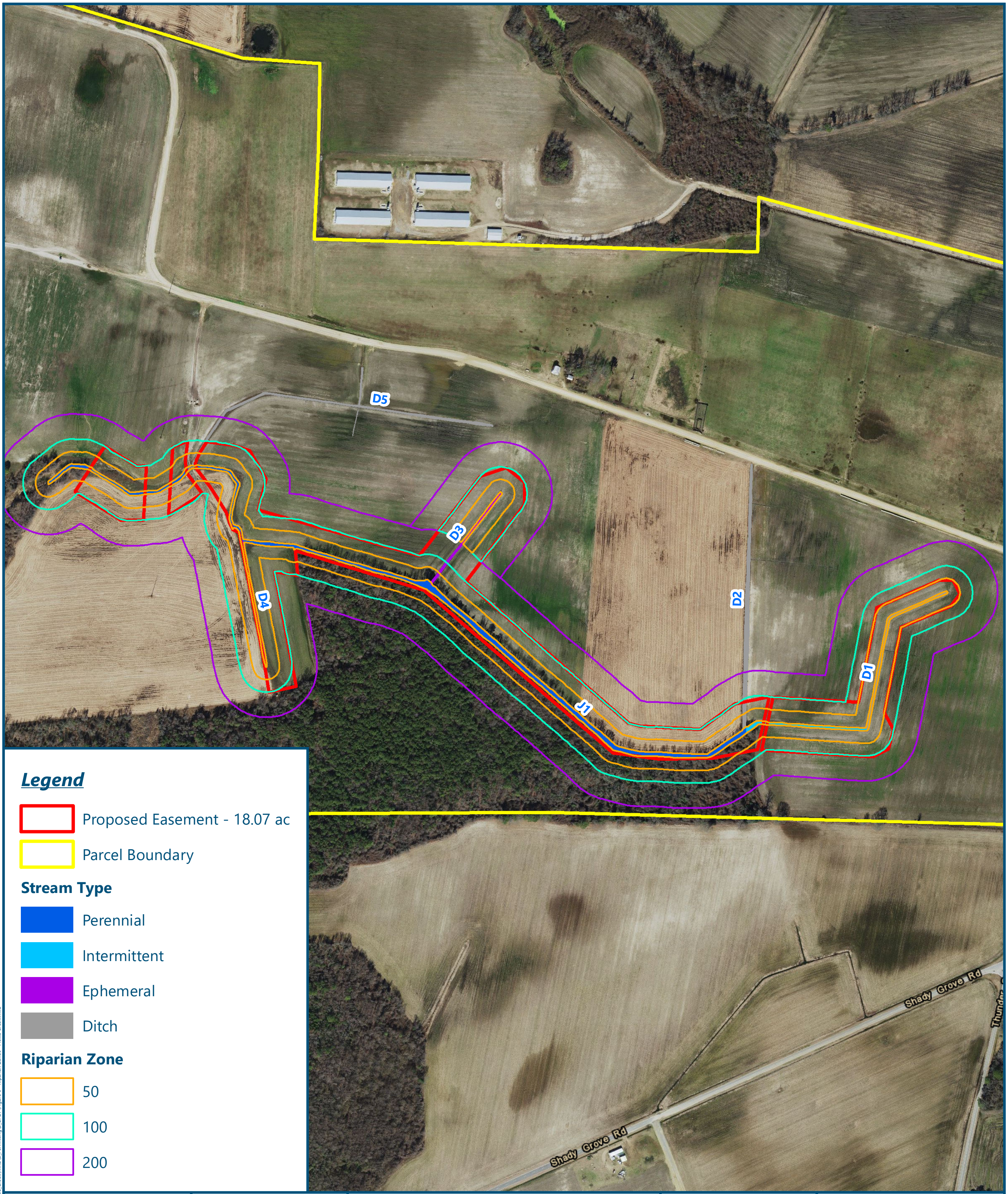

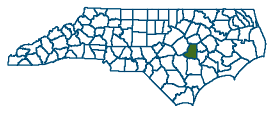

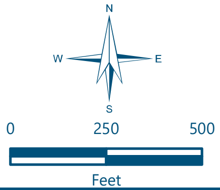

Figure 9 - Riparian Zones

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date:	4/5/2022
Drawn by:	GDS
Checked by:	MDE
1 inch = 500 feet	

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Document Path: R:\Resgis\entgis\Projects\102870_Pickle_Creek\MXD\3_Permitting\3_BPDP\Figure 9 - Riparian Zones - Pickle Creek.mxd

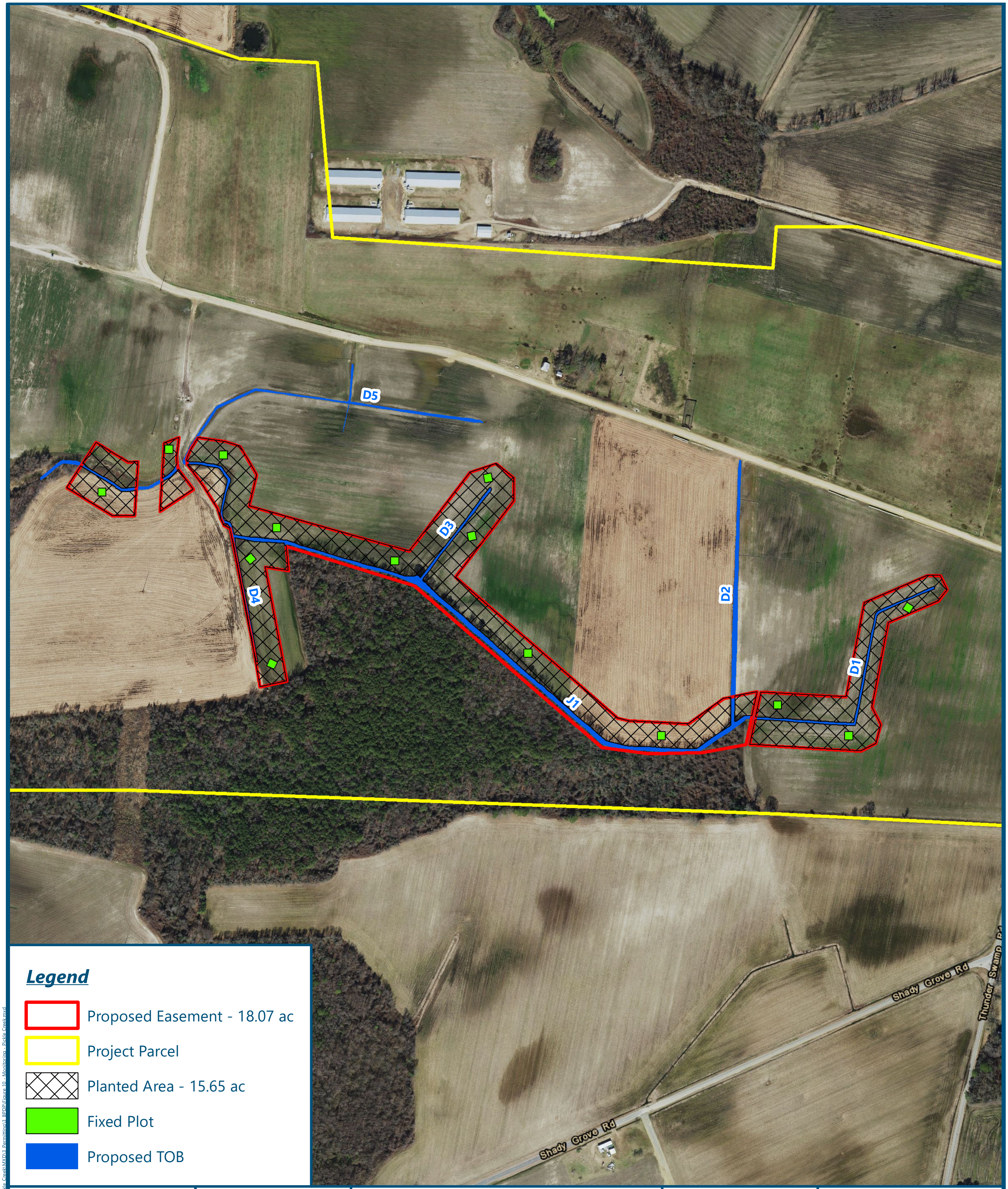

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Figure 10 - Buffer Monitoring Plan

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/5/2022

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

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Appendix A

- Pickle Creek Project Buffer Viability Letter for Buffer Mitigation and Nutrient Offset

ROY COOPER
Governor
DIONNE DELLI-GATTI
Secretary
S. DANIEL SMITH
Director

NORTH CAROLINA
Environmental Quality

March 10, 2021

DWR Project # 20210348
Wayne County

Douglas Allen Jernigan
781 Thunder Swamp Road
Mount Olive, NC 28365
(*via email to douglasajernigan@gmail.com*)

Subject: On-Site Determination for Applicability to the Neuse Buffer Rules (15A NCAC 02B .0714)
Project Name: Pickle Creek Mitigation Project
Address / Location: North of Mount Olive, NC at approximately 35.2333 -78.1132
Determination Date: March 10, 2021 **Staff**: Rick Trone

Mr. Jernigan,

On March 10, 2021, Rick Trone of the Division of Water Resources conducted an on-site review of features located on the subject property at the request of Wildlands Engineering, Inc. to determine the applicability to the Neuse River Riparian Area Protection Rules (15A NCAC 02B .0714).

The enclosed map(s) depict the feature(s) evaluated. This information is also summarized in the table below. Streams that are considered "Subject" have been located on the most recently published NRCS Soil Survey of Wayne County and/or the most recent copy of the USGS Topographic (at 1:24,000 scale) map(s), have been located on the ground at the site, and possess characteristics that qualify them to be at least intermittent streams. Features that are considered "Not Subject" have been determined to not be at least intermittent or not present on the property or not depicted on the required maps.

This determination only addresses the applicability to the buffer rules and does not approve any activity within buffers or within waters of the state. There may be other streams or features located on the property that do not appear on the maps referenced above. Any of the features on the site may be considered jurisdictional according to the US Army Corps of Engineers and subject to the Clean Water Act.

The following table addresses the features rated during the DWR site visit:

Feature ID	Type[1]	Subject	Start @	Stop @	Depicted on Soil Survey	Depicted on USGS Topo
J1	I/P	X	Approximately 35.230299 -78.104213	Outside project boundary	X	
D1	D		Approximately 35.231806 -78.103053	Feature J1		
D2	D		Approximately 35.233227 -78.105692	Feature J1		
D3	E		Approximately 35.232930 -78.109073	Feature J1	X	
D4	E		Approximately 35.230988 -78.112210	Feature J1	X	
D5	D		Approximately 35.233670 -78.109181	Feature J1		

(1) E = Ephemeral, I = Intermittent, P = Perennial, NP = Not Present, NE=Not Evaluated, D = Ditch

This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWR may request a determination by the Director. An appeal request must be made within sixty (60) calendar days of the date of this letter to the Director in writing.

If sending via U.S. Postal Service:	*If sending via delivery service (UPS, FedEx, etc.)*
DWR 401 & Buffer Permitting Branch Supervisor 1617 Mail Service Center Raleigh, NC 27699-1617	DWR 401 & Buffer Permitting Branch Supervisor 512 N Salisbury St. Raleigh, NC 27604

This determination is final and binding as detailed above unless an appeal is requested **within sixty (60) calendar days**.

This letter only addresses the features on the subject property and within the proposed project easement and does not approve any activity within buffers or within waters of the state. If you have any additional questions or require additional information, please contact Rick Trone at (919) 707-3631 or rick.trone@ncdenr.gov. This determination is subject to review as provided in Articles 3 & 4 of G.S. 150B.

Sincerely,

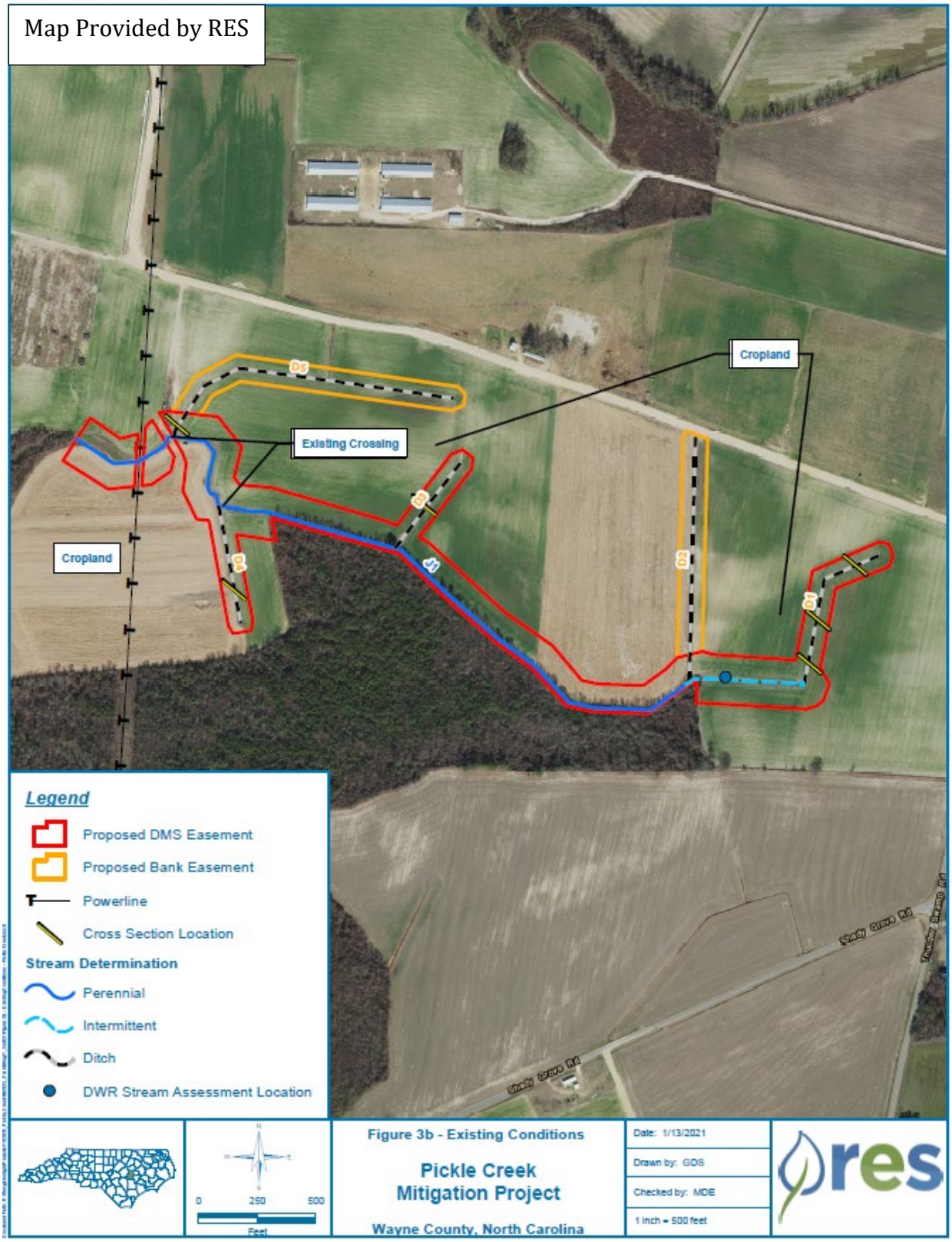
DocuSigned by:
Paul Wojoski
949D91BA53EF4E0...

Paul Wojoski, Supervisor
401 & Buffer Permitting Branch

Enclosures: USGS Topographical Map, NRCS Soil Survey, Site Map

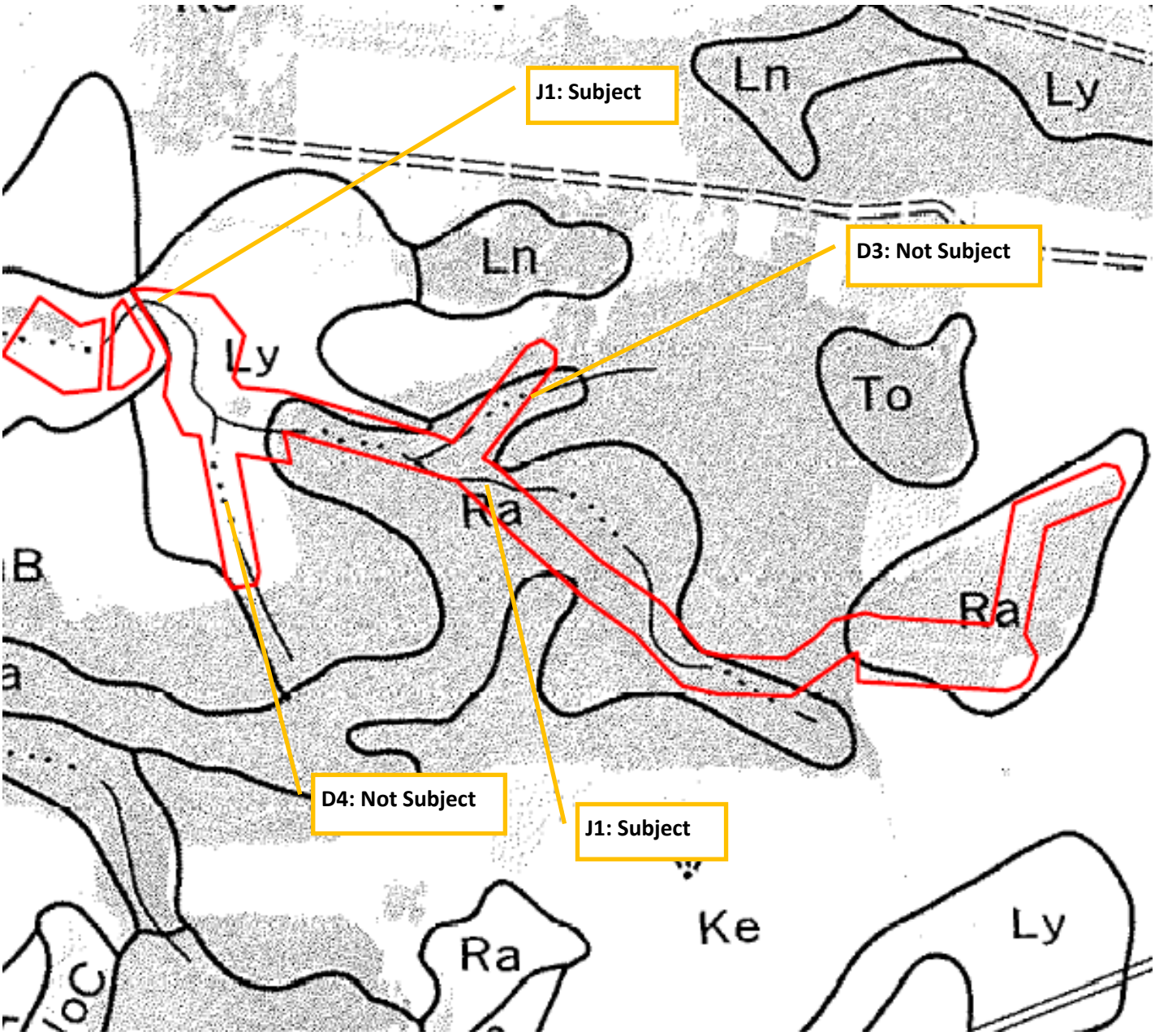
cc: Jamey McEachran, Resource Environmental Solutions (via email)
401 & Buffer Permitting Branch files

Map Provided by RES



Pickle Creek Mitigation Project

Wayne County, NC-DWR Project # 20210348



NRCS Soil Survey Sheet 36

Wayne Co NC 1974

Legend:

-project boundary

:: Locations are approximate and are provided for reference only ::

N

Pickle Creek Mitigation Project

Wayne County, NC-DWR Project # 20210348

USGS Topographical Map

Mount Olive Quadrangle

Legend:

-project boundary

:: Locations are approximate and are provided for reference only ::

N

ROY COOPER
Governor
DIONNE DELLI-GATTI
Secretary
S. DANIEL SMITH
Director

NORTH CAROLINA
Environmental Quality

May 18, 2021

Jamey McEachran
Environmental Banc & Exchange, LLC
(via electronic mail: jmceachran@res.us)

Re: Site Viability for Buffer Mitigation & Nutrient Offset –Pickle Creek Site
Near 35.2333, -78.1132 off Thunder Swamp Rd, Mt. Olive NC
Neuse 03020201
Wayne County

Dear Ms. McEachran,

On March 15, 2021, Katie Merritt, with the Division of Water Resources (DWR), received a request from you on behalf of Environmental Banc & Exchange, LLC (EBX) for a site visit near the above-referenced site in the Neuse River Basin within the 8-digit Hydrologic Unit Code 03020201. The site visit was to determine the potential for riparian buffer mitigation and nutrient offset within a proposed Easement Boundary, which is more accurately shown in the attached maps labeled "Figure 3b-Existing Conditions" (Figure 1), prepared by EBX. On April 17, 2021, Ms. Merritt performed a site assessment of the subject site and staff with EBX were also present. The site visit revealed the following site constraints:

- **UTILITIES**: An overhead powerline was observed along feature J1. The utility line shall not be within a conservation easement or within riparian areas where buffer mitigation or nutrient offset credits are proposed to be generated.
- **PERMITS**: An Animal Feeding Operation (AFO) permit is associated with this property. The permit associated with this property is # AWS960127 and allows for some or all the property to be used for the land application of animal waste per an approved Waste Utilization Plan issued by the DWR.
    - Application of animal waste will not be permitted within a conservation easement or within riparian areas where buffer mitigation or nutrient offset credits are proposed to be generated.
    - All riparian areas proposed to be placed in a conservation easement must be removed from the Waste Utilization Plan.
    - Written approval by DWR of any modification to the existing Waste Utilization Plan and/or the applicable permit will be required, to generate buffer mitigation or nutrient offset credits within these riparian areas.
- **EXISTING INFRASTRUCTURE**: Existing underground and above ground infrastructure is present and is likely for purposes of irrigating the property for the land application of animal waste associated with permit # AWS960127.

- No infrastructure or impervious areas below or above the ground will be allowed to be within a conservation easement or within riparian areas where buffer mitigation or nutrient offset credits are proposed to be generated.
- Proof of the removal of all infrastructure within riparian areas proposed to be placed in a conservation easement will be required, to generate buffer mitigation or nutrient offset credits.
- Changes to any infrastructure associated with permit # AW1960127 will require prior approval from DWR if they result in a change in the irrigation system design for land application.

Ms. Merritt's evaluation of the features onsite and their associated mitigation determination for the riparian areas are provided in the table below. This evaluation was made from Top of Bank (TOB) and landward 200' from each feature for buffer mitigation pursuant to 15A NCAC 02B .0295 (effective November 1, 2015) and for nutrient offset credits pursuant to 15A NCAC 02B .0703.

Feature	Classification onsite	[1]Subject to Buffer Rule	[7]Riparian Land uses adjacent to Feature (0-200')	Buffer Credit Viable	[3]Nutrient Offset Viable	[4,5]Mitigation Type Determination w/in riparian areas
J1	Stream	Yes	A combination of non-forested agricultural fields and mature forest. (see map) There is a compromised culvert downstream below the confluence with D5 that needs to be repaired.	[2]Yes	Yes (non-forested areas only)	Non-forested areas - **Restoration Site** per 15A NCAC 02B .0295 (n) Forested Areas – **Preservation Site** per 15A NCAC 02B .0295 (o)(5)
D1	Ditch <3' depth	No	Non-forested agricultural fields	*see note	Yes	**Restoration Site** per 15A NCAC 02B .0295 (o)(8) ***Buffer Mitigation Note –** Assessment concludes the ditch meets 15A NCAC 02B .0295 (o)(8) (A, B, C, D & E). More information is required to be provided in a mitigation plan for complete assessment. See rule.
D2	Ditch >3' depth	No	Non-forested agricultural fields	No	Yes	**Restoration Site** per 15A NCAC 02B .0295 (n)
D3	Ephemeral	No	Non-forested agricultural fields	[6]Yes	Yes	**Restoration Site** per 15A NCAC 02B .0295 (o)(7) *Must submit supporting documentation of additional requirements under .0295 (o)(7) to be viable for buffer mitigation*
D4	Ephemeral	No	Non-forested agricultural fields	[6]Yes	Yes	**Restoration Site** per 15A NCAC 02B .0295 (o)(7) *Must submit supporting documentation of additional requirements under .0295 (o)(7) to be viable for buffer mitigation*

Feature	Classification onsite	[1]Subject to Buffer Rule	[7]Riparian Land uses adjacent to Feature (0-200')	Buffer Credit Viable	[3]Nutrient Offset Viable	[4,5]Mitigation Type Determination w/in riparian areas
D5	Ditch >3' depth	No	non-forested agricultural fields	No	Yes	**Restoration Site** per 15A NCAC 02B .0295 (n)

[1]Subjectivity calls for the features were determined by DWR in correspondence dated March 10, 2021 (DWR# 2021-0348) using the 1:24,000 scale quadrangle topographic map prepared by USGS and the most recent printed version of the soil survey map prepared by the NRCS .

[2]The area of preservation credit within a buffer mitigation site shall comprise of no more than 25 percent (25%) of the total area of buffer mitigation per 15A NCAC 0295 (o)(5) and 15A NCAC 0295 (o)(4). Site cannot be a Preservation Only site to comply with this rule.

[3]*NC Division of Water Resources - Methodology and Calculations for determining Nutrient Reductions associated with Riparian Buffer Establishment*

[4] Determinations made for this Site are determined based on the proposal provided in maps and figures submitted with the request.

[5] All features proposed for buffer mitigation or nutrient offset, must have a planted conservation easement established that includes the tops of channel banks when being measured perpendicular and landward from the banks, even if no credit is viable within that riparian area.

[6]The area of the mitigation site on ephemeral channels shall comprise no more than 25 percent (25%) of the total area of buffer mitigation per 15A NCAC 02B .0295 (o)(7).

[7]Landuses may also include the application of animal waste associated with an AFO permit

Determinations provided in the table above were made using a proposed easement boundary showing proposed mitigation areas shown in Figure 1. The map representing the proposal for the site are attached to this letter and are initialed by Ms. Merritt on May 18, 2021. Substantial changes to the proposed easement boundary as well as site constraints identified on page 1 of this letter could affect the Site's potential to generate buffer mitigation and nutrient offset credits.

This letter does not constitute an approval of this Site to generate buffer and nutrient offset credits. Pursuant to 15A NCAC 02B .0295, a mitigation proposal and a mitigation plan shall be submitted to DWR for written approval **prior** to conducting any mitigation activities in riparian areas and/or surface waters for buffer mitigation credit. Pursuant to 15A NCAC 02B .0703, a proposal regarding a proposed nutrient load-reducing measure for nutrient offset credit shall be submitted to DWR for approval prior to any mitigation activities in riparian areas and/or surface waters.

All vegetative plantings, performance criteria and other mitigation requirements for riparian restoration, enhancement and preservation must follow the requirements in 15A NCAC 02B .0295 to be eligible for buffer and/or nutrient offset mitigation credits. For any areas depicted as not being viable for nutrient offset credit above, one could propose a different measure, along with supporting calculations and sufficient detail to support estimates of load reduction, for review by the DWR to determine viability for nutrient offset in accordance with 15A NCAC 02B .0703.

This viability assessment will expire on May 18, 2023 or upon approval of a mitigation plan by the DWR, whichever comes first. This letter should be provided in any nutrient offset, buffer, stream or wetland mitigation plan for this Site.

Please contact Katie Merritt at (919) 707-3637 if you have any questions regarding this correspondence.

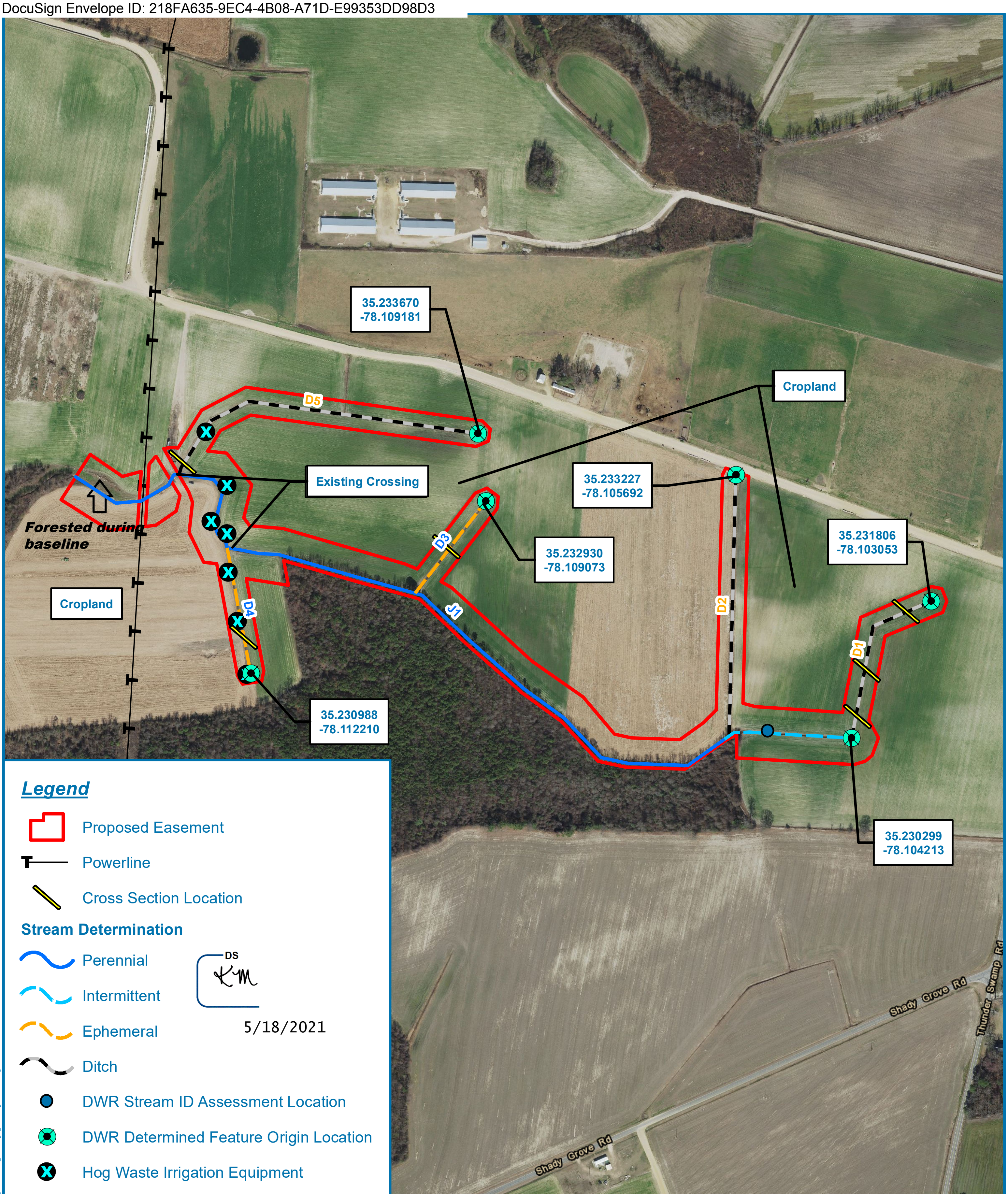
Sincerely,

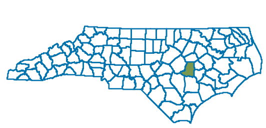
DocuSigned by:
Paul Wojoski
949D91BA53EF4E0...

Paul Wojoski, Supervisor
401 and Buffer Permitting Branch

PW/kym

Attachments: Figure 3b - Existing Conditions (Figure 1)
cc: File Copy (Katie Merritt)
DWR Animal Feeding Operations Branch – Ramesh Ravella ramesh.ravella@ncdenr.gov
DWR WaRO – David May





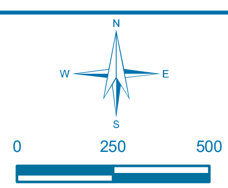


Figure 3b - Existing Conditions

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 3/18/2021

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

Appendix B

- Pickle Creek Project Site Protection Instrument

SITE PROTECTION INSTRUMENT

Site Protection Instrument(s) Summary Information

The land required for the construction, management, and stewardship of this mitigation project includes a portion of the parcel listed below in Table B1. EBX, LLC (an entity of RES) will obtain a conservation easement from the current landowner for the project area. The easement deed and survey plat will be submitted to DMS and State Property Office (SPO) for approval and will be held by the State of North Carolina. The easement deed will follow the NCDMS Full Delivery Conservation Easement Template dated May 5, 2017 and included in this appendix. Once recorded, the secured easement will allow EBX, LLC to proceed with the project development and protect the mitigation assets in perpetuity. Once finalized, a copy of the land protection instrument(s) will be included in **Appendix B**.

Table B1. Project Parcel and Landowner Information

Owner of Record	Tax Parcel ID #	County	Site Protection Instrument	Deed Book and Page Numbers	Acreage Protected
Douglas Allen Jernigan	2564319379	Wayne	Conservation Easement	2832, 255	18.06

Appendix C

- Pickle Creek Project Categorical Exclusion

Appendix A

Categorical Exclusion Form for Division of Mitigation Services Projects
Version 2

Note: Only Appendix A should to be submitted (along with any supporting documentation) as the environmental document.

Part 1: General Project Information	
Project Name:	Pickle Creek Buffer Mitigation Project
County Name:	Wayne County
DMS Number:	100184
Project Sponsor:	Environmental Banc & Exchange, LLC
Project Contact Name:	Jamey McEachran
Project Contact Address:	3600 Glenwood Avenue, Suite 100, Raleigh, NC 27612
Project Contact E-mail:	jmceachran@res.us
DMS Project Manager:	Lin Xu

Project Description

The Pickle Creek Buffer Mitigation Project encompasses 17.39 acres of a proposed conservation easement on one parcel in Wayne County, North Carolina. The Project will involve the restoration of 648,707 square feet of riparian buffer in the Neuse River watershed.

For Official Use Only

Reviewed By:

5/7/2021 — Lin Xu

Date — **DMS Project Manager**

Conditional Approved By:

Date — **For Division Administrator FHWA**

☐ **Check this box if there are outstanding issues**

Final Approval By:

5-10-21 — Donald W. Brew

Date — **For Division Administrator FHWA**

Part 2: All Projects Regulation/Question	Response
Coastal Zone Management Act (CZMA)	
1. Is the project located in a CAMA county?	☐ Yes ☒ No
2. Does the project involve ground-disturbing activities within a CAMA Area of Environmental Concern (AEC)?	☐ Yes ☐ No ☒ N/A
3. Has a CAMA permit been secured?	☐ Yes ☐ No ☒ N/A
4. Has NCDCM agreed that the project is consistent with the NC Coastal Management Program?	☐ Yes ☐ No ☒ N/A
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)	
1. Is this a "full-delivery" project?	☒ Yes ☐ No
2. Has the zoning/land use of the subject property and adjacent properties ever been designated as commercial or industrial?	☐ Yes ☒ No ☐ N/A
3. As a result of a limited Phase I Site Assessment, are there known or potential hazardous waste sites within or adjacent to the project area?	☐ Yes ☒ No ☐ N/A
4. As a result of a Phase I Site Assessment, are there known or potential hazardous waste sites within or adjacent to the project area?	☐ Yes ☐ No ☒ N/A
5. As a result of a Phase II Site Assessment, are there known or potential hazardous waste sites within the project area?	☐ Yes ☐ No ☒ N/A
6. Is there an approved hazardous mitigation plan?	☐ Yes ☐ No ☒ N/A
National Historic Preservation Act (Section 106)	
1. Are there properties listed on, or eligible for listing on, the National Register of Historic Places in the project area?	☐ Yes ☒ No
2. Does the project affect such properties and does the SHPO/THPO concur?	☐ Yes ☐ No ☒ N/A
3. If the effects are adverse, have they been resolved?	☐ Yes ☐ No ☒ N/A
Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act)	
1. Is this a "full-delivery" project?	☒ Yes ☐ No
2. Does the project require the acquisition of real estate?	☒ Yes ☐ No ☐ N/A
3. Was the property acquisition completed prior to the intent to use federal funds?	☐ Yes ☒ No ☐ N/A
4. Has the owner of the property been informed: * prior to making an offer that the agency does not have condemnation authority; and * what the fair market value is believed to be?	☒ Yes ☐ No ☐ N/A

Part 3: Ground-Disturbing Activities Regulation/Question	Response
American Indian Religious Freedom Act (AIRFA)	
1. Is the project located in a county claimed as "territory" by the Eastern Band of Cherokee Indians?	☐ Yes ■ No
2. Is the site of religious importance to American Indians?	☐ Yes ☐ No ■ N/A
3. Is the project listed on, or eligible for listing on, the National Register of Historic Places?	☐ Yes ☐ No ■ N/A
4. Have the effects of the project on this site been considered?	☐ Yes ☐ No ■ N/A
Antiquities Act (AA)	
1. Is the project located on Federal lands?	☐ Yes ■ No
2. Will there be loss or destruction of historic or prehistoric ruins, monuments or objects of antiquity?	☐ Yes ☐ No ■ N/A
3. Will a permit from the appropriate Federal agency be required?	☐ Yes ☐ No ■ N/A
4. Has a permit been obtained?	☐ Yes ☐ No ■ N/A
Archaeological Resources Protection Act (ARPA)	
1. Is the project located on federal or Indian lands (reservation)?	☐ Yes ■ No
2. Will there be a loss or destruction of archaeological resources?	☐ Yes ☐ No ■ N/A
3. Will a permit from the appropriate Federal agency be required?	☐ Yes ☐ No ■ N/A
4. Has a permit been obtained?	☐ Yes ☐ No ■ N/A
Endangered Species Act (ESA)	
1. Are federal Threatened and Endangered species and/or Designated Critical Habitat listed for the county?	■ Yes ☐ No
2. Is Designated Critical Habitat or suitable habitat present for listed species?	☐ Yes ■ No ☐ N/A
3. Are T&E species present or is the project being conducted in Designated Critical Habitat?	☐ Yes ☐ No ■ N/A
4. Is the project "likely to adversely affect" the specie and/or "likely to adversely modify" Designated Critical Habitat?	☐ Yes ☐ No ■ N/A
5. Does the USFWS/NOAA-Fisheries concur in the effects determination?	☐ Yes ☐ No ■ N/A
6. Has the USFWS/NOAA-Fisheries rendered a "jeopardy" determination?	☐ Yes ☐ No ■ N/A

Executive Order 13007 (Indian Sacred Sites)	
1. Is the project located on Federal lands that are within a county claimed as "territory" by the EBCI?	☐ Yes ☒ No
2. Has the EBCI indicated that Indian sacred sites may be impacted by the proposed project?	☐ Yes ☐ No ☒ N/A
3. Have accommodations been made for access to and ceremonial use of Indian sacred sites?	☐ Yes ☐ No ☒ N/A
Farmland Protection Policy Act (FPPA)	
1. Will real estate be acquired?	☒ Yes ☐ No
2. Has NRCS determined that the project contains prime, unique, statewide or locally important farmland?	☒ Yes ☐ No ☐ N/A
3. Has the completed Form AD-1006 been submitted to NRCS?	☒ Yes ☐ No ☐ N/A
Fish and Wildlife Coordination Act (FWCA)	
1. Will the project impound, divert, channel deepen, or otherwise control/modify any water body?	☐ Yes ☒ No
2. Have the USFWS and the NCWRC been consulted?	☒ Yes ☐ No ☐ N/A
Land and Water Conservation Fund Act (Section 6(f))	
1. Will the project require the conversion of such property to a use other than public, outdoor recreation?	☐ Yes ☒ No
2. Has the NPS approved of the conversion?	☐ Yes ☐ No ☒ N/A
Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat)	
1. Is the project located in an estuarine system?	☐ Yes ☒ No
2. Is suitable habitat present for EFH-protected species?	☐ Yes ☐ No ☒ N/A
3. Is sufficient design information available to make a determination of the effect of the project on EFH?	☐ Yes ☐ No ☒ N/A
4. Will the project adversely affect EFH?	☐ Yes ☐ No ☒ N/A
5. Has consultation with NOAA-Fisheries occurred?	☐ Yes ☐ No ☒ N/A
Migratory Bird Treaty Act (MBTA)	
1. Does the USFWS have any recommendations with the project relative to the MBTA?	☐ Yes ☒ No
2. Have the USFWS recommendations been incorporated?	☐ Yes ☐ No ☒ N/A
Wilderness Act	
1. Is the project in a Wilderness area?	☐ Yes ☒ No
2. Has a special use permit and/or easement been obtained from the maintaining federal agency?	☐ Yes ☐ No ☒ N/A

EXHIBITS

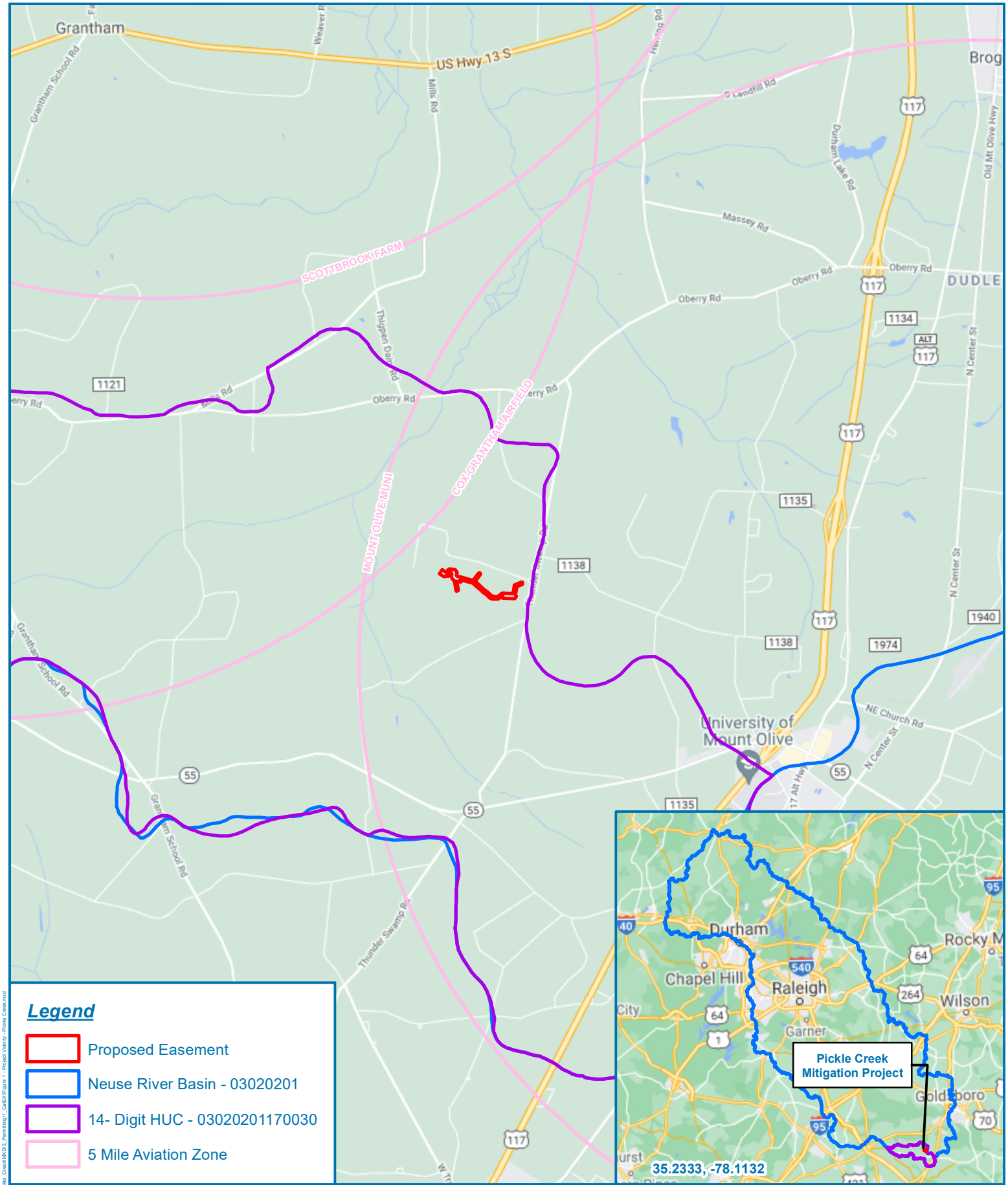


Figure 1 - Project Vicinity

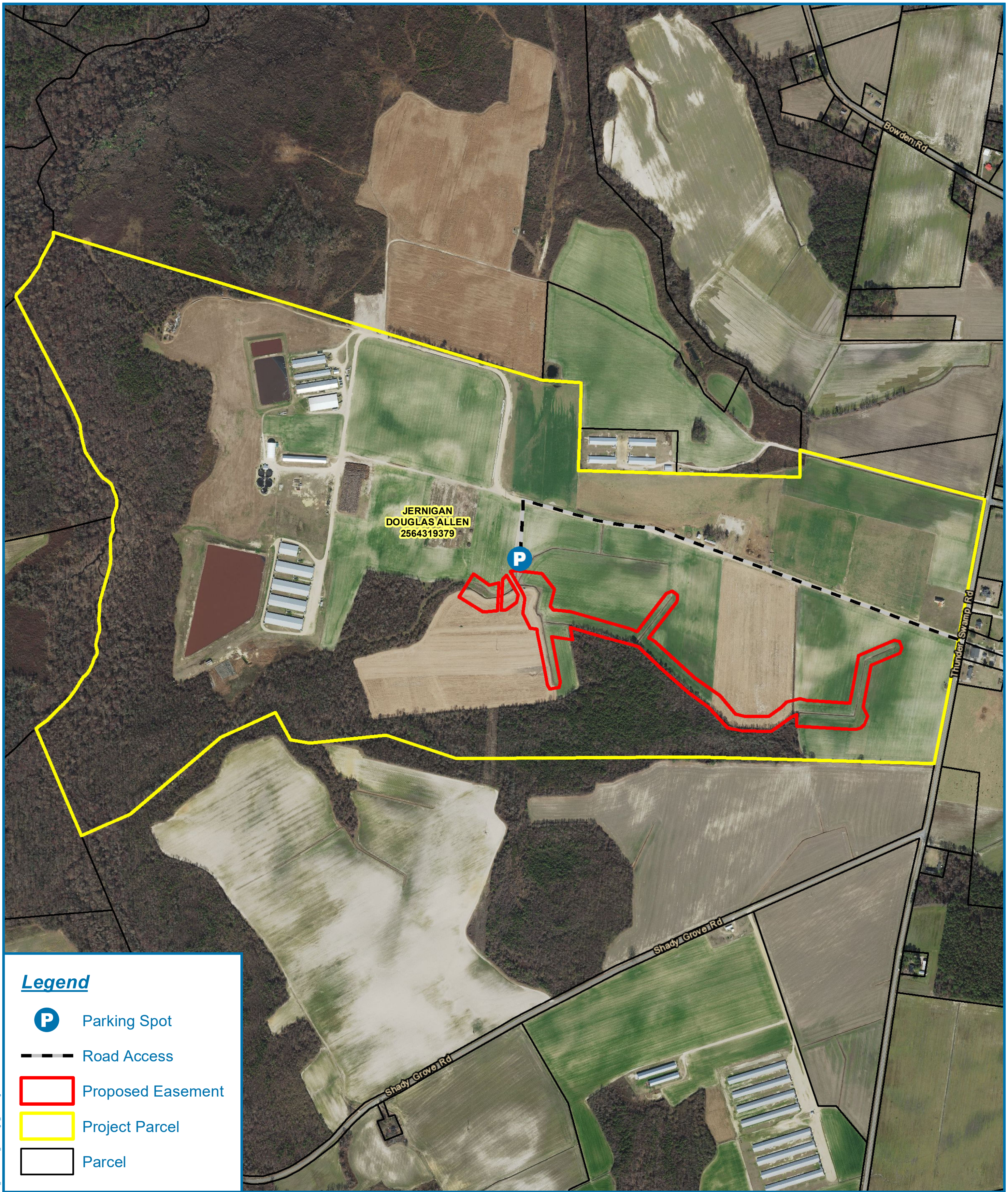
Pickle Creek Mitigation Project

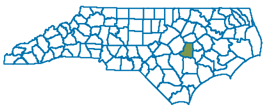
Wayne County, North Carolina

Date:	4/23/2021
Drawn by:	GDS
Checked by:	JRM
	1 inch = 1 mile

res

Document Path: R:\Resilience\Projects\10870_Pickle_Creek\MXD\3_Permitting\1_CadEX\Figure 1 - Project Vicinity - Pickle Creek.mxd





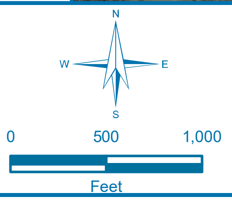


Figure 2 - Parcel Access

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/23/2021

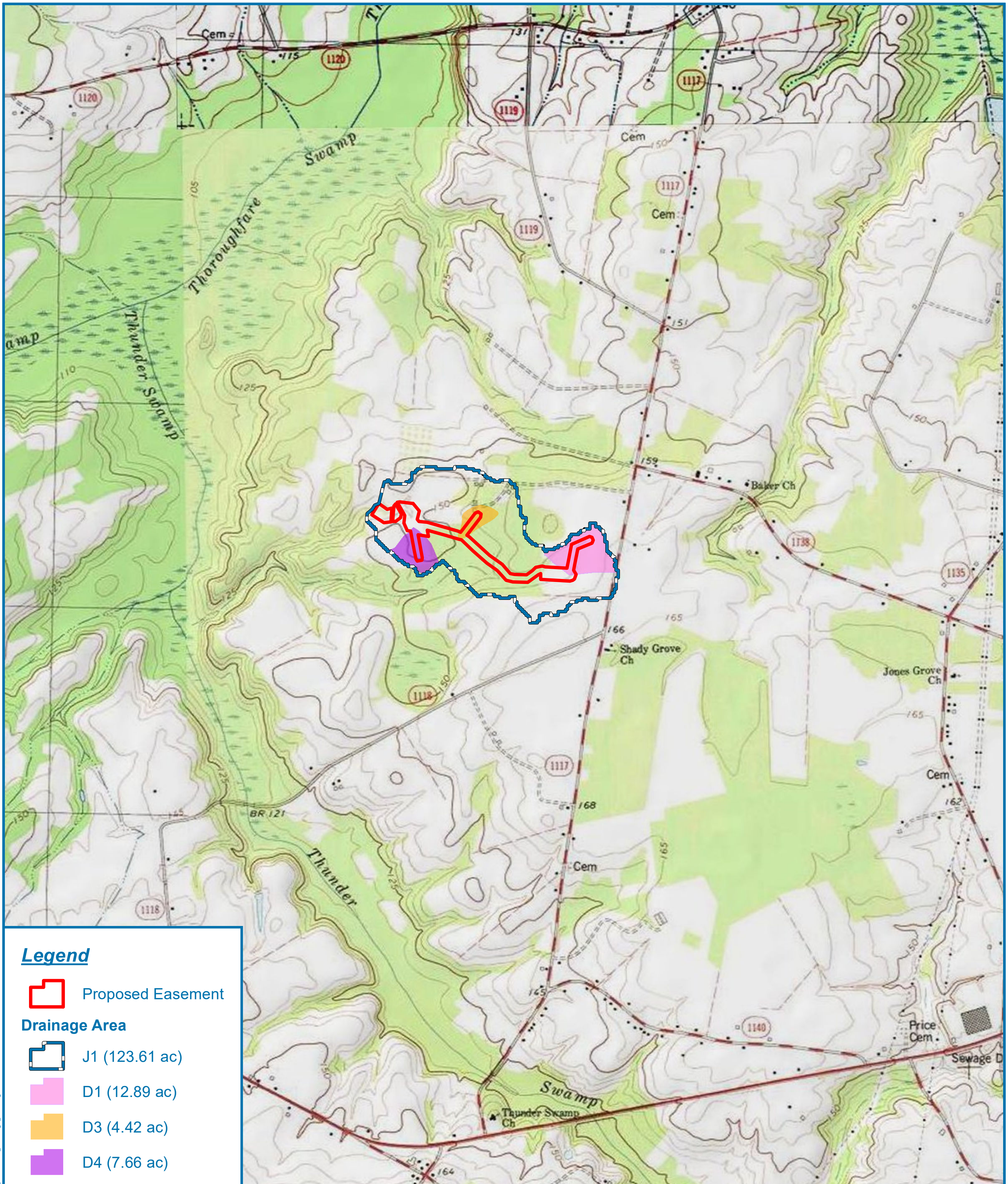
Drawn by: GDS

Checked by: MDE

1 inch = 1,000 feet

res

Document Path: R:\Resgis\entgis\Projects\102870_Pickle_Creek\MXD\3_Permitting\1_CatEX\Figure 2 - Parcel Access - Pickle Creek.mxd



Legend

Proposed Easement

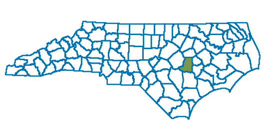
Drainage Area

J1 (123.61 ac)

D1 (12.89 ac)

D3 (4.42 ac)

D4 (7.66 ac)



N W E S

0 1,000 2,000

Feet

Figure 3 - USGS Quadrangle

Mount Olive (1977)

Pickle Creek Mitigation Project

Wayne County, North Carolina

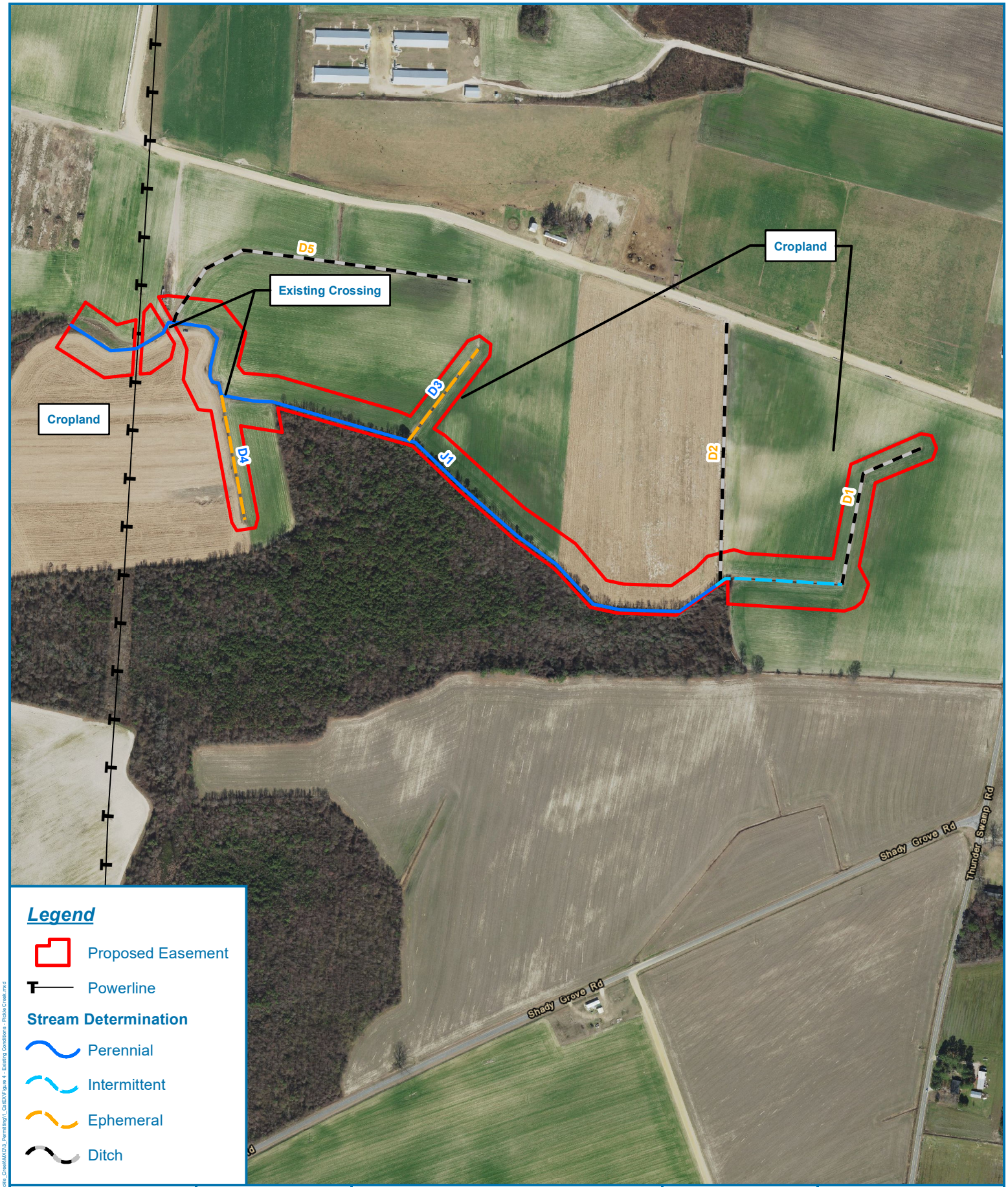
Date: 4/23/2021

Drawn by: GDS

Checked by: MDE

1 inch = 2,000 feet

Document Path: R:\Resgis\entgis\Projects\102870_Pickle_Creek\MXD\3_Permitting\1_CatEX\Figure 3 - USGS - Pickle Creek.mxd



Legend

- Proposed Easement
- Powerline

Stream Determination

- Perennial
- Intermittent
- Ephemeral
- Ditch

N
W E
S

0 250 500

Feet

Figure 4 - Existing Conditions

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/23/2021

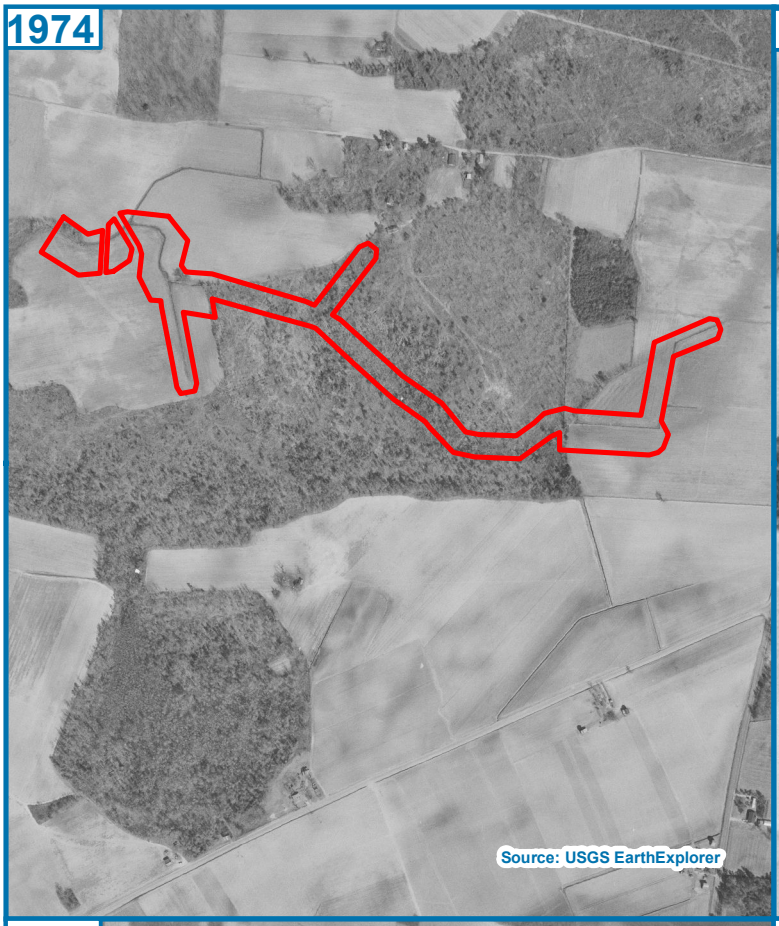
Drawn by: GDS

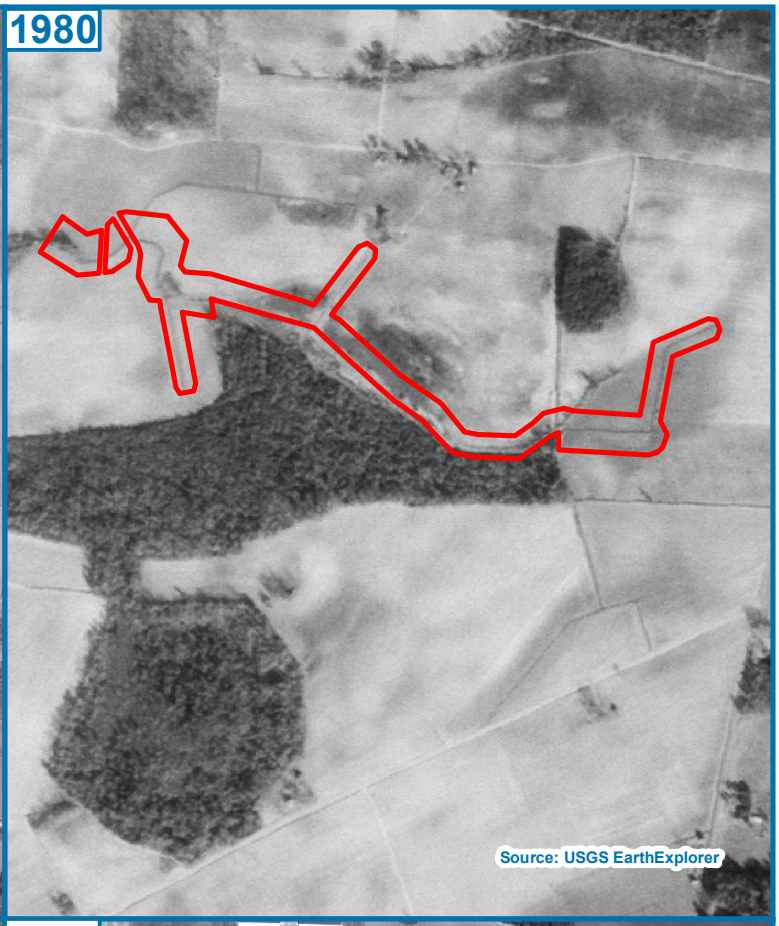
Checked by: MDE

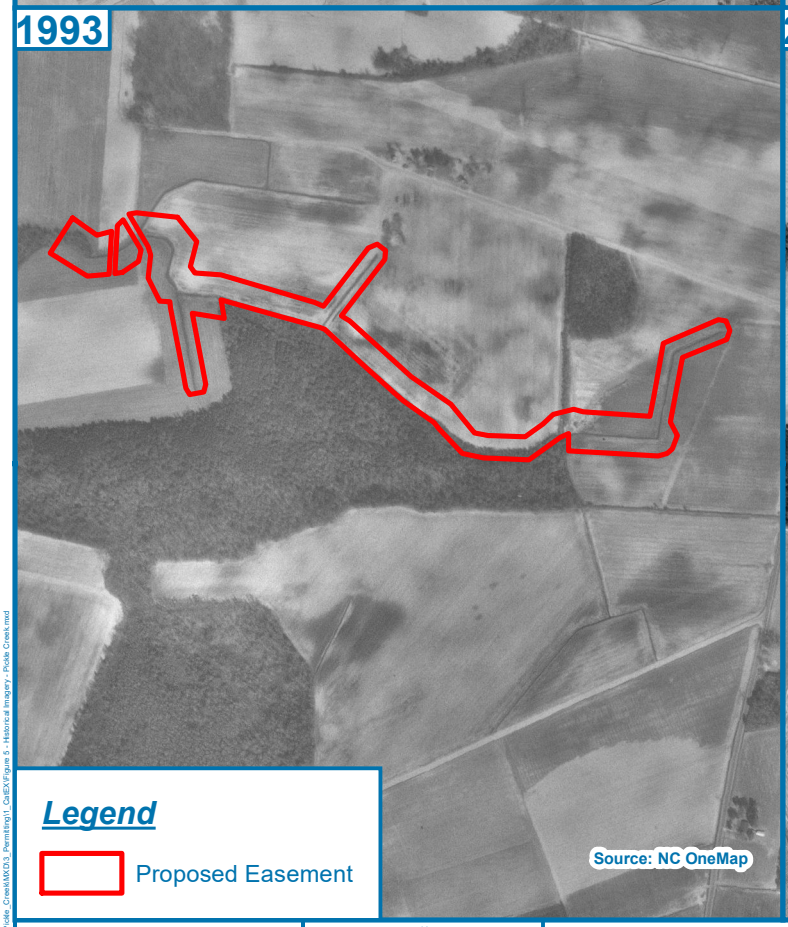
1 inch = 500 feet

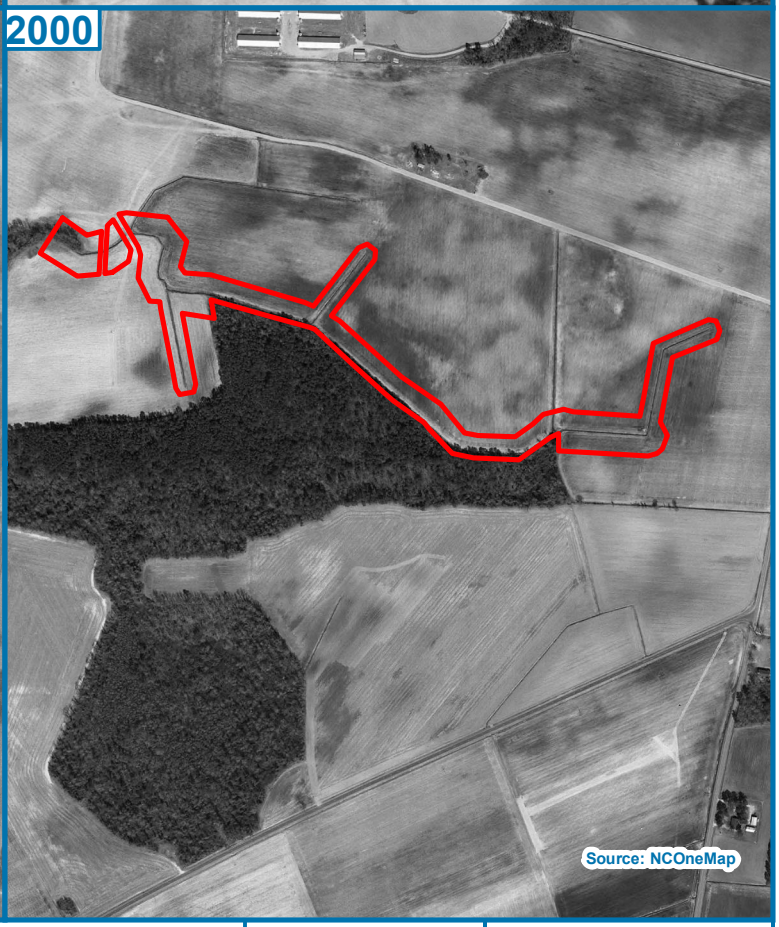
res

Document Path: R:\Resgis\projects\102870_Pickle_Creek\MXD\3_Permitting\1_CatEX\Figure 4 - Existing Conditions - Pickle Creek.mxd









Legend

Proposed Easement

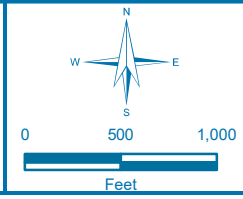


Figure 5 - Historical Imagery

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/23/2021

Drawn by: GDS

Checked by: MDE

1 inch = 1,000 feet

res

Document Path: R:\Resgis\projects\102870_Pickle_Creek\MXD\3_Permitting\1_CatEX\Figure 5 - Historical Imagery - Pickle Creek.mxd

Figure 6 - Project Constraints

Pickle Creek Mitigation Project

Wayne County, North Carolina

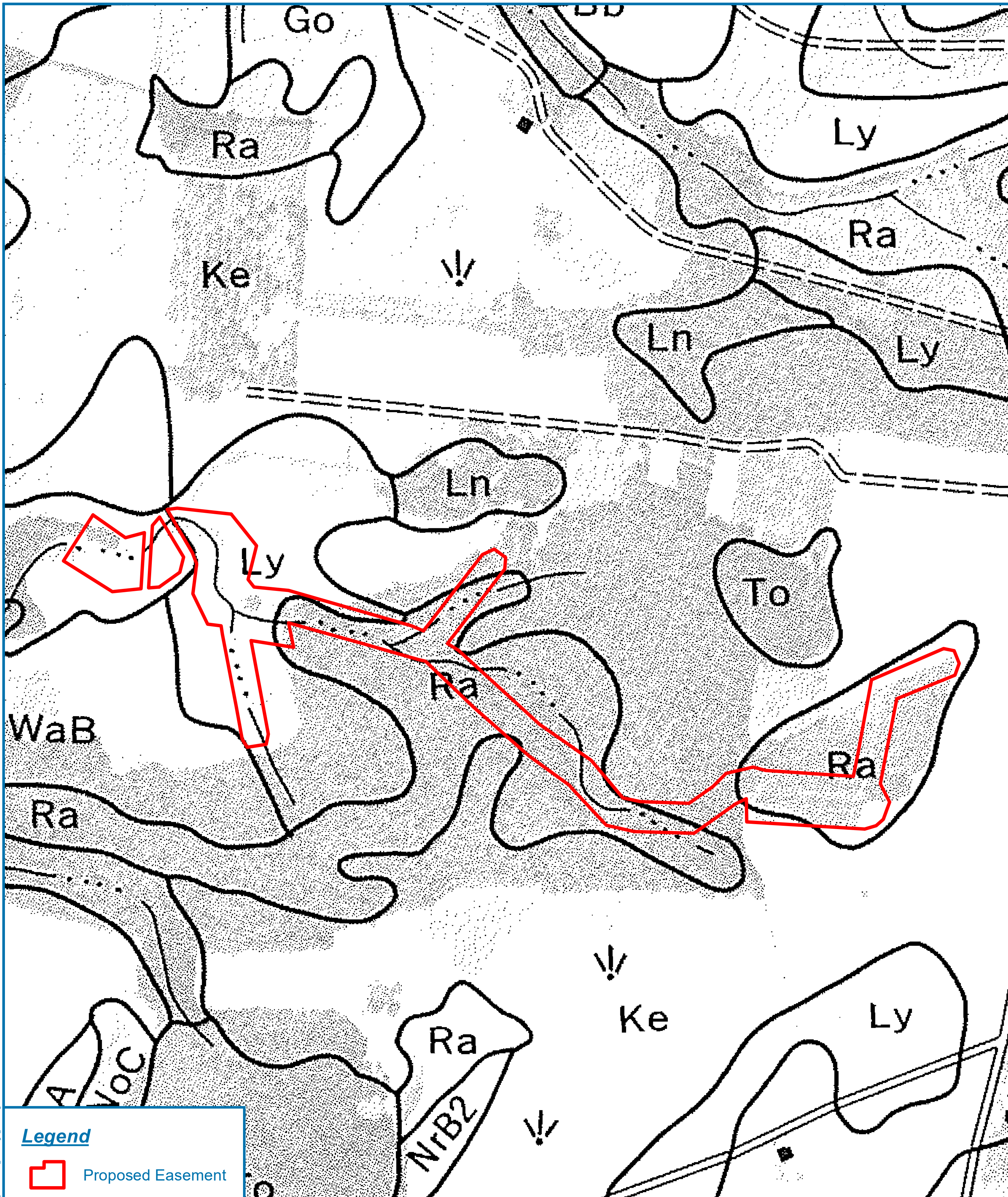
Date: 4/23/2021

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res



N
W E
S
0 250 500
Feet

Figure 7 - NRCS Soil Survey (1974)

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/23/2021

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

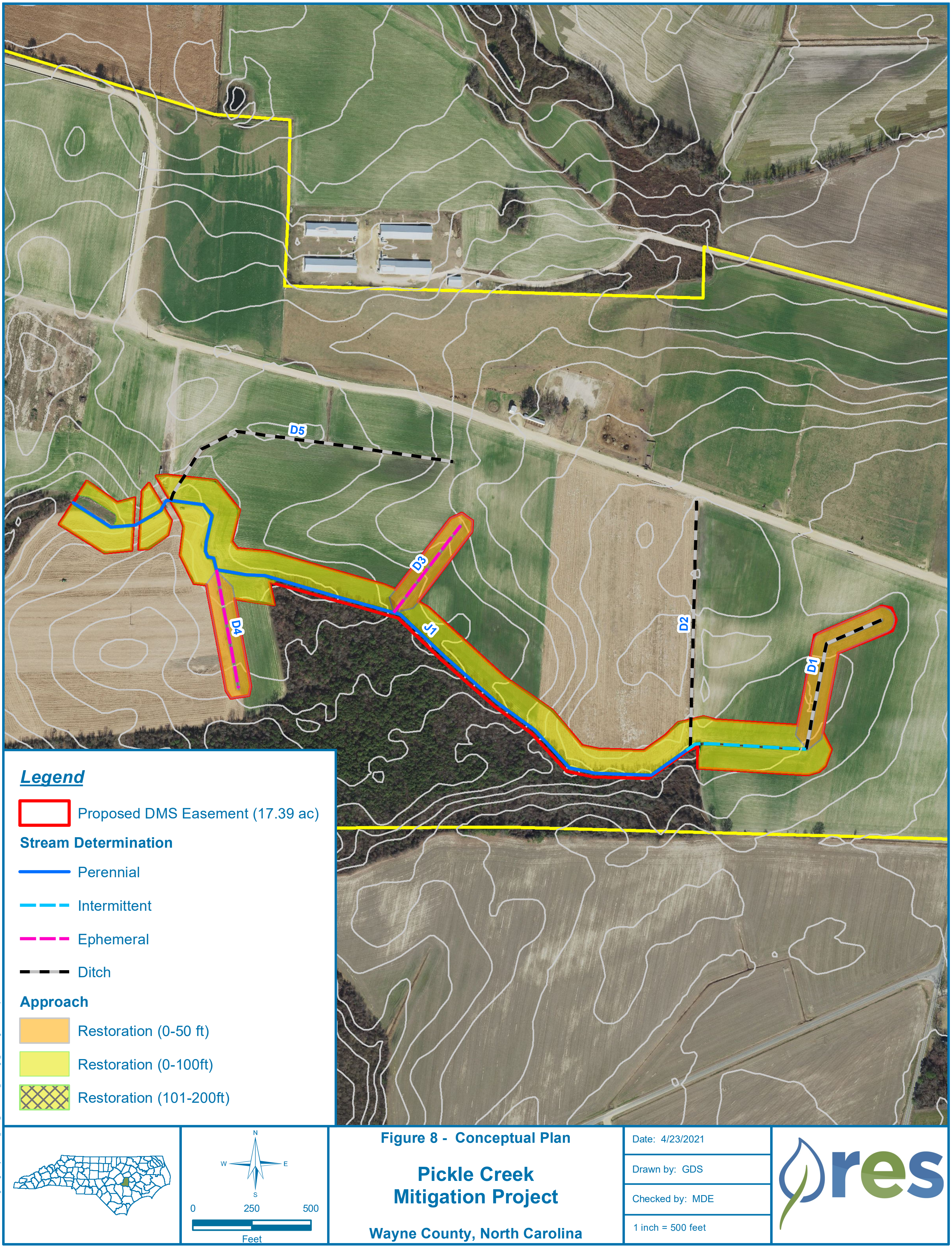


Figure 8 - Conceptual Plan

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date: 4/23/2021

Drawn by: GDS

Checked by: MDE

1 inch = 500 feet

res

EDR REPORT

Categorical Exclusion CERCLA Summary
Pickle Creek Mitigation Project

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, created a tax on the chemical and petroleum industries to clean up abandoned or uncontrolled hazardous waste sites.

As a part of the environmental screening and CERCLA compliance, an EDR Radius Map Report with Geocheck was ordered for the Pickle Creek Mitigation Project through Environmental Data Resources, Inc (EDR) on February 16th, 2021. According to the EDR report, there are no reported environmental contamination incidents or hazardous waste sites within one mile of the project property. The summary of the EDR report is enclosed.

There are two environmental record mapped sites found within an 1/8 mile of the project property. The findings were found within the animal operation permit database and are associated with the hog farm operations nearby, and with the same land owner as the project parcel. The permits are both with Doug Jernigan, one specific to Swine – Feeder to Finish and one specific to Swine – Wean to Feeder and also include the two lagoons within that operation. The lagoons are at higher elevation than the project site but are across the road which forms a ridge and therefore if an incident occurred, waste would flow in the opposite direction of the project. The lagoons are not adjacent or within the proposed project conservation easement. Furthermore, as mentioned above, the EDR report did not identify any incidents associated with any of the surrounding areas.

In addition to the EDR search, during routine site visits conducted by RES staff at the Pickle Creek Project, visual inspections were conducted to assess the potential for the occurrence of recognized environmental conditions on the property that might not have been revealed in the EDR report. The inspection was conducted to locate and identify any obvious use, storage, or generation of hazardous materials. No hazardous storage containers or substances were observed during the visual inspection.

Pickle Creek
793 State Road 1117
Mount Olive, NC 28365

Inquiry Number: 6368113.2s
February 16, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

793 STATE ROAD 1117
MOUNT OLIVE, NC 28365

COORDINATES

Latitude (North):	35.2338300 - 35° 14' 1.78''
Longitude (West):	78.1147830 - 78° 6' 53.21''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	762573.2
UTM Y (Meters):	3902592.0
Elevation:	145 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5947432 MOUNT OLIVE, NC
Version Date:	2013
Northeast Map:	5948626 SOUTHWEST GOLDSBORO, NC
Version Date:	2013
Southwest Map:	5947406 DOBBERSVILLE, NC
Version Date:	2013
Northwest Map:	5947410 GRANTHAM, NC
Version Date:	2013

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20141018
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
793 STATE ROAD 1117
MOUNT OLIVE, NC 28365

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	DOUG JERNIGAN FARMS	781 THUNDER SWAMP RD	AOP	Higher	1 ft.
A2	DOUG JERNIGAN FARMS	781 THUNDER SWAMP RD	AOP	Higher	1 ft.

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

NC HSDS..... Hazardous Substance Disposal Site

State- and tribal - equivalent CERCLIS

SHWS..... Inactive Hazardous Sites Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... List of Solid Waste Facilities
DEBRIS..... Solid Waste Active Disaster Debris Sites Listing
OLI..... Old Landfill Inventory
LCID..... Land-Clearing and Inert Debris (LCID) Landfill Notifications

State and tribal leaking storage tank lists

LAST..... Leaking Aboveground Storage Tanks
LUST..... Regional UST Database
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
LUST TRUST..... State Trust Fund Database

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Petroleum Underground Storage Tank Database
AST..... AST Database
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

INST CONTROL..... No Further Action Sites With Land Use Restrictions Monitoring

State and tribal voluntary cleanup sites

VCP..... Responsible Party Voluntary Action Sites
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY	Recycling Center Listing
HIST LF	Solid Waste Facility Listing
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
US CDL	National Clandestine Laboratory Register

Local Land Records

LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS	Spills Incident Listing
IMD	Incident Management Database
SPILLS 90	SPILLS 90 data from FirstSearch
SPILLS 80	SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees

INDIAN RESERV---------- Indian Reservations
FUSRAP---------- Formerly Utilized Sites Remedial Action Program
UMTRA---------- Uranium Mill Tailings Sites
LEAD SMELTERS---------- Lead Smelter Sites
US AIRS---------- Aerometric Information Retrieval System Facility Subsystem
US MINES---------- Mines Master Index File
ABANDONED MINES---------- Abandoned Mines
FINDS---------- Facility Index System/Facility Registry System
DOCKET HWC---------- Hazardous Waste Compliance Docket Listing
UXO---------- Unexploded Ordnance Sites
ECHO---------- Enforcement & Compliance History Information
FUELS PROGRAM---------- EPA Fuels Program Registered Listing
AIRS---------- Air Quality Permit Listing
ASBESTOS---------- ASBESTOS
COAL ASH---------- Coal Ash Disposal Sites
DRYCLEANERS---------- Drycleaning Sites
Financial Assurance---------- Financial Assurance Information Listing
NPDES---------- NPDES Facility Location Listing
UIC---------- Underground Injection Wells Listing
MINES MRDS---------- Mineral Resources Data System
CCB---------- Coal Ash Structural Fills (CCB) Listing
SEPT HAULERS---------- Permitted Septage Haulers Listing
PCSRP---------- Petroleum-Contaminated Soil Remediation Permits

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS---------- Recovered Government Archive State Hazardous Waste Facilities List
RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

This listing includes animal operations that are required to be permitted by the state.

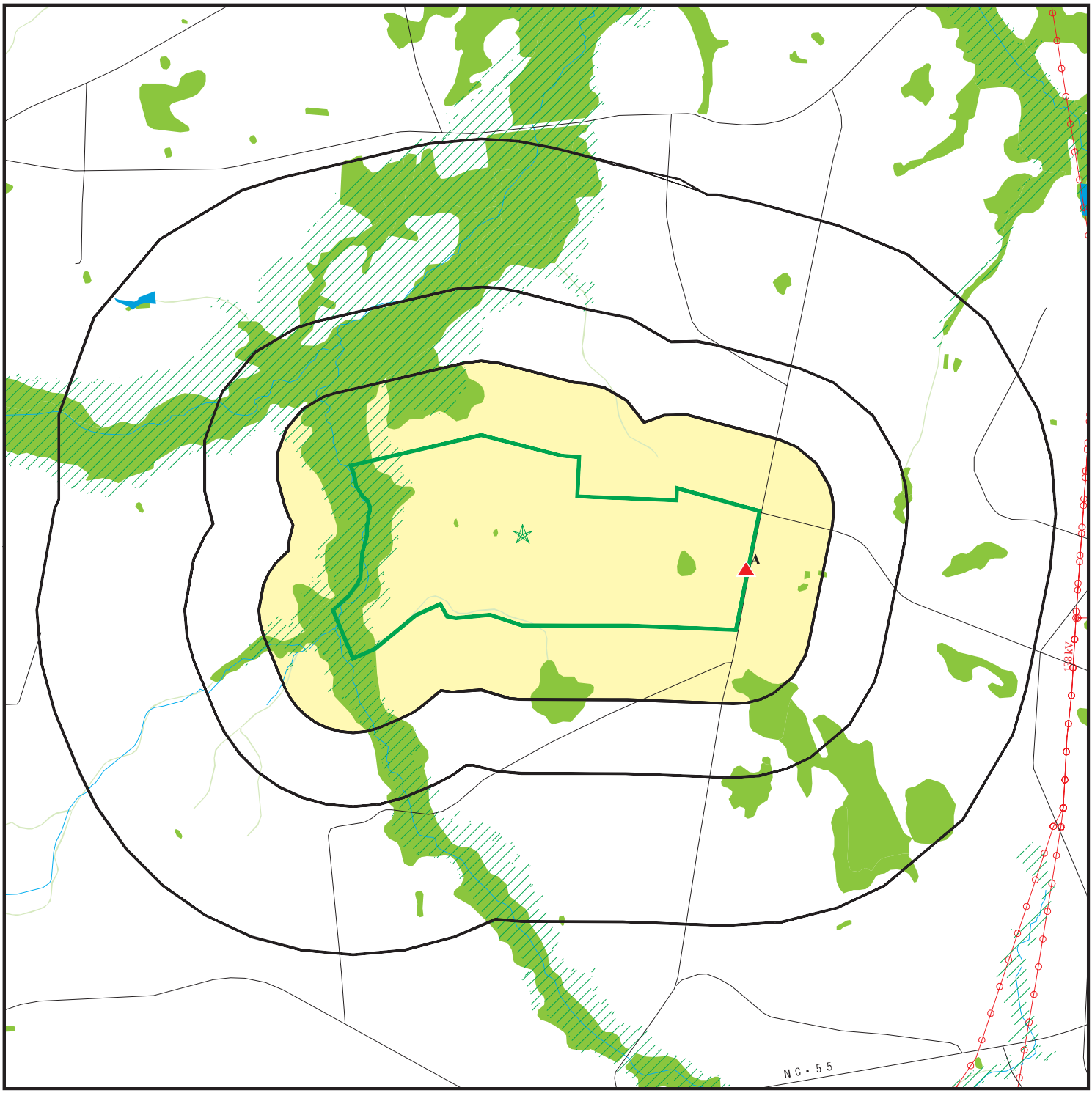
A review of the AOP list, as provided by EDR, and dated 04/01/2020 has revealed that there are 2 AOP sites within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DOUG JERNIGAN FARMS	781 THUNDER SWAMP RD	0 - 1/8 (0.000 mi.)	A1	8
DOUG JERNIGAN FARMS	781 THUNDER SWAMP RD	0 - 1/8 (0.000 mi.)	A2	8

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6368113.2S



Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
National Priority List Sites
Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA
Power transmission lines
Special Flood Hazard Area (1%)
0.2% Annual Chance Flood Hazard
National Wetland Inventory
State Wetlands

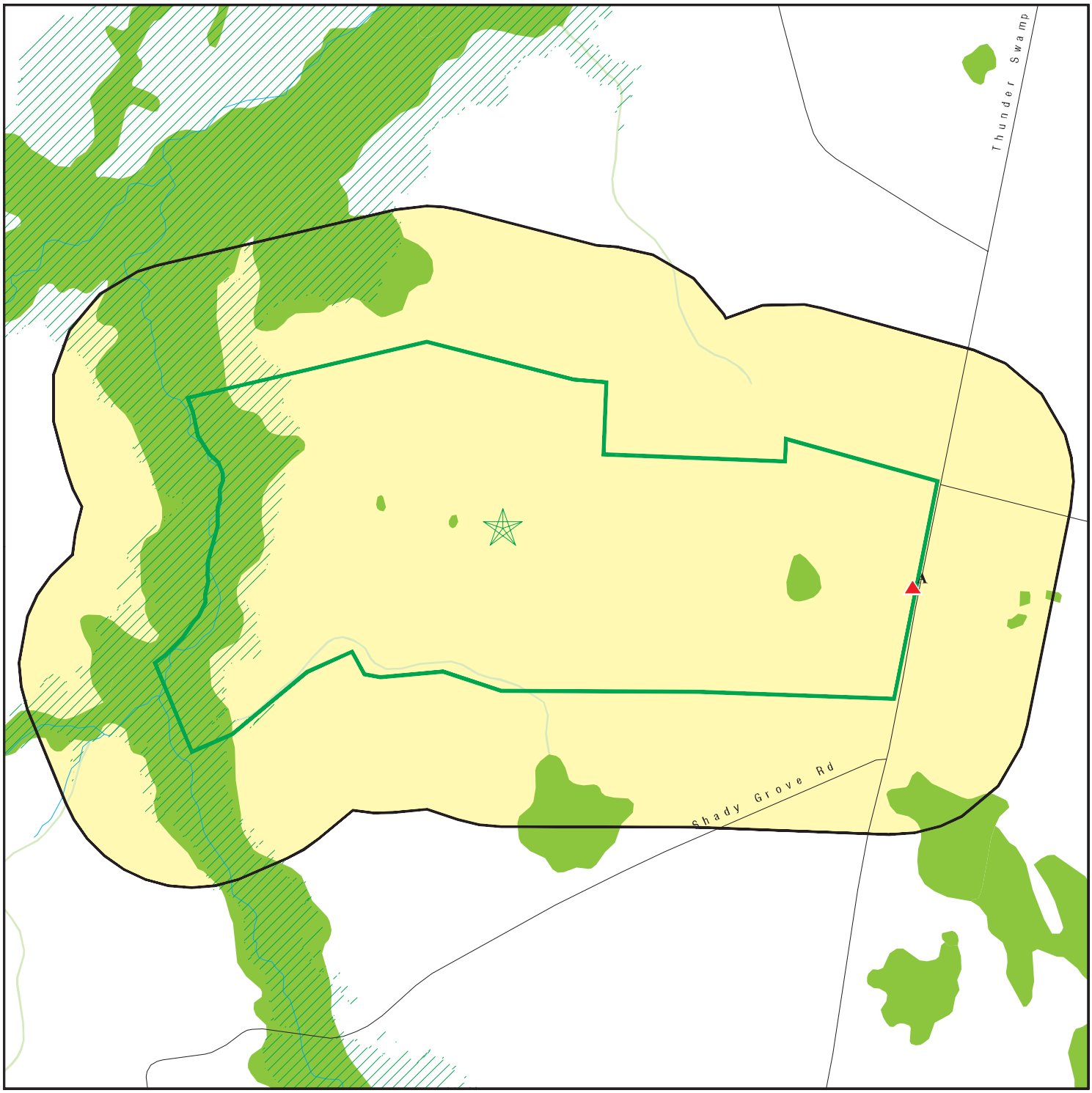
Hazardous Substance Disposal Sites

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Pickle Creek	CLIENT:	Resource Environmental Solutions, LLC
ADDRESS:	793 State Road 1117 Mount Olive NC 28365	CONTACT:	Grayson Sanner
		INQUIRY #:	6368113.2s
LAT/LONG:	35.23383 / 78.114783	DATE:	February 16, 2021 9:05 am

DETAIL MAP - 6368113.2S



Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
Sensitive Receptors
National Priority List Sites
Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA
Special Flood Hazard Area (1%)
0.2% Annual Chance Flood Hazard
National Wetland Inventory
State Wetlands

Hazardous Substance Disposal Sites

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Pickle Creek	CLIENT:	Resource Environmental Solutions, LLC
ADDRESS:	793 State Road 1117 Mount Olive NC 28365	CONTACT:	Grayson Sanner
		INQUIRY #:	6368113.2s
LAT/LONG:	35.23383 / 78.114783	DATE:	February 16, 2021 9:06 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
NC HSDS	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
DEBRIS	0.500		0	0	0	NR	NR	0
OLI	0.500		0	0	0	NR	NR	0
LCID	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
State and tribal leaking storage tank lists								
LAST	0.500		0	0	0	NR	NR	0
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
LUST TRUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001		0	NR	NR	NR	NR	0
IMD	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SPILLS 90	0.001		0	NR	NR	NR	NR	0
SPILLS 80	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
ASBESTOS	0.001		0	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
AOP	0.001		2	NR	NR	NR	NR	2
MINES MRDS	0.001		0	NR	NR	NR	NR	0
CCB	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SEPT HAULERS	0.001		0	NR	NR	NR	NR	0
PCSRP	0.500		0	0	0	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	2	0	0	0	0	2

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **DOUG JERNIGAN FARMS** **AOP** **S125964848**
781 THUNDER SWAMP RD **N/A**
< 1/8 **MOUNT OLIVE, NC 28365**
1 ft.

Site 1 of 2 in cluster A

Relative: AOP:
Higher

Permit Number:	AWI960127
Name:	DOUG JERNIGAN FARMS
Address:	781 THUNDER SWAMP RD
Address 2:	Not reported
City,State,Zip:	MOUNT OLIVE, NC 28365
Regional Office:	Washington
Combined Owner:	Douglas Jernigan
Regulated Operation:	Swine
Permit Type:	Animal Individual State
Regulated Activity:	Swine - Feeder to Finish
Allowable Count:	20906
Number Of Lagoons:	2
Issued Date:	02/06/2015
Effective Date:	02/06/2015
Expiration Date:	01/31/2020
Latitude:	35.230148
Longitude:	-78.098348

Actual:
163 ft.

Permit Number:	AWI960127
Name:	DOUG JERNIGAN FARMS
Address:	781 THUNDER SWAMP RD
Address 2:	Not reported
City,State,Zip:	MOUNT OLIVE, NC 28365
Regional Office:	Washington
Combined Owner:	Douglas Jernigan
Regulated Operation:	Swine
Permit Type:	Animal Individual State
Regulated Activity:	Swine - Wean to Feeder
Allowable Count:	4000
Number Of Lagoons:	2
Issued Date:	02/06/2015
Effective Date:	02/06/2015
Expiration Date:	01/31/2020
Latitude:	35.230148
Longitude:	-78.098348

A2 **DOUG JERNIGAN FARMS** **AOP** **S125965055**
781 THUNDER SWAMP RD **N/A**
< 1/8 **MOUNT OLIVE, NC 28365**
1 ft.

Site 2 of 2 in cluster A

Relative: AOP:
Higher

Permit Number:	AWS960127
Name:	DOUG JERNIGAN FARMS
Address:	781 THUNDER SWAMP RD
Address 2:	Not reported
City,State,Zip:	MOUNT OLIVE, NC 28365
Regional Office:	Washington
Combined Owner:	Douglas Jernigan
Regulated Operation:	Swine
Permit Type:	Swine State COC
Regulated Activity:	Swine - Feeder to Finish

Actual:
163 ft.

DOUG JERNIGAN FARMS (Continued) **S125965055**

Allowable Count:	20906
Number Of Lagoons:	2
Issued Date:	10/01/2019
Effective Date:	10/01/2019
Expiration Date:	09/30/2024
Latitude:	35.230148
Longitude:	-78.098348

Permit Number:	AWS960127
Name:	DOUG JERNIGAN FARMS
Address:	781 THUNDER SWAMP RD
Address 2:	Not reported
City,State,Zip:	MOUNT OLIVE, NC 28365
Regional Office:	Washington
Combined Owner:	Douglas Jernigan
Regulated Operation:	Swine
Permit Type:	Swine State COC
Regulated Activity:	Swine - Wean to Feeder
Allowable Count:	4000
Number Of Lagoons:	2
Issued Date:	10/01/2019
Effective Date:	10/01/2019
Expiration Date:	09/30/2024
Latitude:	35.230148
Longitude:	-78.098348

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/11/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/15/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 7

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

HSDS: Hazardous Substance Disposal Site

Locations of uncontrolled and unregulated hazardous waste sites. The file includes sites on the National Priority List as well as those on the state priority list.

Date of Government Version: 08/09/2011
Date Data Arrived at EDR: 11/08/2011
Date Made Active in Reports: 12/05/2011
Number of Days to Update: 27

Source: North Carolina Center for Geographic Information and Analysis
Telephone: 919-754-6580
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

State- and tribal - equivalent CERCLIS

SHWS: Inactive Hazardous Sites Inventory

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 09/09/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 85

Source: Department of Environment, Health and Natural Resources
Telephone: 919-508-8400
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: List of Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/10/2020
Date Data Arrived at EDR: 09/23/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 82

Source: Department of Environment and Natural Resources
Telephone: 919-733-0692
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

OLI: Old Landfill Inventory

Old landfill inventory location information. (Does not include no further action sites and other agency lead sites).

Date of Government Version: 09/11/2020
Date Data Arrived at EDR: 10/09/2020
Date Made Active in Reports: 12/30/2020
Number of Days to Update: 82

Source: Department of Environment & Natural Resources
Telephone: 919-733-4996
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

DEBRIS: Solid Waste Active Disaster Debris Sites Listing
NCDEQ Division of Waste Management Solid Waste Section Temporary Disaster Debris Staging Site (TDDSS) Locations which are available to be activated in a disaster or emergency.. Disaster Debris Sites can only be used for temporary disaster debris storage if the site's responsible party activates the site for use by notifying the NCDEQ DWM Solid Waste Section staff during an emergency

Date of Government Version: 09/02/2020
Date Data Arrived at EDR: 09/16/2020
Date Made Active in Reports: 12/08/2020
Number of Days to Update: 83
Source: Department of Environmental Quality
Telephone: 919-707-8247
Last EDR Contact: 12/14/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

LCID: Land-Clearing and Inert Debris (LCID) Landfill Notifications
A list all of the Land-Clearing and Inert Debris (LCID) Landfill Notification facilities (under 2 acres in size) in North Carolina.

Date of Government Version: 04/30/2020
Date Data Arrived at EDR: 07/09/2020
Date Made Active in Reports: 09/23/2020
Number of Days to Update: 76
Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LAST: Leaking Aboveground Storage Tanks
A listing of leaking aboveground storage tank site locations.

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/03/2020
Date Made Active in Reports: 01/22/2021
Number of Days to Update: 80
Source: Department of Environment & Natural Resources
Telephone: 877-623-6748
Last EDR Contact: 02/03/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

LUST: Regional UST Database
This database contains information obtained from the Regional Offices. It provides a more detailed explanation of current and historic activity for individual sites, as well as what was previously found in the Incident Management Database. Sites in this database with Incident Numbers are considered LUSTs.

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/03/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 15
Source: Department of Environment and Natural Resources
Telephone: 919-707-8200
Last EDR Contact: 02/03/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

LUST TRUST: State Trust Fund Database
This database contains information about claims against the State Trust Funds for reimbursements for expenses incurred while remediating Leaking USTs.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/31/2020
Number of Days to Update: 85
Source: Department of Environment and Natural Resources
Telephone: 919-733-1315
Last EDR Contact: 01/06/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 07/21/2020
Date Data Arrived at EDR: 09/03/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 83

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

UST: Petroleum Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/04/2020
Date Made Active in Reports: 12/31/2020
Number of Days to Update: 57

Source: Department of Environment and Natural Resources
Telephone: 919-733-1308
Last EDR Contact: 02/03/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

AST: AST Database
Facilities with aboveground storage tanks that have a capacity greater than 21,000 gallons.

Date of Government Version: 08/12/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 12/07/2020
Number of Days to Update: 83

Source: Department of Environment and Natural Resources
Telephone: 919-715-6183
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

INST CONTROL: No Further Action Sites With Land Use Restrictions Monitoring

A land use restricted site is a property where there are limits or requirements on future use of the property due to varying levels of cleanup possible, practical, or necessary at the site.

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 09/09/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 85

Source: Department of Environmental Quality
Telephone: 919-508-8400
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Responsible Party Voluntary Action Sites
Responsible Party Voluntary Action site locations.

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 09/09/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 85
Source: Department of Environment and Natural Resources
Telephone: 919-508-8400
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects Inventory
A brownfield site is an abandoned, idled, or underused property where the threat of environmental contamination has hindered its redevelopment. All of the sites in the inventory are working toward a brownfield agreement for cleanup and liabitliy control.

Date of Government Version: 12/01/2020
Date Data Arrived at EDR: 12/08/2020
Date Made Active in Reports: 12/09/2020
Number of Days to Update: 1
Source: Department of Environment and Natural Resources
Telephone: 919-733-4996
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/14/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 86
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Solid Waste Facility Listing
A listing of solid waste facilities.

Date of Government Version: 11/06/2006
Date Data Arrived at EDR: 02/13/2007
Date Made Active in Reports: 03/02/2007
Number of Days to Update: 17

Source: Department of Environment & Natural Resources
Telephone: 919-733-0692
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Center Listing
A listing of recycling center locations.

Date of Government Version: 09/16/2020
Date Data Arrived at EDR: 09/17/2020
Date Made Active in Reports: 12/09/2020
Number of Days to Update: 83

Source: Department of Environment & Natural Resources
Telephone: 919-707-8137
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/20/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

SPILLS: Spills Incident Listing

A listing spills, hazardous material releases, sanitary sewer overflows, wastewater treatment plant bypasses and upsets, citizen complaints, and any other environmental emergency calls reported to the agency.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 10/22/2020
Date Made Active in Reports: 01/14/2021
Number of Days to Update: 84

Source: Department of Environment & Natural Resources
Telephone: 919-807-6308
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

IMD: Incident Management Database

Groundwater and/or soil contamination incidents

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/03/2020
Date Made Active in Reports: 01/21/2021
Number of Days to Update: 79

Source: Department of Environment and Natural Resources
Telephone: 877-623-6748
Last EDR Contact: 02/03/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 09/27/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/06/2013
Number of Days to Update: 62

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 06/14/2001
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/06/2013
Number of Days to Update: 62

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 09/29/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 69

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/07/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/21/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2020
Date Data Arrived at EDR: 11/12/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/30/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/27/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 10/08/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 88

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/20/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/30/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 11/24/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 63

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines
An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/16/2020
Date Data Arrived at EDR: 09/17/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/10/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/04/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 55

Source: EPA
Telephone: (404) 562-9900
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 10/03/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/13/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 73

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

AIRS: Air Quality Permit Listing

A listing of facilities with air quality permits.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/09/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 85

Source: Department of Environmental Quality
Telephone: 919-707-8726
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

ASBESTOS: ASBESTOS
Asbestos notification sites

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health & Human Services
Telephone: 919-707-5973
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites
A listing of coal combustion products distribution permits issued by the Division for the treatment, storage, transportation, use and disposal of coal combustion products.

Date of Government Version: 09/10/2020
Date Data Arrived at EDR: 09/23/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 82

Source: Department of Environment & Natural Resources
Telephone: 919-807-6359
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Sites
Potential and known drycleaning sites, active and abandoned, that the Drycleaning Solvent Cleanup Program has knowledge of and entered into this database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/16/2020
Date Made Active in Reports: 12/08/2020
Number of Days to Update: 83

Source: Department of Environment & Natural Resources
Telephone: 919-508-8400
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/04/2020
Date Made Active in Reports: 12/31/2020
Number of Days to Update: 57

Source: Department of Environment & Natural Resources
Telephone: 919-733-1322
Last EDR Contact: 02/03/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing
Information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 10/02/2012
Date Data Arrived at EDR: 10/03/2012
Date Made Active in Reports: 10/26/2012
Number of Days to Update: 23

Source: Department of Environmental & Natural Resources
Telephone: 919-508-8496
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information
Hazardous waste financial assurance information.

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 09/04/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 87
Source: Department of Environment & Natural Resources
Telephone: 919-707-8222
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

NPDES: NPDES Facility Location Listing
General information regarding NPDES(National Pollutant Discharge Elimination System) permits.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 10/27/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 80
Source: Department of Environment & Natural Resources
Telephone: 919-733-7015
Last EDR Contact: 01/27/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

UIC: Underground Injection Wells Listing
A listing of uncerground injection wells locations.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 11/30/2020
Date Made Active in Reports: 12/07/2020
Number of Days to Update: 7
Source: Department of Environment & Natural Resources
Telephone: 919-807-6412
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

AOP: Animal Operation Permits Listing
This listing includes animal operations that are required to be permitted by the state.

Date of Government Version: 04/01/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 05/27/2020
Number of Days to Update: 1
Source: Department of Environmental Quality
Telephone: 919-707-9129
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SEPT HAULERS: Permitted Septage Haulers Listing
This list of all active and permitted Septage Land Application Site (SLAS) and Septage Detention and Treatment Facility (SDTF) sites in North Carolina. The purpose of this map is to provide the public and government entities a visual overview of the businesses that manage septage and septage facilities throughout the state.

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 07/07/2020
Date Made Active in Reports: 09/23/2020
Number of Days to Update: 78
Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55
Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

CCB: Coal Ash Structural Fills (CCB) Listing
These are not permitted Coal Ash landfills A list of all of the now closed Coal Ash Structural Fills (CCB) in North Carolina, in point data form. The purpose is to provide the public and other government entities a visual overview of coal ash structural fills throughout the state and increase public awareness of their current locations.

Date of Government Version: 02/27/2020
Date Data Arrived at EDR: 07/07/2020
Date Made Active in Reports: 09/23/2020
Number of Days to Update: 78

Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

PCSRP: Petroleum-Contaminated Soil Remediation Permits
To treat petroleum-contaminated soil in order to protect North Carolinaa??s environment and the health of the citizens of North Carolina.

Date of Government Version: 07/06/2020
Date Data Arrived at EDR: 07/07/2020
Date Made Active in Reports: 09/23/2020
Number of Days to Update: 78

Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/18/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environment, Health and Natural Resources in North Carolina.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environment, Health and Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environment, Health and Natural Resources in North Carolina.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environment, Health and Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environment, Health and Natural Resources in North Carolina.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/20/2013
Number of Days to Update: 172

Source: Department of Environment, Health and Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 11/02/2020
Number of Days to Update: 13

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/12/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Health & Human Services
Telephone: 919-662-4499

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: US Fish & Wildlife Service
Telephone: 703-358-2171

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PICKLE CREEK
793 STATE ROAD 1117
MOUNT OLIVE, NC 28365

TARGET PROPERTY COORDINATES

Latitude (North):	35.23383 - 35° 14' 1.79''
Longitude (West):	78.114783 - 78° 6' 53.22''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	762573.2
UTM Y (Meters):	3902592.0
Elevation:	145 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5947432 MOUNT OLIVE, NC
Version Date:	2013
Northeast Map:	5948626 SOUTHWEST GOLDSBORO, NC
Version Date:	2013
Southwest Map:	5947406 DOBBERSVILLE, NC
Version Date:	2013
Northwest Map:	5947410 GRANTHAM, NC
Version Date:	2013

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

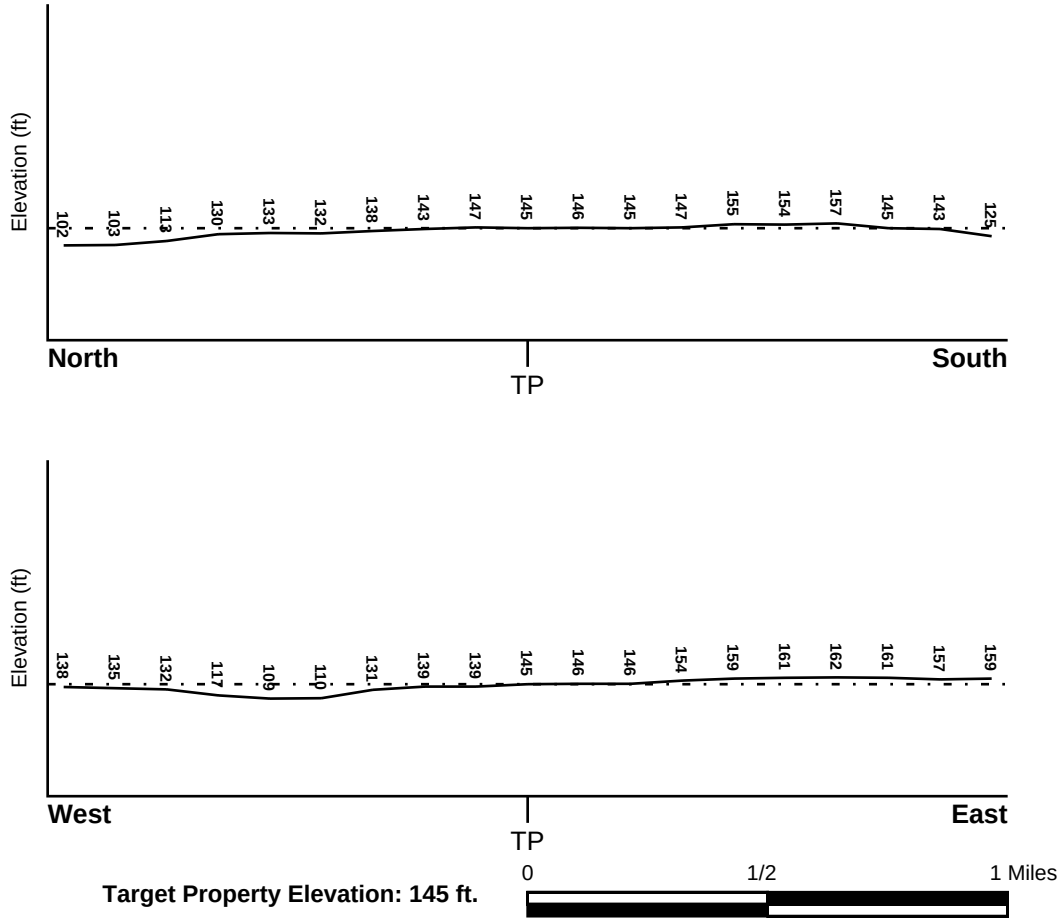
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
3720256400J	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
3720255400J	FEMA FIRM Flood data
3720255300J	FEMA FIRM Flood data
3720256300J	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOUNT OLIVE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Mesozoic
System:	Cretaceous
Series:	Washita Group
Code:	lK3 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	NORFOLK
Soil Surface Texture:	loamy sand
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	14 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 6.00 Min: 3.60
2	14 inches	38 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 3.60
3	38 inches	70 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 3.60
4	70 inches	99 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: sandy loam
loam
mucky - loam

Surficial Soil Types: sandy loam
loam
mucky - loam

Shallow Soil Types: fine sandy loam
sandy clay loam
clay loam

Deeper Soil Types: sandy clay loam
stratified
sandy clay

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

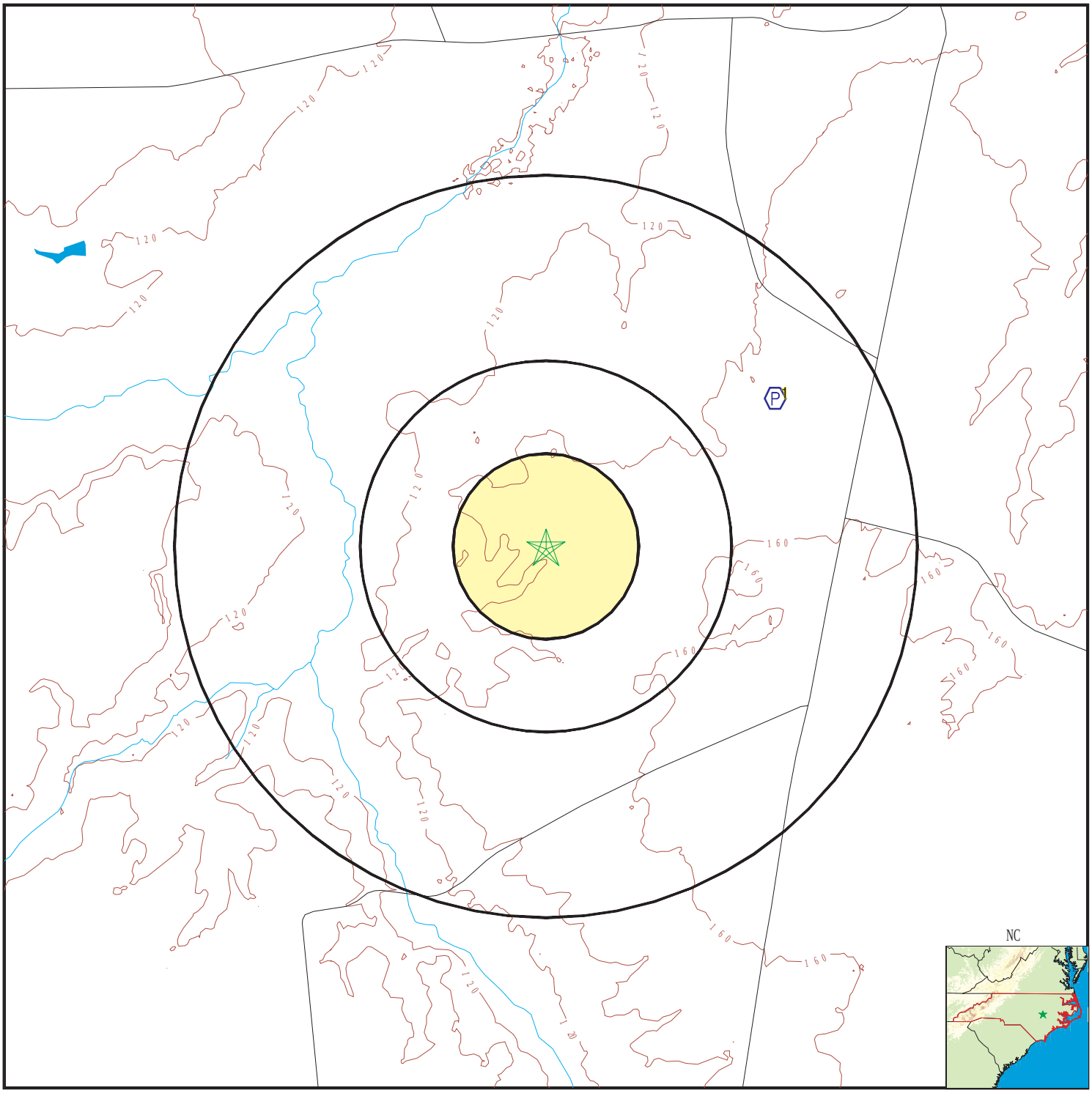
MAP ID	WELL ID	LOCATION FROM TP
1	NC0496493	1/2 - 1 Mile ENE

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 6368113.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- Wildlife Areas
- Natural Areas
- Rare & Endangered Species

SITE NAME:	Pickle Creek	CLIENT:	Resource Environmental Solutions, LLC
ADDRESS:	793 State Road 1117 Mount Olive NC 28365	CONTACT:	Grayson Sanner
		INQUIRY #:	6368113.2s
LAT/LONG:	35.23383 / 78.114783	DATE:	February 16, 2021 9:07 am

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
ENE
1/2 - 1 Mile
Lower | **FRDS PWS** | **NC0496493**

Epa region:	04	State:	NC
Pwsid:	NC0496493	Pwsname:	ROUSES GRILL
Cityserved:	Not Reported	Stateserved:	NC
Zipserved:	Not Reported	Fipscounty:	37191
Status:	Closed	Retpopsrvd:	50
Pwssvcconn:	1	Psource longname:	Groundwater
Pwstype:	TNCWS	Owner:	Private
Contact:	LONNIE ROUSE OR MGR	Contactorgname:	Not Reported
Contactphone:	Not Reported	Contactaddress1:	Not Reported
Contactaddress2:	Not Reported	Contactcity:	SEVEN SPRINGS
Contactstate:	NC	Contactzip:	27530
Pwsactivitycode:	I		
PWS ID:	NC0496493	PWS type:	System Owner/Responsible Party
PWS name:	LONNIE ROUSE OR MGR	PWS address:	Not Reported
PWS city:	SEVEN SPRINGS	PWS state:	NC
PWS zip:	27530	PWS ID:	NC0496493
PWS type:	System Owner/Responsible Party		
PWS name:	LONNIE ROUSE	PWS address:	Not Reported
PWS city:	SEVEN SPRINGS	PWS state:	NC
PWS zip:	27530	PWS ID:	NC0496493
Activity status:	Active	Date system activated:	8206
Date system deactivated:	Not Reported	Retail population:	00000050
System name:	ROUSES GRILL	System address:	Not Reported
System city:	SEVEN SPRINGS	System state:	NC
System zip:	27530		
County FIPS:	096	City served:	SEVEN SPRINGS
Population served:	Under 101 Persons	Treatment:	Untreated
Latitude:	351337	Longitude:	0775049
Latitude:	351422	Longitude:	0780615

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: NC Radon

Radon Test Results

Num Results	Avg pCi/L	Min pCi/L	Max pCi/L
1	0.30	0.3	0.3

Federal EPA Radon Zone for WAYNE County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for WAYNE COUNTY, NC

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: US Fish & Wildlife Service
Telephone: 703-358-2171

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

North Carolina Public Water Supply Wells
Source: Department of Environmental Health
Telephone: 919-715-3243

OTHER STATE DATABASE INFORMATION

North Carolina Wildlife Resources/Game Lands
Source: Center for Geographic Information and Analysis
Telephone: 919-733-2090
All publicly owned game lands managed by the North Carolina Wildlife Resources Commission and as listed in Hunting and Fishing Maps.

NC Natural Heritage Sites: Natural Heritage Element Occurrence Sites
Source: Natural Heritage Occurrence Sites Center for Geographic Information and Analysis
Telephone: 919-733-2090
A point coverage identifying locations of rare and endangered species, occurrences of exemplary or unique natural ecosystems (terrestrial or aquatic), and special animal habitats (e.g., colonial waterbird nesting sites).

NC Natural Areas: Significant Natural Heritage Areas
Source: Center for Geographic Information and Analysis
Telephone: 919-733-2090
A polygon converage identifying sites (terrestrial or aquatic) that have particular biodiversity significance. A site's significance may be due to the presenceof rare species, rare or high quality natural communities, or other important ecological features.

RADON

State Database: NC Radon
Source: Department of Environment & Natural Resources
Telephone: 919-733-4984
Radon Statistical and Non Statiscal Data

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

USDA FORM AD-1006

USDA
United States Department of Agriculture

Natural Resources
Conservation Service

North Carolina
State Office

4407 Bland Rd.
Suite 117
Raleigh
North Carolina 27609
Voice (704) 680-3541
Fax (844) 325-2156

April 8, 2021

Grayson Sanner
Ecologist I
Resource Environmental Solutions
3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612

Dear Grayson Sanner;

The following information is in response to your request soliciting comments regarding the Pickle Creek Riparian Buffer Mitigation Project Site in Wayne County, NC.

Projects are subject to Farmland Protection Policy Act (FPPA) requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide of local importance.

“Farmland" does not include land already in or committed to urban development or water storage. Farmland ``already in'' urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as ``urbanized area'' (UA) on the Census Bureau Map, or as urban area mapped with a ``tint overprint'' on the USGS topographical maps, or as ``urban-built-up'' on the USDA Important Farmland Maps. See over for more information.

The area in question includes land classified as Prime Farmland. In accordance with the Code of Federal Regulations 7CFR 658, Farmland Protection Policy Act, the CPA-106 was initiated. NRCS Completed Parts II, IV, V of the form and returned for completion by the requesting agency.

If you have any questions, please feel free to call me at (704) 680-3541 office or (704) 754-6734 cell.

Sincerely,

Kristin L May

Kristin L May
Acting State Soil Scientist

cc:
Carl Kirby, acting supervisory soil conservationist, NRCS, Snow Hill, NC

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request 2/25/2020	
Name of Project Pickle Creek Riparian Buffer Project		Federal Agency Involved Federal Highway Admin (FHWA)	
Proposed Land Use Conservation Easement		County and State Wayne County, NC	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 3/19/2021	Person Completing Form: Kristin May
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated None	Average Farm Size 300
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 86.96 % 310,477 ac	Amount of Farmland As Defined in FPPA Acres: 86.96 % 310,477 ac	
Name of Land Evaluation System Used Wayne Co. LESA	Name of State or Local Site Assessment System NA	Date Land Evaluation Returned by NRCS 4/8/2021	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	17.39			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	17.39			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0			
B. Total Acres Statewide Important or Local Important Farmland	3.7			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.0012			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	57.10			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	54			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	12			
2. Perimeter In Non-urban Use	(10)	10			
3. Percent Of Site Being Farmed	(20)	19			
4. Protection Provided By State and Local Government	(20)	20			
5. Distance From Urban Built-up Area	(15)	15			
6. Distance To Urban Support Services	(15)	10			
7. Size Of Present Farm Unit Compared To Average	(10)	10			
8. Creation Of Non-farmable Farmland	(10)	10			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	14			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	125	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	54	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	125	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	179	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side) **Form AD-1006 (03-02)**

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map**,** or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

Uniform Act Compliance Letter

3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

April 28, 2021

Douglas Allen Jernigan
Aileen K. Jernigan
781 Thunder Swamp Road
Mount Olive, NC 28365

Re: Shady Grove/Pickle Creek Mitigation Project

Mr. and Mrs. Jernigan:

As part of the environmental documentation process in preparation for the stream mitigation project on your property, this letter is to inform you of provisions in the Federal Highway Administration Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, referred to as the Uniform Act.

The Uniform Act requires that we inform you in writing that this conservation easement transaction is voluntary and that the project is being developed by Environmental Banc & Exchange, LLC for the North Carolina Division of Mitigation Services (NCDMS). Neither EBX nor NCDMS have the authority to acquire the property by eminent domain. In addition, EBX believes that the agreed purchase price for the conservation easement area represents the fair market value.

This letter is for your information, and you do not need to respond. As always, please feel free to call me at 919-539-7849 with any questions.

Sincerely,

August James
Land Representative

CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
P.O. Box 33726
Raleigh, NC 27636-3726

Date: 03/15/2021

Self-Certification Letter

Project Name: Pickle Creek Riparian Buffer Mitigation Project

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Raleigh Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. Based on your analysis, mark all the determinations that apply:

- [x] "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- [ ] "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- [ ] "may affect, likely to adversely affect" determination for the Northern long-eared bat (Myotis septentrionalis) and relying on the findings of the January 5, 2016, Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat;
- [x] "no Eagle Act permit required" determinations for eagles.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed. Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species. Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year. Information about the online project review process including instructions, species information, and other information regarding project reviews within North Carolina is available at our website http://www.fws.gov/raleigh/pp.html. If you have any questions, you can write to us at Raleigh@fws.gov or please contact Leigh Mann of this office at 919-856-4520, ext. 10.

Sincerely,

/s/Pete Benjamin

Pete Benjamin
Field Supervisor
Raleigh Ecological Services

Enclosures - project review package

Species Conclusions Table

Project Name: Pickle Creek Riparian Buffer Mitigation Project

Date: 03-15-2021

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Red-cockaded Woodpecker Picoides borealis	No suitable habitat present	No Effect	Impacts to this species are not considered, as there will be no impact to existing vegetation.
Neuse River Waterdog Necturus lewisi	No suitable habitat present	No Effect	None observed during site visits to project area.
Carolina Madtom Noturus furiousus	No suitable habitat present	No Effect	None were observed during site visits to project area
Critical Habitat	no critical habitat present	No effect	
Bald Eagle	unlikely to disturb nesting bald eagles	No Eagle Act Permit Required	
Northern long-eared bat	Suitable habitat present	No Effect	Impacts to this species are not considered, as there will be no impact to existing vegeation

Acknowledgement: I agree that the above information about my proposed project is true. I used all of the provided resources to make an informed decision about impacts in the immediate and surrounding areas.

Grayson Sanner, Ecologist I — Signature /Title

03/15/2021 — Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Phone: (919) 856-4520 Fax: (919) 856-4556

In Reply Refer To:
Consultation Code: 04EN2000-2021-SLI-0719
Event Code: 04EN2000-2021-E-01553
Project Name: Pickle Creek

February 19, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The species list generated pursuant to the information you provided identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Section 7 of the Act requires that all federal agencies (or their designated non-federal representative), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species. A biological assessment or evaluation may be prepared to fulfill that requirement and in determining whether additional consultation with the Service is necessary. In addition to the federally-protected species list, information on the species' life histories and habitats and information on completing a biological assessment or

evaluation and can be found on our web page at http://www.fws.gov/raleigh. Please check the web site often for updated information or changes

If your project contains suitable habitat for any of the federally-listed species known to be present within the county where your project occurs, the proposed action has the potential to adversely affect those species. As such, we recommend that surveys be conducted to determine the species' presence or absence within the project area. The use of North Carolina Natural Heritage program data should not be substituted for actual field surveys.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a federally-protected species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on federally listed species, then you are not required to contact our office for concurrence (unless an Environmental Impact Statement is prepared). However, you should maintain a complete record of the assessment, including steps leading to your determination of effect, the qualified personnel conducting the assessment, habitat conditions, site photographs, and any other related articles.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

Not all Threatened and Endangered Species that occur in North Carolina are subject to section 7 consultation with the U.S Fish and Wildlife Service. Atlantic and shortnose sturgeon, sea turtles,when in the water, and certain marine mammals are under purview of the National Marine Fisheries Service. If your project occurs in marine, estuarine, or coastal river systems you should also contact the National Marine Fisheries Service, http://www.nmfs.noaa.gov/

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If you have any questions or comments, please contact John Ellis of this office at john_ellis@fws.gov.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

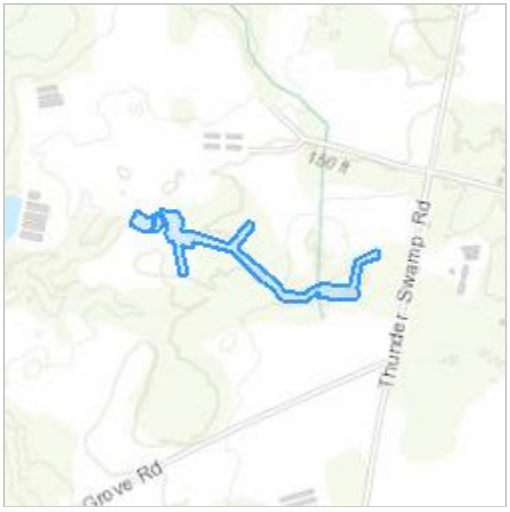
This species list is provided by:

Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
(919) 856-4520

Project Summary

Consultation Code: 04EN2000-2021-SLI-0719
Event Code: 04EN2000-2021-E-01553
Project Name: Pickle Creek
Project Type: LAND - RESTORATION / ENHANCEMENT
Project Description: 17.48 acre easement in wayne county
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.2330625,-78.11418590666123,14z



Counties: Wayne County, North Carolina

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Red-cockaded Woodpecker *Picoides borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Amphibians

NAME	STATUS
Neuse River Waterdog *Necturus lewisi* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6772	Proposed Threatened

Fishes

NAME	STATUS
Carolina Madtom *Noturus furiosus* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/528	Proposed Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Roy Cooper, **Governor**
D. Reid Wilson, **Secretary**
Walter Clark
Director, Division of Land and Water Stewardship

NCNHDE-14006

February 19, 2021

Matthew DeAngelo
Resource Environmental Solutions, LLC
302 Jefferson Street
Raleigh, NC 27607
RE: Pickle Creek

Dear Matthew DeAngelo:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here: https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Land and Water Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Rodney A. Butler at rodney.butler@ncdcr.gov or 919-707-8603.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Pickle Creek
February 19, 2021
NCNHDE-14006

Element Occurrences Documented Within a One-mile Radius of the Project Area

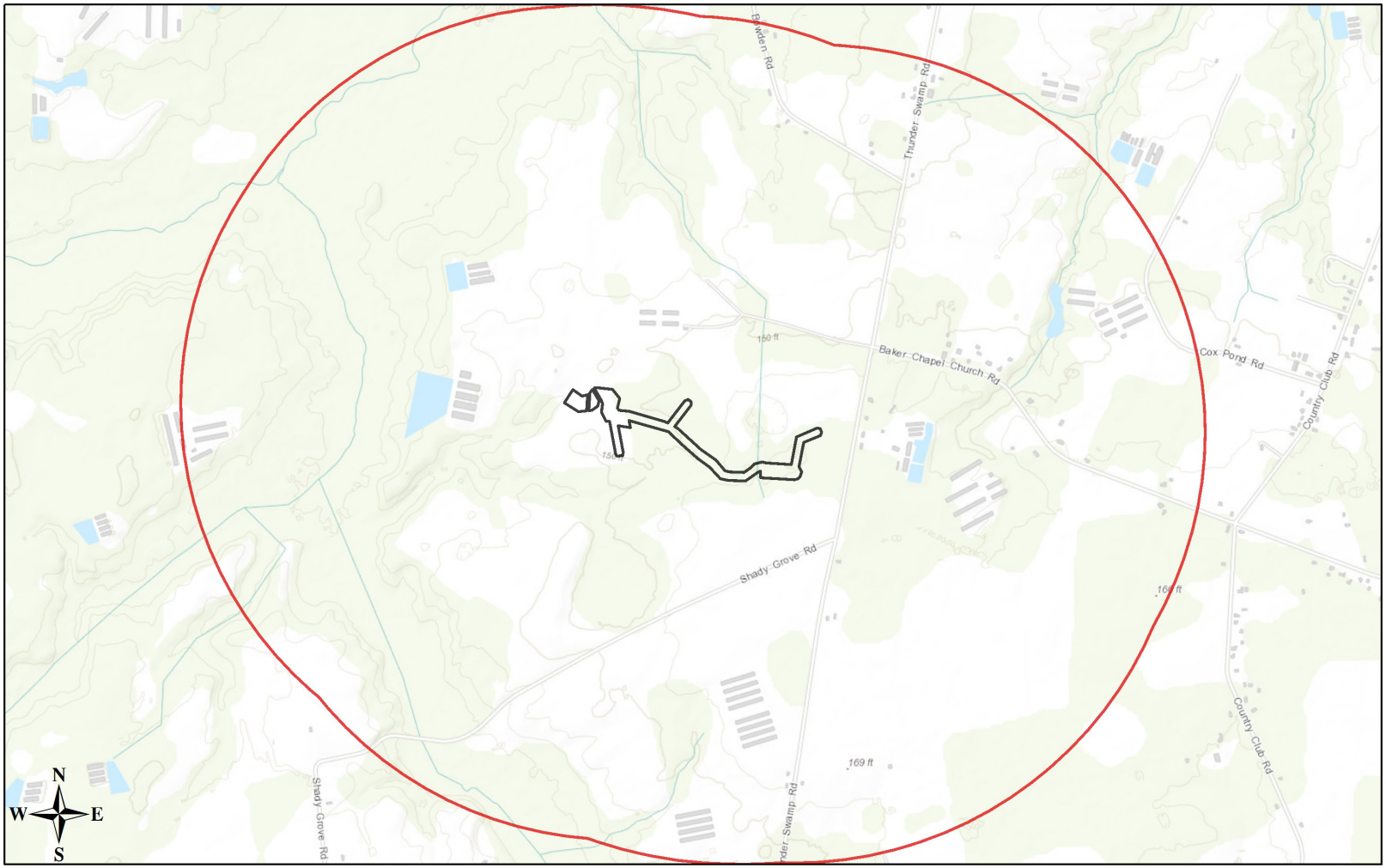
Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Freshwater Fish	36884	Notropis chalybaeus	Ironcolor Shiner	1961-06-12	H	4-Low	---	Significantly Rare	G4	S2S3

No Natural Areas are Documented Within a One-mile Radius of the Project Area

No Managed Areas are Documented Within a One-mile Radius of the Project Area

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on February 19, 2021; source: NCNHP, Q4 January 2021. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-14006: Pickle Creek



February 19, 2021

Project Boundary

Buffered Project Boundary

1:22,743

0 0.175 0.35 0.7 mi

0 0.3 0.6 1.2 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

March 18, 2021

Renee Gledhill-Earley
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh NC 27699-4617

Subject: Project Scoping for Pickle Creek Mitigation Project in Wayne County

Dear Renee Gledhill-Earley,

Resource Environmental Solutions, LLC (RES) requests review and comment on any possible issues that might emerge with respect to archaeological or cultural resources associated with a potential riparian buffer mitigation project named the Pickle Creek Mitigation Project. The Pickle Creek Project is comprised of a NC Division of Mitigation Services full-delivery project and a retail bank, as depicted in the attached figures. The projects have been identified by RES to provide compensatory mitigation for unavoidable riparian buffer impacts. The proposed projects present the opportunity to restore and protect in perpetuity, up to 17.39 acres (plus a potential add-on 5.38 acres) of riparian buffer in the Neuse River Basin. Restoration activies will involve removing one culvert crossing and planting native hardwood trees. Coordinates for the site are as follows: 35.2333, -78.1132.

A review of the N.C. State Historic Preservation Office (SHPO) HPOWEB GIS Service database (http://gis.ncdcr.gov/hpoweb/; accessed August 20, 2020) was performed as part of the site due diligence evaluation to reveal any listed or potential eligible historic or archeological resources.The database revealed one listing within a 0.5-mile radius of the project area but should not be affected by construction activities. Land use around the project is row crop fields, confined animal feeding operations, and bottomland hardwood forest.

We ask that you review this site based on the attached information to determine the presence of any historic properties and provide a comment response of your findings. We thank you in advance for your timely response and cooperation. You may return the comment to my attention at the address in the letterhead, or via email at gsanner@res.us. Please feel free to contact me with any questions that you may have concerning the extent of site disturbance associated with this project.

Sincerely,

Grayson Sanner | Ecologist I

Attachments: Project Description, .KMZ file of project boundaries, Vicinity Map (Figure 1), USGS Topographic Map (Figure 2), Existing Conditions Map (Figure 3), Conceptual Plan Map (Figure 4)

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper | Secretary D. Reid Wilson

April 29, 2021

Grayson Sanner gsanner@res.us
Resource Environmental Solutions, LLC
3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612

Re: Pickle Creek Mitigation Site, 35.2333, -78.1132, Wayne County, ER 21-0803

Dear Mr. Sanner:

Thank you for your email of March 19, 2021, regarding the above-referenced undertaking. We have reviewed the submittal and offer the following comments.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

March 18, 2021

Gabriela Garrison
Eastern Piedmont Coordinator
North Carolina Wildlife Resources Commission
Sandhills Depot
PO Box 149
Hoffman, NC 28347

Subject: Project Scoping for Pickle Creek Riparian Buffer Mitigation Project in Wayne County

Dear Gabriela Garrison,

The purpose of this letter is to request your review and comment on any possible issues that might emerge with respect to your office's purview for fish and wildlife associated with a potential buffer restoration project (figures with approximate property lines and areas of potential ground disturbance are enclosed). The Pickle Creek Project is comprised of a NC Division of Mitigation Services full-delivery project and a retail bank, as depicted in the attached figures. The Pickle Creek Project has been identified by Resource Environmental Solutions, LLC (RES) to provide compensatory mitigation for unavoidable riparian buffer impacts. The proposed project presents the opportunity to restore and protect in perpetuity, up to 17.39 acres (plus a potential 5.38 acres) of riparian buffer in the Neuse River Basin. Coordinates for the site are as follows: 35.2333, -78.1132. The Project watershed is primarily a mix of row crop fields, confined animal feeding operations, and disturbed forest.

We thank you in advance for your timely response and cooperation. You may return the comment to my attention at the address in the letterhead, or via email to gsanner@res.us. Please feel free to contact me with any questions that you may have concerning the extent of site disturbance associated with this project.

Sincerely,

Grayson Sanner | Ecologist I

Attachments: Project Description, .KMZ of proposed project boundaries, Vicinity Map (Figure 1), USGS Topographic Map (Figure 2), Existing Conditions Map (Figure 3), Conceptual Plan Map (Figure 4)

NORTH CAROLINA WILDLIFE RESOURCES COMMISSION
Cameron Ingram, Executive Director

April 8, 2021

Mr. Grayson Sanner
Resource Environmental Solutions, LLC
3600 Glenwood Avenue, Suite 100
Raleigh, NC 27612

Subject: Request for Environmental Information for the Pickle Creek Riparian Buffer Mitigation Project, Wayne County, North Carolina.

Mr. Sanner,

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the proposed project description. Comments are provided in accordance with certain provisions of the Clean Water Act of 1977 (as amended), Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667e) and North Carolina General Statutes (G.S. 113-131 et seq.).

In conjunction with the NC Division of Mitigation Services, Resource Environmental Solutions, LLC has identified and developed the Pickle Creek Riparian Buffer Mitigation Project. The 17.39-acre site will restore and preserve riparian buffers in perpetuity. The project watershed consists of agriculture and forested lands, as well confined animal feeding operations. This site is located northwest of the intersection of Shady Grove and Thunder Swamp Roads, northwest of Mount Olive.

The project area drains to Thunder Swamp in the Neuse River basin. Stream restoration projects often improve water quality and aquatic habitat. Establishing native, forested buffers in riparian areas will improve both aquatic and terrestrial habitats and provide a travel corridor for wildlife species.

In addition to stringent best management practices for erosion and sediment control during construction, the NCWRC recommends the use of biodegradable and wildlife-friendly sediment and erosion control devices. Silt fencing, fiber rolls and/or other products should have loose-weave netting that is made of natural fiber materials with movable joints between the vertical and horizontal twines. Silt fencing and similar products that have been reinforced with plastic or metal mesh should be avoided as they impede the movement of terrestrial wildlife species. Excessive silt and sediment loads can have detrimental effects on aquatic resources including destruction of spawning habitat, suffocation of eggs and clogging of gills. Only native vegetation should be installed onsite and any invasive plant species found in or near the project area should be removed and destroyed.

Thank you for the opportunity to review and comment on this project. If I can be of further assistance, please contact me at (910) 409-7350 or gabriela.garrison@ncwildlife.org.

Sincerely,

Gabriela Garrison

Gabriela Garrison
Eastern Piedmont Habitat Conservation Coordinator
Habitat Conservation Program

Appendix D

- Pickle Creek Project Invasive Species Plan

INVASIVE SPECIES PLAN

Annual monitoring and semi-annual site visits will be conducted to assess the condition of the finished project. These site inspections may identify the presence of invasive vegetation. RES will treat invasive species vegetation within the project area and provide remedial action on a case-by-case basis. No invasive species were observed at this time, but with the adjacent mixed hardwood forest, RES expects there to be invasive seed sources nearby. If invasive species are observed, invasive species vegetation will be treated by approved mechanical and/or chemical methods such that the percent composition of exotic/invasive species is less than 5% of the total riparian buffer area. Any control methods requiring herbicide application will be performed in accordance with NC Department of Agriculture (NCDA) rules and regulations. If areas of invasive species exist within the easement, they will be monitored yearly as part of the monitoring protocol and treated if necessary. If required, problem areas will continue to be treated until the project easement shows overall trending towards meeting all monitoring requirements.

Appendix E

- Pickle Creek Project Financial Assurances

FINANCIAL ASSURANCE

Pursuant to Section IV H and Appendix III of the NCDEQ DMS (formerly Ecosystem Enhancement Program) In-Lieu Fee Instrument dated July 28, 2010, the North Carolina Department of Environmental Quality (NCDEQ) has provided the USACE-Wilmington District with a formal commitment to fund projects to satisfy mitigation requirements assumed by NCDEQ DMS. This commitment provides financial assurance for all mitigation projects implemented by the program.

Appendix F

- Pickle Creek Project Waste Utilization Plan and Supporting Material

Nutrient Management Plan For Animal Waste Utilization

09-27-2021

This plan has been prepared for:

Jernigan Farms
Doug Jernigan
781 Thunderswamp Road
Mount Olive, NC 28365
919-658-8729

This plan has been developed by:

Ronnie G. Kennedy Jr.
Agriment Services, Inc.
PO Box 1096
Beulaville, NC 28518
252-568-2618

Developer Signature

Type of Plan: Nitrogen Only with Manure Only

Owner/Manager/Producer Agreement

I (we) understand and agree to the specifications and the operation and maintenance procedures established in this nutrient management plan which includes an animal waste utilization plan for the farm named above. I have read and understand the Required Specifications concerning animal waste management that are included with this plan.

Signature (owner) — Date: 9/27/21

Signature (manager or producer) — Date

This plan meets the minimum standards and specifications of the U.S. Department of Agriculture - Natural Resources Conservation Service or the standard of practices adopted by the Soil and Water Conservation Commission.

Plan Approved By: Technical Specialist Signature — Date: 9/27/21

Nutrients applied in accordance with this plan will be supplied from the following source(s):

Commercial Fertilizer is not included in this plan.

S5	Swine Nursery Lagoon Liquid waste generated 764,000 gals/year by a 4,000 animal Swine Nursery Lagoon Liquid operation. This production facility has waste storage capacities of approximately 180 days.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	1377				
Incorporated	1653				
Injected	1653				
Irrigated	1377				
	Max. Avail. PAN (lbs)*	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	1,377	10036	-8,659	5,567,624	-4,803,624
Year 2	1,377	10539	-9,162	5,846,545	-5,082,545

S7	Swine Feeder-Finish Lagoon Liquid waste generated 19,379,860 gals/year by a 20,906 animal Swine Finishing Lagoon Liquid operation. This production facility has waste storage capacities of approximately 180 days.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	34933				
Incorporated	41919				
Injected	41919				
Irrigated	34933				
	Max. Avail. PAN (lbs)*	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	34,933	43519	-8,586	24,207,399	-4,827,539
Year 2	34,933	46355	-11,422	25,742,704	-6,362,844

Note: In source ID, S means standard source, U means user defined source.

* Max. Available PAN is calculated on the basis of the actual application method(s) identified in the plan for this source.

Narrative

9/27/2021
This plan is to update wettable acres to reflect the recalculation of pulls due to the addition of easements for the Pickle Creek Mitigation Project.

1/22/2013
This combination swine plan is based on historical yields established by Max Safley in 1997, Ronnie Kennedy in 2008, and Glenn Clifton plan done 1/30/2006. This plan should act as an emergency back-up conventional type plan in case of failure from the innovative waste system currently operating at the Jernigan Farm. This plan should act as basis and back up for combining 96-158 and 96-127. Due to the deficit noted in year two of this plan it is permissible for Mr. Jernigan too have cotton replace corn in that year on 1/4 of the total cropland in this plan. When used cotton will have an agronomic rate of 70 pounds/nitrogen/per/acre and the application windows will be March 15th - August 1. Oats may replace the wheat crop at the owner's discretion and keep the same agronomic rate however the application window will be reduced by 15 days and end at April 15th. Pulls 1 and 2 on Tract 1240 have been eliminated due to innovative waste system. Field ALT has been added as a backup field the agronomic rate shalll be 108 pounds per/acre and may be an energy grass crop or other summer annual as needed if waste management system returns to conventional agronomic and hydraulic rates.

The table shown below provides a summary of the crops or rotations included in this plan for each field. Realistic Yield estimates are also provided for each crop in the plan. In addition, the Leaching Index for each field is shown, where available.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Leaching Index (LI)	Soil Series	Crop Sequence	RYE
1240	1	3.55	3.55	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	6.5 Tons
1240	10	4.57	4.57	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1240	11-24	40.02	40.02	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1240	25	4.95	4.95	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1240	26	4.96	4.96	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1240	27	4.48	4.48	N/A	Rains	Corn, Grain	125 bu.
						Wheat, Grain	55 bu.
						Soybeans, Manured, Double Crop	37 bu.
1240	28	2.26	2.26	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1240	29-33	15.74	15.74	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1240	34-35	6.36	6.36	N/A	Rains	Corn, Grain	125 bu.
						Wheat, Grain	55 bu.
						Soybeans, Manured, Double Crop	37 bu.
1240	36	2.63	2.63	N/A	Rains	Corn, Grain	125 bu.
						Wheat, Grain	55 bu.
						Soybeans, Manured, Double Crop	37 bu.
1240	37	1.85	1.85	N/A	Norfolk	Corn, Grain	115 bu.
						Wheat, Grain	60 bu.
						Soybeans, Manured, Double Crop	35 bu.

NOTE: Symbol * means user entered data.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Leaching Index (LI)	Soil Series	Crop Sequence	RYE
1240	38-39	6.51	6.51	N/A	Lynchburg	Corn, Grain	125 bu.
						Wheat, Grain	55 bu.
						Soybeans, Manured, Double Crop	39 bu.
1240	4	4.97	4.97	N/A	Wagram	Corn, Grain	75 bu.
						Wheat, Grain	40 bu.
						Soybeans, Manured, Double Crop	23 bu.
1240	42-45	15.28	15.28	N/A	Wagram	Corn, Grain	75 bu.
						Wheat, Grain	40 bu.
						Soybeans, Manured, Double Crop	23 bu.
1240	46-51	25.77	25.77	N/A	Goldsboro	Corn, Grain	130 bu.
						Wheat, Grain	65 bu.
						Soybeans, Manured, Double Crop	38 bu.
1240	5	4.71	4.71	N/A	Wagram	Corn, Grain	75 bu.
						Wheat, Grain	40 bu.
						Soybeans, Manured, Double Crop	23 bu.
1240	52-57	18.64	18.64	N/A	Wagram	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1240	6	4.70	4.70	N/A	Norfolk	Corn, Grain	115 bu.
						Wheat, Grain	60 bu.
						Soybeans, Manured, Double Crop	35 bu.
1240	7	4.67	4.67	N/A	Norfolk	Corn, Grain	115 bu.
						Wheat, Grain	60 bu.
						Soybeans, Manured, Double Crop	35 bu.
1240	8	3.23	3.23	N/A	Norfolk	Corn, Grain	115 bu.
						Wheat, Grain	60 bu.
						Soybeans, Manured, Double Crop	35 bu.
1240	9	4.30	4.30	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1829	1	1.26	1.26	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1829	2	17.10	17.10	N/A	Kenansville	Corn, Grain	80 bu.
						Wheat, Grain	35 bu.
						Soybeans, Manured, Double Crop	25 bu.
1829	3	4.52	4.52	N/A	Rains	Corn, Grain	125 bu.

NOTE: Symbol * means user entered data.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Leaching Index (LI)	Soil Series	Crop Sequence	RYE
						Wheat, Grain	55 bu.
						Soybeans, Manured, Double Crop	37 bu.
1829	4	12.71	12.71	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1835	1A	5.97	5.97	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1835	1B	3.32	3.32	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1835	2A	4.52	4.52	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1835	2B	2.83	2.83	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
1835	3	4.13	4.13	N/A	Kenansville	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Pasture	5.5 Tons
SA	Alternate	45.00	45.00	N/A	Kenansville	Sorghum-Sudan Hay	4.4 Tons
PLAN TOTALS:		285.51	285.51				

LI	*Potential Leaching*	*Technical Guidance*
< 2	Low potential to contribute to soluble nutrient leaching below the root zone.	None
>= 2 & <= 10	Moderate potential to contribute to soluble nutrient leaching below the root zone.	Nutrient Management (590) should be planned.
> 10	High potential to contribute to soluble nutrient leaching below the root zone.	Nutrient Management (590) should be planned. Other conservation practices that improve the soils available water holding capacity and improve nutrient use efficiency should be considered. Examples are Cover Crops (340) to scavenge nutrients, Sod-Based Rotations (328), Long-Term No-Till (778), and edge-of-field practices such as Filter Strips (393) and Riparian Forest Buffers (391).

NOTE: Symbol * means user entered data.

The Waste Utilization table shown below summarizes the waste utilization plan for this operation. This plan provides an estimate of the number of acres of cropland needed to use the nutrients being produced. The plan requires consideration of the realistic yields of the crops to be grown, their nutrient requirements, and proper timing of applications to maximize nutrient uptake.

This table provides an estimate of the amount of nitrogen required by the crop being grown and an estimate of the nitrogen amount being supplied by manure or other by-products, commercial fertilizer and residual from previous crops. An estimate of the quantity of solid and liquid waste that will be applied on each field in order to supply the indicated quantity of nitrogen from each source is also included. A balance of the total manure produced and the total manure applied is included in the table to ensure that the plan adequately provides for the utilization of the manure generated by the operation.

Waste Utilization Table **Year 1**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manur Applied (Field) tons
1240	1	S7	Norfolk	3.55	3.55	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	98.47	0.00
1240	1	S7	Norfolk	3.55	3.55	Hybrid Bermudagrass Pasture	6.5 Tons	3/1-9/30	222	0	0	Irrig.	222	123.16	0.00	437.22	0.00
1240	10	S7	Kenansville	4.57	4.57	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	197.76	0.00
1240	10	S7	Kenansville	4.57	4.57	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	102.68	0.00
1240	11-24	S7	Kenansville	40.02	40.02	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	1,110.11	0.00
1240	11-24	S7	Kenansville	40.02	40.02	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	4,484.86	0.00
1240	25	S7	Kenansville	4.95	4.95	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	214.20	0.00
1240	25	S7	Kenansville	4.95	4.95	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	111.22	0.00
1240	26	S7	Kenansville	4.96	4.96	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	214.63	0.00
1240	26	S7	Kenansville	4.96	4.96	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	111.44	0.00
1240	27	S7	Rains	4.48	4.48	Corn, Grain	125 bu.	2/15-6/30	135	0	20	Irrig.	115	63.80	0.00	285.82	0.00
1240	27	S7	Rains	4.48	4.48	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	131.73	0.00
1240	28	S7	Kenansville	2.26	2.26	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	97.80	0.00
1240	28	S7	Kenansville	2.26	2.26	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	50.78	0.00
1240	29-33	S7	Kenansville	15.74	15.74	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	681.11	0.00
1240	29-33	S7	Kenansville	15.74	15.74	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	353.66	0.00

Waste Utilization Table **Year 1**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA NutrientApplied (lbs/A)	Liquid ManureApplied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manur Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
1240	34-35	S7	Rains	6.36	6.36	Corn, Grain	125 bu.	2/15-6/30	135	0	20	Irrig.	115	63.80	0.00	405.77	0.00
1240	34-35	S7	Rains	6.36	6.36	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	187.01	0.00
1240	36	S7	Rains	2.63	2.63	Corn, Grain	125 bu.	2/15-6/30	135	0	20	Irrig.	115	63.80	0.00	167.79	0.00
1240	36	S7	Rains	2.63	2.63	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	77.33	0.00
1240	37	S7	Norfolk	1.85	1.85	Corn, Grain	115 bu.	2/15-6/30	131	0	20	Irrig.	111	61.58	0.00	113.92	0.00
1240	37	S7	Norfolk	1.85	1.85	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	64.15	0.00
1240	38-39	S7	Lynchburg	6.51	6.51	Corn, Grain	125 bu.	2/15-6/30	135	0	20	Irrig.	115	63.80	0.00	415.34	0.00
1240	38-39	S7	Lynchburg	6.51	6.51	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	191.42	0.00
1240	4	S7	Wagram	4.97	4.97	Corn, Grain	75 bu.	2/15-6/30	92	0	20	Irrig.	72	39.94	0.00	198.52	0.00
1240	4	S7	Wagram	4.97	4.97	Wheat, Grain	40 bu.	9/1-4/30	93	0	0	Irrig.	47	38.70	0.00	192.32	0.00
1240	42-45	S7	Wagram	15.28	15.28	Corn, Grain	75 bu.	2/15-6/30	92	0	20	Irrig.	72	39.94	0.00	610.35	0.00
1240	42-45	S7	Wagram	15.28	15.28	Wheat, Grain	40 bu.	9/1-4/30	93	0	0	Irrig.	47	25.80	0.00	394.18	0.00
1240	46-51	S7	Goldsboro	25.77	25.77	Corn, Grain	130 bu.	2/15-6/30	148	0	20	Irrig.	128	71.01	0.00	1,829.97	0.00
1240	46-51	S7	Goldsboro	25.77	25.77	Wheat, Grain	65 bu.	9/1-4/30	136	0	0	Irrig.	68	37.73	0.00	972.17	0.00
1240	5	S7	Wagram	4.71	4.71	Corn, Grain	75 bu.	2/15-6/30	92	0	20	Irrig.	72	39.94	0.00	188.14	0.00
1240	5	S7	Wagram	4.71	4.71	Wheat, Grain	40 bu.	9/1-4/30	93	0	0	Irrig.	47	25.80	0.00	121.51	0.00
1240	52-57	S7	Wagram	18.64	18.64	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	517.05	0.00
1240	52-57	S7	Wagram	18.64	18.64	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	2,088.90	0.00
1240	6	S7	Norfolk	4.70	4.70	Corn, Grain	115 bu.	2/15-6/30	131	0	20	Irrig.	111	61.58	0.00	289.43	0.00
1240	6	S7	Norfolk	4.70	4.70	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	162.97	0.00
1240	7	S7	Norfolk	4.67	4.67	Corn, Grain	115 bu.	2/15-6/30	131	0	20	Irrig.	111	61.58	0.00	287.58	0.00
1240	7	S7	Norfolk	4.67	4.67	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	161.93	0.00

Waste Utilization Table **Year 1**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manur Applied (Field) tons
1240	8	S7	Norfolk	3.23	3.23	Corn, Grain	115 bu.	2/15-6/30	131	0	20	Irrig.	111	61.58	0.00	198.91	0.00
1240	8	S7	Norfolk	3.23	3.23	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	112.00	0.00
1240	9	S7	Kenansville	4.30	4.30	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	186.07	0.00
1240	9	S7	Kenansville	4.30	4.30	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	96.62	0.00
1829	1	S5	Kenansville	1.26	1.26	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	34.95	0.00
1829	1	S5	Kenansville	1.26	1.26	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	141.20	0.00
1829	2	S5	Kenansville	17.10	17.10	Corn, Grain	80 bu.	2/15-6/30	98	0	20	Irrig.	78	43.27	0.00	739.96	0.00
1829	2	S5	Kenansville	17.10	17.10	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	384.21	0.00
1829	3	S5	Rains	4.52	4.52	Corn, Grain	125 bu.	2/15-6/30	135	0	20	Irrig.	115	63.80	0.00	288.37	0.00
1829	3	S5	Rains	4.52	4.52	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	132.90	0.00
1829	4	S5	Kenansville	12.71	12.71	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	352.56	0.00
1829	4	S5	Kenansville	12.71	12.71	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	1,424.35	0.00
1835	1A	S5	Kenansville	5.97	5.97	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	0	0.00	0.00	0.00	0.00
1835	1A	S5	Kenansville	5.97	5.97	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	0	0.00	0.00	0.00	0.00
1835	1B	S5	Kenansville	3.32	3.32	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	92.09	0.00
1835	1B	S5	Kenansville	3.32	3.32	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	372.06	0.00
1835	2A	S5	Kenansville	4.52	4.52	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	125.38	0.00
1835	2A	S5	Kenansville	4.52	4.52	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	506.54	0.00
1835	2B	S5	Kenansville	2.83	2.83	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	78.50	0.00
1835	2B	S5	Kenansville	2.83	2.83	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	317.15	0.00
1835	3	S5	Kenansville	4.13	4.13	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	114.56	0.00
1835	3	S5	Kenansville	4.13	4.13	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	462.83	0.00

Waste Utilization Table **Year 1**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manur Applied (Field) tons
SA	Alternate	S7	Kenansville	45.00	45.00	Sorghum-Sudan Hay	4.4 Tons	3/15-8/31	237	0	25	Irrig.	212	117.61	0.00	5,292.59	0.00
															Total Applied, 1000 gallons	29,775.02	
															Total Produced, 1000 gallons	20,143.86	
															Balance, 1000 gallons	-9,631.16	
															Total Applied, tons		0.00
															Total Produced, tons		0.00
															Balance, tons		0.00

Notes: 1. In the tract column, ~ symbol means leased, otherwise, owned. 2. Symbol * means user entered data.

Waste Utilization Table **Year 2**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manur Applied (Field) tons
1240	1	S7	Norfolk	3.55	3.55	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	98.47	0.00
1240	1	S7	Norfolk	3.55	3.55	Hybrid Bermudagrass Pasture	6.5 Tons	3/1-9/30	222	0	0	Irrig.	222	123.16	0.00	437.22	0.00
1240	10	S7	Kenansville	4.57	4.57	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	102.68	0.00
1240	10	S7	Kenansville	4.57	4.57	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	253.53	0.00
1240	11-24	S7	Kenansville	40.02	40.02	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	1,110.11	0.00
1240	11-24	S7	Kenansville	40.02	40.02	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	4,484.86	0.00
1240	25	S7	Kenansville	4.95	4.95	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	111.22	0.00
1240	25	S7	Kenansville	4.95	4.95	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	274.62	0.00
1240	26	S7	Kenansville	4.96	4.96	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	111.44	0.00
1240	26	S7	Kenansville	4.96	4.96	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	275.17	0.00
1240	27	S7	Rains	4.48	4.48	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	131.73	0.00
1240	27	S7	Rains	4.48	4.48	Soybeans, Manured, Double Crop	37 bu.	4/1-9/15	143	0	0	Irrig.	143	79.33	0.00	355.41	0.00
1240	28	S7	Kenansville	2.26	2.26	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	50.78	0.00
1240	28	S7	Kenansville	2.26	2.26	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	125.38	0.00
1240	29-33	S7	Kenansville	15.74	15.74	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	353.66	0.00
1240	29-33	S7	Kenansville	15.74	15.74	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	873.22	0.00
1240	34-35	S7	Rains	6.36	6.36	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	187.01	0.00
1240	34-35	S7	Rains	6.36	6.36	Soybeans, Manured, Double Crop	37 bu.	4/1-9/15	143	0	0	Irrig.	143	79.33	0.00	504.56	0.00
1240	36	S7	Rains	2.63	2.63	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	77.33	0.00
1240	36	S7	Rains	2.63	2.63	Soybeans, Manured, Double Crop	37 bu.	4/1-9/15	143	0	0	Irrig.	143	79.33	0.00	208.65	0.00
1240	37	S7	Norfolk	1.85	1.85	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	64.15	0.00
1240	37	S7	Norfolk	1.85	1.85	Soybeans, Manured, Double Crop	35 bu.	4/1-9/15	137	0	0	Irrig.	137	76.01	0.00	140.61	0.00

Waste Utilization Table **Year 2**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manur Applied (Field) tons
1240	38-39	S7	Lynchburg	6.51	6.51	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	191.42	0.00
1240	38-39	S7	Lynchburg	6.51	6.51	Soybeans, Manured, Double Crop	39 bu.	4/1-9/15	151	0	0	Irrig.	151	83.77	0.00	545.35	0.00
1240	4	S7	Wagram	4.97	4.97	Wheat, Grain	40 bu.	9/1-4/30	93	0	0	Irrig.	47	30.96	0.00	153.85	0.00
1240	4	S7	Wagram	4.97	4.97	Soybeans, Manured, Double Crop	23 bu.	4/1-9/15	92	0	0	Irrig.	92	51.04	0.00	253.67	0.00
1240	42-45	S7	Wagram	15.28	15.28	Wheat, Grain	40 bu.	9/1-4/30	93	0	0	Irrig.	47	25.80	0.00	394.18	0.00
1240	42-45	S7	Wagram	15.28	15.28	Soybeans, Manured, Double Crop	23 bu.	4/1-9/15	92	0	0	Irrig.	92	51.04	0.00	779.89	0.00
1240	46-51	S7	Goldsboro	25.77	25.77	Wheat, Grain	65 bu.	9/1-4/30	136	0	0	Irrig.	68	37.73	0.00	972.17	0.00
1240	46-51	S7	Goldsboro	25.77	25.77	Soybeans, Manured, Double Crop	38 bu.	4/1-9/15	149	0	0	Irrig.	149	82.66	0.00	2,130.20	0.00
1240	5	S7	Wagram	4.71	4.71	Wheat, Grain	40 bu.	9/1-4/30	93	0	0	Irrig.	47	25.80	0.00	121.51	0.00
1240	5	S7	Wagram	4.71	4.71	Soybeans, Manured, Double Crop	23 bu.	4/1-9/15	92	0	0	Irrig.	92	51.04	0.00	240.40	0.00
1240	52-57	S7	Wagram	18.64	18.64	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	517.05	0.00
1240	52-57	S7	Wagram	18.64	18.64	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	2,088.90	0.00
1240	6	S7	Norfolk	4.70	4.70	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	162.97	0.00
1240	6	S7	Norfolk	4.70	4.70	Soybeans, Manured, Double Crop	35 bu.	4/1-9/15	137	0	0	Irrig.	137	76.01	0.00	357.22	0.00
1240	7	S7	Norfolk	4.67	4.67	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	161.93	0.00
1240	7	S7	Norfolk	4.67	4.67	Soybeans, Manured, Double Crop	35 bu.	4/1-9/15	137	0	0	Irrig.	137	76.01	0.00	354.94	0.00
1240	8	S7	Norfolk	3.23	3.23	Wheat, Grain	60 bu.	9/1-4/30	125	0	0	Irrig.	63	34.67	0.00	112.00	0.00
1240	8	S7	Norfolk	3.23	3.23	Soybeans, Manured, Double Crop	35 bu.	4/1-9/15	137	0	0	Irrig.	137	76.01	0.00	245.50	0.00
1240	9	S7	Kenansville	4.30	4.30	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	96.62	0.00
1240	9	S7	Kenansville	4.30	4.30	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	238.56	0.00
1829	1	S5	Kenansville	1.26	1.26	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	34.95	0.00
1829	1	S5	Kenansville	1.26	1.26	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	141.20	0.00

Waste Utilization Table **Year 2**

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A) N	Comm. Fert. Nutrient Applied (lbs/A) N	Res. (lbs/A) N	Applic. Method	Manure PA NutrientApplied (lbs/A) N	Liquid ManureApplied (acre) 1000 gal/A	Solid Manure Applied (acre) Tons	Liquid Manure Applied (Field) 1000 gals	Solid Manur Applied (Field) tons
1829	2	S5	Kenansville	17.10	17.10	Wheat, Grain	35 bu.	9/1-4/30	81	0	0	Irrig.	41	22.47	0.00	384.21	0.00
1829	2	S5	Kenansville	17.10	17.10	Soybeans, Manured, Double Crop	25 bu.	4/1-9/15	100	0	0	Irrig.	100	55.48	0.00	948.67	0.00
1829	3	S5	Rains	4.52	4.52	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Irrig.	53	29.40	0.00	132.90	0.00
1829	3	S5	Rains	4.52	4.52	Soybeans, Manured, Double Crop	37 bu.	4/1-9/15	143	0	0	Irrig.	143	79.33	0.00	358.59	0.00
1829	4	S5	Kenansville	12.71	12.71	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	352.56	0.00
1829	4	S5	Kenansville	12.71	12.71	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	1,424.35	0.00
1835	1A	S5	Kenansville	5.97	5.97	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	0	0.00	0.00	0.00	0.00
1835	1A	S5	Kenansville	5.97	5.97	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	0	0.00	0.00	0.00	0.00
1835	1B	S5	Kenansville	3.32	3.32	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	92.09	0.00
1835	1B	S5	Kenansville	3.32	3.32	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	372.06	0.00
1835	2A	S5	Kenansville	4.52	4.52	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	125.38	0.00
1835	2A	S5	Kenansville	4.52	4.52	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	506.54	0.00
1835	2B	S5	Kenansville	2.83	2.83	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	78.50	0.00
1835	2B	S5	Kenansville	2.83	2.83	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	317.15	0.00
1835	3	S5	Kenansville	4.13	4.13	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	27.74	0.00	114.56	0.00
1835	3	S5	Kenansville	4.13	4.13	Hybrid Bermudagrass Pasture	5.5 Tons	3/1-9/30	202	0	0	Irrig.	202	112.07	0.00	462.83	0.00
SA	Alternate	S7	Kenansville	45.00	45.00	Sorghum-Sudan Hay	4.4 Tons	3/15-8/31	237	0	25	Irrig.	212	117.61	0.00	5,292.59	0.00
															Total Applied, 1000 gallons	31,589.25	
															Total Produced, 1000 gallons	20,143.86	
															Balance, 1000 gallons	-11,445.39	
															Total Applied, tons		0.00
															Total Produced, tons		0.00
															Balance, tons		0.00

Notes: 1. In the tract column, ~ symbol means leased, otherwise, owned. 2. Symbol * means user entered data.

The Irrigation Application Factors for each field in this plan are shown in the following table. Infiltration rate varies with soils. If applying waste nutrients through an irrigation system, you must apply at a rate that will not result in runoff. This table provides the maximum application rate per hour that may be applied to each field selected to receive wastewater. It also lists the maximum application amount that each field may receive in any one application event.

Irrigation Application Factors

Tract	Field	Soil Series	Application Rate (inches/hour)	Application Amount (inches)
1240	1	Norfolk	0.50	1.0
1240	10	Kenansville	0.60	1.0
1240	11-24	Kenansville	0.60	1.0
1240	25	Kenansville	0.60	1.0
1240	26	Kenansville	0.60	1.0
1240	27	Rains	0.40	1.0
1240	28	Kenansville	0.60	1.0
1240	29-33	Kenansville	0.60	1.0
1240	34-35	Rains	0.40	1.0
1240	36	Rains	0.40	1.0
1240	37	Norfolk	0.50	1.0
1240	38-39	Lynchburg	0.50	1.0
1240	4	Wagram	0.60	1.0
1240	42-45	Wagram	0.60	1.0
1240	46-51	Goldsboro	0.50	1.0
1240	5	Wagram	0.60	1.0
1240	52-57	Wagram	0.60	1.0
1240	6	Norfolk	0.50	1.0
1240	7	Norfolk	0.50	1.0
1240	8	Norfolk	0.50	1.0
1240	9	Kenansville	0.60	1.0
1829	1	Kenansville	0.60	1.0
1829	2	Kenansville	0.60	1.0
1829	3	Rains	0.40	1.0
1829	4	Kenansville	0.60	1.0
1835	1A	Kenansville	0.60	1.0
1835	1B	Kenansville	0.60	1.0
1835	2A	Kenansville	0.60	1.0
1835	2B	Kenansville	0.60	1.0
1835	3	Kenansville	0.60	1.0
SA	Alternate	Kenansville	0.60	1.0

NOTE: Symbol * means user entered data.

The following Lagoon Sludge Nitrogen Utilization table provides an estimate of the number of acres needed for sludge utilization for the indicated accumulation period. These estimates are based on average nitrogen concentrations for each source, the number of animals in the facility and the plant available nitrogen application rates shown in the second column.

Lagoon sludge contains nutrients and organic matter remaining after treatment and application of the effluent. At clean out, this material must be utilized for crop production and applied at agronomic rates. In most cases, the priority nutrient is nitrogen but other nutrients including phosphorous, copper and zinc can also be limiting. Since nutrient levels are generally very high, application of sludge must be carefully applied.

Sites must first be evaluated for their suitability for sludge application. Ideally, effluent spray fields should not be used for sludge application. If this is not possible, care should be taken not to load effluent application fields with high amounts of copper and zinc so that additional effluent cannot be applied. On sites vulnerable to surface water moving to streams and lakes, phosphorous is a concern. Soils containing very high phosphorous levels may also be a concern.

Lagoon Sludge Nitrogen Utilization Table

Crop	Maximum PA-N Rate lb/ac	Maximum Sludge Application Rate 1000 gal/ac	Minimum Acres 5 Years Accumulation	Minimum Acres 10 Years Accumulation	Minimum Acres 15 Years Accumulation
Swine Nursery Lagoon Sludge - Standard					
Corn 120 bu	150	14.69	9.12	18.25	27.37
Hay 6 ton R.Y.E.	300	29.38	4.56	9.12	13.68
Soybean 40 bu	160	15.67	8.55	17.11	25.66
Swine Feeder-Finish Lagoon Sludge - Standard					
Corn 120 bu	150	14.69	234.84	469.68	704.53
Hay 6 ton R.Y.E.	300	29.38	117.42	234.84	352.26
Soybean 40 bu	160	15.67	220.16	440.33	660.49

The Available Waste Storage Capacity table provides an estimate of the number of days of storage capacity available at the end of each month of the plan. Available storage capacity is calculated as the design storage capacity in days minus the number of days of net storage volume accumulated. The start date is a value entered by the user and is defined as the date prior to applying nutrients to the first crop in the plan at which storage volume in the lagoon or holding pond is equal to zero.

Available storage capacity should be greater than or equal to zero and less than or equal to the design storage capacity of the facility. If the available storage capacity is greater than the design storage capacity, this indicates that the plan calls for the application of nutrients that have not yet accumulated. If available storage capacity is negative, the estimated volume of accumulated waste exceeds the design storage volume of the structure. Either of these situations indicates that the planned application interval in the waste utilization plan is inconsistent with the structure's temporary storage capacity.

Available Waste Storage Capacity

Source Name	Swine Feeder-Finish Lagoon Liquid	**Design Storage Capacity (Days)**
Start Date	9/1	180
Plan Year	Month	Available Storage Capacity (Days) *
1	1	51
1	2	54
1	3	80
1	4	110
1	5	144
1	6	180
1	7	180
1	8	180
1	9	177
1	10	169
1	11	159
1	12	154
2	1	143
2	2	141
2	3	155
2	4	180
2	5	180
2	6	180
2	7	180
2	8	180
2	9	179
2	10	151
2	11	128
2	12	104

* Available Storage Capacity is calculated as of the end of each month.

Available Waste Storage Capacity

Source Name	Swine Nursery Lagoon Liquid	Design Storage Capacity (Days)
Start Date	9/1	180
Plan Year	Month	Available Storage Capacity (Days) *
1	1	180
1	2	180
1	3	180
1	4	180
1	5	180
1	6	180
1	7	180
1	8	180
1	9	180
1	10	180
1	11	180
1	12	180
2	1	180
2	2	180
2	3	180
2	4	180
2	5	180
2	6	180
2	7	180
2	8	180
2	9	180
2	10	180
2	11	180
2	12	180

* Available Storage Capacity is calculated as of the end of each month.

Required Specifications For Animal Waste Management

1. **Animal waste shall not reach surface waters of the state by runoff, drift, manmade conveyances, direct application, or direct discharge during operation or land application. Any discharge of waste that reaches surface water is prohibited.**

2. **There must be documentation in the design folder that the producer either owns or has an agreement for use of adequate land on which to properly apply the waste. If the producer does not own adequate land to properly dispose of the waste, he/she shall provide evidence of an agreement with a landowner, who is within a reasonable proximity, allowing him/her the use of the land for waste application. It is the responsibility of the owner of the waste production facility to secure an update of the Nutrient Management Plan when there is a change in the operation, increase in the number of animals, method of application, receiving crop type, or available land.**

3. **Animal waste shall be applied to meet, but not exceed, the nitrogen needs for realistic crop yields based upon soil type, available moisture, historical data, climatic conditions, and level of management, unless there are regulations that restrict the rate of applications for other nutrients.**

4. **Animal waste shall be applied to land eroding less than 5 tons per acre per year. Waste may be applied to land eroding at more than 5 tons per acre per year but less than 10 tons per acre per year provided grass filter strips are installed where runoff leaves the field (see USDA, NRCS Field Office Technical Guide Standard 393 - Filter Strips).**

5. **Odors can be reduced by injecting the waste or by disking after waste application. Waste should not be applied when there is danger of drift from the land application field.**

6. **When animal waste is to be applied on acres subject to flooding, waste will be soil incorporated on conventionally tilled cropland. When waste is applied to conservation tilled crops or grassland, the waste may be broadcast provided the application does not occur during a season prone to flooding (see "Weather and Climate in North Carolina" for guidance).**

7. **Liquid waste shall be applied at rates not to exceed the soil infiltration rate such that runoff does not occur offsite or to surface waters and in a method which does not cause drift from the site during application. No ponding should occur in order to control odor and flies.**

8. **Animal waste shall not be applied to saturated soils, during rainfall events, or when the soil surface is frozen.**

9. **Animal waste shall be applied on actively growing crops in such a manner that the crop is not covered with waste to a depth that would inhibit growth. The potential for salt damage from animal waste should also be considered.**

10. **Nutrients from waste shall not be applied in fall or winter for spring planted crops on soils with a high potential for leaching. Waste/nutrient loading rates on these soils should be held to a minimum and a suitable winter cover crop planted to take up released nutrients. Waste shall not be applied more than 30 days prior to planting of the crop or forages breaking dormancy.**

11. **Any new swine facility sited on or after October 1, 1995 shall comply with the following: The outer perimeter of the land area onto which waste is applied from a lagoon that is a component of a swine farm shall be at least 50 feet from any residential property boundary and canal. Animal waste, other than swine waste from facilities sited on or after October 1, 1995, shall not be applied closer that 25 feet to perennial waters.**

12. **Animal waste shall not be applied closer than 100 feet to wells.**

13. **Animal waste shall not be applied closer than 200 feet of dwellings other than those owned by the landowner.**

14. **Waste shall be applied in a manner not to reach other property and public right-of-ways.**

15. **Animal waste shall not be discharged into surface waters, drainageways, or wetlands by a discharge or by over-spraying. Animal waste may be applied to prior converted cropland provided the fields have been approved as a land application site by a "technical specialist". Animal waste shall not be applied on grassed waterways that discharge directly into water courses, and on other grassed waterways, waste shall be applied at agronomic rates in a manner that causes no runoff or drift from the site.**

16. **Domestic and industrial waste from washdown facilities, showers, toilets, sinks, etc., shall not be discharged into the animal waste management system.**

17. **A protective cover of appropriate vegetation will be established on all disturbed areas (lagoon embankments, berms, pipe runs, etc.). Areas shall be fenced, as necessary, to protect the vegetation. Vegetation such as trees, shrubs, and other woody species, etc., are limited to areas where considered appropriate. Lagoon areas should be kept mowed and accessible. Berms and structures should be inspected regularly for evidence of erosion, leakage, or discharge.**

18. **If animal production at the facility is to be suspended or terminated, the owner is responsible for obtaining and implementing a "closure plan" which will eliminate the possibility of an illegal discharge, pollution, and erosion.**

19. **Waste handling structures, piping, pumps, reels, etc., should be inspected on a regular basis to prevent breakdowns, leaks, and spills. A regular maintenance checklist should be kept on site.**

20. **Animal waste can be used in a rotation that includes vegetables and other crops for direct human consumption. However, if animal waste is used on crops for direct human consumption, it should only be applied pre-plant with no further applications of animal waste during the crop season.**

21. **Highly visible markers shall be installed to mark the top and bottom elevations of the temporary storage (pumping volume) of all waste treatment lagoons. Pumping shall be managed to maintain the liquid level between the markers. A marker will be required to mark the maximum storage volume for waste storage ponds.**

22. **Waste shall be tested within 60 days of utilization and soil shall be tested at least annually at crop sites where waste products are applied. Nitrogen shall be the rate-determining nutrient, unless other restrictions require waste to be applied based on other nutrients, resulting in a lower application rate than a nitrogen based rate. Zinc and copper levels in the soils shall be monitored and alternative crop sites shall be used when these metals approach excessive levels. pH shall be adjusted and maintained for optimum crop production. Soil and waste analysis records shall be kept for a minimum of five years. Poultry dry waste application records shall be maintained for a minimum of three years. Waste application records for all other waste shall be maintained for five (5) years.**

23. **Dead animals will be disposed of in a manner that meets North Carolina regulations.**

Crop Notes

The following crop note applies to field(s): 27, 3, 34-35, 36

Corn 1: CP, Mineral Soil, low-leachable
In the Coastal Plain, corn is normally planted when soil temperatures reach 52 to 55 degrees fahrenheit. Review the Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 1-2" deep. Plant populations should be determined by the hybrid being planted. Increase the seeding rate by 10% when planting no-till. Phosphorus and potassium recommended by a soil test can be broadcast or banded at planting. When planting early in cool, wet soil, banded phosphorus will be more available to the young plants. An accepted practice is to apply 20-30 lbs/acre N and 20-30 lbs/acre phosphorus banded as a starter and one-half the remaining N behind the planter. The rest of the N should be applied about 30-40 days after emergence. The total amount of N is dependent on soil type. When including a starter in the fertilizer program, the recommended potassium and any additional phosphorus is normally broadcast at planting. Plant samples can be analyzed during the growing season to monitor the overall nutrient status of the corn. Timely management of weeds and insects are essential for corn production.

The following crop note applies to field(s): 38-39

Corn 1: CP, Mineral Soil, low-leachable
In the Coastal Plain, corn is normally planted when soil temperatures reach 52 to 55 degrees fahrenheit. Review the Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 1-2" deep. Plant populations should be determined by the hybrid being planted. Increase the seeding rate by 10% when planting no-till. Phosphorus and potassium recommended by a soil test can be broadcast or banded at planting. When planting early in cool, wet soil, banded phosphorus will be more available to the young plants. An accepted practice is to apply 20-30 lbs/acre N and 20-30 lbs/acre phosphorus banded as a starter and one-half the remaining N behind the planter. The rest of the N should be applied about 30-40 days after emergence. The total amount of N is dependent on soil type. When including a starter in the fertilizer program, the recommended potassium and any additional phosphorus is normally broadcast at planting. Plant samples can be analyzed during the growing season to monitor the overall nutrient status of the corn. Timely management of weeds and insects are essential for corn production.

The following crop note applies to field(s): 46-51

Corn 1: CP, Mineral Soil, low-leachable
In the Coastal Plain, corn is normally planted when soil temperatures reach 52 to 55 degrees fahrenheit. Review the Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 1-2" deep. Plant populations should be determined by the hybrid being planted. Increase the seeding rate by 10% when planting no-till. Phosphorus and potassium recommended by a soil test can be broadcast or banded at planting. When planting early in cool, wet soil, banded phosphorus will be more available to the young plants. An accepted practice is to apply 20-30 lbs/acre N and 20-30 lbs/acre phosphorus banded as a starter and one-half the remaining N behind the planter. The rest of the N should be applied about 30-40 days after emergence. The total amount of N is dependent on soil type. When including a starter in the fertilizer program, the recommended potassium and any additional phosphorus is normally broadcast at planting. Plant samples can be analyzed during the growing season to monitor the overall nutrient status of the corn. Timely management of weeds and insects are essential for corn production.

The following crop note applies to field(s): 37, 6, 7, 8

Corn: CP, Mineral Soil, medium leaching
In the Coastal Plain, corn is normally planted when soil temperatures reach 52 to 55 degrees fahrenheit. Review the Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 1-2" deep. Plant populations should be determined by the hybrid being planted. Increase the seeding rate by 10% when planting no-till. Phosphorus and potassium recommended by a soil test can be broadcast or banded at planting. When planting early in cool, wet soil, banded phosphorus will be more available to the young plants. An accepted practice is to apply 20-30 lbs/acre N and 20-30 lbs/acre phosphorus banded as a starter and one-half the remaining N behind the planter. The rest of the N should be applied about 30-40 days after emergence. The total amount of N is dependent on soil type. When including a starter in the fertilizer program, the recommended potassium and any additional phosphorus is normally broadcast at planting. Plant samples can be analyzed during the growing season to monitor the overall nutrient status of the corn. Timely management of weeds and insects are essential for corn production.

The following crop note applies to field(s): 10, 2, 25, 26, 28, 29-33, 4, 42-45, 5, 9

Corn: CP, Mineral Soil, medium leaching
In the Coastal Plain, corn is normally planted when soil temperatures reach 52 to 55 degrees fahrenheit. Review the Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 1-2" deep. Plant populations should be determined by the hybrid being planted. Increase the seeding rate by 10% when planting no-till. Phosphorus and potassium recommended by a soil test can be broadcast or banded at planting. When planting early in cool, wet soil, banded phosphorus will be more available to the young plants. An accepted practice is to apply 20-30 lbs/acre N and 20-30 lbs/acre phosphorus banded as a starter and one-half the remaining N behind the planter. The rest of the N should be applied about 30-40 days after emergence. The total amount of N is dependent on soil type. When including a starter in the fertilizer program, the recommended potassium and any additional phosphorus is normally broadcast at planting. Plant samples can be analyzed during the growing season to monitor the overall nutrient status of the corn. Timely management of weeds and insects are essential for corn production.

The following crop note applies to field(s): 1

Small Grain: CP, Mineral Soil, medium leachable

In the Coastal Plain, oats and barley should be planted from October 15-October 30; and rye from October 15-November 20. For barley, plant 22 seed/drill row foot and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Oats should be planted at 2 bushels/acre and rye at 1-1 1/2 bushels/acre. Plant all these small grains at 1-1 1/2" deep. Adequate depth control is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March.

The following crop note applies to field(s): 1, 11-24, 1A, 1B, 2A, 2B, 3, 4, 52-57

Small Grain: CP, Mineral Soil, medium leachable

In the Coastal Plain, oats and barley should be planted from October 15-October 30; and rye from October 15-November 20. For barley, plant 22 seed/drill row foot and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Oats should be planted at 2 bushels/acre and rye at 1-1 1/2 bushels/acre. Plant all these small grains at 1-1 1/2" deep. Adequate depth control is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March.

The following crop note applies to field(s): 1

Bermudagrass: CP, Mineral Soil, Moderately Well Drained.

Adaptation: Well-adapted.

In the Coastal Plain, hybrid bermudagrass sprigs can be planted Mar. 1 to Mar. 31. Cover sprigs 1" to 3" deep (1.5" optimal). Sprigs should be planted quickly after digging and not allowed to dry in sun and wind. For Coastal and Tifton 78 plant at least 10 bu/ac in 3' rows, spaced 2' to 3' in the row. Generally a rate of 30 bu/ac is satisfactory to produce full groundcover in one or two years under good growing conditions. Tifton 44 spreads slowly, so use at least 40 bu/ac in 1.5' to 2' rows spaced 1' to 1.5' in row. For broadcast/disked-in sprigs use about 60 bu/ac. Soil test for the amounts of lime, phosphorus, potassium and micronutrients to apply preplant and for annual maintenance. Apply 60 to 100 lb/ac N in the establishment year in split applications in April and July. For established stands apply 180 to 240 lb/ac N annually in split applications, usually in April and following the first and second hay cuts. Reduce N rates by 25% for grazing. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for more information or consult your regional agronomist or extension agent for assistance.

The following crop note applies to field(s): 1, 11-24, 1A, 1B, 2A, 2B, 3, 4, 52-57

Bermudagrass: CP, Mineral Soil, Moderately Well Drained.

Adaptation: Well-adapted.

In the Coastal Plain, hybrid bermudagrass sprigs can be planted Mar. 1 to Mar. 31. Cover sprigs 1" to 3" deep (1.5" optimal). Sprigs should be planted quickly after digging and not allowed to dry in sun and wind. For Coastal and Tifton 78 plant at least 10 bu/ac in 3' rows, spaced 2' to 3' in the row. Generally a rate of 30 bu/ac is satisfactory to produce full groundcover in one or two years under good growing conditions. Tifton 44 spreads slowly, so use at least 40 bu/ac in 1.5' to 2' rows spaced 1' to 1.5' in row. For broadcast/disked-in sprigs use about 60 bu/ac. Soil test for the amounts of lime, phosphorus, potassium and micronutrients to apply preplant and for annual maintenance. Apply 60 to 100 lb/ac N in the establishment year in split applications in April and July. For established stands apply 180 to 240 lb/ac N annually in split applications, usually in April and following the first and second hay cuts. Reduce N rates by 25% for grazing. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for more information or consult your regional agronomist or extension agent for assistance.

The following crop note applies to field(s): 27, 3, 34-35, 36

Wheat: Coastal Plain, Mineral Soil, low-leachable

In the Coastal Plain, wheat should be planted from October 20-November 25. Plant 22 seed/drill row foot at 1-1 1/2" deep and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Adequate depth control when planting the wheat is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March. The total N is dependent on the soil type. Plant samples can be analyzed during the growing season to monitor the nutrient status of the wheat. Timely management of diseases, insects and weeds are essential for profitable wheat production.

The following crop note applies to field(s): 38-39

Wheat: Coastal Plain, Mineral Soil, low-leachable

In the Coastal Plain, wheat should be planted from October 20-November 25. Plant 22 seed/drill row foot at 1-1 1/2" deep and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Adequate depth control when planting the wheat is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March. The total N is dependent on the soil type. Plant samples can be analyzed during the growing season to monitor the nutrient status of the wheat. Timely management of diseases, insects and weeds are essential for profitable wheat production.

The following crop note applies to field(s): 46-51

Wheat: Coastal Plain, Mineral Soil, low-leachable

In the Coastal Plain, wheat should be planted from October 20-November 25. Plant 22 seed/drill row foot at 1-1 1/2" deep and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Adequate depth control when planting the wheat is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March. The total N is dependent on the soil type. Plant samples can be analyzed during the growing season to monitor the nutrient status of the wheat. Timely management of diseases, insects and weeds are essential for profitable wheat production.

The following crop note applies to field(s): 37, 6, 7, 8

Wheat: Coastal Plain, Mineral Soil, medium leachable

In the Coastal Plain, wheat should be planted from October 20-November 25. Plant 22 seed/drill row foot at 1-1 1/2" deep and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Adequate depth control when planting the wheat is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test report can also be applied at this time. The remaining N should be applied during the months of February-March. The total N is dependent on the soil type. Plant samples can be analyzed during the growing season to monitor the nutrient status of the wheat. Timely management of diseases, insects and weeds are essential for profitable wheat production.

The following crop note applies to field(s): 10, 2, 25, 26, 28, 29-33, 4, 42-45, 5, 9

Wheat: Coastal Plain, Mineral Soil, medium leachable

In the Coastal Plain, wheat should be planted from October 20-November 25. Plant 22 seed/drill row foot at 1-1 1/2" deep and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Adequate depth control when planting the wheat is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test report can also be applied at this time. The remaining N should be applied during the months of February-March. The total N is dependent on the soil type. Plant samples can be analyzed during the growing season to monitor the nutrient status of the wheat. Timely management of diseases, insects and weeds are essential for profitable wheat production.

The following crop note applies to field(s): 27, 3, 34-35, 36

Double-Crop Soybeans, Coastal Plain: Mineral Soil, low-leachable

Double-crop soybeans should be planted as early in June as possible with planting completed by July 4th. When no-tilling soybeans in small grain straw, it is essential to manage the straw to achieve adequate plant populations. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 2-4 seed/row foot for 7-8" drills; 4-6 seed/row foot for 15" rows; 6-8 seed/row foot for 30" rows and 8-10 seed/row foot for 36" rows. Increase the seeding rate by at least 10% for no-till planting. Seeding depth should be 1-1 1/2" and adequate depth control is essential. Phosphorus and potash recommended for the soybeans can be applied to the wheat in the Fall. Soybeans produce their own nitrogen and are normally grown without additions of nitrogen. However, applications of 20-30 lbs/acre N are sometimes made at planting to promote early growth and vigor. Tissue samples can be analyzed during the growing season to monitor the overall nutrient status of the soybeans. Timely management of weeds and insects is essential for profitable double crop soybean production.

The following crop note applies to field(s): 38-39

Double-Crop Soybeans, Coastal Plain: Mineral Soil, low-leachable

Double-crop soybeans should be planted as early in June as possible with planting completed by July 4th. When no-tilling soybeans in small grain straw, it is essential to manage the straw to achieve adequate plant populations. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 2-4 seed/row foot for 7-8" drills; 4-6 seed/row foot for 15" rows; 6-8 seed/row foot for 30" rows and 8-10 seed/row foot for 36" rows. Increase the seeding rate by at least 10% for no-till planting. Seeding depth should be 1-1 1/2" and adequate depth control is essential. Phosphorus and potash recommended for the soybeans can be applied to the wheat in the Fall. Soybeans produce their own nitrogen and are normally grown without additions of nitrogen. However, applications of 20-30 lbs/acre N are sometimes made at planting to promote early growth and vigor. Tissue samples can be analyzed during the growing season to monitor the overall nutrient status of the soybeans. Timely management of weeds and insects is essential for profitable double crop soybean production.

The following crop note applies to field(s): 46-51

Double-Crop Soybeans, Coastal Plain: Mineral Soil, low-leachable

Double-crop soybeans should be planted as early in June as possible with planting completed by July 4th. When no-tilling soybeans in small grain straw, it is essential to manage the straw to achieve adequate plant populations. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 2-4 seed/row foot for 7-8" drills; 4-6 seed/row foot for 15" rows; 6-8 seed/row foot for 30" rows and 8-10 seed/row foot for 36" rows. Increase the seeding rate by at least 10% for no-till planting. Seeding depth should be 1-1 1/2" and adequate depth control is essential. Phosphorus and potash recommended for the soybeans can be applied to the wheat in the Fall. Soybeans produce their own nitrogen and are normally grown without additions of nitrogen. However, applications of 20-30 lbs/acre N are sometimes made at planting to promote early growth and vigor. Tissue samples can be analyzed during the growing season to monitor the overall nutrient status of the soybeans. Timely management of weeds and insects is essential for profitable double crop soybean production.

The following crop note applies to field(s): 37, 6, 7, 8

Double-Crop Soybeans, Coastal Plain: Mineral soil, medium leachable

Double-crop soybeans should be planted as early in June as possible with planting completed by July 4th. When no-tilling soybeans in small grain straw, it is essential to manage the straw to achieve adequate plant populations. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 2-4 seed/row foot for 7-8" drills; 4-6 seed/row foot for 15" rows; 6-8 seed/row foot for 30" rows and 8-10 seed/row foot for 36" rows. Increase the seeding rate by at least 10% for no-till planting. Seeding depth should be 1-1 1/2" and adequate depth control is essential. Phosphorus and potash recommended for the soybeans can be applied to the wheat in the Fall. Soybeans produce their own nitrogen and are normally grown without additions of nitrogen. However, applications of 20-30 lbs/acre N are sometimes made at planting to promote early growth and vigor. Tissue samples can be analyzed during the growing season to monitor the overall nutrient status of the soybeans. Timely management of weeds and insects is essential for profitable double crop soybean production.

The following crop note applies to field(s): 10, 2, 25, 26, 28, 29-33, 4, 42-45, 5, 9

Double-Crop Soybeans, Coastal Plain: Mineral soil, medium leachable

Double-crop soybeans should be planted as early in June as possible with planting completed by July 4th. When no-tilling soybeans in small grain straw, it is essential to manage the straw to achieve adequate plant populations. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Plant 2-4 seed/row foot for 7-8" drills; 4-6 seed/row foot for 15" rows; 6-8 seed/row foot for 30" rows and 8-10 seed/row foot for 36" rows. Increase the seeding rate by at least 10% for no-till planting. Seeding depth should be 1-1 1/2" and adequate depth control is essential. Phosphorus and potash recommended for the soybeans can be applied to the wheat in the Fall. Soybeans produce their own nitrogen and are normally grown without additions of nitrogen. However, applications of 20-30 lbs/acre N are sometimes made at planting to promote early growth and vigor. Tissue samples can be analyzed during the growing season to monitor the overall nutrient status of the soybeans. Timely management of weeds and insects is essential for profitable double crop soybean production.

The following crop note applies to field(s): Alternate

Sorghum-Sudan: No Comment

IRRIGATION SYSTEM DESIGN PARAMETERS

Landowner/Operator Name: Doug Jernigan - Doug Jernigan Farms; AWS960127 County: Wayne
Address: Thunder Swamp Road
Mt. Olive, NC 28365 Date: 5/1/2003
Telephone: (919) 738-0632 Revised: 9/25/2003
Wetted Acres Revision-Pickle Creek Mitigation Project 9/22/2021

Table 1 - Field Specifications

Field Number	Approximate Maximum Useable Size of Field (acres)	Soil Type	Slope %	Crop(s)	Maximum Application Rate (In/hr)	Maximum Application per Irrigation Cycle (inches)	Comments
Pulls 1-57	184.15	Ke	<5	Bermuda, Cotton, Sm Grain	0.5	1	
		(Predominantly)					

TABLE 2 - Travelling Irrigation Gun Settings

Make, Model and Type of Equipment: Cadman 3250 traveler w/ 3.25"x975' hose w/Nelson 150

Field No. and Hydrant No.	Travel Speed (ft/min)	Application Rate (in/hr.)	TRAVEL LANE Effective Width(ft.)	TRAVEL LANE Effective Length(ft)	Wetted Diameter (feet)	Nozzle Diameter (Inches)	Operating Pressure at Gun(psi)	Operating Pressure at reel(psi)	Arc Pattern	Comments - Acres per pull
1	4.41	0.75	271	420	301.5	1.26	60	95	220	3.55
4	3.68/4.41	.55/.75	271/227	331/285	301.5	1.26	60	95	300/220	4.97
5	3.68	0.55	240	612	301.5	1.26	60	95	300	4.71
6	3.68	0.55	240	610	301.5	1.26	60	95	300	4.70
7	3.68	0.55	240	604	301.5	1.26	60	95	300	4.67
8	4.41	0.75	219	461	301.5	1.26	60	95	220	3.23
9	4.41	0.75	230	642	301.5	1.26	60	95	220	4.30
10	3.68	0.55	230	654	301.5	1.26	60	95	300	4.57
11	8.03/4.01	.92/.55	110/220	229/10	301.5	1.26	60	95	180/300	1.52
12	4.01	0.55	220	49	301.5	1.26	60	95	300	1.14
13	4.01	0.55	220	94	301.5	1.26	60	95	300	1.36
14	4.01	0.55	220	115	301.5	1.26	60	95	300	1.47
15	4.01	0.55	220	175	301.5	1.26	60	95	300	1.77
16	4.01	0.55	220	250	301.5	1.26	60	95	300	1.95
17	4.01	0.55	220	193	301.5	1.26	60	95	300	1.86
18	4.01	0.55	220	439	301.5	1.26	60	95	300	2.91
19	4.01	0.55	220	542	301.5	1.26	60	95	300	3.63
20	4.01	0.55	220	674	301.5	1.26	60	95	300	4.29
21	4.01	0.55	220	692	301.5	1.26	60	95	300	4.38
22	4.01	0.55	220	710	301.5	1.26	60	95	300	4.48
23	4.01	0.55	220	729	301.5	1.26	60	95	300	4.57
24	4.01	0.55	220	752	301.5	1.26	60	95	300	4.69
25	4.01	0.55	228	774	301.5	1.26	60	95	300	4.95
26	4.01	0.55	228	775	301.5	1.26	60	95	300	4.96
27	4.01/4.82	.55/.75	228/140	562/262	301.5	1.26	60	95	300/220	4.48
28	4.82	0.75	197	362	301.5	1.26	60	95	220	2.26
29	8.03	0.92	228	95	301.5	1.26	60	95	180	0.99
30	4.82/4.01	.75/.55	211/220	364/133	301.5	1.26	60	95	220/300	3.32

31	8.03/8.03	.92/.92	143/228	633/75	301.5	1.26	60	95	180/180	2.96
32	4.01/4.82	.55/.75	228/195	190/542	301.5	1.26	60	95	300/220	4.12
33	4.01	0.55	220	686	301.5	1.26	60	95	300	4.35
34	4.01	0.55	220	525	301.5	1.26	60	95	300	3.54
35	8.03/4.01	.92/.55	156/228	407/89	301.5	1.26	60	95	180/300	2.82
36	4.82	0.75	187	476	301.5	1.26	60	95	220	2.63
37	4.82	0.75	235	211	301.5	1.26	60	95	220	1.85
38	3.68	0.55	271	87	301.5	1.26	60	95	300	1.96
39	4.01/4.82	.55/.75	235/215	536/176	301.5	1.26	60	95	300/220	4.55
42	8.83	0.92	117	497	301.5	1.26	60	95	180	1.79
43	4.41	0.55	200	662	301.5	1.26	60	95	300	3.87
44	4.41	0.55	200	825	301.5	1.26	60	95	300	4.62
45	4.41	0.55	218	825	301.5	1.26	60	95	300	5.00
46	3.68	0.55	240	323	301.5	1.26	60	95	300	3.12
47	3.68	0.55	240	4.11	301.5	1.26	60	95	300	3.60
48	3.68	0.55	240	535	301.5	1.26	60	95	300	4.29
49	3.68	0.55	240	578	301.5	1.26	60	95	300	4.52
50	3.68	0.55	240	593	301.5	1.26	60	95	300	4.61
51	3.68	0.55	271	677	301.5	1.26	60	95	300	5.63
52	4.41/5.30	.55/.75	251/174	70/650	301.5	1.26	60	95	300/220	4.03
53	4.41	0.55	251	975	301.5	1.26	60	95	300	6.95
54	8.83/4.41	.92/.55	100/251	227/60	301.5	1.26	60	95	180	1.74
55	4.41	0.55	200	266	301.5	1.26	60	95	300	2.05
56	8.83	0.92	162	208	301.5	1.26	60	95	300	1.25
57	8.83	0.92	136	680	301.5	1.26	60	95	180	2.62
								TOTAL		184.15

TABLE 3 - Solid Set Irrigation Gun Settings

Make, Model and Type of Equipment N/A

Field No and Line No.	Number of Hydrants	Wetted Diameter (feet)	Hydrant Spacing(ft) Along Pipelines	Hydrant Spacing(ft) Between Pipelines	Application Rate (in/hr)	Nozzle Diameter (inches)	Operating Parameters: Operating Pressure at Gun(psi)	Operating Parameters: Operating Time at Hydrant(hr.)	Comments-Acres per zone
								TOTAL	**0.00**

TABLE 4 - Irrigation System Specifications

	Traveling Irrigation Gun	Solid Set Irrigation
Flow Rate of Sprinkler (gpm)	275	0
Operating Pressure at Pump (psi)	123.7	6.9
Design Precipitation Rate (in/hr)	0.46	0.00
Hose Length (feet)	975	XXXXXXXX
Type of Speed Compensation	Engine	XXXXXXXX
Pump Type (PTO, Engine, Electric)	Engine	Engine
Pump Power Requirement (hp)	44.1	0.0

TABLE 5 - Thrust Block Specifications			
	6"	4"	2"
	THRUST BLOCK	THRUST BLOCK	THRUST BLOCK
LOCATION	AREA (sq. ft.)	AREA (sq. ft.)	AREA (sq. ft.)
90 degree bend	8.8	4.3	1.1
Dead End	6.2	3.0	0.8
Tee	4.4	2.1	0.5
Gate Valve	6.2	3.0	0.8
45 degree bend	4.7	2.3	0.6

IRRIGATION SYSTEM DESIGNER

Name: Micah Kevin Weston, CID
Company: Private
Address: 237 A.I. Taylor Road, Richlands, NC 28574
Phone: (910) 324-3044

Required Documentation

The following details of design and materials must accompany all irrigation designs:

1. A scale drawing of the proposed irrigation system which includes hydrant locations, pipelines, thrust block locations and buffer areas where applicable.
2. Assumptions and computations for determining total dynamic head and horsepower requirements.
3. Computations used to determine all mainline and lateral pipe sizes.
4. Sources and/or calculations used for determining application rates.
5. Computations used to determine the size of thrust blocks and illustrations of all thrust block configurations required in the system
6. Manufacturer's specifications for the irrigation pump, traveler and sprinkler(s).
7. Manufacturer's specifications for the irrigation pipe and/or USDA-NRCS standard for IRRIGATION WATER CONVEYANCE.
8. The information required by this form are the minimum requirements. It is the responsibility of the designer to consider all relevant factors at a particular site and address them as appropriate.
9. Irrigation pipes should not be installed in lagoon or storage pond embankments without the approval of the designer.

NOTE: A buffer strip of 25' or wider must be maintained between the limits of the irrigation system and all perennial streams and surface waters per NC Statutes.

Narrative of Irrigation System Operation

This design is for an addition to an existing facility. The acres were calculated based on the equipment specified and the charts created by NCSU for calculating Area Allowances for Hard Hose Traveler Systems.

This irrigation system is designed with six inch, Class 200 PVC and schedule 80 fitttings. The system is designed to accommodate the flow velocities, flow rates and pressure requirements associated with a Cadman 3250 traveler. Air vents and thrust blocks are to be installed as indicated on the drawings. The thrust block areas have been calculated and are listed in Table 4 of this design. The design of the traveler system requires the use of a 1.26" ring nozzle in the gun. Each pull has a specific arc setting and travel speed which must be used to achieve the desired application. This information is given in Table 2 of this design. A detail of the hydrant layout is also included. All pipe shall be installed with a minimum of 30" of cover and shall be backfilled in no less than three passes, leaving enough soil material above original grade to allow for settling. The suction assembly for the pump to be used should be a minimum of 6" aluminum. A pressure gauge should be installed on the discharge side of the pump where it can be seen during start up of the system.

Refer to owner's manual and irrigation dealer for information on maintenance, winterization, and operation of system.

This revision done 9/22/2021 to reflect the recalculation of pulls due to the addition of easements for the Pickle Creek Mitigation Project.

CALCULATIONS

Sprinkler Specifications

Sprinkler Type:	Nelson 150		
Nozzle Size:	1.26	inches	
Sprinkler Pressure:	60	psi	
Flowrate(GPM):	275	gpm	
Wetted Diameter:	301.5	feet	* Reflects a 10% reduction from chart

Lane Spacings

Desired Spacing (%):	70	%
Design Spacing(feet):	211.05	*PVC irrigation pipe normally comes in 20' pieces, so round to the nearest multiple of 20.
Actual Spacing (feet):	240	feet
Actual Spacing (%):	80	%

Application Rate

Application Rate = (96.3xFlowrate)/(3.1415x(.9xradius)squared)

Design App. Rate =	0.46	in/hr
300 degree arc =	0.55	in/hr
220 degree arc =	0.75	in/hr
180 degree arc =	0.92	in/hr

Traveller Speed

Travel speed = 1.605 x Flowrate / Desired application amount x Lane Spacing

Desired app. (in.) =	0.5	inches
300 degree arc =	3.68	ft/min
220 degree arc =	4.41	ft/min
180 degree arc =	7.36	ft/min

Mainline Velocity

Velocity = .408 x Flowrate / pipe diameter squared feet/sec.**
**For buried pipelines, velocity should be below 5 feet per second

Pipe size:	6	inches
Velocity=	3.12	ft/sec.

Maximum Mainline Friction Loss

Most distant hydrant:	28
Total distance:	7185 feet

Friction Loss is figured using Hazen/William's Equation

Friction Loss=	0.52 feet/100 feet	
Max. Mainline Loss =	37.5 feet or	16.2 psi

Total Dynamic Head

Sprinkler Pressure:	60 psi		
Loss through traveller:	35 psi		
Elevation head:	4.3 psi		
Mainline loss:	16.2 psi		
Suction head and lift:	2.3 psi		
5% fitting loss:	5.9 psi		
TOTAL(TDH) =	123.7 psi	or	285.8 feet

Horsepower Required

Horsepower = Flowrate x TDH(feet) / 3960 / Pump effeciency

Pump Description:	Cornell 3HA-EM16-3
Pump Efficiency:	45 %
Horsepower Required:	44.1 Hp

Thrust Blocking

Thrust Block Area = Thrust / Soil Bearing Strength

Thrust:	7460 feet
Soil Bearing Strength:	1200 feet
End Cap:	6.2 ft2
90 degree elbow:	8.8 ft2
Tee:	4.4 ft2
45 degree elbow:	4.7 ft2

Pipe Pressure Rating Check

Pressure Rating of Pipe to be Used:	200 psi
Max. Pressure on system when running:	123.7 psi
70% of Pressure Rating:	140 psi

If Max. Pressure on system is less than 70% of Pressure Rating, OK

Net Positive Suction Head Check

NPSHA: 19.1

NPSHR: 6 *from pump curve

If NPSHA>NPSHR OK

CALCULATIONS

Sprinkler Specifications

Sprinkler Type:	Nelson 150	
Nozzle Size:	1.26 inches	
Sprinkler Pressure:	60 psi	
Flowrate(GPM):	275 gpm	
Wetted Diameter:	301.5 feet	* Reflects a 10% reduction from chart

Lane Spacings

Desired Spacing (%):	70 %	
Design Spacing(feet):	211.05	*PVC irrigation pipe normally comes in 20' pieces, so round to the nearest multiple of 20.
Actual Spacing (feet):	220 feet	
Actual Spacing (%):	73 %	

Application Rate

Application Rate = (96.3xFlowrate)/(3.1415x(.9xradius)squared)

Design App. Rate =	0.46 in/hr	
300 degree arc =	0.55 in/hr	
220 degree arc =	0.75 in/hr	
180 degree arc =	0.92 in/hr	

Traveller Speed

Travel speed = 1.605 x Flowrate / Desired application amount x Lane Spacing

Desired app. (in.) =	0.5 inches	
300 degree arc =	4.01 ft/min	
220 degree arc =	4.82 ft/min	
180 degree arc =	8.03 ft/min	

Mainline Velocity

Velocity = .408 x Flowrate / pipe diameter squared feet/sec.**
**For buried pipelines, velocity should be below 5 feet per second

Pipe size:	6 inches	
Velocity=	3.12 ft/sec.	

CALCULATIONS

Sprinkler Specifications

Sprinkler Type:	Nelson 150		
Nozzle Size:	1.26	inches	
Sprinkler Pressure:	60	psi	
Flowrate(GPM):	275	gpm	
Wetted Diameter:	301.5	feet	* Reflects a 10% reduction from chart

Lane Spacings

Desired Spacing (%):	70	%
Design Spacing(feet):	211.05	*PVC irrigation pipe normally comes in 20' pieces, so round to the nearest multiple of 20.
Actual Spacing (feet):	200	feet
Actual Spacing (%):	66	%

Application Rate

Application Rate = (96.3xFlowrate)/(3.1415x(.9xradius)squared)

Design App. Rate =	0.46	in/hr
300 degree arc =	0.55	in/hr
220 degree arc =	0.75	in/hr
180 degree arc =	0.92	in/hr

Traveller Speed

Travel speed = 1.605 x Flowrate / Desired application amount x Lane Spacing

Desired app. (in.) =	0.5	inches
300 degree arc =	4.41	ft/min
220 degree arc =	5.30	ft/min
180 degree arc =	8.83	ft/min

Mainline Velocity

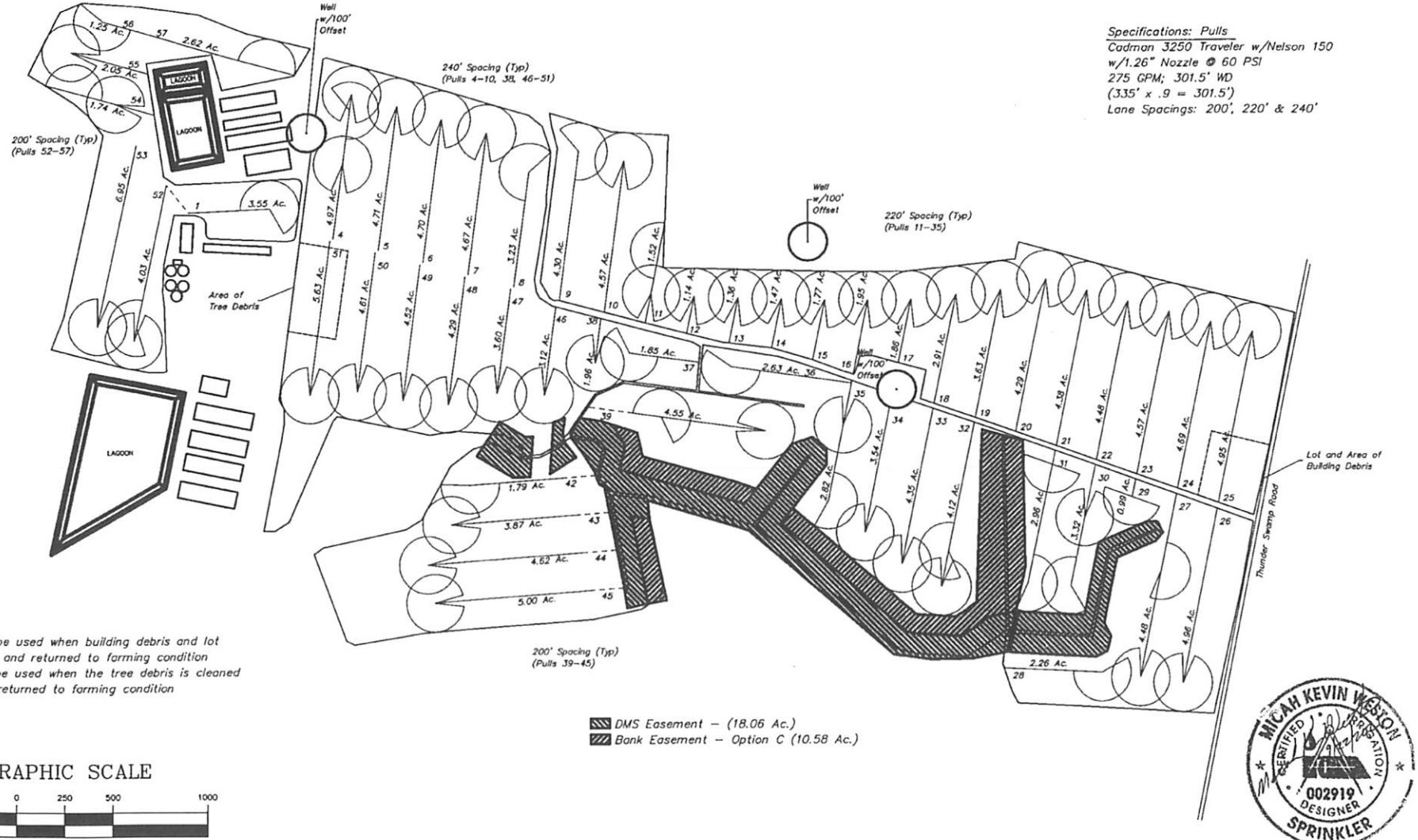
Velocity = .408 x Flowrate / pipe diameter squared feet/sec.**
**For buried pipelines, velocity should be below 5 feet per second

Pipe size:	6	inches
Velocity=	3.12	ft/sec.

			Doug Jernigan Farms; AWS960127					
			Acreage Calculations					
			9/22/2021 - Recalculated due to Pickle Creek Mitigation Project					
	Width	Length	Acres	Total Acres	Start End	Stop End		Total
Pull #	(ft.)	(ft.)	(midsection)	(midsection)	(ac.)	(ac.)		Pull Acres
1	271	420	2.61	2.61	0.660	0.275		3.55
4	271	331	2.06	3.55	0.780	0.640		4.97
	227	285	1.49	0.00	0.78	0.64		0.00
5	240	612	3.37	3.37	0.74	0.6		4.71
6	240	610	3.36	3.36	0.74	0.6		4.70
7	240	604	3.33	3.33	0.74	0.6		4.67
8	219	461	2.32	2.32	0.590	0.320		3.23
9	230	642	3.39	3.39	0.590	0.320		4.30
10	230	654	3.45	3.45	0.620	0.500		4.57
11	110	229	0.58	0.63	0.490	0.400		1.52
	220	10	0.05	0.00	0.490	0.400		0.00
12	220	49	0.25	0.25	0.490	0.400		1.14
13	220	94	0.47	0.47	0.490	0.400		1.36
14	220	115	0.58	0.58	0.490	0.400		1.47
15	220	175	0.88	0.88	0.490	0.400		1.77
16	220	250	1.26	1.26	0.490	0.200		1.95
17	220	193	0.97	0.97	0.490	0.400		1.86
18	220	439	2.22	2.22	0.490	0.200		2.91
19	220	542	2.74	2.74	0.490	0.400		3.63
20	220	674	3.40	3.40	0.490	0.400		4.29
21	220	692	3.49	3.49	0.490	0.400		4.38
22	220	710	3.59	3.59	0.490	0.400		4.48
23	220	729	3.68	3.68	0.490	0.400		4.57
24	220	752	3.80	3.80	0.490	0.400		4.69
25	228	774	4.05	4.05	0.490	0.410		4.95
26	228	775	4.06	4.06	0.490	0.410		4.96
27	228	562	2.94	3.78	0.490	0.210		4.48
	140	262	0.84	0.00	0.000	0.000		0.00
28	197	362	1.64	1.64	0.419	0.205		2.26
29	228	95	0.50	0.50	0.490	0.000		0.99
30	211	364	1.76	2.43	0.490	0.400		3.32
	220	133	0.67	0.00	0.000	0.000		0.00
31	143	633	2.08	2.47	0.490	0.000		2.96
	228	75	0.39	0.00	0.490	0.410		0.00
32	228	190	0.99	3.42	0.490	0.210		4.12
	195	542	2.43	0.00	0.000	0.000		0.00
33	220	686	3.46	3.46	0.490	0.400		4.35
34	220	525	2.65	2.65	0.490	0.400		3.54
35	156	407	1.46	1.92	0.490	0.410		2.82
	228	89	0.47	0.00	0.000	0.000		0.00
36	187	476	2.04	2.04	0.380	0.210		2.63
37	235	211	1.14	1.14	0.500	0.210		1.85
38	271	87	0.54	0.54	0.780	0.640		1.96
39	235	536	2.89	3.84	0.500	0.210		4.55
	235	176	0.95	0.00	0.000	0.000		0.00
42	117	497	1.33	1.33	0.258	0.195		1.79
43	200	662	3.04	3.04	0.460	0.370		3.87

44	200	825	3.79	3.79	0.460	0.370		4.62
45	218	825	4.13	4.13	0.480	0.390		5.00
46	240	323	1.78	1.78	0.740	0.600		3.12
47	240	411	2.26	2.26	0.740	0.600		3.60
48	240	535	2.95	2.95	0.740	0.600		4.29
49	240	578	3.18	3.18	0.740	0.600		4.52
50	240	593	3.27	3.27	0.740	0.600		4.61
51	271	677	4.21	4.21	0.780	0.640		5.63
52	251	70	0.40	3.00	0.730	0.300		4.03
	174	650	2.60	0.00	0.730	0.600		0.00
53	251	975	5.62	5.62	0.730	0.600		6.95
54	100	227	0.52	0.87	0.480	0.390		1.74
	251	60	0.35	0.00	0.480	0.390		0.00
55	200	266	1.22	1.22	0.460	0.370		2.05
56	162	208	0.77	0.77	0.240	0.240		1.25
57	136	680	2.12	2.12	0.250	0.250		2.62
						Total Acres		**184.15**

DOUG JERNIGAN FARMS
AWS960127
Wetted Acreage



Specifications: Pulls
Cadman 3250 Traveler w/Nelson 150 w/1.26" Nozzle @ 60 PSI
275 GPM; 301.5' WD
(335' x .9 = 301.5')
Lane Spacings: 200', 220' & 240'

NOTE:
Pull 25 may be used when building debris and lot is cleaned up and returned to farming condition
Pull 51 may be used when the tree debris is cleaned up and area returned to farming condition

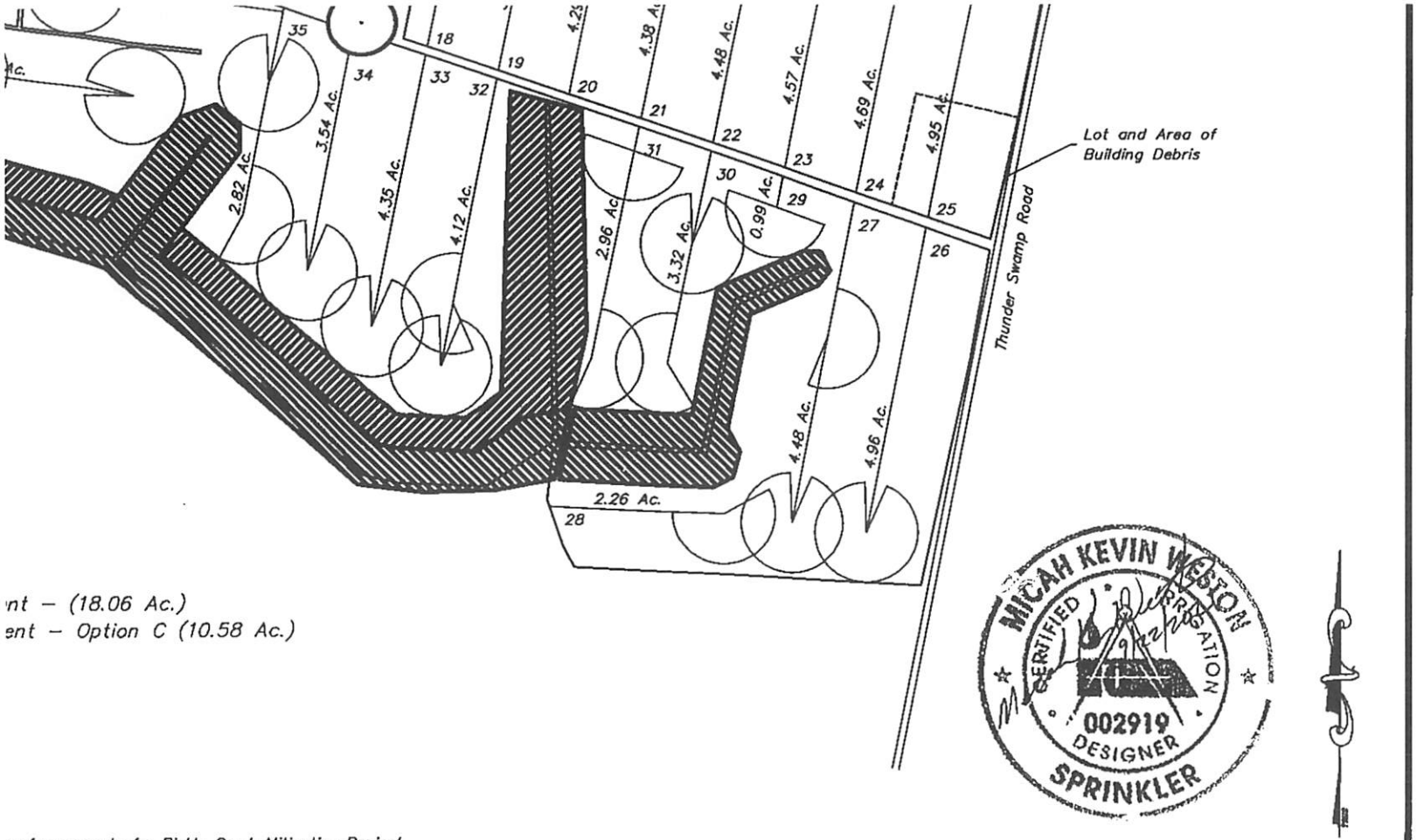
GRAPHIC SCALE

500 0 250 500 1000

(IN FEET)
1 inch = 500 ft.

9/2021-Pulls recalculated to reflect addition of easements for Pickle Creek Mitigation Project

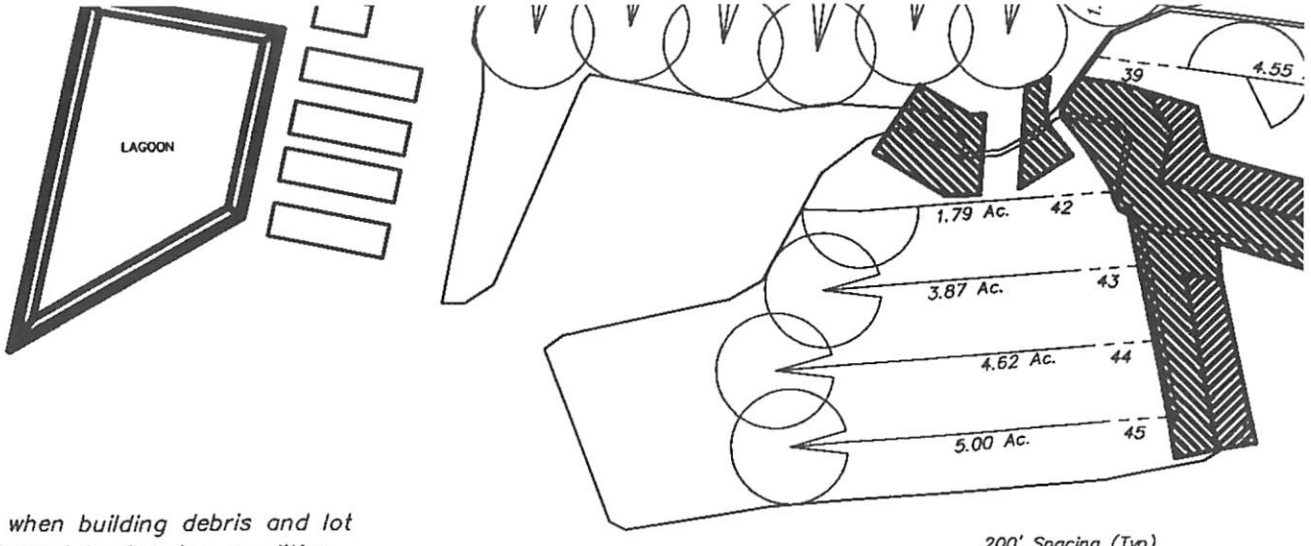
MICAH KEVIN WESTON
CERTIFIED IRRIGATION
002919
DESIGNER
SPRINKLER



nt – (18.06 Ac.)
ent – Option C (10.58 Ac.)

MICAH KEVIN WEBSTER
CERTIFIED IRRIGATION
002919
DESIGNER
SPRINKLER

of easements for Pickle Creek Mitigation Project



200' Spacing (Typ)
(Pulls 39–45)

NOTE:
Pull 25 may be used when building debris and lot is cleaned up and returned to farming condition
Pull 51 may be used when the tree debris is cleaned up and area returned to farming condition

DMS Easeme
Bank Easem

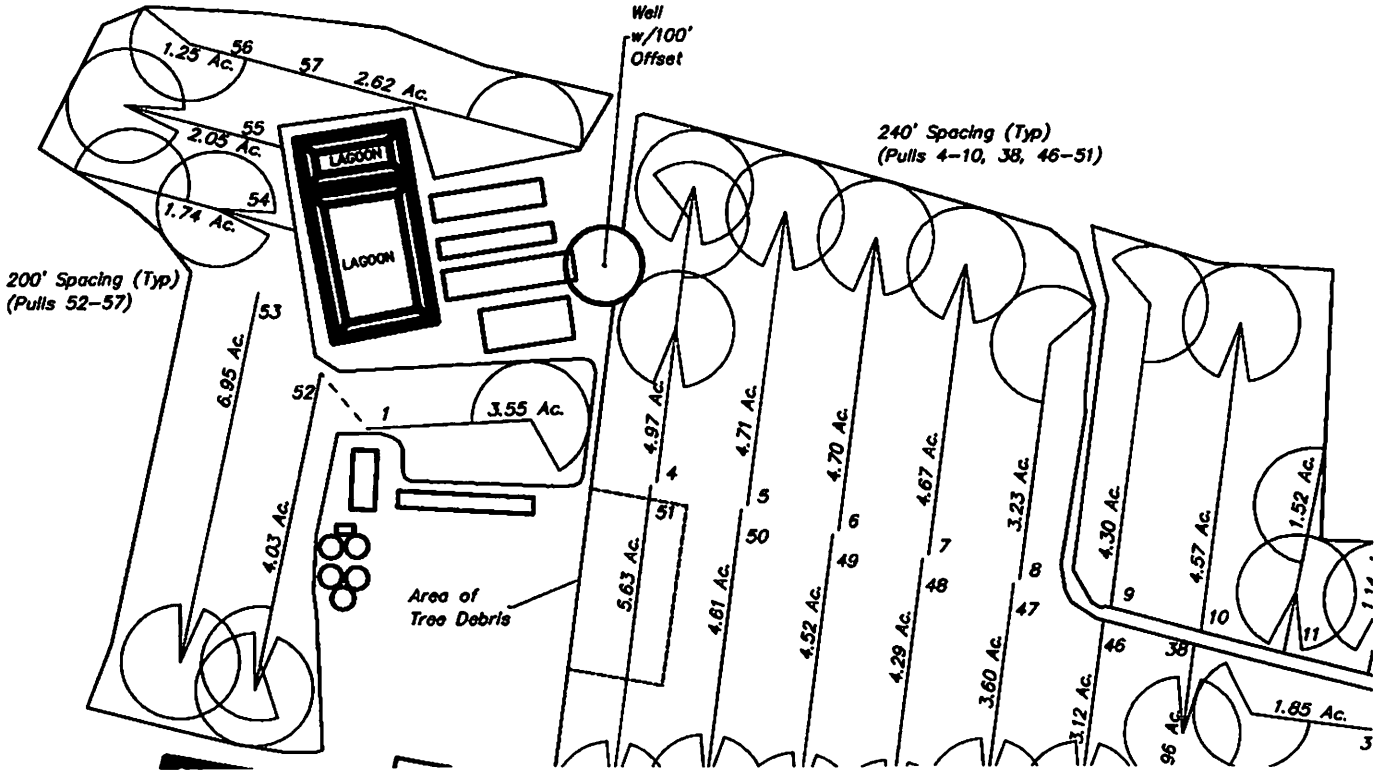
GRAPHIC SCALE

500 0 250 500 1000

(IN FEET)
1 inch = 500 ft.

9/2021–Pulls recalculated to reflect addition

DOUG
AWS96C
Wetted



JERNIGAN FARMS
)127
Acreage

Specifications: Pulls
Cadman 3250 Traveler w/Nelson 150
w/1.26" Nozzle @ 60 PSI
275 GPM; 301.5' WD
(335' x .9 = 301.5')
Lane Spacings: 200', 220' & 240'

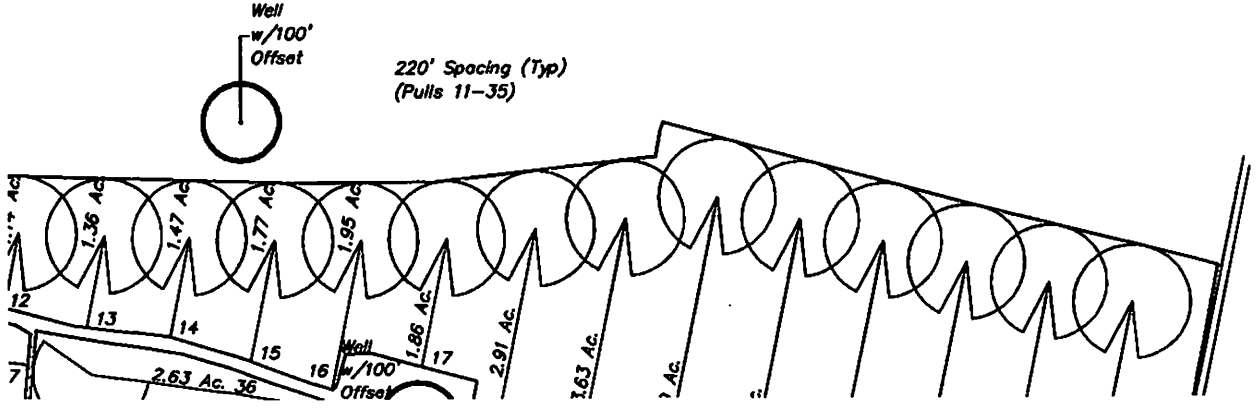


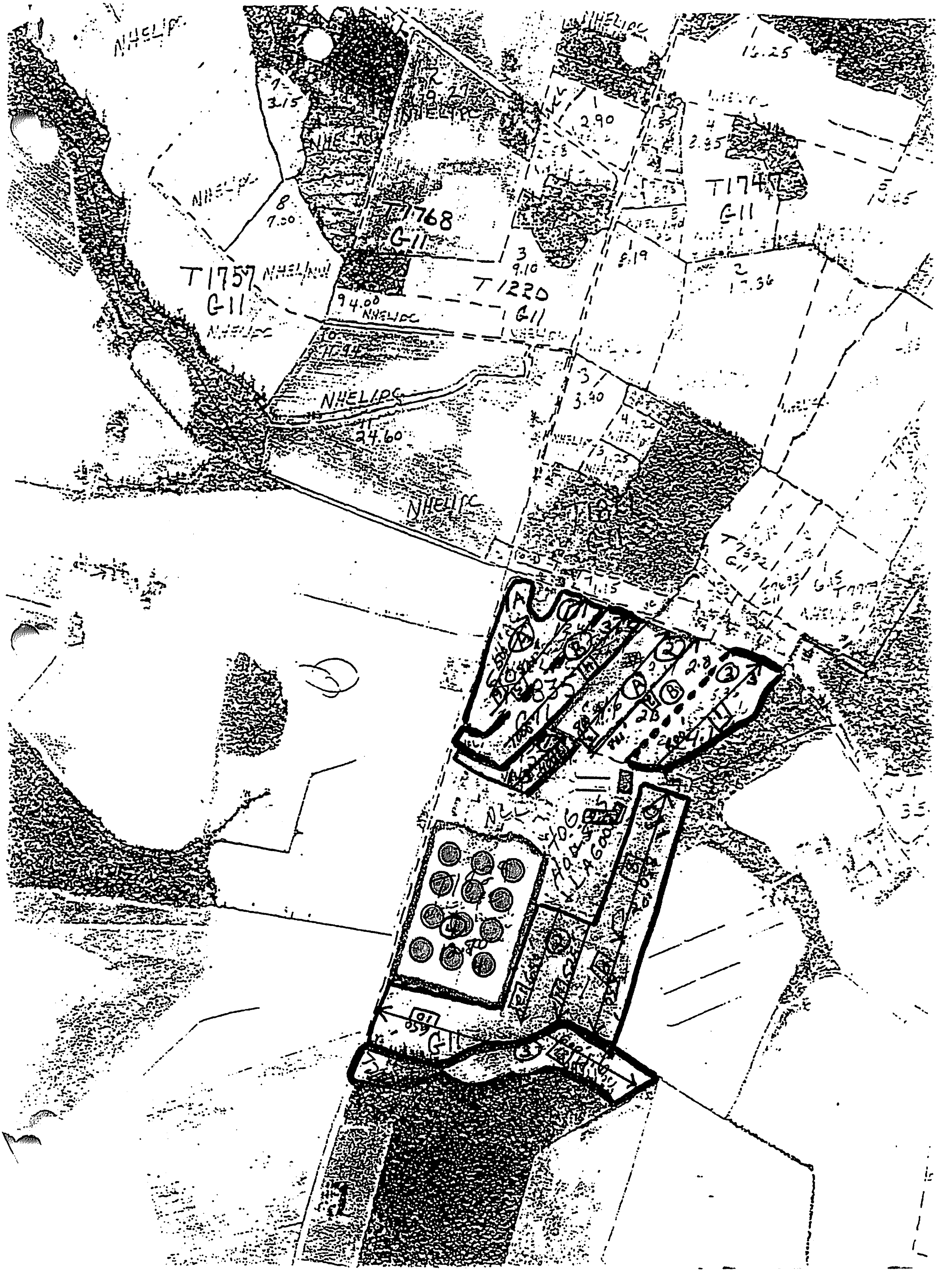
Exhibit C

Pickle Creek Mitigation Project

Wayne County, North Carolina

Date	9/8/2021
Drawn by	GDS
Checked by	JRM
	1 inch = 500 feet

res


T1768
G11
T1757
G11
T1220
G11
T1747
G11
94.00
24.60
9.10
2.90
3.40
7.00
3.15
NHELPC

Doug Jernigan Old Farm

270 Dia 175 Spacing Typ

1" = 500'

N
W E
S

Printed:Jan 22, 2013

N
W E
S

Printed:Jan 22, 2013

From: Lawson, Christine
To: Geno Kennedy; Jamey Mceachran
Cc: Jernigan Doug; Jonathan Miller; Merritt, Katie; Salyer, Marlene
Subject: RE: [EXTERNAL] Re: Doug Jernigan Farm Waste Plan Update
Date: Friday, October 8, 2021 5:14:31 PM

Geno and Mr. Jernigan –

Thank you for submitting the updates to the Nutrient Management Plan and to the Wettable Acres Determination for Jernigan Farms, AWS960127 and AWI960127, to reflect the Pickle Creek Mitigation Project. Everything appears to be in order. I thank you for providing such clear documentation and maps to show the mitigation areas as they relate to the remaining land application areas.

I emailed Geno a little earlier this afternoon with the information regarding renewal of the AWI permit. Please let me know if you have any questions regarding that renewal.

Christine B. Lawson
Engineer
Animal Feeding Operations Program
Department of Environmental Quality

919 707 3664 office
984 232 1223 mobile
Christine.Lawson@ncdenr.gov

From: Geno Kennedy <agrimentservices@yahoo.com>
Sent: Tuesday, October 5, 2021 2:39 PM
To: Jamey Mceachran <jmceachran@res.us>
Cc: Lawson, Christine <Christine.Lawson@ncdenr.gov>; Jernigan Doug <douglasajernigan@gmail.com>; Jonathan Miller <agrimentservices_jmiller@yahoo.com>
Subject: Re: [EXTERNAL] Re: Doug Jernigan Farm Waste Plan Update

Jamey,

all work on our end is complete. This is the irrigation design and waste utilization plan for the project. We have copied the regulatory agency so they also have a copy as required along with the owner so they will have a copy for their records. Thank You!

With Kind Regards,
Ronnie "Geno" Kennedy Jr.
President of Operations
Agriment Services, Inc.
PO Box 1096 Beulaville, NC 28518

Office (252)568-2648 Fax (252)568-2750 Mobile (910)289-0395
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