

MITIGATION PLAN
PIERCE TERRACE WETLAND MITIGATION SITE
Gates County, North Carolina

DMS Project ID No. 100139
Full Delivery Contract No. 7907-01
USACE Action ID No. SAW-2020-00046
DWR Project No. 2020-00034
RFP No. 16-007907

Chowan River Basin
Cataloging Unit 03010203 & 03010204



Prepared for:

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF MITIGATION SERVICES
1652 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1652

May 2022



Response to IRT Comments Dated January 28, 2022

Pierce Terrace, Project ID #100139, DMS Contract #7907-01
USACE Action ID No. SAW-2020-00046
DWR Project No. 2020-00034
RFP 16-007907
Chowan River Basin 03010203 & 03010204, Gates County

Comments Received (Black Text) & Responses (Blue Text)

NCWRC Comments, Travis Wilson:

1. The plan does not use the 4th approximation of The Guide to Natural Communities of North Carolina. River birch and Persimmon are not primary species found in Coastal plain non-riverine wet hardwood forests. Persimmon may be found in low numbers in this type of system, as it grows in a very wide range of habitats, but should be planted in dryer portions of the site with a focus on edge planting or clumps. River birch is associated with more riverine systems; while possible to have this species present, the percentage of planted stems should be significantly reduced.

Response:

A note has been added to the planting list to only plant persimmon in the upland buffer areas and areas at or above the 35-foot contours. Also, river birch stems to be planted have been reduced by 69% resulting in 2,200 stems of river birch to be planted. The 4,800 stems have been reallocated to the other FACW species listed in the planting plan.

USEPA Comments, Todd Bowers:

Note: It is understood that site visits have been made by IRT members during the development of site feasibility to provide mitigation credit. In that regard, I feel it necessary to denote that I have not been on-site during this process and that my comments may reflect a lack of on-site observation and evaluation.

1. General:
 - a. I appreciate the considerations for the synergistic effects the PT site will have on the adjacent Hofler Mitigation Project (HMP). These considerations are not taken lightly given the ongoing adaptive management required at the Hofler site. As such it appears that the PT site will serve to greatly benefit the HMP as a sink for hydrology rather than a source as the final design will move water off-site at a set pre-determined elevation that will not exceed the outfall of the HMP. The inclusion of the Water Balance Calculation and the conclusions was very welcome.

Response:

Thank you.

- b. Inclusion of upland buffers around wetlands is an excellent approach and one that strengthens the long-term success for the site.

Response:

Thank you.

- c. Connectivity to the Merchant's Mill Pond state park natural area and the greater Lassiter Swamp/Bennet's Creek corridor is an excellent element of the project, however the corridor between the project and the natural areas is very limited and maintained by the culvert under the farm/haul road. Was there any discussion to upgrade the culvert at the northern ditch outlet to one better suited for aquatic organism passage? Was access to other parcels the primary concern for the landowner? Was there any discussion of incorporating the forested areas adjacent to the PT project to provide a direct connection to the nearby natural areas?

Response:

Thank you, yes discussions were had with the landowner to provide a more robust and contiguous connection to the natural areas. However, this would have restricted access to active agriculture and silviculture operations. A culvert upgrade was considered at the northern ditch outlet however given the

ditching that occurred around the Hofler Project the decision was made to prioritize upland buffer and relocate the existing powerline.

2. Table 1/Page 11: Noted that a newer version of Table 1 that conforms to the template for crediting was provided for inclusion in next/final revision.
Response:
The correct version of Table 1 generated from the DMS Stream and Wetland Asset Tool with the appropriate formatting is included in the final mitigation plan.
3. Section 3.4/Page 17: The correct number of acres for wetland creation should be 5.670.
Response:
The wetland creation acreage has been updated on this page.
4. Section 6.4/Page 28: I appreciate the effort that went to working with Dominion Energy to relocate the powerline adjacent to the road and out of the TP site.
Response:
Thank you.
5. Section 7.4/Page 30: Stems per acre of non-riverine swamp forest species (320) does not match Table 11 (355).
Response:
The stems per acre in the narrative of section 7.4 has been updated to 335 stems per acre to match Table 11.
6. Section 8/Page 33 and Table 14: I concur with the number and type of proposed vegetation monitoring sites adjusted downward based on the size and homogeneity of the site.
Response:
Noted.
7. Table 16/Page 36: Recommend adding “placement of large woody debris” into the habitat objectives to match the narrative on Page 20 (Large woody debris will be placed throughout the Site to provide a source of organic material for the soil and habitat for wildlife.) and Table 9.
Response:
Placement of large woody debris has been added to habitat objectives in Table 16.
8. Table 17/Page 37: Very robust adaptive management plan incorporating potential causes and actions based on performance of the HMP.
Response:
Thank you.

DWR Comments, Erin Davis:

1. Page 1, Section 1.3 – Please confirm the monitoring year for HMP (page 7 references year 7).
Response:
The narrative has been revised throughout to state HMP has completed the seventh year of monitoring in 2021.
2. Page 9, Section 3.4 – Please correct the wetland creation acreage to 5.67.
Response:
The wetland creation acreage has been updated on this page.
3. Page 16, Section 4 – What measures were taken to identify a regional vegetative reference community site?
Response:
Schafale and Weakley’s The Guide to Natural Communities of North Carolina 3rd and 4th approximation were used to assess wetland type and associated vegetation. Then a desktop assessment was performed of

surrounding areas that included areas within the Bladen soil series with minimal ditching and appeared to be at least 15+ years post disturbance. This resulted in two areas one was a mosaic of pines and hardwoods within MMSP north of the pond and south of US Highway 158 (36.4470, -76.6802), and the other was a contiguous hardwood stand southeast of the project and north of Gatling Road (36.4273, -76.6422). In addition, we spoke with both landowners that have lived in this area of Gates County for multiple generations one of which (S&M Farms, LLC) is a silviculture company in Gates County, and also consulted with the Gates County Soil and Water District. Collectively these pieces of information were used to compile the regional vegetative reference community.

4. Page 18, Table 9 – For consistency with Table 16, please add “plant woody vegetation” under the water quality and hydrology objectives.

Response:

Plant woody vegetation has been added to Table 16.

5. Page 20, Section 7.1 – Drainpipes are mentioned, have any drain tiles been located onsite?

Response:

We followed up with the farmer and Gates County Soil and Water District both confirmed drain tiles were not installed in the credit generating areas. Drainpipes has been removed from the narrative.

6. Page 21, Section 7.1 – The HMP will eventually transfer to DEQ Stewardship, has there been any consideration to potentially working with the State to further reduce the berm elevation?

Response:

When we initially engaged DMS and Albemarle Restorations, LLC about acquiring HMP and incorporating it into PT we were told that combining the two projects and performing any modifications to HMP would be extremely difficult as the berm is within an existing Conservation Easement. Since then we have been focused on PT and making it a successful project without adversely affecting HMP.

7. Page 21, Section 7.2 –

- a. Are there any concerns that a 17-foot plug may be insufficient to block drainage? The IRT typically recommends a minimum 50-foot ditch plug for coastal plain projects.

Response:

The ditch plug lengths have been increased to 50-feet. As an added measure to ensure the integrity of the ditch plugs non-woven filter fabric will be placed underneath the clay material used for the ditch plug.

- b. Has a lateral drainage effect analysis been performed to demonstrate the impact of the existing ditches are currently having on the proposed wetland reestablishment credit areas?

Response:

No. Our understanding in talking with the farmer along with observations at HMP indicate ditches are in place to remove surface water from the winter and spring. The wetland meets hydrology via a perched water table. HMP included an extensive lateral drainage effect for their project which led them down the path to construct a berm around the project. After construction of HMP the farmer created a ditch network immediately adjacent to the conservation easement which removed water from the farm fields for him to farm. The installation of this ditch network had no effect on the hydrology of HMP as observed in the monitoring hydrology data. A paragraph has been added to this section summarizing this information and our research.

- c. Please include the minimum distances from wetland credit areas to the nearest existing ditch to remain open (e.g. Silver Springs Road ditches, ditch north of Wetland Reestablishment Area 1, ditch east of Wetland Reestablishment Area 2). Has a lateral drainage effect analysis been performed to demonstrate that ditches to remain open will not affect the proposed credit areas? If not, DWR requests that this analysis be completed.

Response:

Minimum distances from wetland credit areas to the nearest exiting ditch to remain open has been added to Figure 6. Regarding a lateral drainage effect analysis please see response to comment 7b above. Wetland

Reestablishment Area 2 distance to eastern is ditch ~55-ft and ditch is ~1.5-ft in depth. Wetland Reestablishment Area 1 distance to eastern is ditch ~60-ft and ditch is ~1.5-ft in depth.

- d. Will the proposed upland pond have any hydrologic connection to the mitigation project?

Response:

No.

- e. If the seven culverts will be removed, what is meant by “minor modifications” to them? Also, please briefly describe the current condition of the two driveway culverts proposed to remain (e.g. stability, capacity). This paragraph discusses only 9 of the 12 culverts shown on Figure 6, please update this section to address all identified culverts. Are any existing culverts being replaced? If so, please include a typical detail in the construction plan.

Response:

This section has been updated to discuss all 13 culverts, an additional culvert associated with the HMP easement access is shown and will remain in place. Eight culverts will be completely removed. The two remaining roadside culverts along Silver Springs Road will be cleaned of sediment and debris to allow NCDOT designed flow and capacity. Similarly, the two farm path culverts outside of the easement will be cleaned of sediment and debris to allow excess surface flow to move freely. No existing culverts are being replaced.

8. Page 21, Section 7.3 – Please include a description of the proposed aggregate material for approval in the final mitigation plan. Is the 1-2 feet of soil to be removed from the ditches proposed for reuse onsite?

Response:

A description of the proposed aggregate material has been added to this section, which will be Class-A stone. If the soil removed from the ditches is suitable for reuse onsite it will be spread within the wetland asset areas if not it will be disposed of offsite.

9. Page 23, Table 11 – Please confirm that all proposed species are appropriate for the coastal plain region (e.g. persimmon) and non-riverine community type (e.g. river birch).

Response:

Both species mentioned and the remainder of the planting list are found in the coastal plain region and in non-riverine community types. That said we’ve adjusted the locations for persimmon to focus on the upland buffer and outer edge of the wetland assets. Also, we’ve decreased the number of river birch to be planted. Please see response to NCWRC comment #1 for additional discussion.

10. Page 24, Section 8 – DWR recommends adding a sentence to this section stating that success criteria and monitoring will be completed in accordance with the 2016 NCIRT Guidance.

Response:

A sentence has been added to Section 8 to include the statement above.

11. Page 25, Section 8 –

- a. As requested by the IRT during the site walk, please provide all available pre-construction groundwater gauge data in the final mitigation plan for review.

Response:

The pre-construction gauge data is included in Appendix B in the final mitigation plan.

- b. DWR ok with the requested reduced total veg plots due to proposed habitat uniformity. However, DWR may request additional plots/transects during monitoring if problem areas present.

Response:

Noted.

12. Page 26, Table 14 – Please update the growing season dates in the table to match the footnote.

Response:

Growing season dates have been updated to be consistent.

13. Page 27, Table 15 – DWR would be ok with the understory/shrub species planted being exempt from the vigor performance standard to encourage site diversity.
Response:
Noted, a note has been added to exclude these species from the vigor performance standard.
14. Page 28, Table 16 – For consistency with Table 9, please include the “add woody debris” under the habitat objective.
Response:
Add woody debris has been added to Table 9.
15. Page 29, Table 17 – DWR appreciates the inclusion of this table. Many of our concerns are captured in the potential causes bullets (e.g. site too wet/dry, pine colonization, outlet erosion, and negative ditch effect from outside the easement) and we are glad that measures have been considered in how to address these issues.
Response:
Thank you.
16. Page 30, Section 11.3 – Please confirm that a majority of the site includes an upland buffer within the conservation easement. DWR appreciates that a buffer zone was included between Wetland Area 1 and the CE boundary to the west and north. However, we remain concerned with the risks associated with no buffer surrounding Wetland Reestablishment Area 2.
Response:
The reference to an upland buffer within the conservation easement has been revised to “portions of the Site includes an upland buffer...”. While not in the conservation easement there is a strip of land north, east, and south of Wetland Reestablishment Area #1 that will no longer be farmed. Similarly, there is a strip of land north, east, and west of Wetland Reestablishment Area #2 that will no longer be farmed. Also, to the south of Wetland Reestablishment Area #2 there is an ephemeral draw that will provide relief within the existing silviculture operation. The silviculture operation to the south was inspected and the ditching in place is minimal and is not expected to have an effect on restoration of wetland hydrology. Our conversations with the landowner (S&M Farms, LLC) indicated that a large ditch network is not necessary for the silviculture operation. Their focus is to remove surface water in the winter spring via smaller surface cuts to direct water offsite.
17. Sheet C-03C – Please add bare root and live stake planting details.
Response:
Bare root and live stake planting details have been added to Sheet C-03G.
18. Sheet C-03E – Due to observed vegetative establishment issues along relic haul roads, DWR requests that an effort be made to locate them outside proposed credit areas to the greatest extent feasible (and outside the project easement if at all possible).
Response:
An effort has been made to minimize location and extent of haul roads as the majority of the haul roads are in line with the existing ditch network. That said the haul roads for Wetland Reestablishment Area #2 have been reconfigured resulting in the overall disturbed area decreasing from 28.1-acre to 27.7-acres.
19. Sheet C-03F – Please consider renaming sheet title from “Wetland Rehabilitations”.
Response:
Sheet has been renamed from “Wetland Rehabilitations” to “Wetland Mitigation Assets”

20. DWR appreciates efforts made to enhance the proposed project, including: relocating utilities, coordinating with DOT on roadside drainage, increasing species diversity (including seed mix pollinator benefits), adding woody debris habitat, conducting a thorough soil investigation and AMP considerations. We also recognize this is a unique opportunity to improve the functional uplift of an existing mitigation site through greater landscape connectivity.

Response:
Thank you.

USACE Comments, Casey Haywood:

1. Pg.7 Section 2- What monitoring year is the Hoffer Mitigation Plan Site in? This section states the HMP Site is in its seventh year of monitoring, however Section 1.3 says it's in the eighth year of monitoring. Please update.

Response:
The narrative has been revised throughout to state HMP completed its seventh year of monitoring in 2021.

2. Pg 21 Section 7.2-

- a. Given that the ditch plug material is comprised primarily of silt and clay content, is the proposed plug length of 17-30 feet enough? It is recommended that the minimum length filled should be based on the permeability of the backfill material. Typically, the minimum length of fill material for a plug using high clay content soils is 50-feet.

Response:
Please see response to DWR comment 7a.

- b. This section states there will be a total of six clay ditch plugs, however, I could only locate five on Figure 6. Please update.

Response:
There are five ditch plugs. This section has been revised to identify the five clay ditch plugs to be installed.

- c. During the February 19, 2020 site visit RS discussed creating habitat depressions in the Wetland Creation areas. If these are still being proposed, please include this in the narrative and ensure these areas are identified on the redline record drawings. To ensure these areas are seasonally dry, we recommend a max depth of 14".

Response:
Based on the size of the Wetland Creation areas during the design phase the decision was made to roughen the surface of the areas and plant woody species throughout rather than creating habitat depressions.

- d. The narrative in this section states that there will be minor modifications to seven of the nine culverted driveways along the roadside ditches of Silver Springs Road. However, Figure 6 shows these are being removed. Please clarify. Additionally, please discuss the condition, and any proposed work of the four culverts that will remain.

Response:
The narrative in this section has been revised to reflect the culvert work shown on Figure 6. Please see response to DWR comment 7e for additional discussion. Also, note one additional culvert to remain has been included on Figure 6 which is the culvert for the easement access to the Hoffer Mitigation Project.

3. Pg 21 Section 7.3-

- a. Is there any concern that the log sill structures proposed in the ditch outfall locations will rot?

Response:
We anticipate the areas around the log sill structures to have water throughout the year based on observations over the past 2 years. These areas will also receive live stake plantings which is intended to provide long-term stability in the event the log sill structures rot.

- b. Please add more discussion on the type and size of aggregate material that will be used.
Response:
The narrative has been revised to identify Class A stone as the aggregate material that will be used.
4. Pg 23 Table 11- River birch is typically more prevalent in riverine systems and does not seem appropriate for the community type identified. Please confirm. Recommend removing or significantly reducing the number of river birch in the planting plan.
Response:
River birch has been reduced from 7,000 stems to 2,200 stems. Stems removed have been reallocated to other FACW species.
5. Figure 8- Please move 3 of the proposed wetland gauges closer to the exterior edges of the HMP site.
Response:
Figure 8 has been revised with a total of three gauges (one gauge moved and two new gauges added per USACE Browning Comment #5) located closer to the exterior edges of the HMP site.
6. Construction plans- Please include the planting details for bare roots and live stakes.
Response:
Planting details for bare roots and live stakes have been added to the construction plans.
7. Response to DMS comment 15- Please confirm that the pre-construction gauges have been installed. Additionally, please include this data along with an updated map in the final mitigation plan.
Response:
Five preconstruction gauges were installed on February 9, 2022. The data and an updated map is included in the final mitigation plan.

USACE Comments, Kim Browning:

1. Please provide all available pre-construction groundwater gauge data in the final mitigation plan for review. We would like to review this data prior to receiving the final mitigation plan.
Response:
The data is included in the final mitigation plan, and the data will be provided to the IRT prior to submitting the final mitigation plan.
2. The requested reduced total veg plots due to proposed habitat uniformity is acceptable; however, for future reference please note that monitoring plots should make up 2% of the planted portion of the site, not only the credited areas.
Response:
Understood.
3. There is concern that the log sill structures in the ditch outfalls will rot over time. We have observed this on several sites recently. You may want to consider using rock or something that will not degrade with time and weathering.
Response:
Please see response to USACE Haywood's comment 3a.
4. Figure 8: Please move at least one vegetation plot to the west side of HMP in the non-riverine swamp planting area.
Response:
Figure 8 has been revised to show one vegetation plot moved to the location referenced above.
5. Figure 8 and Tables 14-16: Two additional groundwater gauges should be added to capture the NSF area. Currently, there is only one gauge in the NSF area, located where proposed road drainage enters the site.
Response:
Figure 8 has been revised to include two additional groundwater gauges added in the NSF area.

6. Page 21, Section 7.3: Please elaborate on the aggregate proposed to fill the ditches.
Response:
Please see response to USACE Haywood's comment 3b.
7. Figure 7: The legend shows 127.5 ac conservation easement, but the planting area totals 125.73 acres. Section 1.4 lists 125.7 acres. Please clarify.
Response:
The correct acreage for the conservation easement is 125.73-acres. This has been updated throughout the final mitigation plan and on the associated figures.
8. Figure 7: Does the conservation easement bisect the north parcel? It appears that the easement line just above HMP runs along the old ditch line.
Response:
That line represents the existing parcel boundaries and the associated conservation easement on each parcel. The figures have been revised to remove the duplicated line on the common easement boundary.
9. Figure 7: Did you intend for the NWHF and NSF polygons to overlap? These planting zones do not appear to overlap on Sheet C-03G. According to the description on page 22, the polygons should overlap.
Response:
Sheet C-03G has been revised so that the NWHF and NSF polygons overlap as intended.
10. Design Sheets: Perhaps it's just my printed copy, but the planting plan (species, quantities, wetland indicator) was missing from the design sheets.
Response:
The planting plan has been added to the design sheets.
11. Sheet C-09: Are the elevations for borrow area # 3 correct? (Top elev = 32.0, bottom elev = 23.0) Is this the area that is out of the easement and will be a pond? Was this area evaluated during the PJD?
Response:
Yes, those are the correct elevations and is the borrow area outside of the easement that will be a pond. This area is an existing field in agricultural production with no ditching, this area was not evaluated during the PJD.
12. Page 20: The mitigation plan should contain more details on the braided ephemeral flow path. Is "ephemeral" the correct word to use? It was unclear where this was proposed. Please add this to the legend on Figure 6. I understand the need for this flow path to maintain positive drainage from the DOT road; hopefully this will not have a draining effect on the adjacent wetland.
Response:
The detail has been renamed braided surface water flow path as it is intended to capture excess surface water during periods of high rainfall. It has been symbolized on the construction plan sheets and added to the legend on Figure 6. Additional discussion has been included in Section 7.1 as well. We do not anticipate a drainage effect on the additional wetlands rather it should serve as storage and retention from precipitation events while providing a direction and path for excess surface water when needed.
13. Table 7 does not list river birch or sycamore. Please reduce the percentages of these species in the planting plan.
Response:
River birch has been reduced from 7,000 stems to 2,200 stems, and sycamore has been reduced from 7,700 stems to 5,000. Stems have been reallocated to other FACW rated species in the planting plan.

14. Table 10: Even though there is no suitable habitat on-site, please make sure that documentation for the Red-cockaded Woodpecker is included in the categorical exclusion documents to satisfy Section 7(a)(2) of the ESA and the new RCW SLOPES.

Response:

The USFWS response letter in the Cat. Ex. indicates the USFWS believes the requirements of Section 7(a)(2) of the ESA have been satisfied for this project. In addition, the March 2022 RCW SLOPES has been completed and resulted in a determination of “No effect” for the project activities. The completed March 2022 RCW SLOPES documentation is included with the other USFWS correspondence in the Categorical Exclusion found in Appendix E. Based on this information we believe we have satisfied Section 7(a)(2) of the ESA.

15. Table 12: Are all these species appropriate for this site? It would be helpful to include the wetland indicator status for these species.

Response:

Yes, these species are appropriate for the Site based on regionally appropriate native species that are compatible with the required tree establishment goals. The planted seed will supplement the volunteer herbaceous community already onsite with increased diversity, pollinator benefit, soil stability and health, and provide aesthetic appeal sought by landowners. The wetland indicator status for these species has been added.

16. During the IRT site visit, it was agreed that a soil specific performance standard would be required. Please add a performance standard to Table 15 that addresses the site’s ability to maintain its appropriate saturation period and develop hydric soil conditions such as organic matter, clay content, and soil structure.

Response:

Table 15 has been revised to include a soil specific performance standard which is at the end of monitoring a soil profile description will be completed at each groundwater gauge location. In order to meet the performance standard the soil profile description must meet a hydric soil indicator.

17. Page 30: I appreciate the discussion on hydrologic trespass; however, many of the proposed wetland reestablishment areas go to the easement boundary, so it’s reasonable to expect wetter conditions on adjacent parcels. Many of the elevation lines on adjacent parcels are actually lower than the project elevations. Impacts to adjoining parcels that are not under control of the sponsor/applicant raise concern of future ditching outside the easement.

Response:

We believe while an upland buffer within the conservation easement is not provided for the entire project, there are other landscape features that will facilitate removal of excess water during annual wet periods.

These features for Wetland Reestablishment Area #1 include: to the east a raised farm path and ~35-foot strip of land that will no longer be farmed which grades towards the historic ditch, to the north a raised farm path and a ~80-foot strip of land that will no longer be farmed which grades towards the wetland asset, to the south and southeast there is a 40-foot strip of land that includes the underground utility and NCDOT right-of-way along with the Silver Springs roadside ditch.

These features for Wetland Reestablishment Area #2 include: a strip of land north, east, and west of Wetland Reestablishment Area #2 that will be planted with trees and no longer be farmed; to the south of Wetland Reestablishment Area #2 there is an ephemeral draw that will provide surface water relief within the existing silviculture operation. The silviculture operation to the south was inspected and the ditching in place is minimal and is not expected to have an effect on restoration of wetland hydrology. Our conversations with the landowner (S&M Farms, LLC) indicated that a large ditch network is not necessary for the silviculture operation. Their focus is to remove surface water in the winter spring via smaller surface cuts to direct water offsite.



Response to DMS Comments

Pierce Terrace, Project ID #100139, DMS Contract #7907-01
USACE Action ID No. SAW-2020-00046
DWR Project No. 2020-00034
Chowan River Basin 03010203 & 03010204, Gates County
DMS Reviewers: Lin Xu, Melonie Allen, Lindsay Crocker, Joe Famularo

Comments Received (Black Text) & Responses (Blue Text)

1. P. 15, Please explain if the hydric indicator for Pantego may also be depleted below dark surface as shown in the soil boring picture.
The hydric indicator “Depleted Below Dark Surface” requires a depleted matrix which requires a value of 4 or more and chroma of 2 or less. Per the definition the Pantego soil profile description (Profile ID R) does not meet the F3 – Depleted Matrix indicator, the appropriate hydric indicator is F7 – Depleted Dark Surface. This will be updated in the Mitigation Plan.
2. P. 17, The objectives in the third goal, Improve wildlife habitat within and adjacent to the site are repetitive; lists planting of woody vegetation three times.
Text has been revised to include one mention of planting of woody vegetation and one mention of adding woody debris material.
3. P. 18, Table describes 4” disking for compaction. Please clarify if the entire site is to be roughened or if this will only be applied where surface crusting is observed. There was discussion of a layer of soil restriction driving the surface hydrology at proposal phase, but it is not described in Wetland Restoration approach. If RS feels this is the situation, please describe in section 7.1 and the typical depth to restrictive layer.
The entire Site will be roughened with 4” disking, and the text in Table 9 has been revised to clarify. Additional discussion has been included in Section 7.1 to discuss the depth range to the restrictive layer and its role in reestablishment of wetland hydrology.
4. P. 20, Section 7.1 – In the first paragraph, the draft document stated that the project would remove important elements and compounds. Please expend which elements or compounds will be removed. Or just state the project will remove nutrients and sediment.
The text has been revised to state “the project will remove nutrients and sediment.”
5. P. 20, Did RS consider using Merchants Millpond State Park as the RFE? DMS suggests evaluating the vegetative communities there and re-considering the percentages of cypress and gum species planted as a larger percent of the total. These species were most successful in HMP and are prevalent in Merchants Millpond.
When evaluating nearby RFE’s MMSP was evaluated and considered to be a Riverine Swamp Forest with Bottomland Hardwood Forest extending up along the contributing tributaries. There is an area within MMSP that is mapped as the Bladen soil map unit on the western side of the property, but this area has a high number of pines and did not appear to be representative of Non-riverine Hardwood Flats and Non-riverine Swamp Forest wetland types.

HMP is comprised mostly of the Pantego soil map unit which typically experiences longer hydroperiods (12-16% based on 2016 NCIRT Mitigation Guidance) versus the Bladen soil map unit hydroperiod (10-12%). Considering HMP includes a soil map unit with longer hydroperiods coupled with a raised berm surrounding three sides of the project it makes sense that the gum and cypress species are the most successful. That said we expect Pierce Terrace to have shorter hydroperiods relative to HMP as Pierce Terrace is comprised mostly of the Bladen soil map unit and will not include a raised berm around the wetland assets. We have noticed limited availability of some tree species during the past two planting seasons and have added a footnote to Table 11 stating Bald Cypress is the preferred alternative in the event one of the other species is not available.

When updating Table 11 we noticed the total number of stems listed was incorrect, the total number of planted stems has been revised from 93,500 to 90,700. All other values in the table were correct.

6. P. 21, Section 7.1, paragraph three may be incomplete. The statement in paragraph four that the site is in a relatively low portion of the landscape resulting in thinner soils than historically present in this location is not clear. Clarify text or respond.
Paragraph three was meant to be deleted and has been removed. Paragraph four has been revised to clarify the design approach, and an additional paragraph was added to further explain the design components.
7. P. 25, 7.3. First sentence, it is unclear which ditch outfall locations this sentence refers to. Provide reference to map or clarify.
Text has been revised to clarify the referenced outfall locations.
8. P. 25, 7.3 references lime/marl as backfill and key material for bringing the current ditches up to grade. Please comment on the choice of this material as DMS has concerns that it may be too porous and light to handle movement during heavier flows.
Marl was selected as it is a native material and readily available in the area. We understand the concern regarding its ability to withstand heavy flows and have replaced "limestone/marl" with "an approved aggregate".
9. P. 25, Section 7.2, Clarify in narrative and drawings the approximate length of ditch plugs. The typical in the plan shows 15' minimum.
The dimensions of the ditch plugs has been clarified in the narrative and plan set.
10. Page 25, Vegetation plots. RS is proposing 70 permanent and 32 random plots (102). This will result in a coverage of 2.3% of the site (greater than 2%). Based on the creditable area, 2% of the planted area is 90 plots. It does sound reasonable to request less than 2% of the site covered with vegetation plots given site uniformity as mentioned in the text but clarify the number, % coverage, and intent in the text if using less than 2% (90).
In consideration of this comment and Site conditions we will revise the proposed number of vegetation plots to 80 or 1.75% of the credit generating area. 60 vegetation plots will be permanent, and 20 will be annual random transects.
11. Figure 8. (related to above comment), Monitoring Station Map: Five vegetation plots appear to be located in non-credited upland sites. Confirm that RS intends on monitoring non-credit vegetation purposefully or revise.
We do intend to observe vegetation in non-credit generating areas. However, we have revised the vegetation monitoring effort to only include permanent vegetation plots in credit generating areas and non-credit generating areas will be evaluated with two random transects during the years that vegetation monitoring occurs.
12. P. 30, 8.1 Success Criteria. Per recent IRT guidance, if the provider elects to use soil temperature to begin growing season then the provider must use temperature to extend the growing season. It is recommended that the provider use WETS most recent data (run most recent 20 years data) or established NRCS historic growing seasons to set an established and consistent growing season throughout the project. The HMP uses the 3/9-11/6 growing season for Gates County, from WETS (although you may need to re-run this).
The 1929 Gates Co. Soil Survey identifies a growing season (average number of frost-free days) from April 3 – October 30 (210 days). The 1996 Gates Co. Soil Survey identifies a growing season (Murfreesboro data from 1973-86, 50% of years with temperatures of 28° F or lower) from March 25 – November 11 (232 days). AgACIS Murfreesboro WETS data shows a growing season from March 26 – November 8 (227 days) using data from 1975-2004, 50% of years with temperatures of 28° F or lower. AgACIS Murfreesboro WETS data shows a growing season from March 26 – November 12 (231 days) using data from 1991-2020, 50% of years with temperatures of 28° F or lower. The growing season has been updated to, March 26 – November 12 (231 days) , the most current historic climate data from the closest climate state (Murfreesboro).

Visual Parameters were added to Table 14 Monitoring Summary as well to provide monitoring of encroachment along the easement boundary and ensure the outfalls remain stable.

13. Given the average wetland hydroperiod for HMP being 39%, please justify why wetland hydroperiod success criteria is much lower.

We are proposing a shorter hydroperiod relative HMP for two main reasons: 1) A majority of the soils mapped for HMP are Pantego which is associated with a 12-16% hydroperiod using the 2016 guidance for relating hydroperiod to soil taxonomy. Whereas the majority of the soils mapped for PT are Bladen which is represented by a 10-12% hydroperiod. 2) The HMP constructed a berm around the project and limited the number and elevations of the remaining surface water outlets. The result has produced abnormally long hydroperiods and stunted vegetative growth of woody species. The PT site has provided designed surface water outlets during periods of excessive rainfall and includes upland buffers around much of the project. By incorporating these drainage components into the PT design, we expect a much shorter hydroperiod relative to HMP and one that is representative of the historic conditions.

14. Appendices: Axiom Soil boring logs reference figure 4, but there is no figure to support this in document. Remove these borings, or add map.

The figure number for the Axiom soil boring logs was referencing the figure from the Technical Proposal, the figure number has been updated on these boring logs to reference the correct figure (Figure 5B) in the Mitigation Plan.

15. The IRT recommended providing pre-condition data in the Mitigation Plan at the February 2020 post-contract. Please respond to this request.

Due to the ongoing agricultural activities (winter crop and summer crops) in 2020 coupled with a full replacement of gauges at our existing projects due to a systemic malfunction during the transition to a new data logger type we were unable to install gauges in time for 2021. However, gauges are scheduled to be installed February 2022 to provide some pre-construction hydrology data. Five gauges will be installed with three in the northern area and two in the southern area. Each gauge will be located in a different soil map unit.

16. Describe if RS will seek or require a 404 or 401 permit for this project as the only jurisdictional features are a ditch.

A 401/404 permit will be submitted to account for the partial filling and regrading of the existing jurisdictional ditch.

17. Please ensure that any infrastructure that is removed or relocated outside the easement is noted on the As-Built.

Noted.

Electronic Deliverables:

1. Please run the Stream and Wetland Asset Tool with 3 features rather than 2 so that the spatial data is segmented as the asset table is presented (e.g., W 1, W 2, W 3).

The Stream and Wetland Asset Tool has been re-run with 3 features and is included in the digital submittal.

2. Please use the asset table template included in the May 2019 guidance or the asset table exported from the Stream and Wetland Asset Tool.

The asset table generated from rerunning the Stream and Wetland Asset Tool has been included in the digital submittal.

Plan Sheets:

1. Please update construction plan Limits of Disturbance typo (showing 28.1 acres) page 1. There is also a blank spot showing DWR number that appears to be a typo.

DWR # added to title sheet, note added to limits of disturbance call out. Additional note added "See Sheet C03E for Limits of Disturbance Areas" and the limits will be shaded on sheet C03D.

2. Include planting plan in the plan set.
A planting plan sheet has been added (C03G) with legend.
3. Plan sheets C8 and C9: Please verify the design as submitted plugs and fills both ditches that extend to the eastern boundary of the conservation easement. The inclusion of log cross vanes outside of the easement in this location and the hatched structures not labeled seem to indicate that diffuse flow will concentrate in this area. If the flow is anticipated to concentrate within the easement boundary to a depth that would affect planted vegetation please consider wetland assets in the affected area.
The hatch at the end of both of these ditches are not plugs, but are 'temporary rock silt checks-type A' and are labeled as such (TRSC-A). We have added the erosion control legend from the title sheet onto all plan sheets. There is also a profile of each ditch added to plan sheet C09.

MITIGATION PLAN

PIERCE TERRACE WETLAND MITIGATION SITE

Gates County, North Carolina

DMS Project ID No. 100139
Full Delivery Contract No. 7907-01
USACE Action ID No. SAW-2020-00046
DWR Project No. 2020-00034
RFP No. 16-007907

Chowan River Basin
Cataloging Unit 03010203 & 03010204

Prepared for:

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF MITIGATION SERVICES
1652 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1652

Prepared by:



Restoration Systems, LLC
1101 Haynes Street, Suite 211
Raleigh, North Carolina 27604
Contact: Ray Holz
919-755-9490 (phone)
919-755-9492 (fax)

And



Axiom Environmental, Inc.
218 Snow Avenue
Raleigh, North Carolina 27603
Contact: Grant Lewis
919-215-1693 (phone)

May 2022

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

- Federal rule for compensatory mitigation project sites as described in the Federal Register Title 33 Navigation and Navigable Waters Volume 3 Chapter 2 Section § 332.8 paragraphs (c)(2) through (c)(14).
- NCDEQ Division of Mitigation Services In-Lieu Fee Instrument signed and dated July 28, 2010

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

TABLE OF CONTENTS

1	PROJECT INTRODUCTION	1
1.1	DIRECTIONS TO SITE	1
1.2	USGS HYDROLOGIC UNIT CODE AND NCDWR RIVER BASIN DESIGNATION.....	1
1.3	PHYSIOGRAPHY AND LAND USE	1
1.4	PROJECT COMPONENTS AND STRUCTURE	2
2	WATERSHED APPROACH AND SITE SELECTION	6
3	BASELINE AND EXISTING CONDITIONS	7
3.1	LANDFORM & ADJACENT LAND USES	7
3.2	SOILS	8
3.3	PROJECT SITE WATERS OF THE U.S.	9
3.4	HYDROLOGICAL CHARACTERIZATION	9
3.5	SOIL CHARACTERIZATION.....	10
3.6	PLANT COMMUNITY CHARACTERIZATION	16
4	REFERENCE FOREST ECOSYSTEM	16
5	FUNCTIONAL UPLIFT AND PROJECT GOALS/OBJECTIVES	17
6	SITE DESIGN AND IMPLEMENTATION CONSTRAINTS	19
6.1	THREATENED & ENDANGERED SPECIES	19
6.2	CULTURAL RESOURCES.....	20
6.3	NORTH CAROLINA NATURAL HERITAGE ELEMENTS	20
6.4	UTILITIES	20
6.5	AIR TRANSPORT FACILITIES	21
7	DESIGN APPROACH AND MITIGATION WORK PLAN	21
7.1	WETLAND RESTORATION.....	21
7.2	DITCH MODIFICATIONS & PLUGGING	22
7.3	DITCH OUTFALL STRUCTURES.....	23
7.4	NATURAL PLANT COMMUNITY RESTORATION	23
7.5	PERMANENT SEED MIX	25
7.6	NUISANCE SPECIES MANAGEMENT	25
8	MONITORING AND SUCCESS CRITERIA	26
8.1	SUCCESS CRITERIA.....	27
8.2	WETLAND CONTINGENCY	28
8.3	VEGETATION CONTINGENCY	28
8.4	COMPATIBILITY WITH PROJECT GOALS.....	28
9	ADAPTIVE MANAGEMENT PLAN	29
10	LONG-TERM MANAGEMENT PLAN	30
11	PROJECT RISKS AND UNCERTAINTIES	31
11.1	LAND-USE DEVELOPMENT & EASEMENT ENCROACHMENT:	31
11.2	EXTREME CLIMATIC CONDITIONS:	31
11.3	HYDROLOGIC TRESPASS:.....	31
12	REFERENCES	32

TABLES

Table 1. Pierce Terrace Mitigation Site (ID-100139) Project Mitigation Quantities and Credits.....	3
Table 2. Project Activity and Reporting History	3
Table 3. Project Contacts Table	4
Table 4. Project Attribute Table	5
Table 5. Web Soil Survey Soils Mapped within the Site.....	8
Table 6. Soil Profiles	12
Table 7. Reference Forest Ecosystem	17
Table 8. NC WAM Summary.....	18
Table 9. Wetland Targeted Functions, Goals, and Objectives	19
Table 10. Threatened and Endangered Species.....	20
Table 11. Planting Plan.....	24
Table 12. Permanent Seed Mix	25
Table 13. Monitoring Schedule	26
Table 14. Monitoring Summary	27
Table 15. Success Criteria	28
Table 16. Compatibility of Performance Criteria to Project Goals and Objectives.....	29
Table 17. Adaptive Management Plan Considerations.....	30

APPENDICES

Appendix A. Figures

- Figure 1. Site Location
- Figure 2. Hydrologic Unit Map
- Figure 3. Historic Imagery (1956)
- Figure 4. USGS Topo Quad
- Figure 5A. Existing Conditions - Topography & Hydrology
- Figure 5B. Existing Conditions - Soils
- Figure 6. Mitigation Plan – Proposed Conditions
- Figure 7. Planting & Forest Enhancement Plan
- Figure 8. Monitoring Plan
- Figure 9. WOUS Impact Map

Appendix B. Existing Wetland Data

- NC WAM Forms
- Soil Boring Log
- Water Balance Calculation
- Nutrient Model
- Preconstruction Gauge Data

Appendix C. NCNHP Report

Appendix D. Preliminary Jurisdictional Determination Package

Appendix E. Categorical Exclusion Document

Appendix F. Financial Assurance

Appendix G. Site Protection Instrument

Appendix H. Credit Release Schedule

Appendix I. Maintenance Plan

Appendix J. IRT Site Visit Notes

Appendix K. Construction Plans

Appendix L. NCDOT Encroachment Agreement

Appendix M. Dominion Utility Relocation

1 PROJECT INTRODUCTION

The Pierce Terrace Wetland Mitigation Site (hereafter referred to as the "Site") totals 125.73 acres of agricultural fields used for row crop production. The Site is comprised of two adjacent parcels, the first parcel totals 98.24 acres and includes 68.68 acres for the Site. The first parcel includes an existing NC Division of Mitigation Services (DMS) wetland restoration project referred to as the Hofler Mitigation Project (HMP). The conservation easement for the HMP totals 27.04 acres. The second parcel totals 226.18 acres and includes 57.05 acres for the Site. The Site is located approximately 2 miles west of Sunbury, 5 miles northeast of Gatesville, and immediately south and east of Merchants Millpond State Park (MMSP) in central Gates County (Figures 1 – 2, Appendix A).

1.1 Directions to Site

Directions to the Site from Raleigh, North Carolina.

- Head east on US-64 for 69 miles
- Take the Shiloh Farm Rd exit (Exit 488) to NC-111 N
- After 0.3 mile, turn left onto Shiloh Farm Rd
- After 1.2 miles, turn right onto NC-111
- After 5.1 miles, turn left on NC-111/NC-42/NC-11 and follow NC-11
- After 33.6 miles, Rd becomes US-13 N
- After 8.8 miles, turn right onto Lafayette's Tour (NC-37)
- After 8.6 miles, turn right onto Main St/Lafayette's Tour (NC-37)
- After 1.1 miles, turn left onto Flat Branch Rd
- After 3.0 miles, turn left onto Lafayette's Tour/Mill Pond Rd
- Take the first right onto Silver Springs Rd
- The Site is located on the left and right after 3.2 miles.
 - Site Latitude, Longitude 36.431500, -76.649894 (WGS84)

1.2 USGS Hydrologic Unit Code and NCDWR River Basin Designation

The Site is located within the Chowan River Basin in 14-digit USGS Cataloging Unit and **Targeted Local Watershed (TLW) 03010203040040** of the South Atlantic/Gulf Region (NCDWQ sub-basin number 03-01-01) [Figures 1 and 2, Appendix A]. Site hydrology is driven by precipitation and lateral groundwater flow. The Site is located within an interstream flat adjacent to Lassiter Swamp and Bennett's Creek of MMSP. The interstream flat is between three stream systems: Lassiter Swamp and Bennett's Creek (Site's receiving waters) to the north, which has been assigned Stream Index Number 25-17. Two unnamed tributaries to Bennett's Creek are located east and west of the Site. Bennett's Creek has been assigned a Best Usage Classification of **C; NSW** (NCDWR 2013). No designations have been assigned to the unnamed tributaries to Bennett's Creek.

1.3 Physiography and Land Use

The Site is in the Mid-Atlantic Flatwoods portion of the Middle Atlantic Coastal Plain ecoregion of North Carolina. Regional physiography is characterized by wide upland surfaces low in elevation with poorly drained soil and slow natural subsurface drainage (Griffith et al. 2002). Intensive agricultural practices exist across the entire Site. Agricultural fields within and adjacent to the Site are subject to routine fertilizer and herbicide applications, including poultry litter. Site ditches are excavated regularly to remove sediment loss from agricultural practices due to traditional plowing methods and fields left fallow outside of the growing season. All native vegetation and woody material have been removed from the Site. Within the Site is the HMP, implemented in 2012 and has completed the seventh year of monitoring in 2021.

Adjacent land management activities include silviculture and agriculture practices. These areas include lateral ditching, shallow surface drains, subsurface drains, and planting beds to rapidly remove surface and subsurface water from these poorly drained soils, which contribute nutrient, sediment, and fecal coliform into MMSP.

Approximately 900-feet north and approximately 1,600-feet west of the Site, beyond the existing agricultural and silvicultural practices, lies MMSP (Figures 1, Appendix A). The Site is split into two areas by Silver Springs Road (SR-1404), a rural two-lane state road. The area north of Silver Springs Road is 105.6-acres, and the area south is 20.1-acres. To the south of the Site there is an extensive silviculture operation with timber ranging in age from 5 – 20+ years. Agricultural production is the primary land use east of the Site, with some silviculture, natural areas, and light residential areas mixed in.

The 1955 North Carolina Geological Survey (NCGS) aerial photograph for Gates County (Figure 3, Appendix A) shows the Site in agricultural production and surrounding areas forested and in agricultural production. Since the NCGS aerial photograph, the Site has remained in agricultural production, with the main difference being the implementation of the HMP. Typical crop rotation for the last decade has been winter wheat, corn or soybean, or cotton.

All 125.7 acres are ditched/drained for row crop production (Figure 5A, Appendix A). Removal of excess surface water from the Site is accomplished via several seasonal rills/cuts that run perpendicular to the topography to the ditch network.

As a non-riparian wetland located on the edge of an expansive interstream divide, Site hydrology drains in multiple directions before ultimately draining north to receiving waters Bennetts Creek and Lassiter Swamp within Merchants Millpond State Park. Onsite elevations are nearly level averaging between 10-11 meters on the National Geodetic Vertical Datum (NGVD) (USGS Merchants Millpond, North Carolina 7.5-minute topographic quadrangle) or 31-35 feet (NAVD 88) (NC One Map, Gates County Quality Level 2 (QL2) LiDAR 0.5-foot elevation contours) (Figures 4 and 5A, Appendix A). Surrounding land uses include existing wetlands, rural residential properties, timber tracts, and row crops.

1.4 Project Components and Structure

Within the 125.7-acre Site, 106.511 acres are drained hydric soils (Figure 5B, Appendix A), which is proposed for non-riparian wetland mitigation (Table 1) (Figures 6-8, Appendix A). Borrow areas within the upland buffers of the conservation easement are proposed for wetland creation; these areas are expected to total 5.670 acres with credit determination based on the final as-built survey. Completed project activities, reporting history, completion dates, project contacts, and background information are summarized in Tables 1-4.

Space Purposefully Left Blank

Table 1. Pierce Terrace Mitigation Site (ID-100139) Project Mitigation Quantities and Credits

Project Segment	Original Mitigation Plan Ft/Ac	Original Mitigation Category	Original Restoration Level	Original Mitigation Ratio (X:1)	Credits	Comments
Wetland						
Non-riparian Re-	86.706	NR	REE	1.00000	86.706	
Non-riparian Re-	19.805	NR	REE	1.00000	19.805	
Non-riparian Creation 3	5.670	NR	C	3.00000	1.890	
				Total:	108.401	

Project Credits

Restoration Level	Stream			Riparian	Non-Rip	Coastal
	Warm	Cool	Cold	Wetland	Wetland	Marsh
Restoration				0.000	0.000	0.000
Re-establishment				0.000	106.511	0.000
Rehabilitation				0.000	0.000	0.000
Enhancement				0.000	0.000	0.000
Enhancement I						
Enhancement II						
Creation				0.000	1.890	0.000
Preservation				0.000	0.000	
Totals	0.000	0.000	0.000	0.000	108.401	0.000
Total Wetland Credit	108.401					

Wetland Mitigation Category

CM Coastal Marsh
R Riparian
NR Non-Riparian

Restoration Level

P Preservation
E Wetland Enhancement
EII Stream Enhancement II
EI Stream Enhancement I
C Wetland Creation
RH Wetland Rehabilitation
REE Wetland Re-establishment
R Restoration

Table 2. Project Activity and Reporting History

Activity or Deliverable	Data Collection Complete	Completion or Delivery
Technical Proposal (RFP No. 16-007907)	August 13, 2019	August 13, 2019
Institution Date (NCDMS Contract No. 7907-01)	--	November 12, 2019
Post Contract IRT Site Visit	--	February 10, 2020
Mitigation Plan	November 2020	May 2022
Construction Plans	--	May 2022
Easement Acquisition	November 2020	November 2020

Table 3. Project Contacts Table

Full Delivery Provider	Restoration Systems 1101 Haynes Street, Suite 211 Raleigh, NC 27604 Raymond Holz 919-755-9490
Designer	Sungate Design Group, P.A. 905 Jones Franklin Rd Raleigh, NC 27606 Josh Dalton 919-710-8333
Monitoring	Axiom Environmental, Inc. 218 Snow Avenue Raleigh, NC 27603 Grant Lewis 919-215-1693
Surveyor & Land Quality Permit	k2 Design Group 5688 U.S. Hwy. 70 East Goldsboro, NC 27534 John Rudolph (L-4194) 919-394-2547
Planting Contractor	Restoration Systems 1101 Haynes Street, Suite 211 Raleigh, NC 27604 Josh Merritt 919-755-9490
Construction Contractor	Land Mechanic Design 126 Circle G Lane Willow Spring, NC 27592 Charles Hill (919) 639-6132
General Contractor	Restoration Systems 1101 Haynes Street, Suite 211 Raleigh, NC 27604 Worth Creech (GC #64807) 919-755-9490

Table 4. Project Attribute Table

Project Information			
Project Name	Pierce Terrace Wetland Restoration Site		
Project County	Gates County, North Carolina		
Project Area (acres)	125.73		
Project Coordinates (latitude & longitude)	36.431500°N, 76.649894°W		
Project Watershed Summary Information			
Physiographic Province	Middle Atlantic Coastal Plain		
Project River Basin	Chowan		
USGS HUC for Project (8-digit)	03010203		
NCDWR Sub-basin for Project	03-01-01		
Project Drainage Area (acres)	NA		
Percentage of Project Drainage Area that is Impervious	NA		
CGIA Land Use Classification	Cultivated		
Wetland Summary Information			
Parameters	Wetland 1	Wetland 2	Wetland 3
Pre-project (acres)	0	0	0
Post-project (acres)	86.706	19.805	5.670
Wetland Type	Non-riparian		
Mapped Soil Series	Bladen, Craven, Goldsboro, Lenoir, Pantego		
Drainage Class	Poorly drained, Moderately well drained Poorly drained, Somewhat poorly drained, Very poorly drained		
Hydric Soil Status	Hydric, Non-hydric with inclusions, Non-hydric with inclusions, Non-hydric with inclusions, Hydric		
Source of Hydrology	Precipitation, surface water run-on		
Hydrologic Impairment	Ditched and drained		
Native Vegetation Community	Non-riverine Wet Hardwood & Swamp Forest		
% Composition of Exotic Invasive Vegetation	0%		
Restoration Method	Hydrologic, vegetative		
Regulatory Considerations			
Regulation	Applicable?	Resolved?	Supporting Documentation
Waters of the United States-Section 401	Yes	Yes	PJD package (App D)
Waters of the United States-Section 404	Yes	Yes	PJD package (App D)
Endangered Species Act	Yes	Yes	CE Document (App E)
Historic Preservation Act	No	--	CE Document (App E)
Coastal Zone Management Act	No	--	CE Document (App E)
FEMA Floodplain Compliance	No	--	CE Document (App E)
Essential Fisheries Habitat	No	--	NA

2 WATERSHED APPROACH AND SITE SELECTION

Primary considerations for Site selection included the potential for improvement of water quality within a region of North Carolina under heavy silviculture and agricultural pressure. The Site is located within the State identified TLW 03010203040040 of the Chowan 03 River Basin. Prioritized for restoration, Bennetts Creek and Merchants Millpond are both within the TLW and have a NCDEQ surface water classification of Nutrient Sensitive Waters. Merchants Millpond was eutrophic in 2015 and has historically exhibited elevated biologic productivity since it was first monitored in 1981 in the NCDEQ final 2021 Chowan River Basin Water Resources Plan.

More specifically, site-specific selection considerations included a site's ability to provide desired aquatic resource functions, hydrologic conditions, soil characteristics, aquatic habitat diversity, habitat connectivity, compatibility with adjacent land uses, and reasonably foreseeable effects the mitigation project will have on ecologically important aquatic and terrestrial resources. Site specific considerations leading to the Site selection are summarized below:

Site Specific Selection Considerations	Rationale
Site's hydric soils have been ditched, drained, cleared of forest vegetation, and managed for row crop production.	High uplift potential to desired aquatic resource functions including soils, hydrology, and vegetation
Nonpoint, groundwater/precipitation driven ephemeral surface water flows enter the Site along the boundary and are currently captured by the Site's ditch network and drained.	Potential restoration of groundwater/ precipitation driven ephemeral surface water flows and surface water storage
Wetland soils have been altered by agricultural activities, specifically ditching and draining of wetlands. This activity has caused oxidation of the organic materials resulting in some subsidence of the surface soil horizon. This process along with historic land clearing and agriculture use has reduced the thickness of the soil surface relevant to the historic undrained condition.	Ability to cease degrading land use activities
The Site's unique shape includes an upland buffer around a majority of the drained hydric soils and includes natural wetland outlets.	The Site has a natural drainage pattern with a primary outflow at the northeast and southeast corners where existing ag ditch outlets are currently.
The Site's proximity to natural and managed areas and is compatible with adjacent land uses.	The Site shares a common border with an existing non-riparian mitigation site and is near several natural and managed areas (NC Natural Heritage Program, Appendix C). Portions of the Site are bordered by agricultural lands and managed timberlands.

In addition to the opportunity for ecological improvements at the Site, the implementation of the particular mitigation activities and methods proposed in the Design Approach & Mitigation Work Plan (Section 7.0) are expected to produce naturalized wetland resources that will be ecologically self-sustaining, requiring minimal long-term management (Long-term Management Plan – Section 10.0).

Site activities address priorities associated with the 2009 *Chowan River Basin Restoration Priorities* report. Site-specific information follows each goal.

1. Work with landowners, local governments, local conservancies and other nongovernmental groups to protect and restore watersheds through restoration and preservation.

The Site surrounds the existing DMS HMP Non-riparian Wetland Mitigation Site, which completed its seventh year of monitoring in 2021. In addition, MMSP is ~900-feet north and ~1,600-feet west of the Site along with eight Conservation Reserve Enhancement Program easements with the NC Department of Agriculture, Division of Soil and Water Conservation located within 1.0 mile of the Site (NC NHP Report – Appendix C).

2. Implement restoration projects to reduce sources of sedimentation, nutrient pollution, and surface runoff.

Reduce water quality impacts from agricultural practices – cessation of row crop production and elimination of fertilizer application/annual ditch maintenance which may result in a direct reduction of nitrogen, phosphorus, and sediments entering downstream waters. Restoration of jurisdictional wetlands will increase surface/sub-surface storage and retention within the Site; thereby, reducing stormwater flow below the Site.

3. Restore and protect sensitive aquatic resources to improve habitat and species diversity through the restoration of wetlands, streams and riparian buffers.

Restoration of jurisdictional wetlands which are aquatic resources to receiving waters associated with MMSP a NC Natural Heritage Program (NCNHP) listed natural area with multiple element occurrences including animals, insects, and plants.

Site specific mitigation goals and objectives have been developed using the North Carolina Wetland Assessment Method (NC WAM) and are discussed further in Section 5.0 (Functional Uplift and Project Goals/Objectives).

3 BASELINE AND EXISTING CONDITIONS

3.1 Landform & Adjacent Land Uses

Just to the north of the Site, is MMSP (Figures 1, Appendix A). The 760-acre millpond is more than 190 years old with above mean seal level (MSL) elevations ranging from 6 feet at the pond surface to 30 feet along the valley sides. MMSP is an alluvial swamp forest associated with Lassiter Swamp and Bennetts Creek. The Site is adjacent to the south of MMSP on a flat to gently rolling interstream divide with elevation reaching 39 feet above MSL. Lands abutting the Site have been in agricultural and/or silviculture production since at least 1940 and likely for many years prior. Remnant and contemporary surface water rills along with current and historic ditches are still present to facilitate current land uses.

The 1955 North Carolina Geological Survey aerial photograph for Gates County (Figure 3, Appendix A) shows the Site and surrounding areas in agricultural production with forest around the edges very similar to the current land use footprint. The 1940 USGS Beckford Topographic Quadrangle also indicates the Site is in agricultural production, the Site has been in agricultural production for over 80 years. Typical crop rotation for the last decade has been a winter wheat with cotton, soybeans, and/or corn.

3.2 Soils

The soils of the Site are a part of the Talbot Surface, separated from the younger Pamlico Surface by the Suffolk Scarp, thought to be the old beach line found at MSL 25 feet. The soils on the Talbot Surface are estimated to be between 145,000 – 220,000 years old and formed by fluvial or estuarine wave action during with much of the area being covered by water in the form of a sound or bay (Frost 1982). A large part of the Talbot Surface includes soils with a clayey subsoil and are poorly to very poorly drained due to the flatness of the area not allowing natural drainage, as is the case with the Site's soils.

Based on Web Soil Survey mapping (USDA 2019), the Site contains the soil series outlined in Table 5. Existing wetlands and drained hydric soils were mapped by North Carolina licensed soil scientists (NCLSS # 1233 and NCLSS # 1297) on July 31, 2019 as soils of the Bladen and Pantego series (Figure 5B, Appendix A); soil boring logs are included in Appendix B.

Table 5. Web Soil Survey Soils Mapped within the Site

Map Unit Symbol	Map Unit Name (Classification)	Hydric Status	Description
BnA	Bladen loam (<i>Typic Albaquults</i>)	Hydric	This series consists of poorly drained soils found on depressions and flats. The parent material is clayey and loamy marine deposits and/or fluviomarine deposits. Depth to the seasonal high-water table is 0-12 inches. Depth to restrictive features is more than 80 inches. Slopes are 0-2 percent.
CrA, CrB	Craven fine sandy loam (<i>Aquic Hapludults</i>)	Non-hydric, may contain hydric inclusions	This series consists of moderately well-drained soils found on flats on marine terraces and ridges on marine terraces. The parent material is clayey marine deposits. Depth to the seasonal high-water table is 24-36 inches. Depth to restrictive features is more than 80 inches. Slopes are 0-4 percent.
GoA	Goldsboro fine sandy loam (<i>Aquic Paleudults</i>)	Non-hydric, may contain hydric inclusions	This series consists of moderately well-drained soils found on flats on marine terraces and broad interstream divides on marine terraces. The parent material is loamy marine deposits. Depth to the seasonal high-water table is 24-36 inches. Depth to restrictive features is more than 80 inches. Slopes are 0-2 percent.
LeA	Lenoir loam (<i>Aeric Paleaquults</i>)	Non-hydric, may contain hydric inclusions	This series consists of somewhat poorly drained soils found on flats on broad interstream divides and terraces. The parent material is clayey marine deposits. Depth to the seasonal high-water table is 12-30 inches. Depth to restrictive features is more than 80 inches. Slopes are 0-2 percent.
PnA	Pantego fine sandy loam (<i>Umbric Paleaquults</i>)	Hydric	This series consists of very poorly drained soils found on flats on marine terraces and broad interstream divides on marine terraces. The parent material is loamy marine deposits. Depth to the seasonal high-water table is 0-12 inches. Depth to restrictive features is more than 80 inches. Slopes are 0-1 percent.

3.3 Project Site Waters of the U.S.

Waters of the U.S. within the Site were delineated in the field following guidelines set forth in the *Corps of Engineers Wetlands Delineation Manual* and subsequent regional supplement and located using GPS technology with reported submeter accuracy (Environmental Laboratory 1987). A Preliminary Jurisdictional Determination (PJD) package was submitted to the United States Army Corps of Engineers (USACE) (Appendix D). This was verified by USACE representative Kyle Barnes and Anthony Scarborough during a field meeting on September 15, 2020 and a notification of jurisdictional determination was received on December 18, 2020. The Site currently contains 745 linear feet of jurisdictional ditches as depicted on Figure 5A, Appendix A.

3.4 Hydrological Characterization

Construction activities are expected to restore 106.511 acres of drained non-riparian hydric soils and create 5.670 acres of jurisdictional wetlands. Areas of the Site targeted for restoration of non-riparian wetlands will receive primary hydrological inputs from groundwater migration into wetlands, groundwater/precipitation driven ephemeral surface water flows, and direct precipitation. Hydrological impairment of the drained hydric soils has resulted from removal of surface water contributions through a network of agricultural ditches and further facilitated by surface cuts to promote surface water runoff within agricultural fields.



Photo 1: Typical Site agricultural ditch

A water balance calculation was performed to determine if wetland hydrology will be restored by removing the ditch outlet and restoring the disturbed restrictive soil layer in the existing ditches. The water balance calculation was performed using nearby state operated weather station for hydrological inputs and outputs as no direct hydrological measurements from the site are available. The calculation determined a surplus of 3.4 acre-feet for the site on an annual basis which will support wetland hydrology success criteria during years of normal precipitation.



Photo 2: Typical Site field rill cut to promote removal of surface water from fields.

3.5 Soil Characterization

Detailed soil mapping conducted by NCLSS #1297 in March 2020 and June 2020 indicates that the Site is currently underlain by hydric soils of the Bladen and Pantego series. Wetlands have been ditched, drained, and cleared for agricultural purposes. Detailed soil profiles conducted by a NCLSS are as follows in Table 6; the locations are depicted on Figure 5B, Appendix A and the soil boring profile descriptions are included in Appendix B.

In general, Site soils were confirmed to be the soil map units mapped in the Gates County soil survey. However, some of the soil map unit boundaries have been affected by past land use, particularly along the western side of the project between the Bladen and Goldsboro soil map units. This is likely the result of past land uses including the initial clearing and harvesting of timber and subsequent grading and plowing for agricultural land use. These practices have altered the soil morphology to the extent that

hydric soil indicators are distorted or removed completely along the boundary of the historic wetland. The absence of redoximorphic concentrations in the upper 10-inches is a result of the removal of wetland hydrology combined with decades of agricultural plowing. As this area was the historic wetland edge the hydric indicators were not as distinct relative to the interior of the Site, and therefore was more susceptible to a loss of the historic hydric soil indicator. Soil profiles in this area include mixing of the surface and subsurface horizons below the plow layer, woody fragments, and historic root channels that have filled in with sandy soil. These observations support anthropogenic manipulation of the soils and as a result have affected the appearance of hydric soil indicators. The hydric soil indicators along the historic boundary of the wetland are found at a lower depth than observed in drained hydric soils in the middle of the Site.



Photo 3: Example of surface and subsurface soil horizons mixing along western Site edge



Photo 4: Example of historic root channels in subsoil filling in with sand following anthropogenic land use



Photo 5: Example of woody fragments (red circle) observed in Site soils

Table 6. Soil Profiles

Soil Profile E (Bladen Soil Map Unit)		
F3 Hydric Indicator – Depleted Matrix		
Depth (inches)	Color	Texture
0 - 8	Matrix: 10YR 5/2 (95%) Redox Features: 10YR 5/8 concentrations (5%)	Sandy loam
8 – 14+	Matrix: 2.5Y 5/2 (55%) Redox Features: 2.5Y 6/1 depletions (10%) 2.5Y 5/6 concentrations (25%) 10YR 4/6 concentrations (10%)	Clay

Soil Profile G (Lenoir Soil Map Unit)		
F3 Hydric Indicator – Depleted Matrix		
Depth (inches)	Color	Texture
0 - 10	Matrix: 2.5Y 4/2 (95%) Redox Features: 10YR 5/6 concentrations (5%)	Sandy loam
10 – 18+	Matrix: 2.5Y 5/3 (65%) Redox Features: 2.5Y 5/1 depletions (15%) 2.5Y 6/2 depletions (5%) 10YR 5/8 concentrations (15%)	Clay



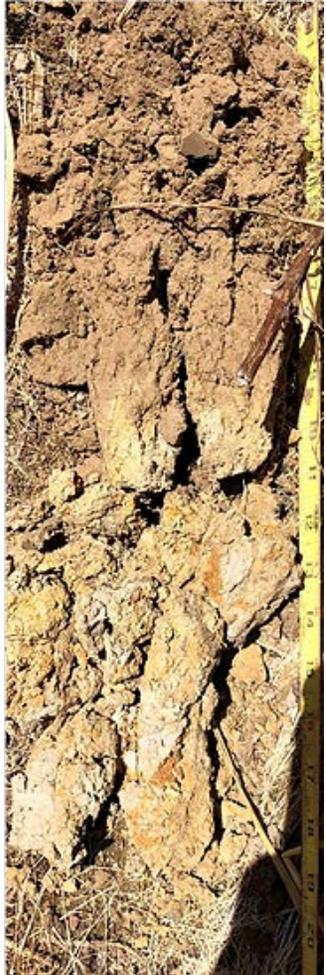
Soil Profile K (Goldsboro Soil Map Unit)		
Upland – No Hydric Indicator		
Depth (inches)	Color	Texture
0 - 9	Matrix: 10YR 4/2 (100%)	Sandy loam
9 – 18+	Matrix: 2.5Y 5/4 (85%) Redox Features: 2.5Y 5/2 depletions (10%) 10YR 6/8 concentrations (5%)	Clay



Soil Profile L (Goldsboro Soil Map Unit)		
Altered F3 Hydric Indicator – Depleted Matrix		
Depth (inches)	Color	Texture
0 - 9	Matrix: 10YR 4/2 (100%)	Sandy loam
9 – 18+	Matrix: 2.5Y 5/3 (80%) Redox Features: 2.5Y 5/2 depletions (15%) 10YR 6/8 concentrations (5%)	Clay



Soil Profile M (Goldsboro Soil Map Unit)		
F3 Hydric Indicator – Depleted Matrix		
Depth (inches)	Color	Texture
0 - 9	Matrix: 10YR 4/2 (95%) Redox Features: 10YR 6/8 concentrations (5%)	Sandy loam
9 – 18+	Matrix: 2.5Y 5/3 (40%) 2.5Y 6/1 (40%) Redox Features: 10YR 6/8 concentrations (10%) 10YR 6/8 concentrations (10%)	Clay



Soil Profile R (Pantego Soil Map Unit)		
F7 Hydric Indicator – Depleted Below Dark Surface		
Depth (inches)	Color	Texture
0 - 8	Matrix: 10YR 2/1 (100%)	Sandy loam
8 – 18+	Matrix: 10YR 3/1 (50%) Redox Features: 10YR 6/8 concentrations (25%) 2.5Y 7/1 depletions (25%)	Sandy clay loam



3.6 Plant Community Characterization

The Site includes 106.511 acres proposed for wetland re-establishment and 5.670 acres proposed for wetland creation which are currently used for agricultural row-crop production and have very little vegetative diversity. The entire Site including ditches is subject to regular maintenance including bush hogging and herbicide application.

4 REFERENCE FOREST ECOSYSTEM

A Reference Forest Ecosystem (RFE) is a forested area on which to model restoration efforts at the Site in relation to soils and vegetation. RFEs should be ecologically stable climax communities and should be a representative model of the Site as it likely existed prior to human disturbances. Data describing plant community composition and structure should be collected at the RFEs and subsequently applied as reference data in an attempt to emulate a natural climax community.

An RFE for this project was difficult to locate as most of the non-riverine wet hardwood and swamp forests in the area have been ditched and drained in support of agricultural and silvicultural practices. Therefore, data from the NatureServe Explorer, in addition to Schafale and Weakley (1990) and Schafale (2012), community descriptions were used for the development of the planting plan. These wetland systems are found on poorly drained mineral to mucky mineral soils of instream flats with sparse to moderate herbaceous and shrub layers and a canopy of various bottomland hardwood species. Variations in vegetation occur within the system and are associated with soil texture, drainage, and microtopography. Small hummocks and depressions on the soil surface yield varying hydroperiods and increase vegetation diversity. A natural transition between community types is expected moving from the middle of the Site where a Pantego soil map unit exist outwards to the Bladen soil map unit. Based on this gradient, two target communities were selected from Schafale (2012) to capture the diversity expected in this landscape position: Nonriverine Wet Hardwood Forest (Oak Flat Subtype) (Southern Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest Unique ID # CES203.304, NatureServe 2018) and Nonriverine Swamp Forest (Cypress-Gum Subtype) (Southern Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest Unique ID # CES203.304, NatureServe 2018). Dominant tree and shrub species in these systems are listed in Table 7 and will be utilized, in addition to other relevant species to supplement the community descriptions.

Also, a desktop assessment was performed of surrounding areas that included areas within the Bladen soil series with minimal ditching and appeared to be at least 15+ years post disturbance. This resulted in two areas one was a mosaic of pines and hardwoods within MMSP north of the pond and south of US Highway 158 (36.4470, -76.6802), and the other was a contiguous hardwood stand southeast of the project and north of Gatling Road (36.4273, -76.6422). In addition, we spoke with both landowners that have lived in this area of Gates County for multiple generations one of which (S&M Farms, LLC) is a silviculture company in Gates County, and also consulted with the Gates County Soil and Water District. Collectively these pieces of information were used to compile the regional vegetative reference community

Table 7. Reference Forest Ecosystem

Non-Riverine Wet Hardwood Forest	
Canopy Species	Understory Species
swamp chestnut oak (<i>Quercus michauxii</i>) laurel oak (<i>Quercus laurifolia</i>) cherrybark oak (<i>Quercus pagoda</i>) swamp tupelo (<i>Nyssa biflora</i>) tulip poplar (<i>Liriodendron tulipifera</i>) red maple (<i>Acer rubrum</i>) sweetgum (<i>Liquidambar styraciflua</i>)	coastal dog-hobble (<i>Leucothoe axillaris</i>) sweetpepperbush (<i>Clethra alnifolia</i>) swamp bay (<i>Persea palustris</i>)
Non-Riverine Swamp Forest	
Canopy Species	Understory Species
bald cypress (<i>Taxodium distichum</i>) pond cypress (<i>Taxodium ascendens</i>) swamp tupelo (<i>Nyssa biflora</i>) tulip poplar (<i>Liriodendron tulipifera</i>) red maple (<i>Acer rubrum</i>) sweetgum (<i>Liquidambar styraciflua</i>)	swamp bay (<i>Persea palustris</i>) sweetbay magnolia (<i>Magnolia virginiana</i>) sweetpepperbush (<i>Clethra alnifolia</i>)

5 FUNCTIONAL UPLIFT AND PROJECT GOALS/OBJECTIVES

The Site is located within **TLW 03010203040040** and sub-basin 03-01-01. The project is not located within a Local Watershed Planning area; however, project activities address priorities associated with the 2009 *Chowan River Basin Restoration Priorities* report as follow (see Section 2.0 for additional information).

1. Work with landowners, local governments, local conservancies, and other nongovernmental groups to protect and restore watersheds through restoration and preservation.
2. Implement restoration projects to reduce sources of sedimentation, nutrient pollution, and surface runoff.
3. Restore and protect sensitive aquatic resources to improve habitat and species diversity through the restoration of wetlands, streams, and riparian buffers.

Site specific mitigation goals and objectives have been developed using the NC WAM analyses (NC WFAT 2010). This methodology rates functional metrics for wetlands as high, medium, or low based on field data collected on forms and transferred into a rating calculator. Using Boolean logic, the rating calculator assigns a high, medium, or low value for each metric and overall function. Site functional assessment data forms are available upon request; model output is included in Appendix B.

Table 8 summarizes NC WAM metrics targeted for functional uplift and the corresponding mitigation activities proposed to provide functional uplift. Metrics targeted to meet the Site's goals and objectives are depicted in bold.

Table 8. NC WAM Summary

NC WAM Sub-function Rating Summary	Pierce Terrace	
	Hardwood Flat	Non-riverine Swamp Forest
(1) HYDROLOGY	LOW	LOW
(2) Surface Storage & Retention	LOW	LOW
(2) Sub-surface Storage and Retention	LOW	LOW
(1) WATER QUALITY	LOW	LOW
(2) Pollution Change	LOW	LOW
(1) HABITAT	LOW	LOW
(2) Physical Structure	LOW	LOW
(2) Landscape Patch Structure	LOW	LOW
(2) Vegetative Composition	LOW	LOW
OVERALL	LOW	LOW

The NC WAM wetland types can be best classified as a disturbed hardwood flat and a disturbed non-riverine swamp forest. Based on NC WAM data, all three primary Wetland Functional Metrics (Hydrology, Water Quality, and Habitat), as well as six sub-metrics were found to be under-performing as exhibited by a LOW metric rating. LOW performing metrics are to be targeted for functional uplift through mitigation activities, goals and objectives, as well as monitoring and success criteria.

Wetland metrics, targeted for functional uplift, were used to define Site specific project goals and objectives, and are presented in Table 9.

Space Purposefully Left Blank

Table 9. Wetland Targeted Functions, Goals, and Objectives

Targeted Functions	Goals	Objectives
(1) HYDROLOGY		
(2) Surface Storage & Retention	<ul style="list-style-type: none"> Minimize downstream flooding to the maximum extent possible. 	<ul style="list-style-type: none"> Fill and plug agriculture ditches to restore jurisdictional hydrology Cease row crop production within the easement Shallow disking (~4") of soils within the entire Site to reduce compaction and increase surface roughness Plant woody vegetation Protect the Site with a perpetual conservation easement
(2) Sub-surface Storage & Retention		
(1) WATER QUALITY		
(2) Pollution Change	<ul style="list-style-type: none"> Remove direct nutrient and pollutant inputs from the Site. 	<ul style="list-style-type: none"> Reduce agricultural land/inputs Fill and plug the ditch network to restore ground and surface hydrology within the Site Plant woody vegetation Restore jurisdictional wetlands
(1) HABITAT		
(2) Physical Structure	<ul style="list-style-type: none"> Improve wildlife habitat within and adjacent to the Site. 	<ul style="list-style-type: none"> Plant woody native vegetation to provide organic matter and shade Fill and plug ditches to provide groundwater hydrology Add woody debris material throughout Site for habitat Protect the Site with a perpetual conservation easement Restore jurisdictional wetlands
(2) Landscape Patch Structure		
(2) Vegetation Composition		

6 SITE DESIGN AND IMPLEMENTATION CONSTRAINTS

The presence of conditions or characteristics that have the potential to hinder restoration activities on the Site was evaluated. The evaluation focused primarily on the presence of hazardous materials, utilities and restrictive easements, rare/threatened/endangered species or critical habitats, and the potential for hydrologic trespass. Existing information regarding Site constraints was acquired and reviewed, including a 0.25-foot topographic map. In addition, any Site conditions that have the potential to restrict the restoration design and implementation were documented during the field investigation.

6.1 Threatened & Endangered Species

Three federally protected species are listed as occurring in Gates County (USFWS 2021); Table 10 summarizes potential habitat and preliminary biological conclusions for each.

Table 10. Threatened and Endangered Species

Species Federal Status	Habitat	Potential Habitat at Site	Biological Conclusion
American alligator (<i>Alligator mississippiensis</i>) Threatened due to similarity of Appearance	Found in rivers, streams, canals, lakes, swamps, and coastal marshes.	No	No Effect
Northern long-eared bat (<i>Myotis septentrionalis</i>) Threatened	Spends winters hibernating in mines and caves. During summer, roosts underneath bark, in cavities, or in crevices of both live and dead trees. Mature forest may be important for foraging.	No	No Effect
Red-cockaded woodpecker (<i>Picoides borealis</i>) Endangered	Open stands of pine containing trees 60 years or older for nesting and roosting. Cavity excavation occurs in living pine trees.	No	No Effect

6.2 Cultural Resources

The term "cultural resources" refers to prehistoric or historic archaeological sites, structures, or artifact deposits over 50 years old. "Significant" cultural resources are those that are eligible or potentially eligible for inclusion in the National Register of Historic Places. Evaluations for cultural resources of significance are made with reference to the eligibility criteria of the National Register (36 CFR 60) and in consultation with the North Carolina State Historic Preservation Office (SHPO).

Field visits were conducted at the Site in mid-2019 and early 2020 to ascertain the presence of structures or other features that may be eligible for inclusion on the National Register of Historic Places. No structures were identified within proposed easement boundaries. In addition, SHPO conducted a review of the project and identified no historic resources which would be affected by the project (Appendix E).

6.3 North Carolina Natural Heritage Elements

A query of the NCNHP database indicates there are no records for rare species, important natural communities, or natural areas conservation/managed areas within the proposed project boundary. However, one record of a conservation/managed area within the proposed project boundary which is an existing NCDMS conservation easement for the HMP. This managed area is not included within the Site conservation easement as it already has its own conservation easement. Within a one-mile radius of the project boundary, NCNHP lists 15 element occurrences including: one animal assemblage, two butterflies, three mammals, two natural communities, one reptile, and six vascular plants. In addition, the Site is within a one-mile radius of one natural area (Merchants Millpond State Park) and eleven managed areas including: one NCDMS easement, one state park, one state park registered heritage area, and eight NCDA-Division of Soil and Water conservation reserve enhancement program easements. NCNHP correspondence is included in Appendix C.

6.4 Utilities

A powerline crosses the Site near Silver Springs Road. Discussions with Dominion Energy have taken place to move the powerline out of the Site. A design and plan has been developed to relocate the powerline

completely from the Site conservation easement, the relocated powerline will now follow Silver Springs Road adjacent to the road right-of-way. The relocation of the powerline is scheduled to take place prior to construction during winter of 2021/22. Utilities will not pose a hindrance to Site development.

6.5 Air Transport Facilities

No air transport facilities are located within 5 miles of the Site. The nearest airport is Liles Field airport located 5.12 miles to the north in Corapeake, NC.

7 DESIGN APPROACH AND MITIGATION WORK PLAN

7.1 Wetland Restoration

Wetland restoration activities are designed to restore a fully functioning non-riparian wetland system, which will provide surface water storage, nutrient cycling, removal of nutrients and sediment, and will create a variety and abundance of habitat for wildlife.

Portions of the Site underlain by hydric soils have been impacted by drainage ditch excavation, vegetative clearing, agriculture plowing, herbicide application, and other land disturbances associated with land use management. Wetland re-establishment is focused on the restoration of vegetative communities, filling and plugging of drainage ditches, removal of ditch crossings and culverts, re-establishment of soil structure, re-establishment of historic ephemeral surface water flow and development of microtopographic variations.

The design approach accentuates the Site's existing conditions and topographic features. Wetland hydrology will be supported by an existing restrictive clay layer starting at a depth of 7 – 10 inches from the surface and ranging from ~50 – 65+ inches thick. This restrictive layer will facilitate reestablishment of wetland hydrology by restricting vertical movement of water and allowing water to spread across the Site. Naturally depressed areas associated with the Pantego soil map unit around HMP and scattered throughout the Site were observed at elevations ≤ 34 -feet (Figures 5A-B, Appendix A). These depressed areas will serve as natural storage for hydrological inputs including surface water runoff and precipitation.

The design includes a braided surface water flow path (BSWFP) which will allow excess hydrological inputs to migrate through the Site and facilitate the designed drainage of the roadside ditches along Silver Springs Rd. The BSWFP will tie-in to the existing ditch along the HMP access at elevation 31.7-feet, from there the BSWFP will taper up to elevation 33.0-feet and meander north adjacent to the eastern boundary of HMP. The BSWFP will tie into the 33-foot contour adjacent to the northeast corner of HMP. The BSWFP is designed to carry surface water at the 33.0-foot elevation as this will facilitate the flow gradient from the Silver Springs Rd ditches which are surveyed at 33.5-feet. The base width of the BSWFP will be 15-foot with 10:1 side slopes grading to the adjacent designed elevations. Within the 15-foot base width of the BSWFP there will be multiple flow paths 2 – 4-feet wide and ~3-inches in depth (Figure 6, Appendix A and Construction Plans, Appendix K). These features will also allow surface water to move freely across the Site when hydrological inputs exceed the storage capacity of these topographic features. Retention of surface hydrology will also be accomplished by disking the entire Site to a depth of 4-6 inches. Disking will provide surface roughening to reduce compaction and provide microtopographic low areas to retain precipitation and surface water. In addition, compaction of the surface soil horizon will be reduced from the disking effort and provide an appropriate environment for the establishment of planted vegetation.

Additional design components include an upland buffer, placement of woody debris, and a one year rest period from agriculture for the land prior to construction. The upland buffer surrounds a majority of

Wetland 1 and will provide a buffer from adjacent agricultural operations as well as habitat variability within the easement. Large woody debris will be placed throughout the Site to provide a source of organic material for the soil and habitat for wildlife. Lastly, the easement area will have a period of rest before construction to provide organic contributions from successional plant species and will provide an opportunity to effectively treat any undesirable plant species prior to planting. These components will facilitate the trajectory of the Site towards reestablishment of the historic wetland features.

The wetland re-establishment design included consideration for the existing HMP as well. Given that the HMP has had difficulty achieving vegetation performance standards additional consideration was given to the Site's ditch plugging and hydrology restoration. The HMP includes a berm around the eastern, southern, and western boundaries with elevations ranging from 34.5 – 35.0-feet. The northern side does not have a berm, and the elevation is 34-feet. Initially, the five ditch plugs for the HMP were set to an elevation of 34-feet, then in December 2020 following an approved Adaptive Management Plan, were adjusted to 33.7-feet. The Site's design includes two ditch plugs within the ditches in the vicinity of the HMP, this ditch plugs will be set to elevation 33.5-feet to provide a positive gradient exists for excess hydrology to move away from the HMP and onto the Site. Additionally, the Site's design will restore soil surface microtopography and eliminate ephemeral agricultural rills, reducing the amount and rate at which ephemeral water moves towards and around the HMP.

7.2 Ditch Modifications & Plugging

In order to reestablish wetland hydrology an assessment of the HMP mitigation plan, as-built, and monitoring reports was performed to identify how wetland hydrology has responded following restoration. Additionally, this assessment would aim to ensure the Site would not adversely affect HMP. The HMP data included a lateral drainage analysis for both the Bladen and Pantego soil series, which resulted in an upland berm being designed/constructed around HMP. During the span from May 2017 to March 2018 the farmer excavated a ditch immediately adjacent to the HMP conservation easement. This ditch network removed surface water from the adjacent farm fields; however, had no effect on the wetland hydroperiod as observed in the HMP gauges. In addition, the annual rainfall for 2018 was 20-inches less than 2017 and still the wetland hydroperiods were approximately the same for 2017 and 2018. This data demonstrated that the water table is perched and the function of the ditches is to remove surface water rather to control groundwater. Furthermore, wetland hydroperiods for HMP appeared to be hindering growth of woody species and as a part of an 2021 Adaptive Management Plan the historic ditch outlet elevations were lowered by 4-inches to facilitate removal of excess surface water. The lowering of the ditch plugs proved to be an effective measure in reducing wetland hydroperiods. Reestablishment of wetland hydrology for the Site was based on this data and information.

Hydrological inputs will be retained on Site by installing five clay ditch plugs, five in Wetland 1 and one in Wetland 2. The ditch plug locations were selected based on confluences of primary conveyance ditches. Existing ditch sections between the plugs will be backfilled with impervious material from local borrow areas, comprised primarily of silt and clay. Ditches will be backfilled to match the depth of the adjacent soil surface on both sides of the existing ditches to reconnect the restrictive layer. The minimum distance from the wetland credit areas to the nearest ditch to remain open will be 50-feet. Ditch plug lengths will be a minimum of 50-feet and will include non-woven filter fabric underneath the clay material used for the ditch plug. (Construction Plans, Appendix K).

Three borrow areas will provide fill material for ditch backfilling. Borrow areas number 1 and 2 are adjacent to Wetland 1 and are within the conservation easement. These two borrow areas are being proposed as wetland creation. Borrow area number 3 is outside the conservation easement area adjacent to Wetland 2 and is designed to be a pond in an upland area for the landowner. Following excavation,

borrow areas number 1 and 2 will be stabilized with the temporary and permanent seed mix before being planted with species from the non-riverine swamp forest planting list.

There are a total of 13 culverts within or adjacent to the Site. The one internal culvert associated with Wetland 1 will be completely removed. Two farm path culverts outside of the Site easement located near the outfall for Wetland 1 are stable and functioning. Seven of the ten culverts outside of the Site easement located along the roadside ditches of Silver Springs Road will be completely removed to facilitate flow of surface water. The remaining three roadside culverts are stable and will be cleaned of sediment and debris to allow for NCDOT designed flow and capacity. The three remaining culverts will provide access to the HMP and the remaining land not within the easement. NCDOT Division One – District One has approved encroachment agreements for these seven culverts will be removed to allow excess surface water to move down gradient and avoid hydrologic trespass (Figure 6, Appendix A and Appendix L).

7.3 Ditch Outfall Structures

To provide a long-term stable outlet three log sill structures will be constructed in each of the three current ditch outfall locations. The gradient along the ditch outfalls will be <2% which will provide hydrology for the re-establishment of wetlands and allow excess water to move downgradient along the established outlets. Live stake plantings will be installed around each of the log sill structures to provide long-term stability and an added stability measure in the event the log sill structures rot. If the soil removed from the ditches is suitable for reuse onsite it will be spread within the wetland asset areas if not it will be disposed of offsite.

The log sill for the ditch outlet associated with Wetland 1 will start approximately at elevation 32.0 feet (elevation not tied to grid). It will be keyed in along the existing ditch grade to prevent erosion and ensure long-term stability. Downgradient from the log sill, the ditch bottom will be filled with clay and capped with Class-A stone to grade. The filled ditch will extend approximately 383 feet downgradient (north) towards the existing farm path crossing with a final elevation grade matching the existing ditch at 22.0 feet (elevation not tied to grid) (Figure 6, Appendix A and Construction Plans, Appendix K).

The log sill for the northern ditch outlet associated with Wetland 2 will start approximately at elevation 33.0 feet (elevation not tied to grid). It will be keyed in along the existing ditch grade to prevent erosion and ensure long-term stability. Downgradient from the log sill, the ditch bottom will be filled with clay and capped with Class-A stone to grade. The filled ditch will extend approximately 65 feet downgradient (east) towards the existing farm path crossing with a final elevation grade matching the existing ditch at 31.5 feet (elevation not tied to grid) (Figure 6, Appendix A and Construction Plans, Appendix K).

The log sill for the southern ditch outlet associated with Wetland 2 will start approximately at elevation 33.0 feet (elevations not tied to grid). It will be keyed in along the existing ditch grade to prevent erosion and ensure long-term stability. Downgradient from the log sill, the ditch bottom will be filled with clay and capped with a Class-A stone to grade. The filled ditch will extend approximately 87 feet downgradient (east) towards the edge of the field with a final elevation grade matching the existing ditch at 31.5 feet (elevation not tied to grid) (Figure 6, Appendix A and Construction Plans, Appendix K).

7.4 Natural Plant Community Restoration

Restoration of vegetation allows for the development and expansion of characteristic species across the landscape. Ecotonal changes between community types contribute to habitat diversity and provide secondary benefits, such as enhanced feeding and nesting opportunities for mammals, birds, amphibians, and other wildlife. RFE data, onsite observations, and community descriptions from *Classification of the Natural Communities of North Carolina* (Schafale and Weakley 1990, 2012) were

used to develop the primary plant community associations that will be promoted during community restoration activities; the community association to be utilized are Non-Riverine Wet Hardwood Forest and Non-Riverine Swamp Forest.

Bare-root seedlings will be planted at a density of approximately 680 stems per acre on 8-foot centers across the entire Site. Planting will be performed between November 15 and March 15 to allow plants to stabilize during the dormant period and set root during the spring season. Lower areas in the landscape which are intended to hold surface water will be planted with an additional 320 stems per acre with specific species tolerant of inundation of extended periods of time.

Table 11 depicts the species, the total number of stems, and distribution for bare-root planting. The entire Site (125.73 acres) will be planted with species from the Non-riverine Wet Hardwood Forest Planting List. Non-riverine Swamp Forest areas (15.49 acres) will receive an additional 335 stems per acre of species tolerant to extended periods of inundation.

Ditch outfalls and other select areas will be live-staked as needed using species from the primary planting list and/or the following species: *Cephalanthus occidentalis*, *Salix nigra*, *Salix caroliniana*, *Sambucus nigra*.

Table 11. Planting Plan

Vegetation Association	Non-riverine Wet Hardwood Forest		
Canopy Species ¹ (125.73 acres)	Facultative Rating	# planted	% of total
		(680 stems/acre)	
River birch (<i>Betula nigra</i>)	FACW	2,200	2.42%
Persimmon (<i>Diospyros virginiana</i>) ²	FAC	2,500	2.76%
Green ash (<i>Fraxinus pennsylvanica</i>)	FACW	3,460	3.81%
Tulip poplar (<i>Liriodendron tulipifera</i>)	FACU	6,500	7.17%
Swamp tupelo (<i>Nyssa biflora</i>)	OBL	2,500	2.76%
Black gum (<i>Nyssa sylvatica</i>)	FAC	7,700	8.49%
Sycamore (<i>Platanus occidentalis</i>)	FACW	5,000	5.51%
Laurel oak (<i>Quercus laurifolia</i>)	FACW	8,635	9.52%
Overcup oak (<i>Quercus lyrata</i>)	OBL	5,000	5.51%
Swamp chestnut oak (<i>Quercus michauxii</i>)	FACW	6,735	7.43%
Water oak (<i>Quercus nigra</i>)	FAC	7,000	7.72%
Cherrybark oak (<i>Quercus pagoda</i>)	FACW	8,635	9.52%
Willow oak (<i>Quercus phellos</i>)	FACW	9,135	10.07%
Bald cypress (<i>Taxodium distichium</i>)	OBL	3,000	3.31%
Understory Species (125.73 acres)		# planted	% of total
		(680 stems/acre)	
Hornbeam (<i>Carpinus caroliniana</i>)	FAC	2,500	2.76%
Sweetbay magnolia (<i>Magnolia virginiana</i>)	FACW	2,500	2.76%
Swamp bay (<i>Persea palustris</i>)	FACW	2,500	2.76%

Vegetation Association	Non-riverine Swamp Forest		
Canopy Species ¹ (15.49 acres) – in addition to Site-wide planting		# planted	% of total
		(335 stems/acre)	
Water tupelo (<i>Nyssa aquatica</i>)	OBL	1,300	1.43%
Swamp tupelo (<i>Nyssa biflora</i>)	OBL	1,300	1.43%
Pond cypress (<i>Taxodium ascendens</i>)	OBL	1,300	1.43%
Bald cypress (<i>Taxodium distichium</i>)	OBL	1,300	1.43%
TOTAL		90,700	100.0%

¹If a species is unavailable from the nursery Bald cypress should be used as the preferred alternative.

²Persimmon is only to be planted in upland buffer areas and areas at or above the 35-foot contours.

Indicator Categories (USDA - https://plants.usda.gov/wetinfo.html)			
Code	Indicator Status	Designation	Comment
OBL	Obligate Wetland	Hydrophyte	Almost always occur in wetlands
FACW	Facultative Wetland	Hydrophyte	Usually occur in wetlands, but may occur in non-wetlands
FAC	Facultative	Hydrophyte	Occur in wetlands and non-wetlands
FACU	Facultative Upland	Nonhydrophyte	Usually occur in non-wetlands, but may occur in wetlands
NL	Not Listed	N/A	N/A

7.5 Permanent Seed Mix

While Site success criteria are driven by establishing an appropriate canopy tree species, restoration of understory vegetation will provide significant additional ecological benefit. Broadcast seeding efforts will achieve initial soil stabilization, mid-term pollinator benefit, and long-term Site diversity. An herbaceous seed mix including native grasses and forbs will be planted throughout the Site, including the upland buffer areas and wetland creation borrow areas. Table 12 outlines the species proposed for inclusion in the permanent seed mix, subject to availability.

Table 12. Permanent Seed Mix

<i>Carex albolutescens</i>	FACW	<i>Eupatorium fistulosum</i>	FACW	<i>Panicum anceps</i>	FAC
<i>Carex lupulina</i>	OBL	<i>Eupatorium perfoliatum</i>	FACW	<i>Panicum clandestinum</i>	FACW
<i>Chamaecrista fasciculata</i>	FACU	<i>Helenium flexuosum</i>	FACW	<i>Panicum rigidulum</i>	FACW
<i>Chamaecrista nictitans</i>	FACU	<i>Helianthus angustifolius</i>	FACW	<i>Pycnanthemum tenuifolium</i>	FACW
<i>Coreopsis lanceolata</i>	UPL	<i>Heliopsis helianthoides</i>	UPL	<i>Rhynchospora globularis</i>	FACW
<i>Coreopsis tinctoria</i>	FAC	<i>Hibiscus moscheutos</i>	OBL	<i>Rudbeckia hirta</i>	FACU
<i>Desmodium canadense</i>	FAC	<i>Juncus effusus</i>	OBL	<i>Scirpus cyperinus</i>	OBL
<i>Echinacea purpurea</i>	FACU	<i>Juncus tenuis</i>	FAC	<i>Tridens flavus</i>	FACU
<i>Elymus riparius</i>	FACW	<i>Liatris spicata</i>	FAC	<i>Verbena hastata</i>	FAC
<i>Elymus virginicus</i>	FAC	<i>Monarda fistulosa</i>	FACU	<i>Vernonia noveboracensis</i>	FACW

7.6 Nuisance Species Management

No nuisance species controls are proposed at this time. Inspections for wild pig, bear, and other potential nuisance species will occur throughout the monitoring period. Appropriate actions may be taken to ameliorate any negative impacts regarding nuisance vegetation development. The presence of nuisance species will be monitored throughout the monitoring period.

8 MONITORING AND SUCCESS CRITERIA

Monitoring will be conducted by Axiom Environmental, Inc based on the schedule in Table 13. A summary of monitoring is outlined in Table 14 (Figure 8, Appendix A). Annual monitoring reports will be submitted to the NCDMS by Restoration Systems no later than December 1 of each monitoring year data. Success criteria and monitoring will be completed in accordance with the 2016 NCIRT Guidance.

Table 13. Monitoring Schedule

Resource	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Wetlands	x	x	x	x	x	x	x
Vegetation	x	x	x		x		x
Visual Assessment	x	x	x	x	x	x	x
Report Submittal	x	x	x	x	x	x	x

The existing HMP has met the wetland hydrology performance standard in all nine monitoring wells for six years (2015-2020), with the exception of one monitoring well during the first monitoring year (2015). The average wetland hydroperiod for HMP from 2016-2020 has been 39% of the growing season, far exceeding the wetland performance standard. Even when considering the HMP hydrology has been affected by a berm around three sides of the project, a lack of appropriate ephemeral outlets, and some years of wetter than normal rainfall the data gives strong confidence that the Bladen and Pantego soils are capable of supporting wetland hydrology. As a result, the proposed number of groundwater gauges for the Site has been reduced, specifically related to the interior wetland re-establishment areas. Site groundwater gauges are intentionally placed in transects along the perimeter and intermittently in the interior of the wetland re-establishment area. Groundwater gauges are also included in the wetland creation areas. Five pre-construction gauges were installed on February 10, 2022 and data is provided in Appendix B.

Vegetation monitoring for the Site includes permanent vegetation plots and random vegetation transects for upland buffer areas, wetland creation areas, and wetland re-establishment areas. The number of vegetation monitoring plots and transects has been adjusted downward to account for the size and homogeneity of the Site. This was done based on the detailed soils evaluation confirming that a majority of the Site is comprised of the Bladen soil map unit. Also, HMP's monitoring reports indicate soils and vegetation have little to no variability throughout. Fixed photo points along the CE boundary and detailed drone mapping will occur annually.

Space Purposefully Left Blank

Table 14. Monitoring Summary

Hydrology Parameters				
Parameter	Method	Schedule/Frequency	Number/Extent	Data Collected/Reported
Wetland Re-establishment and Creation	Groundwater gauges	Years 1, 2, 3, 4, 5, 6, and 7 throughout the year with the growing season defined as March 1- November 14	58 gauges spread throughout restored wetlands and 3 gauges spread throughout created wetlands	Groundwater/rain data for each monitoring period will be collected and reported for the growing season ¹ (March 26 – November 12).
	Soil profile descriptions	As-built and Years 3, 5, and 7	61 profile descriptions, one at each groundwater gauge	Soil profile descriptions completed to assess the development of hydric soil morphologic features
Vegetation Parameters				
Parameter	Method	Schedule/Frequency	Number/Extent	Data Collected/Reported
Vegetation establishment and vigor	Permanent vegetation plots 0.0247 acre (100 square meters) in size; <i>CVS-EEP Protocol for Recording Vegetation, Version 4.2</i> (Lee et al. 2008)	As-built, Years 1, 2, 3, 5, and 7	60 plots spread across the Site	Species, height, planted vs. volunteer, stems/acre
	Annual random vegetation plots, 0.0247 acre (100 square meters) in size		20 random transects spread across the Site	Species and height
Visual Parameters				
Parameter	Method	Schedule/Frequency	Number/Extent	Data Collected/Reported
Encroachment, stabilized outfalls	Visual	Years 1, 2, 3, 4, 5, 6, and 7	20 fixed photo points & Site boundary walking	Documented conditions in yearly monitoring report narrative, current condition figures, and reporting tables

¹The growing season will begin on March 26 and end on November 12 (231 days), which is the WETS growing season based on the most recent (1991-2020) 30-year historical temperature data from the closest WETS weather station (Murfreesboro, NC).

²During vegetation monitoring years three of the random transects will be located in the non-credit generating upland buffers with the remaining 17 random transects to be located in credit generating wetland assets.

8.1 Success Criteria

Monitoring and success criteria for wetland restoration should relate to project goals and objectives identified from NC WAM data collection. From a mitigation perspective, several goals and objectives are assumed to be functionally elevated by restoration activities without direct measurement. Other goals and objectives will be considered successful upon achieving success criteria. Table 15 summarizes Site success criteria.

Table 15. Success Criteria

Wetland Hydrology
<ul style="list-style-type: none"> • Non-riverine Wet Hardwood Forest – Saturation or inundation within the upper 12 inches of the soil surface for, at a minimum, 10 percent of the growing season, during average climatic conditions based on the <i>Wilmington District Stream and Wetland Compensatory Mitigation Update</i> (USACE 2016), Table 1, for a <i>Typic Albaquult</i> (Bladen). • Non-riverine Swamp Forest – Saturation or inundation within the upper 12 inches of the soil surface for, at a minimum, 12 percent of the growing season, during average climatic conditions based on the <i>Wilmington District Stream and Wetland Compensatory Mitigation Update</i> (USACE 2016), Table 1, for a <i>Umbric Paleaquult</i> (Pantego).
Vegetation
<ul style="list-style-type: none"> • Within planted portions of the Site, a minimum of 320 stems per acre must be present at year 3; a minimum of 260 stems per acre must be present at year 5; and a minimum of 210 stems per acre must be present at year 7. • Trees must average 7 feet in height at year 5, and 10 feet in height at year 7 in each plot¹. • Planted and volunteer stems are counted, provided they are included in the approved planting list for the Site; natural recruits not on the planting list may be considered by the IRT on a case-by-case basis. • Any single species can only account for 50% of the required stems within any vegetation plot.

¹Understory/shrub species will be exempt from the vigor performance standard.

8.2 Wetland Contingency

Hydrological contingency will require consultation with hydrologists and regulatory agencies if wetland hydrology is not achieved. Recommendations for contingency to establish wetland hydrology will be implemented and monitored until Hydrology Success Criteria are achieved.

8.3 Vegetation Contingency

If vegetation success criteria are not achieved, supplemental planting may be performed with tree species approved by regulatory agencies. Supplemental planting will be performed as needed until the achievement of vegetation success criteria is met.

8.4 Compatibility with Project Goals

The following table outlines the compatibility of Site performance criteria described above to Site goals and objectives that will be utilized to evaluate if Site goals and objectives are achieved.

Space Purposefully Left Blank

Table 16. Compatibility of Performance Criteria to Project Goals and Objectives

Goals	Objectives	Success Criteria
(1) HYDROLOGY		
<ul style="list-style-type: none"> Minimize downstream flooding to the maximum extent possible. 	<ul style="list-style-type: none"> Fill and plug agriculture ditches to restore jurisdictional hydrology Plant native woody vegetation Cease row crop production within the easement Shallow disking (~4") of soils to reduce compaction and increase surface roughness Protect the Site with a perpetual conservation easement 	<ul style="list-style-type: none"> Row crop production ceased within the easement Monitoring wells will be successful if the water table is within 12 inches of the soil surface for 10-12% of the growing season Vegetation plots will be successful if the plant density is 210 stems per acre with an average plant height of 10 feet at 7 years following planting Conservation Easement recorded
(1) WATER QUALITY		
<ul style="list-style-type: none"> Remove direct nutrient and pollutant inputs from the Site. 	<ul style="list-style-type: none"> Reduce agricultural land/inputs Fill and plug the ditch network to restore ground and surface hydrology in the Site Plant woody vegetation Restore jurisdictional wetlands 	<ul style="list-style-type: none"> Row crop production ceased within the easement Monitoring wells will be successful if the water table is within 12 inches of the soil surface for 10-12% of the growing season Vegetation plots will be successful if the plant density is 210 stems per acre with an average plant height of 10 feet at 7 years following planting
(1) HABITAT		
<ul style="list-style-type: none"> Improve wildlife habitat within and adjacent to the Site. 	<ul style="list-style-type: none"> Plant woody vegetation to provide organic matter and shade Fill and plug ditches to provide groundwater hydrology and plant native woody vegetation Placement of large woody debris Protect the Site with a perpetual conservation easement Restore jurisdictional wetlands 	<ul style="list-style-type: none"> Monitoring wells will be successful if the water table is within 12 inches of the soil surface for 10-12% of the growing season Vegetation plots will be successful if the plant density is 210 stems per acre with an average plant height of 10 feet at 7 years following planting Conservation Easement recorded

9 ADAPTIVE MANAGEMENT PLAN

In the event the mitigation Site or a specific component of the mitigation Site fails to achieve the necessary performance standards as specified in the mitigation plan, the sponsor shall notify the members of the IRT and work with the IRT to develop contingency plans and remedial actions.

The mitigation plan has been prepared to address potential problems that may arise during the monitoring period, including vegetation and hydrology performance standards, hydrologic trespass, easement encroachment, and stability of hydrologic outlets. However, even with careful consideration within the mitigation plan, potential risks and uncertainties may exist that could result in problems.

Table 17. Adaptive Management Plan Considerations

Potential Problems	Potential Causes	Measures to Correct Deficiencies
<ul style="list-style-type: none"> Vegetation Performance Standard Not Met 	<ul style="list-style-type: none"> Site is too wet Site is too dry Dense native herbaceous vegetation Overabundance of natural woody volunteers Soil deficiencies 	<ul style="list-style-type: none"> Check to ensure outlet elevations are appropriate for Site hydrology Install trail cameras at Site outlets to observe flow rate and timing related to rain events Adjust outlet elevations if needed, if outlet elevations are appropriate and wetland hydroperiod is within appropriate range then supplemental plant with alternative species Spray a herbicide that will suppress herbaceous vegetation and not effect woody vegetation Thin non desired woody vegetation by hand and/or mechanical means Collect soil samples for nutrient analysis and amend soil if there are deficiencies
<ul style="list-style-type: none"> Hydrology Performance Standard Not Met 	<ul style="list-style-type: none"> Fragmented restrictive soil layer Hydrological inputs are flowing off Site via historic ditch network New ditch network is constructed adjacent to Site 	<ul style="list-style-type: none"> Use monitoring well data to determine area affected Install additional monitoring wells in the vicinity of the area affected at a rate of one monitoring well per acre Utilize ground penetrating radar (GPR) along historic ditch network to identify potential restrictive layer breaks Hand auger areas where GPR signatures indicate anomalies in restrictive layer Communicate with adjacent landowners prior to construction and discuss potential concerns along with options that will benefit both the Site and their desired land use
<ul style="list-style-type: none"> Erosion of Ephemeral Outlets 	<ul style="list-style-type: none"> Excess surface water entering outlets at a high rate Slow initial vegetation establishment Undermining of log sill outlet structures 	<ul style="list-style-type: none"> Inspect ephemeral flow paths to identify preferential flow paths If preferential flow paths are observed roughen the areas and plant with a herbaceous mixture and/or livestock Inspect Silver Springs Road ditch to ensure it is not clogged and able to move water at the designed volume and rate Provie supplemental herbaceous and/or livestock planting along ditch outlets Reset log sill structures with larger logs and increase the width of the of the log sill by one log

10 LONG-TERM MANAGEMENT PLAN

The Site will be transferred to the NCDEQ Stewardship Program. This party shall serve as conservation easement holder and long-term steward for the property and will conduct periodic inspections of the Site to ensure that restrictions required in the conservation easement are upheld. Funding will be supplied by the responsible party on a yearly basis until such time an endowment is established. 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.

11 PROJECT RISKS AND UNCERTAINTIES

11.1 Land-use Development & Easement Encroachment:

Future single-family development is unlikely in the immediate vicinity of the Site. Currently, existing managed timberland and row crops are the only active land uses adjacent to the Site. Appropriate signage and tree painting will occur along forested and agricultural boundaries to decrease the risk of encroachment from adjacent land use.

11.2 Extreme Climatic Conditions:

The Site's design addresses altering climatic conditions in many ways. The improvement of existing landscape depressions will provide enhanced storage during times of drought, benefiting both terrestrial and aquatic species. The Site's designed water flow path will ensure excess water is not kept on Site after extreme rain events.

11.3 Hydrologic Trespass:

With the Site's relatively flat nature, the possibility of hydrologic trespass was given additional scrutiny. A 0.5-foot contour interval map was generated by K2 Design Group (PLS License # 4194) and was used in combination with the NC Floodplain Mapping Program's QL2 LiDAR 0.5-foot contour intervals to develop the Site's design. This added detailed allowed for site-specific and area topographic data to be evaluated congruently to ensure the design would not result in hydrologic trespass to adjacent parcels.

The analysis determined that Site restoration would not hydrologically affect adjacent parcels. Adjacent properties are at a higher elevation than the Site itself, this will ensure surface water inputs will be allowed to migrate through the Site, increasing surface water storage. (Figure 5, Appendix A). Also, portions of the Site includes an upland buffer ranging in width from 20 to 400+ feet and will further protect the Site from potential encroachment and prevent hydrologic trespass to adjacent parcels. Similarly, Silver Springs Road sits at an elevation higher than the Site and includes roadside ditches on either side. The removal of failed culverts along the ditches of Silver Springs Road will promote the designed flow and drainage relief for the road. Additionally, there is a non-crediting buffer (30 – 50-foot width) between Silver Springs Road and the wetland re-establishment areas to further ensure no hydrologic trespass.

The HMP includes an elevated non-crediting berm which encloses the wetland re-establishment area on three sides. There are five ditch plugs along the berm approximately where the historic ditches were plugged. These ditch plugs were lowered by 4-inches in the fall/winter of 2020 to facilitate the removal of excess water from the HMP. As a result, the out hydrologic outlets for the HMP area at a higher elevation relative to the Site. This will allow water to move from the HMP to the Site and prevent water from moving into the HMP.

12 REFERENCES

- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Frost, Cecil C. 1982. Natural Areas Inventory of Gates County, North Carolina. CEIP Report No. 16. Department of Botany, University of North Carolina Chapel Hill. Available: <https://edocs.deq.nc.gov/CoastalManagement/DocView.aspx?id=247245&undefined&cr=1>
- Griffith, G.E., J.M. Omernik, J.A. Comstock, M.P. Schafale, W.H. McNab, D.R. Lenat, T.F. MacPherson, J.B. Glover, and V.B. Shelbourne. 2002. Ecoregions of North Carolina and South Carolina. U.S. Geological Survey, Reston, Virginia.
- Lee, M.T., R.K. Peet, S.D. Roberts, and T.R. Wentworth. 2008. CVS-EEP Protocol for Recording Vegetation. Version 4.2. North Carolina Department of Environment and Natural Resources, Ecosystem Enhancement Program. Raleigh, North Carolina.
- North Carolina Division of Water Resources (NCDWR). 2013. River Basin Classification Schedule-Chowan River Basin (online). Available: https://files.nc.gov/ncdeq/Water%20Quality/Planning/CSU/Surface%20Water/River%20Basin%20Water%20Quality%20Classifications%20as%20of%20Dec%209%202013/Chowan_Hydro_order.pdf [September 2, 2021]. North Carolina Department of Environmental Quality, Raleigh.
- North Carolina Division of Water Resources (NCDWR). 2018a. Final 2016 Category 5 Assessments-303(d) List. Available: https://files.nc.gov/ncdeq/Water%20Quality/Planning/TMDL/303d/2016/2016_NC_Category_5_303d_list.pdf [June 4, 2018]. North Carolina Department of Environmental Quality, Raleigh, North Carolina.
- North Carolina Division of Water Resources (NCDWR). 2018b. Draft 2018 Category 5 Assessments-303(d) List for Public Review. Available: <https://files.nc.gov/ncdeq/Water%20Quality/Planning/TMDL/303d/2018/2018-DRAFT-NC-303-d--ListwCover.pdf> [January 7, 2019]. North Carolina Department of Environmental Quality, Raleigh, North Carolina.
- North Carolina Ecosystem Enhancement Program (NCEEP). 2009. Chowan River Basin Restoration Priorities (online). Available: https://files.nc.gov/ncdeq/Mitigation%20Services/Watershed_Planning/Chowan_River_Basin/FINAL_RB RP_Chowan_2009.pdf (September 2, 2021).
- North Carolina State University (NC State 2016). NC State University and A&T State University Cooperative Extension Resources. 2016 North Carolina Agricultural Chemicals Manual. Available: <http://content.ces.ncsu.edu/north-carolina-agricultural-chemicals-manual>
- North Carolina Wetland Functional Assessment Team. (NC WFAT 2010). N.C. Wetland Assessment Method (NC WAM) User Manual. Version 4.1.
- Schafale, M.P. and A.S. Weakley. 1990. Classification of the Natural Communities of North Carolina: Third Approximation. North Carolina Natural Heritage Program, Division of Parks and

Recreation, North Carolina Department of Environment, Health, and Natural Resources. Raleigh, North Carolina.

Schafale, M.P. 2012. Guide to the Natural Communities of North Carolina: Fourth Approximation. North Carolina Natural Heritage Program, North Carolina Department of Environment and Natural Resources. Raleigh, North Carolina.

Stormwater Manager's Resource Center (SMRC). 2016. The Simple Method to Calculate Urban Stormwater Loads. Available:
<http://www.stormwatercenter.net/monitoring%20and%20assessment/simple%20meth/simple.htm>

United States Department of Agriculture (USDA). 1996. Soil Survey of Gates County, North Carolina. United States Department of Agriculture, Soil Conservation Service.

United States Department of Agriculture (USDA). 1992. Natural Resources Conservation Service. Agricultural Waste Management Handbook. Available at
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/dma/?cid=nrcs143_014211.

United States 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).

United States Department of Agriculture (USDA). 2015. Animal Manure Management (NRCS) available at
<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/nhj/technical/cp/cta/>

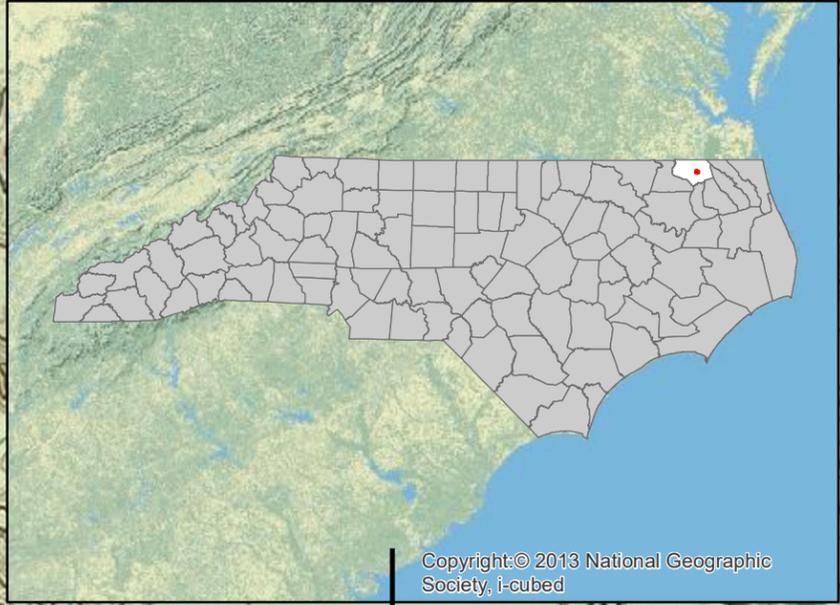
United States Army Corps of Engineers (USACE). 2016. Wilmington District Stream and Wetland Compensatory Mitigation Update.

United States Department of Agriculture (USDA). 2021. Web Soil Survey (online). Available:
<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> [September 2, 2021]. United States Department of Agriculture.

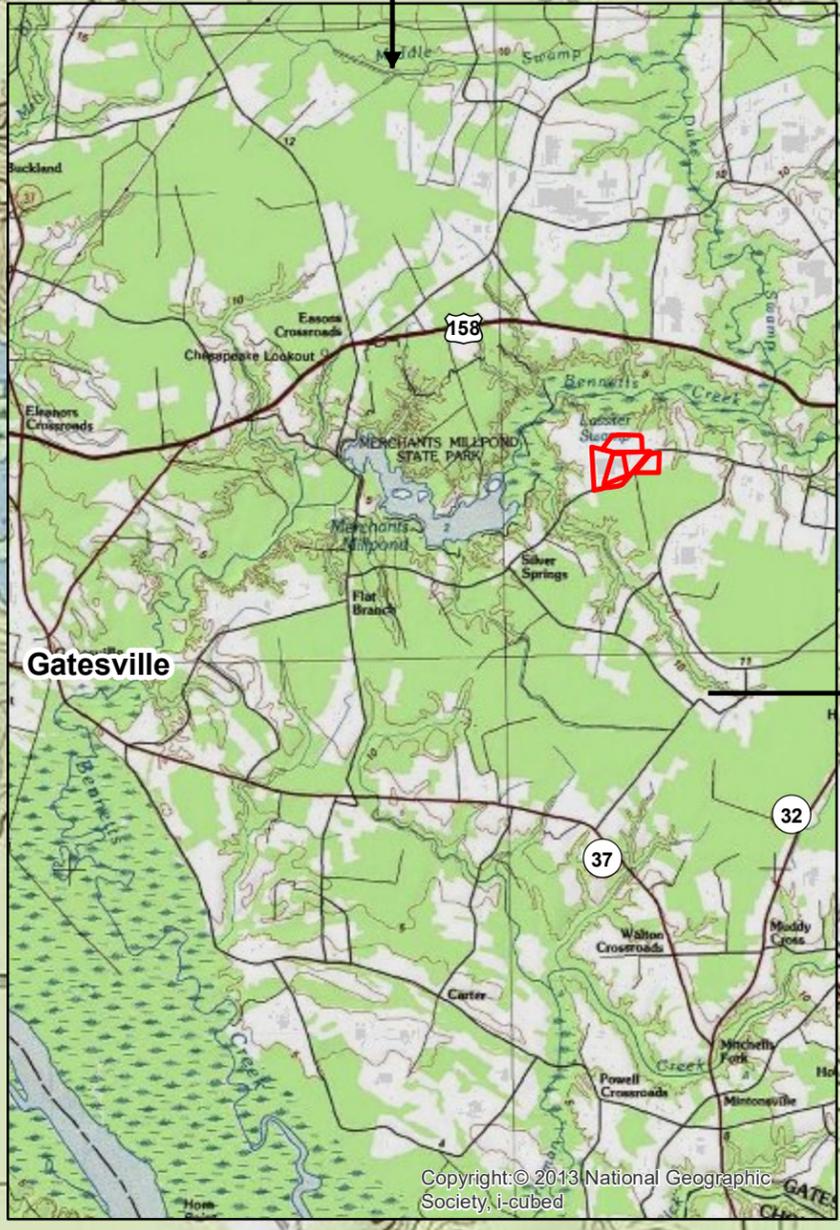
United States Fish and Wildlife Service (USFWS). 2021. Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species, gates County, North Carolina (online). Available:
<https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=37073> [September 10, 2021].

Appendix A: Figures

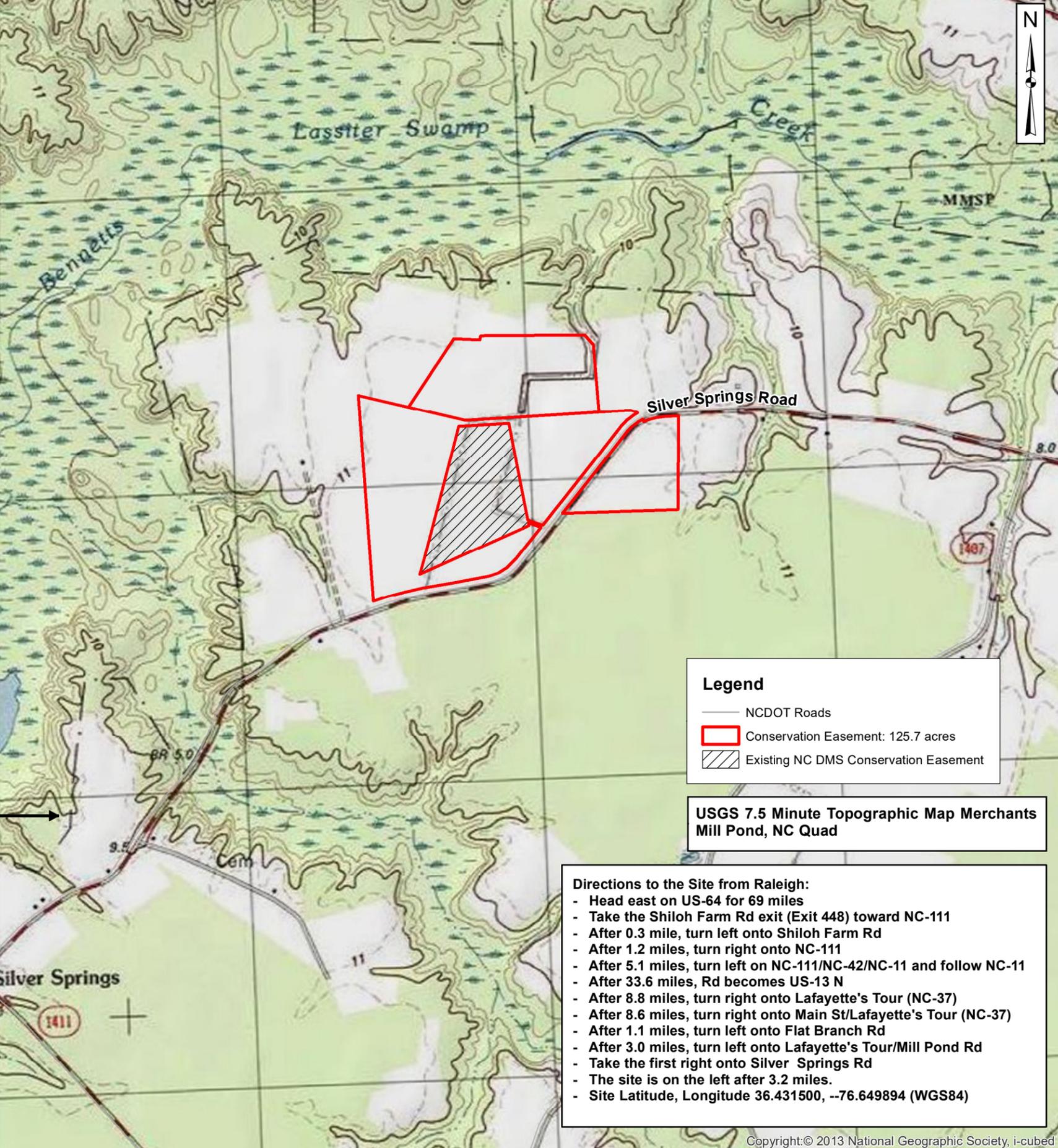
- 1.) Site Location
- 2.) Hydrologic Unit Map
- 3.) Historic Imagery (1956)
- 4.) USGS Topo Quad
- 5A.) Existing Conditions - Topography & Hydrology
- 5B.) Existing Conditions - Soils & Vegetation
- 6.) Proposed Conditions – Mitigation Plan
- 7.) Planting Plan
- 8.) Monitoring Plan



Copyright:© 2013 National Geographic Society, i-cubed



Copyright:© 2013 National Geographic Society, i-cubed



Legend

- NCDOT Roads
- ▭ Conservation Easement: 125.7 acres
- ▨ Existing NC DMS Conservation Easement

USGS 7.5 Minute Topographic Map Merchants Mill Pond, NC Quad

Directions to the Site from Raleigh:

- Head east on US-64 for 69 miles
- Take the Shiloh Farm Rd exit (Exit 448) toward NC-111
- After 0.3 mile, turn left onto Shiloh Farm Rd
- After 1.2 miles, turn right onto NC-111
- After 5.1 miles, turn left on NC-111/NC-42/NC-11 and follow NC-11
- After 33.6 miles, Rd becomes US-13 N
- After 8.8 miles, turn right onto Lafayette's Tour (NC-37)
- After 8.6 miles, turn right onto Main St/Lafayette's Tour (NC-37)
- After 1.1 miles, turn left onto Flat Branch Rd
- After 3.0 miles, turn left onto Lafayette's Tour/Mill Pond Rd
- Take the first right onto Silver Springs Rd
- The site is on the left after 3.2 miles.
- Site Latitude, Longitude 36.431500, --76.649894 (WGS84)



Prepared for:

NC
Mitigation Services
ENVIRONMENTAL QUALITY

Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

SITE LOCATION

Drawn by: AEB

Date: SEP 2021

Scale: 1:15,000

Project No.: 19-001.06

FIGURE

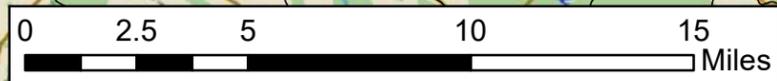
1

Copyright:© 2013 National Geographic Society, i-cubed



Legend

- Conservation Easement: 125.7 acres
- USGS Hydrologic Unit 03010203
- 14 Digit Hydrologic Unit Boundaries
- Targeted Local Watersheds



Location of Pierce Terrace Mitigation Site within USGS Hydrologic Unit and Targeted Local Watershed 03010203040040



Project:
PIERCE TERRACE MITIGATION SITE
 Gates County, NC

Title:
HYDROLOGIC UNIT MAP

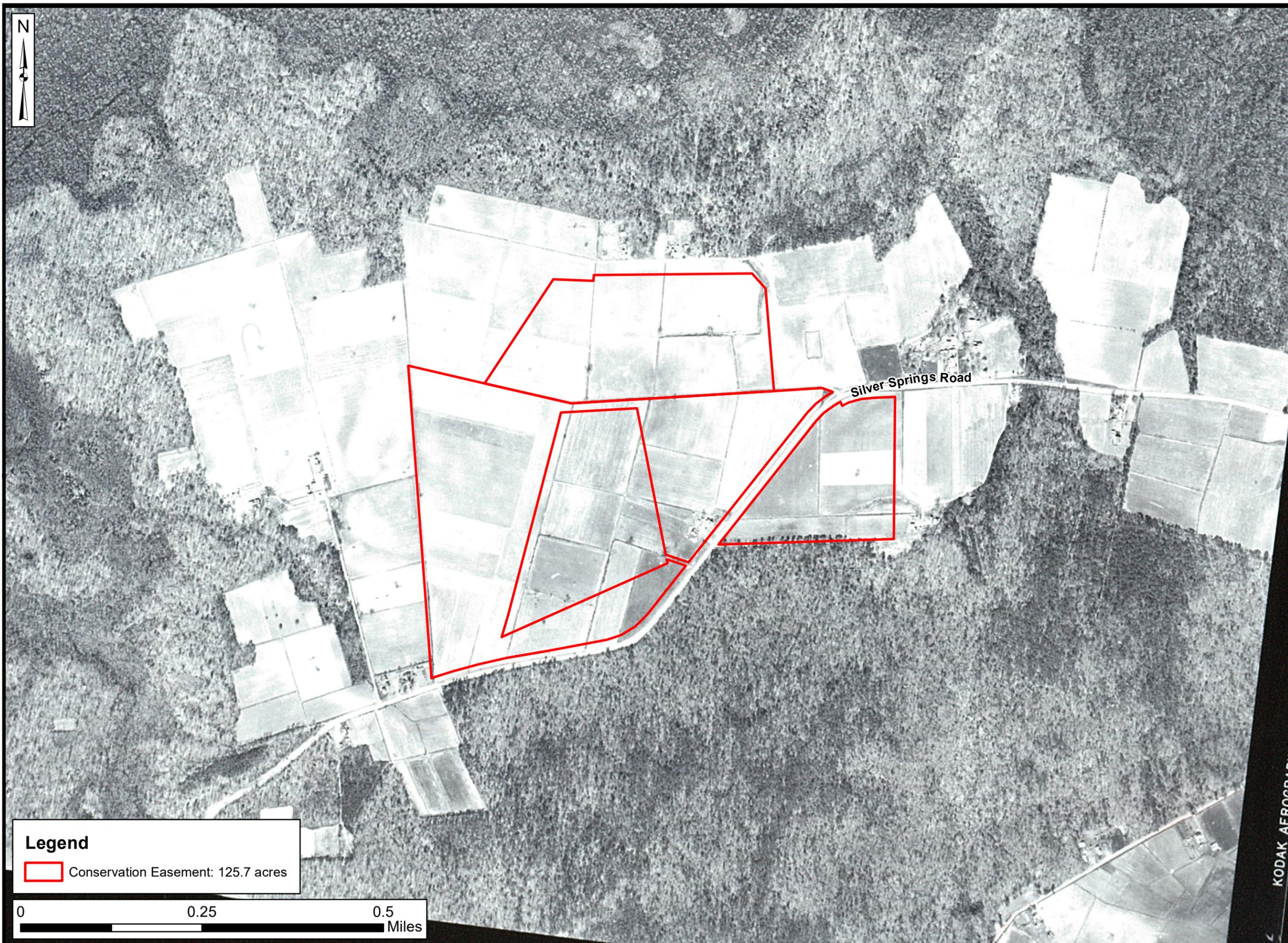
Drawn by: AEB

Date: SEP 2021

Scale: 1:260,000

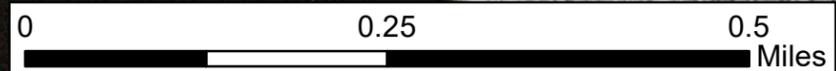
Project No.: 19-001.06

FIGURE
2



Legend

 Conservation Easement: 125.7 acres



Prepared for:



Project:

**PIERCE TERRACE
MITIGATION SITE**

Gates County, NC

Title:

1956 IMAGERY

**NC Geological
Survey**

(03-17-1956)

Drawn by:

AEB

Date:

SEP 2021

Scale:

1:8,000

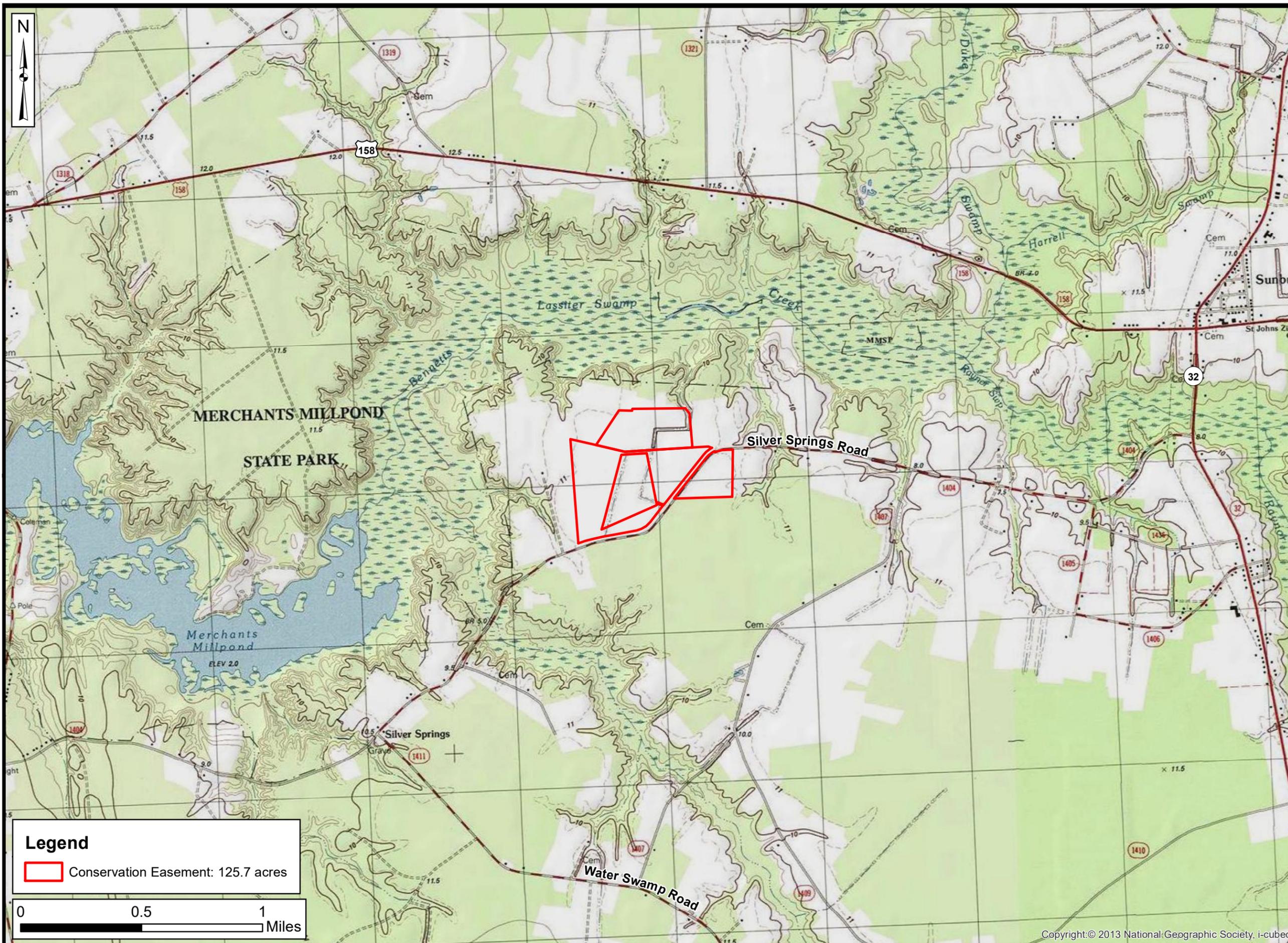
Project No.:

19-001.06

FIGURE

3

KODAK AEROGRAPHIC SHEET



Prepared for:



Project:

**PIERCE TERRACE
 MITIGATION SITE**

Gates County, NC

Title:

**USGS 1:24000
 TOPOQUAD
 MERCHANTS
 MILLPOND - 1997**

Drawn by:

AEB

Date:

SEP 2021

Scale:

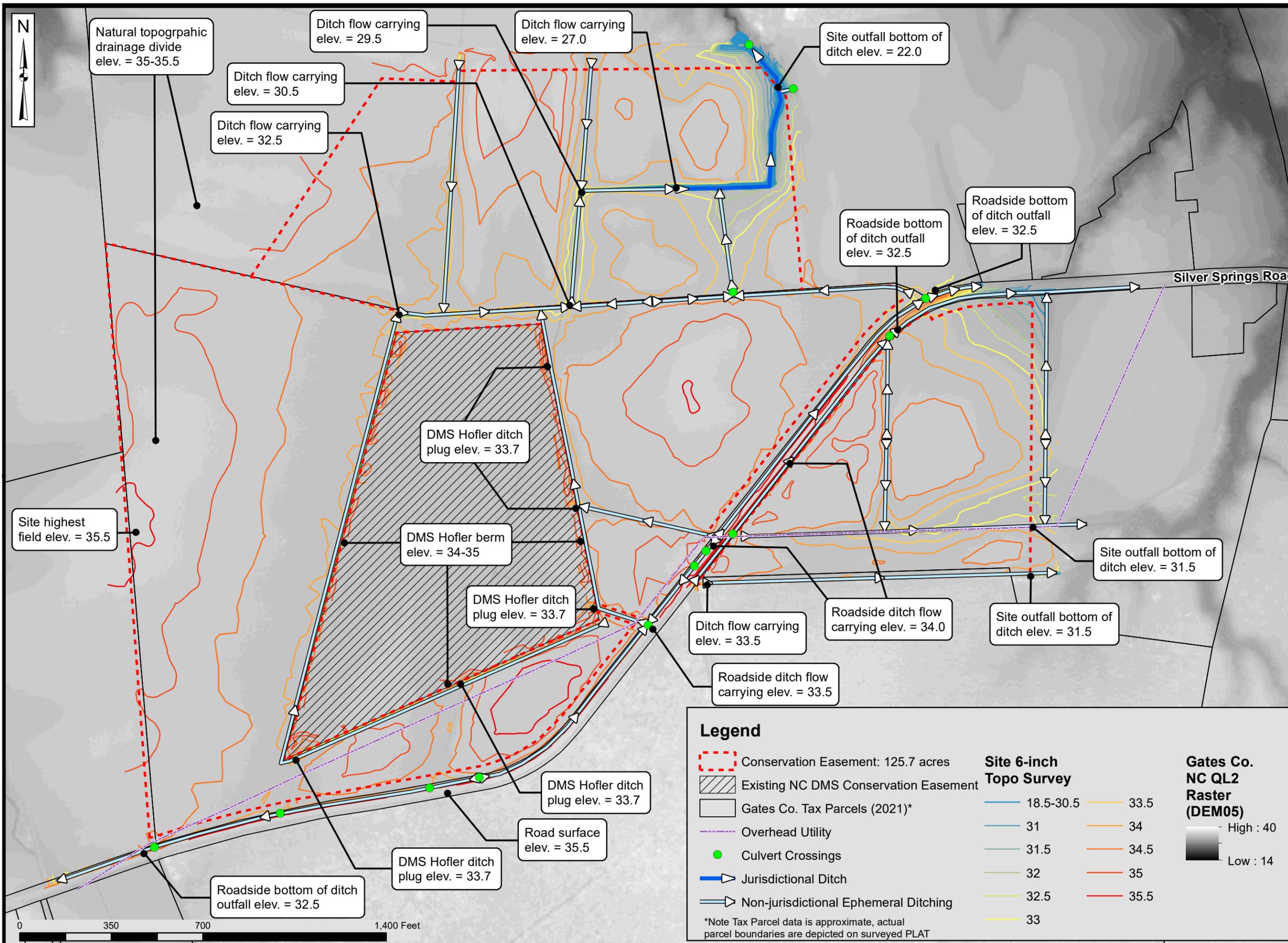
1:24,000

Project No.:

19-001.06

FIGURE

4



Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

EXISTING TOPOGRAPHIC & HYDROLOGIC CONDITIONS

NC SPATIAL DATA QL2 - LiDAR 6-INCH DETAIL

Drawn by:

AEB

Date:

OCT 2021

Scale:

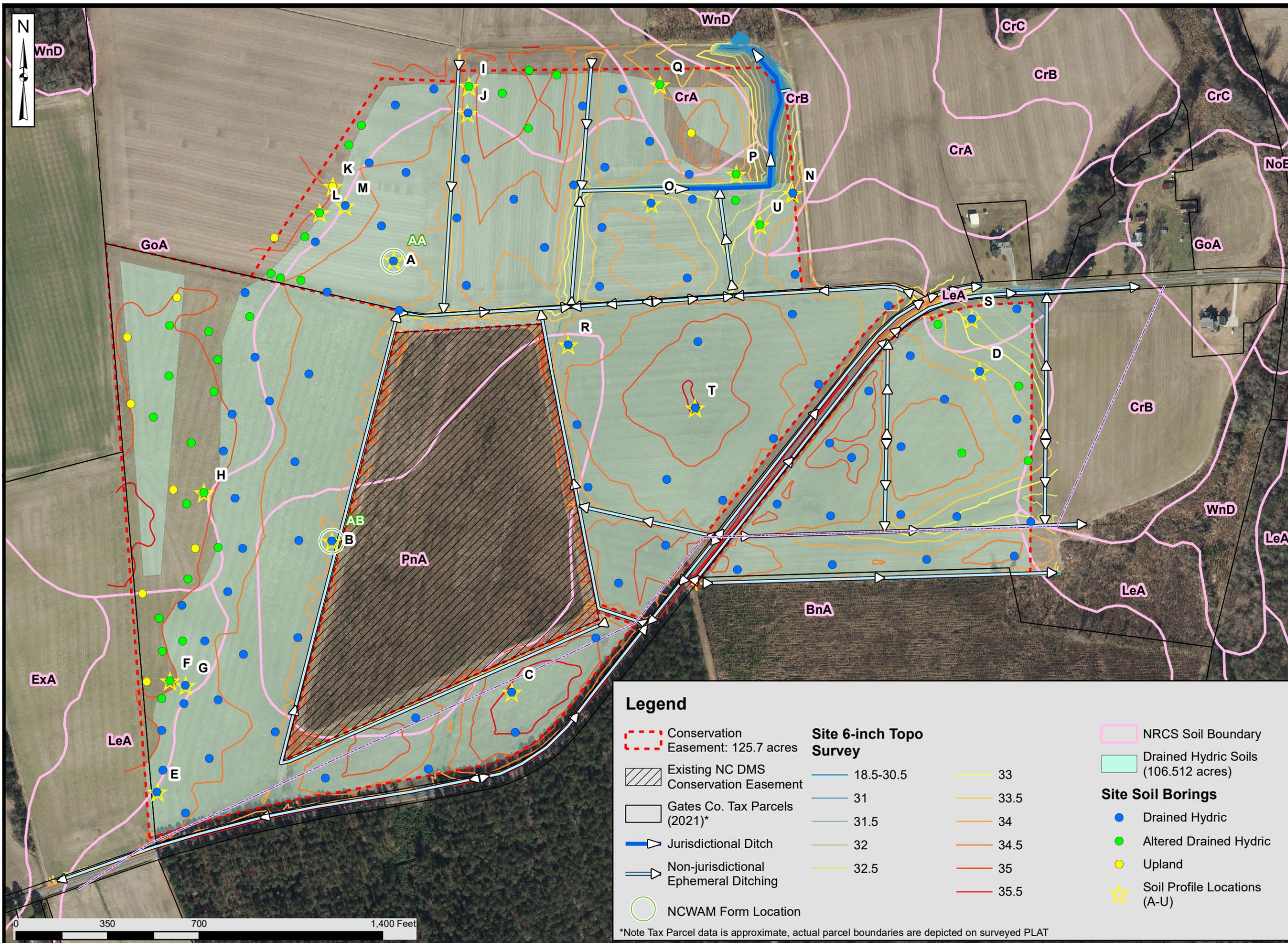
1:4,200

Project No.:

19-001.06

FIGURE

5A



Prepared for:



Project:

**PIERCE TERRACE
MITIGATION SITE**

Gates County, NC

Title:

**EXISTING
SOILS
CONDITIONS**

**NC
ORTHOIMAGERY
PROGRAM
(03-2019)**

Drawn by:

AEB

Date:

OCT 2021

Scale:

1:4,200

Project No.:

19-001.06

Legend

- Conservation Easement: 125.7 acres
- Existing NC DMS Conservation Easement
- Gates Co. Tax Parcels (2021)*
- Jurisdictional Ditch
- Non-jurisdictional Ephemeral Ditching
- NCWAM Form Location

Site 6-inch Topo Survey

- | | |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 18.5-30.5 | 33 |
| 31 | 33.5 |
| 31.5 | 34 |
| 32 | 34.5 |
| 32.5 | 35 |
| | 35.5 |

- NRCS Soil Boundary
- Drained Hydric Soils (106.512 acres)

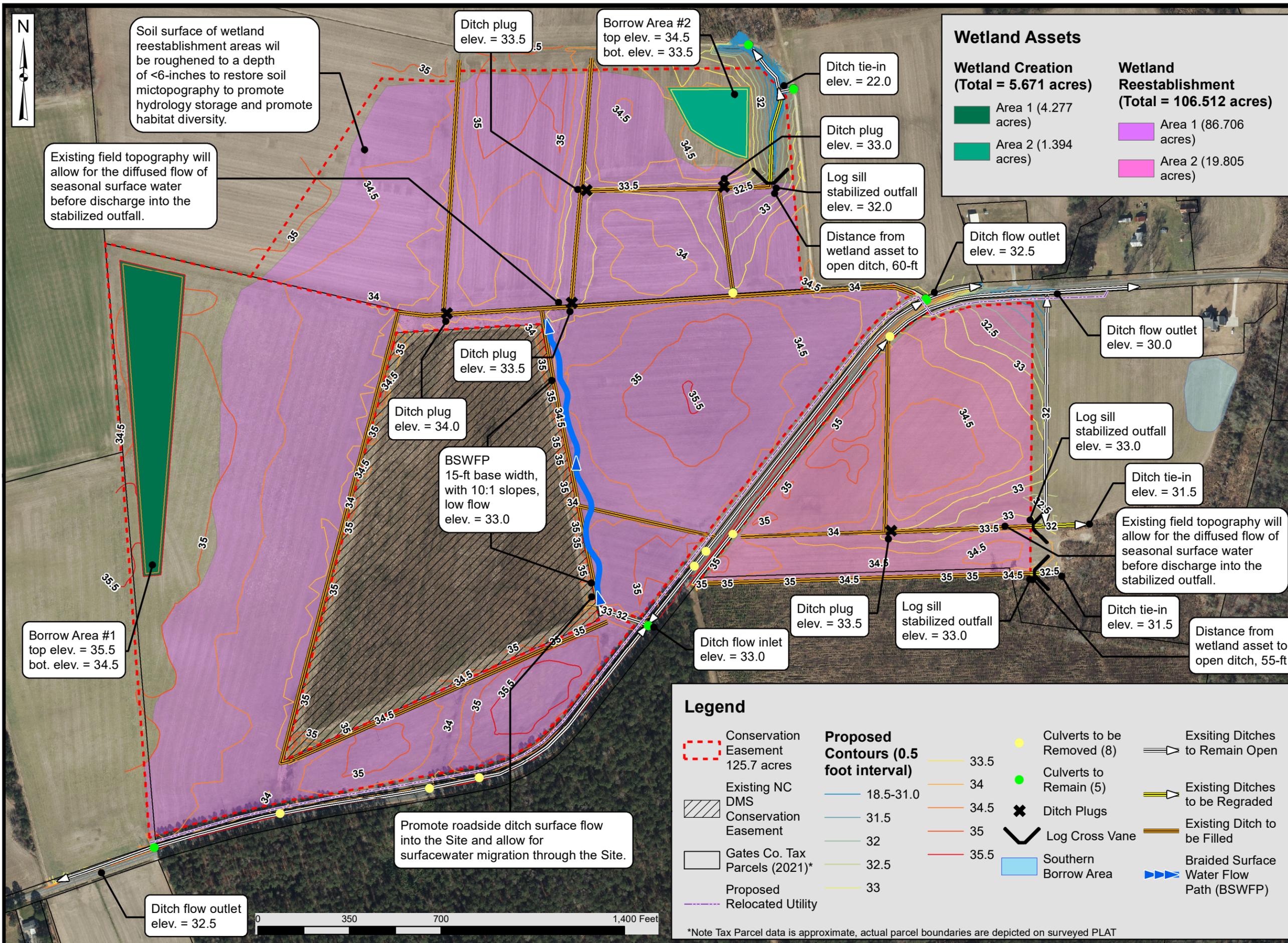
Site Soil Borings

- Drained Hydric
- Altered Drained Hydric
- Upland
- ★ Soil Profile Locations (A-U)

*Note Tax Parcel data is approximate, actual parcel boundaries are depicted on surveyed PLAT

FIGURE

5B



Wetland Assets	
Wetland Creation (Total = 5.671 acres)	Wetland Reestablishment (Total = 106.512 acres)
Area 1 (4.277 acres)	Area 1 (86.706 acres)
Area 2 (1.394 acres)	Area 2 (19.805 acres)

Legend			
	Conservation Easement 125.7 acres		33.5
	Existing NC DMS Conservation Easement		34
	Gates Co. Tax Parcels (2021)*		34.5
	Proposed Relocated Utility		35
	18.5-31.0		Ditch Plugs
	31.5		Log Cross Vane
	32		Southern Borrow Area
	32.5		Braided Surface Water Flow Path (BSWFP)
	33		Culverts to be Removed (8)
			Culverts to Remain (5)
			Existing Ditches to Remain Open
			Existing Ditches to be Regraded
			Existing Ditch to be Filled

*Note Tax Parcel data is approximate, actual parcel boundaries are depicted on surveyed PLAT



Prepared for:
NC
Mitigation Services
ENVIRONMENTAL QUALITY

Project:
PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:
PROPOSED CONDITIONS

NC ORTHOIMAGERY PROGRAM (03-2019)

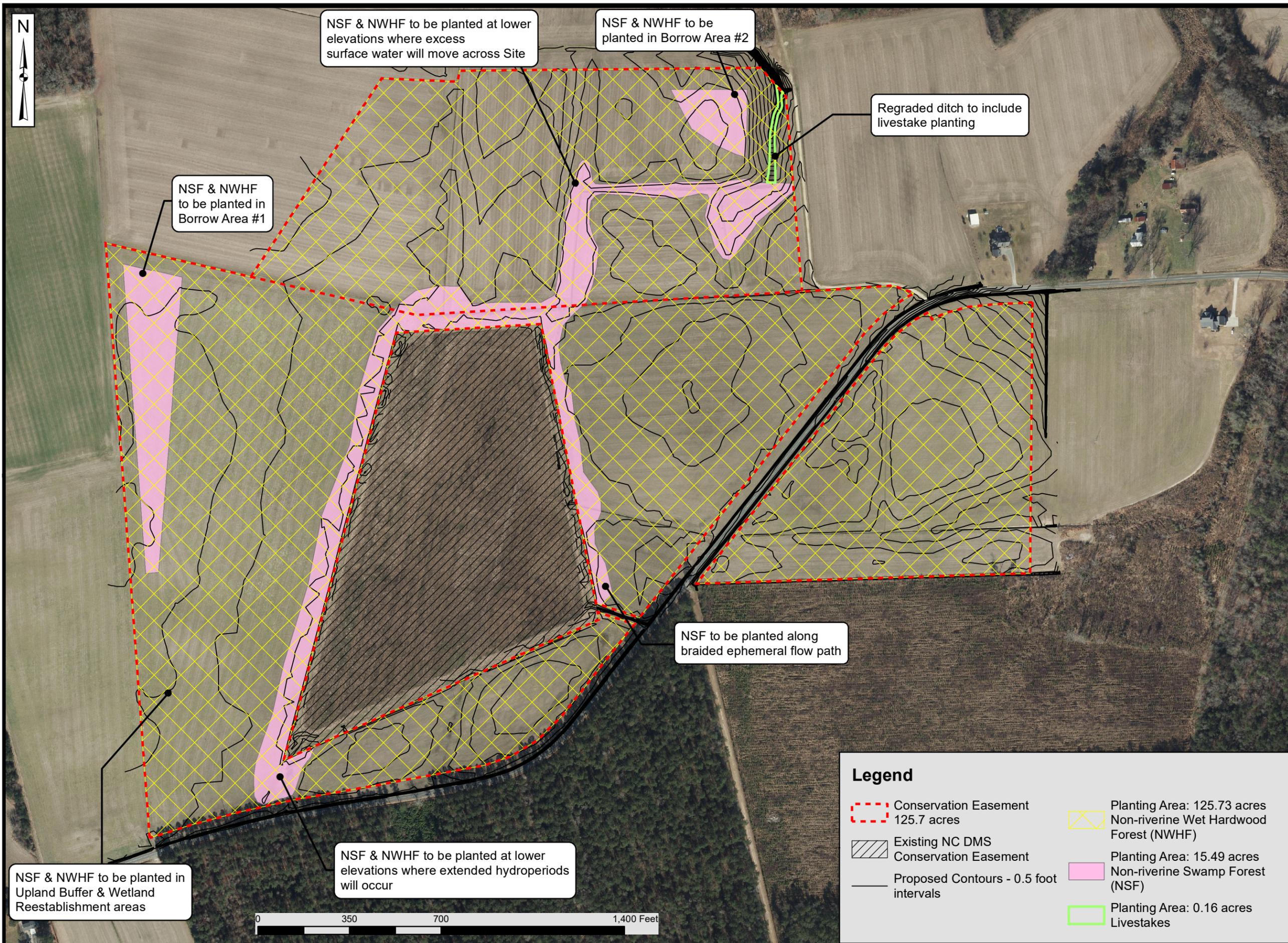
Drawn by: AEB

Date: OCT 2021

Scale: 1:4,200

Project No.: 19-001.06

FIGURE 6



Prepared for:



Project:

**PIERCE TERRACE
MITIGATION SITE**

Gates County, NC

Title:
**PLANTING AND
FOREST
ENHANCEMENT
PLAN**

**NC
ORTHOIMAGERY
PROGRAM
(03-2019)**

Drawn by:

AEB

Date:

OCT 2021

Scale:

1:4,200

Project No.:

19-001.06

FIGURE

7

Legend

-  Conservation Easement
125.7 acres
-  Planting Area: 125.73 acres
Non-riverine Wet Hardwood
Forest (NWHF)
-  Existing NC DMS
Conservation Easement
-  Planting Area: 15.49 acres
Non-riverine Swamp Forest
(NSF)
-  Proposed Contours - 0.5 foot
intervals
-  Planting Area: 0.16 acres
Livestakes



Legend

- Conservation Easement
125.7 acres
- Existing NC DMS Conservation Easement
- Fixed Directional Photo Points (20)
- *Proposed CVS Plots (60)
- Proposed Groundwater Gauges (63)
- Non-riverine Swamp Forest Planting Area

Proposed Contours (0.5 foot interval)

- 18.5-31.0
- 31.5
- 32
- 32.5
- 33
- 33.5
- 34
- 34.5
- 35
- 35.5

Wetland Creation (Total = 5.671 acres)

- Area 1 (4.277 acres)
- Area 2 (1.394 acres)

Wetland Reestablishment (Total = 106.512 acres)

- Area 1 (86.707 acres)
- Area 2 (19.805 acres)

*Vegetation Monitoring Notes:
 1. Photo points will be taken at all vegetation plots
 2. Twenty (20) vegetation transects are also a part of the vegetation monitoring



Project:
PIERCE TERRACE MITIGATION SITE
 Gates County, NC

Title:
MONITORING PLAN
 NC ORTHOIMAGERY PROGRAM (03-2019)

Drawn by: AEB
 Date: JAN 2022
 Scale: 1:4,200
 Project No.: 19-001.06

FIGURE
8



Project:

**PIERCE TERRACE
MITIGATION SITE**

Gates County, NC

Title:

**JURISDICTIONAL
AREA
IMPACT
LOCATIONS**

Drawn by:

AEB

Date:

MAY 2022

Scale:

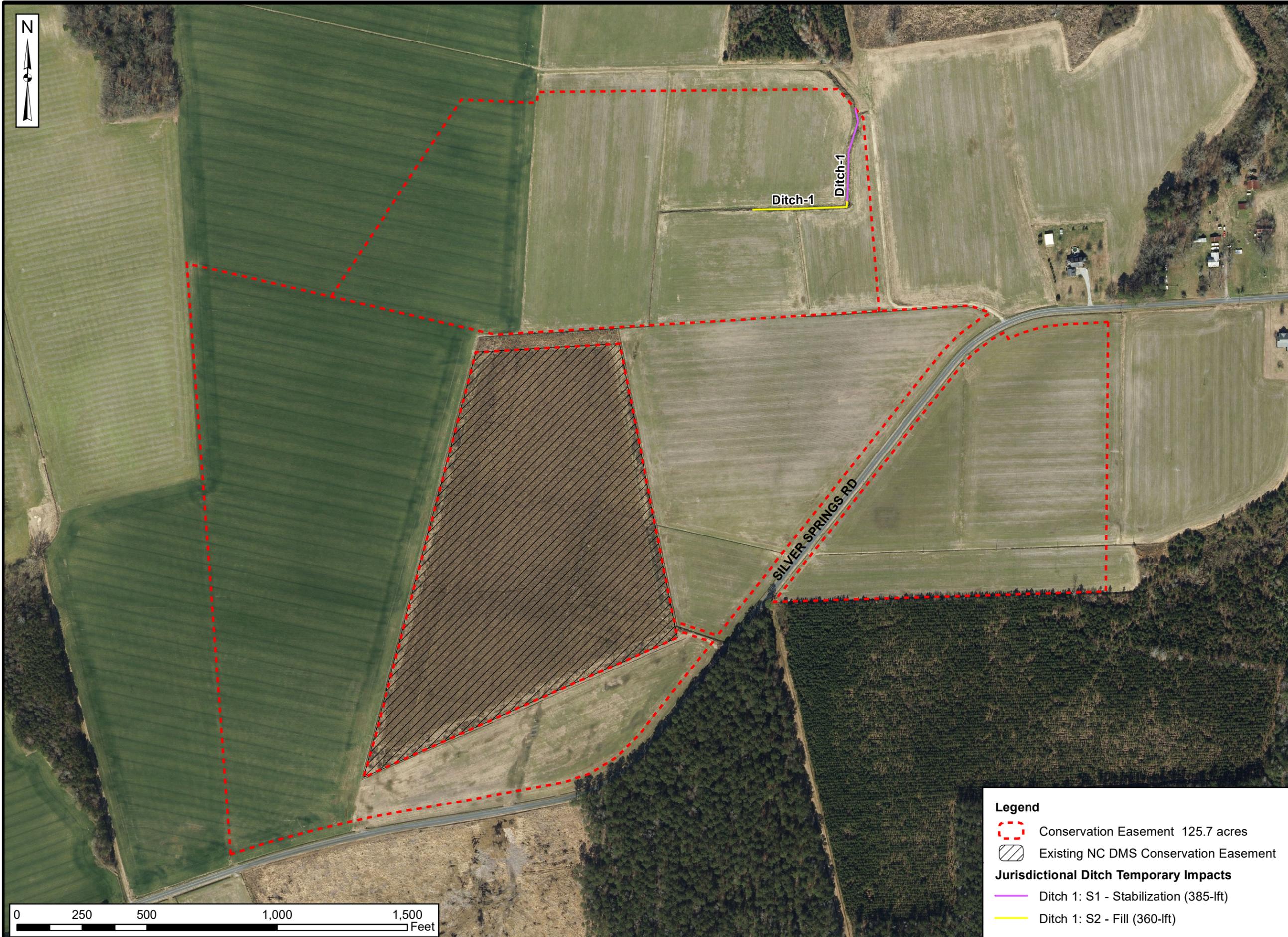
1:4200

Project No.:

SAW-2020-00046

FIGURE

9



Legend

Conservation Easement 125.7 acres

Existing NC DMS Conservation Easement

Jurisdictional Ditch Temporary Impacts

Ditch 1: S1 - Stabilization (385-lft)

Ditch 1: S2 - Fill (360-lft)

0 250 500 1,000 1,500 Feet

Appendix B: Existing Wetland Data

NC WAM Forms
Soil Boring Log
Water Balance Calculation
Nutrient Model

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #	SAW-2020-00046	NCDWR#	2020-00034
Project Name	Pierce Terrace	Date of Evaluation	7/31/2019
Applicant/Owner Name	Restoration Systems	Wetland Site Name	Wetland AA
Wetland Type	Hardwood Flat	Assessor Name/Organization	A. Baldwin/RS
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	Bennetts Creek
River Basin	Chowan	USGS 8-Digit Catalogue Unit	03010203
County	Gates	NCDWR Region	Washington
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	36.435153/-76.653365

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? Yes No

Regulatory Considerations - Were regulatory considerations evaluated? Yes No If Yes, check all that apply to the assessment area.

- Anadromous fish
- Federally protected species or State endangered or threatened species
- NCDWR riparian buffer rule in effect
- Abuts a Primary Nursery Area (PNA)
- Publicly owned property
- N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- Designated NCNHP reference community
- Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- Blackwater
- Brownwater
- Tidal (if tidal, check one of the following boxes) Lunar Wind Both

Is the assessment area on a coastal island? Yes No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No

Does the assessment area experience overbank flooding during normal rainfall conditions? Yes No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GS | VS | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | Not severely altered |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surf | Sub | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | Water storage capacity and duration are not altered. |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---------------------------------------|---------------------------------------|---------------------------------------------------------------------------------|
| AA | WT | |
| 3a. <input type="checkbox"/> A | <input type="checkbox"/> A | Majority of wetland with depressions able to pond water > 1 deep |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | Depressions able to pond water < 3 inches deep |
| 3b. <input type="checkbox"/> A | | Evidence that maximum depth of inundation is greater than 2 feet |
| <input type="checkbox"/> B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| <input checked="" type="checkbox"/> C | | Evidence that maximum depth of inundation is less than 1 foot |

4. **Soil Texture/Structure – assessment area condition metric (skip for all marshes)**

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. A Sandy soil
B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
C Loamy or clayey soils not exhibiting redoximorphic features
D Loamy or clayey gleyed soil
E Histosol or histic epipedon
- 4b. A Soil ribbon < 1 inch
B Soil ribbon ≥ 1 inch
- 4c. A No peat or muck presence
B A peat or muck presence

5. **Discharge into Wetland – opportunity metric**

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Little or no evidence of pollutants or discharges entering the assessment area |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. **Land Use – opportunity metric (skip for non-riparian wetlands)**

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | ≥ 10% impervious surfaces |
| <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | Confined animal operations (or other local, concentrated source of pollutants) |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | ≥ 20% coverage of pasture |
| <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E | ≥ 20% coverage of maintained grass/herb |
| <input type="checkbox"/> F | <input type="checkbox"/> F | <input type="checkbox"/> F | ≥ 20% coverage of clear-cut land |
| <input type="checkbox"/> G | <input type="checkbox"/> G | <input type="checkbox"/> G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. **Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)**

- 7a. Is assessment area within 50 feet of a tributary or other open water?
Yes No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
A ≥ 50 feet
B From 30 to < 50 feet
C From 15 to < 30 feet
D From 5 to < 15 feet
E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
≤ 15-feet wide > 15-feet wide Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
Yes No
- 7e. Is stream or other open water sheltered or exposed?
Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. **Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)**

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|---------------------------------------|---------------------------------------|-----------------------|
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> A | ≥ 100 feet |
| <input type="checkbox"/> B | <input type="checkbox"/> B | From 80 to < 100 feet |
| <input type="checkbox"/> C | <input type="checkbox"/> C | From 50 to < 80 feet |
| <input type="checkbox"/> D | <input type="checkbox"/> D | From 40 to < 50 feet |
| <input type="checkbox"/> E | <input type="checkbox"/> E | From 30 to < 40 feet |
| <input type="checkbox"/> F | <input type="checkbox"/> F | From 15 to < 30 feet |
| <input type="checkbox"/> G | <input type="checkbox"/> G | From 5 to < 15 feet |
| <input type="checkbox"/> H | <input type="checkbox"/> H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- A Evidence of short-duration inundation (< 7 consecutive days)
- B Evidence of saturation, without evidence of inundation
- C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- A Sediment deposition is not excessive, but at approximately natural levels.
- B Sediment deposition is excessive, but not overwhelming the wetland.
- C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A ≥ 500 acres |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | <input type="checkbox"/> B From 100 to < 500 acres |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C From 50 to < 100 acres |
| <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D From 25 to < 50 acres |
| <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E From 10 to < 25 acres |
| <input type="checkbox"/> F | <input type="checkbox"/> F | <input type="checkbox"/> F From 5 to < 10 acres |
| <input type="checkbox"/> G | <input type="checkbox"/> G | <input type="checkbox"/> G From 1 to < 5 acres |
| <input type="checkbox"/> H | <input type="checkbox"/> H | <input type="checkbox"/> H From 0.5 to < 1 acre |
| <input type="checkbox"/> I | <input type="checkbox"/> I | <input type="checkbox"/> I From 0.1 to < 0.5 acre |
| <input type="checkbox"/> J | <input type="checkbox"/> J | <input type="checkbox"/> J From 0.01 to < 0.1 acre |
| <input type="checkbox"/> K | <input type="checkbox"/> K | <input checked="" type="checkbox"/> K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- A Pocosin is the full extent (≥ 90%) of its natural landscape size.
- B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. **Check appropriate box(es) (a box may be checked in each column).** Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A ≥ 500 acres |
| <input type="checkbox"/> B | <input type="checkbox"/> B From 100 to < 500 acres |
| <input type="checkbox"/> C | <input type="checkbox"/> C From 50 to < 100 acres |
| <input type="checkbox"/> D | <input type="checkbox"/> D From 10 to < 50 acres |
| <input type="checkbox"/> E | <input type="checkbox"/> E < 10 acres |
| <input checked="" type="checkbox"/> F | <input checked="" type="checkbox"/> F Wetland type has a poor or no connection to other natural habitats |

13b. **Evaluate for marshes only.**

- Yes No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- A 0
- B 1 to 4
- C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
- B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
- C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
- B Vegetation diversity is low or has > 10% to 50% cover of exotics.
- C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

Yes No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

A ≥ 25% coverage of vegetation
 B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

	AA	WT	
Canopy	<input type="checkbox"/> A	<input type="checkbox"/> A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
	<input type="checkbox"/> B	<input type="checkbox"/> B	Canopy present, but opened more than natural gaps
	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C	Canopy sparse or absent
Mid-Story	<input type="checkbox"/> A	<input type="checkbox"/> A	Dense mid-story/sapling layer
	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate density mid-story/sapling layer
	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C	Mid-story/sapling layer sparse or absent
Shrub	<input type="checkbox"/> A	<input type="checkbox"/> A	Dense shrub layer
	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate density shrub layer
	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C	Shrub layer sparse or absent
Herb	<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> A	Dense herb layer
	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate density herb layer
	<input type="checkbox"/> C	<input type="checkbox"/> C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
 B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
 B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
 C Majority of canopy trees are < 6 inches DBH or no trees.

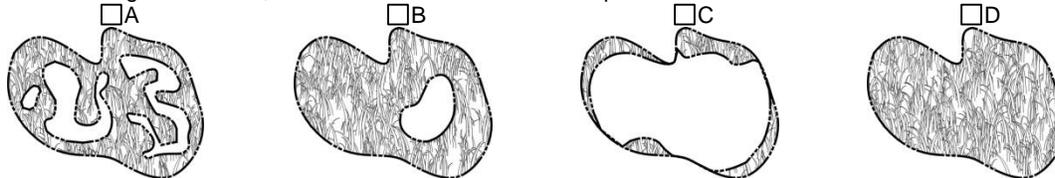
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
 B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

A Overbank and overland flow are not severely altered in the assessment area.
 B Overbank flow is severely altered in the assessment area.
 C Overland flow is severely altered in the assessment area.
 D Both overbank and overland flow are severely altered in the assessment area.

Notes

Assessment area is in an existign agriculture field and the wetland type (Hardwood Flat) noted is a disturbed version.

**NC WAM Wetland Rating Sheet
Accompanies User Manual Version 5.0**

Wetland Site Name Wetland AA Date of Assessment 7/31/2019
 Wetland Type Hardwood Flat Assessor Name/Organization A. Baldwin/RS

Notes on Field Assessment Form (Y/N) YES
 Presence of regulatory considerations (Y/N) NO
 Wetland is intensively managed (Y/N) YES
 Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) NO
 Assessment area is substantially altered by beaver (Y/N) NO
 Assessment area experiences overbank flooding during normal rainfall conditions (Y/N) NO
 Assessment area is on a coastal island (Y/N) NO

Sub-function Rating Summary

Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention Sub-surface Storage and Retention	Condition	LOW
		Condition	LOW
Water Quality	Pathogen Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
	Particulate Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
	Soluble Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
	Physical Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Pollution Change	Condition	LOW	
	Condition/Opportunity	LOW	
	Opportunity Presence (Y/N)	YES	
Habitat	Physical Structure	Condition	LOW
	Landscape Patch Structure	Condition	LOW
	Vegetation Composition	Condition	LOW

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	LOW
	Condition/Opportunity	LOW
	Opportunity Presence (Y/N)	YES
Habitat	Condition	LOW

Overall Wetland Rating LOW

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #	SAW-2020-00046	NCDWR#	2020-00034
Project Name	Pierce Terrace	Date of Evaluation	3/12/2020
Applicant/Owner Name	Restoration Systems	Wetland Site Name	Wetland AB
Wetland Type	Non-Riverine Swamp Forest	Assessor Name/Organization	A. Baldwin/RS
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	Bennetts Creek
River Basin	Chowan	USGS 8-Digit Catalogue Unit	03010203
County	Gates	NCDWR Region	Washington
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	36.432226/-76.654255

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? Yes No

Regulatory Considerations - Were regulatory considerations evaluated? Yes No If Yes, check all that apply to the assessment area.

- Anadromous fish
- Federally protected species or State endangered or threatened species
- NCDWR riparian buffer rule in effect
- Abuts a Primary Nursery Area (PNA)
- Publicly owned property
- N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- Designated NCNHP reference community
- Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- Blackwater
- Brownwater
- Tidal (if tidal, check one of the following boxes) Lunar Wind Both

Is the assessment area on a coastal island? Yes No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No

Does the assessment area experience overbank flooding during normal rainfall conditions? Yes No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GS | VS | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | Not severely altered |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surf | Sub | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | Water storage capacity and duration are not altered. |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---------------------------------------|---------------------------------------|---------------------------------------------------------------------------------|
| AA | WT | |
| 3a. <input type="checkbox"/> A | <input type="checkbox"/> A | Majority of wetland with depressions able to pond water > 1 deep |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | Depressions able to pond water < 3 inches deep |
| 3b. <input type="checkbox"/> A | | Evidence that maximum depth of inundation is greater than 2 feet |
| <input type="checkbox"/> B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| <input checked="" type="checkbox"/> C | | Evidence that maximum depth of inundation is less than 1 foot |

4. **Soil Texture/Structure – assessment area condition metric (skip for all marshes)**

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. A Sandy soil
B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
C Loamy or clayey soils not exhibiting redoximorphic features
D Loamy or clayey gleyed soil
E Histosol or histic epipedon
- 4b. A Soil ribbon < 1 inch
B Soil ribbon ≥ 1 inch
- 4c. A No peat or muck presence
B A peat or muck presence

5. **Discharge into Wetland – opportunity metric**

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Little or no evidence of pollutants or discharges entering the assessment area |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. **Land Use – opportunity metric (skip for non-riparian wetlands)**

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | ≥ 10% impervious surfaces |
| <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | Confined animal operations (or other local, concentrated source of pollutants) |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | ≥ 20% coverage of pasture |
| <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E | ≥ 20% coverage of maintained grass/herb |
| <input type="checkbox"/> F | <input type="checkbox"/> F | <input type="checkbox"/> F | ≥ 20% coverage of clear-cut land |
| <input type="checkbox"/> G | <input type="checkbox"/> G | <input type="checkbox"/> G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. **Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)**

- 7a. Is assessment area within 50 feet of a tributary or other open water?
Yes No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
A ≥ 50 feet
B From 30 to < 50 feet
C From 15 to < 30 feet
D From 5 to < 15 feet
E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
≤ 15-feet wide > 15-feet wide Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
Yes No
- 7e. Is stream or other open water sheltered or exposed?
Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. **Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)**

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|---------------------------------------|---------------------------------------|-----------------------|
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> A | ≥ 100 feet |
| <input type="checkbox"/> B | <input type="checkbox"/> B | From 80 to < 100 feet |
| <input type="checkbox"/> C | <input type="checkbox"/> C | From 50 to < 80 feet |
| <input type="checkbox"/> D | <input type="checkbox"/> D | From 40 to < 50 feet |
| <input type="checkbox"/> E | <input type="checkbox"/> E | From 30 to < 40 feet |
| <input type="checkbox"/> F | <input type="checkbox"/> F | From 15 to < 30 feet |
| <input type="checkbox"/> G | <input type="checkbox"/> G | From 5 to < 15 feet |
| <input type="checkbox"/> H | <input type="checkbox"/> H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- A Evidence of short-duration inundation (< 7 consecutive days)
- B Evidence of saturation, without evidence of inundation
- C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- A Sediment deposition is not excessive, but at approximately natural levels.
- B Sediment deposition is excessive, but not overwhelming the wetland.
- C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A ≥ 500 acres |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | <input type="checkbox"/> B From 100 to < 500 acres |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C From 50 to < 100 acres |
| <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D From 25 to < 50 acres |
| <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E From 10 to < 25 acres |
| <input type="checkbox"/> F | <input type="checkbox"/> F | <input type="checkbox"/> F From 5 to < 10 acres |
| <input type="checkbox"/> G | <input type="checkbox"/> G | <input type="checkbox"/> G From 1 to < 5 acres |
| <input type="checkbox"/> H | <input type="checkbox"/> H | <input type="checkbox"/> H From 0.5 to < 1 acre |
| <input type="checkbox"/> I | <input type="checkbox"/> I | <input type="checkbox"/> I From 0.1 to < 0.5 acre |
| <input type="checkbox"/> J | <input type="checkbox"/> J | <input type="checkbox"/> J From 0.01 to < 0.1 acre |
| <input type="checkbox"/> K | <input type="checkbox"/> K | <input checked="" type="checkbox"/> K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- A Pocosin is the full extent (≥ 90%) of its natural landscape size.
- B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. **Check appropriate box(es) (a box may be checked in each column).** Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A ≥ 500 acres |
| <input type="checkbox"/> B | <input type="checkbox"/> B From 100 to < 500 acres |
| <input type="checkbox"/> C | <input type="checkbox"/> C From 50 to < 100 acres |
| <input type="checkbox"/> D | <input type="checkbox"/> D From 10 to < 50 acres |
| <input type="checkbox"/> E | <input type="checkbox"/> E < 10 acres |
| <input checked="" type="checkbox"/> F | <input checked="" type="checkbox"/> F Wetland type has a poor or no connection to other natural habitats |

13b. **Evaluate for marshes only.**

- Yes No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- A 0
- B 1 to 4
- C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
- B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
- C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
- B Vegetation diversity is low or has > 10% to 50% cover of exotics.
- C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

Yes No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

A ≥ 25% coverage of vegetation
 B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

	AA	WT	
Canopy	<input type="checkbox"/> A	<input type="checkbox"/> A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
	<input type="checkbox"/> B	<input type="checkbox"/> B	Canopy present, but opened more than natural gaps
	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C	Canopy sparse or absent
Mid-Story	<input type="checkbox"/> A	<input type="checkbox"/> A	Dense mid-story/sapling layer
	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate density mid-story/sapling layer
	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C	Mid-story/sapling layer sparse or absent
Shrub	<input type="checkbox"/> A	<input type="checkbox"/> A	Dense shrub layer
	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate density shrub layer
	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C	Shrub layer sparse or absent
Herb	<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> A	Dense herb layer
	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate density herb layer
	<input type="checkbox"/> C	<input type="checkbox"/> C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
 B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
 B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
 C Majority of canopy trees are < 6 inches DBH or no trees.

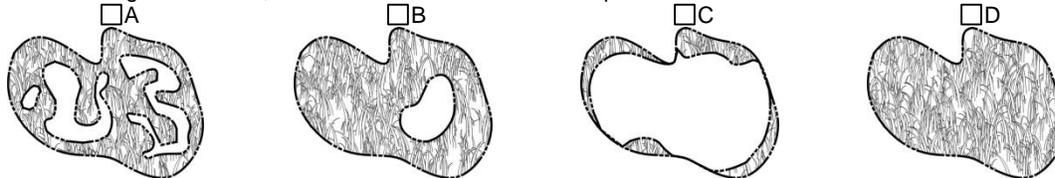
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
 B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

A Overbank and overland flow are not severely altered in the assessment area.
 B Overbank flow is severely altered in the assessment area.
 C Overland flow is severely altered in the assessment area.
 D Both overbank and overland flow are severely altered in the assessment area.

Notes

Assessment area is in an existign agriculture field and the wetland type (Non-riverine swamp forest) noted is a disturbed version.

**NC WAM Wetland Rating Sheet
Accompanies User Manual Version 5.0**

Wetland Site Name Wetland AB Date of Assessment 3/12/2020
 Wetland Type Non-Riverine Swamp Forest Assessor Name/Organization A. Baldwin/RS

Notes on Field Assessment Form (Y/N) YES
 Presence of regulatory considerations (Y/N) NO
 Wetland is intensively managed (Y/N) YES
 Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) NO
 Assessment area is substantially altered by beaver (Y/N) NO
 Assessment area experiences overbank flooding during normal rainfall conditions (Y/N) NO
 Assessment area is on a coastal island (Y/N) NO

Sub-function Rating Summary

Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention Sub-surface Storage and Retention	Condition	LOW
		Condition	LOW
Water Quality	Pathogen Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
	Particulate Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
	Soluble Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
	Physical Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Pollution Change	Condition	LOW	
	Condition/Opportunity	LOW	
	Opportunity Presence (Y/N)	YES	
Habitat	Physical Structure	Condition	LOW
	Landscape Patch Structure	Condition	LOW
	Vegetation Composition	Condition	LOW

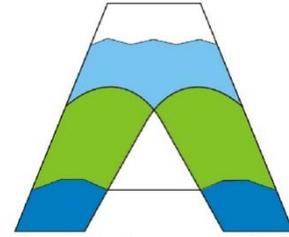
Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	LOW
	Condition/Opportunity	LOW
	Opportunity Presence (Y/N)	YES
Habitat	Condition	LOW

Overall Wetland Rating LOW

AXIOM ENVIRONMENTAL, INC

218 Snow Avenue
 Raleigh, North Carolina 27603
 919-215-1693



Axiom Environmental, Inc.

SOIL BORING LOG

Date: 7/31/2019

Project/Site: Pierce Terrace

County, State: Gates County, NC

Sampling Point/
 Coordinates: Soil Profile A (36.435153, -76.653365)

Investigator: W. Grant Lewis

Soil Series: Bladen

Notes: Location is shown on Figure 5B.

Depth (inches)	Matrix		Mottling		Texture
	Color	%	Color	%	
0-9	2.5 Y 5/2	100			fine sandy loam
9-14+	2.5 Y 6/2	80	10 YR 6/8	15	clay loam
			2.5 Y 8/1	5	clay loam

North Carolina Licensed Soil Scientist

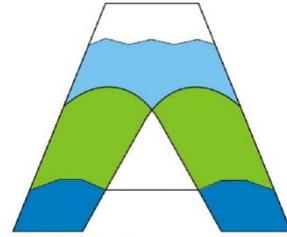
Number: 1233

Signature: *W Grant Lewis*

Name/Print: W. Grant Lewis

AXIOM ENVIRONMENTAL, INC

218 Snow Avenue
 Raleigh, North Carolina 27603
 919-215-1693



Axiom Environmental, Inc.

SOIL BORING LOG

Date: 7/31/2019

Project/Site: Pierce Terrace

County, State: Gates County, NC

Sampling Point/
 Coordinates: Soil Profile B (36.432226, -76.654255)

Investigator: W. Grant Lewis

Soil Series: Pantego

Notes: Location is shown on Figure 5B.

Depth (inches)	Matrix		Mottling		Texture
	Color	%	Color	%	
0-9	10 YR 3/2	100			sandy loam
9-12+	2.5 Y 6/2	80	10 YR 6/8	20	clay loam

North Carolina Licensed Soil Scientist

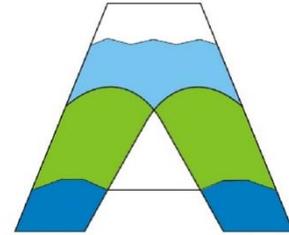
Number: 1233

Signature: *W Grant Lewis*

Name/Print: W. Grant Lewis

AXIOM ENVIRONMENTAL, INC

218 Snow Avenue
 Raleigh, North Carolina 27603
 919-215-1693



Axiom Environmental, Inc.

SOIL BORING LOG

Date: 7/31/2019

Project/Site: Pierce Terrace

County, State: Gates County, NC

Sampling Point/
 Coordinates: Soil Profile C (36.430601, -76.651965)

Investigator: W. Grant Lewis

Soil Series: Bladen

Notes: Location is shown on Figure 5B.

Depth (inches)	Matrix		Mottling		Texture
	Color	%	Color	%	
0-9	2.5 Y 5/2	100			sandy loam
9-14	2.5 Y 5/2	90	10 YR 5/6	10	fine sandy loam
14-20+	2.5 Y 5/2	85	2.5 Y 5/1 10 YR 6/6	10 5	sandy loam

North Carolina Licensed Soil Scientist

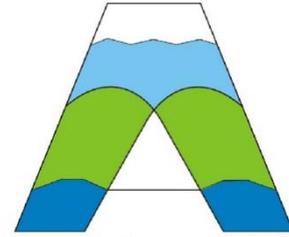
Number: 1233

Signature: *W Grant Lewis*

Name/Print: W. Grant Lewis

AXIOM ENVIRONMENTAL, INC

218 Snow Avenue
 Raleigh, North Carolina 27603
 919-215-1693



Axiom Environmental, Inc.

SOIL BORING LOG

Date: 7/31/2019

Project/Site: Pierce Terrace

County, State: Gates County, NC

Sampling Point/
 Coordinates: Soil Profile D (36.433839, -76.645792)

Investigator: W. Grant Lewis

Soil Series: Bladen

Notes: Location is shown on Figure 5B.

Depth (inches)	Matrix		Mottling		Texture
	Color	%	Color	%	
0-7	2.5 Y 5/3	100			fine sandy loam
7-14	2.5 Y 5/2	75	2.5 YR 6/2 10 YR 6/8	20 5	clay loam
14+	2.5 Y 6/2	80	10 YR 6/8 10 YR 4/6	15 5	clay

North Carolina Licensed Soil Scientist

Number: 1233

Signature: *W Grant Lewis*

Name/Print: W. Grant Lewis

SOIL PROFILE DESCRIPTION FORM

PROFILE ID: E

NAME: A. Baldwin

DATE: March 11, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~60°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 0

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 8-in

DEPTH (inches)	MATRIX		REDOXIMORPHIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-8	10YR 5/2	95	C/PL	10YR 5/8	5	SL
8-14+	2.5Y 5/2	55	C/M	2.5Y 5/6	25	C
			C/M	10YR 4/6	10	
			D/M	10YR 6/1	10	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: F

NAME: A. Baldwin

DATE: March 11, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~60°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: LnA – Lenoir loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 10-in

DEPTH (inches)	MATRIX		REDOXIMORPHIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-10	2.5Y 5/2	100				SL
10-15+	2.5Y 5/4	80	D/M	2.5Y 6/2	20	C

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: G

NAME: A. Baldwin

DATE: March 11, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~60°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: LnA – Lenoir loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 10-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-10	2.5Y 4/2	95	C/PL	10YR 5/6	5	SL
10-18+	2.5Y 5/3	65	C/M	10YR 5/8	15	C
			D/M	2.5Y 5/1	15	
			D/M	2.5Y 6/2	5	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: H

NAME: A. Baldwin

DATE: March 11, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~60°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 10-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-10	2.5Y 4/2	100				SL
10-15	2.5Y 5/2	75	D/M	2.5Y 7/1	25	LS
15-23+	2.5Y 5/3	80	D/M	2.5Y 6/2	20	C

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES: Redox concentrations from 0-10 inches have been altered by plowing from agricultural use.

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: _____

NAME: A. Baldwin

DATE: June 8, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~85°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 0

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: GoA – Goldsboro fsl 0-2% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 8-in

DEPTH (inches)	MATRIX		REDOXIMORPHIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-8	2.5Y 5/2	100				SL
8-20+	2.5Y 5/3	55	D/M	2.5Y 5/2	15	C
			C/M	2.5Y 6/8	30	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES: Redox concentrations from 0-8 inches have been altered by plowing from agricultural use.

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: J

NAME: A. Baldwin

DATE: June 8, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~85°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 0

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 10-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-8	2.5Y 5/2	100				SL
8-10	2.5Y 5/3	90	C/M	2.5Y 6/6	10	LS
10-20+	2.5Y 5/2	60	C/M	10YR 6/8	40	C

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: K

NAME: A. Baldwin

DATE: June 8, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~85°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: GoA – Goldsboro fsl 0-3% **HYDRIC SOIL FIELD INDICATOR:** None - Upland

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 9-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-9	10YR 4/2	100				SL
9-18+	2.5Y 5/4	85	D/M	2.5Y 5/2	10	C
			C/M	10YR 6/8	5	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: L

NAME: A. Baldwin

DATE: June 8, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~85°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: GoA – Goldsboro fsl 0-3% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 9-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-9	10YR 4/2	100				SL
9-18+	2.5Y 5/3	80	D/M	2.5Y 5/2	15	C
			C/M	10YR 6/8	5	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES: Redox concentrations from 0-9 inches have been altered by plowing from agricultural use.

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: M

NAME: A. Baldwin

DATE: June 8, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Sunny ~85°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 0

VEGETATION/CROP: Winter wheat

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 9-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-9	10YR 4/2	95	C/PL	10YR 5/8	5	SL
9-18+	2.5Y 5/3	40	C/M	10YR 5/8	10	C
	2.5Y 6/1	40	C/M	10YR 6/8	10	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: N

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Cotton

SOIL MAP UNIT: CrB – Craven fsl 1-4% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 10-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-10	2.5Y 4/2	95	C/PL	10YR 5/8	5	SL
10-19+	2.5Y 6/2	70	C/PL	10YR 5/8	10	C
			C/M	10YR 4/6	5	
			D/M	2.5Y 5/2	15	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: 0

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Cotton

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 8-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-8	2.5Y 4/2	100				SL
8-16+	2.5Y 6/2	70	C/M	10YR 5/8	5	C
			C/M	10YR 4/6	15	
			D/M	2.5Y 7/1	10	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: p

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Cotton

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 11-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-7	2.5Y 4/2	100				SL
7-11	2.5Y 5/1	100				LS
11-24+	2.5Y 6/2	70	C/M	10YR 5/8	5	C
			C/M	10YR 4/6	20	
			D/M	2.5Y 7/1	5	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES: Redox concentrations from 0-11 inches have been altered by plowing from agricultural use.

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: Q

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Cotton

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 8-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-4	2.5Y 3/2	100				SL
4-8	2.5Y 6/3	100	C/M	10YR 5/8	5	SL
8-18+	2.5Y 6/3	40	C/M	10YR 5/8	25	C
			C/M	10YR 4/6	10	
			D/M	2.5Y 5/1	25	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: R

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 0

VEGETATION/CROP: Cotton

SOIL MAP UNIT: PnA – Pantego fsl 0-2% **HYDRIC SOIL FIELD INDICATOR:** F7 – Depleted Below Dark Surface

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 8-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-8	10YR 2/1	100				L
8-18+	10YR 3/1	50	C/M	10YR 6/8	25	SCL
			D/M	2.5Y 7/1	25	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES: Anthropogenic land use resulting in mixing of surface and subsurface soil horizons.

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: S

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Cotton

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 5-in

DEPTH (inches)	MATRIX		REDOXIMORPHIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-5	10YR 3/1	95	C/PL	7.5YR 4/6	5	SL
5-10	2.5Y 6/1	85	C/PL	7.5YR 4/6	5	SL
			C/M	10YR 6/8	10	
10-16+	10YR 4/1	70	C/M	10YR 5/6	15	C
			C/PL	7.5YR 4/6	5	
			D/M	2.5Y 7/1	10	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: T

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 0

VEGETATION/CROP: Cotton

SOIL MAP UNIT: BnA – Bladen loam 0-2% **HYDRIC SOIL FIELD INDICATOR:** F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 10-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-10	10YR 2/1	85	D/M	2.5Y 7/1	15	SL
10-20+	10YR 4/1	45	C/M	10YR 5/8	25	C
			RM	10YR 2/1	20	
			D/M	2.5Y 7/1	10	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES:

Photo 1



SOIL PROFILE DESCRIPTION FORM

PROFILE ID: U

NAME: A. Baldwin

DATE: June 16, 2020

PROJECT NUMBER/NAME: Pierce Terrace

LOCATION: Gates Co. – Silver Springs Road

WEATHER: Cloudy/Light rain ~65°F

LANDSCAPE POSITION: Interstream flat **SLOPE (%):** 1

VEGETATION/CROP: Cotton

SOIL MAP UNIT: CrA – Craven fsl 0-1% **HYDRIC SOIL FIELD INDICATOR:** Altered F3 – Depleted Matrix

DEPTH TO WATER: N/A **DEPTH TO SHWT:** 3-in

DEPTH (inches)	MATRIX		REDOXIMORHPIC FEATURES			TEXTURE
	COLOR	%	TYPE ¹ /LOCATION ²	COLOR	%	
0-3	10YR 2/1	100				SL
3-11	10YR 5/2	80	D/M	2.5Y 5/1	15	SL
11-21+	10YR 4/2	60	C/M	10YR 5/8	15	SCL
			RM	10YR 2/1	5	
			D/M	2.5Y 6/1	20	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

NOTES: Redox concentrations from 0-11 inches have been altered by plowing from agricultural use.

Photo 1



Pierce Terrace Water Balance Calculation

Water Budget Equation

The hydrologic cycle of a wetland can be expressed in a water budget that accounts for water inflows and outflows to the system, as follows:

$$\Delta S = [P + S_i + G_i] - [ET + S_o + G_o]$$

where:

ΔS = change in volume of water storage in a defined area over time

P = precipitation

S_i = surface-water inflow

G_i = ground-water inflow

ET = evapotranspiration

S_o = surface water outflow

G_o = groundwater outflow

Water Budget Calculation Assumptions

This drained Hardwood Flat wetland will be restored as two wetland polygons. The following assumptions apply to the water budget calculation:

1. Precipitation that falls within the 105-acre footprint will be the primary hydrologic input.
2. Surface-water and ground-water inflow will be secondary hydrologic inputs and are not expected to be critical factors in restoring wetland hydrology. This is assumed because of the landscape position of the wetland is an interstream divide and the surrounding land use practices mostly being forestry which convey water down gradient through a network of ditches. The Site is surrounded by Hydric B soils which will provide supplemental hydrological inputs.
3. Currently surface water outflow for the site is being conveyed off the Site via a ditch network system, and will be eliminated by removal of existing ditches and associated outlets. Water will leave the Site once it reaches a set elevation to be determined during final design in order to prevent hydrologic trespass on adjacent properties.
4. The primary soil series associated with the Site is Bladen loam 0-2% slopes (NRCS soil mapunit BnA) which is poorly drained with slow permeability. Land management practices for this soil series include forestry and agricultural, both activities include a ditch network system coupled with surface manipulation to remove hydrological inputs in order to achieve sustainable production. Once the Site's ditches are filled and outlets

removed the hydrological inputs will be retained resulting in restoration of wetland hydrology.

Based on these assumptions it is assumed that no significant groundwater or surface water inflow/outflow will occur at the Site to the degree that it will affect the restoration of wetland hydrology. Applying these assumptions to the water budget equation, modifies the water balance equation for the Site to:

$$\Delta S = [P] - [ET]$$

Precipitation

The USDA NRCS provides Wetlands Climate Tables through the Agricultural Applied Climate System (AgACIS) which includes climate data and summary reports. There are two AgACIS weather stations in Gates County, however both had incomplete datasets that could not be used for this exercise. As an alternative The State Office of North Carolina at NCSU developed the NC Climate Retrieval and Observations Network of the Southeast Database (NC CRONOS) which provides precipitation data. There is one NC CRONOS weather station listed for Gates County. The weather station used is Buckland Elementary (ID – BUCK) which is located ~6-miles to the west northwest of the Site in Gates County. The weather station was established in September 2006 and data is limited therefore precipitation data is the average of precipitation data collected from 2015 – 2019.

Evapotranspiration

As discussed above in the water budget calculation assumptions surface water and groundwater outflows will be eliminated during construction of the Site, leaving evapotranspiration as the only water loss for the system after construction is complete. The NC CRONOS BUCK weather station also provides Daily Reference Crop Evapotranspiration (ET_o) and Daily Crop Evapotranspiration (ET_c) for the previous 48-months at their weather stations around the state. A crop coefficient is multiplied by the ET_o in order to calculate ET_c.

The data was accessed from the NC CRONOS BUCK weather station in August 2019, and provided ET_o and ET_c data. Field soybean at mid-season growth stage was selected for ET_c as this crop has the highest water loss through evapotranspiration of the crops previously grown at the Site. The ET_o and ET_c data provided was from Jan 2015 – July 2019, and was averaged for each month in order to perform the water budget calculation.

Summary of Water Budget Analysis

Month	Total Precipitation (in)	Wetland Area (ac)	Direct Precipitation on Wetland (ac-ft)	Total Water Available (ac-ft)	Avg Eto Rate (in)	Avg Etc Rate (in)	ET Water Loss (ac-ft)	Water Budget Net Balance +/- (ac-ft)	Water Budget Remaining Total +/- (ac-ft)
Jan	3.48	105	30.47	30.47	1.21	1.39	3.52	26.95	
Feb	3.58	105	31.33	31.33	1.74	2.00	5.23	26.10	53.05
Mar	4.26	105	37.28	37.28	2.74	3.15	9.78	27.49	80.55
Apr	3.61	105	31.57	31.57	4.10	4.72	12.41	19.15	99.70
May	4.84	105	42.31	42.31	4.76	5.47	19.30	23.01	122.71
Jun	5.76	105	50.36	50.36	5.20	5.98	25.08	25.27	147.98
Jul	8.61	105	75.32	75.32	5.43	6.24	39.18	36.14	184.12
Aug	5.12	105	44.80	44.80	4.72	5.43	20.28	24.52	208.64
Sep	7.78	105	68.03	68.03	3.37	3.88	21.98	46.05	254.69
Oct	5.71	105	49.92	49.92	2.34	2.69	11.19	38.73	293.42
Nov	3.47	105	30.38	30.38	1.27	1.46	3.71	26.68	320.10
Dec	4.31	105	37.71	37.71	1.01	1.16	3.65	34.06	354.16
Totals:	60.51		529.46	529.46	37.89	43.57	175.30	354.16	

Results and Conclusions

The monthly and annual water budget results for the proposed wetlands are presented in the “Water Budget Net Balance +/-” column of the table above. A monthly running total of the water budget is presented in “Water Budget Remaining Total +/-” column of the table above. No water deficits were observed in the calculation during any month of the year. A water surplus is available on a monthly and annual basis. This analysis reflects monthly water budget conditions based on monthly direct precipitation and subtracting monthly evapotranspiration to arrive at monthly water budget summaries.

Based on this calculation ~3.4-foot surplus of water will cover the entire 105-acre Site on an annual basis. Considering the limited hydrologic outlets associated with the Site the proposed wetland project will be able to meet the wetland hydrology requirement during years of normal precipitation.

References

Kreiser, G.S. 2003. A Wetland Restoration Project: Water Budget and Nutrient Analysis of a Drained Carolina Bay (Master’s Thesis). Retrieved from NCSU Library Repository. (Accessed on December 14, 2018 <https://repository.lib.ncsu.edu/handle/1840.16/243>)

Mitsch, W.J., and J.G. Gosselink. 2000. Wetlands. 3rd edition. John Wiley & Sons, New York, NY, USA.

Land Use Nutrient Model

Stream Length	
Site Buffer Width	
Site Area (ac)	127
Site Area (ft sq)	5532120

Land Use	%
Pasture	
Woods	
Row Crop	100
Urban	
must total 100	
	100

Rainfall	
Annual	

Land Use Characteristics		Number of Animals	N inputs lbs/au/yr	P inputs lbs/au/yr	Total N (lbs)	Total P (lbs)
Pasture	Beef		113	40	0	0
	Dairy		164	26	0	0
	Pig		153	58	0	0
	Horse		102	40	0	0
	fert/ac		60	45	0	0
					0	0
					Total Pasture N and P	

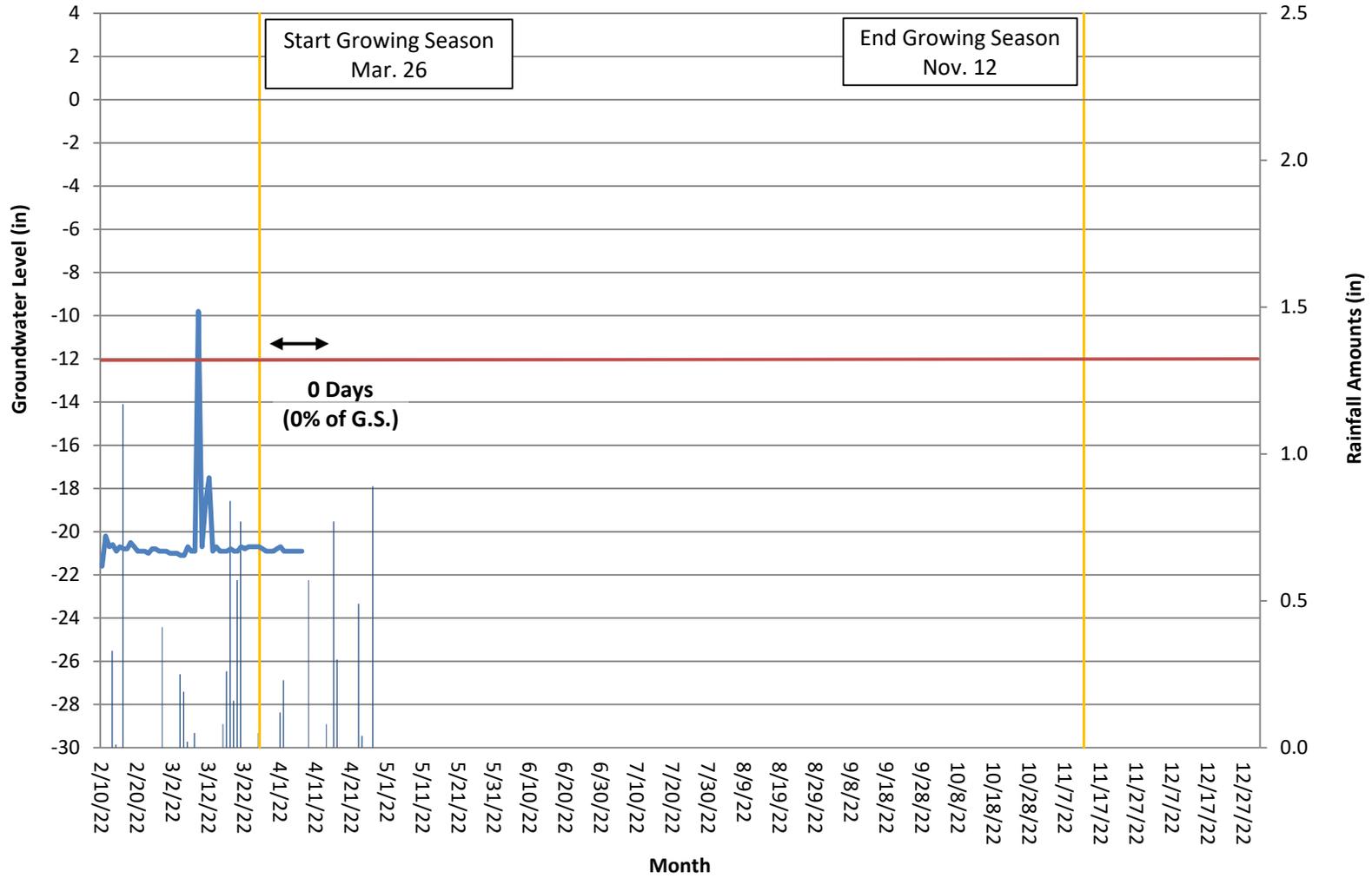
Row Crop		% Row Crop Area	N inputs lbs/ac/yr	P inputs lbs/ac/yr	Total N	Total P	
Row Crop	Corn		20	20	0	0	
	Cotton		50	20	1270	1270	
	Soybeans		50	0	0	953	
	Hay Fescue			50	45	0	0
	Hay Bermuda			70	45	0	0
		100			1270	2223	
		must total 100			Total Row Crop N and P		

Woods		Minimal Nutrients					
Urban		% Area	Runoff	Concentration N (mg/l)	Concentration P (mg/l)	Total N (lbs)	Total P (lbs)
Urban	Residential		0	2.2	0.4	0	0
	Commercial/Industrial		0	2.3	0.3	0	0
	Roadway		0	3.0	0.5	0	0
					0.0	0.0	
					Total Urban N and P		

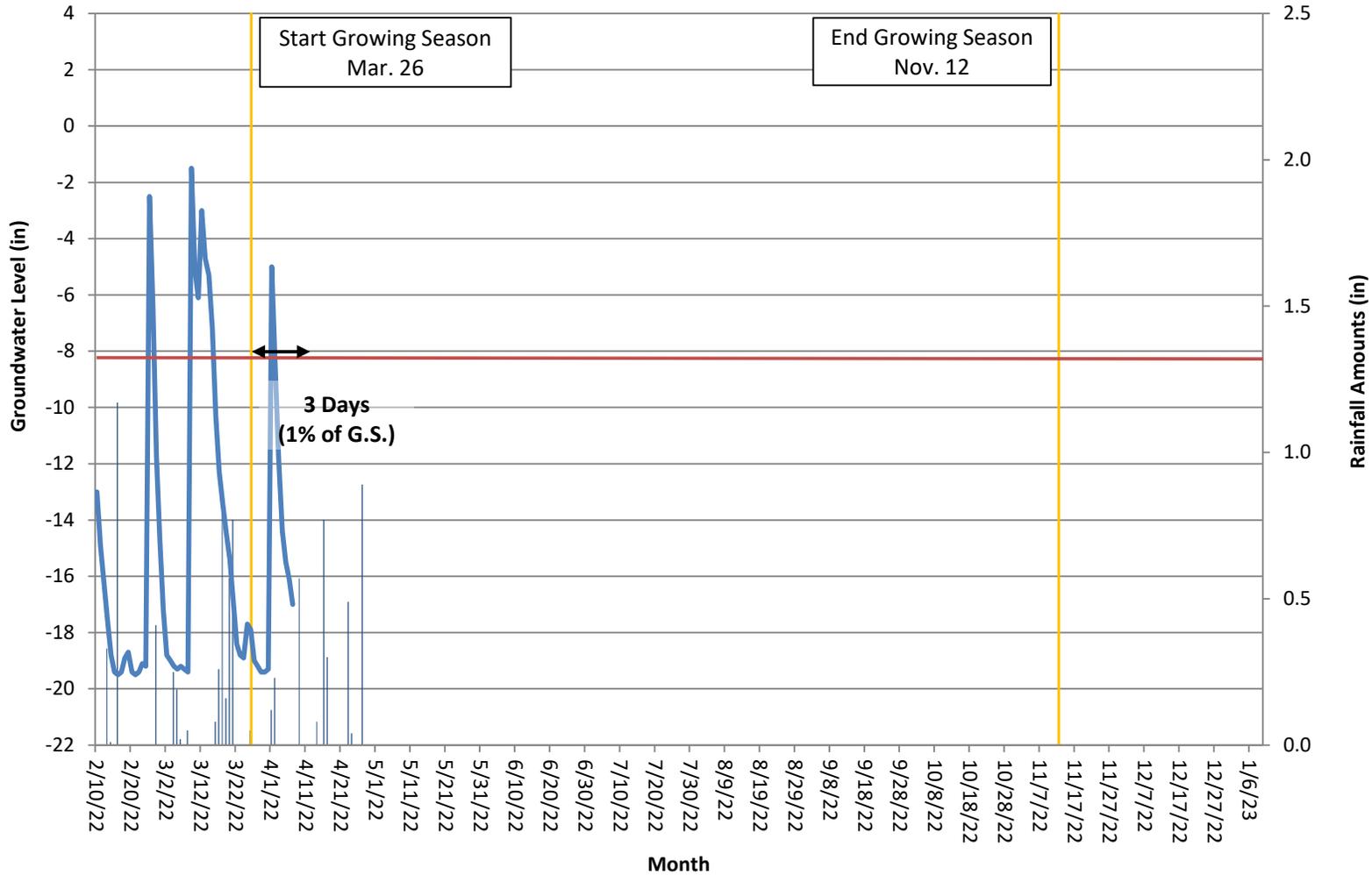
Notes: Residential Assumes 25 % Impervious Surface
 Commercial/Industrial Assumes 75% Impervious Surface
 Roadway Assumes 100% Impervious Surface
 Annual Load (lbs) = 0.226*Annual Runoff (inches)*Concentration (mg/l)*Acres

Total Nutrients Removed within Easement	
Total N Removed (lbs/yr)	1270
Total P Removed (lbs/yr)	2223

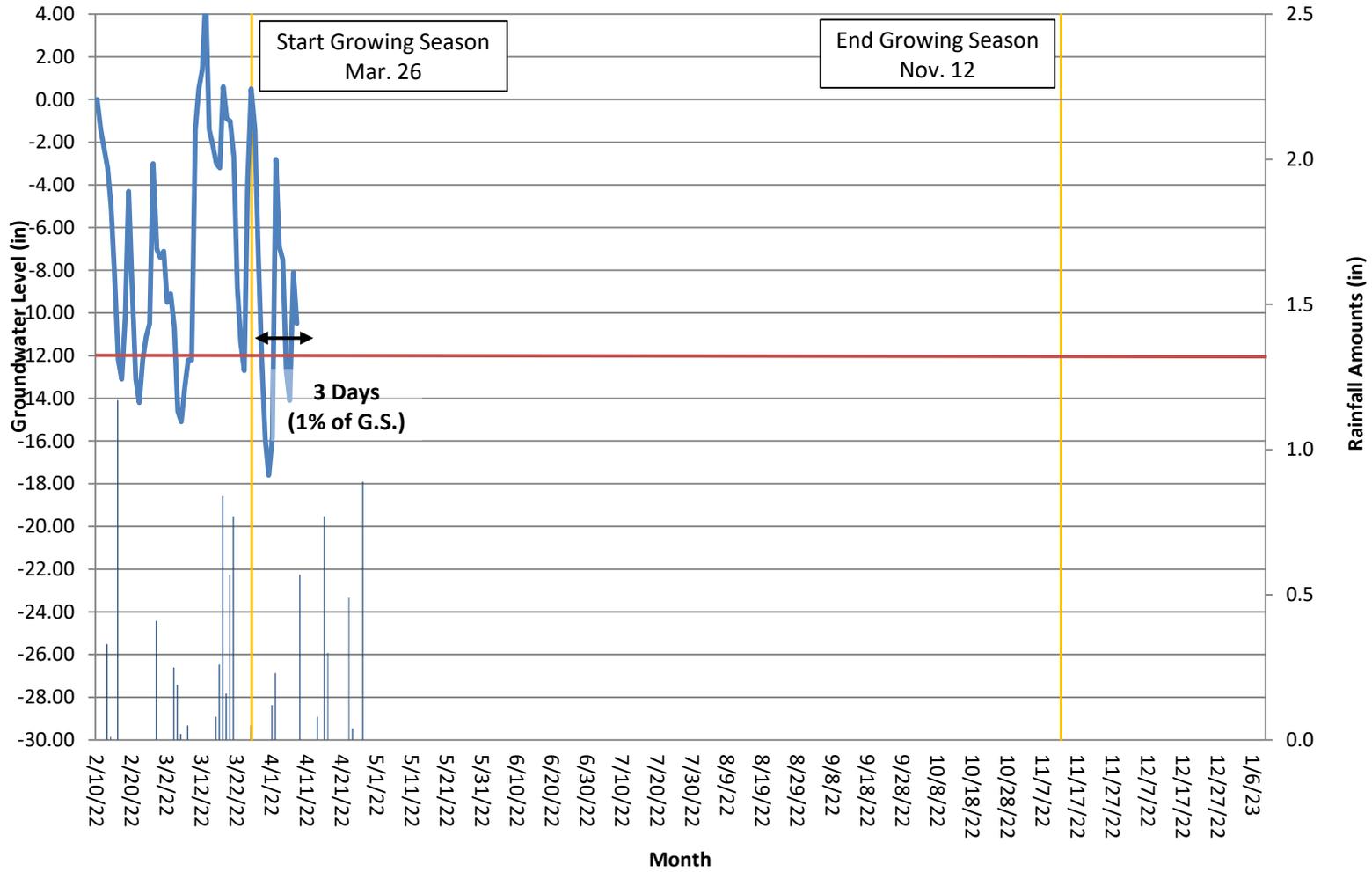
Pierce Terrace Groundwater Gauge 1 Pre-con (2022 Data)



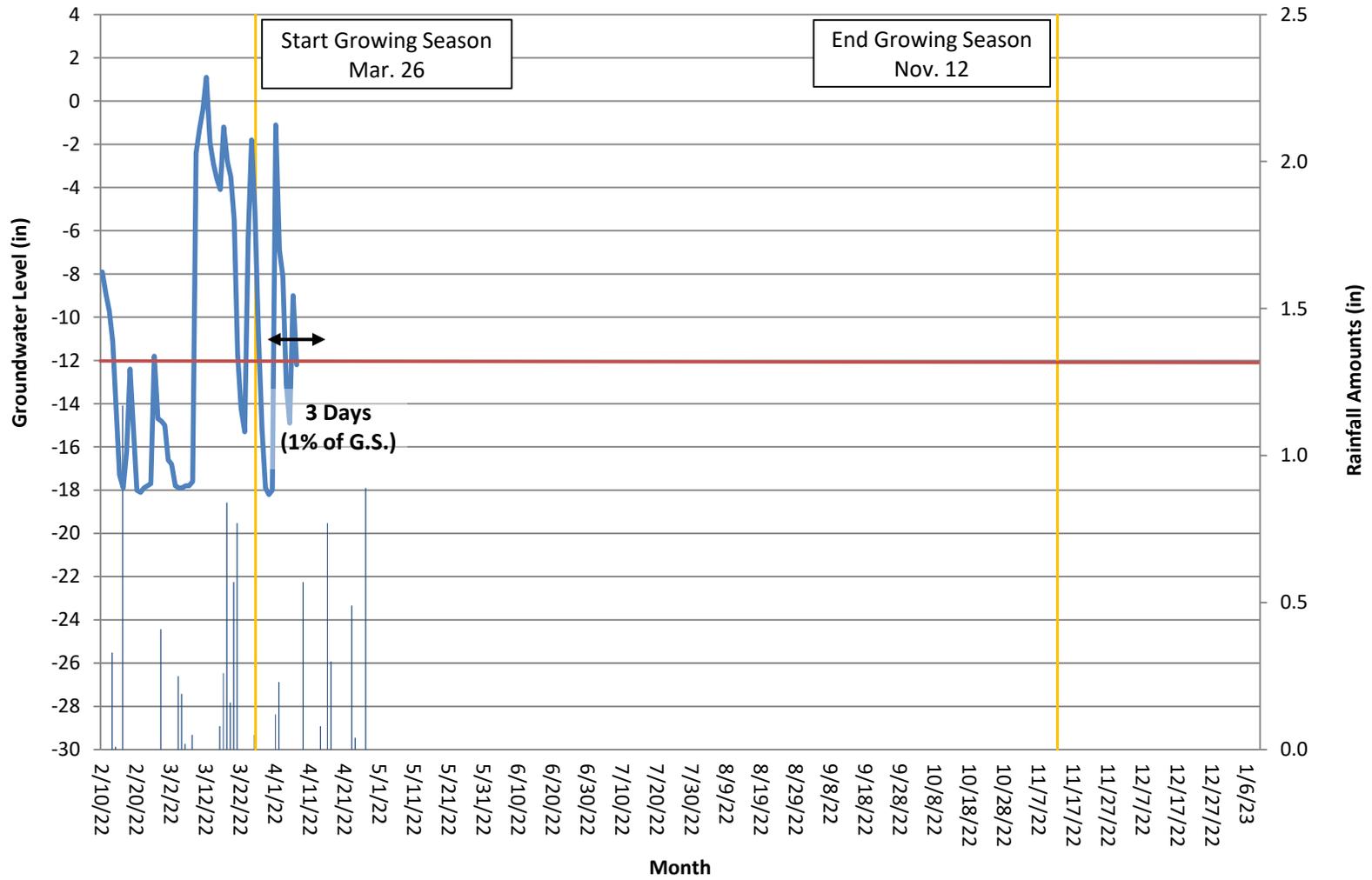
Pierce Terrace Groundwater Gauge 3 Pre-con (2022 Data)



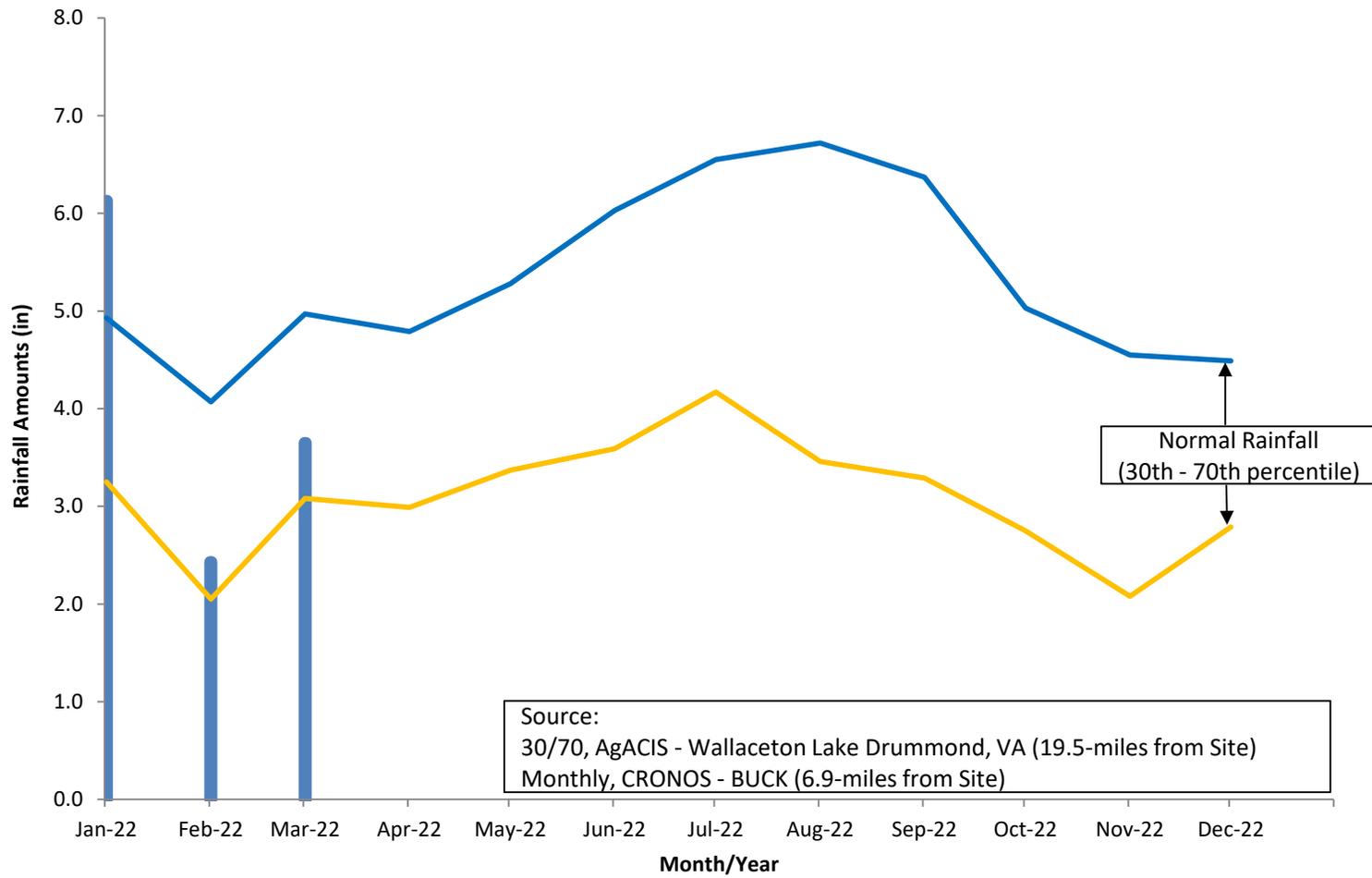
Pierce Terrace Groundwater Gauge 4 Pre-con (2022 Data)

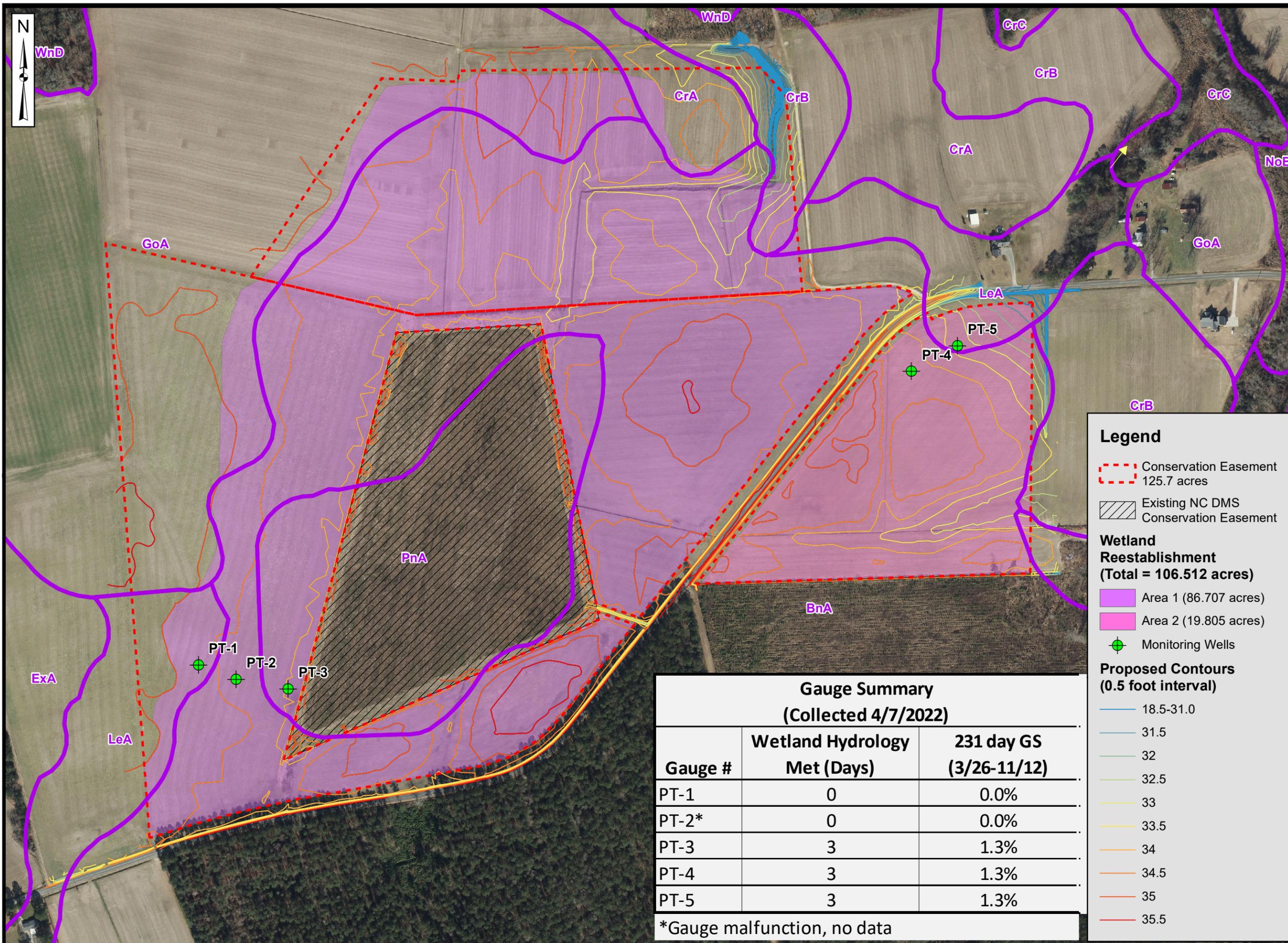


Pierce Terrace Groundwater Gauge 5 Pre-con (2022 Data)



Pierce Terrace Rainfall Pre-con (2022 Data)





Gauge Summary (Collected 4/7/2022)		
Gauge #	Wetland Hydrology Met (Days)	231 day GS (3/26-11/12)
PT-1	0	0.0%
PT-2*	0	0.0%
PT-3	3	1.3%
PT-4	3	1.3%
PT-5	3	1.3%

*Gauge malfunction, no data

Legend

- Conservation Easement
125.7 acres
- Existing NC DMS Conservation Easement

Wetland Reestablishment (Total = 106.512 acres)

- Area 1 (86.707 acres)
- Area 2 (19.805 acres)
- Monitoring Wells

Proposed Contours (0.5 foot interval)

- 18.5-31.0
- 31.5
- 32
- 32.5
- 33
- 33.5
- 34
- 34.5
- 35
- 35.5



Project:
PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:
PRECON GAUGE MAP

NC ORTHOIMAGERY PROGRAM (03-2019)

Drawn by: AEB

Date: APR 2022

Scale: 1:4,200

Project No.: 19-001.06

FIGURE
A

Appendix C: NCNHP Report



Roy Cooper, Governor

D. Reid Wilson, Secretary

Misty Buchanan
Deputy Director, Natural Heritage Program

NCNHDE-16135

October 22, 2021

Alexander Baldwin
Restoration Systems, LLC
1101 Haynes Street, Suite 211
Raleigh, NC 27604
RE: Pierce Terrace Site - Oct-2021

Dear Alexander Baldwin:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

A query of the NCNHP database indicates that there are records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. These results are presented in the attached 'Documented Occurrences' tables and map.

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 documented within the project area or 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.

Also please note that 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 an occurrence of a Federally-listed species is 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 Intersecting the Project Area
Pierce Terrace Site - Oct-2021
October 22, 2021
NCNHDE-16135

Element Occurrences Documented Within 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
Reptile	22193	Alligator mississippiensis	American Alligator	2019-04-12	E	3-Medium	Threatened Similar Appearance	Threatened	G5	S3

Natural Areas Documented Within Project Area

Site Name	Representational Rating	Collective Rating
Merchants Millpond State Park	R2 (Very High)	C2 (Very High)

Managed Areas Documented Within Project Area*

Managed Area Name	Owner	Owner Type
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State

*NOTE: If the proposed project intersects with a conservation/managed area, please contact the landowner directly for additional information. If the project intersects with a Dedicated Nature Preserve (DNP), Registered Natural Heritage Area (RHA), or Federally-listed species, NCNHP staff may provide additional correspondence regarding the project.

Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/help>. Data query generated on October 22, 2021; source: NCNHP, Q3 October 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.

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Pierce Terrace Site - Oct-2021
October 22, 2021
NCNHDE-16135

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
Animal Assemblage	27477	Waterbird Colony	Waterbird Colony	2012-03-30	C	3-Medium	---	---	GNR	S3
Butterfly	34494	Neonympha helicta	Helicta Satyr	1980-Pre	H	5-Very Low	---	Significantly Rare	G3G4	S1?
Butterfly	35164	Pontia protodice	Checkered White	1997-10-12	H?	4-Low	---	Significantly Rare	G5	S1S2
Freshwater Fish	32392	Enneacanthus obesus	Banded Sunfish	2012-09-06	E	3-Medium	---	Significantly Rare	G5	S3
Mammal	18577	Corynorhinus rafinesquii macrotis	Eastern Big-eared Bat	2019-07-12	E	3-Medium	---	Special Concern	G3G4T3	S3
Mammal	677	Myotis austroriparius	Southeastern Bat	2019-07-12	E	2-High	---	Special Concern	G4	S2
Mammal	37746	Myotis septentrionalis	Northern Long-eared Bat	2019-07-07	E	2-High	Threatened	Threatened	G1G2	S2
Mammal	36154	Perimyotis subflavus	Tricolored Bat	2019-07-12	E	2-High	---	Significantly Rare	G2G3	S3
Natural Community	525	Cypress--Gum Swamp (Intermediate Subtype)	---	2000	A	4-Low	---	---	G4	S3S4
Natural Community	18129	Mesic Mixed Hardwood Forest (Coastal Plain Subtype)	---	2006-07	C	4-Low	---	---	G3	S3
Reptile	22193	Alligator mississippiensis	American Alligator	2019-04-12	E	3-Medium	Threatened Similar Appearance	Threatened	G5	S3
Vascular Plant	22286	Gratiola lutea	Golden Hedge-hyssop	1935-07-05	H	4-Low	---	Special Concern Vulnerable	G5	S1
Vascular Plant	28649	Hottonia inflata	Featherfoil	2008-04-15	E	2-High	---	Special Concern Vulnerable	G4	S1?

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
Vascular Plant	16050	Ludwigia brevipes	Long Beach Seedbox	1980-09-26	H	4-Low	---	Significantly Rare Throughout	G2	S1
Vascular Plant	35166	Pycnanthemum setosum	Awned Mountain-mint	2006-06-20	E	4-Low	---	Significantly Rare Throughout	G4	S2
Vascular Plant	11042	Ranunculus flabellaris	Yellow Water-crowfoot	1979-04-12	H	3-Medium	---	Significantly Rare Peripheral	G5	S1
Vascular Plant	17705	Trillium pusillum var. virginianum	Virginia Least Trillium	2021-03-12	B	3-Medium	---	Endangered	G4T3	S1

Natural Areas Documented Within a One-mile Radius of the Project Area

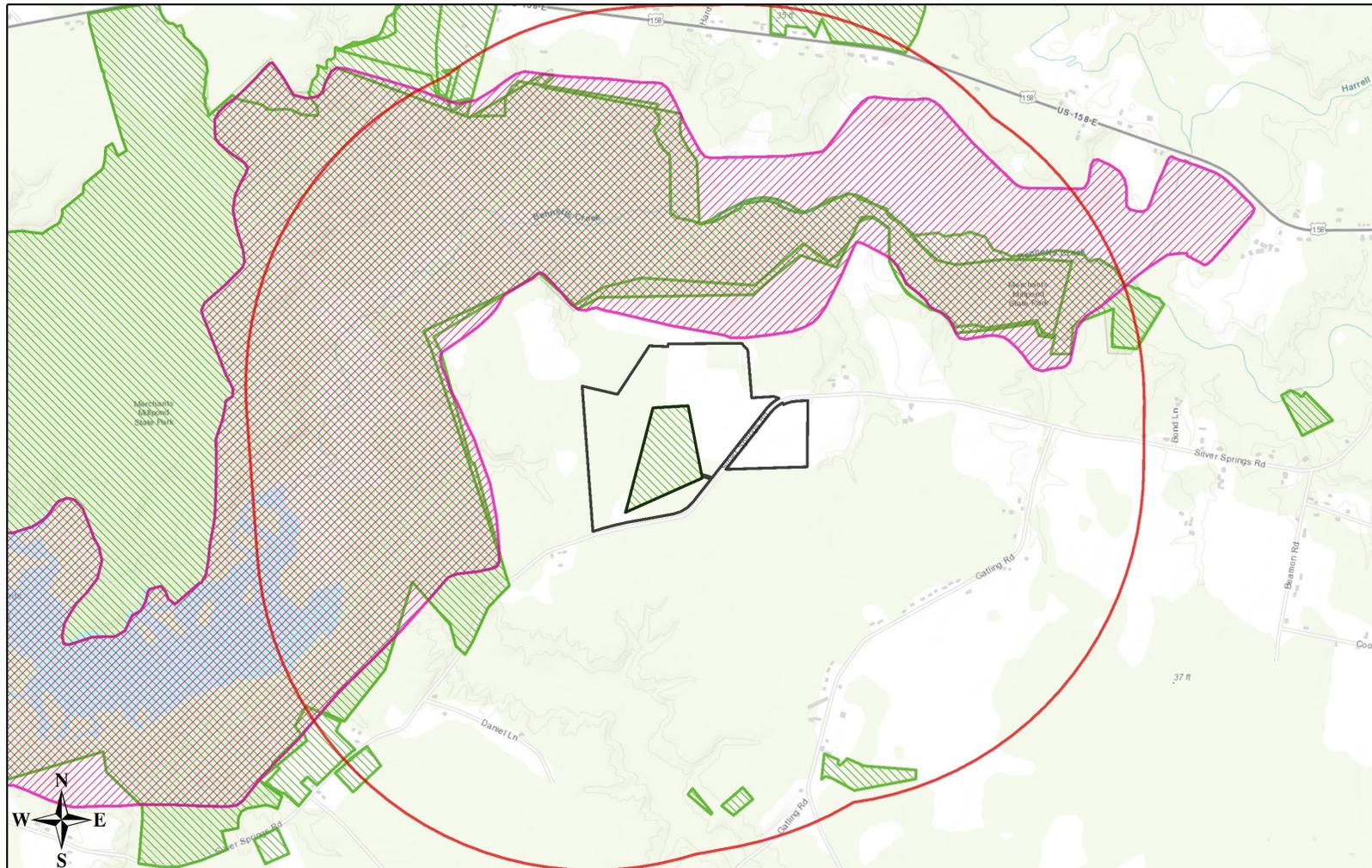
Site Name	Representational Rating	Collective Rating
Merchants Millpond State Park	R2 (Very High)	C2 (Very High)

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
Merchants Millpond State Park	NC DNCR, Division of Parks and Recreation	State
Merchants Millpond State Park Registered Heritage Area	NC DNCR, Division of Parks and Recreation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State

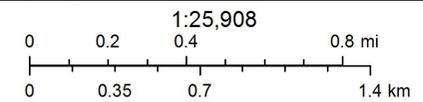
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/help>. Data query generated on October 22, 2021; source: NCNHP, Q3 October 2021. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-16135: Pierce Terrace Site - Oct-2021



October 22, 2021

-  Project Boundary
-  Buffered Project Boundary
-  NHP Natural Area (NHNA)
-  Managed Area (MAREA)



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

Appendix D: Preliminary Jurisdictional Determination Package

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2020-00046 County: Gates County U.S.G.S. Quad: Merchants Millpond

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Applicant: North Carolina Division of Mitigation Services (NCDMS)

Tim Baumgartner

Address: 1619 Mail Service Center
Raleigh, NC, 27699-0001

Telephone Number: 919-733-5208

Size (acres) 128

Nearest Waterway Bennetts Creek

USGS HUC 03010203

Nearest Town Sunbury

River Basin Albemarle-Chowan

Coordinates Latitude: 36.43227
Longitude: -76.64927

Location description: The project area is located north of Silver Springs Road approximately 2.2 miles west of the intersection of NC 32 south of the town of Sunbury in Gates County, North Carolina.

Indicate Which of the Following Apply:

A. Preliminary Determination

There are waters on the above described project area, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The waters have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.

There are wetlands on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). However, since the waters, including wetlands, have not been properly delineated, this preliminary jurisdiction determination may not be used in the permit evaluation process. Without a verified wetland delineation, this preliminary determination is merely an effective presumption of CWA/RHA jurisdiction over all of the waters, including wetlands, at the project area, which is not sufficiently accurate and reliable to support an enforceable permit decision. We recommend that you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

B. Approved Determination

There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

There are waters of the U.S., including wetlands, on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

We recommend you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

SAW-2020-00046

— The waters of the U.S., including wetlands, on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

— The waters of the U.S., including wetlands, have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are no waters of the U.S., to include wetlands, present on the above described project area which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Morehead City, NC, at (252) 808-2808 to determine their requirements.

Placement of dredged or fill material within waters of the US, including wetlands, without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). Placement of dredged or fill material, construction or placement of structures, or work within navigable waters of the United States without a Department of the Army permit may constitute a violation of Sections 9 and/or 10 of the Rivers and Harbors Act (33 USC § 401 and/or 403). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Kyle Barnes at (910) 251-4584 or Kyle.W.Barnes@usace.army.mil**.

C. Basis For Determination: *N/A. An Approved JD has not been completed.*

D. Remarks: The project area consists of agricultural fields and drainage features draining to Lassitter Swamp Creek, a tributary of Bennetts Creek.

E. Attention USDA Program Participants

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

F. Appeals Information for Approved Jurisdiction Determinations (as indicated in Section B. above)

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Mr. Philip A. Shannin
Administrative Appeal Review Officer
60 Forsyth Street SW, Floor M9
Atlanta, Georgia 30303-8803

AND
PHILIP.A.SHANNIN@USACE.ARMY.MIL

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **N/A**.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: 

Date: **December 18, 2020**

Expiration Date: **N/A**

SAW-2020-00046

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Copy Furnished:

Restoration Systems, LLC
Alex Baldwin
1101 Haynes Street, Suite 211
Raleigh, NC, 27604
919-334-9112

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Tim Baumgartner, North Carolina Division of Mitigation Services (NCDMS)	File Number: SAW-2020-00046	Date: <u>December 18,</u> <u>2020</u>
-----------------------------------------------------------------------------------------------	------------------------------------	--------------------------------------------------

Attached is:	See Section below
<input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/> PERMIT DENIAL	C
<input type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION	D
<input checked="" type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
District Engineer, Wilmington Regulatory Division,
Attn: Kyle Barnes
2407 West 5th Street
Washington, North Carolina 27889

If you only have questions regarding the appeal process you may also contact:
US Army Corps of Engineers
South Atlantic Division
Attn: Mr. Philip A. Shannin
Administrative Appeal Review Officer
60 Forsyth Street SW, Floor M9
Atlanta, Georgia 30303-8803
PHILIP.A.SHANNIN@USACE.ARMY.MIL

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:
-------------------------------------------	-------	-------------------

For appeals on Initial Proffered Permits send this form to:

District Engineer, Wilmington Regulatory Division, Attn: Kyle Barnes, 2407 West 5th Street, Washington, North Carolina 27889

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Philip Shannin, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801 Phone: (404) 562-5137, PHILIP.A.SHANNIN@USACE.ARMY.MIL

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 12/18/2020

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Alex Baldwin of Restoration Systems, LLC 1101 Haynes Street, Suite 211 Raleigh, NC 27604

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAW-RG-W/NCDMS - Pierce Terrace/2020-00046

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: **NC** County/parish/borough: **Gates** City: **Sunbury**

Center coordinates of site (lat/long in degree decimal format):

Lat.: **36.431500** Long.: **-76.649894**

Universal Transverse Mercator: **17**

Name of nearest waterbody: **Lassitter Swamp**

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): **9-15-2020**

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Ditch 1	36.435826	-76.648545	745	non-wetland waters	404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

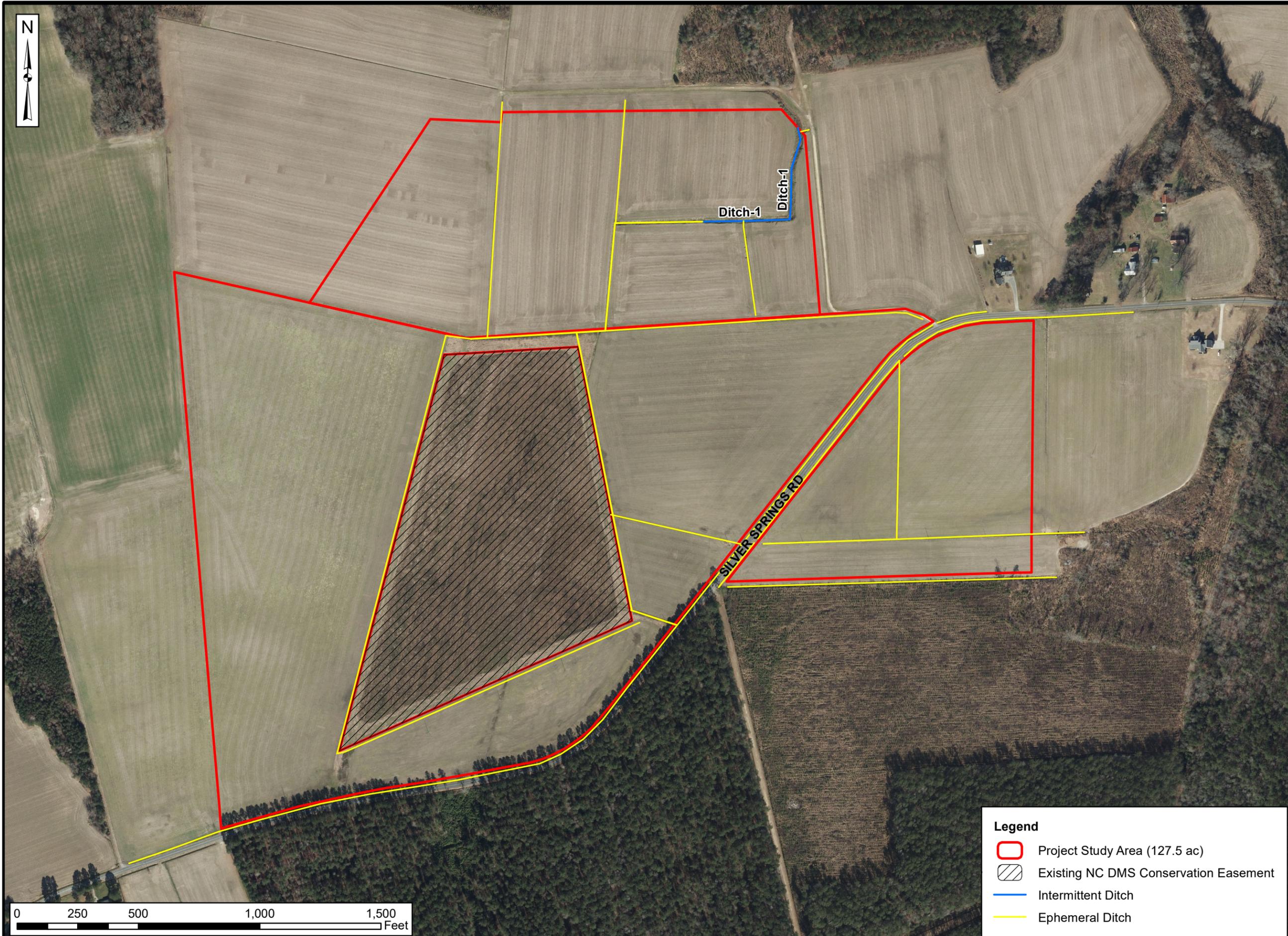
- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____.
- Data sheets prepared by the Corps: _____.
- Corps navigable waters' study: _____.
- U.S. Geological Survey Hydrologic Atlas: _____.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 24,000 Merchants Mill.
- Natural Resources Conservation Service Soil Survey. Citation: NRCS - 1996.
- National wetlands inventory map(s). Cite name: USFWS - 1983.
- State/local wetland inventory map(s): _____.
- FEMA/FIRM maps: _____.
- 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): NC CGIA - 2019
or Other (Name & Date): Project Field Photos - June 16, 2020
- Previous determination(s). File no. and date of response letter: _____.
- Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Kyle Barner 12/18/2020
Signature and date of
Regulatory staff member
completing PJD

AH B.M. 9-21-2020
Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Legend

- Project Study Area (127.5 ac)
- Existing NC DMS Conservation Easement
- Intermittent Ditch
- Ephemeral Ditch

Project:

**PIERCE TERRACE
MITIGATION SITE**

Gates County, NC

Title:

**POTENTIAL
WOUS
PRELIMINARY
JURISDICTIONAL
DETERMINATION**

Drawn by:

AEB

Date:

SEP 2020

Scale:

1:4500

Project No.:

SAW-2020-00046

FIGURE

5-REV1

Appendix E: Categorical Exclusion Document

PIERCE TERRACE WETLAND MITIGATION SITE

Gates County, North Carolina

DMS Project No. 100139

Categorical Exclusion/ERTR



Prepared for:

North Carolina Department of Environmental Quality

Division of Mitigation Services

1652 Mail Service Center

Raleigh, NC 27699-1652

March 2020

TASK 1 b.) Categorical Exclusion Summary:

Part 1: General Project Information (Attached)

Part 2: All Projects Regulation/Questions

Coastal Zone Management Act

No issue – project is located within a CAMA county; however, does not involve ground disturbing activities within CAMA Areas of Environmental Concern. Please see attached response from Ronald Renaldi, District Manager DCM stating concurrence.

CERCLA

No issue within project boundaries – please see the attached Executive Summary from a Limited Phase 1 Site Assessment performed by Environmental Data Resources, Inc. on February 12th, 2020.

National Historic Preservation Act (Section 106)

No Issue – please see attached letter from Ramona M. Bartos, State of the Historic Preservation Office.

Uniform Act

Please see the attached letters, sent to the landowners December 9th, 2019.

Part 3: Ground-Disturbing Activates Regulation/Questions

American Indian Religious Freedom Act (AIRFA)

Not applicable – project is not located in a county claimed as “territory” by the Eastern Band of Cherokee Indians.

Antiquities Act (AA)

Not applicable – project is not located on Federal land.

Archaeological Resources Protection Act (ARPA)

Not applicable – project is not located on Federal or Indian lands.

Endangered Species Act (ESA)

Project activities are not likely to affect critical habitat for Endangered or Threatened Species. The proposed project will occur in existing agricultural fields which are intensively managed for row crops. A biological survey included in the 9-step online compliance process found “no effect” based on no suitable habitat present as the land is currently in agriculture production and does not propose the removal of trees. A Self-certification letter was submitted on Feb. 13, 2020 and no recommendations following the 30-day review period. Receipt of the self-certification letter is attached.

Executive Order 13007 (Indian Sacred Sites)

Not applicable – project is not located in a county claimed as “territory” by the Eastern Band of Cherokee Indians.

Farmland Protection Policy Act (FPPA)

Please find the attached Form AD-1006 and email from Milton Cortes of the NRCS.

Fish and Wildlife Coordination Act (FWCA)

Not applicable – project will not impound, divert, channel deepen, or otherwise control/modify any water body.

Land & Water Conservation Fund Act (Section 6(f))

Not applicable

Magnuson-Stevens Fishery Conservation and management Act (Essential Fish Habitat)

Not applicable – project is not located within an estuarine system

Migratory Bird Treaty Act (MBTA)

USFWS provided no recommendations for the project relative to the MBTA, please see attached letter sent to John Ellis (USFWS – Raleigh Regional Field Office) on Feb. 13, 2020.

Wilderness Act

Not applicable – the project is not located within a Wilderness area.

Appendix A

Categorical Exclusion Form for Division of Mitigation Services Projects
Version 2

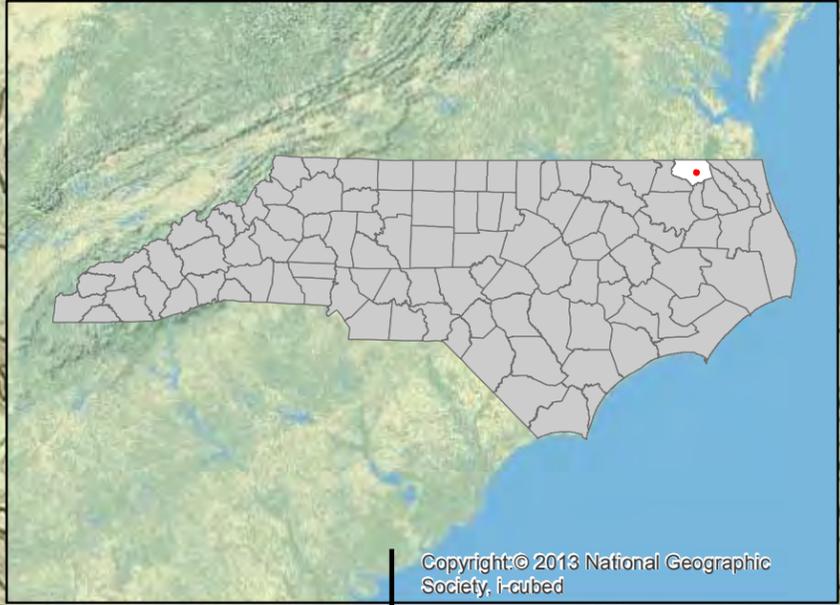
Note: Only Appendix A should be submitted (along with any supporting documentation) as the environmental document.

Part 1: General Project Information	
Project Name:	Pierce Terrace Mitigation Site
County Name:	Gates
DMS Number:	100139
Project Sponsor:	Restoration Systems, LLC
Project Contact Name:	Alex Baldwin
Project Contact Address:	1101 Haynes Street, Suite 211, Raleigh, NC 27604
Project Contact E-mail:	abaldwin@restorationsystems.com
DMS Project Manager:	Lindsay Crocker
Project Description	
<p>The Site is positioned 2 miles west of Sunbury, NC and is less than 1-mile east of Merchants Millpond State Park, a listed natural area by the NC NHP. Situated on marine terraces adjacent to Bennett's Creek and Lassiter Swamp, the Site is within the NCDWR Targeted Local Watershed 03010203040040. Restoration activities will include filling of existing agricultural ditches, removing surface water outlets, and roughening of the soil surface in areas of drained hydric soils. Non-riverine hardwood flat and swamp forested vegetative communities will be restored throughout the easement through planting of woody vegetation.</p>	
For Official Use Only	
Reviewed By:	
4/13/2020	
Date	DMS Project Manager
Conditional Approved By:	
Date	For Division Administrator FHWA
<input type="checkbox"/> Check this box if there are outstanding issues	
Final Approval By:	
4-13-20	
Date	For Division Administrator FHWA

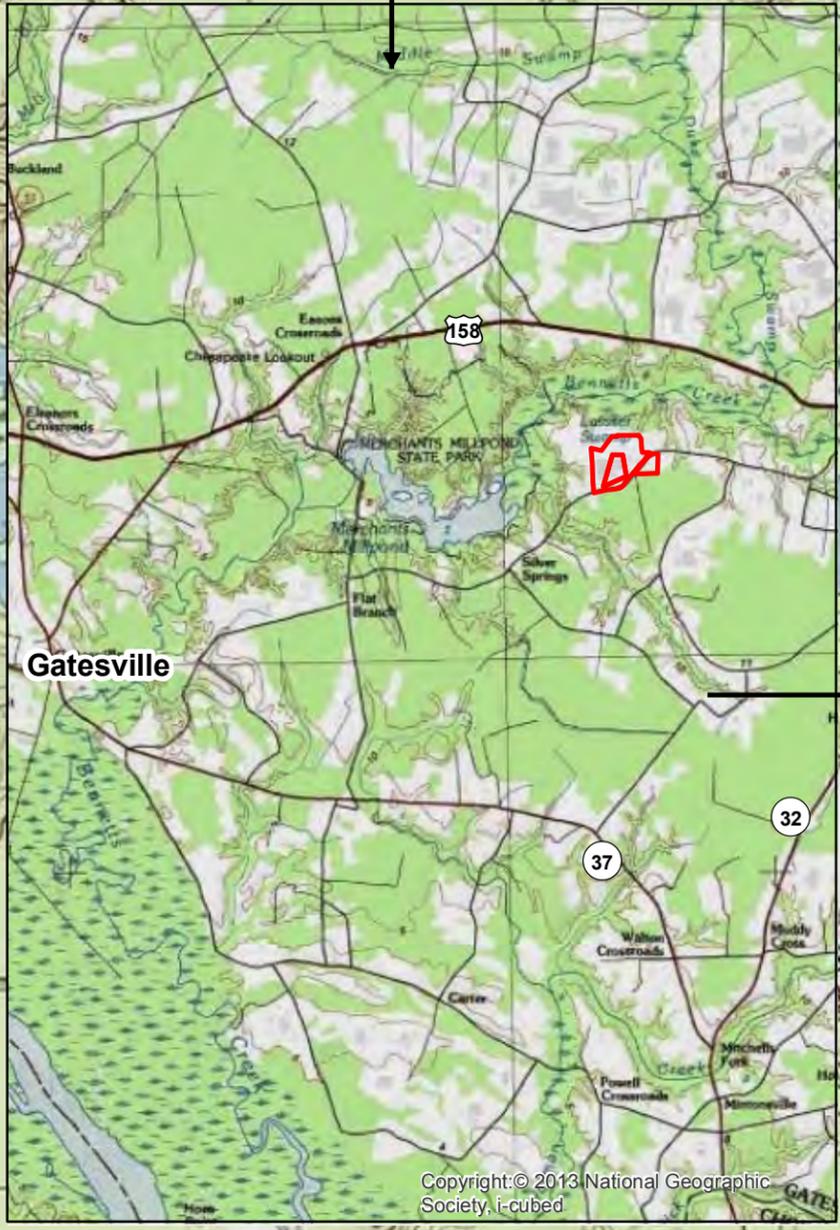
Part 2: All Projects Regulation/Question		Response
Coastal Zone Management Act (CZMA)		
1. Is the project located in a CAMA county?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Does the project involve ground-disturbing activities within a CAMA Area of Environmental Concern (AEC)?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
3. Has a CAMA permit been secured?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Has NCDCEM agreed that the project is consistent with the NC Coastal Management Program?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)		
1. Is this a "full-delivery" project?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Has the zoning/land use of the subject property and adjacent properties ever been designated as commercial or industrial?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
5. As a result of a Phase II Site Assessment, are there known or potential hazardous waste sites within the project area?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
6. Is there an approved hazardous mitigation plan?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Does the project affect such properties and does the SHPO/THPO concur?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. If the effects are adverse, have they been resolved?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act)		
1. Is this a "full-delivery" project?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Does the project require the acquisition of real estate?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
3. Was the property acquisition completed prior to the intent to use federal funds?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Is the site of religious importance to American Indians?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Is the project listed on, or eligible for listing on, the National Register of Historic Places?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Have the effects of the project on this site been considered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Antiquities Act (AA)	
1. Is the project located on Federal lands?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Will there be loss or destruction of historic or prehistoric ruins, monuments or objects of antiquity?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Will a permit from the appropriate Federal agency be required?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Has a permit been obtained?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Archaeological Resources Protection Act (ARPA)	
1. Is the project located on federal or Indian lands (reservation)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Will there be a loss or destruction of archaeological resources?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Will a permit from the appropriate Federal agency be required?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Has a permit been obtained?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Endangered Species Act (ESA)	
1. Are federal Threatened and Endangered species and/or Designated Critical Habitat listed for the county?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Is Designated Critical Habitat or suitable habitat present for listed species?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
3. Are T&E species present or is the project being conducted in Designated Critical Habitat?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
4. Is the project "likely to adversely affect" the specie and/or "likely to adversely modify" Designated Critical Habitat?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
5. Does the USFWS/NOAA-Fisheries concur in the effects determination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
6. Has the USFWS/NOAA-Fisheries rendered a "jeopardy" determination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

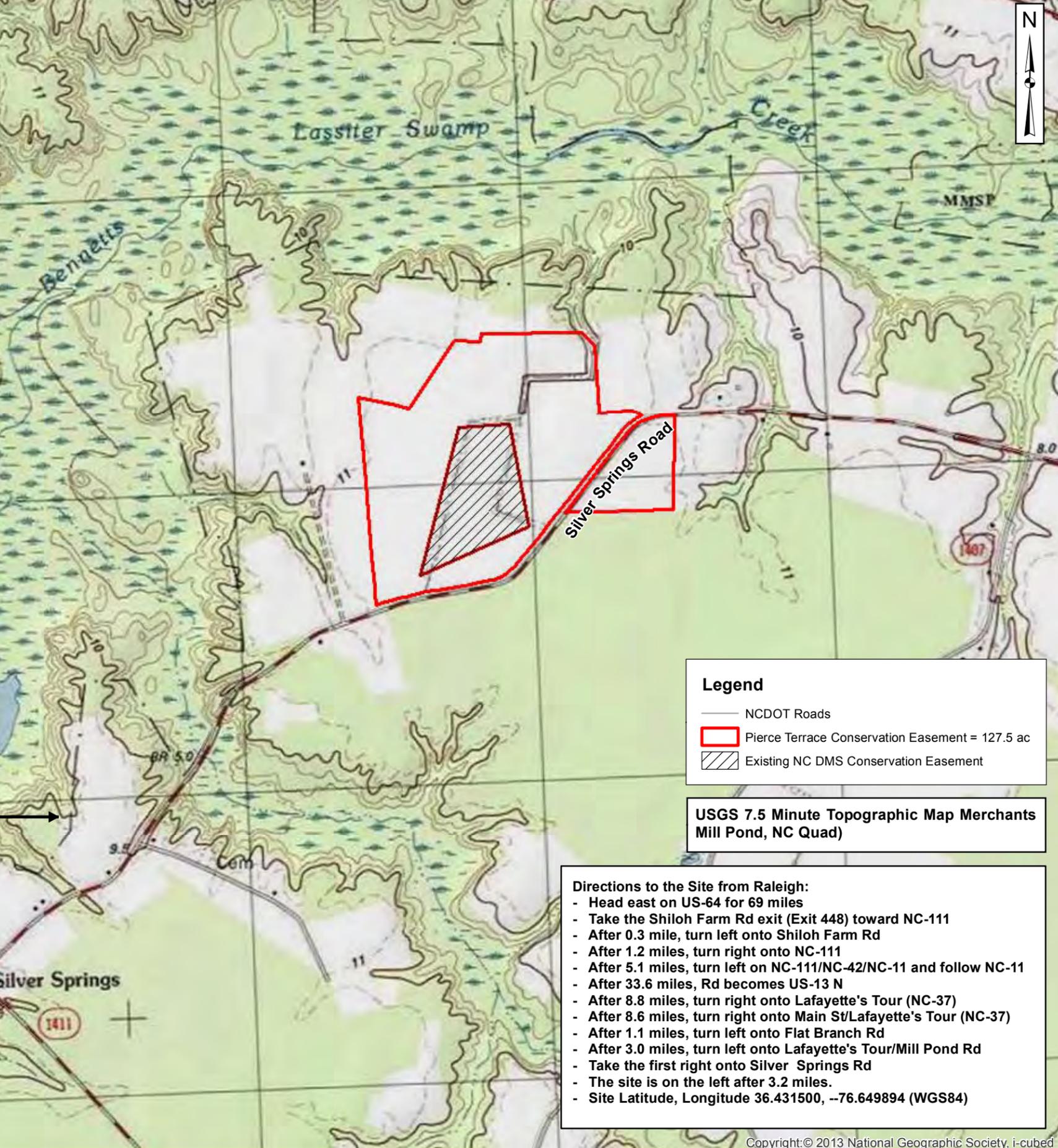
<u>Executive Order 13007 (Indian Sacred Sites)</u>	
1. Is the project located on Federal lands that are within a county claimed as "territory" by the EBCI?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Has the EBCI indicated that Indian sacred sites may be impacted by the proposed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



Copyright © 2013 National Geographic Society, i-cubed



Copyright © 2013 National Geographic Society, i-cubed



Legend

- NCDOT Roads
- Pierce Terrace Conservation Easement = 127.5 ac
- Existing NC DMS Conservation Easement

USGS 7.5 Minute Topographic Map Merchants Mill Pond, NC Quad)

- Directions to the Site from Raleigh:**
- Head east on US-64 for 69 miles
 - Take the Shiloh Farm Rd exit (Exit 448) toward NC-111
 - After 0.3 mile, turn left onto Shiloh Farm Rd
 - After 1.2 miles, turn right onto NC-111
 - After 5.1 miles, turn left on NC-111/NC-42/NC-11 and follow NC-11
 - After 33.6 miles, Rd becomes US-13 N
 - After 8.8 miles, turn right onto Lafayette's Tour (NC-37)
 - After 8.6 miles, turn right onto Main St/Lafayette's Tour (NC-37)
 - After 1.1 miles, turn left onto Flat Branch Rd
 - After 3.0 miles, turn left onto Lafayette's Tour/Mill Pond Rd
 - Take the first right onto Silver Springs Rd
 - The site is on the left after 3.2 miles.
 - Site Latitude, Longitude 36.431500, -76.649894 (WGS84)



Prepared for:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

SITE LOCATION

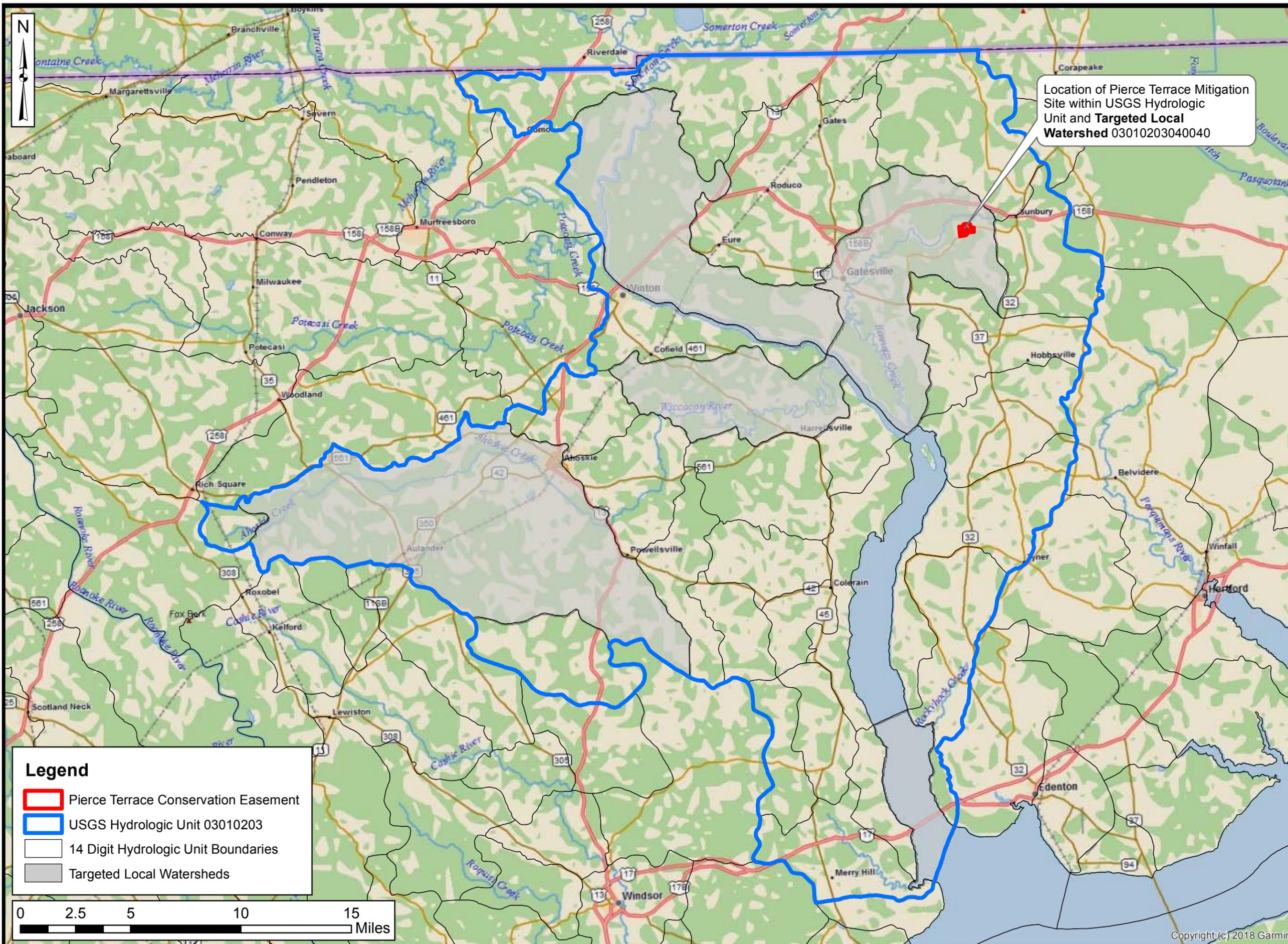
Drawn by: WGL

Date: JUL 2019

Scale: 1:20,000

Project No.: 19-001.06

FIGURE 1



Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

HYDROLOGIC UNIT MAP

Drawn by:

WGL

Date:

JUL 2019

Scale:

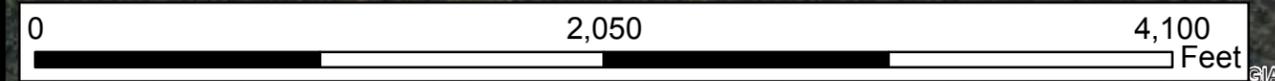
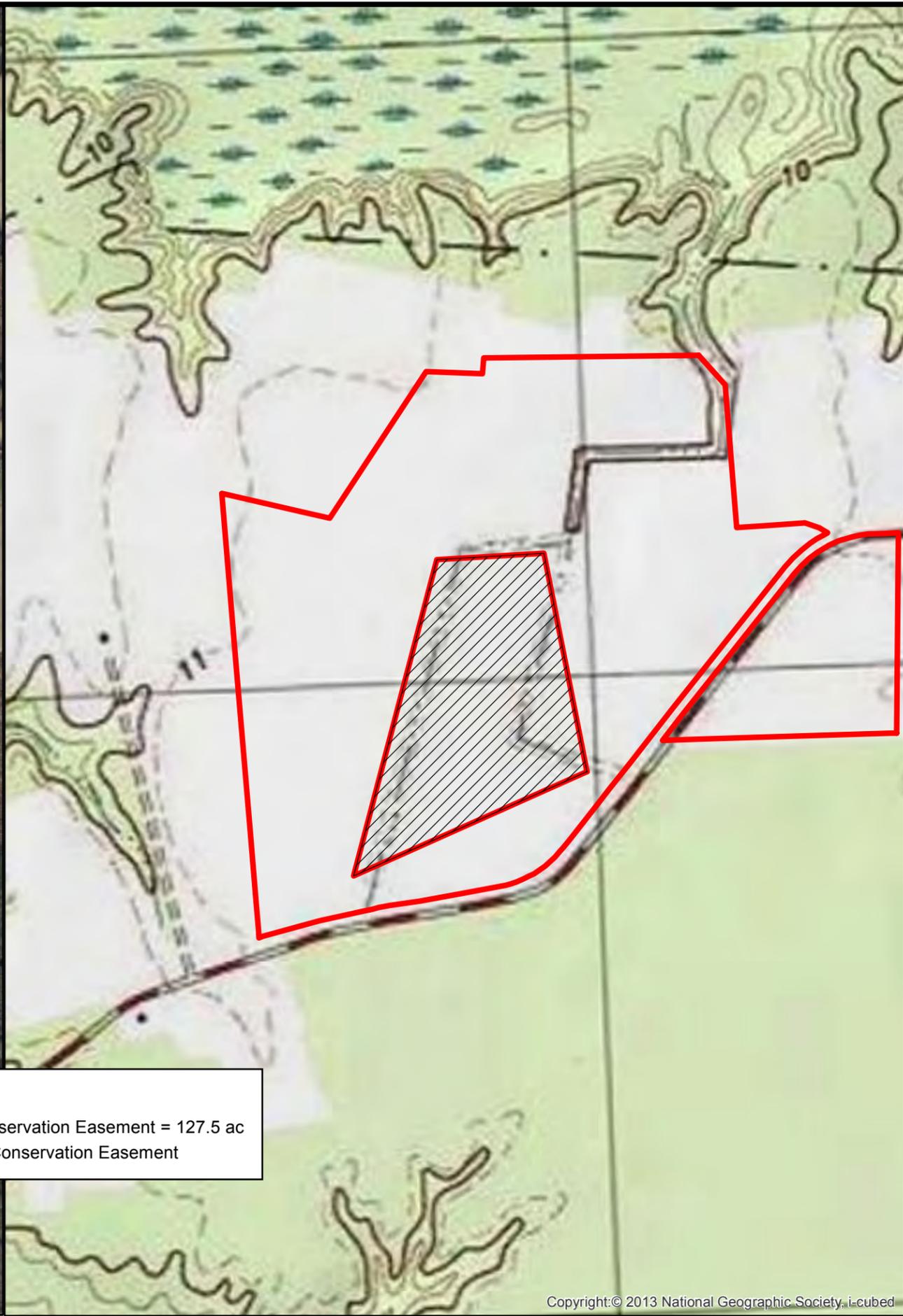
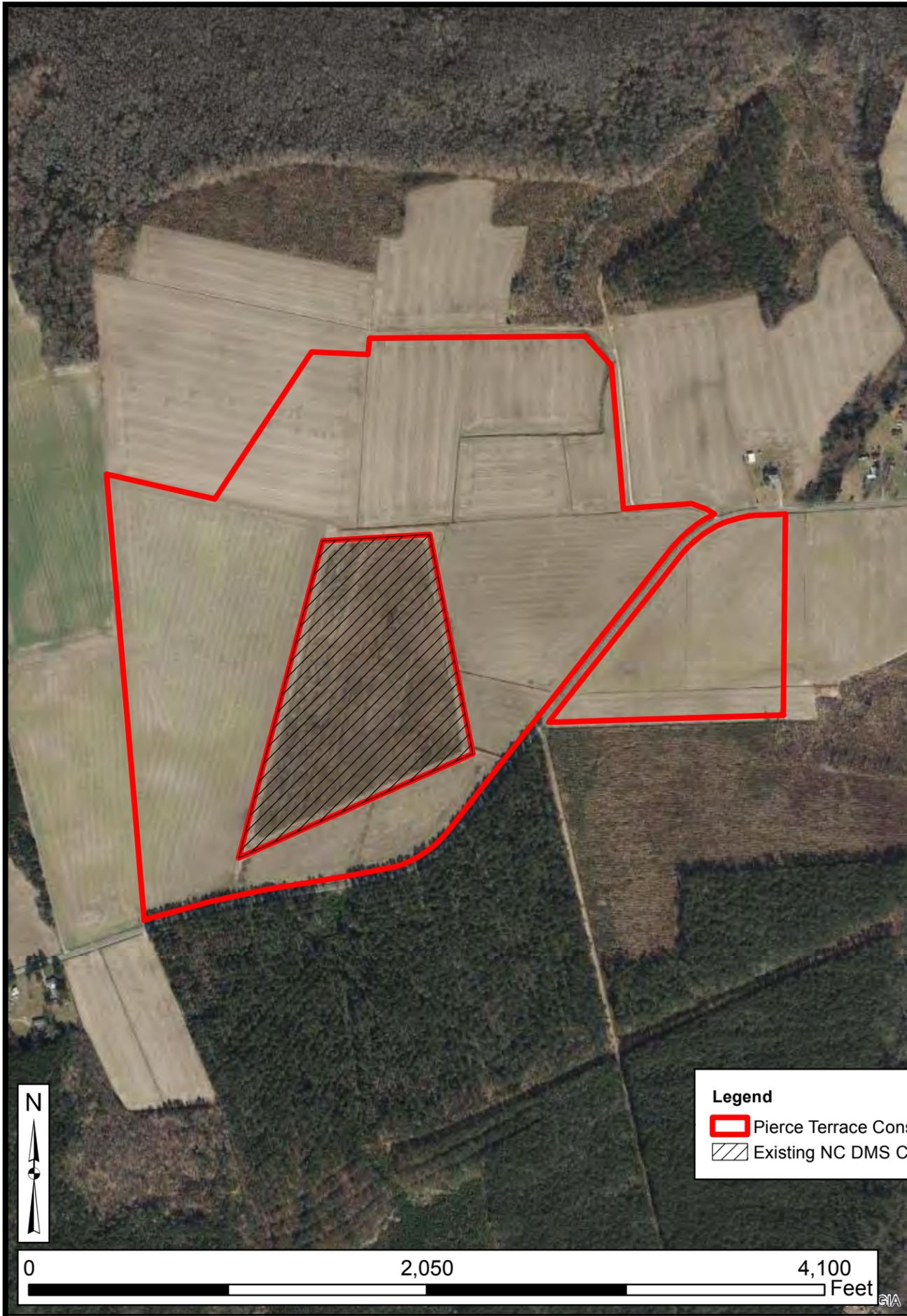
1:260,000

Project No.:

19-001.06

FIGURE

2



Legend
 [Red outline] Pierce Terrace Conservation Easement = 127.5 ac
 [Hatched area] Existing NC DMS Conservation Easement

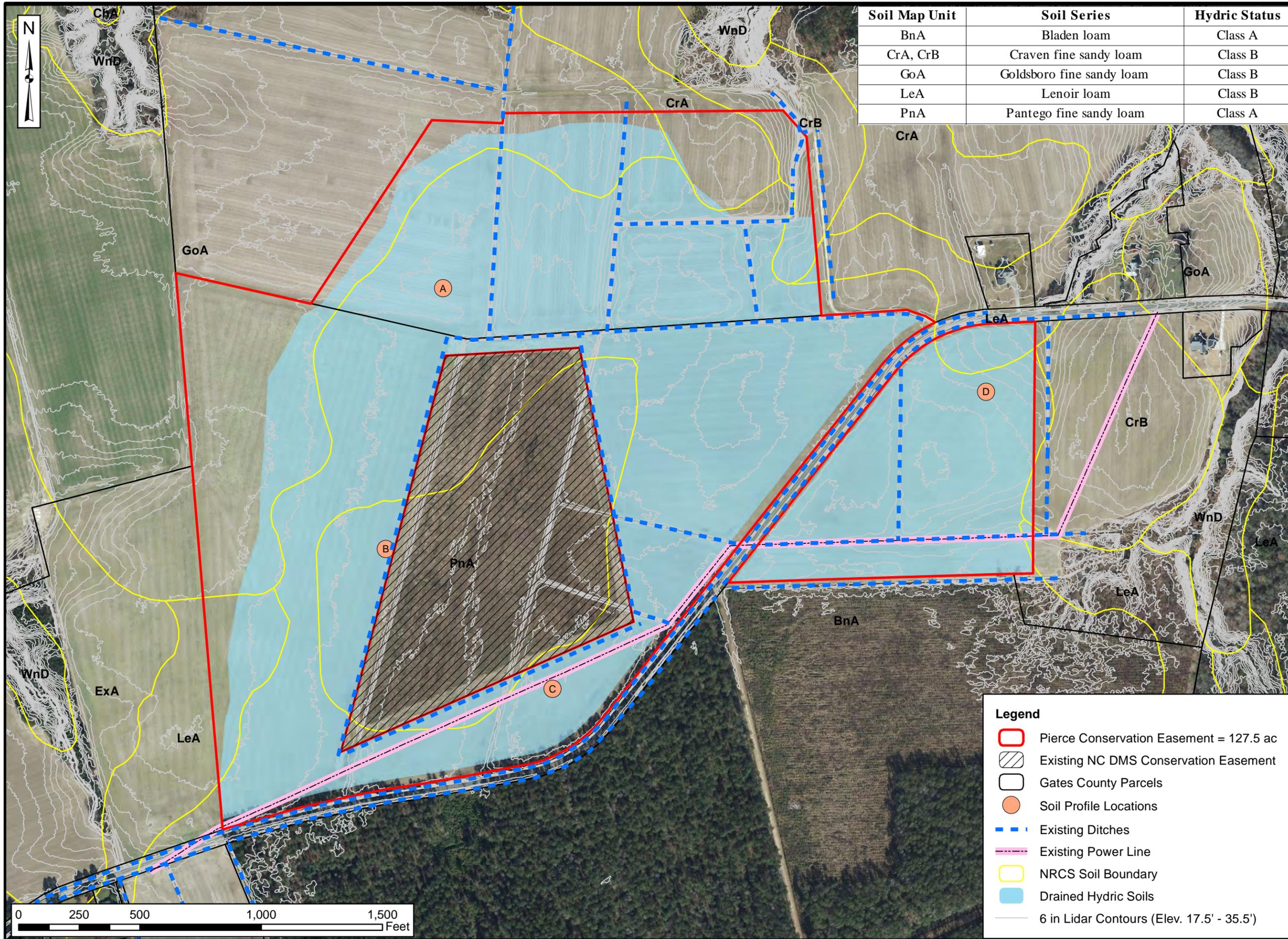


Project:
PIERCE TERRACE MITIGATION SITE
 Gates County, NC

Title:
TOPOGRAPHY AND DRAINAGE FEATURES

Drawn by: WGL
 Date: JUL 2019
 Scale: 1:34,000
 Project No.: 19-001.06

FIGURE
3



Soil Map Unit	Soil Series	Hydric Status
BnA	Bladen loam	Class A
CrA, CrB	Craven fine sandy loam	Class B
GoA	Goldsboro fine sandy loam	Class B
LeA	Lenoir loam	Class B
PnA	Pantego fine sandy loam	Class A



Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

EXISTING CONDITIONS AND SOILS

Drawn by:

WGL

Date:

AUG 2019

Scale:

1:4500

Project No.:

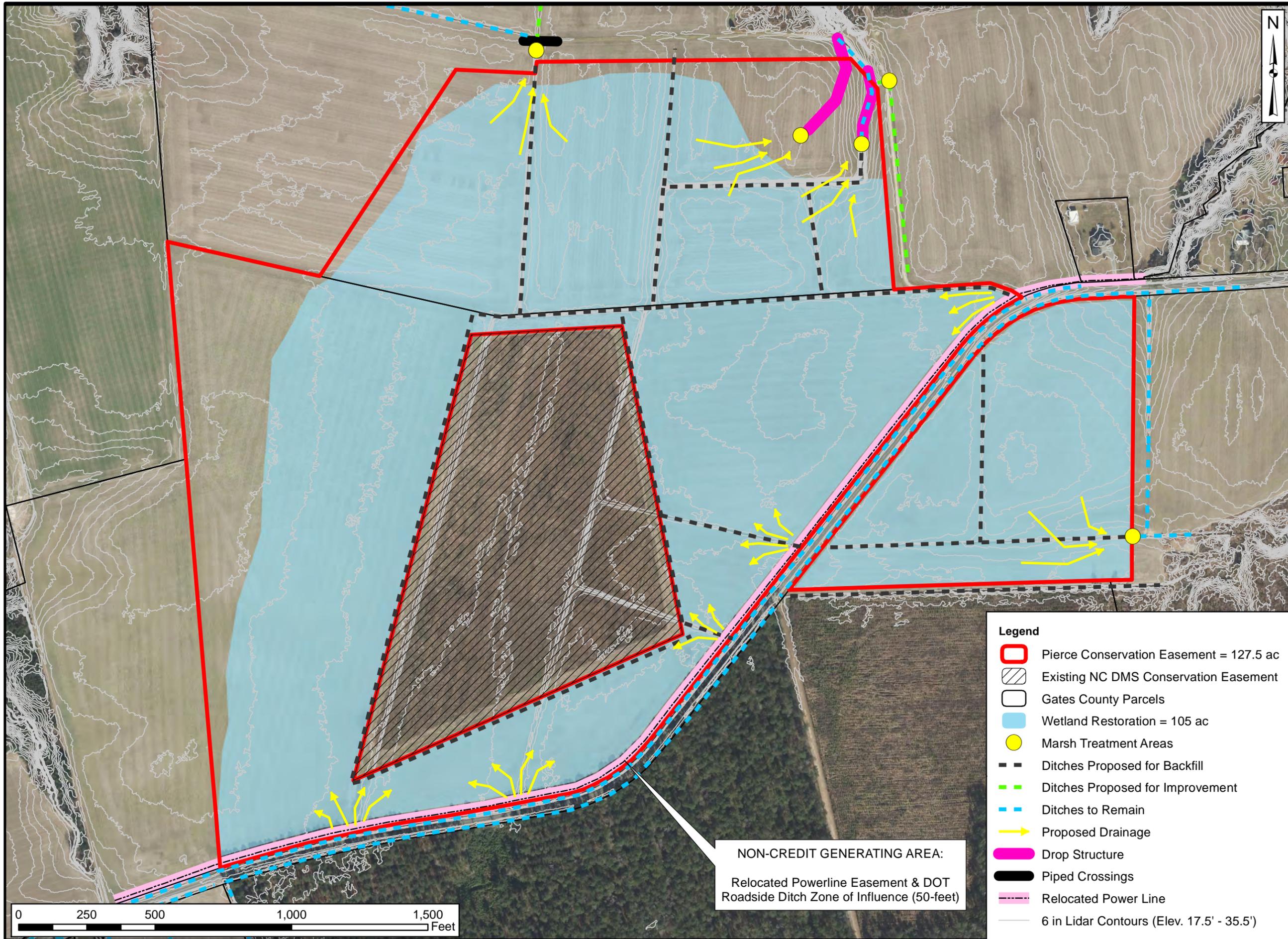
19-001.06

Legend

- Pierce Conservation Easement = 127.5 ac
- Existing NC DMS Conservation Easement
- Gates County Parcels
- Soil Profile Locations
- Existing Ditches
- Existing Power Line
- NRCS Soil Boundary
- Drained Hydric Soils
- 6 in Lidar Contours (Elev. 17.5' - 35.5')

FIGURE

4



Prepared for:
PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:
PROPOSED CONDITIONS OPTION 2

- Legend**
- Pierce Conservation Easement = 127.5 ac
 - Existing NC DMS Conservation Easement
 - Gates County Parcels
 - Wetland Restoration = 105 ac
 - Marsh Treatment Areas
 - Ditches Proposed for Backfill
 - Ditches Proposed for Improvement
 - Ditches to Remain
 - ➔ Proposed Drainage
 - Drop Structure
 - Piped Crossings
 - Relocated Power Line
 - 6 in Lidar Contours (Elev. 17.5' - 35.5')

Drawn by: WGL
Date: AUG 2019
Scale: 1:4000
Project No.: 19-001.06

FIGURE
5



February 12th, 2020

Ronald Renaldi, District Manager
North Carolina DENR - Division of Coastal Management
401 S. Griffin Street, Suite 300
Elizabeth City, NC 27909

Re: Pierce Terrace Wetland Mitigation Site, Gates County, NC

Mr. Renaldi,

Restoration Systems, LLC (RS), of Raleigh, NC has been awarded a contract by DMS to provide 105 Wetland Mitigation Units at the Pierce Terrace Wetland Mitigation Site in Gates County, North Carolina.

One of the earliest tasks to be performed by RS is completion of an environmental screening and preparation/submittal of a Categorical Exclusion (CE) document. This document is specifically required by the Federal Highway Administration (FHWA) to ensure compliance with various federal environmental laws and regulations. DMS must demonstrate that its projects comply with federal mandates as a precondition to FHWA reimbursement of compensatory mitigation costs borne by the North Carolina Department of Transportation to offset its projects' unavoidable impacts to streams and wetlands.

In order for the project to proceed, RS is obligated to coordinate with your office to determine if our proposal will involve any Areas of Environmental Concern (AECs). This letter provides you with certain details of the Pierce Terrace Non-Riparian Wetland Mitigation Site, including the project's location, a general description of its physiography, hydrography and existing land uses, as well as the intended modifications to the site proposed by RS. We request your review of the details provided and make a determination of whether CAMA jurisdiction will be taken on any portion of the proposed site.

Project Location & Description

The Site is characterized by agricultural fields utilized for row crop production. All Site hydrology drains through a ditch network to Bennett's Creek and Lassiter Swamp. The Site is entirely encompassed within agricultural fields that have been ditched/drained, cleared of vegetation, and are maintained for row crop production. The proposed conservation easement area is approximately 127.5 acres in size.

The Site is located approximately 2 miles west of Sunbury, 5 miles northeast of Gatesville, and immediately east of Merchant Millpond State Park. Intensive agricultural practices exist across the entire Site. Agricultural fields within and adjacent to the Site are subject to routine fertilizer and herbicide applications including poultry litter. Site ditches are excavated on an annual basis to remove sediment loss from agricultural practices as the result of traditional plowing methods and fields left fallow outside of the growing season. All native vegetation and woody material has been removed from the Site. In general, all wetland functions associated with hydrology, water quality, and habitat have been removed.

Adjacent land management activities include silviculture and agriculture practices. These areas include

lateral ditching, shallow surface drains, subsurface drains, and planting beds to rapidly remove surface and subsurface water from these poorly drained soils which contribute nutrient, sediment, and fecal coliform into Merchant Millpond State Park.

Restoration Means & Methods

Alternatives for wetland re-establishment are designed to restore a fully functioning wetland system, which will provide surface water storage, nutrient cycling, removal of imported elements and compounds, and will create a variety and abundance of wildlife habitat.

Portions of the Site underlain by hydric soils have been impacted by ditching, vegetative clearing, agriculture plowing, and other land disturbances associated with land use management. Wetland re-establishment options will focus on the restoration of vegetative communities and historic groundwater tables, and the reestablishment of soil structure and microtopographic variations. In addition, the construction of (or provisions for) surface water storage depressions (ephemeral pools) will also add an important component to groundwater restoration activities. Large woody debris/material will also be added to the Site to facilitate habitat development and provide a carbon source for development of wetland functions. These activities will result in the re-establishment of approximately 105 acres of jurisdictional non-riparian wetlands.

A key aspect of this wetland restoration project involves maintaining suitable, arable farmland outside the conservation easement. Landowner requirements include leaving drainage features outside the easement and upgrading two ditches leading away from the Site to keep the adjacent farmland suitable for agriculture. This will require connecting a ditch north of the Site through a culverted agriculture road crossing and directing surface water away from the Site towards the north. A second ditch running parallel to an entrance road will be cleaned, potentially deepened, and stabilized. These improvements/actions will result in a long-term balance between achievement of Site goals/objectives and maintaining adjacent land uses.

To maintain adjacent agriculture operations, several surface swales are proposed to direct Site hydrology to the offsite ditch network. Surface swales are expected to be approximately 0.5 ft in depth and are proposed to be disconnected draws that direct water away from agriculture fields towards drainage features. If necessary, drop structures may be used to hinder headcut development through the Site. Drop structures will be constructed of woody debris, rock or marl, and or natural fiber matting. Drop structures are not proposed to be constructed within the boundaries of the wetland restoration area and will not be included in mitigation crediting areas.

Bare-root seedlings will be planted at a density of approximately 680 stems per acre on 8-foot centers. Planting will be performed between November 15 and March 15 to allow plants to stabilize during the dormant period and set root during the spring season. Potential species planted within the Site may include the following.

Should you have any questions or if any additional information is needed to complete the Form, please feel free to contact me at the office 919.274.2419. Your valuable time and cooperation are much appreciated.

Sincerely,



RESTORATION SYSTEMS, LLC

Alex Baldwin
Project Manager
abaldwin@restorationsystems.com
919-274-2419

Attachments- Location and Condition Maps

Alex Baldwin

From: Cynthia Rountree <cynthia.rountree@ncdenr.gov>
Sent: Friday, February 14, 2020 08:59 AM
To: Alex Baldwin
Cc: Renaldi, Ronald
Subject: RE: [External] Request for Review of Proposed Mitigation Project

Mr. Baldwin,

After reviewing your proposal it appears that this project will remain outside of CAMA's jurisdiction. Should you have any further questions please let me know.

Sincerely,
Cynthia

Cynthia Rountree

Environmental Specialist II
401 S. Griffin St., Suite 300
Elizabeth City, NC 27909
(252)264-3901 ext. 234
cynthia.rountree@ncdenr.gov

From: Renaldi, Ronald
Sent: Friday, February 14, 2020 8:33 AM
To: Cynthia Rountree <cynthia.rountree@ncdenr.gov>
Subject: FW: [External] Request for Review of Proposed Mitigation Project

Please review and respond (cc me)

Ron Renaldi
District Manager, Northeastern District
NC Division of Coastal Management
NC Department of Environmental Quality

Ronald.Renaldi@ncdenr.gov
(252)264-3901

401 S. Griffin St., Ste 300
Elizabeth City, NC 27909



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Pierce Terrace Mitigation Site

149 Silver Springs Rd
Sunbury, NC 27979

Inquiry Number: 5969561.2s
February 12, 2020

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

<u>SECTION</u>	<u>PAGE</u>
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	9
Government Records Searched/Data Currency Tracking	GR-1
 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	PSGR-1

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

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

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

149 SILVER SPRINGS RD
SUNBURY, NC 27979

COORDINATES

Latitude (North): 36.4315000 - 36° 25' 53.40"
Longitude (West): 76.6498940 - 76° 38' 59.61"
Universal Transverse Mercator: Zone 18
UTM X (Meters): 352103.6
UTM Y (Meters): 4032873.0
Elevation: 35 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5946181 MERCHANTS MILLPOND, NC
Version Date: 2013

East Map: 5946185 SUNBURY, NC
Version Date: 2013

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20141005
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
149 SILVER SPRINGS RD
SUNBURY, NC 27979

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	HOFLER WETLAND MITIG	SILVER SPRING RD	NPDES	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

EXECUTIVE SUMMARY

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

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
OLI..... Old Landfill Inventory
DEBRIS..... Solid Waste Active Disaster Debris Sites Listing
LCID..... Land-Clearing and Inert Debris (LCID) Landfill Notifications

State and tribal leaking storage tank lists

LUST..... Regional UST Database
LAST..... Leaking Aboveground Storage Tanks
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
DEBRIS REGION 9.....	Torres Martinez Reservation Illegal Dump Site Locations
ODI.....	Open Dump Inventory
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

EXECUTIVE SUMMARY

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
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
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
UIC	Underground Injection Wells Listing
AOP	Animal Operation Permits Listing
MINES MRDS	Mineral Resources Data System
PCSRP	Petroleum-Contaminated Soil Remediation Permits
CCB	Coal Ash Structural Fills (CCB) Listing
SEPT HAULERS	Permitted Septage Haulers Listing

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

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

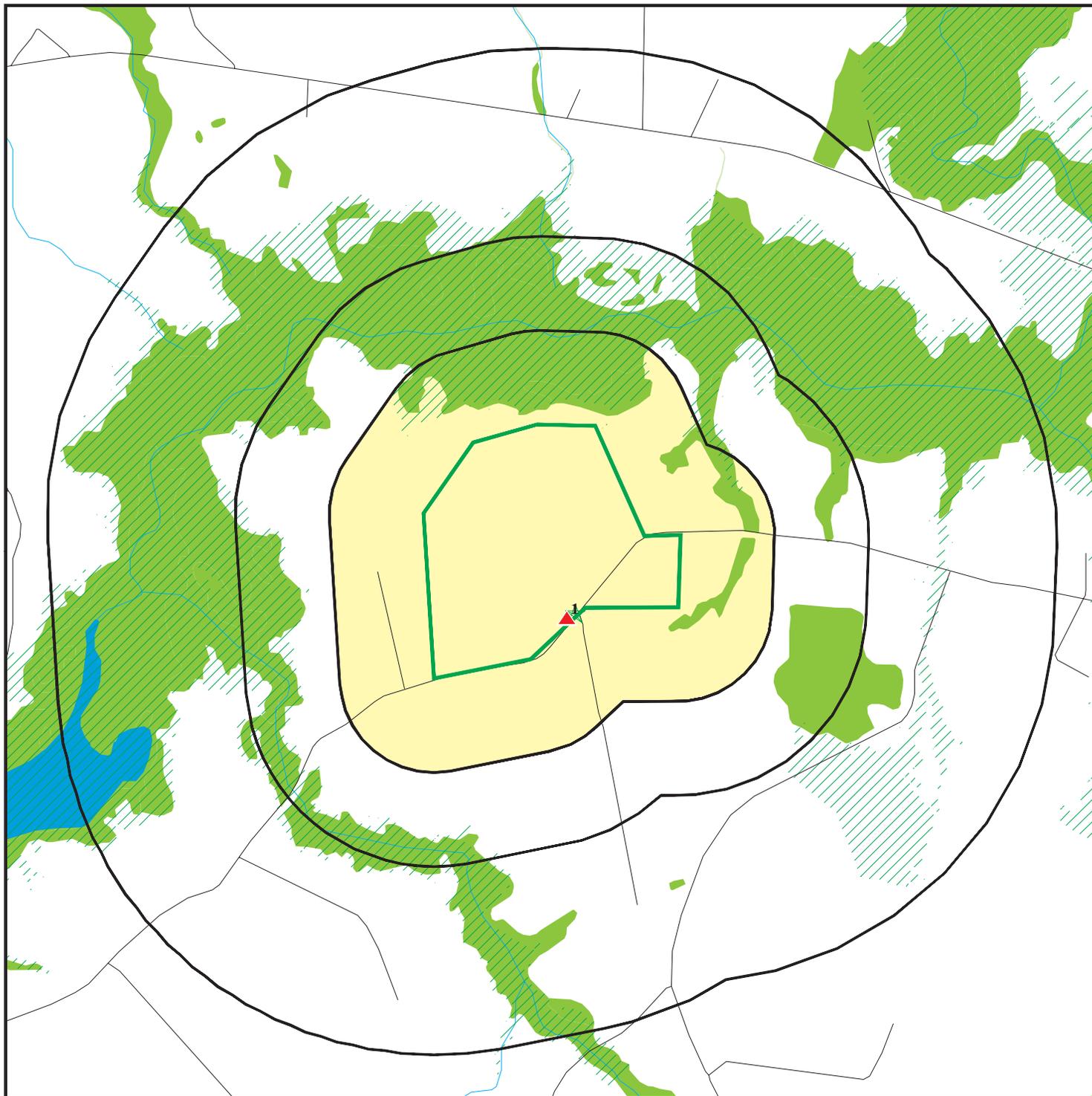
A review of the NPDES list, as provided by EDR, and dated 09/06/2019 has revealed that there is 1 NPDES site within approximately 0.001 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HOFLEW WETLAND MITIG Permit Number: SW7140707	SILVER SPRING RD	0 - 1/8 (0.000 mi.)	1	8

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5969561.2S



Target Property

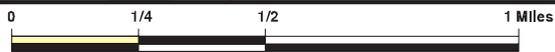
Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites



Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Hazardous Substance Disposal Sites

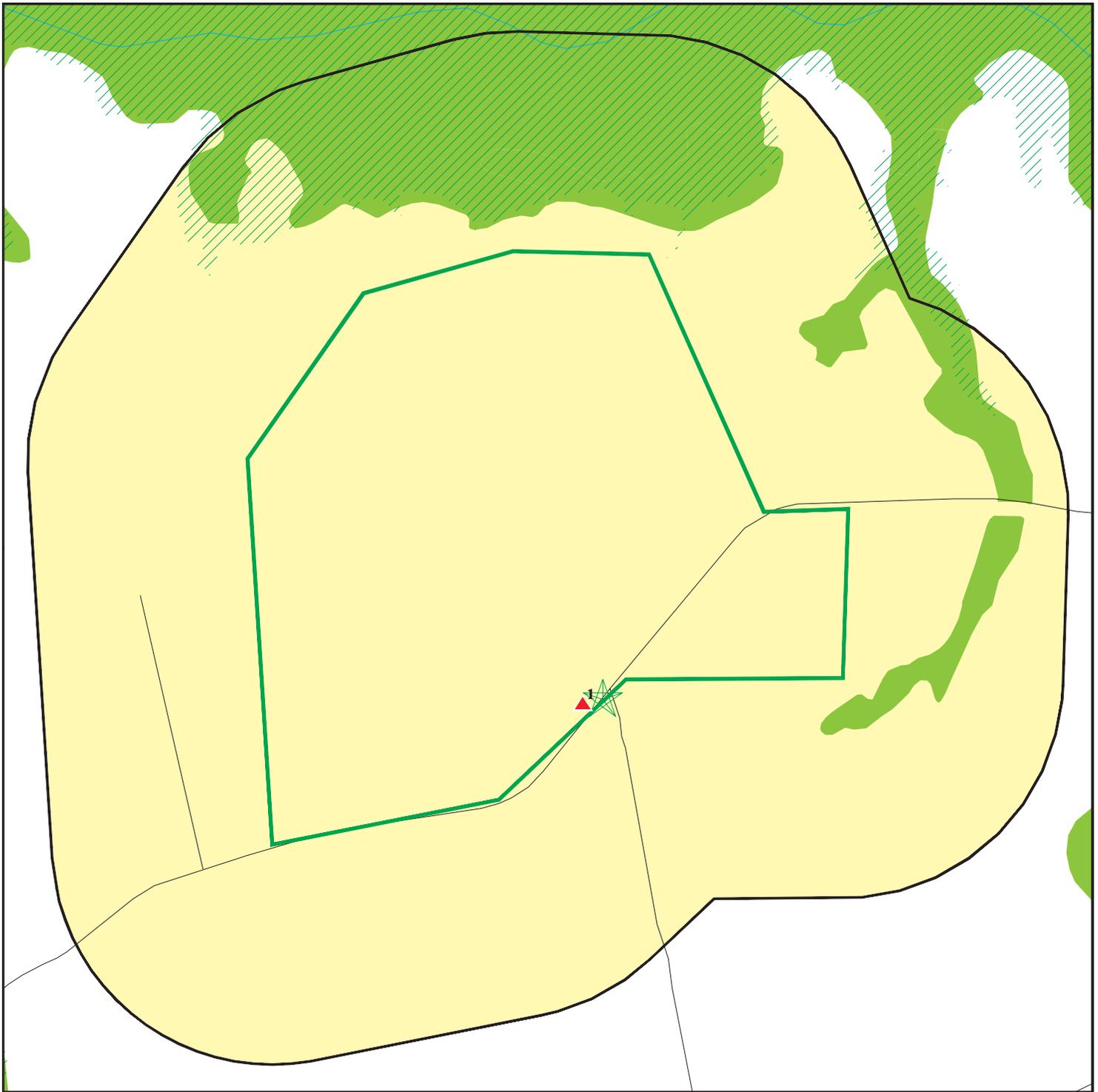


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Pierce Terrace Mitigation Site
 ADDRESS: 149 Silver Springs Rd
 Sunbury NC 27979
 LAT/LONG: 36.4315 / 76.649894

CLIENT: Restoration Systems, LLC
 CONTACT: Alex Baldwin
 INQUIRY #: 5969561.2s
 DATE: February 12, 2020 2:05 pm

DETAIL MAP - 5969561.2S



-  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



-  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: Pierce Terrace Mitigation Site
 ADDRESS: 149 Silver Springs Rd
 Sunbury NC 27979
 LAT/LONG: 36.4315 / 76.649894

CLIENT: Restoration Systems, LLC
 CONTACT: Alex Baldwin
 INQUIRY #: 5969561.2s
 DATE: February 12, 2020 2:07 pm

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								
<i>Federal NPL site list</i>								
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
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
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
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
NC HSDS	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
OLI	0.500		0	0	0	NR	NR	0
DEBRIS	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
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	0	NR	NR	0
LAST	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
<i>State and tribal registered storage tank lists</i>								
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
<i>State and tribal institutional control / engineering control registries</i>								
INST CONTROL	0.500		0	0	0	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
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
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS 2	0.001		0	NR	NR	NR	NR	0
<i>Records of Emergency Release Reports</i>								
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
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	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		1	NR	NR	NR	NR	1
UIC	0.001		0	NR	NR	NR	NR	0
AOP	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
PCSRP	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
CCB	0.500		0	0	0	NR	NR	0
SEPT HAULERS	0.001		0	NR	NR	NR	NR	0
<u>EDR HIGH RISK HISTORICAL RECORDS</u>								
<i>EDR Exclusive Records</i>								
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
<u>EDR RECOVERED GOVERNMENT ARCHIVES</u>								
<i>Exclusive Recovered Govt. Archives</i>								
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	1	0	0	0	0	1

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

1 **HOFLER WETLAND MITIGATION PROJECT**
 SILVER SPRING RD
 SUNBURY, NC

< 1/8
1 ft.

NPDES **S117923551**
 N/A

Relative:
Higher

Actual:
35 ft.

NPDES:

Name: HOFLER WETLAND MITIGATION PROJECT
Address: SILVER SPRING RD
City,State,Zip: SUNBURY, NC
Permit Number: SW7140707
Permit Status: Active
Permit Type: State Stormwater
Issue Date: 08/11/2014
Region: Washington
Owner Name: Not reported
Class: Not reported
Applied: Not reported
Drafted: Not reported
Expires: Not reported
Subbasin: Not reported
Receiving Stream: Not reported
Comments: Not reported
As-Built Flow (GPD): Not reported
Domestic %: Not reported
Industrial %: Not reported
stormwtr %: Not reported
Permitted Flow (GPD): Not reported
Program Category: Not reported
Project Type: Not reported
Is Major Permit: Not reported
Date Assigned: Not reported
Organization Name: Not reported
Outfall: Not reported
Discharge Via: Not reported
Stream Classification: Not reported
Regulated Activity: State Stormwater - Exempted
Owner Type: Not reported
Effective Date: 08/11/2014
Basin Name: Not reported

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: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 02/05/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	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 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

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: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 02/05/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: EPA
Telephone: N/A
Last EDR Contact: 02/05/2020
Next Scheduled EDR Contact: 04/13/2020
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: 04/05/2019
Next Scheduled EDR Contact: 04/13/2020
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 known 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: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/21/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/05/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 800-424-9346
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 02/05/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/27/2020
	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: 12/16/2019	Source: EPA
Date Data Arrived at EDR: 12/16/2019	Telephone: 800-424-9346
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	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: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	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: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	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: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	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: 11/04/2019	Source: Department of the Navy
Date Data Arrived at EDR: 11/13/2019	Telephone: 843-820-7326
Date Made Active in Reports: 01/28/2020	Last EDR Contact: 02/10/2020
Number of Days to Update: 76	Next Scheduled EDR Contact: 05/25/2020
	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: 11/22/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/22/2019	Telephone: 703-603-0695
Date Made Active in Reports: 01/28/2020	Last EDR Contact: 11/22/2019
Number of Days to Update: 67	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

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: 11/22/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/22/2019	Telephone: 703-603-0695
Date Made Active in Reports: 01/28/2020	Last EDR Contact: 11/22/2019
Number of Days to Update: 67	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/19/2019
Next Scheduled EDR Contact: 04/06/2020
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: 01/21/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Biennially

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: 08/26/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 11/18/2019
Number of Days to Update: 69

Source: Department of Environment, Health and Natural Resources
Telephone: 919-508-8400
Last EDR Contact: 12/11/2019
Next Scheduled EDR Contact: 03/23/2020
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: 05/23/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/11/2019
Number of Days to Update: 77

Source: Department of Environment and Natural Resources
Telephone: 919-733-0692
Last EDR Contact: 12/19/2019
Next Scheduled EDR Contact: 04/06/2020
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: 08/28/2019
Date Data Arrived at EDR: 09/16/2019
Date Made Active in Reports: 11/19/2019
Number of Days to Update: 64

Source: Department of Environmental Quality
Telephone: 919-707-8247
Last EDR Contact: 12/20/2019
Next Scheduled EDR Contact: 03/30/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 08/22/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/19/2019
Number of Days to Update: 69

Source: Department of Environment & Natural Resources
Telephone: 919-733-4996
Last EDR Contact: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
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: 09/06/2018
Date Data Arrived at EDR: 01/09/2019
Date Made Active in Reports: 03/25/2019
Number of Days to Update: 75

Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
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: 11/01/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 70

Source: Department of Environment & Natural Resources
Telephone: 877-623-6748
Last EDR Contact: 02/04/2020
Next Scheduled EDR Contact: 05/18/2020
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: 11/01/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 70

Source: Department of Environment and Natural Resources
Telephone: 919-707-8200
Last EDR Contact: 02/04/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/15/2019
Date Data Arrived at EDR: 12/17/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 05/04/2020
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: 10/10/2019
Date Data Arrived at EDR: 12/05/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 67

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6271
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	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: 10/11/2019	Source: EPA Region 10
Date Data Arrived at EDR: 12/04/2019	Telephone: 206-553-2857
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 04/08/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3372
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	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: 10/01/2019	Source: EPA Region 1
Date Data Arrived at EDR: 12/04/2019	Telephone: 617-918-1313
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 10/02/2019	Source: EPA Region 6
Date Data Arrived at EDR: 12/04/2019	Telephone: 214-665-6597
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

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: 10/01/2019	Source: EPA, Region 5
Date Data Arrived at EDR: 12/04/2019	Telephone: 312-886-7439
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 10/04/2019	Source: Department of Environment and Natural Resources
Date Data Arrived at EDR: 10/08/2019	Telephone: 919-733-1315
Date Made Active in Reports: 12/18/2019	Last EDR Contact: 01/08/2020
Number of Days to Update: 71	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 08/27/2019	Source: FEMA
Date Data Arrived at EDR: 08/28/2019	Telephone: 202-646-5797
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/21/2020
Number of Days to Update: 75	Next Scheduled EDR Contact: 04/20/2020
	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: 11/01/2019	Source: Department of Environment and Natural Resources
Date Data Arrived at EDR: 11/06/2019	Telephone: 919-733-1308
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 02/04/2020
Number of Days to Update: 70	Next Scheduled EDR Contact: 05/18/2020
	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: 06/04/2019	Source: Department of Environment and Natural Resources
Date Data Arrived at EDR: 06/20/2019	Telephone: 919-715-6183
Date Made Active in Reports: 08/27/2019	Last EDR Contact: 12/12/2019
Number of Days to Update: 68	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Semi-Annually

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: 10/11/2019	Source: EPA Region 7
Date Data Arrived at EDR: 12/04/2019	Telephone: 913-551-7003
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 10/02/2019	Source: EPA Region 6
Date Data Arrived at EDR: 12/04/2019	Telephone: 214-665-7591
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 10/01/2019	Source: EPA Region 5
Date Data Arrived at EDR: 12/04/2019	Telephone: 312-886-6136
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 10/10/2019	Source: EPA Region 4
Date Data Arrived at EDR: 12/05/2019	Telephone: 404-562-9424
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 67	Next Scheduled EDR Contact: 05/04/2020
	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: 04/08/2019	Source: EPA Region 9
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3368
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	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: 10/01/2019	Source: EPA, Region 1
Date Data Arrived at EDR: 12/04/2019	Telephone: 617-918-1313
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 10/11/2019	Source: EPA Region 10
Date Data Arrived at EDR: 12/04/2019	Telephone: 206-553-2857
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/04/2020
	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: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	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: 08/23/2019	Source: Department of Environmental Quality
Date Data Arrived at EDR: 09/10/2019	Telephone: 919-508-8400
Date Made Active in Reports: 11/18/2019	Last EDR Contact: 12/11/2019
Number of Days to Update: 69	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

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

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	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 12/17/2019
Number of Days to Update: 142	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Varies

VCP: Responsible Party Voluntary Action Sites

Responsible Party Voluntary Action site locations.

Date of Government Version: 08/26/2019	Source: Department of Environment and Natural Resources
Date Data Arrived at EDR: 09/10/2019	Telephone: 919-508-8400
Date Made Active in Reports: 11/18/2019	Last EDR Contact: 12/11/2019
Number of Days to Update: 69	Next Scheduled EDR Contact: 03/23/2020
	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 liability control.

Date of Government Version: 09/03/2019	Source: Department of Environment and Natural Resources
Date Data Arrived at EDR: 10/01/2019	Telephone: 919-733-4996
Date Made Active in Reports: 12/05/2019	Last EDR Contact: 01/02/2020
Number of Days to Update: 65	Next Scheduled EDR Contact: 04/13/2020
	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: 06/03/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/04/2019	Telephone: 202-566-2777
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Center Listing

A listing of recycling center locations.

Date of Government Version: 08/21/2019
Date Data Arrived at EDR: 08/23/2019
Date Made Active in Reports: 10/10/2019
Number of Days to Update: 48

Source: Department of Environment & Natural Resources
Telephone: 919-707-8137
Last EDR Contact: 01/27/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

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

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: 01/27/2020
Next Scheduled EDR Contact: 05/11/2020
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: 01/17/2020
Next Scheduled EDR Contact: 05/04/2020
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 Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
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: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
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: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 02/05/2020
Next Scheduled EDR Contact: 04/13/2020
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: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/06/2019
Next Scheduled EDR Contact: 04/06/2020
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: 09/09/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 11/18/2019
Number of Days to Update: 69

Source: Department of Environment & Natural Resources
Telephone: 919-807-6308
Last EDR Contact: 01/06/2020
Next Scheduled EDR Contact: 03/23/2020
Data Release Frequency: Quarterly

IMD: Incident Management Database

Groundwater and/or soil contamination incidents

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/21/2006
Date Data Arrived at EDR: 08/01/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 22

Source: Department of Environment and Natural Resources
Telephone: 877-623-6748
Last EDR Contact: 02/04/2020
Next Scheduled EDR Contact: 05/18/2020
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: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 04/06/2020
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: 11/12/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 70

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/19/2019
Next Scheduled EDR Contact: 03/02/2020
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: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 01/09/2020
Number of Days to Update: 574	Next Scheduled EDR Contact: 04/20/2020
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 12/02/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/24/2020
	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: 09/23/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/24/2019	Telephone: 202-566-1917
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/19/2019
Number of Days to Update: 87	Next Scheduled EDR Contact: 04/06/2020
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 02/03/2020
Number of Days to Update: 88	Next Scheduled EDR Contact: 05/18/2020
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 02/07/2020
Number of Days to Update: 73	Next Scheduled EDR Contact: 05/18/2020
	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	Source: EPA
Date Data Arrived at EDR: 06/21/2017	Telephone: 202-260-5521
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 12/20/2019
Number of Days to Update: 198	Next Scheduled EDR Contact: 03/30/2020
	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: 12/31/2017	Source: EPA
Date Data Arrived at EDR: 11/16/2018	Telephone: 202-566-0250
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 02/05/2020
Number of Days to Update: 370	Next Scheduled EDR Contact: 03/02/2020
	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: 05/01/2019	Source: EPA
Date Data Arrived at EDR: 10/23/2019	Telephone: 202-564-4203
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/04/2020
	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: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 703-416-0223
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 02/05/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Annually

RMP: Risk Management Plans

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/02/2019	Telephone: 202-564-8600
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 01/21/2020
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/04/2020
	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	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	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: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 202-564-6023
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 02/06/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 05/18/2020
	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	Source: EPA
Date Data Arrived at EDR: 10/11/2019	Telephone: 202-566-0500
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 01/10/2020
Number of Days to Update: 70	Next Scheduled EDR Contact: 04/20/2020
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/06/2020
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 10/25/2019
Date Data Arrived at EDR: 10/25/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 82

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/21/2020
Next Scheduled EDR Contact: 05/04/2020
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: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/04/2019
Next Scheduled EDR Contact: 03/16/2020
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: 11/25/2019
Next Scheduled EDR Contact: 03/16/2020
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: 02/07/2020
Next Scheduled EDR Contact: 05/18/2020
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 12/20/2019
Next Scheduled EDR Contact: 04/13/2020
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 Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 10/29/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 78

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
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: 09/30/2019
Date Data Arrived at EDR: 10/09/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 72

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/06/2020
Next Scheduled EDR Contact: 04/20/2020
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: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: USGS
Date Data Arrived at EDR: 07/14/2015	Telephone: 202-208-3710
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 01/07/2020
Number of Days to Update: 546	Next Scheduled EDR Contact: 04/20/2020
	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	Source: Department of Energy
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-586-3559
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 01/31/2020
Number of Days to Update: 3	Next Scheduled EDR Contact: 05/18/2020
	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	Source: Department of Energy
Date Data Arrived at EDR: 11/15/2019	Telephone: 505-845-0011
Date Made Active in Reports: 01/28/2020	Last EDR Contact: 11/15/2019
Number of Days to Update: 74	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/07/2019	Telephone: 703-603-8787
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 02/05/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	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 1931 and 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	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 12/03/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 12/02/2019
Next Scheduled EDR Contact: 03/16/2020
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: 11/06/2019
Date Data Arrived at EDR: 11/25/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 64

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/25/2019
Next Scheduled EDR Contact: 03/09/2020
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: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
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: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/10/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 37

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/04/2019
Next Scheduled EDR Contact: 03/23/2020
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: 08/12/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 12/03/2019
Number of Days to Update: 90

Source: EPA
Telephone: (404) 562-9900
Last EDR Contact: 12/04/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

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

Date of Government Version: 10/06/2019
Date Data Arrived at EDR: 10/08/2019
Date Made Active in Reports: 01/02/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/07/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

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

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/13/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Varies

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: 11/18/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 70

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/19/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Quarterly

AIRS: Air Quality Permit Listing

A listing of facilities with air quality permits.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 11/18/2019
Number of Days to Update: 69

Source: Department of Environmental Quality
Telephone: 919-707-8726
Last EDR Contact: 12/11/2019
Next Scheduled EDR Contact: 03/23/2020
Data Release Frequency: Varies

ASBESTOS: ASBESTOS

Asbestos notification sites

Date of Government Version: 09/30/2019
Date Data Arrived at EDR: 10/07/2019
Date Made Active in Reports: 12/16/2019
Number of Days to Update: 70

Source: Department of Health & Human Services
Telephone: 919-707-5973
Last EDR Contact: 02/03/2020
Next Scheduled EDR Contact: 05/04/2020
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: 06/25/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 09/13/2019
Number of Days to Update: 77

Source: Department of Environment & Natural Resources
Telephone: 919-807-6359
Last EDR Contact: 01/08/2020
Next Scheduled EDR Contact: 04/06/2020
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: 06/20/2019
Date Data Arrived at EDR: 09/16/2019
Date Made Active in Reports: 11/19/2019
Number of Days to Update: 64

Source: Department of Environment & Natural Resources
Telephone: 919-508-8400
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 03/30/2020
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: 11/01/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 70

Source: Department of Environment & Natural Resources
Telephone: 919-733-1322
Last EDR Contact: 02/04/2020
Next Scheduled EDR Contact: 05/18/2020
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 Environment & Natural Resources
Telephone: 919-508-8496
Last EDR Contact: 12/17/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information

Hazardous waste financial assurance information.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/18/2019
Date Made Active in Reports: 08/27/2019
Number of Days to Update: 70

Source: Department of Environment & Natural Resources
Telephone: 919-707-8222
Last EDR Contact: 12/05/2019
Next Scheduled EDR Contact: 03/23/2020
Data Release Frequency: Varies

NPDES: NPDES Facility Location Listing

General information regarding NPDES(National Pollutant Discharge Elimination System) permits.

Date of Government Version: 09/06/2019
Date Data Arrived at EDR: 10/30/2019
Date Made Active in Reports: 01/07/2020
Number of Days to Update: 69

Source: Department of Environment & Natural Resources
Telephone: 919-733-7015
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

UIC: Underground Injection Wells Listing

A listing of uncerground injection wells locations.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 02/05/2020
Number of Days to Update: 64

Source: Department of Environment & Natural Resources
Telephone: 919-807-6412
Last EDR Contact: 12/02/2019
Next Scheduled EDR Contact: 03/16/2020
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: 02/12/2019
Date Data Arrived at EDR: 03/15/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 62

Source: Department of Environmental Quality
Telephone: 919-707-9129
Last EDR Contact: 12/13/2019
Next Scheduled EDR Contact: 03/23/2020
Data Release Frequency: Varies

PCSRP: Petroleum-Contaminated Soil Remediation Permits

To treat petroleum-contaminated soil in order to protect North Carolina's environment and the health of the citizens of North Carolina.

Date of Government Version: 10/07/2019
Date Data Arrived at EDR: 10/08/2019
Date Made Active in Reports: 12/18/2019
Number of Days to Update: 71

Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/08/2020
Next Scheduled EDR Contact: 04/20/2020
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: 04/08/2019
Date Data Arrived at EDR: 10/08/2019
Date Made Active in Reports: 12/18/2019
Number of Days to Update: 71

Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
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: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CCB: Coal Ash Structural Fills (CCB) Listing

These are not permitted Coal Ash landfills A list 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: 09/06/2018
Date Data Arrived at EDR: 01/09/2019
Date Made Active in Reports: 03/25/2019
Number of Days to Update: 75

Source: Department of Environmental Quality
Telephone: 919-707-8248
Last EDR Contact: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: Department of Environment, Health and Natural Resources
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/24/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 176	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	Source: Department of Environment, Health and Natural Resources
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/13/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 196	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	Source: Department of Environment, Health and Natural Resources
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/20/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 172	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: 05/14/2019	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 12/05/2019	Telephone: 860-424-3375
Date Made Active in Reports: 02/03/2020	Last EDR Contact: 01/30/2020
Number of Days to Update: 60	Next Scheduled EDR Contact: 05/25/2020
	Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 01/06/2020
Next Scheduled EDR Contact: 04/20/2020
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: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/11/2020
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: 01/14/2020
Next Scheduled EDR Contact: 04/07/2020
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: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
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: 12/18/2019
Next Scheduled EDR Contact: 03/23/2020
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

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.

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PIERCE TERRACE MITIGATION SITE
149 SILVER SPRINGS RD
SUNBURY, NC 27979

TARGET PROPERTY COORDINATES

Latitude (North):	36.4315 - 36° 25' 53.40"
Longitude (West):	76.649894 - 76° 38' 59.62"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	352103.6
UTM Y (Meters):	4032873.0
Elevation:	35 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5946181 MERCHANTS MILLPOND, NC
Version Date:	2013
East Map:	5946185 SUNBURY, 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).

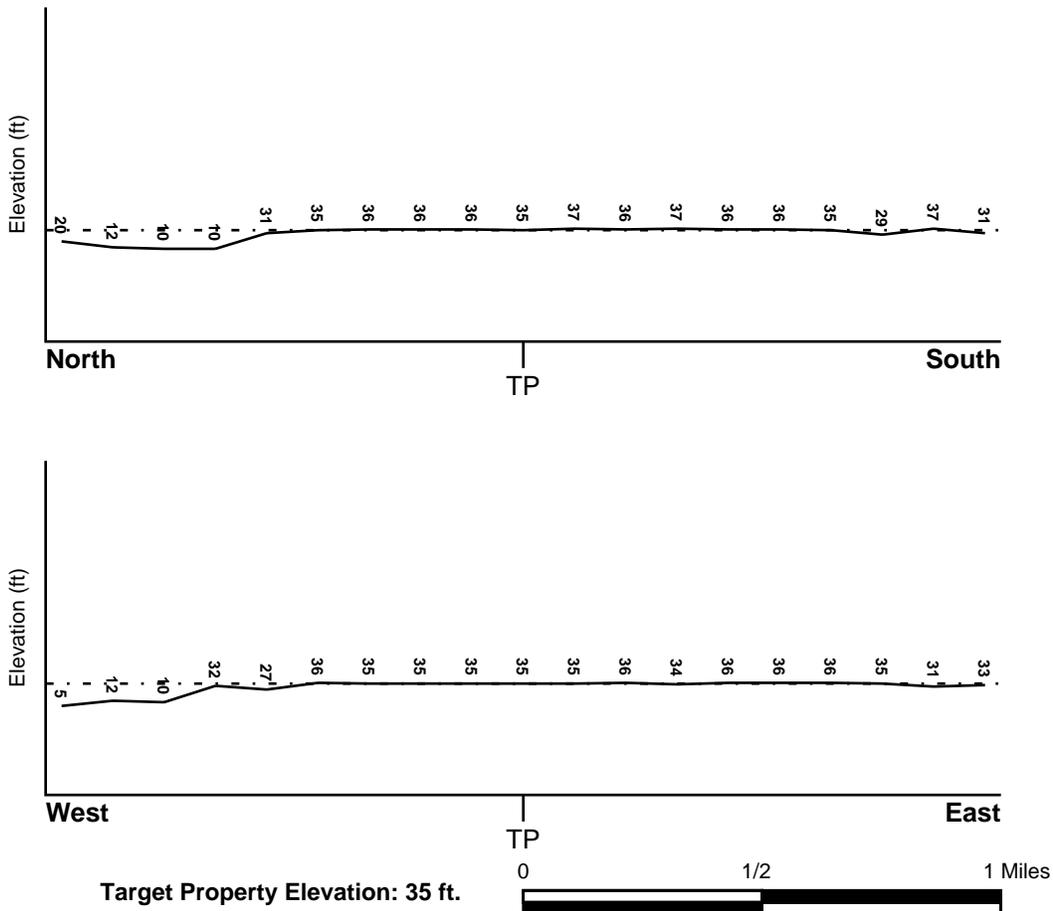
TOPOGRAPHIC INFORMATION

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 North

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

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
3720699800J	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
3720698800J	FEMA FIRM Flood data
3720698600J	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
MERCHANTS MILLPOND	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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
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: Cenozoic
System: Tertiary
Series: Miocene
Code: Tm (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: ROANOKE

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly. Soils may have a saturated zone, a layer of low hydraulic conductivity, or seepage. Depth to water table is less than 1 foot.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	fine sandy loam	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: 6.00 Min: 2.00	Max: 5.50 Min: 3.60
2	7 inches	12 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 20.00 Min: 0.00	Max: 5.50 Min: 3.60
3	12 inches	50 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.20 Min: 0.00	Max: 5.50 Min: 3.60
4	50 inches	72 inches	stratified	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 20.00 Min: 0.06	Max: 6.50 Min: 3.60

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: loamy sand

Surficial Soil Types: loamy sand

Shallow Soil Types: loam
fine sandy loam

Deeper Soil Types: fine sandy loam

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

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

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

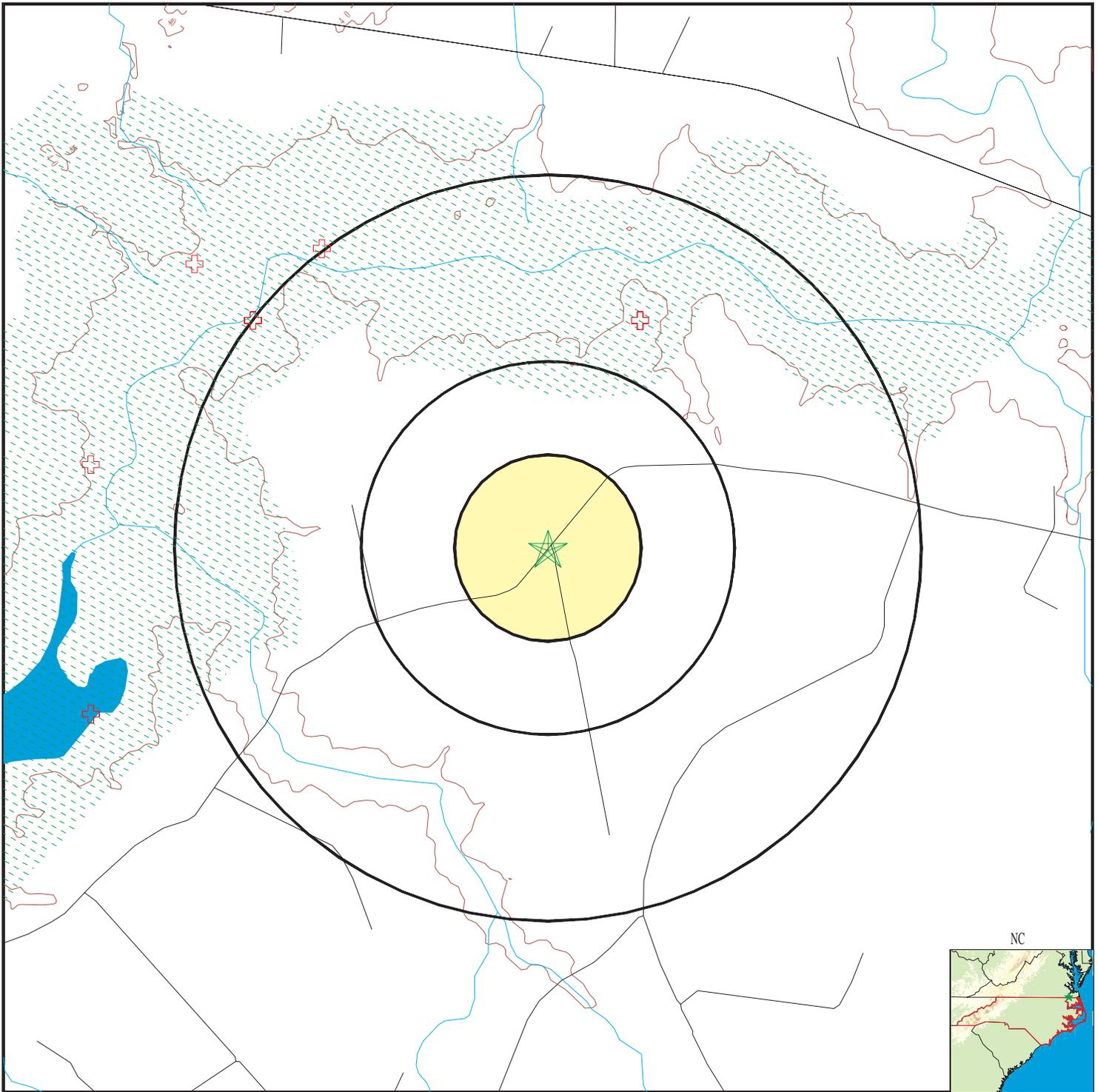
Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

OTHER STATE DATABASE INFORMATION

PHYSICAL SETTING SOURCE MAP - 5969561.2s



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

SITE NAME: Pierce Terrace Mitigation Site
 ADDRESS: 149 Silver Springs Rd
 Sunbury NC 27979
 LAT/LONG: 36.4315 / 76.649894

CLIENT: Restoration Systems, LLC
 CONTACT: Alex Baldwin
 INQUIRY #: 5969561.2s
 DATE: February 12, 2020 2:08 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

				NC_NHEO	NC50000486
Eclass:	C	Precision1:	M		
Eostat:	E	Gisid:	72108		
Edr id:	NC50000486				

				NC_NHEO	NC50000620
Eclass:	A	Precision1:	S		
Eostat:	E	Gisid:	152991		
Edr id:	NC50000620				

				NC_NHEO	NC50000621
Eclass:	P	Precision1:	M		
Eostat:	E	Gisid:	32210		
Edr id:	NC50000621				

				NC_NHEO	NC50010547
Eclass:	P	Precision1:	M		
Eostat:	E	Gisid:	21334		
Edr id:	NC50010547				

				NC_NHEO	NC50017011
Eclass:	P	Precision1:	S		
Eostat:	E	Gisid:	62005		
Edr id:	NC50017011				

				NC_NHEO	NC50017404
Eclass:	C	Precision1:	M		
Eostat:	E	Gisid:	61551		
Edr id:	NC50017404				

				NC_NHEO	NC50017826
Eclass:	A	Precision1:	S		
Eostat:	E	Gisid:	472036		
Edr id:	NC50017826				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

			NC_NHEO	NC50020074
Eclass:	A	Precision1:	S	
Eostat:	E	Gisid:	472036	
Edr id:	NC50020074			

			NC_NHEO	NC50022801
Eclass:	A	Precision1:	S	
Eostat:	E	Gisid:	152991	
Edr id:	NC50022801			

			NC_SNHA	NC10000069
Acres:	2229.58	Site name:	MERCHANTS MILLPOND STATE PARK	
Quality type:	Not Reported	Sig:	B	
Site id:	69	Edr id:	NC10000069	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for GATES County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

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 coverage identifying sites (terrestrial or aquatic) that have particular biodiversity significance.

A site's significance may be due to the presence of 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 Statistical 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

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.



November 15th, 2019

Renee Gledhill-Earley,
Environmental Review Coordinator
North Carolina State Historic Preservation Office
109 East Jones Street
Raleigh, NC 27699-4617
Sent electronically to Environmental.Review@ncdcr.gov

Re: Pierce Terrace Wetland Mitigation Project, Gates County, NC

Dear Renee,

The purpose of this letter is to request written concurrence from the State Historic Preservation Office (SHPO) for the Pierce Terrace Wetland Mitigation Project in Gates County, a Full-Delivery project for the N.C. Division of Mitigation Services. Please review and comment on any possible issues that might emerge with respect to SHPO from a potential stream restoration project depicted on the attached mapping.

Project Name: Pierce Terrace Wetland Mitigation Project
Project Location: 149 Silver Springs Rd. Sunbury, NC 27979
Project Contact: JD Hamby, Restoration Systems LLC, 1101 Haynes St. Suite 211,
Raleigh, NC 27604

Project Description: The project has been identified for the purpose of providing in-kind mitigation for unavoidable stream channel and wetland impacts. Permits from the NC DWR and USACE will be obtained to restore waters of the US. Soil and erosion control permits will also be obtained. The project encompasses 127.5 acres of drain hydric soils, currently used for row crops. Approximately 105 acres of non-riparian wetland will be restored.

The term “cultural resources” refers to prehistoric or historic archaeological sites, structures, or artifact deposits over 50 years old. “Significant” cultural resources are those that are eligible or potentially eligible for inclusion in the National Register of Historic Places. Evaluations of site significance are made with reference to the eligibility criteria of the National Register (36 CFR 60) and in consultation with the North Carolina State Historic Preservation Office (SHPO).

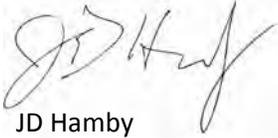
Field visits were conducted in August 2019 to conduct evaluations for presence of structures or features that may be eligible for the National Register of Historic Places. No structures were identified within the Site boundaries that may be eligible for the National Register. In addition to field reviews for historically relevant structures, a records search was conducted at the SHPO office to determine if documented occurrences of historic structures or artifacts occur within, or adjacent to the Site. The SHPO records identify no existing features within the Site boundaries and three features within a 1.0 mile radius of the

Site. They are the Lassiter-Nixon Farm (GA0218), Rountree-Wiggins Farm (GA0300), and the Jones-Hinton House (Gone) (GA0202).

Typical SHPO coordination will occur prior to construction activities to determine if any significant cultural resources are present; however, no constraints are expected at this time. We thank you in advance for your timely response and cooperation. Please feel free to contact me with any questions that you may have concerning the extent of site disturbance associated with this project.

Yours truly,

RESTORATION SYSTEMS, LLC

A handwritten signature in black ink, appearing to read "JD Hamby", is written over a light gray rectangular background.

JD Hamby

Project Manager

jhamby@restorationsystems.com

919-755-9490

Attachments – USGS Map, Existing Conditions



North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

December 27, 2019

JD Hamby
Restoration Systems, LLC
1101 Haynes Street, Suite 211
Raleigh, NC 27604

Re: Pierce Terrace Wetland Mitigation, 149 Silver Springs Road, Sunbury, Gates County, ER 19-5043

Dear Mr. Hamby:

Thank you for your letter of November 15, 2019, concerning the above project.

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,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

 Ramona Bartos, Deputy
State Historic Preservation Officer



December 9th, 2019

Ms. Helen Pierce
356 Silver Springs Road
Sunbury, NC 27979

Dear Ms. Pierce:

The purpose of this letter is to notify you that Restoration Systems, LLC, in offering to purchase your property in Columbus County, North Carolina, does not have the power to acquire it by eminent domain. Also, Restoration Systems' offer to purchase your property is based on what we believe to be its fair market.

If you have any questions, please feel free to call me at 919-274-2419.

Sincerely,

A handwritten signature in blue ink that reads 'Alex Baldwin' with a horizontal line extending to the right.

Alex Baldwin
Project Manager



December 9th, 2019

S&M Farms, LLC
539 NC 32 South
Sunbury, NC 27979

Dear S&M Farms:

The purpose of this letter is to notify you that Restoration Systems, LLC, in offering to purchase your property in Columbus County, North Carolina, does not have the power to acquire it by eminent domain. Also, Restoration Systems' offer to purchase your property is based on what we believe to be its fair market.

If you have any questions, please feel free to call me at 919-274-2419.

Sincerely,

A handwritten signature in blue ink that reads 'Alex Baldwin' with a horizontal line extending to the right.

Alex Baldwin
Project Manager



NCNHDE-9899

August 1, 2019

Allison Keith
Axiom Environmental
218 Snow Ave
Raleigh, NC 27603
RE: Pierce Terrace ; 19-001.06

Dear Allison Keith:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

A query of the NCNHP database indicates that there are records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. These results are presented in the attached 'Documented Occurrences' tables and map.

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 documented within the project area or 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.

Also please note that the NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Clean Water Management Trust Fund easement, or an occurrence of a Federally-listed species is 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 Intersecting the Project Area
Pierce Terrace
Project No. 19-001.06
August 1, 2019
NCNHDE-9899

No Element Occurrences are Documented within the Project Area

There are no documented element occurrences (of medium to very high accuracy) that intersect with the project area. Please note, however, that although the NCNHP database does not show records for rare species within the project area, it does not necessarily mean that they are not present; it may simply mean that the area has not been surveyed. The use of Natural Heritage Program data should not be substituted for actual field surveys if needed, particularly if the project area contains suitable habitat for rare species. If rare species are found, the NCNHP would appreciate receiving this information so that we may update our database.

No Natural Areas are Documented within the Project Area

Managed Areas Documented Within Project Area *

Managed Area Name	Owner	Owner Type
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State

*NOTE: If the proposed project intersects with a conservation/managed area, please contact the landowner directly for additional information. If the project intersects with a Dedicated Nature Preserve (DNP), Registered Natural Heritage Area (RHA), or Federally-listed species, NCNHP staff may provide additional correspondence regarding the project.

Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on August 1, 2019; source: NCNHP, Q3 Jul 2019. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Pierce Terrace
Project No. 19-001.06
August 1, 2019
NCNHDE-9899

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
Animal Assemblage	27477	Waterbird Colony	---	2012-03-30	C	3-Medium	---	---	GNR	S3
Butterfly	34494	Neonympha helicta	Helicta Satyr	1980-Pre	H	5-Very Low	---	Significantly Rare	G3G4	S1?
Butterfly	35164	Pontia protodice	Checkered White	1997-10-12	E	4-Low	---	Significantly Rare	G5	S1S2
Mammal	18577	Corynorhinus rafinesquii macrotis	Eastern Big-eared Bat	2016-05-18	E	3-Medium	---	Special Concern	G3G4T3	S3
Mammal	677	Myotis austroriparius	Southeastern Bat	2017-11-16	E	3-Medium	---	Special Concern	G4	S2
Mammal	36154	Perimyotis subflavus	Tricolored Bat	2003-03-09	E	3-Medium	---	Significantly Rare	G2G3	S3
Natural Community	525	Cypress--Gum Swamp (Intermediate Subtype)	---	2000	A	4-Low	---	---	G4	S3S4
Natural Community	18129	Mesic Mixed Hardwood Forest (Coastal Plain Subtype)	---	2006-07	C	4-Low	---	---	G3	S3
Reptile	22193	Alligator mississippiensis	American Alligator	2018-04-28	E	3-Medium	Threatened Similar Appearance	Threatened	G5	S3
Vascular Plant	22286	Gratiola aurea	Golden Hedge-hyssop	1935-07-05	H	4-Low	---	Special Concern Vulnerable	G5	S1
Vascular Plant	28649	Hottonia inflata	Featherfoil	2008-04-15	E	2-High	---	Significantly Rare Other	G4	S1?
Vascular Plant	16050	Ludwigia brevipes	Long Beach Seedbox	1980-09-26	H	4-Low	---	Significantly Rare Throughout	G2	S1

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
Vascular Plant	35166	Pycnanthemum setosum	AwneD Mountain-mint	2006-06-20	E	4-Low	---	Significantly Rare Throughout	G4	S2
Vascular Plant	11042	Ranunculus flabellaris	Yellow Water-crowfoot	1979-04-12	H	3-Medium	---	Special Concern Historical	G5	S1
Vascular Plant	17705	Trillium pusillum var. virginianum	Virginia Least Trillium	2014-04-01	B	3-Medium	---	Endangered	G3T2	S1

Natural Areas Documented Within a One-mile Radius of the Project Area

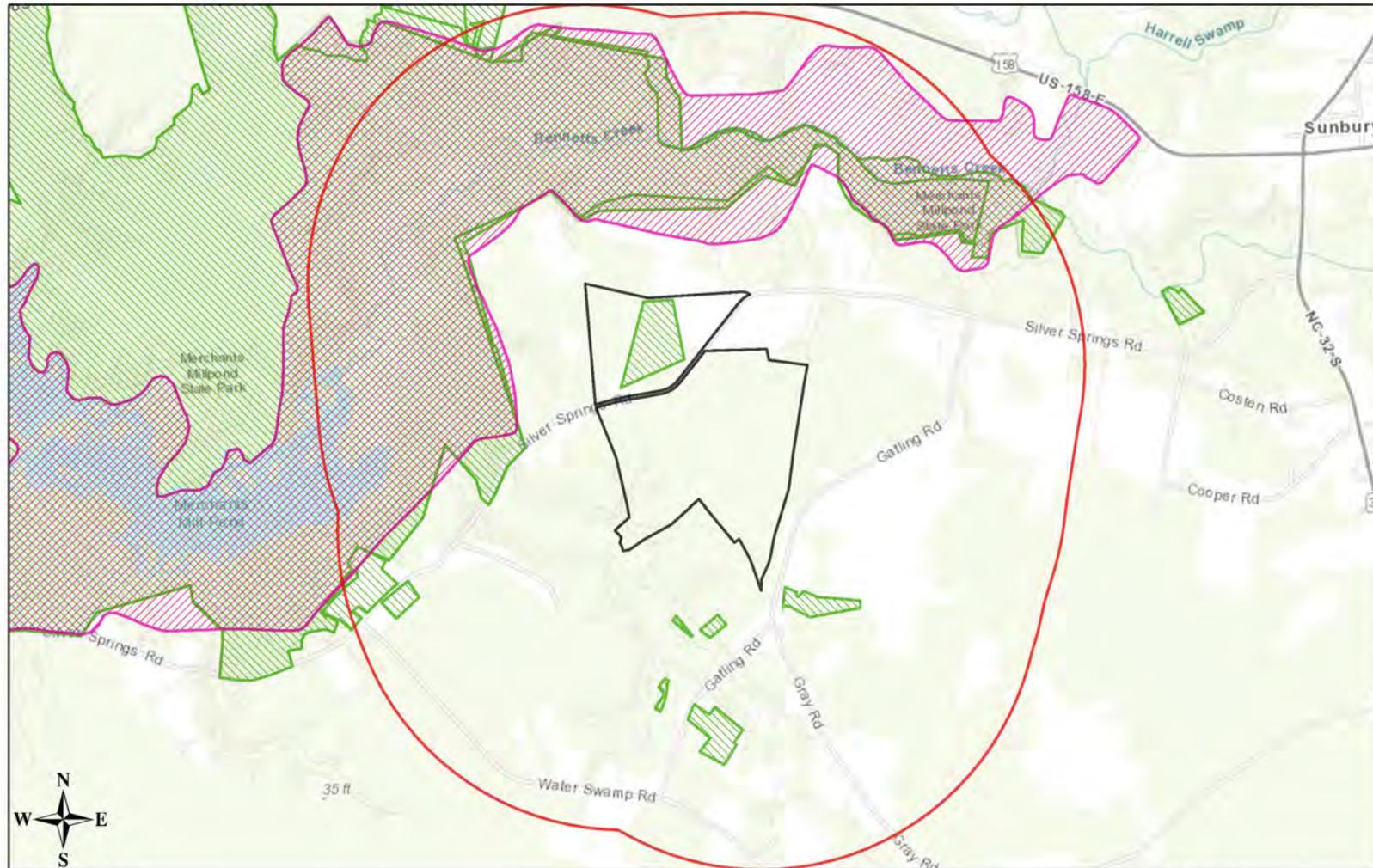
Site Name	Representational Rating	Collective Rating
Merchants Millpond State Park	R2 (Very High)	C2 (Very High)

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State
Merchants Millpond State Park	NC DNCR, Division of Parks and Recreation	State
Merchants Millpond State Park Registered Heritage Area	NC DNCR, Division of Parks and Recreation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State
Conservation Reserve Enhancement Program Easement	NC Department of Agriculture, Division of Soil and Water Conservation	State

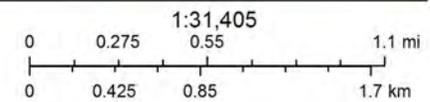
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on August 1, 2019; source: NCNHP, Q3 Jul 2019. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-9899: Pierce Terrace



August 1, 2019

- Project Boundary
- Buffered Project Boundary
- NHP Natural Area (NHNA)
- Managed Area (MAREA)



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



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: 04EN2000-2020-SLI-0644
Event Code: 04EN2000-2020-E-01444
Project Name: Pierce Terrace Mitigation Site

February 13, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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: 04EN2000-2020-SLI-0644

Event Code: 04EN2000-2020-E-01444

Project Name: Pierce Terrace Mitigation Site

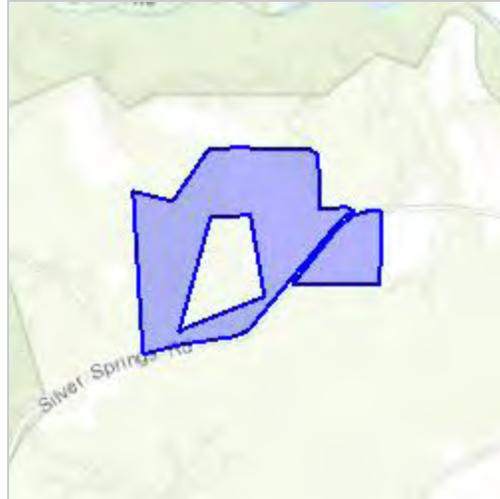
Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: The Site is positioned 2 miles west of Sunbury, NC and is less than 1-mile east of Merchants Millpond State Park, a listed natural area by the North Carolina Natural Heritage Program. Situated on marine terraces adjacent to Bennett's Creek and Lassiter Swamp, the Site is within the North Carolina Division of Water Resources' (NCDWR) Targeted Local Watershed 03010203040040. Restoration activities will include filling of existing agricultural ditches, removing surface water outlets, and roughening of the soil surface in areas of drained hydric soils. Non-riverine hardwood flat and swamp forested vegetative communities will be restored throughout the easement through planting of woody vegetation.

The Site encompasses 127.5 acres of agricultural land used for row crop production. Within the project area, is the 27.1 acre Hofler Mitigation Site, a DMS non-riparian wetland mitigation site constructed in the fall of 2014. This site provides for restoration and protection of aquatic resources with a conservation easement and will result in net gains in hydrology, water quality, and habitat (physical, chemical, and biological) functions.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/36.43310811810005N76.65537351631056W>



Counties: Gates, NC

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 Fisheries¹, 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.

-
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.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Reptiles

NAME	STATUS
American Alligator <i>Alligator mississippiensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Species Conclusions Table

Project Name: Pierce Terrace Mitigation Site

Date: February 13, 2020

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Northern Long-eared Bat	no suitable habitat present (no trees)	no effect	No tree cutting or removal
Red-cockaded Woodpecker	no suitable habitat present (no trees)	no effect	Project is an existing ag field
American Alligator	no suitable habitat present	no effect	Project is an existing ag field
Critical Habitat	no critical habitat present	no effect	Project is an existing ag field
Bald Eagle	unlikely to disturb nesting bald eagles	no effect	Project is an existing ag field

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.

Alex Baldwin

Signature /Title

2/13/2020

Date



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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

Date: Feb 13, 2020

Self-Certification Letter

Project Name Pierce Terrace Mitigation Site

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:

- “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;
- “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

Alex Baldwin

From: Raleigh, FW4 <raleigh@fws.gov>
Sent: Thursday, February 13, 2020 02:53 PM
To: Alex Baldwin
Subject: Confirmation of Project Receipt Re: [EXTERNAL] Self-Certification Letter

Thank you for submitting your online project package. We will review your package within 30 days of receipt. If you have submitted an online **project review request letter**, expect our response within 30 days. If you have submitted an online **project review certification letter**, you will typically not receive a response from us since the certification letter is our official response. However, if we have additional questions or we do not concur with your determinations, we will contact you during the review period.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh ES Field Office
551-F Pylon Drive
Raleigh, North Carolina 27606

March 26, 2020

Kim Browning
U.S. Army Corps of Engineers, Wilmington District
Mitigation Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

Re: NCDMS Pierce Terrace Mitigation Site / SAW-2020-00046/ Gates County

Dear Mrs. Browning:

The U.S. Fish and Wildlife Service (Service) has reviewed the project advertised in the above referenced Public Notice. The project, as advertised in the Public Notice, is expected to have minimal adverse impacts to fish and wildlife resources. Therefore, we have no objection to the activity as described in the permit application.

In accordance with the Endangered Species Act of 1973, as amended, (ESA) and based on the information provided, and other available information, it appears the action is not likely to adversely affect federally listed species or their critical habitat as defined by the ESA. We believe that the requirements of section 7 (a)(2) of the ESA have been satisfied for this project. Please remember that obligations under the ESA must be reconsidered if: (1) new information identifies impacts of this action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is modified in a manner that was not considered in this review; or, (3) a new species is listed or critical habitat determined that may be affected by the identified action.

For your convenience a list of all federally protected endangered and threatened species in North Carolina is now available on our website at <<http://www.fws.gov/raleigh>>. Our web page contains a complete and updated list of federally protected species, and a list of federal species of concern known to occur in each county in North Carolina.

The Service appreciates the opportunity to review and provide comments on the proposed action. Should you have any questions regarding the project, please contact John Ellis at (919) 856-4520, extension 26.

Sincerely,

For [Signature]
Pete Benjamin,
Field Supervisor

cc: NMFS, Beaufort, NC
EPA, Atlanta, GA
WRC, Raleigh



Appendix B – Red-cockaded Woodpecker Effects Determination Key

ORM2 No.: SAW-2020-00046

Date March 25, 2022

USFWS Reference No. (if applicable): N/A

- 1) Is the action area¹ located within the RCW consultation area (see **Appendix A** and project-specific results from a project-specific IPaC or internal USACE GIS review)?
 - a) Yes.....go to 2
 - b) No.....No effect²

- 2) Is the action area¹ located in the northeastern coastal plain (see **Appendix A**)?
 - a) Yes.....go to 3
 - b) No (the project is located in piedmont, sandhills, or southeastern coastal plain).....go to 4

- 3) Is the action area¹ located in a forested area with pine trees present in northeast North Carolina (e.g., high pocosin, Atlantic white cedar, nonriverine swamp forests, pond pine woodland, coastal fringe evergreen forest, wet successional pine/pine-hardwood forest, or pine plantation or uplands)? If yes, are the pine trees greater than 30 years of age (if stand age is not readily determined, refer to **Table 1** for a description of the minimum dbh of 30-year-old pines associated with each community type). If the answer to both of these questions is yes, choose Yes below. If the answer to one or both questions is no, then choose No below.
 - a) Yes.....go to 8
 - b) No.....No effect²

- 4) Is the action area¹ located within suitable RCW foraging or nesting habitat (pine or pine/hardwood stands in which 50% or more of the dominant trees are pines and the dominant pine trees are 30 years of age or older or ≥8-inches dbh⁵)?
 - a) Yes.....go to 5
 - b) No.....**No effect²**

- 5) Will any activity in the action area¹ remove trees equal to or greater than 8 inches dbh; or will any activity occur within 200 feet of known RCW cavity trees? If unable to determine the location of a cavity tree with confidence, contact the USFWS Raleigh Ecological Services Field Office.
 - a) Yes (to one or both).....go to 6
 - b) No.....NLAA³

- 6) Is the action area¹ located in suitable RCW nesting habitat (in the sandhills and piedmont: pine or pine/hardwood stands that contain pines 60 years in age or older or ≥ 10 inches dbh; in the southeastern coastal plain: pine or pine/hardwood stands that contain pines ≥ 8 inches dbh, including but not limited to pine flatwoods, pocosin, pine savannah, upland pine/hardwood)?
 - a) Yes.....go to 9
 - b) No.....go to 7

- 7) Does suitable nesting habitat occur within 0.5 miles of suitable foraging habitat that would be impacted by any activity in the action area¹?
 - a) Yes.....go to 9
 - b) No.....NLAA³

- 8) Refer to **Table 1** in the SLOPES for the northeastern North Carolina habitat type in the action area¹. Are pine trees with a dbh equal to or greater than that shown in **Table 1** proposed to be removed in the action area¹, or is the action area¹ within 200 feet of a cavity tree? If the answer to either of these questions is yes, choose Yes below. If unable to determine the location of a cavity tree with confidence, then contact the USFWS Raleigh Field Office.
 - a) Yes.....go to 9
 - b) No.....NLAA³

- 9) Contact the appropriate USACE representative for a pre-application meeting to determine if a survey is necessary (for a list of USACE representatives please see the contact list at <http://saw-reg.usace.army.mil/FO/PMList.pdf>). Note that project-specific information, such as a delineation of waters of the U.S., project plans, and details concerning certain activities or disturbances that would occur in the action area¹ (e.g. percussive activities, forest management, or similar disturbances), may be needed for the USACE to determine the action area(s)¹ of the project. If a survey is required and agreed to by the applicant, all suitable RCW nesting habitat within 0.5 miles of the action area¹ should be surveyed according to USFWS protocol for the presence of RCW cavity trees⁴. If the applicant is unwilling or unable to conduct the survey, standard consultation with the USFWS should begin. Such surveys are conducted by running line transects through stands and visually inspecting all medium-sized and large pines for evidence of cavity excavation by RCWs. Transects must be spaced so that all trees are inspected and are run north-south.

Was a survey performed?

 - a) Yes, a survey was performed, and RCW cavity trees were observed.....go to 10
 - b) Yes, the survey was submitted to the USFWS for concurrence, and the USFWS concurred with the results (no RCW cavity trees were observed)NLAA³
 - c) No, the USACE determined that a survey was not required and the USFWS concurred.....NLAA³
 - d) No, a survey was not performed.....Consultation required⁵

- 10) Does the project involve activities or disturbances in the action area¹ (e.g., percussive activities, forest management, or similar disturbances) within the 200-foot cavity tree buffer, and/or cause removal or damage to RCW cavity trees (e.g., via root compaction, soil compaction)? If yes to either or both then consultation is required.
 - a) Yes.....Consultation required⁵
 - b) No.....go to 11

- 11) Has a foraging habitat analysis (FHA)⁶ been conducted to determine whether enough foraging habitat would remain for each RCW group post-project? For information on how to conduct an FHA⁶, refer to the “Procedures for Determining Foraging Habitat Availability” and the Private Land Guidelines.⁷
- a) Yes, the FHA⁶ has been submitted to the USFWS for concurrence⁸ and the USFWS concurred that **adequate** amounts of foraging habitat would remain post-project.....NLAA³
 - b) Yes, and review of the FHA⁶ by the USACE along with concurrence from USFWS determined **inadequate** amounts of foraging habitat would remain post-project.....Consultation required⁵
 - c) No, an FHA⁶ has not been conducted.....Consultation required⁵

¹Action Area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Please contact the appropriate USACE representative for any questions as to the action area for the Federal action. For a list of USACE representatives, please see the contact list at: <http://saw-reg.usace.army.mil/FO/PMList.pdf>.

²No effect – The proposed project would result in no effect to this species and/or its federally designated critical habitat (if applicable). Further consultation with the USFWS Raleigh and Asheville Ecological Services field offices is not necessary for the project as described.

³NLAA – The proposed project may affect but is not likely to adversely affect this species and/or its designated critical habitat (if applicable). NLAA determinations for projects made pursuant to this key require no further consultation with the USFWS Raleigh and Asheville Ecological Services field offices, therefore, consultation is considered complete for this species. For General Permits, submittal of a Pre-Construction Notification to the USACE will be required for all NLAA determinations.

⁴Follow link to USFWS RCW Recovery Plan, Appendix 4 for additional information on nesting and foraging habitats, and survey protocol (https://www.fws.gov/rcwrecovery/files/RecoveryPlan/survey_protocol.pdf)

⁵Consultation required – Contact the USACE to begin this consultation process. For a list of USACE representatives please see the contact list at <http://saw-reg.usace.army.mil/FO/PMList.pdf>. Further consultation with the USFWS Raleigh and Asheville Ecological Services field offices is necessary to discern if the activity would result in a “no effect,” “not likely to adversely affect,” or “likely to adversely affect” determination.

⁶Follow links for additional information on conducting FHA (<https://www.fws.gov/rcwrecovery/matrix.html>) and for determining foraging habitat availability (https://www.fws.gov/ncsandhills/files/fha_data_collection_procedures.pdf).

⁷Follow link for additional information regarding determination for adequate amount of foraging habitat (https://www.fws.gov/rcwrecovery/files/RecoveryPlan/private_land_guidelines.pdf).

⁸ FHA – When an FHA is conducted, the USACE must provide the FHA to USFWS for review and concurrence.

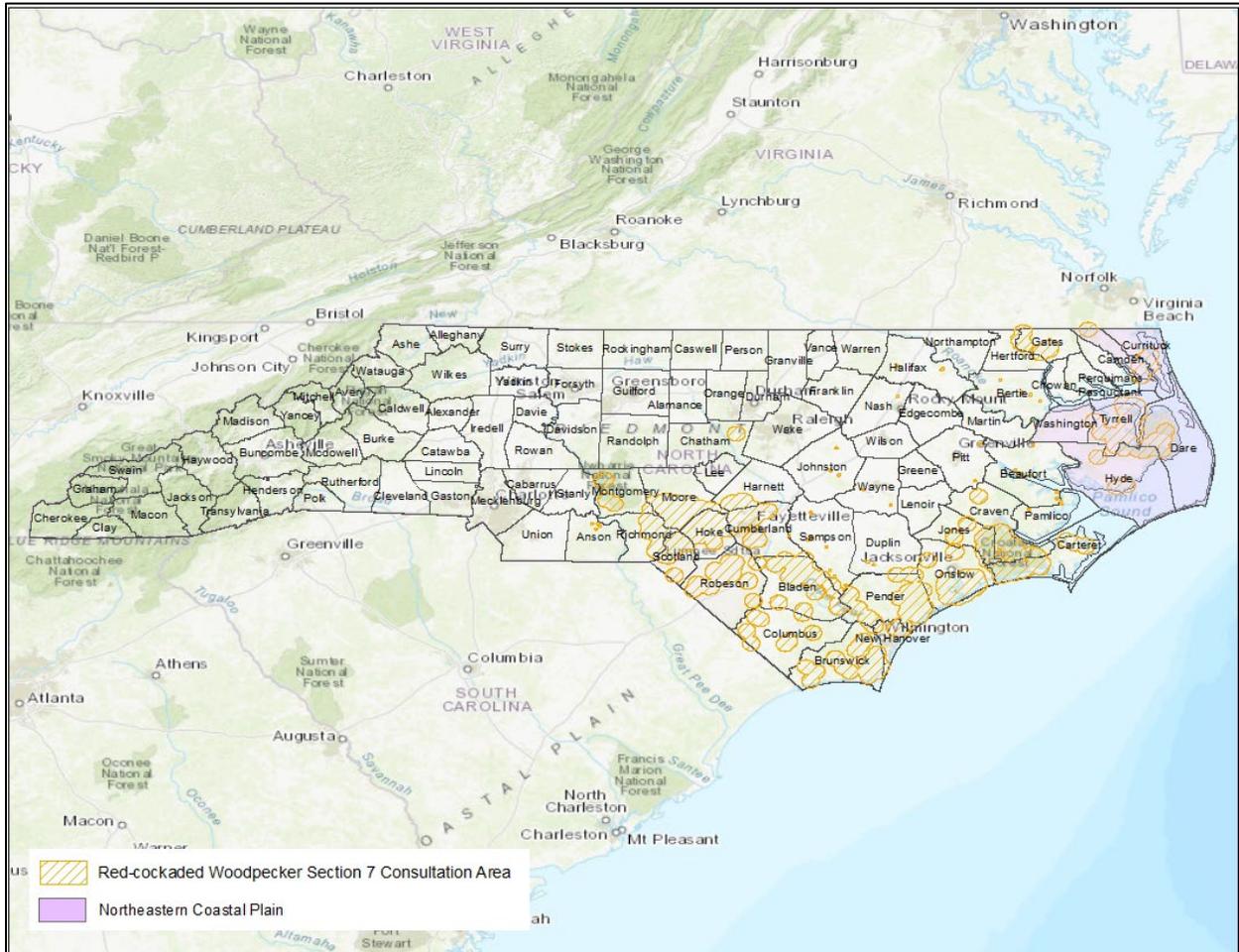
Additional Information _____

Appendix C – Conservation Recommendations

These recommendations are optional and, if implemented, would support the agency's goals toward recovery. These recommendations are to be used at the discretion of the permittee, but any measures that avoid and minimize effects to the species are highly encouraged by the USFWS.

1. Minimize project impacts within clusters and foraging habitat whenever possible (i.e., conduct large pine removal outside of nesting season [April 1 to July 31], trim branches instead of complete tree removal, switch building plans to retain large pines).
2. The USFWS strongly recommends that occupied habitats be avoided and preserved. The first measure is to modify the project footprint to avoid direct impacts to RCW habitat. This habitat could be designated as an environmentally sensitive area and set aside by deed restriction, easement, or another protective covenant. If the occupied habitat on the property exceeds 5 acres (2 hectares), then a habitat management plan is also recommended. Incorporating these recommendations into the project design and documenting them in the habitat management plan might result in the project being not likely to adversely affect the RCW.
3. On-site habitat enhancements are recommended by the USFWS in situations where a project proposes to impact occupied RCW habitat. If the site has been physically altered by exotic species invasion, lack of fire, or other anthropogenic actions, these alterations have produced on-site habitat conditions that have resulted in marginally suitable habitats for RCW's survival and propagation. The planned action, through project redesign, has avoided impacting a substantial portion of the habitat; however, some habitat loss will still occur. The project proposes on-site habitat enhancements and management actions that provide habitat quality improvements that balance losses of small amounts of marginally suitable habitats. Incorporating these recommendations into the project and documenting them in a habitat management plan can result in the project being not likely to adversely affect the RCW.
4. Remove vines and thick underbrush/mid-story to improve site suitability.
5. Provision starts and/or completed cavities in suitable large pines to provide additional housing opportunities to an RCW cluster.

Appendix A – Red-cockaded Woodpecker Consultation Area



Source: USFWS, 2020



November 18th, 2019

Milton Cortes
USDA Natural Resources Conservation Service 4407
Bland Road
Suite 117
Raleigh, NC 27609

Re: Pierce Terrace Wetland Mitigation Site, Gates County, NC

Restoration Systems, LLC (RS), of Raleigh, NC has been awarded a contract by DMS to provide Wetland Mitigation Units at the Pierce Terrace Wetland Mitigation Site in Gates County, North Carolina.

One of the earliest tasks to be performed by RS is completion of an environmental screening and preparation/submittal of a Categorical Exclusion (CE) document. This document is specifically required by the Federal Highway Administration (FHWA) to ensure compliance with various federal environmental laws and regulations. DMS must demonstrate that its projects comply with federal mandates as a precondition to FHWA reimbursement of compensatory mitigation costs borne by the North Carolina Department of Transportation to offset its projects' unavoidable impacts to streams and wetlands.

In order for the project to proceed, RS is obligated to coordinate with the NRCS to complete Form AD-1006 in compliance with the Farmland Protection Policy Act on behalf of the FHWA. The purpose of this letter is to request your assistance in completion of the Form.

Project Location & Description

The Site is located approximately 2 miles west of Sunbury, 5 miles northeast of Gatesville, and immediately east of Merchant Millpond State Park. Intensive agricultural practices exist across the entire Site. Agricultural fields within and adjacent to the Site are subject to routine fertilizer and herbicide applications including poultry litter. Site ditches are excavated on an annual basis to remove sediment loss from agricultural practices as the result of traditional plowing methods and fields left fallow outside of the growing season. All native vegetation and woody material has been removed from the Site. In general, all wetland functions associated with hydrology, water quality, and habitat have been removed.

Adjacent land management activities include silviculture and agriculture practices. These areas include lateral ditching, shallow surface drains, subsurface drains, and planting beds to rapidly remove surface and subsurface water from these poorly drained soils which contribute nutrient, sediment, and fecal coliform into Merchant Millpond State Park.

Restoration Means & Methods

Alternatives for wetland re-establishment are designed to restore a fully functioning wetland system, which will provide surface water storage, nutrient cycling, removal of imported elements and compounds, and will create a variety and abundance of wildlife habitat.

Portions of the Site underlain by hydric soils have been impacted by ditching, vegetative clearing, agriculture plowing, and other land disturbances associated with land use management. Wetland re-establishment options

will focus on the restoration of vegetative communities and historic groundwater tables, and the re-establishment of soil structure and microtopographic variations. In addition, the construction of (or provisions for) surface water storage depressions (ephemeral pools) will also add an important component to groundwater restoration activities. Large woody debris/material will also be added to the Site to facilitate habitat development and provide a carbon source for development of wetland functions. These activities will result in the re-establishment of approximately 105 acres of jurisdictional non-riparian wetlands.

A key aspect of this wetland restoration project involves maintaining suitable, arable farmland outside the conservation easement. Landowner requirements include leaving drainage features outside the easement and upgrading two ditches leading away from the Site to keep the adjacent farmland suitable for agriculture. This will require connecting a ditch north of the Site through a culverted agriculture road crossing and directing surface water away from the Site towards the north. A second ditch running parallel to an entrance road will be cleaned, potentially deepened, and stabilized. These improvements/actions will result in a long-term balance between achievement of Site goals/objectives and maintaining adjacent land uses.

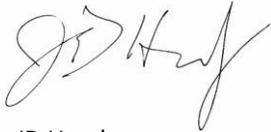
To maintain adjacent agriculture operations, several surface swales are proposed to direct Site hydrology to the offsite ditch network. Surface swales are expected to be approximately 0.5 ft in depth and are proposed to be disconnected draws that direct water away from agriculture fields towards drainage features. If necessary, drop structures may be used to hinder headcut development through the Site. Drop structures will be constructed of woody debris, rock or marl, and or natural fiber matting. Drop structures are not proposed to be constructed within the boundaries of the wetland restoration area and will not be included in mitigation crediting areas.

Bare-root seedlings will be planted at a density of approximately 680 stems per acre on 8-foot centers. Planting will be performed between November 15 and March 15 to allow plants to stabilize during the dormant period and set root during the spring season. Potential species planted within the Site may include the following.

Should you have any questions or if any additional information is needed to complete the form, please feel free to contact me at the office 919.334.9111. If we do not hear from you within 30 days, we will assume you have no comments on the project. Your valuable time and cooperation are much appreciated.

Regards,

RESTORATION SYSTEMS, LLC



JD Hamby

Project Manager

jhamby@restorationsystems.com

919-334-9111

Attachments- Location and Condition Maps
AD-1006 Form

From: [John Hamby](#)
To: [Alex Baldwin](#)
Subject: FW: Pierce Terrace Wetland Mitigation Site
Date: Wednesday, April 8, 2020 3:31:47 PM
Attachments: [AD1006_Pierce_Terrace_.pdf](#)
Importance: High

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Cortes, Milton - NRCS, Raleigh, NC" <milton.cortes@usda.gov>
Date: 11/27/19 1:28 PM (GMT-05:00)
To: John Hamby <jhamby@restorationsystems.com>
Subject: RE: Pierce Terrace Wetland Mitigation Site

Hi John:

Please find attached the Farmland Conversion Impact Rating evaluation for Pierce Terrace Wetland Mitigation Site, Gaston County, NC.

If we can be of further assistance, please, let us know.

Best regards;

Milton Cortes

State Soil Scientist

USDA NRCS

4407 Bland Rd., Suite 117

Raleigh, NC 27609

Desk: 919-873-2171

Cell: 984-365-2201

FARMLAND CONVERSION IMPACT RATING

PART I <i>(To be completed by Federal Agency)</i>		Date Of Land Evaluation Request			
Name of Project		Federal Agency Involved			
Proposed Land Use		County and State			
PART II <i>(To be completed by NRCS)</i>		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %		Amount of Farmland As Defined in FPPA Acres: %		
Name of Land Evaluation System Used	Name of State or Local Site Assessment System		Date Land Evaluation Returned by NRCS		
PART III <i>(To be completed by Federal Agency)</i>		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
PART IV <i>(To be completed by NRCS)</i> Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V <i>(To be completed by NRCS)</i> Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
PART VI <i>(To be completed by Federal Agency)</i> Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160			
PART VII <i>(To be completed by Federal Agency)</i>					
Relative Value Of Farmland <i>(From Part V)</i>		100			
Total Site Assessment <i>(From Part VI above or local site assessment)</i>		160			
TOTAL POINTS <i>(Total of above 2 lines)</i>		260			
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>	
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

(See Instructions on reverse side)



February 13th, 2020

John Ellis, Fish & wildlife Biologist
USFWS Raleigh Field Office
P.O. Box 33726
Raleigh, NC 27636-3726909

Re: Pierce Terrace Wetland Mitigation Site, Gates County, NC

Mr. Ellis,

Restoration Systems, LLC (RS), of Raleigh, NC has been awarded a contract by DMS to provide 105 Wetland Mitigation Units at the Pierce Terrace Wetland Mitigation Site in Gates County, North Carolina.

One of the earliest tasks to be performed by RS is completion of an environmental screening and preparation/submittal of a Categorical Exclusion (CE) document. This document is specifically required by the Federal Highway Administration (FHWA) to ensure compliance with various federal environmental laws and regulations. DMS must demonstrate that its projects comply with federal mandates as a precondition to FHWA reimbursement of compensatory mitigation costs borne by the North Carolina Department of Transportation to offset its projects' unavoidable impacts to streams and wetlands.

In order for the project to proceed, RS is obligated to coordinate with your office for recommendations with the project relative the Migratory Bird Treaty Act (MBTA). This letter provides you with certain details of the Pierce Terrace Non-Riparian Wetland Mitigation Site, including the project's location, a general description of its physiography, hydrography and existing land uses, as well as the intended modifications to the site proposed by RS. We request your review of the details provided and make recommendations to protect migratory birds.

Project Location & Description

The Site is characterized by agricultural fields utilized for row crop production. All Site hydrology drains through a ditch network to Bennett's Creek and Lassiter Swamp. The Site is entirely encompassed within agricultural fields that have been ditched/drained, cleared of vegetation, and are maintained for row crop production. The proposed conservation easement area is approximately 127.5 acres in size.

The Site is located approximately 2 miles west of Sunbury, 5 miles northeast of Gatesville, and immediately east of Merchant Millpond State Park. Intensive agricultural practices exist across the entire Site. Agricultural fields within and adjacent to the Site are subject to routine fertilizer and herbicide applications including poultry litter. Site ditches are excavated on an annual basis to remove sediment loss from agricultural practices as the result of traditional plowing methods and fields left fallow outside of the growing season. All native vegetation and woody material has been removed from the Site. In general, all wetland functions associated with hydrology, water quality, and habitat have been removed.

Adjacent land management activities include silviculture and agriculture practices. These areas include

lateral ditching, shallow surface drains, subsurface drains, and planting beds to rapidly remove surface and subsurface water from these poorly drained soils which contribute nutrient, sediment, and fecal coliform into Merchant Millpond State Park.

Restoration Means & Methods

Alternatives for wetland re-establishment are designed to restore a fully functioning wetland system, which will provide surface water storage, nutrient cycling, removal of imported elements and compounds, and will create a variety and abundance of wildlife habitat.

Portions of the Site underlain by hydric soils have been impacted by ditching, vegetative clearing, agriculture plowing, and other land disturbances associated with land use management. Wetland re-establishment options will focus on the restoration of vegetative communities and historic groundwater tables, and the reestablishment of soil structure and microtopographic variations. In addition, the construction of (or provisions for) surface water storage depressions (ephemeral pools) will also add an important component to groundwater restoration activities. Large woody debris/material will also be added to the Site to facilitate habitat development and provide a carbon source for development of wetland functions. These activities will result in the re-establishment of approximately 105 acres of jurisdictional non-riparian wetlands.

A key aspect of this wetland restoration project involves maintaining suitable, arable farmland outside the conservation easement. Landowner requirements include leaving drainage features outside the easement and upgrading two ditches leading away from the Site to keep the adjacent farmland suitable for agriculture. This will require connecting a ditch north of the Site through a culverted agriculture road crossing and directing surface water away from the Site towards the north. A second ditch running parallel to an entrance road will be cleaned, potentially deepened, and stabilized. These improvements/actions will result in a long-term balance between achievement of Site goals/objectives and maintaining adjacent land uses.

To maintain adjacent agriculture operations, several surface swales are proposed to direct Site hydrology to the offsite ditch network. Surface swales are expected to be approximately 0.5 ft in depth and are proposed to be disconnected draws that direct water away from agriculture fields towards drainage features. If necessary, drop structures may be used to hinder headcut development through the Site. Drop structures will be constructed of woody debris, rock or marl, and or natural fiber matting. Drop structures are not proposed to be constructed within the boundaries of the wetland restoration area and will not be included in mitigation crediting areas.

Bare-root seedlings will be planted at a density of approximately 680 stems per acre on 8-foot centers. Planting will be performed between November 15 and March 15 to allow plants to stabilize during the dormant period and set root during the spring season. Potential species planted within the Site may include the following.

Should you have any questions or if any additional information is needed to complete the Form, please feel free to contact me at the office 919.274.2419. Your valuable time and cooperation are much appreciated.

Sincerely,



RESTORATION SYSTEMS, LLC

Alex Baldwin
Project Manager
abaldwin@restorationsystems.com
919-274-2419

Attachments- Location and Condition Maps

Appendix F: Financial Assurances

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 G: Site Protection Instrument

Mary C. Horton

Excise Tax: \$1,427.00

BOOK 358 PAGE 906 (12)

317606



Record: \$26.00

Excise Tax: \$1,427.00

This certifies that there are no delinquent Ad Valorem Real Estate taxes, which the Gates County Tax Collector is Charged with collecting that are a lien on:

PIN #: 10-02246

Gates County Office of Land Records. This is not a Certification that the PIN # matches the deed description.

James Dennis 11/17/2020
Tax Collector/Clerk Date

STATE OF NORTH CAROLINA

**DEED OF CONSERVATION EASEMENT
AND RIGHT OF ACCESS PROVIDED
PURSUANT TO
FULL DELIVERY
MITIGATION CONTRACT**

GATES COUNTY

**SPO File Number: 37-AE
DMS Project Number: 100139**

Return to: Joseph S. Bass III, Manning, Fulton
& Skinner, PA
PO Box 20389, Raleigh, NC 27619

Prepared by: Office of the Attorney General
Property Control Section
Return to: NC Department of Administration
State Property Office
1321 Mail Service Center
Raleigh, NC 27699-1321

THIS DEED OF CONSERVATION EASEMENT AND RIGHT OF ACCESS, made this 17th day of November, 2020, by Helen Hofler Pierce, a widow (“Grantor”), whose mailing address is 356 Silver Springs Road, Sunbury, NC 27979, to the State of North Carolina, (“Grantee”), whose mailing address is State of North Carolina, Department of Administration, State Property Office, 1321 Mail Service Center, Raleigh, NC 27699-1321. The designations of Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine, or neuter as required by context.

WITNESSETH:

WHEREAS, pursuant to the provisions of N.C. Gen. Stat. § 143-214.8 et seq., the State of North Carolina has established the Division of Mitigation Services (formerly known as the Ecosystem Enhancement Program and Wetlands Restoration Program) within the Department of Environment and Natural Resources for the purposes of acquiring, maintaining, restoring, enhancing, creating and preserving wetland and riparian resources that contribute to the protection and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; and

WHEREAS, this Conservation Easement from Grantor to Grantee has been negotiated, arranged and provided for as a condition of a full delivery contract between Restoration Systems, LLC, a North Carolina limited liability company, 1101 Haynes Street, Suite 211, Raleigh, NC 27604, and the North Carolina Department of Environmental Quality, to provide stream, wetland and/or buffer mitigation pursuant to the North Carolina Department of Environmental Quality Purchase and Services Contract Number 790701.

WHEREAS, The State of North Carolina is qualified to be the Grantee of a Conservation Easement pursuant to N.C. Gen. Stat. § 121-35; and

WHEREAS, the Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District entered into a Memorandum of Understanding, (MOU) duly executed by all parties on November 4, 1998. This MOU recognized that the Wetlands Restoration Program was to provide effective compensatory mitigation for authorized impacts to wetlands, streams and other aquatic resources by restoring, enhancing and preserving the wetland and riparian areas of the State; and

WHEREAS, the Department of Environment and Natural Resources, the North Carolina Department of Transportation and the United States Army Corps of Engineers, Wilmington District entered into a Memorandum of Agreement, (MOA) duly executed by all parties in Greensboro, NC on July 22, 2003, which recognizes that the Division of Mitigation Services (formerly Ecosystem Enhancement Program) is to provide for compensatory mitigation by effective protection of the land, water and natural resources of the State by restoring, enhancing and preserving ecosystem functions; and

WHEREAS, the Department of Environment and Natural Resources, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the North Carolina Wildlife Resources Commission, the North Carolina Division of Water Quality, the North Carolina Division of Coastal Management, and the National Marine Fisheries Service entered into an agreement to continue the In-Lieu Fee operations of the North Carolina Department of Natural Resources' Division of Mitigation Services (formerly Ecosystem Enhancement Program) with an effective date of 28 July, 2010, which supersedes and replaces the previously effective MOA and MOU referenced above; and

WHEREAS, the acceptance of this instrument for and on behalf of the State of North Carolina was granted to the Department of Administration by resolution as approved by the Governor and Council of State adopted at a meeting held in the City of Raleigh, North Carolina, on the 8th day of February 2000; and

WHEREAS, the Division of Mitigation Services in the Department of Environmental Quality, which has been delegated the authority authorized by the Governor and Council of State to the Department of Administration, has approved acceptance of this instrument; and

WHEREAS, Grantor owns in fee simple certain real property situated, lying, and being in Hunters Mill Township, Gates County, North Carolina (the "**Property**"), and being more

particularly described as that certain parcel of land containing approximately 250 acres and being conveyed to the Grantor by deed as recorded in **Deed Book 139** at **Page 610** of the Gates County Registry, North Carolina; and

WHEREAS, Grantor is willing to grant a Conservation Easement and Right of Access over the herein described areas of the Property, thereby restricting and limiting the use of the areas of the Property subject to the Conservation Easement to the terms and conditions and purposes hereinafter set forth, and Grantee is willing to accept said Easement and Access Rights. The Conservation Easement shall be for the protection and benefit of the waters of **Bennett's Creek**.

NOW, THEREFORE, in consideration of the mutual covenants, terms, conditions, and restrictions hereinafter set forth, Grantor unconditionally and irrevocably hereby grants and conveys unto Grantee, its successors and assigns, forever and in perpetuity, a Conservation Easement along with a general Right of Access.

The Conservation Easement Area consists of the following:

BEING ALL of Conservation Easement Area 2 containing a total of **36.90 acres** and Conservation Easement Area 3 containing a total of **20.15 acres**, for a total of approximately **57.05 acres**, as shown on the plat of survey entitled "Conservation Easement for the State of North Carolina, Division of Mitigation Services, over a Portion of the Lands of S&M Farms, LLC, Current Owners per D.B. 286, Pg. 306 (PIN 6998127746000) and over a Portion of the Lands of J.S. Pierce, Jr. (deceased) and wife Helen H. Pierce per D.B. 139, Pg. 610 (PIN 6998161267000), DMS Project ID No. 100139, SPO Numbers 37-AE and 37-AF, Pierce Terrace", in Hunters Mill Township, Gates County, North Carolina, dated November 3, 2020, by John A. Rudolph, PLS Number L-4194, K2 Design Group, and recorded in the Gates County, North Carolina Register of Deeds at **Plat Book 3, Page 92-3(2)**.

See attached "**Exhibit A**", Legal Description of area of the Property hereinafter referred to as the "Conservation Easement Area"

The purposes of this Conservation Easement are to maintain, restore, enhance, construct, create and preserve wetland and/or riparian resources in the Conservation Easement Area that contribute to the protection and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; to maintain permanently the Conservation Easement Area in its natural condition, consistent with these purposes; and to prevent any use of the Easement Area that will significantly impair or interfere with these purposes. To achieve these purposes, the following conditions and restrictions are set forth:

I. DURATION OF EASEMENT

Pursuant to law, including the above referenced statutes, this Conservation Easement and Right of Access shall be perpetual and it shall run with, and be a continuing restriction upon the use of, the Property, and it shall be enforceable by the Grantee against the Grantor and against Grantor's heirs, successors and assigns, personal representatives, agents, lessees, and licensees.

II. GRANTOR RESERVED USES AND RESTRICTED ACTIVITIES

The Conservation Easement Area shall be restricted from any development or usage that would impair or interfere with the purposes of this Conservation Easement. Unless expressly reserved as a compatible use herein, any activity in, or use of, the Conservation Easement Area by the Grantor is prohibited as inconsistent with the purposes of this Conservation Easement. Any rights not expressly reserved hereunder by the Grantor have been acquired by the Grantee. Any rights not expressly reserved hereunder by the Grantor, including the rights to all mitigation credits, including, but not limited to, stream, wetland, and riparian buffer mitigation units, derived from each site within the area of the Conservation Easement, are conveyed to and belong to the Grantee. Without limiting the generality of the foregoing, the following specific uses are prohibited, restricted, or reserved as indicated:

A. Recreational Uses. Grantor expressly reserves the right to undeveloped recreational uses, including hiking, bird watching, hunting and fishing, and access to the Conservation Easement Area for the purposes thereof.

B. Motorized Vehicle Use. Motorized vehicle use in the Conservation Easement Area is prohibited except within a Crossing Area(s) or Road or Trail as shown on the recorded survey plat.

C. Educational Uses. The Grantor reserves the right to engage in and permit others to engage in educational uses in the Conservation Easement Area not inconsistent with this Conservation Easement, and the right of access to the Conservation Easement Area for such purposes including organized educational activities such as site visits and observations. Educational uses of the property shall not alter vegetation, hydrology or topography of the site.

D. Damage to Vegetation. Except within Crossing Area(s) as shown on the recorded survey plat and as related to the removal of non-native plants, diseased or damaged trees, or vegetation that destabilizes or renders unsafe the Conservation Easement Area to persons or natural habitat, all cutting, removal, mowing, harming, or destruction of any trees and vegetation in the Conservation Easement Area is prohibited.

E. Industrial, Residential and Commercial Uses. All industrial, residential and commercial uses are prohibited in the Conservation Easement Area.

F. Agricultural Use. All agricultural uses are prohibited within the Conservation Easement Area including any use for cropland, waste lagoons, or pastureland.

G. New Construction. There shall be no building, facility, mobile home, antenna, utility pole, tower, or other structure constructed or placed in the Conservation Easement Area.

H. Roads and Trails. There shall be no construction or maintenance of new roads, trails, walkways, or paving in the Conservation Easement.

All existing roads, trails and crossings within the Conservation Easement Area shall be shown on the recorded survey plat.

I. Signs. No signs shall be permitted in the Conservation Easement Area except interpretive signs describing restoration activities and the conservation values of the Conservation Easement Area, signs identifying the owner of the Property and the holder of the Conservation Easement, signs giving directions, or signs prescribing rules and regulations for the use of the Conservation Easement Area.

J. Dumping or Storing. Dumping or storage of soil, trash, ashes, garbage, waste, abandoned vehicles, appliances, machinery, or any other material in the Conservation Easement Area is prohibited.

K. Grading, Mineral Use, Excavation, Dredging. There shall be no grading, filling, excavation, dredging, mining, drilling, hydraulic fracturing; removal of topsoil, sand, gravel, rock, peat, minerals, or other materials.

L. Water Quality and Drainage Patterns. There shall be no diking, draining, dredging, channeling, filling, leveling, pumping, impounding or diverting, causing, allowing or permitting the diversion of surface or underground water in the Conservation Easement Area. No altering or tampering with water control structures or devices, or disruption or alteration of the restored, enhanced, or created drainage patterns is allowed. All removal of wetlands, polluting or discharging into waters, springs, seeps, or wetlands, or use of pesticide or biocides in the Conservation Easement Area is prohibited. In the event of an emergency interruption or shortage of all other water sources, water from within the Conservation Easement Area may temporarily be withdrawn for good cause shown as needed for the survival of livestock on the Property.

M. Subdivision and Conveyance. Grantor voluntarily agrees that no further subdivision, partitioning, or dividing of the Conservation Easement Area portion of the Property owned by the Grantor in fee simple ("fee") that is subject to this Conservation Easement is allowed. Any future transfer of the Property shall be subject to this Conservation Easement and Right of Access and to the Grantee's right of unlimited and repeated ingress and egress over and across the Property to the Conservation Easement Area for the purposes set forth herein.

N. Development Rights. All development rights are permanently removed from the Conservation Easement Area and are non-transferrable.

O. Disturbance of Natural Features. Any change, disturbance, alteration or impairment of the natural features of the Conservation Easement Area or any intentional introduction of non-native plants, trees and/or animal species by Grantor is prohibited.

The Grantor may request permission to vary from the above restrictions for good cause shown, provided that any such request is not inconsistent with the purposes of this Conservation Easement, and the Grantor obtains advance written approval from the Division of Mitigation Services, 1652 Mail Services Center, Raleigh, NC 27699-1652.

III. GRANTEE RESERVED USES

A. Right of Access, Construction, and Inspection. The Grantee, its employees and agents, successors and assigns, receive a perpetual Right of Access to the Conservation Easement Area over the Property at reasonable times to undertake any activities on the property to restore, construct, manage, maintain, enhance, protect, and monitor the stream, wetland and any other riparian resources in the Conservation Easement Area, in accordance with restoration activities or a long-term management plan. Unless otherwise specifically set forth in this Conservation Easement, the rights granted herein do not include or establish for the public any access rights.

B. Restoration Activities. These activities include planting of trees, shrubs and herbaceous vegetation, installation of monitoring wells, utilization of heavy equipment to grade, fill, and prepare the soil, modification of the hydrology of the site, and installation of natural and manmade materials as needed to direct in-stream, above ground, and subterranean water flow.

C. Signs. The Grantee, its employees and agents, successors or assigns, shall be permitted to place signs and witness posts on the Property to include any or all of the following: describe the project, prohibited activities within the Conservation Easement, or identify the project boundaries and the holder of the Conservation Easement.

D. Fences. Conservation Easements are purchased to protect the investments by the State (Grantee) in natural resources. Livestock within conservations easements damages the investment and can result in reductions in natural resource value and mitigation credits which would cause financial harm to the State. Therefore, Landowners (Grantor) with livestock are required to restrict livestock access to the Conservation Easement area. Repeated failure to do so may result in the State (Grantee) repairing or installing livestock exclusion devices (fences) within the conservation area for the purpose of restricting livestock access. In such cases, the landowner (Grantor) must provide access to the State (Grantee) to make repairs.

E. Crossing Area(s). The Grantee is not responsible for maintenance of crossing area(s), however, the Grantee, its employees and agents, successors or assigns, reserve the right to repair crossing area(s), at its sole discretion and to recover the cost of such repairs from the Grantor if such repairs are needed as a result of activities of the Grantor, his successors or assigns.

IV. ENFORCEMENT AND REMEDIES

A. Enforcement. To accomplish the purposes of this Conservation Easement, Grantee is allowed to prevent any activity within the Conservation Easement Area that is inconsistent with the purposes of this Conservation Easement and to require the restoration of such areas or features in the Conservation Easement Area that may have been damaged by such unauthorized activity or use. Upon any breach of the terms of this Conservation Easement by Grantor, the Grantee shall, except as provided below, notify the Grantor in writing of such breach and the Grantor shall have ninety (90) days after receipt of such notice to correct the damage caused by such breach. If the breach and damage remains uncured after ninety (90) days, the Grantee may enforce this Conservation Easement by bringing appropriate legal proceedings including an action to recover damages, as well as injunctive and other relief. The Grantee shall also have the power and

authority, consistent with its statutory authority: (a) to prevent any impairment of the Conservation Easement Area by acts which may be unlawful or in violation of this Conservation Easement; (b) to otherwise preserve or protect its interest in the Property; or (c) to seek damages from any appropriate person or entity. Notwithstanding the foregoing, the Grantee reserves the immediate right, without notice, to obtain a temporary restraining order, injunctive or other appropriate relief, if the breach is or would irreversibly or otherwise materially impair the benefits to be derived from this Conservation Easement, and the Grantor and Grantee acknowledge that the damage would be irreparable and remedies at law inadequate. The rights and remedies of the Grantee provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available to Grantee in connection with this Conservation Easement.

B. Inspection. The Grantee, its employees and agents, successors and assigns, have the right, with reasonable notice, to enter the Conservation Easement Area over the Property at reasonable times for the purpose of inspection to determine whether the Grantor is complying with the terms, conditions and restrictions of this Conservation Easement.

C. Acts Beyond Grantor's Control. Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury or change in the Conservation Easement Area caused by third parties, resulting from causes beyond the Grantor's control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken in good faith by the Grantor under emergency conditions to prevent, abate, or mitigate significant injury to life or damage to the Property resulting from such causes.

D. Costs of Enforcement. Beyond regular and typical monitoring expenses, any costs incurred by Grantee in enforcing the terms of this Conservation Easement against Grantor, including, without limitation, any costs of restoration necessitated by Grantor's acts or omissions in violation of the terms of this Conservation Easement, shall be borne by Grantor.

E. No Waiver. Enforcement of this Easement shall be at the discretion of the Grantee and any forbearance, delay or omission by Grantee to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be construed to be a waiver by Grantee.

V. MISCELLANEOUS

A. This instrument sets forth the entire agreement of the parties with respect to the Conservation Easement and supersedes all prior discussions, negotiations, understandings or agreements relating to the Conservation Easement. If any provision is found to be invalid, the remainder of the provisions of the Conservation Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

B. Grantor is responsible for any real estate taxes, assessments, fees, or charges levied upon the Property. Grantee shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Property, except as expressly provided herein. Upkeep of any constructed bridges, fences, or other amenities on the Property are the sole responsibility of the Grantor. Nothing herein shall relieve the Grantor of the obligation to

comply with federal, state or local laws, regulations and permits that may apply to the exercise of the Reserved Rights.

C. Any notices shall be sent by registered or certified mail, return receipt requested to the parties at their addresses shown herein or to other addresses as either party establishes in writing upon notification to the other.

D. Grantor shall notify Grantee in writing of the name and address and any party to whom the Property or any part thereof is to be transferred at or prior to the time said transfer is made. Grantor further agrees that any subsequent lease, deed, or other legal instrument by which any interest in the Property is conveyed is subject to the Conservation Easement herein created.

E. The Grantor and Grantee agree that the terms of this Conservation Easement shall survive any merger of the fee and easement interests in the Property or any portion thereof.

F. This Conservation Easement and Right of Access may be amended, but only in writing signed by all parties hereto, or their successors or assigns, if such amendment does not affect the qualification of this Conservation Easement or the status of the Grantee under any applicable laws, and is consistent with the purposes of the Conservation Easement. The owner of the Property shall notify the State Property Office and the U.S. Army Corps of Engineers in writing sixty (60) days prior to the initiation of any transfer of all or any part of the Property or of any request to void or modify this Conservation Easement. Such notifications and modification requests shall be addressed to:

Division of Mitigation Services Program Manager
 NC State Property Office
 1321 Mail Service Center
 Raleigh, NC 27699-1321

and

General Counsel
 US Army Corps of Engineers
 69 Darlington Avenue
 Wilmington, NC 28403

G. The parties recognize and agree that the benefits of this Conservation Easement are in gross and assignable provided, however, that the Grantee hereby covenants and agrees, that in the event it transfers or assigns this Conservation Easement, the organization receiving the interest will be a qualified holder under N.C. Gen. Stat. § 121-34 et seq. and § 170(h) of the Internal Revenue Code, and the Grantee further covenants and agrees that the terms of the transfer or assignment will be such that the transferee or assignee will be required to continue in perpetuity the conservation purposes described in this document.

VI. QUIET ENJOYMENT

Grantor reserves all remaining rights accruing from ownership of the Property, including the right to engage in or permit or invite others to engage in only those uses of the Conservation Easement Area that are expressly reserved herein, not prohibited or restricted herein, and are not inconsistent with the purposes of this Conservation Easement. Without limiting the generality of the foregoing, the Grantor expressly reserves to the Grantor, and the Grantor's invitees and licensees, the right of access to the Conservation Easement Area, and the right of quiet enjoyment of the Conservation Easement Area,

TO HAVE AND TO HOLD, the said rights and easements perpetually unto the State of North Carolina for the aforesaid purposes,

AND Grantor covenants that Grantor is seized of said premises in fee and has the right to convey the permanent Conservation Easement herein granted; that the same is free from encumbrances and that Grantor will warrant and defend title to the same against the claims of all persons whomsoever.

IN TESTIMONY WHEREOF, the Grantor has hereunto set his hand and seal, the day and year first above written.

Helen Hofler Pierce, widow, by and through her agent /
By: ~~Attorney-in-fact Kirby Lynn Pierce Parker~~ (SEAL)
Helen Hofler Pierce, widow, by and through her agent/attorney-in-fact Kirby Lynn Pierce Parker*

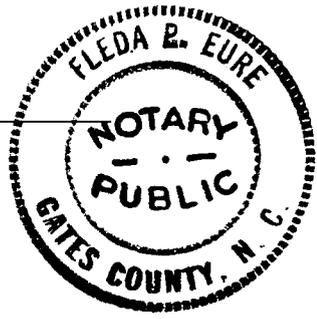
**North Carolina Durable Power of Attorney recorded In Deed Book 346, Page 788, Gates County Registry*

NORTH CAROLINA
COUNTY OF Gates

I, Fleda P. Eure, a Notary Public in and for the County and State aforesaid, do hereby certify that Kirby Lynn Pierce Parker, as attorney-in-fact for Helen Hofler Pierce, widow, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and Notary Seal this the 17th day of November, 2020.

Fleda P. Eure
Notary Public



My commission expires:
3/25/21

Exhibit A**Legal Description****CONSERVATION EASEMENT
OF THE PIERCE TERRACE SITE****Conservation Easement Area 2**

BEING ALL of Conservation Easement 2 of the Pierce Terrace Site over a portion of the land of the Pierce tract (PIN No. 6998161267000), lying and being situated in Hunters Mill Township, Gates County, North Carolina, and particularly described as follows (all distances are ground distances unless otherwise noted):

Beginning at an iron stake (Point of Beginning) labeled as Point No. 24 and being the Southeastern most corner of the Conservation Easement Area 2 and being located South 74°17'28" West 45.68 feet from an iron stake with a blue cap (Point No. 101) with N.C. Grid Coordinates N=985,370.9722', E=2,691,928.2710' (NAD '83, 2011).

Thence from the Point of Beginning (Point No. 24), South 86°29'35" West 1476.62' to an iron stake; thence North 77°00'56" West 648.71' to an iron stake; thence North 33°29'11" East 906.39' to an iron stake; thence South 87°31'15" East 290.71' to an iron stake; North 07°58'33" East 42.23' to an iron stake; thence North 89°26'44" East 41.42' to an iron stake; thence North 89°26'44" East 1109.05' to an iron stake; thence South 41°59'06" East 146.64' to an iron stake; thence South 04°42'02" East 703.02' to an iron stake; thence South 04°42'02" East 42.24' to an iron stake, which is the Point of Beginning (Point No. 24), having an area of approximately 36.90 acres.

Conservation Easement Area 3

BEING ALL of Conservation Easement 3 of the Pierce Terrace Site over a portion of the land of the Pierce tract (PIN No. PIN No. 6998161267000), lying and being situated in Hunters Mill Township, Gates County, North Carolina, and particularly described as follows (all distances are ground distances unless otherwise noted):

Beginning at an iron stake (Point of Beginning) labeled as Point No. 44 and being the Northeastern most corner of the Conservation Easement Area 3 and being located South 86°17'16" East 838.07 feet from an iron stake with a blue cap (Point No. 101) with N.C. Grid Coordinates N=985,370.9722', E=2,691,928.2710' (NAD '83, 2011).

Thence from the Point of Beginning (Point No. 44), South 00°29'09" West 1032.81' to an iron stake; thence South 88°14'02" West 1275.46' to an iron stake; thence North 38°25'38" East 1147.48' to an iron stake; thence North 44°24'03" East 77.57' to an iron stake; thence North 53°08'58" East 87.02' to an iron stake; thence North 60°40'52" East 57.16' to an iron stake; thence South 24°58'16" East 30.00' to an iron stake; thence North 65°01'44" East 55.51' to an iron stake; thence North 74°49'09" East 90.65' to an iron stake; thence North 84°03'35" East

91.28' to an iron stake; thence North 87°00'15" East 155.63' to an iron stake, which is the Point of Beginning (Point No. 44), having an area of approximately 20.15 acres.

ALL OF THE FOREGOING CONSERVATION EASEMENT AREAS as shown on plat of survey titled "Conservation Easement for the State of North Carolina, Division of Mitigation Services, over a Portion of the Lands of S&M Farms, LLC, Current Owners per D.B. 286, Pg. 306 (PIN 6998127746000) and over a Portion of the Lands of J.S. Pierce, Jr. (deceased) and wife Helen H. Pierce per D.B. 139, Pg. 610 (PIN 6998161267000), DMS Project ID No. 100139, SPO Numbers 37-AE and 37-AF, Pierce Terrace", in Hunters Mill Township, Gates County, North Carolina, dated November 3, 2020, by John A. Rudolph, PLS Number L-4194, K2 Design Group, and recorded in Plat Book 3, Page 92-3(2), Gates County Register of Deeds.

ALL SUCH CONSERVATION EASEMENT AREAS, AS WELL AS CONSERVATION EASEMENT 1 AS SHOWN ON SUCH PLAT RECORDED IN PLAT BOOK 3, PAGE 92-3(2), TOGETHER WITH that certain new twenty (20) feet-wide non-exclusive access easement labeled as "Access Easement" for ingress, egress, and regress and as shown on the foregoing described plat of survey recorded in Plat Book 3, Page 92-3(2), Gates County Register of Deeds.

317608



Mary C. Horton

Excise Tax: \$2,237.00

This certifies that there are no delinquent Ad Valorem Real Estate taxes, which the Gates County Tax Collector is Charged with collecting that are a lien on:

PIN #: 06-00422

Gates County Office of Land Records. This is not a Certification that the PIN # matches the deed description.

Record: \$26.00

Excise Tax: \$2,237.00

[Signature] *[Signature]* 11/17/2020
Tax Collector/Clerk Date

STATE OF NORTH CAROLINA

**DEED OF CONSERVATION EASEMENT
AND RIGHT OF ACCESS PROVIDED
PURSUANT TO
FULL DELIVERY
MITIGATION CONTRACT**

GATES COUNTY

Return to: Joseph B. Bass, III, Manning, Fulton &
Skinner, PA, PO Box 20389, Raleigh, NC
27619

SPO File Number: 37-AF
DMS Project Number: 100139

Prepared by: Office of the Attorney General
Property Control Section
Return to: NC Department of Administration
State Property Office
1321 Mail Service Center
Raleigh, NC 27699-1321

THIS DEED OF CONSERVATION EASEMENT AND RIGHT OF ACCESS, made this 17th day of November, 2020, by S&M Farms, LLC, a North Carolina limited liability company (“**Grantor**”), whose mailing address is PO Box 130, Sanbury, NC 27979, to the State of North Carolina (“**Grantee**”), whose mailing address is State of North Carolina, Department of Administration, State Property Office, 1321 Mail Service Center, Raleigh, NC 27699-1321. The designations of Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine, or neuter as required by context.

WITNESSETH:

WHEREAS, pursuant to the provisions of N.C. Gen. Stat. § 143-214.8 et seq., the State of North Carolina has established the Division of Mitigation Services (formerly known as the Ecosystem Enhancement Program and Wetlands Restoration Program) within the Department of Environment and Natural Resources for the purposes of acquiring, maintaining, restoring, enhancing, creating and preserving wetland and riparian resources that contribute to the protection

and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; and

WHEREAS, this Conservation Easement from Grantor to Grantee has been negotiated, arranged and provided for as a condition of a full delivery contract between Restoration Systems, LLC, a North Carolina limited liability company, 1101 Haynes Street, Suite 211, Raleigh, NC 27604, and the North Carolina Department of Environmental Quality, to provide stream, wetland and/or buffer mitigation pursuant to the North Carolina Department of Environmental Quality Purchase and Services Contract Number 790701.

WHEREAS, The State of North Carolina is qualified to be the Grantee of a Conservation Easement pursuant to N.C. Gen. Stat. § 121-35; and

WHEREAS, the Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District entered into a Memorandum of Understanding, (MOU) duly executed by all parties on November 4, 1998. This MOU recognized that the Wetlands Restoration Program was to provide effective compensatory mitigation for authorized impacts to wetlands, streams and other aquatic resources by restoring, enhancing and preserving the wetland and riparian areas of the State; and

WHEREAS, the Department of Environment and Natural Resources, the North Carolina Department of Transportation and the United States Army Corps of Engineers, Wilmington District entered into a Memorandum of Agreement, (MOA) duly executed by all parties in Greensboro, NC on July 22, 2003, which recognizes that the Division of Mitigation Services (formerly Ecosystem Enhancement Program) is to provide for compensatory mitigation by effective protection of the land, water and natural resources of the State by restoring, enhancing and preserving ecosystem functions; and

WHEREAS, the Department of Environment and Natural Resources, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the North Carolina Wildlife Resources Commission, the North Carolina Division of Water Quality, the North Carolina Division of Coastal Management, and the National Marine Fisheries Service entered into an agreement to continue the In-Lieu Fee operations of the North Carolina Department of Natural Resources' Division of Mitigation Services (formerly Ecosystem Enhancement Program) with an effective date of 28 July, 2010, which supersedes and replaces the previously effective MOA and MOU referenced above; and

WHEREAS, the acceptance of this instrument for and on behalf of the State of North Carolina was granted to the Department of Administration by resolution as approved by the Governor and Council of State adopted at a meeting held in the City of Raleigh, North Carolina, on the 8th day of February 2000; and

WHEREAS, the Division of Mitigation Services in the Department of Environmental Quality, which has been delegated the authority authorized by the Governor and Council of State to the Department of Administration, has approved acceptance of this instrument; and

WHEREAS, Grantor owns in fee simple certain real property situated, lying, and being in Hunters Mill Township, Gates County, North Carolina (the "**Property**"), and being more particularly described as that certain parcel of land containing approximately 345.19 acres and being conveyed to the Grantor by deed as recorded in **Deed Book 286** at **Page 306** of the Gates County Registry, North Carolina; and

WHEREAS, Grantor is willing to grant a Conservation Easement and Right of Access over the herein described areas of the Property, thereby restricting and limiting the use of the areas of the Property subject to the Conservation Easement to the terms and conditions and purposes hereinafter set forth, and Grantee is willing to accept said Easement and Access Rights. The Conservation Easement shall be for the protection and benefit of the waters of **Bennett's Creek**.

NOW, THEREFORE, in consideration of the mutual covenants, terms, conditions, and restrictions hereinafter set forth, Grantor unconditionally and irrevocably hereby grants and conveys unto Grantee, its successors and assigns, forever and in perpetuity, a Conservation Easement along with a general Right of Access.

The Conservation Easement Area consists of the following:

Conservation Easement 1 containing a total of **68.69 acres** as shown on the plat of survey entitled "Conservation Easement for the State of North Carolina, Division of Mitigation Services, over a Portion of the Lands of S&M Farms, LLC, Current Owners per D.B. 286, Pg. 306 (PIN 6998127746000) and over a Portion of the Lands of J.S. Pierce, Jr. (deceased) and wife Helen H. Pierce per D.B. 139, Pg. 610 (PIN 6998161267000), DMS Project ID No. 100139, SPO Numbers 37-AE and 37-AF, Pierce Terrace", in Hunters Mill Township, Gates County, North Carolina, dated November 3, 2020, by John A. Rudolph, PLS Number L-4194, K2 Design Group, and recorded in the Gates County, North Carolina Register of Deeds at **Plat Book 3, Page 92-3(2)**.

See attached "**Exhibit A**", Legal Description of area of the Property hereinafter referred to as the "Conservation Easement Area"

The purposes of this Conservation Easement are to maintain, restore, enhance, construct, create and preserve wetland and/or riparian resources in the Conservation Easement Area that contribute to the protection and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; to maintain permanently the Conservation Easement Area in its natural condition, consistent with these purposes; and to prevent any use of the Easement Area that will significantly impair or interfere with these purposes. To achieve these purposes, the following conditions and restrictions are set forth:

I. DURATION OF EASEMENT

Pursuant to law, including the above referenced statutes, this Conservation Easement and Right of Access shall be perpetual and it shall run with, and be a continuing restriction upon the use of, the Property, and it shall be enforceable by the Grantee against the Grantor and against Grantor's heirs, successors and assigns, personal representatives, agents, lessees, and licensees.

II. GRANTOR RESERVED USES AND RESTRICTED ACTIVITIES

The Conservation Easement Area shall be restricted from any development or usage that would impair or interfere with the purposes of this Conservation Easement. Unless expressly reserved as a compatible use herein, any activity in, or use of, the Conservation Easement Area by the Grantor is prohibited as inconsistent with the purposes of this Conservation Easement. Any rights not expressly reserved hereunder by the Grantor have been acquired by the Grantee. Any rights not expressly reserved hereunder by the Grantor, including the rights to all mitigation credits, including, but not limited to, stream, wetland, and riparian buffer mitigation units, derived from each site within the area of the Conservation Easement, are conveyed to and belong to the Grantee. Without limiting the generality of the foregoing, the following specific uses are prohibited, restricted, or reserved as indicated:

A. Recreational Uses. Grantor expressly reserves the right to undeveloped recreational uses, including hiking, bird watching, hunting and fishing, and access to the Conservation Easement Area for the purposes thereof.

B. Motorized Vehicle Use. Motorized vehicle use in the Conservation Easement Area is prohibited except within a Crossing Area(s) or Road or Trail as shown on the recorded survey plat.

C. Educational Uses. The Grantor reserves the right to engage in and permit others to engage in educational uses in the Conservation Easement Area not inconsistent with this Conservation Easement, and the right of access to the Conservation Easement Area for such purposes including organized educational activities such as site visits and observations. Educational uses of the property shall not alter vegetation, hydrology or topography of the site.

D. Damage to Vegetation. Except within Crossing Area(s) as shown on the recorded survey plat and as related to the removal of non-native plants, diseased or damaged trees, or vegetation that destabilizes or renders unsafe the Conservation Easement Area to persons or natural habitat, all cutting, removal, mowing, harming, or destruction of any trees and vegetation in the Conservation Easement Area is prohibited.

E. Industrial, Residential and Commercial Uses. All industrial, residential and commercial uses are prohibited in the Conservation Easement Area.

F. Agricultural Use. All agricultural uses are prohibited within the Conservation Easement Area including any use for cropland, waste lagoons, or pastureland.

G. New Construction. There shall be no building, facility, mobile home, antenna, utility pole, tower, or other structure constructed or placed in the Conservation Easement Area.

H. Roads and Trails. There shall be no construction or maintenance of new roads, trails, walkways, or paving in the Conservation Easement.

All existing roads, trails and crossings within the Conservation Easement Area shall be shown on the recorded survey plat.

I. Signs. No signs shall be permitted in the Conservation Easement Area except interpretive signs describing restoration activities and the conservation values of the Conservation Easement Area, signs identifying the owner of the Property and the holder of the Conservation Easement, signs giving directions, or signs prescribing rules and regulations for the use of the Conservation Easement Area.

J. Dumping or Storing. Dumping or storage of soil, trash, ashes, garbage, waste, abandoned vehicles, appliances, machinery, or any other material in the Conservation Easement Area is prohibited.

K. Grading, Mineral Use, Excavation, Dredging. There shall be no grading, filling, excavation, dredging, mining, drilling, hydraulic fracturing; removal of topsoil, sand, gravel, rock, peat, minerals, or other materials.

L. Water Quality and Drainage Patterns. There shall be no diking, draining, dredging, channeling, filling, leveling, pumping, impounding or diverting, causing, allowing or permitting the diversion of surface or underground water in the Conservation Easement Area. No altering or tampering with water control structures or devices, or disruption or alteration of the restored, enhanced, or created drainage patterns is allowed. All removal of wetlands, polluting or discharging into waters, springs, seeps, or wetlands, or use of pesticide or biocides in the Conservation Easement Area is prohibited. In the event of an emergency interruption or shortage of all other water sources, water from within the Conservation Easement Area may temporarily be withdrawn for good cause shown as needed for the survival of livestock on the Property.

M. Subdivision and Conveyance. Grantor voluntarily agrees that no further subdivision, partitioning, or dividing of the Conservation Easement Area portion of the Property owned by the Grantor in fee simple ("fee") that is subject to this Conservation Easement is allowed. Any future transfer of the Property shall be subject to this Conservation Easement and Right of Access and to the Grantee's right of unlimited and repeated ingress and egress over and across the Property to the Conservation Easement Area for the purposes set forth herein.

N. Development Rights. All development rights are permanently removed from the Conservation Easement Area and are non-transferrable.

O. Disturbance of Natural Features. Any change, disturbance, alteration or impairment of the natural features of the Conservation Easement Area or any intentional introduction of non-native plants, trees and/or animal species by Grantor is prohibited.

The Grantor may request permission to vary from the above restrictions for good cause shown, provided that any such request is not inconsistent with the purposes of this Conservation Easement, and the Grantor obtains advance written approval from the Division of Mitigation Services, 1652 Mail Services Center, Raleigh, NC 27699-1652.

III. GRANTEE RESERVED USES

A. Right of Access, Construction, and Inspection. The Grantee, its employees and agents, successors and assigns, receive a perpetual Right of Access to the Conservation Easement Area over the Property at reasonable times to undertake any activities on the property to restore, construct, manage, maintain, enhance, protect, and monitor the stream, wetland and any other riparian resources in the Conservation Easement Area, in accordance with restoration activities or a long-term management plan. Unless otherwise specifically set forth in this Conservation Easement, the rights granted herein do not include or establish for the public any access rights.

B. Restoration Activities. These activities include planting of trees, shrubs and herbaceous vegetation, installation of monitoring wells, utilization of heavy equipment to grade, fill, and prepare the soil, modification of the hydrology of the site, and installation of natural and manmade materials as needed to direct in-stream, above ground, and subterranean water flow.

C. Signs. The Grantee, its employees and agents, successors or assigns, shall be permitted to place signs and witness posts on the Property to include any or all of the following: describe the project, prohibited activities within the Conservation Easement, or identify the project boundaries and the holder of the Conservation Easement.

D. Fences. Conservation Easements are purchased to protect the investments by the State (Grantee) in natural resources. Livestock within conservations easements damages the investment and can result in reductions in natural resource value and mitigation credits which would cause financial harm to the State. Therefore, Landowners (Grantor) with livestock are required to restrict livestock access to the Conservation Easement area. Repeated failure to do so may result in the State (Grantee) repairing or installing livestock exclusion devices (fences) within the conservation area for the purpose of restricting livestock access. In such cases, the landowner (Grantor) must provide access to the State (Grantee) to make repairs.

E. Crossing Area(s). The Grantee is not responsible for maintenance of crossing area(s), however, the Grantee, its employees and agents, successors or assigns, reserve the right to repair crossing area(s), at its sole discretion and to recover the cost of such repairs from the Grantor if such repairs are needed as a result of activities of the Grantor, his successors or assigns.

IV. ENFORCEMENT AND REMEDIES

A. Enforcement. To accomplish the purposes of this Conservation Easement, Grantee is allowed to prevent any activity within the Conservation Easement Area that is inconsistent with the purposes of this Conservation Easement and to require the restoration of such areas or features in the Conservation Easement Area that may have been damaged by such unauthorized activity or use. Upon any breach of the terms of this Conservation Easement by Grantor, the Grantee shall, except as provided below, notify the Grantor in writing of such breach and the Grantor shall have ninety (90) days after receipt of such notice to correct the damage caused by such breach. If the breach and damage remains uncured after ninety (90) days, the Grantee may enforce this Conservation Easement by bringing appropriate legal proceedings including an action to recover damages, as well as injunctive and other relief. The Grantee shall also have the power and authority, consistent with its statutory authority: (a) to prevent any impairment of the Conservation Easement Area by acts which may be unlawful or in violation of this Conservation Easement; (b)

to otherwise preserve or protect its interest in the Property; or (c) to seek damages from any appropriate person or entity. Notwithstanding the foregoing, the Grantee reserves the immediate right, without notice, to obtain a temporary restraining order, injunctive or other appropriate relief, if the breach is or would irreversibly or otherwise materially impair the benefits to be derived from this Conservation Easement, and the Grantor and Grantee acknowledge that the damage would be irreparable and remedies at law inadequate. The rights and remedies of the Grantee provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available to Grantee in connection with this Conservation Easement.

B. Inspection. The Grantee, its employees and agents, successors and assigns, have the right, with reasonable notice, to enter the Conservation Easement Area over the Property at reasonable times for the purpose of inspection to determine whether the Grantor is complying with the terms, conditions and restrictions of this Conservation Easement.

C. Acts Beyond Grantor's Control. Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury or change in the Conservation Easement Area caused by third parties, resulting from causes beyond the Grantor's control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken in good faith by the Grantor under emergency conditions to prevent, abate, or mitigate significant injury to life or damage to the Property resulting from such causes.

D. Costs of Enforcement. Beyond regular and typical monitoring expenses, any costs incurred by Grantee in enforcing the terms of this Conservation Easement against Grantor, including, without limitation, any costs of restoration necessitated by Grantor's acts or omissions in violation of the terms of this Conservation Easement, shall be borne by Grantor.

E. No Waiver. Enforcement of this Easement shall be at the discretion of the Grantee and any forbearance, delay or omission by Grantee to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be construed to be a waiver by Grantee.

V. MISCELLANEOUS

A. This instrument sets forth the entire agreement of the parties with respect to the Conservation Easement and supersedes all prior discussions, negotiations, understandings or agreements relating to the Conservation Easement. If any provision is found to be invalid, the remainder of the provisions of the Conservation Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

B. Grantor is responsible for any real estate taxes, assessments, fees, or charges levied upon the Property. Grantee shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Property, except as expressly provided herein. Upkeep of any constructed bridges, fences, or other amenities on the Property are the sole responsibility of the Grantor. Nothing herein shall relieve the Grantor of the obligation to comply with federal, state or local laws, regulations and permits that may apply to the exercise of the Reserved Rights.

C. Any notices shall be sent by registered or certified mail, return receipt requested to the parties at their addresses shown herein or to other addresses as either party establishes in writing upon notification to the other.

D. Grantor shall notify Grantee in writing of the name and address and any party to whom the Property or any part thereof is to be transferred at or prior to the time said transfer is made. Grantor further agrees that any subsequent lease, deed, or other legal instrument by which any interest in the Property is conveyed is subject to the Conservation Easement herein created.

E. The Grantor and Grantee agree that the terms of this Conservation Easement shall survive any merger of the fee and easement interests in the Property or any portion thereof.

F. This Conservation Easement and Right of Access may be amended, but only in writing signed by all parties hereto, or their successors or assigns, if such amendment does not affect the qualification of this Conservation Easement or the status of the Grantee under any applicable laws, and is consistent with the purposes of the Conservation Easement. The owner of the Property shall notify the State Property Office and the U.S. Army Corps of Engineers in writing sixty (60) days prior to the initiation of any transfer of all or any part of the Property or of any request to void or modify this Conservation Easement. Such notifications and modification requests shall be addressed to:

Division of Mitigation Services Program Manager
 NC State Property Office
 1321 Mail Service Center
 Raleigh, NC 27699-1321

and

General Counsel
 US Army Corps of Engineers
 69 Darlington Avenue
 Wilmington, NC 28403

G. The parties recognize and agree that the benefits of this Conservation Easement are in gross and assignable provided, however, that the Grantee hereby covenants and agrees, that in the event it transfers or assigns this Conservation Easement, the organization receiving the interest will be a qualified holder under N.C. Gen. Stat. § 121-34 et seq. and § 170(h) of the Internal Revenue Code, and the Grantee further covenants and agrees that the terms of the transfer or assignment will be such that the transferee or assignee will be required to continue in perpetuity the conservation purposes described in this document.

VI. QUIET ENJOYMENT

Grantor reserves all remaining rights accruing from ownership of the Property, including the right to engage in or permit or invite others to engage in only those uses of the Conservation

Easement Area that are expressly reserved herein, not prohibited or restricted herein, and are not inconsistent with the purposes of this Conservation Easement. Without limiting the generality of the foregoing, the Grantor expressly reserves to the Grantor, and the Grantor's invitees and licensees, the right of access to the Conservation Easement Area, and the right of quiet enjoyment of the Conservation Easement Area,

TO HAVE AND TO HOLD, the said rights and easements perpetually unto the State of North Carolina for the aforesaid purposes,

AND Grantor covenants that Grantor is seized of said premises in fee and has the right to convey the permanent Conservation Easement herein granted; that the same is free from encumbrances and that Grantor will warrant and defend title to the same against the claims of all persons whomsoever.

IN TESTIMONY WHEREOF, the Grantor has hereunto set his hand and seal, the day and year first above written.

S & M Farms, LLC,
a North Carolina limited liability company

By: *James Myron Hoftler* (SEAL)
Name: *James Myron Hoftler Sr*
Title: *manager / member*

NORTH CAROLINA
COUNTY OF *Gates*

I, *Fleda P. Eure*, a Notary Public in and for the County and State aforesaid, do hereby certify that *James Myron Hoftler Sr* *Manager - Member* of S&M Farms LLC, a North Carolina limited liability company, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and Notary Seal this the *17th* day of *November*, 2020.

Fleda P. Eure
Notary Public

My commission expires:
3/25/21

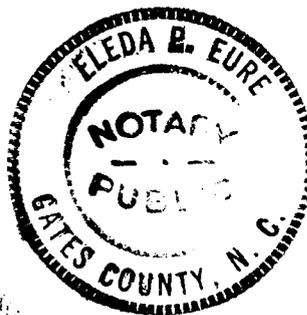


Exhibit A**Legal Description****CONSERVATION EASEMENT
OF THE PIERCE TERRACE SITE****Conservation Easement Area 1**

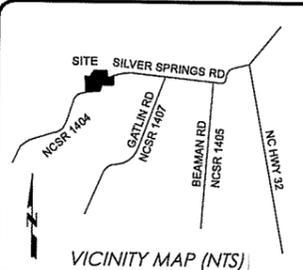
BEING ALL of Conservation Easement 1 of the Pierce Terrace Site over a portion of the land of the S & M Farms, LLC tract (PIN No. 6998127746000), lying and being situated in Hunters Mill Township, Gates County, North Carolina, and particularly described as follows (all distances are ground distances unless otherwise noted):

Beginning at an iron stake (Point of Beginning) labeled as Point No. 27 and being the Eastern most corner of the Conservation Easement Area 1 and being located South 86°55'15" East 383.33 feet from an iron stake with a blue cap (Point No. 101) with N.C. Grid Coordinates N=985,370.9722', E=2,691,928.2710' (NAD '83, 2011).

Thence from the Point of Beginning (Point No. 27), South 60°44'46" West 48.37' to an iron stake; thence South 53°08'58" West 99.85' to an iron stake; thence South 44°24'03" West 89.15' to an iron stake; thence South 38°25'38" West 1388.50' to an iron stake; thence North 71°44'05" West 175.67' to an iron stake; thence North 11°08'32" West 79.95' to an iron stake; thence North 11°09'49" West 1004.06' to an iron stake; thence South 86°36'41" West 553.26' to an iron stake; thence South 14°26'23" West 84.96' to an iron stake; thence South 14°43'42" West 1435.46' to an iron stake; thence South 15°59'34" West 164.48' to an iron stake; thence North 66°03'39" East 1221.72' to an iron stake; thence North 66°14'07" East 97.60' to an iron stake; thence North 11°08'32" West 29.58' to an iron stake; thence South 71°44'04" East 147.74' to an iron stake; thence South 38°25'38" West 448.77' to an iron stake; thence South 45°14'40" West 129.18' to an iron stake; thence South 58°51'17" West 120.61' to an iron stake; thence South 71°48'53" West 106.77' to an iron stake; thence South 79°33'23" West 434.23' to an iron stake; thence South 80°08'05" West 306.41' to an iron stake; thence South 77°09'49" West 207.87' to an iron stake; thence South 75°15'04" West 195.29' to an iron stake; thence South 72°39'23" West 163.65' to an iron stake; thence North 04°14'42" West 2271.91' to an iron stake; thence South 77°00'56" East 569.29' to an iron stake; thence South 77°00'56" East 648.71' to an iron stake; thence North 86°29'35" East 1476.62' to an iron stake; thence North 86°29'35" East 348.63' to an iron stake; thence South 70°42'11" East 75.26' to an iron stake; thence South 58°51'54" East 9.04' to an iron stake, which is the Point of Beginning (Point No. 27), having an area of approximately 68.69 acres.

THE FOREGOING CONSERVATION EASEMENT AREA as shown on plat of survey titled "Conservation Easement for the State of North Carolina, Division of Mitigation Services, over a Portion of the Lands of S&M Farms, LLC, Current Owners per D.B. 286, Pg. 306 (PIN 6998127746000) and over a Portion of the Lands of J.S. Pierce, Jr. (deceased) and wife Helen H. Pierce per D.B. 139, Pg. 610 (PIN 6998161267000), DMS Project ID No. 100139, SPO Numbers

37-AE and 37-AF Pierce Terrace”, in Hunters Mill Township, Gates County, North Carolina, dated November 3, 2020, by John A. Rudolph, PLS Number L-4194, K2 Design Group, and recorded in Plat Book 3, Page 92-3(2), Gates County Register of Deeds.



DEED REFERENCE(S):
 BEING A PORTION OF THE PROPERTIES
 RECORDED IN D.B. 286, PG. 306 AND D.B. 139,
 PG. 610 OF THE GATES COUNTY REGISTER
 OF DEEDS.

MAP REFERENCE(S):
 P.B. 3, PG. 37

P.C. 2, L.S. 145, FLAT 6

CERTIFICATION OF EXEMPTION:

I (We) hereby certify that I am (We are) the Owner(s) of the properties shown and described hereon, which was conveyed to me (us) by deeds recorded in Deed Book 286, Page 306 and D.B. 139, PG. 610, and that we hereby adopt the plan of conservation easement shown on this plat and that the conservation easement shown is an exception to the Subdivision Ordinance of Gates County, North Carolina.

11-10-2020 *[Signature]* *[Signature]* *[Signature]*
 Date S & M Farms, LLC *[Signature]* *[Signature]* *[Signature]*
 manager/member

11-10-2020 *[Signature]* *[Signature]* *[Signature]*
 Date Helen Hoffer Pierce, widow, by and through her
 agent/attorney-in-fact Kirby Lynn Pierce Parker
 *North Carolina Durable Power of Attorney recorded in
 Deed Book 346, Page 788, Gates County Registry

CERTIFICATION OF EXEMPTION:

This plat is not subject to subdivision approval by virtue of Conservation Easement, exemption of a partition of land from the definition of "subdivision" shall not exempt any resulting lots, tracts, or parcels of land from meeting the requirements of any other applicable ordinance(s).

11/10/2020 *[Signature]*
 Date Subdivision Administrator

STATE OF NORTH CAROLINA
 COUNTY OF GATES

Filed for registration at _____ M. _____, 2020 in the Register of Deeds

Office. Recorded in P.B. _____, PG. _____

Register of Deeds _____ By _____

STATE OF NORTH CAROLINA
 COUNTY OF GATES

[Signature], Review Officer of Gates County, certify that the map or plat to which this certification is affixed meets all statutory requirements for recording.

11/10/2020 *[Signature]*
 Date Review Officer

SURVEYORS CERTIFICATION(S)

Surveyor's disclaimer: No attempt was made to locate any cemeteries, wetlands, hazardous material sites, underground utilities or any other features above, or below ground other than those shown. However, no visible evidence of cemeteries or utilities, aboveground or otherwise, was observed by the undersigned (other than those shown).

I certify that the survey is of another category such as the recombination of existing parcels, a court-ordered survey, or other exception to the definition of subdivision (conservation easement).

I, **JOHN A. RUDOLPH**, certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book SEE, Page REFS, etc.) (other); that the boundaries not surveyed are clearly indicated as drawn from information found in Book SEE; that the ratio of precision or positional accuracy as calculated is 1/10,000±; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, license number and seal this 3rd day of November, A.D., 2020.

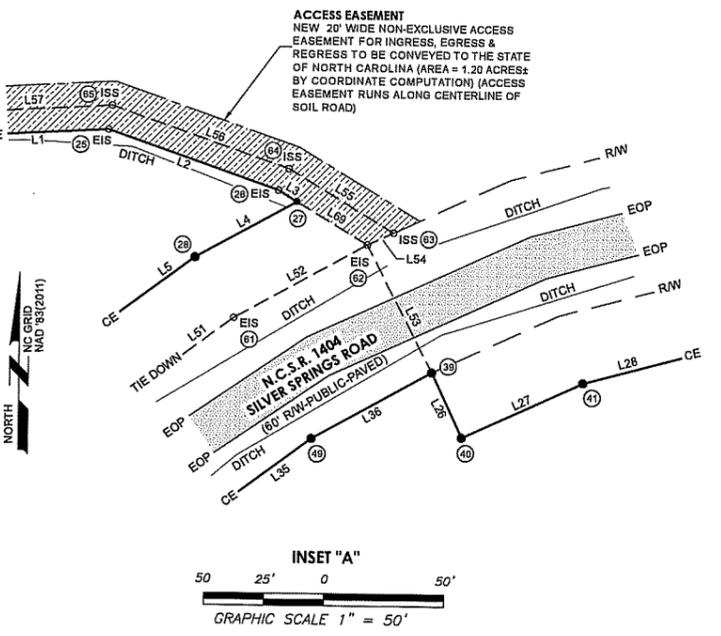
SEAL OR STAMP
 JOHN A. RUDOLPH
 PROFESSIONAL LAND SURVEYOR
 L-4194
 License Number

SEAL
 L-4194
 LAND SURVEYOR
 JOHN ASHLEY RUDOLPH

DRAWN BY: FGR
 DATE: 11/3/20
 DWG. NO.: RSS436MR20
 SURVEYED BY: J.A.R.

k2 design group
 774 S. Boston Road
 La Grange, NC 28551
 252.582.3097
 www.k2designgroup.com

SEAL
 2000
 NORTH CAROLINA
 LAND SURVEYORS
 LICENSE No. C-1111
 K2 DESIGN GROUP P.A.
 CORPORATE



CORNER #	DESCRIPTION
1 THRU 20	No. 5 REBAR FLUSH WITH GRADE WITH AN ALUMINUM 3/4" CAP INSCRIBED: "STATE OF NORTH CAROLINA CONSERVATION EASEMENT"
21	4.0" O.D. IRON PIPE 0.2' BELOW GRADE
22	No. 5 REBAR FLUSH WITH GRADE WITH AN ALUMINUM 3/4" CAP INSCRIBED: "STATE OF NORTH CAROLINA CONSERVATION EASEMENT"
23	2.0" O.D. IRON STAKE, BENT IN BANK OF DITCH 1.0' ABOVE GRADE
24	No. 5 REBAR FLUSH WITH GRADE WITH AN ALUMINUM 3/4" CAP INSCRIBED: "STATE OF NORTH CAROLINA CONSERVATION EASEMENT"
25 THRU 26	IRON STAKE WITH ORANGE CAP INSCRIBED: "TRUE LINE SURVEYING"
27 THRU 49	No. 5 REBAR FLUSH WITH GRADE WITH AN ALUMINUM 3/4" CAP INSCRIBED: "STATE OF NORTH CAROLINA CONSERVATION EASEMENT"
50	IRON STAKE WITH ORANGE CAP INSCRIBED: "TRUE LINE SURVEYING"
51	No. 4 REBAR 0.1' BELOW GRADE
52	IRON STAKE WITH ORANGE CAP INSCRIBED: "TRUE LINE SURVEYING"
53	No. 4 REBAR 0.1' BELOW GRADE
54	IRON STAKE SET AT BASE OF No. 4 REBAR, BENT
55 THRU 56	IRON STAKE WITH ORANGE CAP INSCRIBED: "TRUE LINE SURVEYING"
59	No. 4 REBAR 0.1' BELOW GRADE
60	IRON STAKE WITH ORANGE CAP INSCRIBED: "TRUE LINE SURVEYING" 0.1' ABOVE GRADE
61	No. 4 REBAR FLUSH WITH GRADE
62	IRON STAKE (RAILROAD RAIL), BENT, FLUSH WITH GRADE
63 THRU 74	No. 5 REBAR FLUSH WITH GRADE IN CENTERLINE OF SOIL ROAD

LINE	BEARING	DISTANCE
L1	N86°29'35"E	348.63
L2	S70°42'11"E	75.26
L3	S58°51'54"E	9.04
L4	S80°44'46"W	48.37
L5	S53°09'59"W	99.85
L6	S44°24'03"W	89.15
L7	S38°25'38"W	1388.50
L8	S45°14'40"W	129.18
L9	S58°51'17"W	120.61
L10	S71°48'53"W	106.77
L11	S79°33'23"W	434.23
L12	S80°08'05"W	306.41
L13	S77°09'49"W	207.87
L14	S75°15'04"W	195.29
L15	S72°39'23"W	163.65
L16	N04°14'42"W	2271.91
L17	S77°00'56"E	569.29
L18	N33°29'11"E	906.39
L19	S87°31'15"E	290.71
L20	N07°58'33"E	42.23
L21	N89°26'44"E	41.42
L22	N89°26'44"E	1109.05
L23	S41°59'06"E	148.94
L24	S04°42'02"E	703.02
L25	S04°42'02"E	42.24
L26	S24°58'16"E	30.00
L27	N65°01'44"E	55.51
L28	N74°49'09"E	80.65
L29	N84°03'35"E	91.28
L30	N87°00'15"E	155.63
L31	S00°29'09"W	1032.81
L32	S88°14'02"W	1275.46
L33	S38°25'38"W	1147.48
L34	S44°24'03"W	77.57
L35	S53°08'58"W	87.02
L36	S60°40'52"W	57.16
L37	N71°44'04"W	147.74
L38	N71°44'04"W	31.96
L39	S38°25'38"W	31.96
L40	N71°44'05"W	31.96
L41	N71°44'05"W	175.67
L42	S38°25'38"W	448.77

LINE	BEARING	DISTANCE
L50	S44°24'03"W	85.29
L51	N53°08'58"E	95.56
L52	N60°40'52"E	63.39
L53	S27°08'42"E	60.04
L54	S65°01'44"W	9.60
L55	N58°51'54"W	51.22
L56	S70°42'11"E	78.32
L57	N86°29'35"E	262.83
L58	N42°44'51"W	42.73
L59	N04°35'29"W	240.50
L60	N05°52'13"W	488.17
L61	N16°53'00"W	36.77
L62	N40°30'27"W	38.80
L63	N43°47'53"W	126.21
L64	N66°28'23"W	32.13
L65	N89°50'06"W	335.47
L66	S88°19'14"W	749.32
L67	S00°33'16"E	78.19
L68	S85°17'58"W	41.66
L69	N58°51'54"W	34.42

Point	Northing	Easting
1	983572.6042	2689903.1842
2	985201.2832	2690334.6309
3	985233.9856	2690886.9212
4	984107.6717	2691109.1387
5	984068.3397	2691019.8123
6	983730.7167	2689948.5006
7	985119.0068	2690313.4451
8	984248.9195	2691081.3188
9	984170.4773	2691096.7687
10	984136.6900	2691103.4233
11	984090.3848	2691243.7216
12	983738.6174	2690964.7997
13	983647.8650	2690874.0683
14	983585.4863	2690769.8461
15	983552.1640	2690668.4080
16	983473.4521	2690241.3716
17	983420.9541	2689939.4959
18	983374.7733	2689736.8252
19	983325.0567	2689547.9732
20	983276.2727	2689391.7637
21	985541.9473	2699223.5900
22	985414.0356	2699778.3230
23	985288.2801	2690410.4420
24	985358.6042	2691884.2669
25	985379.9284	2692232.2696
26	985355.0576	2692303.3043
27	985350.3823	2692311.0439
28	985326.7430	2692268.8395
29	985266.8620	2692188.9419
30	985203.1690	2692125.5675
31	984115.4204	2691263.5840
32	986169.9816	2690278.4136
33	986157.4060	2690568.8491
34	986199.2290	2690574.7090
35	986199.6297	2690616.1316
36	986210.3598	2691725.1289
37	986101.3555	2691823.2248
38	985400.7012	2691880.8355
39	985279.1536	2692367.9035
40	985251.9580	2692380.5683
41	985275.3923	2692430.8885
42	985299.1301	2692518.3747
43	985308.5773	2692609.1684
44	985316.7108	2692764.5841
45	984283.9337	2692755.8267
46	984244.6229	2691480.9732
47	985143.5544	2692194.1548
48	985198.9726	2692248.4267
49	985251.1618	2692318.0612

GENERAL NOTES:
 NO HORIZONTAL CONTROL EXISTS WITHIN 2000 FEET.

NOTE: NO ABSTRACT OF TITLE, NOR TITLE COMMITMENT, OR RESULTS OF TITLE SEARCH WERE FURNISHED TO THE SURVEYOR. ALL DOCUMENTS OF RECORD REVIEWED ARE NOTED HEREON (SEE REFERENCES). THERE MAY EXIST OTHER DOCUMENTS OF RECORD THAT MAY AFFECT THIS SURVEYED PARCEL.

ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES.

COORDINATES SHOWN ARE BASED ON LOCALIZED GROUND DISTANCES OTHER THAN ISS (10) SEE DATUM DESCRIPTION.

CONSERVATION EASEMENT ACREAGE DATA:			
CONSERVATION EASEMENT AREA 1	S & M FARMS, LLC D.B. 286, PG. 306 PIN 6998127746000	68.69 ACRES±	68.69 ACRES±
CONSERVATION EASEMENT AREA 2	PIERCE TRACT D.B. 139, PG. 610 PIN 6998161267000	36.90 ACRES±	57.05 ACRES±
CONSERVATION EASEMENT AREA 3	PIERCE TRACT D.B. 139, PG. 610 PIN 6998161267000	20.15 ACRES±	
TOTAL CONSERVATION EASEMENT EXCLUDING THE WETLAND'S RESTORATION AREA, ALL ACCESS EASEMENTS AND ROAD R/W BY COORDINATE COMPUTATION			125.74 ACRES±

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PLAT IS BASED ON NORTH CAROLINA STATE PLANE COORDINATES ESTABLISHED BY USING THE ONLINE POSITIONING USER SERVICE (OPUS) PROVIDED BY THE NATIONAL GEODETIC SURVEY.

EIS (10) NC GRID COORDINATES OPUS 83 (2011)
 N=985,370.9722
 E=2,691,028.2710

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PLAT IS 0.99994318 (GROUND TO GRID). THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM EIS (10) TO EIS (24) IS S 74°17'28" W 45.68 FEET.

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES.

GEOID-2012B CONUS
 GNSS RECEIVER - TOPCON HIPER V WITH MINIMUM TIME OF 2+ HOURS COMPLETED ON 05/08/20

THE FOLLOWING BASE STATIONS WERE USED:

PID	DESIGNATION	LATITUDE (m)	LONGITUDE (m)
DF5272	LOY2 LOYOLA 2 COOP CORS ARP	N364559.431	W0761416.069
DL1888	LOY2 LOYOLA 2 CORS ARP	N365148.919	W0763424.808
DK7747	NCCR CRESWELL CORS ARP	N355456.930	W0762825.291

SHEET 1 OF 2
 CONSERVATION EASEMENT FOR THE STATE OF NORTH CAROLINA DIVISION OF MITIGATION SERVICES OVER A PORTION OF THE LANDS OF S & M FARMS, LLC CURRENT OWNERS PER D.B. 286, PG. 306 (PIN 6998127746000) AND OVER A PORTION OF THE LANDS OF J.S. PIERCE, JR. (DECEASED) AND WIFE, HELEN H. PIERCE PER D.B. 139, PG. 610 (PIN 6998161267000)
 DMS PROJECT ID# 100139
 SPO NUMBERS 37-AE AND 37-AF
 PIERCE TERRACE
 HUNTERS MILL TOWNSHIP GATES COUNTY NORTH CAROLINA
 (THE FIELD SURVEY TOOK PLACE DURING AUGUST & SEPTEMBER 2020)

200 100 0 200 400 600
 GRAPHIC SCALE 1" = 200'

FEMA FLOOD STATEMENT:
 THE AREA REPRESENTED BY THIS PLAT IS NOT LOCATED IN A FLOOD HAZARD BOUNDARY ACCORDING TO FEMA MAP NUMBER(S) 3720598800J, ZONE(S) X, DATED: JULY 20, 2009.

RESTORATION SYSTEMS, LLC
 1101 HAYNES STREET
 SUITE 211
 RALEIGH, NC 27604

FILED: 11/10/2020 11:23:43 AM
 MARY C. HORTON, Register of Deeds
 Gates County, NC
 BOOK 3
 PAGE 92-3 (2)
 317568
 MARY C. HORTON

LEGEND:
 ISS - IRON STAKE SET
 ECM - EXISTING CONCRETE MARKER
 EIP - EXISTING IRON PIPE
 EN - EXISTING NAIL
 MNS - MAG NAIL SET
 EIS - EXISTING IRON STAKE
 EPP - EXISTING PUMP PIPE
 EIB - EXISTING IRON BAR
 PPS - PUMP PIPE SET
 NMC - NON-MONUMENTED CORNER
 RAW - RIGHT OF WAY
 EOP - EDGE OF PAVEMENT
 E/B - EASEMENT BOUNDARY
 CL - CENTERLINE
 UP - UTILITY POLE
 P.B. - PLAT BOOK
 D.B. - DEED BOOK
 PG. - PAGE
 CMP - CORRUGATED METAL PIPE
 ○ - NON-MONUMENTED CORNER
 No. 5 REBAR FLUSH WITH GRADE WITH AN ALUMINUM 3/4" CAP INSCRIBED: "STATE OF NORTH CAROLINA CONSERVATION EASEMENT"

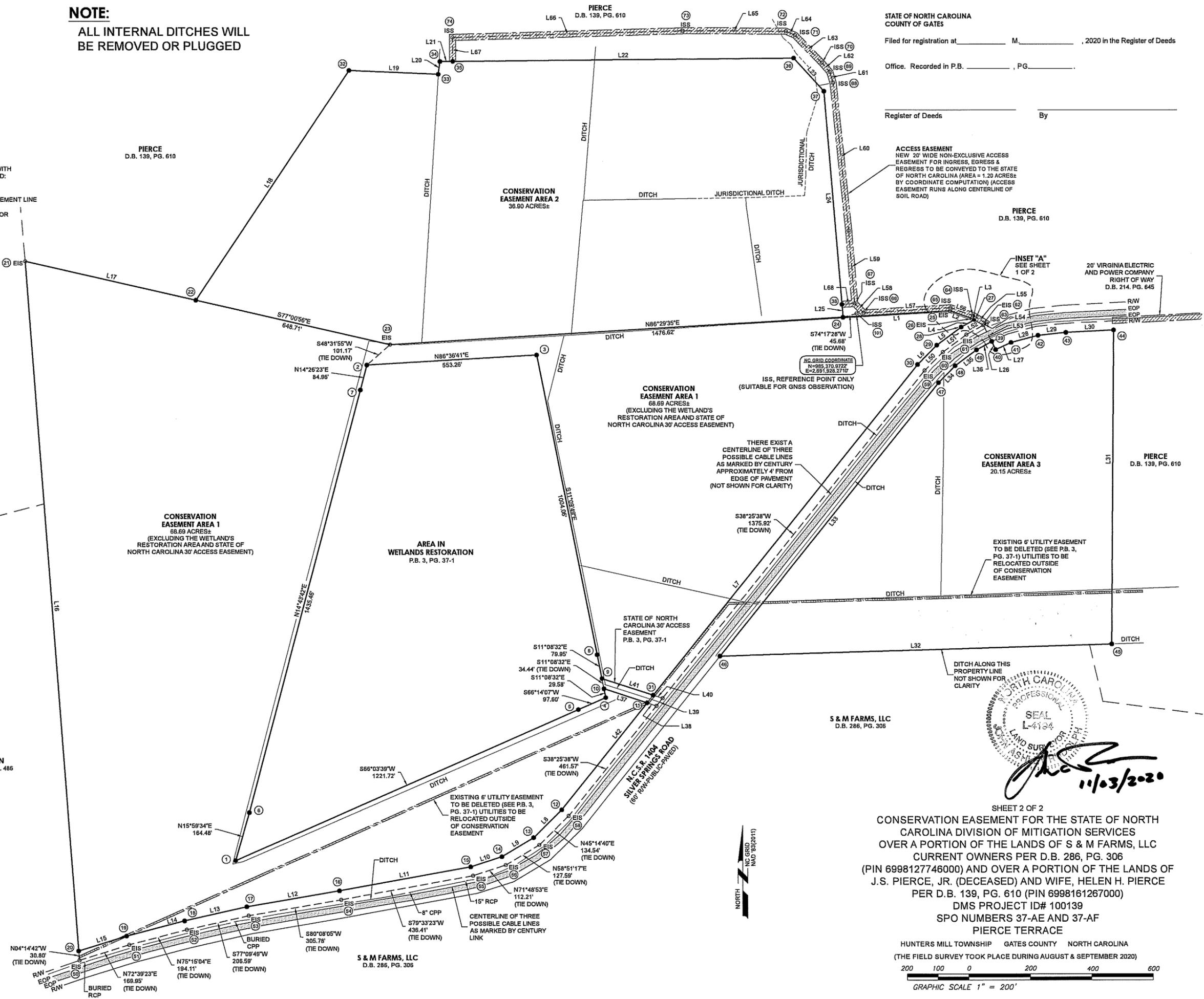
--- CONSERVATION EASEMENT LINE
 --- TIE DOWN LINE
 --- RIGHT OF WAY LINE OR ADJOINER LINE
 --- EASEMENT LINE
 --- UTILITY LINE

NOTE:
 ALL INTERNAL DITCHES WILL BE REMOVED OR PLUGGED

STATE OF NORTH CAROLINA
 COUNTY OF GATES
 Filed for registration at _____ M., _____, 2020 in the Register of Deeds
 Office. Recorded in P.B. _____, PG. _____

Register of Deeds _____ By _____

ACCESS EASEMENT
 NEW 20' WIDE NON-EXCLUSIVE ACCESS EASEMENT FOR INGRESS, EGRESS & REGRESS TO BE CONVEYED TO THE STATE OF NORTH CAROLINA (AREA = 1.20 ACRES± BY COORDINATE COMPUTATION) (ACCESS EASEMENT RUNS ALONG CENTERLINE OF SOIL ROAD)



PROFESSIONAL SEAL
 L-4134
 LAND SURVEYOR
 11/03/2020

SHEET 2 OF 2
 CONSERVATION EASEMENT FOR THE STATE OF NORTH CAROLINA DIVISION OF MITIGATION SERVICES OVER A PORTION OF THE LANDS OF S & M FARMS, LLC CURRENT OWNERS PER D.B. 286, PG. 306 (PIN 6998127746000) AND OVER A PORTION OF THE LANDS OF J.S. PIERCE, JR. (DECEASED) AND WIFE, HELEN H. PIERCE PER D.B. 139, PG. 610 (PIN 6998161267000)
 DMS PROJECT ID# 100139
 SPO NUMBERS 37-AE AND 37-AF
 PIERCE TERRACE
 HUNTERS MILL TOWNSHIP GATES COUNTY NORTH CAROLINA
 (THE FIELD SURVEY TOOK PLACE DURING AUGUST & SEPTEMBER 2020)
 GRAPHIC SCALE 1" = 200'

Appendix H: Credit Release Schedule

The standard release schedule for ILF credits generated through wetland mitigation projects has been modified to meet the new standards for the monitoring time frames provided in USACE Wilmington District's 2016 guidance document.

The schedule below list the updated credit release schedule for wetland mitigation projects developed by ILF sites in North Carolina:

Pierce Terrace Wetland Mitigation Site Credit Release Schedule and Milestones			
Credit Release Milestone	Release Activity	ILF/NCDMS	
		Interim Release	Total Released
1	Site Establishment (includes all required criteria stated above)	0%	0%
2	Completion of all initial physical and biological improvements made pursuant to the Mitigation Plan	30%	30%
3	Year 1 monitoring report demonstrates that interim performance standards have been met	10%	40%
4	Year 2 monitoring report demonstrates that interim performance standards have been met	10%	50%
5	Year 3 monitoring report demonstrates that interim performance standards have been met	15%	65%
6*	Year 4 monitoring report demonstrates that interim performance standards have been met	5%	70%
7	Year 5 monitoring report demonstrates that interim performance standards have been met	15%	85%
8*	Year 6 monitoring report demonstrates that interim performance standards have been met	5%	90%
9	Year 7 monitoring report demonstrates that performance standards have been met	10%	100%

*Please note that vegetation plot data may not be required with monitoring reports submitted during these monitoring years unless otherwise required by the Mitigation Plan or directed by the NCIRT.

Appendix I: Maintenance Plan

Maintenance Plan

The Site shall be monitored on a regular basis and a physical inspection of the site shall be conducted a minimum of once per year throughout the post-construction monitoring period until performance standards are met. These Site inspections may identify Site components and features that require routine maintenance. Routine maintenance should be expected most often in the first two years following site construction and may include the following:

Component/Feature	Maintenance through project close-out
Vegetation	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 controlled by mechanical and/or chemical methods. Any vegetation control requiring herbicide application will be performed in accordance with NC Department of Agriculture (NCDCA) rules and regulations.
Site Boundary	Site boundaries shall be identified in the field to ensure clear distinction between the mitigation site and adjacent properties. Boundaries may be identified by fence, marker, bollard, post, tree- blazing, or other means as allowed by site conditions and/or conservation easement. Boundary markers disturbed, damaged, or destroyed will be repaired and/or replaced on an as needed basis.
Outfall Structures	Routine maintenance and repair activities may include removal of debris and supplemental installation of live stakes and other target vegetation along the ditch below the outfall structures. Undermining of the structure may require repair or replacement.

Appendix J: IRT Site Visit Notes



Task 1 a.) Inter-Agency Post Contract Site Visit: Site Visit Notes

As specified within RFP #16-007907, Restoration Systems (RS) held an on-site meeting with regulatory agencies and DMS staff to discuss the Pierce Terrace Wetland Mitigation Site (PT) on February 10, 2020. Below is a list of attendees and general site visit notes.

Attendees:

USACE:

- Kyle Barns
- Todd Tugwell
- Kim Browning

NC DMS:

- Lindsay Crocker
- Jerimiah Dow

Restoration Systems:

- Alex Baldwin
- Raymond Holz
- Worth Creech

NC WRC:

- Travis Wilson
- Maria Dunn

NC DWR:

- Mac Haupt
- Erin Davis

Site Visit Notes:

- The PT mitigation approach includes the filling of ditches throughout existing agricultural fields, including ditches around the Hofler Mitigation Site. In this landscape setting, ditches alter hydrology by draining surface water from precipitation events, influencing the hydroperiod of the seasonally high water table to a degree where historic wetland hydrology does not exist. RS is proposing the restoration of wetland hydrology by retaining precipitation inputs on-site, which will be achieved by filling in the ditches, eliminating the surface water outlet, and providing diffuse flow across the soil surface.
- Early coordination between DMS, Albemarle Restoration, and the IRT will be imperative to ensure the design and implementation of the PT project will not exasperate IRT concerns regarding the Hofler Site. Site visit participants discussed the potential of monitoring the Hofler Site during the PT project, but specifics were not detailed. The success of the PT Site is not dependent upon modifications to the Hofler Site. However, RS believes the implementation of the PT Site could allow for an improvement to the Hofer Site.
- Regarding the restoration approach of the PT Site, the group had significant discussions regarding the hydrological source of the proposed non-riverine hardwood flat and swamp wetlands. RS elaborated that within this area of the State, hydrology for non-riparian wetlands like PT is driven primarily by precipitation as well as secondary inputs from overland flow. The primary purpose and effect of the existing ditch networks are to remove precipitation driven surface water from the landscape, rather than lower the water table. This is evident at the PT site as the collector ditches are gently graded from 0.5 – 2 ft as they approach the main collector ditches which are deeper and move water off the land.

A review of the NOAA AHPS Precipitation Analysis website on Feb 11, 2020 shows ~8-inches of observed precipitation and precipitation is ~3-inches above average at the PT site during the last

30-days. Considering the recent weather conditions and the soil conditions at the time of the site visit, it was evident the ditches are effectively removing surface water from the PT site.

- The western edge of the proposed wetland restoration line includes portions of soils mapped in the NRCS Soil Survey as Hydric B. A discussion regarding whether or not these areas are drained hydric soils. RS maintained that these edges exhibited soil redox concentrations at depths that would be considered the outer margins of the historic wetland. There were concerns expressed by the IRT that the redox concentrations were faint and possibly at a depth lower than what would constitute a drained hydric soil. Also, there were comments that the soil matrix chroma was brighter than what is typically classified as a drained hydric soil. RS offered that initial land clearing coupled with prolonged landuse in agriculture and silviculture (1955 historic imagery attached, min. 65 years in current state, 1906 USGS Map shows unpaved roads adjacent and into the project, indicating some level of altered landuse – both attached) impacted the outer boundary of the historic wetland resulting in distorted relic hydric soil indicators.

The IRT stated the Mitigation Plan should include a map showing the locations of soil borings along with representative soil profile descriptions of the soil borings. Also, a transect of soil borings along the western edge extending from the Hydric A soil map units into the Hydric B soil map units of the proposed wetland restoration will further assist in identifying the drained hydric soil boundary. In addition, (if possible due to current agricultural activities) some monitoring wells should be installed in this area pre-restoration and left in place post-restoration to document hydrology. The IRT discussed the potential of a soil specific success criteria for the restoration of Hydric B soils, but specifics were not detailed.

Also, a topographic survey will be performed to identify elevations of critical features including adjacent uplands, drained hydric soils, the Hofler Mitigation site (berm and wetland restoration components), Silver Springs Road and associated roadside ditches. This information will be used along with another investigation to ensure the project does not flood Silver Springs Road and provide supplemental data regarding the extent of historic wetland hydrology.

- RS plans to use areas outside of the delineated drained hydric soil boundary as fill material for the existing ditches. In these areas, RS will create habitat depressions ranging in depth from approximately 6 – 18". These areas will be detailed in the Mitigation Plan and proposed for Wetland Creation at a 3:1 ratio.
- The IRT asked, and RS confirmed that early coordination with the NC DOT would occur regarding roadside ditches within the DOT's Right of Way, including the removal of clogged and dilapidated culverts crossing those ditches. Roadside ditches will not be filled as a part of the project and road drainage is expected to improve with the removal of the existing culverts. IRT commented that future DOT road-side ditch maintenance should be considered and credit backed off any hydrologic zone of influence.
- The IRT stressed that any areas of soil cut (habitat areas or elsewhere) should have the topsoil removed, stockpiled, and reused to minimize long-term effects to plant vigor. Likewise, tree selection should be careful to select hydrophytic species and hardwood wetland species.
- Site features, and permitting requirements, will be based on the signed preliminary jurisdictional determination.

Pierce Terrace Wetland Mitigation Site: Post Contract Award IRT Site Visit Notes,

Attachment 1: 1906 USGS Map (blue pin marks site)

The screenshot displays the ngmdb.usgs.gov/topoview viewer interface. The main map area shows a topographic map of the Merchants Mill Pond area in Sunbury, NC. The map includes contour lines, a creek, and a pond. A blue pin marks a specific location on the map. The interface includes a search bar, a list of map records, and various map controls.

Map Records:

Location	Year	Scale
Beckford, NC	1906 (HTMC, 1906 ed.)	Scale 1:48000
Beckford, NC	1907 (HTMC, 1907 ed.)	Scale 1:62500
Beckford, NC	1907 (HTMC, 1940 ed.)	Scale 1:62500
Beckford, NC	1940 (HTMC, 1940 ed.)	Scale 1:62500
Beckford, NC	1940 (HTMC, 1940 ed.)	Scale 1:62500
Norfolk, VA	1953 (HTMC, 1954 ed.)	Scale 1:250000
Norfolk, VA	1953 (HTMC, 1964 ed.)	Scale 1:250000
Norfolk, VA	1953 (HTMC, 1973 ed.)	Scale 1:250000
Norfolk, VA	1953 (HTMC, 1973 ed.)	Scale 1:250000
Merchants Millpond, NC	1981 (HTMC, 1981 ed.)	Scale 1:24000
Elizabeth City, NC	1985 (HTMC, 1985 ed.)	Scale 1:100000
Elizabeth City, NC	1985 (HTMC, 1990 ed.)	Scale 1:100000
Merchants Millpond, NC	1997 (HTMC, 2000 ed.)	Scale 1:24000
Merchants Millpond, NC	2011 (US Topo)	Scale 1:24000
Merchants Millpond, NC	2012 (US Topo)	Scale 1:24000

<https://ngmdb.usgs.gov/topoview/viewer/#14/36.4308/-76.6689>

3-17-55

MON-2N-112

North

Existing Hofer Mitigation Site

39-4

KODAK AEROGRAHIC SAFETY FILM 1A 877

Appendix K: Construction and Sediment and Erosion Control Plans

05/08/19

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	PIERCE TERRACE SITE	1	

DWR PROJECT 2020-00034

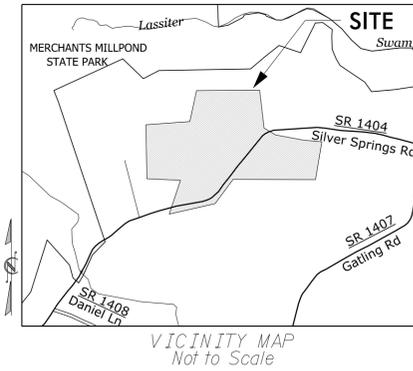
INDEX OF SHEETS

SHEET NUMBER	SHEET
C01	Title Sheet
C02 THRU C02B	Notes
C03 THRU C03D	Details
C03E	Overall Site
C03F	Wetland Mitigation Assets
C03G	Planting
C04 THRU C12	Site Improvement Plans

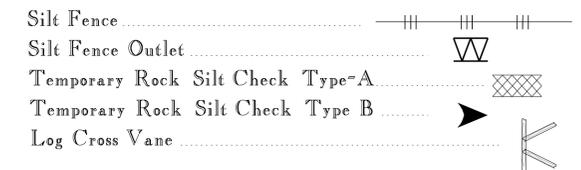
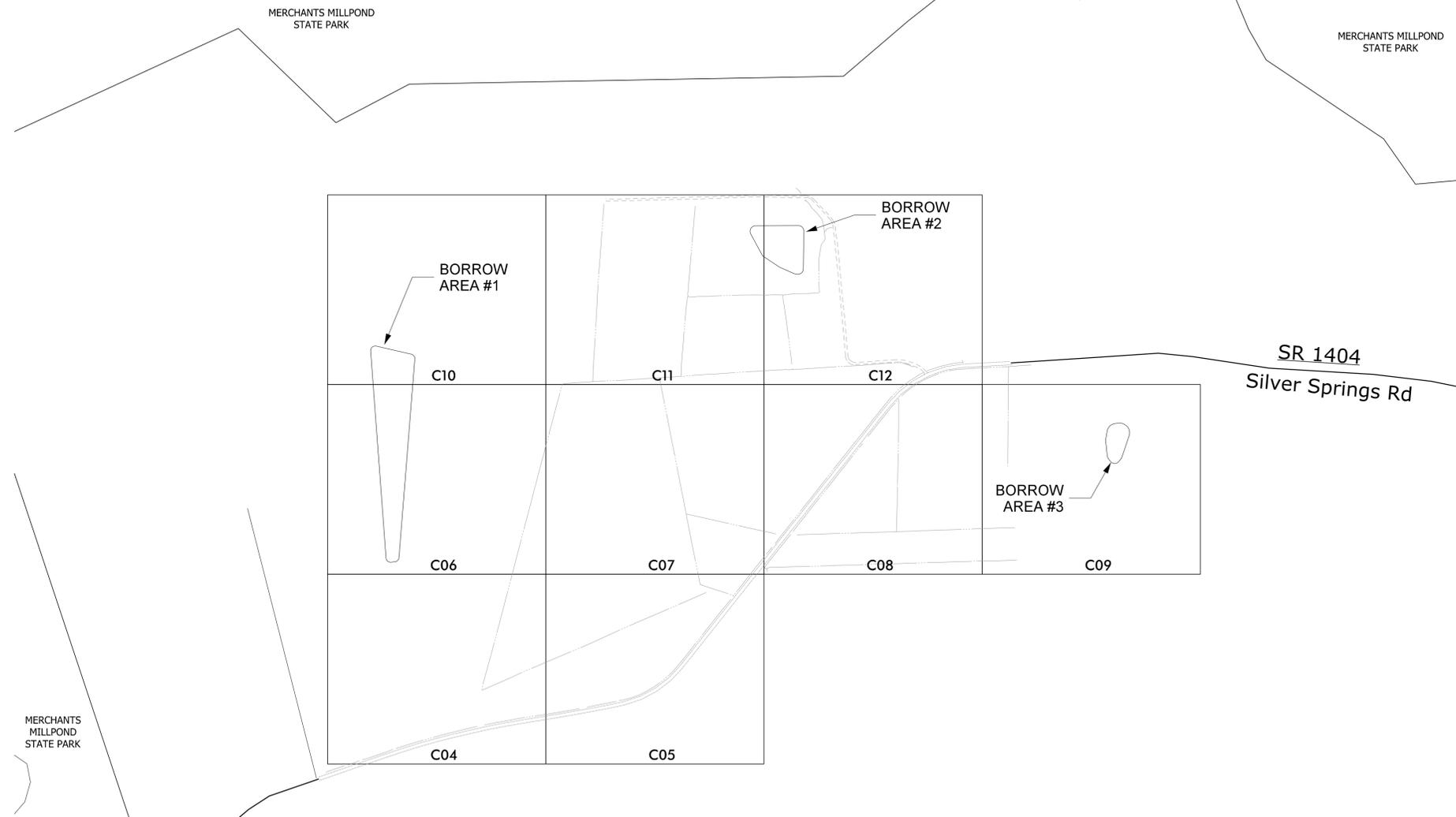
CONSTRUCTION PLANS PIERCE TERRACE SITE

LOCATION: GATES COUNTY, NORTH CAROLINA

TYPE OF WORK: WETLAND RESTORATION AND MITIGATION (CLEARING, GRUBBING, GRADING, AND EROSION CONTROL)



CONTRACT: PIERCE TERRACE SITE



LIMITS OF DISTURBANCE:
27.7 ACRES *

THE LIMITS OF DISTURBANCE INCLUDES BORROW AREAS AND DITCHES THAT WILL BE FILLED. THE REMAINING AREAS WILL BE DISKED IN A MANNER CONSISTENT WITH FARMING PRACTICES WHICH ARE NOT CONSIDERED LAND DISTURBING ACTIVITIES. (SEE SHEET C03D FOR LIMITS OF DISTURBANCE AREAS)

CHOWAN RIVER BASIN



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

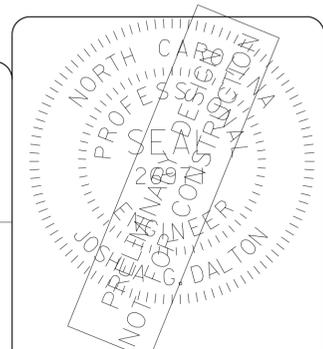
THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



WORTH CREECH
SITE CONSTRUCTION MANAGER



JOSHUA G. DALTON, P.E.
PROJECT ENGINEER



DATE:

5/16/2022
PIERCE_TERRACE_SITE.dgn
jharvey



GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

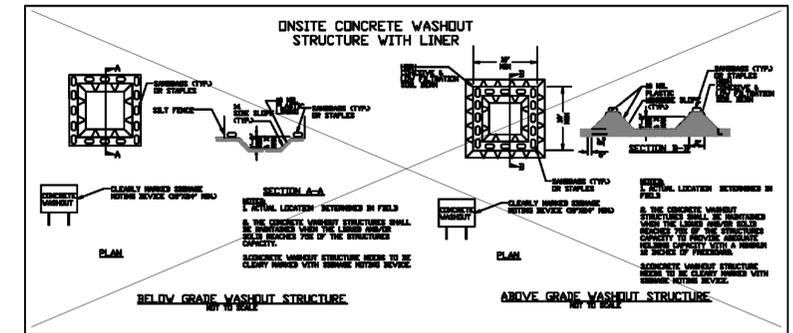
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This General Permit as well as the Certificate of Coverage, after it is received.
- Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the <u>NC 303(d) list</u> as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(l)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.





CONSTRUCTION SEQUENCE

- Obtain a Land Disturbing Permit.
- Submit documentation required under the site NPDES stormwater permit for construction activity (NCG010000) to Stormwater Inspections throughout the project.
- Schedule a pre-construction conference with NCDEQ Erosion Control Officer and Erosion Control Design Engineer. Contact DEMLR Raleigh Regional Office at least 48 hours prior to commencing the land-disturbing activity at (919) 791-4200.
- Erosion and Sediment Control (E&SC) permit and Certificate of Coverage (COC) must be obtained before any land disturbing activities occur.
- Per NPDES requirements, a rain gauge, self-inspections records, permit, Certificate of Coverage, and E&SC Plan are required to be maintained on-site and accessible during inspection. It is recommended that these items be placed in a permits box at the beginning or entrance of project.
- Construction activities that have an E&SC Plan approved on or after April 1, 2019 are required to fill out and submit an electronic Notice of Intent (e-NOI) form. All construction activities are required to follow the new NCG01 permit regardless of when plans were approved.
- The contractor shall conduct self-inspections of the erosion and sediment control measures and complete the following combined self-inspection form found on the DEMLR website:
<https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/NPDES%20General%20Permits/DEMLR-CSW-Monitoring-Form-Rev-August-8-2019.pdf>. Twelve months of complete inspection forms shall be kept on-site and available for inspection at all times. It is recommended a copy be kept in a permit box.
- Self-inspections for erosion and sedimentation control measures are to be performed at least once every seven calendar days and within 24 hours of every rain event of greater than 1 inch. Any needed repairs shall be made immediately to maintain measures as details on this plan. A rain gauge shall be installed at the project site for monitoring.
- Install all temporary erosion and sediment control measures including silt fence, tree protection, and skimmer basins. Limit clearing and land disturbing activity to the area necessary to install the permitted measures.
- Basin slopes shall be covered with a suitable RCP after seeding and any bare soils between to of basin slopes and perimeter E&SC measures shall be seeded, mulched, and tacked.
- Begin clearing, grubbing, drainage improvements, and roadway grading operations.
- Stabilize any bare areas resulting from construction activity within times frames established by NCG-01 ground cover stabilization guidelines.
- Increase maintenance frequency where approved measures fail to prevent accelerated erosion, off-site sedimentation, or repetitive non-compliance issues.
- Maintain all erosion and sediment control measures in good working order. Silt fence, inlet and outlet protection, and other similar measures must be cleaned out before they are half-full. Clogged stone filters must be refreshed or replaced. Silt fence cannot have holes or tears.
- Stabilize site as areas are brought up to finished grade with vegetation, paving, mulch, matting, etc. Seed and mulch denuded areas per Ground Stabilization timeframes.
- Perimeter silt fence will be maintained throughout the project until permanent ground cover is established.
- Once the site is completely stabilized, remove temporary erosion control measures and seed and mulch any resulting bare areas. Sediment basins shall be dewatered using a special stilling basin (silt bag) prior to removal. Outlet ditches shall be graded and stabilized immediately following basin removal.
- When vegetation has become established, call for a final site inspection by the Erosion Control Design Engineer. When the project is complete, the permittee shall contact DEMLR to close out the E&SC Plan. After DEMLR informs the permittee of the project close out, via inspection report, the permittee shall visit deq.nc.gov/ncg01 to submit an electronic Notice of Termination (e-NOT). A \$100 annual general permit fee will be charged until the e-NOT has been filled out.

VEGETATIVE PLAN

Seedbed Preparation

- Chisel compacted areas and spread topsoil 2 to 3 inches deep over adverse soil conditions, if available.
- Plow the entire area to a depth of not less than 5 inches, unless directed otherwise.
- Remove all loose rock, roots and other obstructions 3 inches or larger on median, leaving surface reasonably smooth and uniform.
- Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
- Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared 2 to 3 inches deep.
- Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
- Mulch within 24 hours after seeding and anchor mulch.
- Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.

Date:			Page:															
TEMPORARY SEEDING RECOMMENDATIONS																		
<p>TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING Seeding Mixture</p> <table border="1"> <tr> <th>Species</th> <th>Rate (lb/acre)</th> </tr> <tr> <td>Rye (grain)</td> <td>120</td> </tr> <tr> <td>Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)</td> <td>50</td> </tr> </table> <p>Omit annual lespedeza when duration of temporary cover is not to extend beyond June.</p> <p>Seeding Dates Mountains—Above 2500 feet: Feb. 15 - May 15 Below 2500 feet: Feb. 1 - May 1</p> <p>Piedmont—Jan. 1 - May 1 Coastal Plain—Dec. 1 - Apr. 15</p> <p>Mulch Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.</p> <p>Maintenance Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.</p>		Species	Rate (lb/acre)	Rye (grain)	120	Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50	<p>TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER Seeding Mixture</p> <table border="1"> <tr> <th>Species</th> <th>Rate (lb/acre)</th> </tr> <tr> <td>German millet</td> <td>40</td> </tr> </table> <p>In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.</p> <p>Seeding Dates Mountains—May 15 - Aug. 15 Piedmont—May 1 - Aug. 15 Coastal Plain—Apr. 15 - Aug. 15</p> <p>Mulch Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.</p> <p>Maintenance Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.</p>		Species	Rate (lb/acre)	German millet	40	<p>TEMPORARY SEEDING RECOMMENDATIONS FOR FALL Seeding Mixture</p> <table border="1"> <tr> <th>Species</th> <th>Rate (lb/acre)</th> </tr> <tr> <td>Rye (grain)</td> <td>120</td> </tr> </table> <p>Seeding Dates Mountains—Aug. 15 - Dec. 15 Coastal Plain and Piedmont—Aug. 15 - Dec. 31</p> <p>Mulch Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.</p> <p>Maintenance Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.</p>	Species	Rate (lb/acre)	Rye (grain)	120
Species	Rate (lb/acre)																	
Rye (grain)	120																	
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50																	
Species	Rate (lb/acre)																	
German millet	40																	
Species	Rate (lb/acre)																	
Rye (grain)	120																	
<p>SEED BED PREPARATION:</p> <p>LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.</p> <p>FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.</p> <p>SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.</p>																		
<p>EFFECTIVE DATE: 11/12/2020</p>		TEMPORARY SEEDING RECOMMENDATIONS																

PERMANENT SEEDING SCHEDULE:

PLANT MATERIAL SELECTION

- REFER TO TABLE BELOW FOR APPROPRIATE SELECTIONS OF NATIVE PERMANENT SEES.
- PERMANENT SEED INCLUSION IN THE MIXTURE SHOULD TOTAL 15 LBS OF PURE LIVE SEED (PLS) PER ACRE DRILLED OR 20 LBS PLS/AC BROADCAST APPLIED.
- AT LEAST 4 SPECIES SHOULD BE SELECTED FOR THE MIXTURE, SELECTION OF MORE THAN 4 SPECIES RECOMMENDED FOR INCREASING CHANCES OF SUCCESSFUL VEGETATION ESTABLISHMENT.
- IF OTHER SPECIES SUCH AS WILDFLOWERS ARE ADDED TO THE MIX, THEY SHOULD NOT BE COUNTED IN THE MINIMUM SEEDING RATE.

SEEDBED PREPARATION

- DISURBED SOILS WITHIN RIPARIAN AREAS MUST BE AMENDED TO PROVIDE AN OPTIMUM ENVIRONMENT FOR SEED GERMINATION AND SEEDING GROWTH.
- THE pH OF THE SOIL MUST BE SUCH THAT IT IS NOT TOXIC AND NUTRIENTS ARE AVAILABLE.
- SOIL ANALYSIS SHOULD BE PERFORMED TO DETERMINE NUTRIENT AND LIME NEEDS OF EACH SITE.
- APPROPRIATE pH LEVELS ARE BETWEEN 5.5-7.
- RIPIARIAN BUFFERS REGULATED FOR NUTRIENT MANAGEMENT MAY BE LIMITED TO A SINGLE APPLICATION OF FERTILIZER.
- SUITABLE MECHANICAL MEANS SUCH AS DISKING, RAKING, OR HARROWING MUST BE EMPLOYED TO LOOSEN COMPACTED SOIL PRIOR TO SEEDING.

PLANTING

- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DROP-TYPE SPREADER, DRILL, OR HYDROSEEDER ON A FIRM, FRIABLE SEEDBED.
- IN FINE SOILS, SEEDS SHOULD BE DRILLED 0.24 – 0.5 INCHES. IN COARSE SANDY SOILS, SEEDS SHOULD BE PLANTED 0.75 INCHES DEEPER THAN 0.75 INCHES.

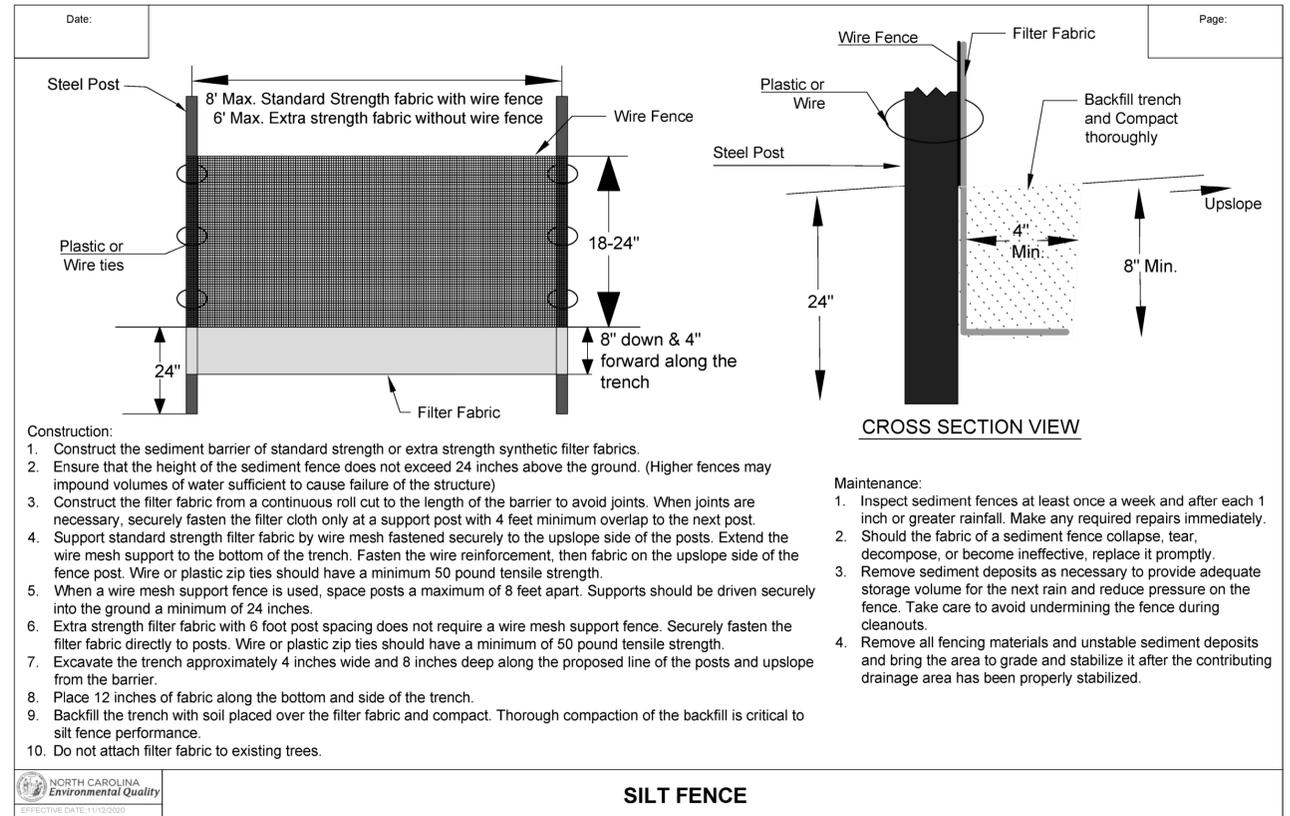
MULCH

- MULCH ALL PLANTINGS IMMEDIATELY AFTER SEEDING
- IF PLANTING ON STREAM BANKS STEEPER THAN 10% OR AREAS SUBJECT TO FLOODING, A BIODEGRADABLE ROLLED EROSION CONTROL PRODUCT IS RECOMMENDED TO HOLD SEED AND SOIL IN PLACE.

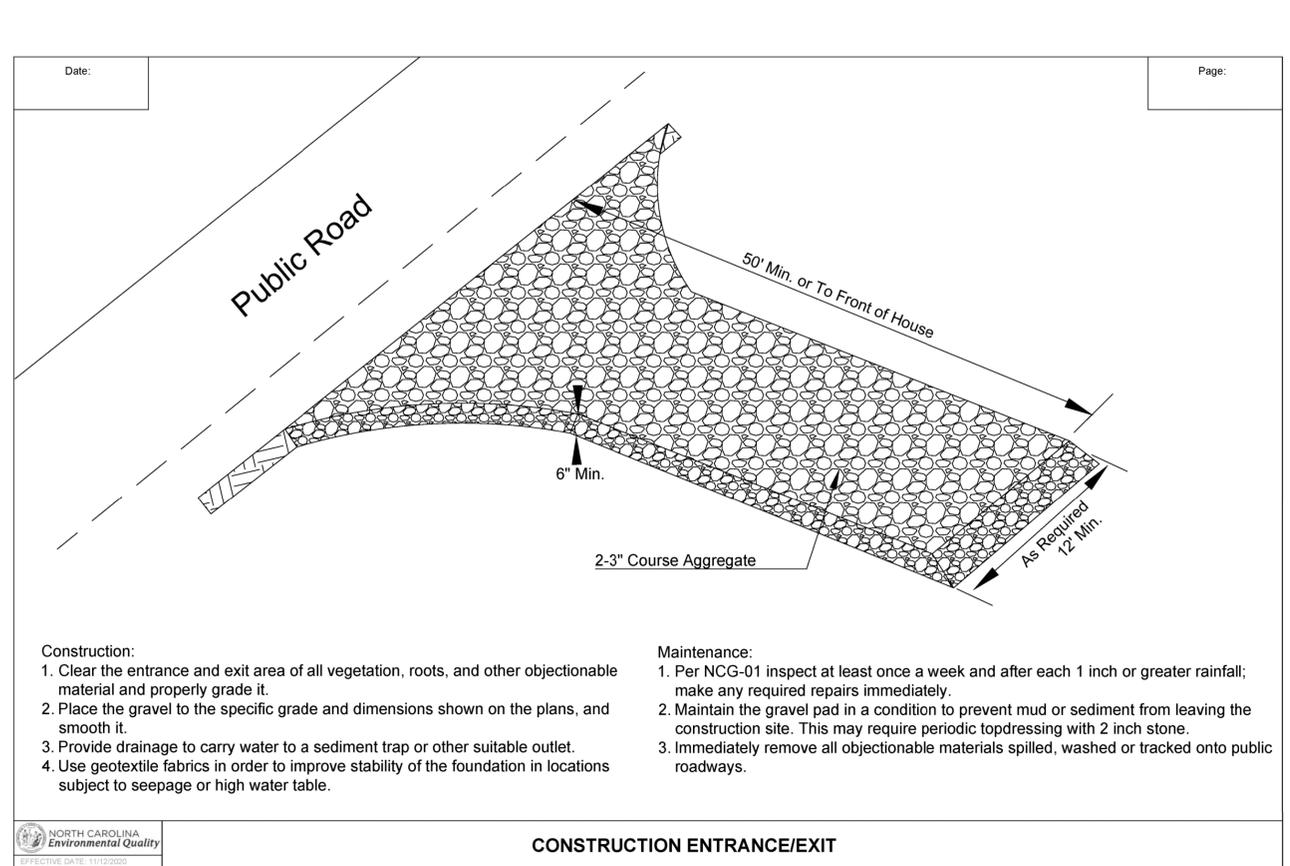
MAINTENANCE

- THE RECOMMENDED PERMANENT GRASS SPECIES MAY REQUIRE TWO YEARS FOR ESTABLISHMENT, DEPENDING ON SITE CONDITIONS.
- INSPECT SEEDED AREAS FAILURE AND MAKE NECESSARY REPAIRS, SOIL AMENDMENTS, AND RE-SEEDINGS.
- IF WEEDY EXOTIC SPECIES HAVE TAKEN OVER THE AREA AFTER THE FIRST GROWING SEASON, THE INVASIVE SPECIES MUST BE ERADICATED TO ALLOW NATIVE SPECIES TO GROW.
- MONITOR THE SITE UNTIL LONG-TERM STABILITY HAS BEEN ESTABLISHED.

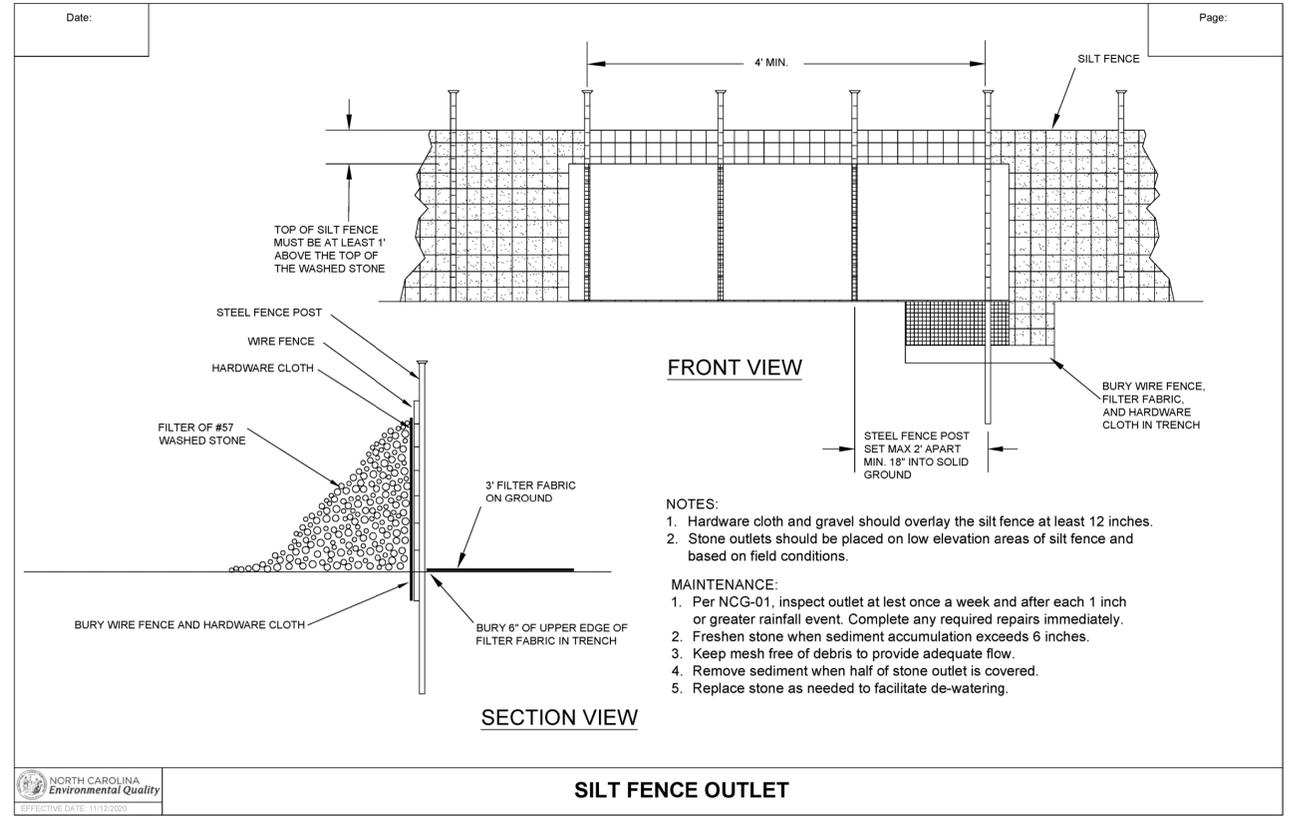
Permanent – Coastal Plain Herbaceous Seed Mix		
<i>Carex albulatensis</i>	<i>Eupatorium fistulosum</i>	<i>Panicum anceps</i>
<i>Carex lupulina</i>	<i>Eupatorium perfoliatum</i>	<i>Panicum clandestinum</i>
<i>Chamaecrista fasciculata</i>	<i>Helenium flexuosum</i>	<i>Panicum rigidulum</i>
<i>Chamaecrista nictitans</i>	<i>Helianthus angustifolius</i>	<i>Pycnanthemum tenuifolium</i>
<i>Coreopsis lanceolata</i>	<i>Heliopsis helianthoides</i>	<i>Rhynchospora globularis</i>
<i>Coreopsis tinctoria</i>	<i>Hibiscus moscheutos</i>	<i>Rudbeckia hirta</i>
<i>Desmodium canadense</i>	<i>Juncus effusus</i>	<i>Scirpus cyperinus</i>
<i>Echinacea purpurea</i>	<i>Juncus tenuis</i>	<i>Tridens flavus</i>
<i>Elymus riparius</i>	<i>Liatris spicata</i>	<i>Verbena hastata</i>
<i>Elymus virginicus</i>	<i>Monarda fistulosa</i>	<i>Vernonia noveboracensis</i>



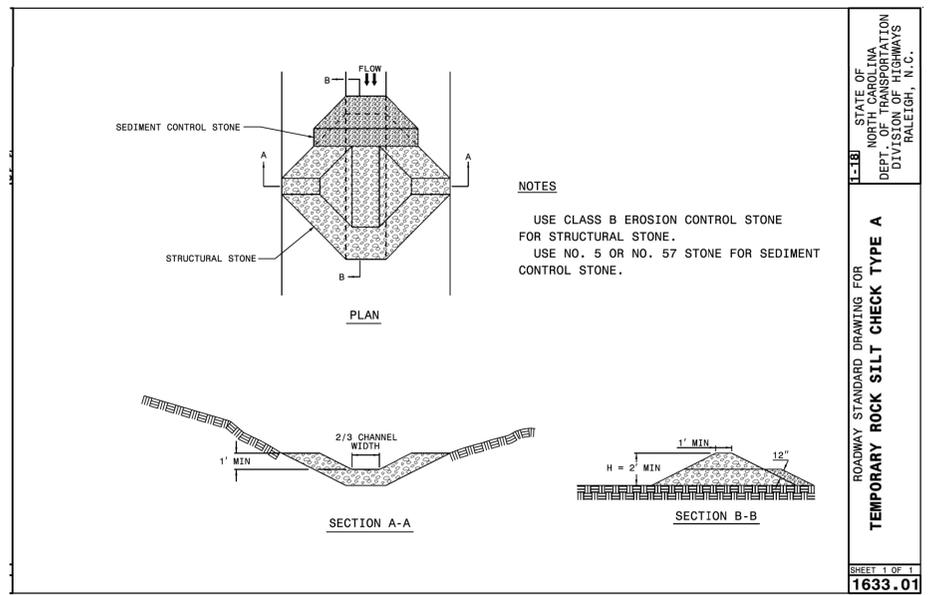
SILT FENCE



CONSTRUCTION ENTRANCE/EXIT



SILT FENCE OUTLET



TEMPORARY ROCK SILT CHECK TYPE A

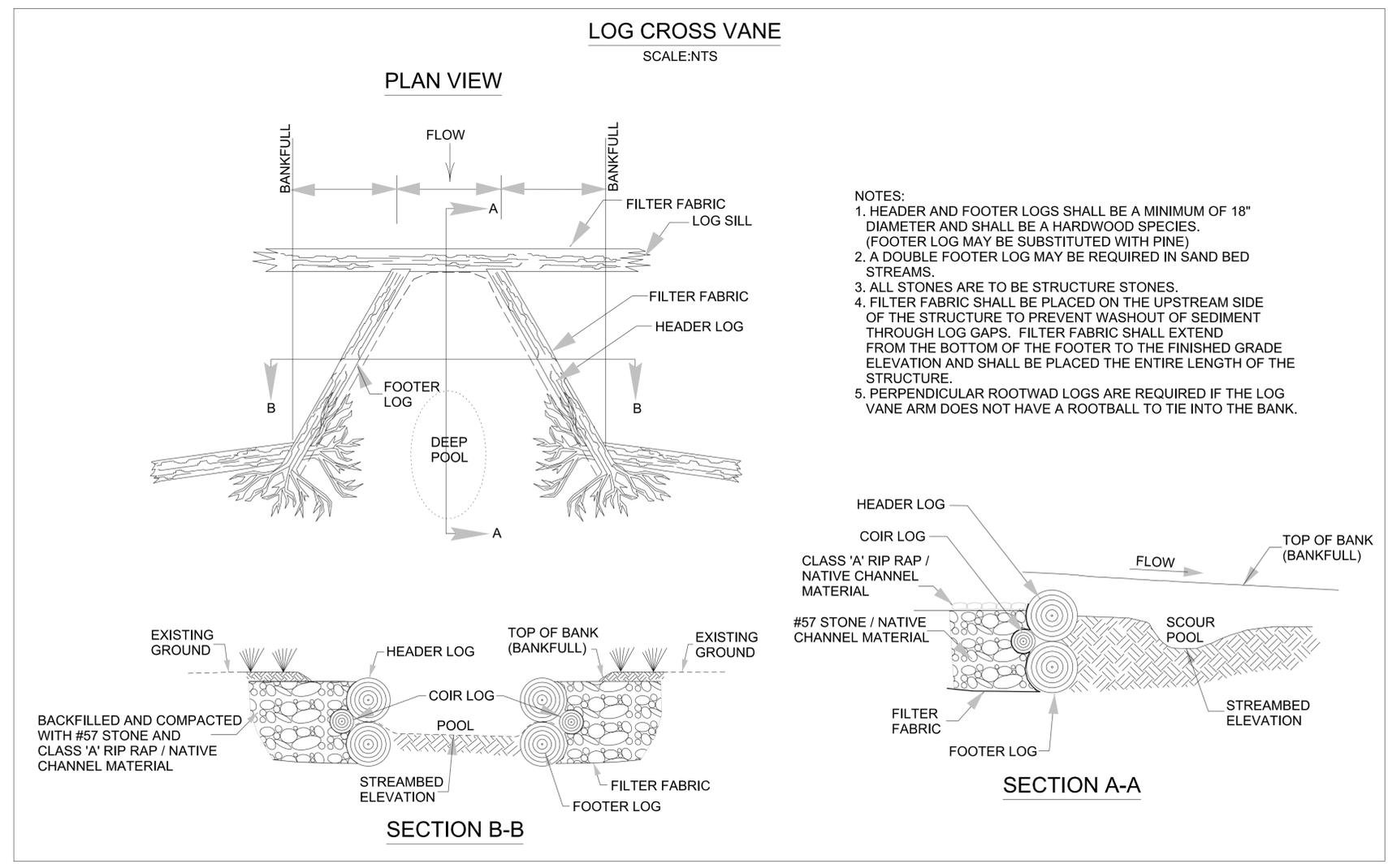
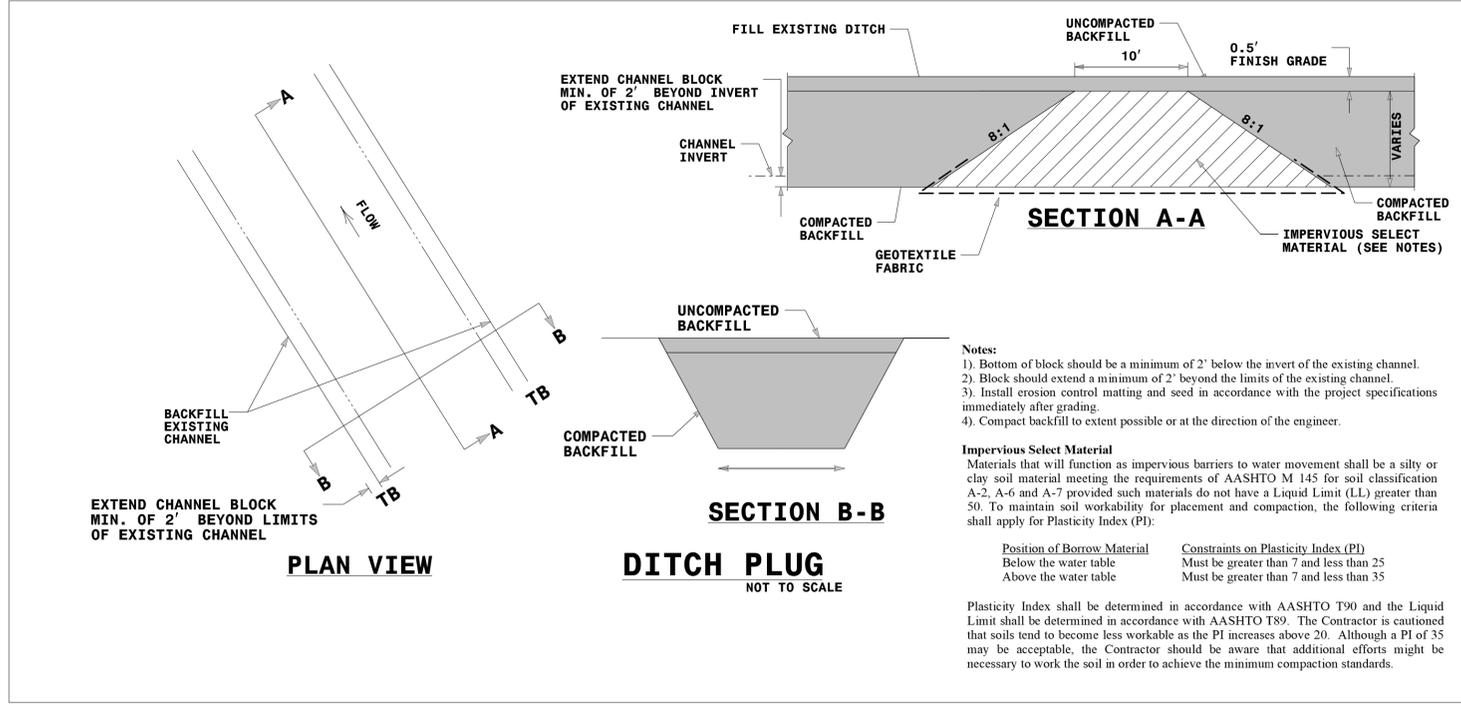
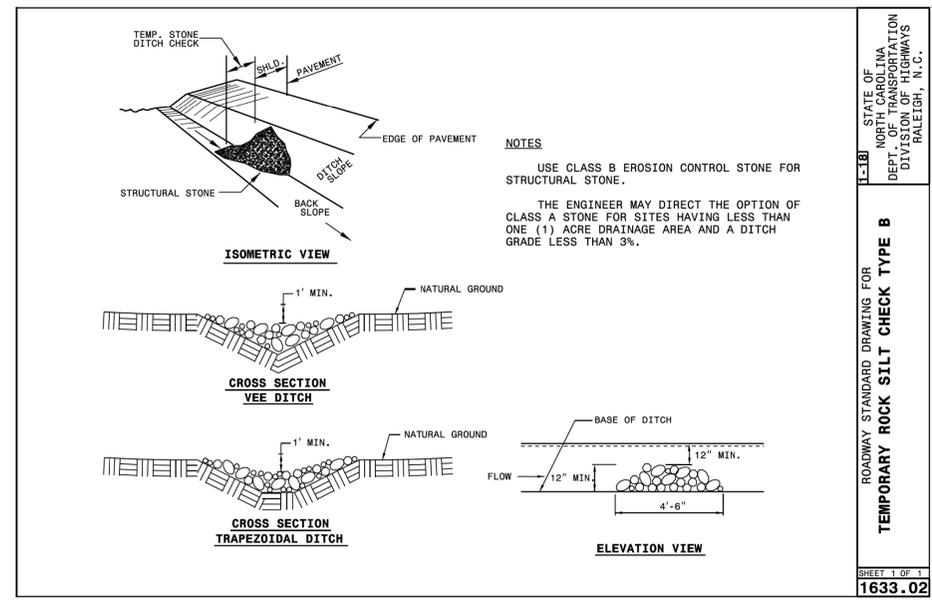
5/16/2022 P:\C\Projects\1633\1633.dgn



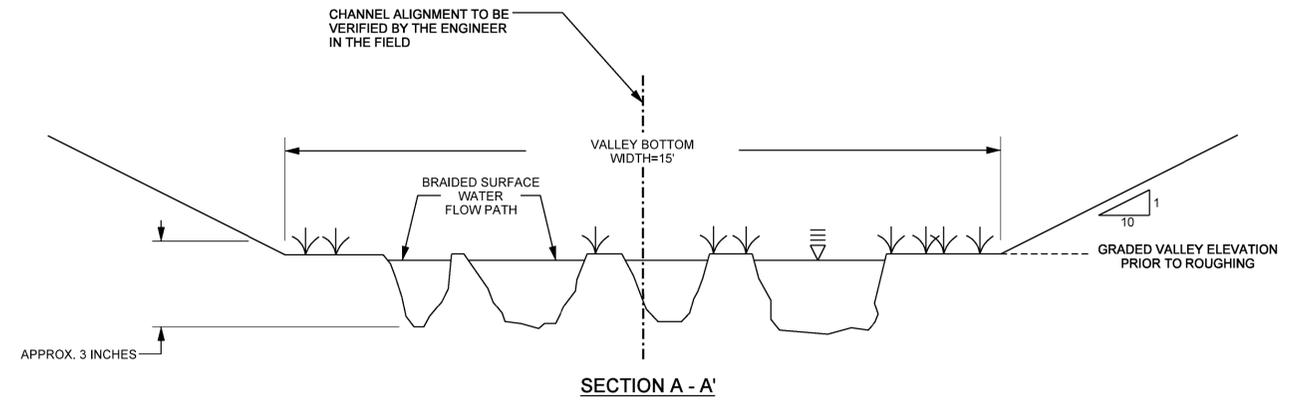
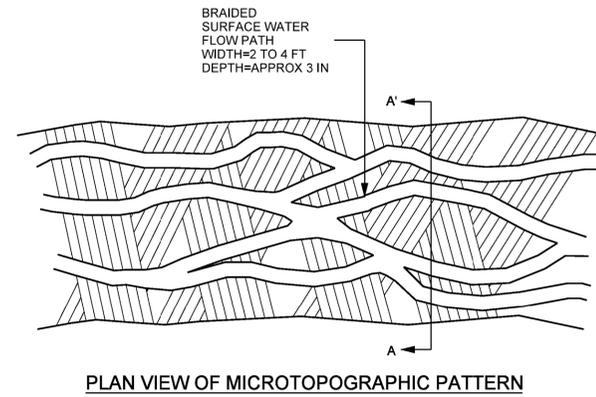
PROJECT # :	1154-21011
DRAWING NAME:	PCTERRDYPSHC03
DATE:	2022
DRAWN BY:	JRH
REVIEWED BY:	JGD
REVISIONS:	



PROJECT # : 1154-21011
DRAWING NAME: PCTERRDYPHSC03A
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

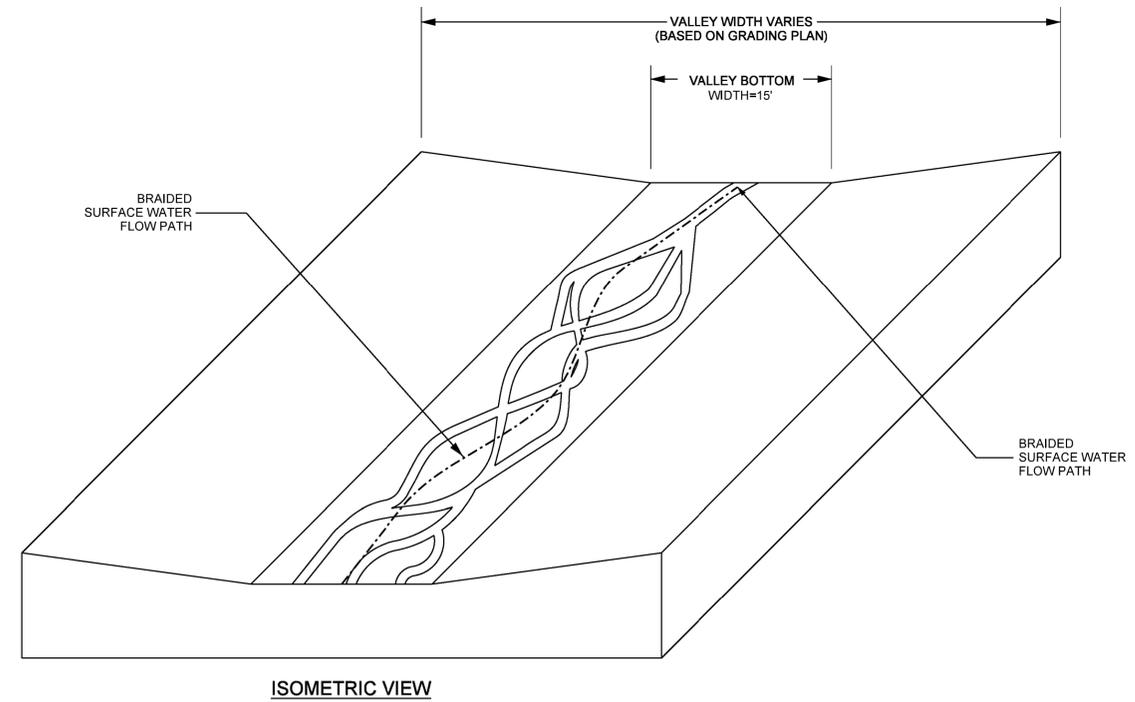


BRAIDED SURFACE WATER FLOW PATH DETAIL

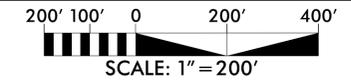


NOTES:

1. Reach will be constructed by first restoring valley topography as shown on the plan sheets.
2. The restored valley bottom will then be roughened.
3. Construct braided channels to avoid formation of a single thread channel.
4. Final grades will be verified in the field by the engineer and shall coincide with the wetland plan.
5. Upon completion of the braided channel features, apply mulch, temporary seed, and permanent seed to the constructed valley according to sediment and erosion control specifications.



PROJECT # :
1154-21011
DRAWING NAME:
PCTERRDYPHC03C
DATE:
2021
DRAWN BY:
JRH
REVIEWED BY:
JGD
REVISIONS:



HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

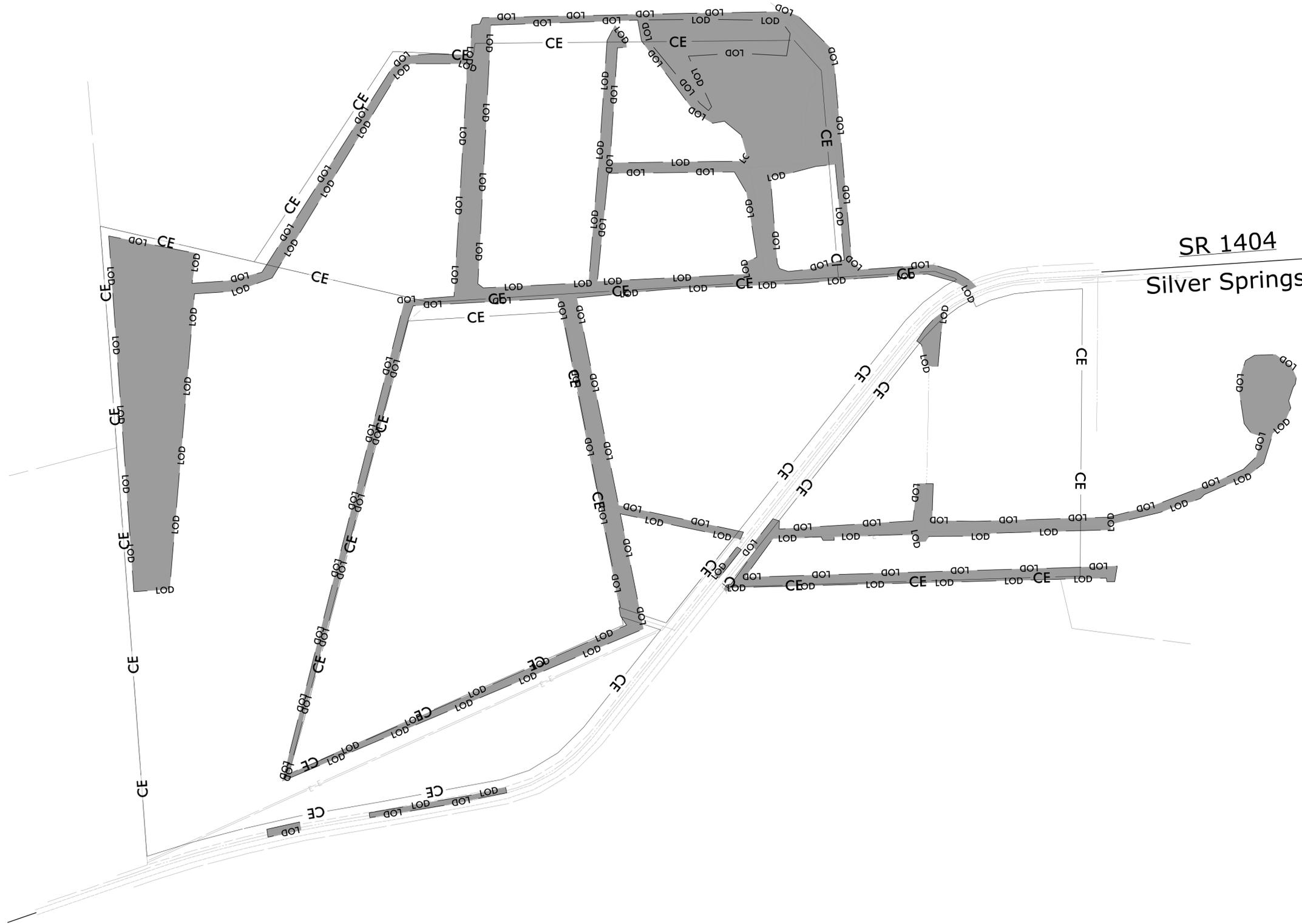
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PIERCE TERRACE
GATES COUNTY, NC
CONSERVATION EASEMENT

PROJECT # : 1154-21011
DRAWING NAME: PCTERRDYPHCO3D
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

SHEET NO. **C-03D**



SR 1404
Silver Springs Rd

**LIMITS OF DISTURBANCE:
27.7 ACRES ***
THE LIMITS OF DISTURBANCE INCLUDES BORROW AREAS AND DITCHES THAT WILL BE FILLED. THE REMAINING AREAS WILL BE DISKED IN A MANNER CONSISTENT WITH FARMING PRACTICES WHICH ARE NOT CONSIDERED LAND DISTURBING ACTIVITIES.

— CE — CONSERVATION EASEMENT
LOD LIMITS OF DISTURBANCE



HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988



SUNGATE DESIGN GROUP, P.A.
905 GATES FRANKLIN ROAD
SUNGATE, NORTH CAROLINA 27686
TEL: (919) 859-2243
ENG FIRM LICENSE NO. C-890



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

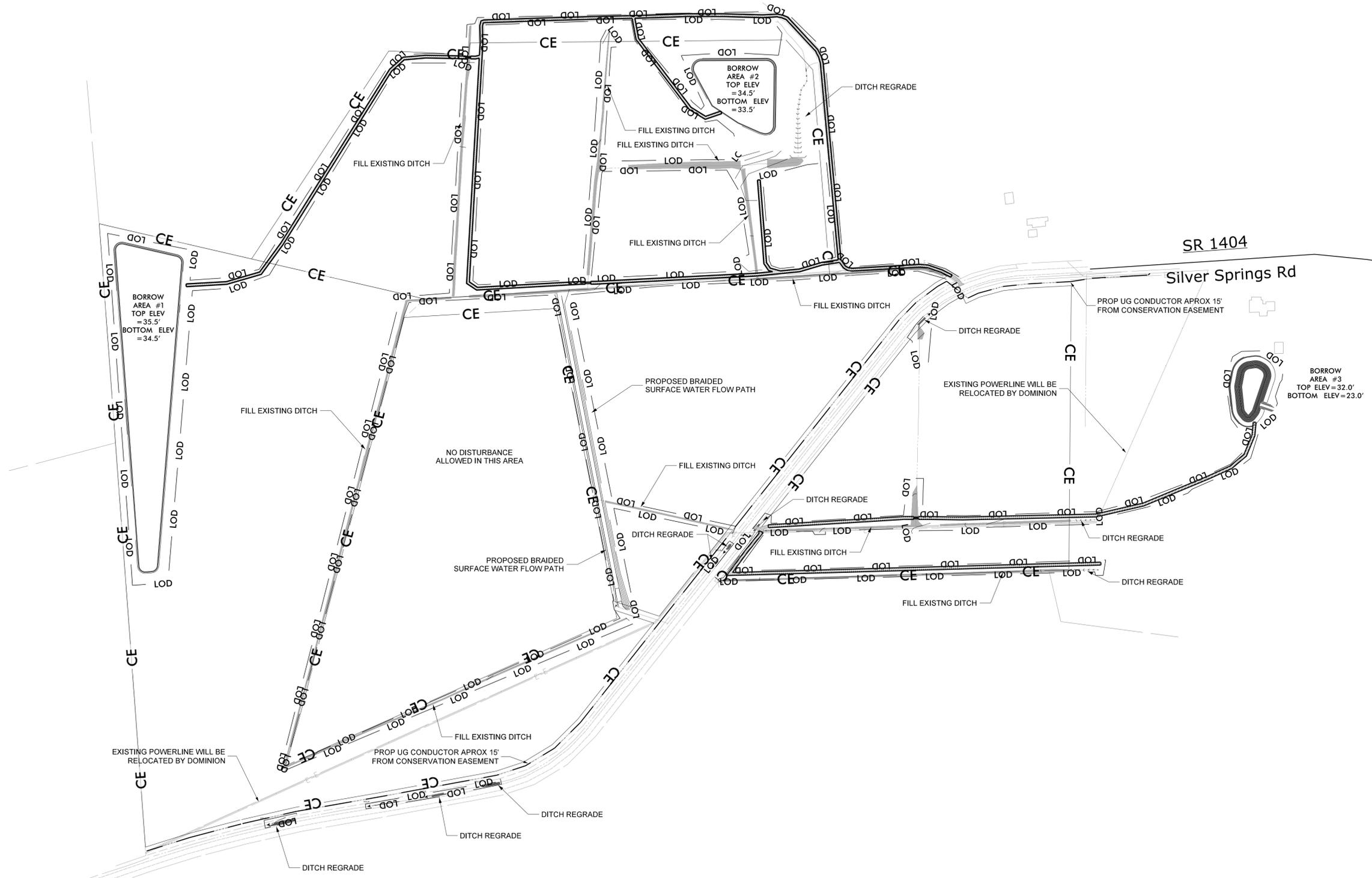


PIERCE TERRACE
GATES COUNTY, NC
OVERALL SITE

PROJECT # : 1154-21011
DRAWING NAME: PCTERRDYPHSHC03E
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

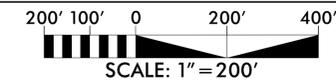
SHEET NO.
C-03E

5/16/2022 P:\C\Projects\PIERCE\PIERCE.dgn



- HAUL ROADS
- CE CONSERVATION EASEMENT
- LOD LIMITS OF DISTURBANCE

© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.



NAD 83

HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SUNGATE DESIGN GROUP, P.A.
905 SUITES FRANKLIN ROAD
SUITE 200
FARMINGTON, NORTH CAROLINA 27606
TEL: (919) 859-2243
ENG FIRM LICENSE NO. C-890

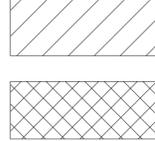
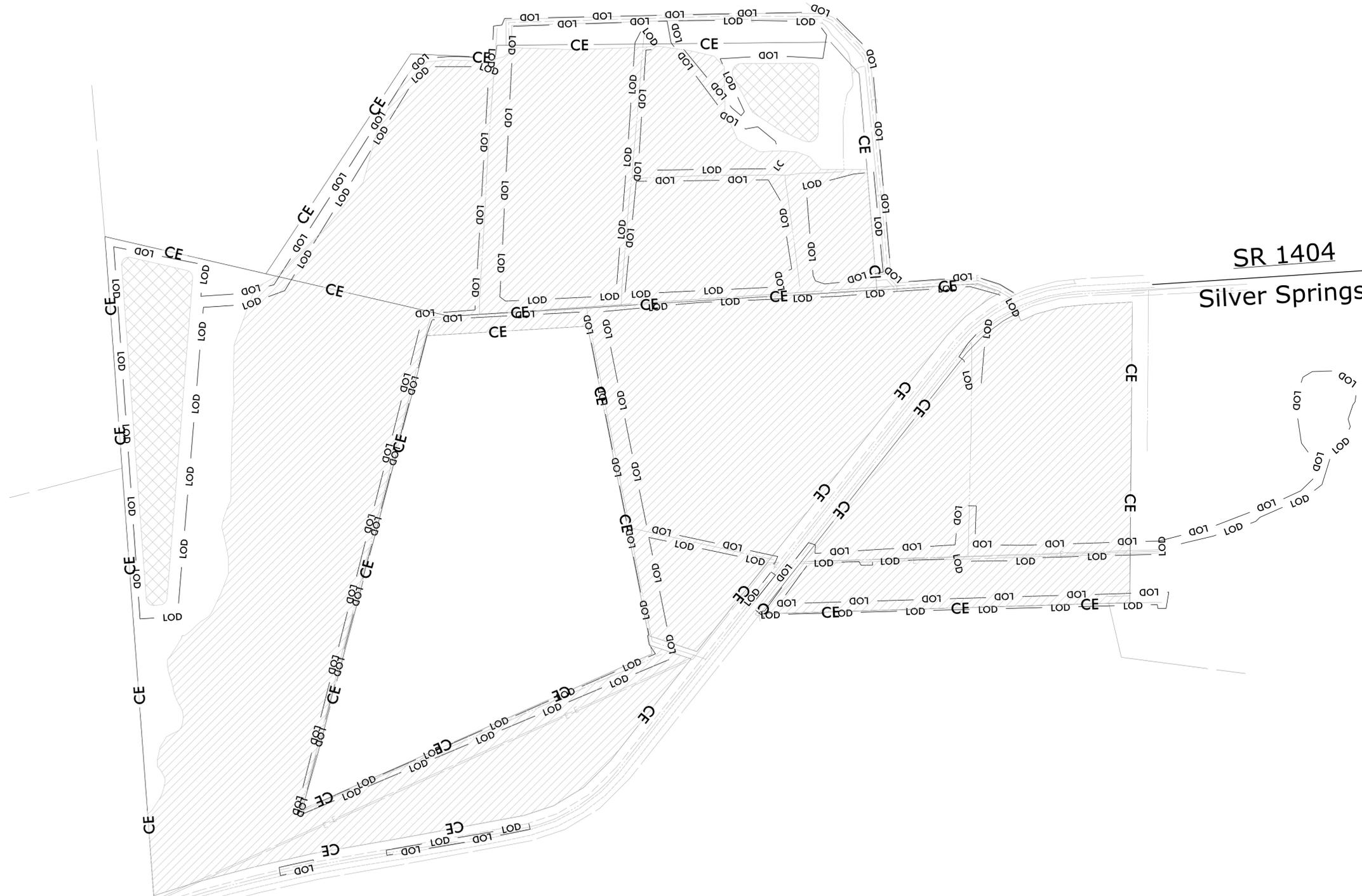


PIERCE TERRACE
GATES COUNTY, NC
WETLAND MITIGATION ASSETS

PROJECT # : 1154-21011
DRAWING NAME: PCTERRDYPHSHC03F
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

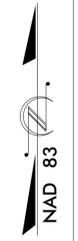
SHEET NO. **C-03F**

© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.



DENOTES WETLAND REESTABLISHMENT
DENOTES WETLAND CREATION

5/16/2022
PCTERRDYPHSHC03F.dgn
jrh



HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

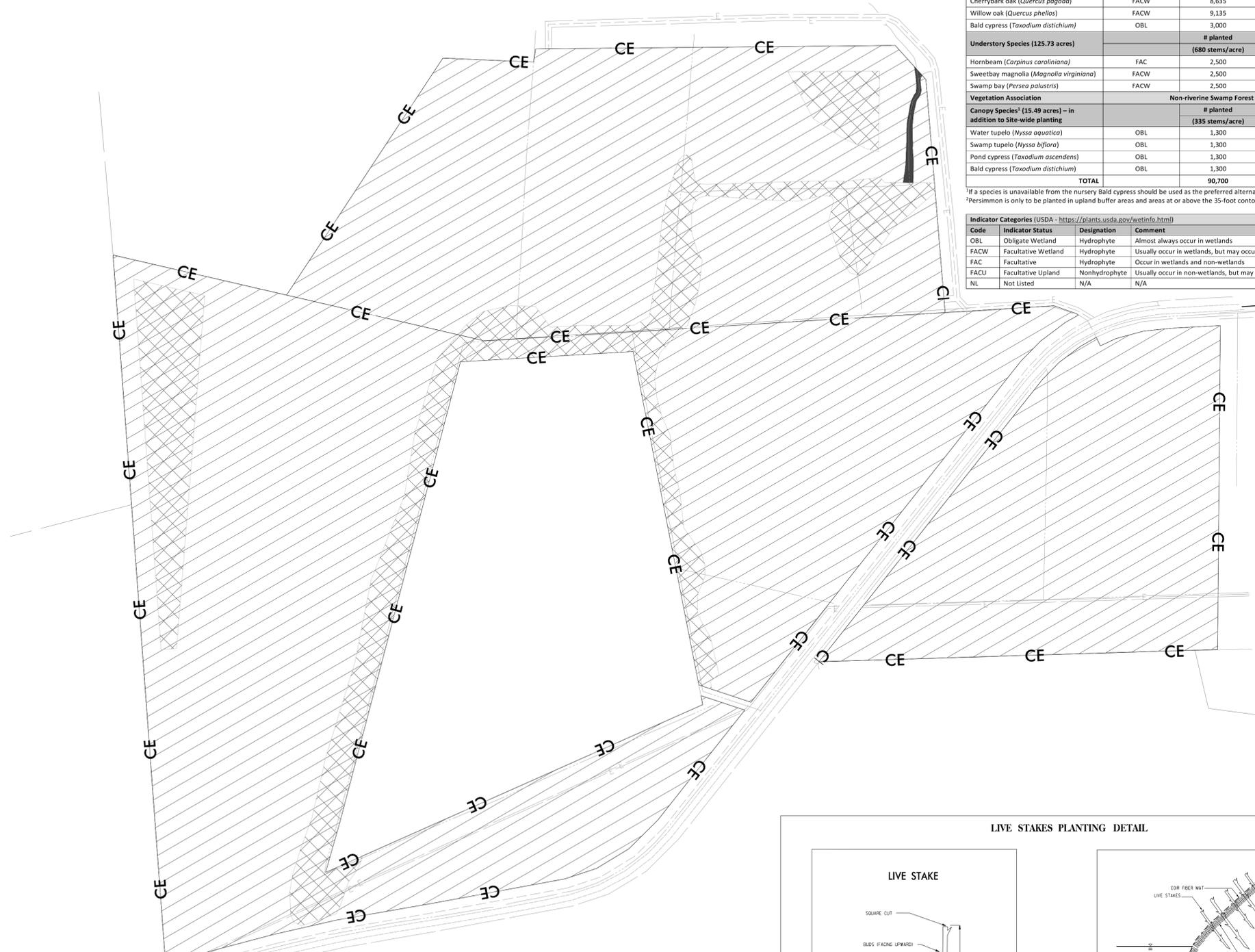
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Vegetation Association		Non-riverine Wet Hardwood Forest	
Canopy Species ¹ (125.73 acres)	Facultative Rating	# planted (680 stems/acre)	% of total
River birch (<i>Betula nigra</i>)	FACW	2,200	2.42%
Persimmon (<i>Diospyros virginiana</i>) ²	FAC	2,500	2.76%
Green ash (<i>Fraxinus pennsylvanica</i>)	FACW	3,460	3.81%
Tulip poplar (<i>Liriodendron tulipifera</i>)	FACU	6,500	7.17%
Swamp tupelo (<i>Nyssa biflora</i>)	OBL	2,500	2.76%
Black gum (<i>Nyssa sylvatica</i>)	FAC	7,700	8.49%
Sycamore (<i>Platanus occidentalis</i>)	FACW	5,000	5.51%
Laurel oak (<i>Quercus laurifolia</i>)	FACW	8,635	9.52%
Overcup oak (<i>Quercus lyrata</i>)	OBL	5,000	5.51%
Swamp chestnut oak (<i>Quercus michauxii</i>)	FACW	6,735	7.43%
Water oak (<i>Quercus nigra</i>)	FAC	7,000	7.72%
Cherrybark oak (<i>Quercus pagoda</i>)	FACW	8,635	9.52%
Willow oak (<i>Quercus phellos</i>)	FACW	9,135	10.07%
Bald cypress (<i>Taxodium distichum</i>)	OBL	3,000	3.31%
Understory Species (125.73 acres)		# planted (680 stems/acre)	% of total
Hornbeam (<i>Carpinus caroliniana</i>)	FAC	2,500	2.76%
Sweetbay magnolia (<i>Magnolia virginiana</i>)	FACW	2,500	2.76%
Swamp bay (<i>Persea palustris</i>)	FACW	2,500	2.76%

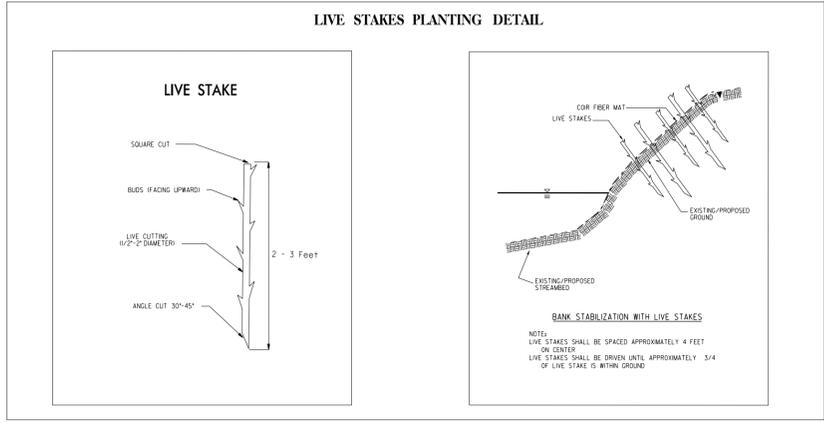
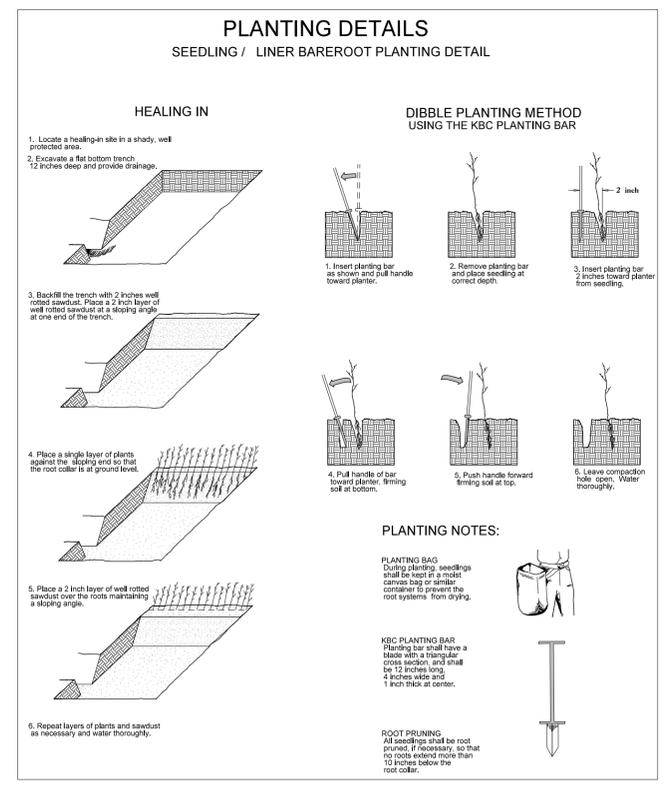
Vegetation Association		Non-riverine Swamp Forest	
Canopy Species ² (15.49 acres) – in addition to Site-wide planting		# planted (335 stems/acre)	% of total
Water tupelo (<i>Nyssa aquatica</i>)	OBL	1,300	1.43%
Swamp tupelo (<i>Nyssa biflora</i>)	OBL	1,300	1.43%
Pond cypress (<i>Taxodium ascendens</i>)	OBL	1,300	1.43%
Bald cypress (<i>Taxodium distichum</i>)	OBL	1,300	1.43%
TOTAL		90,700	100.0%

¹If a species is unavailable from the nursery Bald cypress should be used as the preferred alternative.
²Persimmon is only to be planted in upland buffer areas and areas at or above the 35-foot contours.

Indicator Categories (USDA - https://plants.usda.gov/wetinfo.html)			
Code	Indicator Status	Designation	Comment
OBL	Obligate Wetland	Hydrophyte	Almost always occur in wetlands
FACW	Facultative Wetland	Hydrophyte	Usually occur in wetlands, but may occur in non-wetlands
FAC	Facultative	Hydrophyte	Occur in wetlands and non-wetlands
FACU	Facultative Upland	Nonhydrophyte	Usually occur in non-wetlands, but may occur in wetlands
NL	Not Listed	N/A	N/A



SR 1404
Silver Springs Rd



LIVESTAKES

NRSF – NON-RIVERINE SWAMP FOREST

NRWHF – NON RIVERINE WET HARDWOOD FOREST

5/16/2022 P:\Projects\2022\039\039.dgn

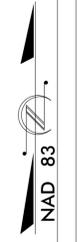
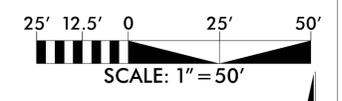
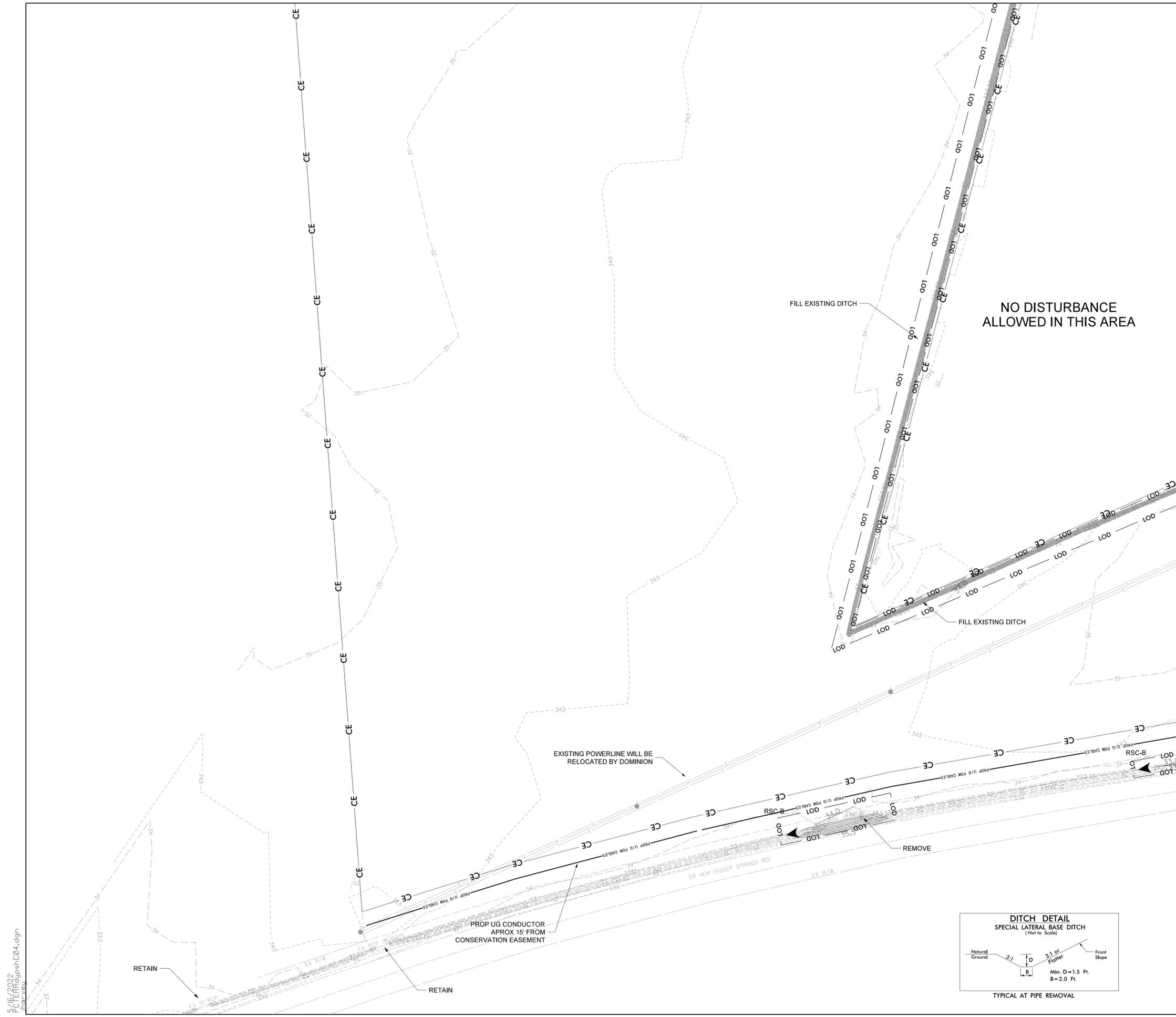
© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

SUNGATE DESIGN GROUP, P.A.
965 GATES BRANLIN ROAD
GATES COUNTY, NC 27666
TEL: (919) 859-2243
ENG FIRM LICENSE NO. C-890

PIERCE TERRACE
GATES COUNTY, NC
PLANTING

PROJECT #: 1154-21011
DRAWING NAME: PCTERRDYPHSC03G
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

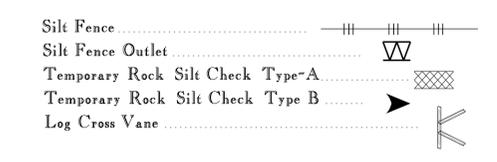
SHEET NO. C-03G



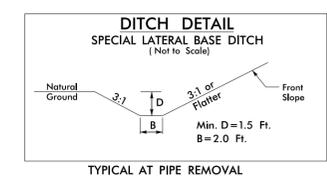
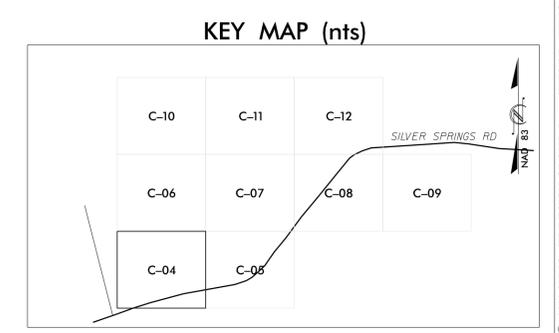
HORIZONTAL DATUM: NAD 83 (2011)
 VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
 (EXISTING AND PROPOSED)
 AT 0.5' INTERVAL

NO DISTURBANCE
 ALLOWED IN THIS AREA



**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



5/16/2022
 P:\C\Projects\2022\051622\PIERCE_TERRACE.dgn

PIERCE TERRACE
 GATES COUNTY, NC

SITE IMPROVEMENT PLAN

PROJECT # : 1154-21011
 DRAWING NAME: PCTERRDYPSHC04
 DATE: 2022
 DRAWN BY: JRH
 REVIEWED BY: JGD
 REVISIONS:

SHEET NO.
C-04

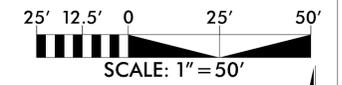
© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

SUNGATE DESIGN GROUP, P.A.
 905 SUITES FRANKLIN ROAD
 SUITE 200
 DALTON, GA 30705
 TEL: (919) 859-2243
 ENG FIRM LICENSE NO. C-890



NO DISTURBANCE
ALLOWED IN THIS AREA

BEGIN BRAIDED SURFACE
WATER FLOW PATH
15' BASE
GRADE: 10:1
ELEV=31.7'
SIDE SLOPE: SEE DETAIL



HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
(EXISTING AND PROPOSED)
AT 0.5' INTERVAL

SUNGATE DESIGN GROUP, P.A.
906 S.W. FRANKLIN ROAD
SUITE 200
DALETON, NC 27834
TEL: (919) 859-2243
ENG FIRM LICENSE NO. C-890

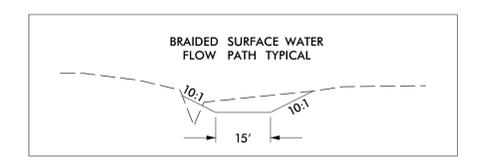
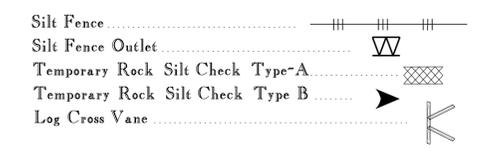
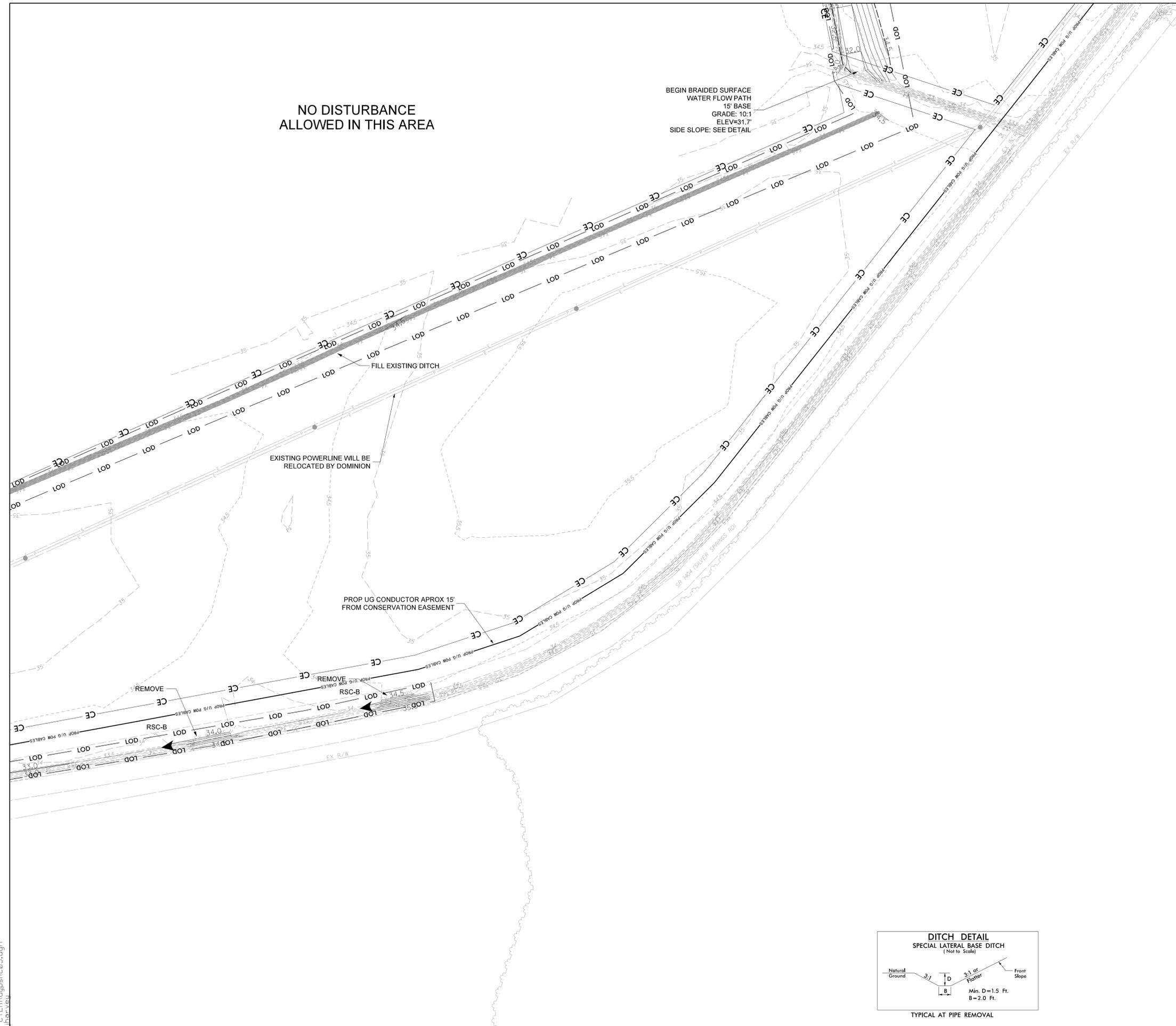


PIERCE TERRACE
GATES COUNTY, NC
SITE IMPROVEMENT PLAN

PROJECT # : 1154-21011
DRAWING NAME: PCTERRDYPSHC05
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

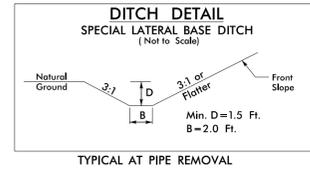
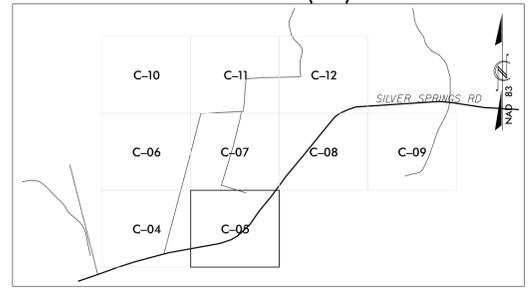
SHEET NO.
C-05

© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.



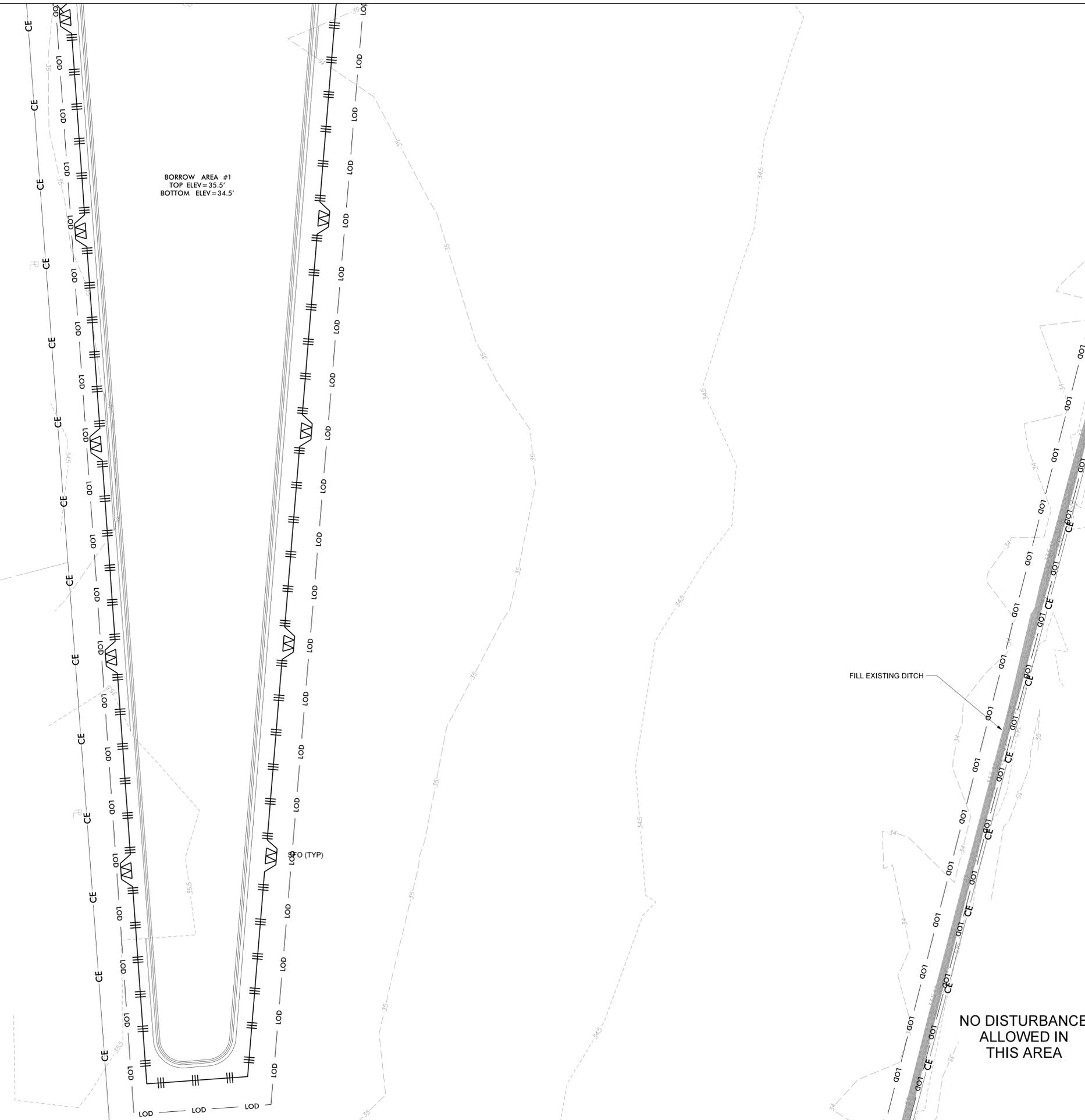
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

KEY MAP (nts)



5/16/2022
PCTERRDYPSHC05.dgn
jrh

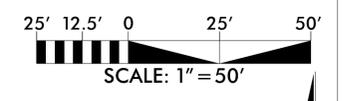
5/16/2022
P:\C\TERRDYP\shC06.dgn
10:05:00



BORROW AREA #1
TOP ELEV = 35.5'
BOTTOM ELEV = 34.5'

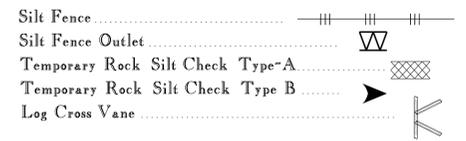
FILL EXISTING DITCH

NO DISTURBANCE
ALLOWED IN
THIS AREA



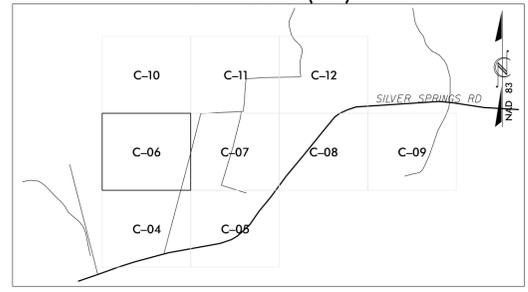
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
(EXISTING AND PROPOSED)
AT 0.5' INTERVAL



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

KEY MAP (nts)



SUNGATE DESIGN GROUP, P.A.
905 SUITES FRANKLIN ROAD
SUITE 200 FAYETTEVILLE, NC 27803
TEL: (919) 859-2243
ENG FIRM LICENSE NO. C-890

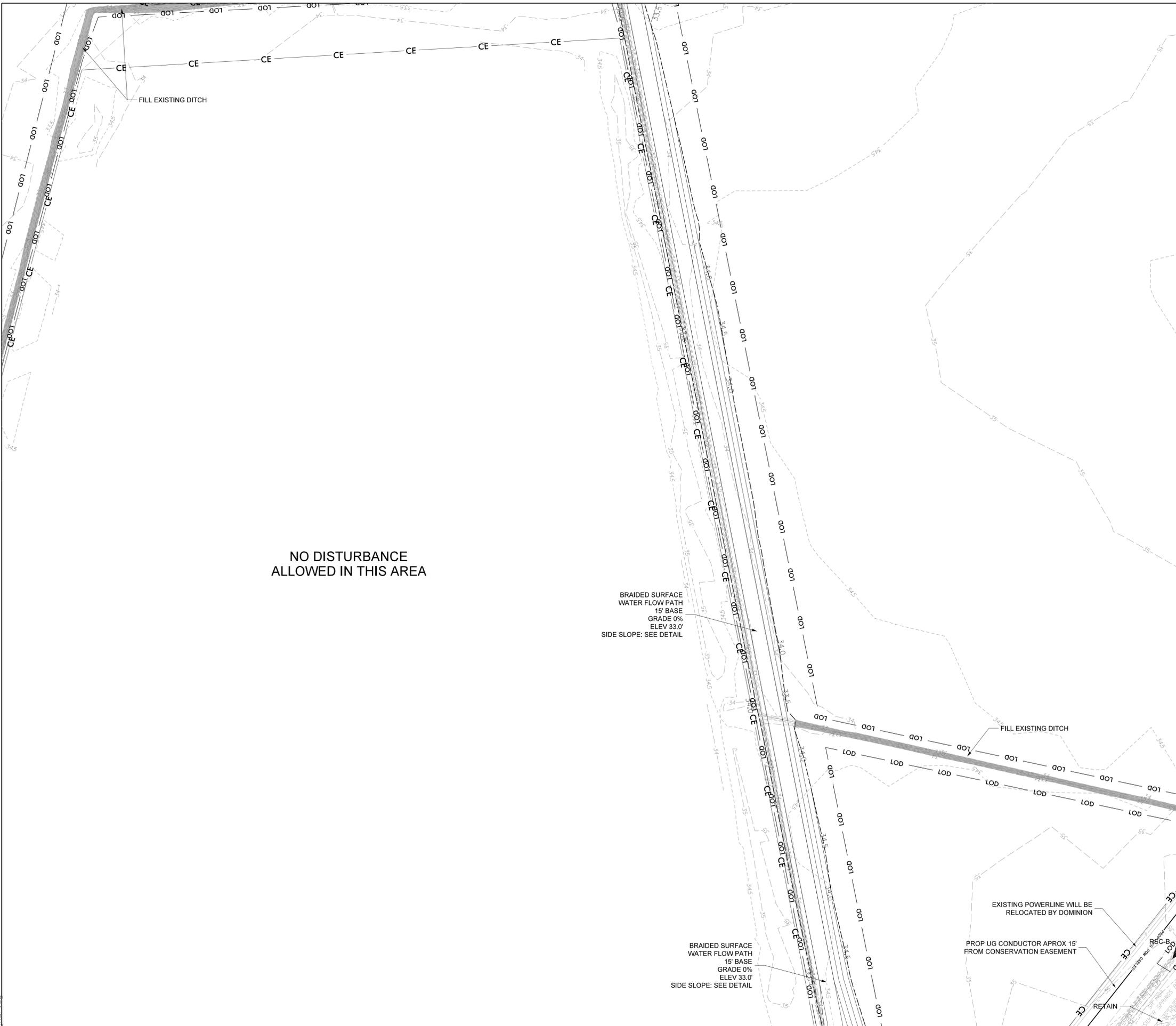


PIERCE TERRACE
GATES COUNTY, NC
SITE IMPROVEMENT PLAN

PROJECT # :	1154-21011
DRAWING NAME:	PCTERRDYP SHC06
DATE:	2021
DRAWN BY:	JRH
REVIEWED BY:	JGD
REVISIONS:	
SHEET NO.	C-06

© 2021 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

5/16/2022
P:\CERRR\raushC07.dgn
10:05:00



NO DISTURBANCE
ALLOWED IN THIS AREA

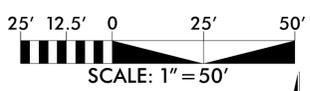
BRAIDED SURFACE
WATER FLOW PATH
15' BASE
GRADE 0%
ELEV 33.0'
SIDE SLOPE: SEE DETAIL

BRAIDED SURFACE
WATER FLOW PATH
15' BASE
GRADE 0%
ELEV 33.0'
SIDE SLOPE: SEE DETAIL

EXISTING POWERLINE WILL BE
RELOCATED BY DOMINION

PROP UG CONDUCTOR APROX 15'
FROM CONSERVATION EASEMENT

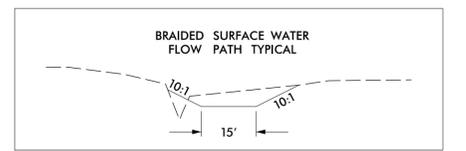
RETAIN



HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

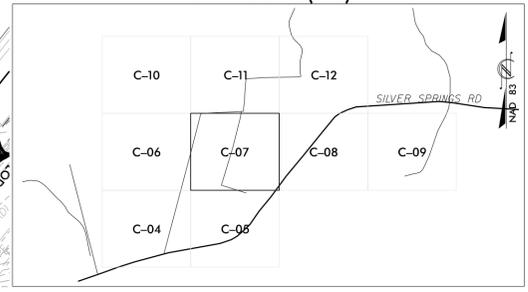
ALL TOPOGRAPHY SHOWN
(EXISTING AND PROPOSED)
AT 0.5' INTERVAL

- Silt Fence
- Silt Fence Outlet
- Temporary Rock Silt Check Type-A
- Temporary Rock Silt Check Type B
- Log Cross Vane



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

KEY MAP (nts)



SUNGATE DESIGN GROUP, P.A.
 906 GAVES FRANKLIN ROAD
 SUITE 200
 DALTON, GA 30705
 TEL: (770) 855-2243
 ENG FIRM LICENSE NO. C-890

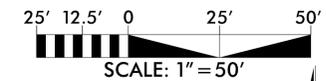


PIERCE TERRACE
 GATES COUNTY, NC
SITE IMPROVEMENT PLAN

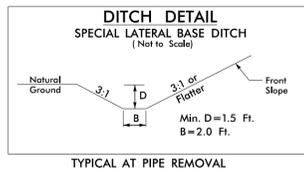
PROJECT # : 1154-21011
 DRAWING NAME: PCTERRDYPSHC07
 DATE: 2021
 DRAWN BY: JRH
 REVIEWED BY: JGD
 REVISIONS:

SHEET NO.
C-07

© 2021 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.



NAD 83

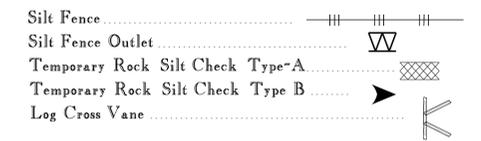
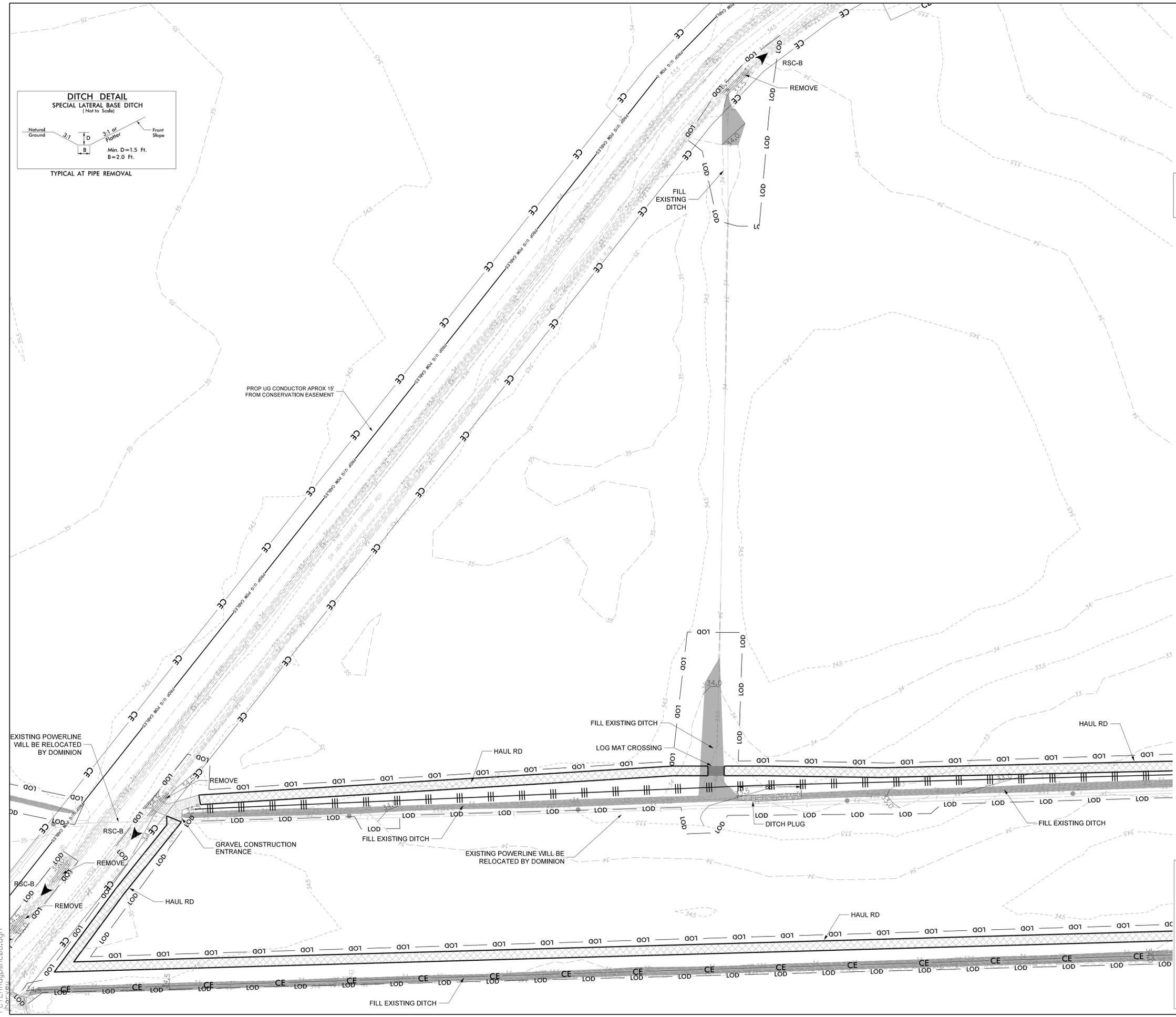


HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
(EXISTING AND PROPOSED)
AT 0.5' INTERVAL

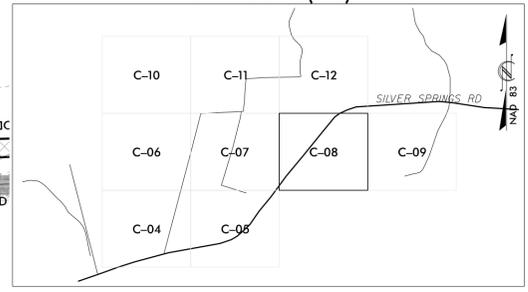


PIERCE TERRACE
GATES COUNTY, NC
SITE IMPROVEMENT PLAN



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

KEY MAP (nts)

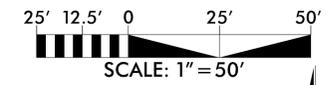


5/16/2022
P:\C\Projects\raughsh\C08.dgn

© 2021 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

PROJECT #: 1154-21011
DRAWING NAME: PCTERRDYPSPHC08
DATE: 2021
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

SHEET NO.
C-08



NAD 83

HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

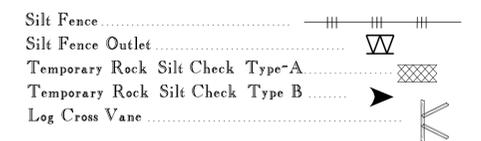
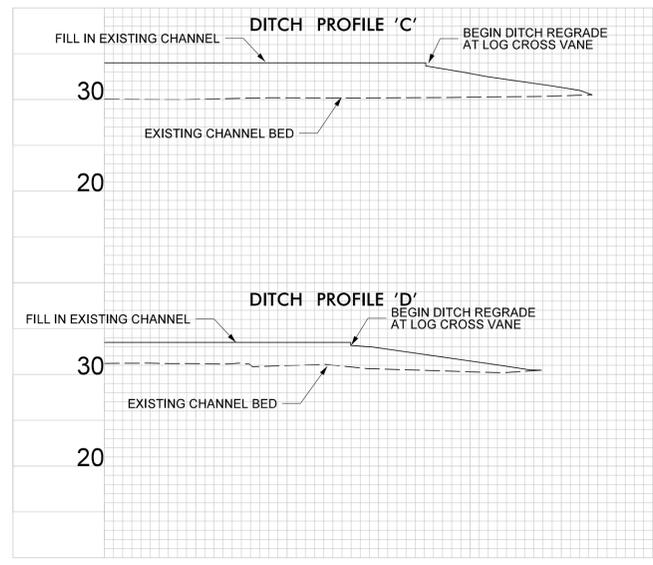
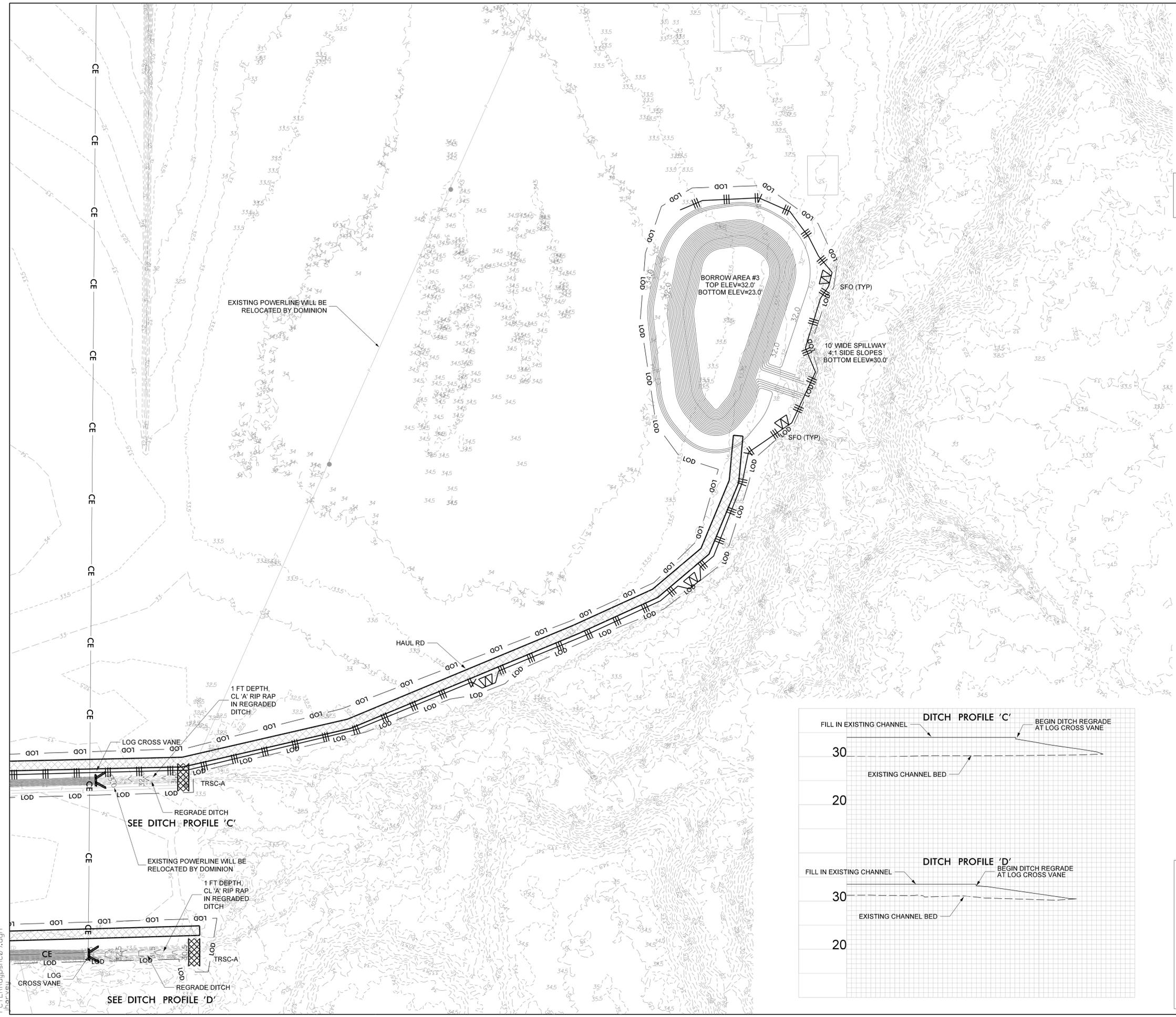
ALL TOPOGRAPHY SHOWN
(EXISTING AND PROPOSED)
AT 0.5' INTERVAL

SUNGATE DESIGN GROUP, P.A.
906 S. MAIN STREET, SUITE 200
DURHAM, NC 27604
TEL: (919) 859-2243
ENG. FIRM LICENSE NO. C-890

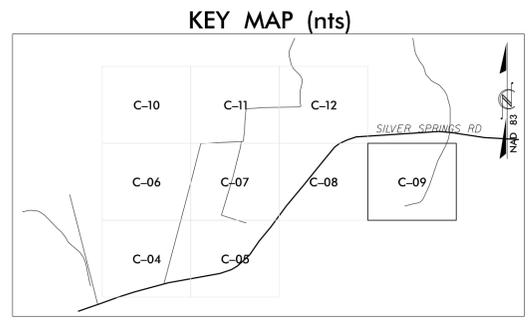


PIERCE TERRACE
GATES COUNTY, NC
SITE IMPROVEMENT PLAN

PROJECT #: 1154-21011
DRAWING NAME: PCTERRDYPHSC09
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:
SHEET NO. **C-09**

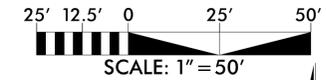


**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



5/16/2022 PCTERRDYPHSC09.dgn

© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.



NAD 83

HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
(EXISTING AND PROPOSED)
AT 0.5' INTERVAL



PIERCE TERRACE
GATES COUNTY, NC
SITE IMPROVEMENT PLAN

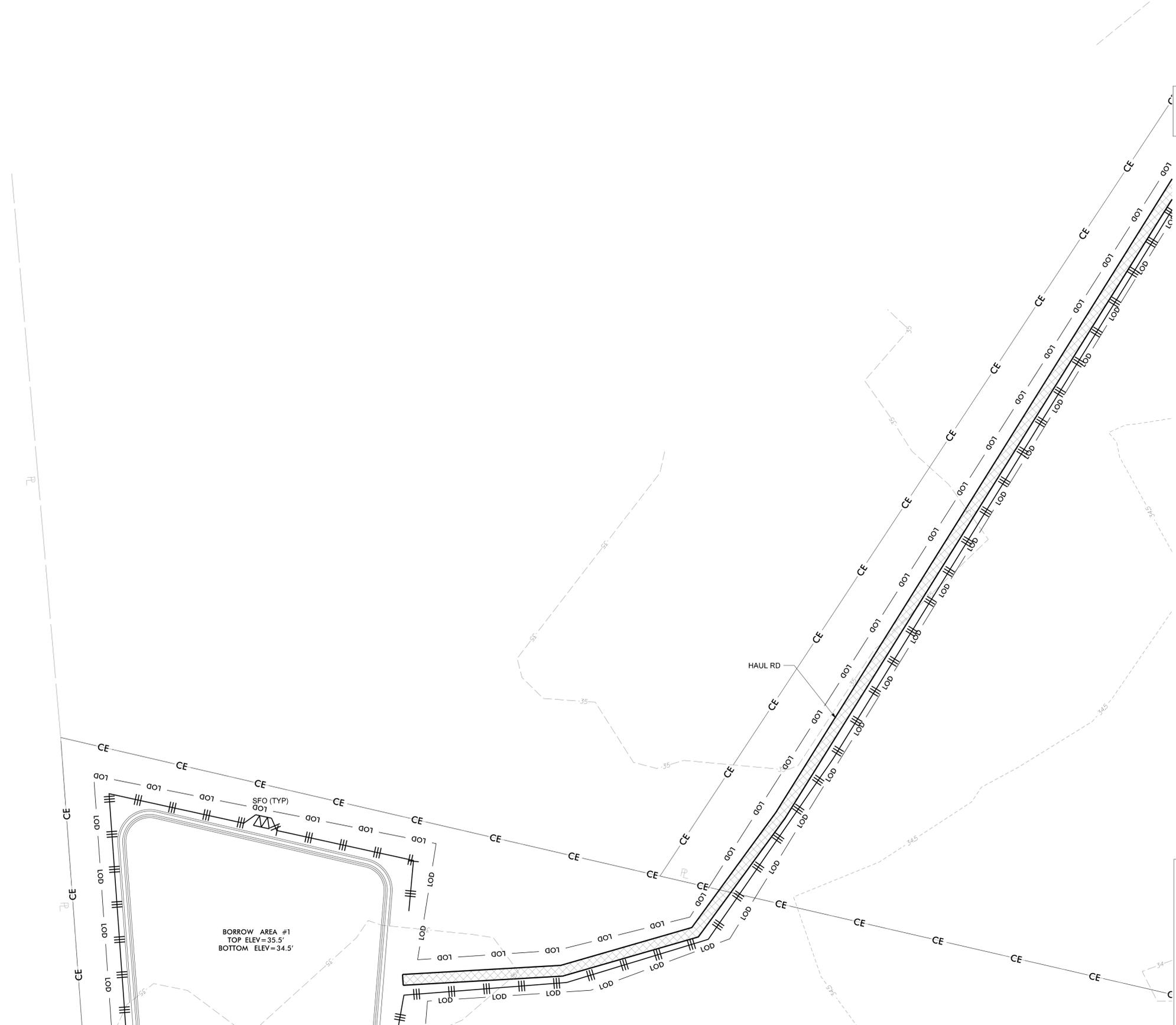
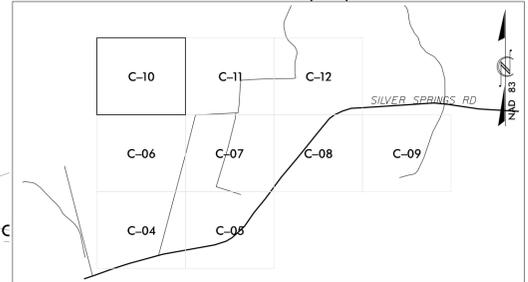
PROJECT # : 1154-21011
DRAWING NAME: PCTERRDYPSC10
DATE: 2022
DRAWN BY: JRH
REVIEWED BY: JGD
REVISIONS:

SHEET NO.
C-10

- Silt Fence
- Silt Fence Outlet
- Temporary Rock Silt Check Type-A
- Temporary Rock Silt Check Type B
- Log Cross Vane

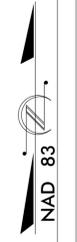
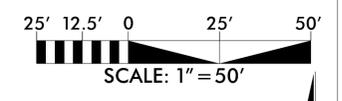
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

KEY MAP (nts)



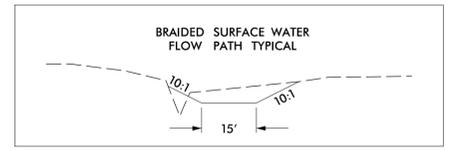
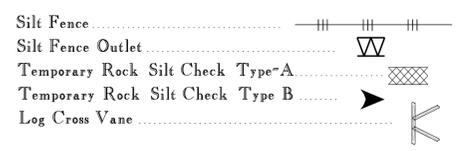
5/16/22.dgn

© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

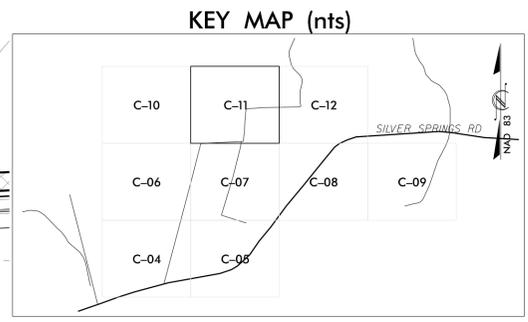


HORIZONTAL DATUM: NAD 83 (2011)
 VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
 (EXISTING AND PROPOSED)
 AT 0.5' INTERVAL



**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



SUNGATE DESIGN GROUP, P.A.
 905 GAINES FRANKLIN ROAD
 SUITE 200
 DALTON, GA 30705
 TEL: (770) 859-2243
 ENG FIRM LICENSE NO. C-890



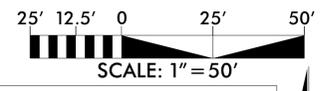
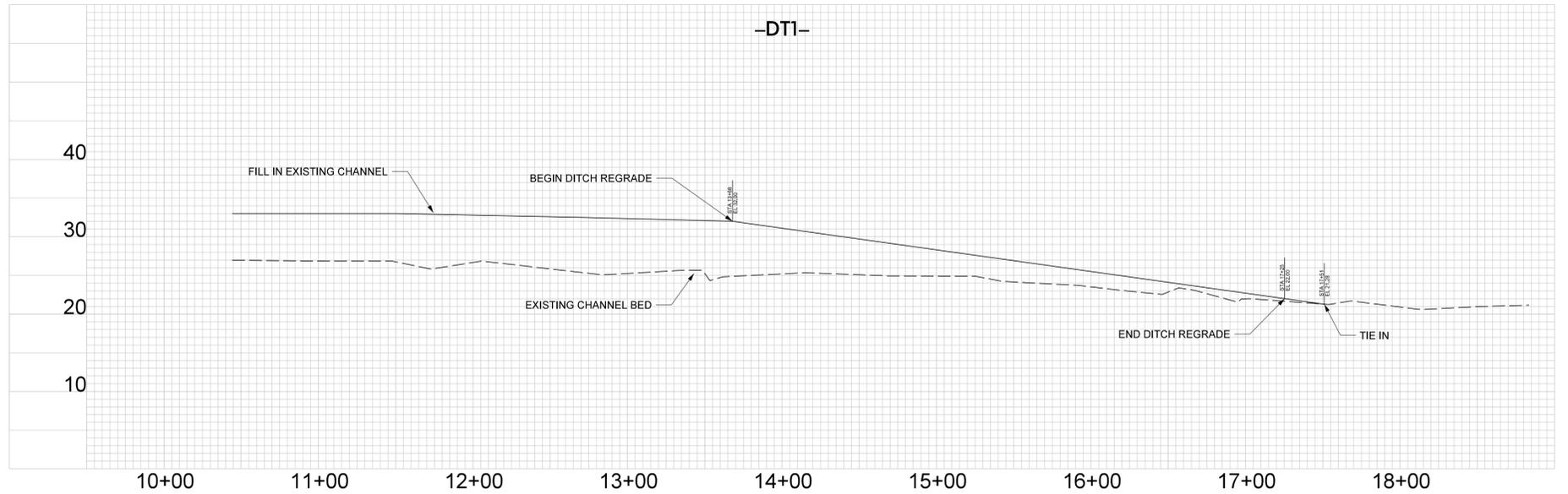
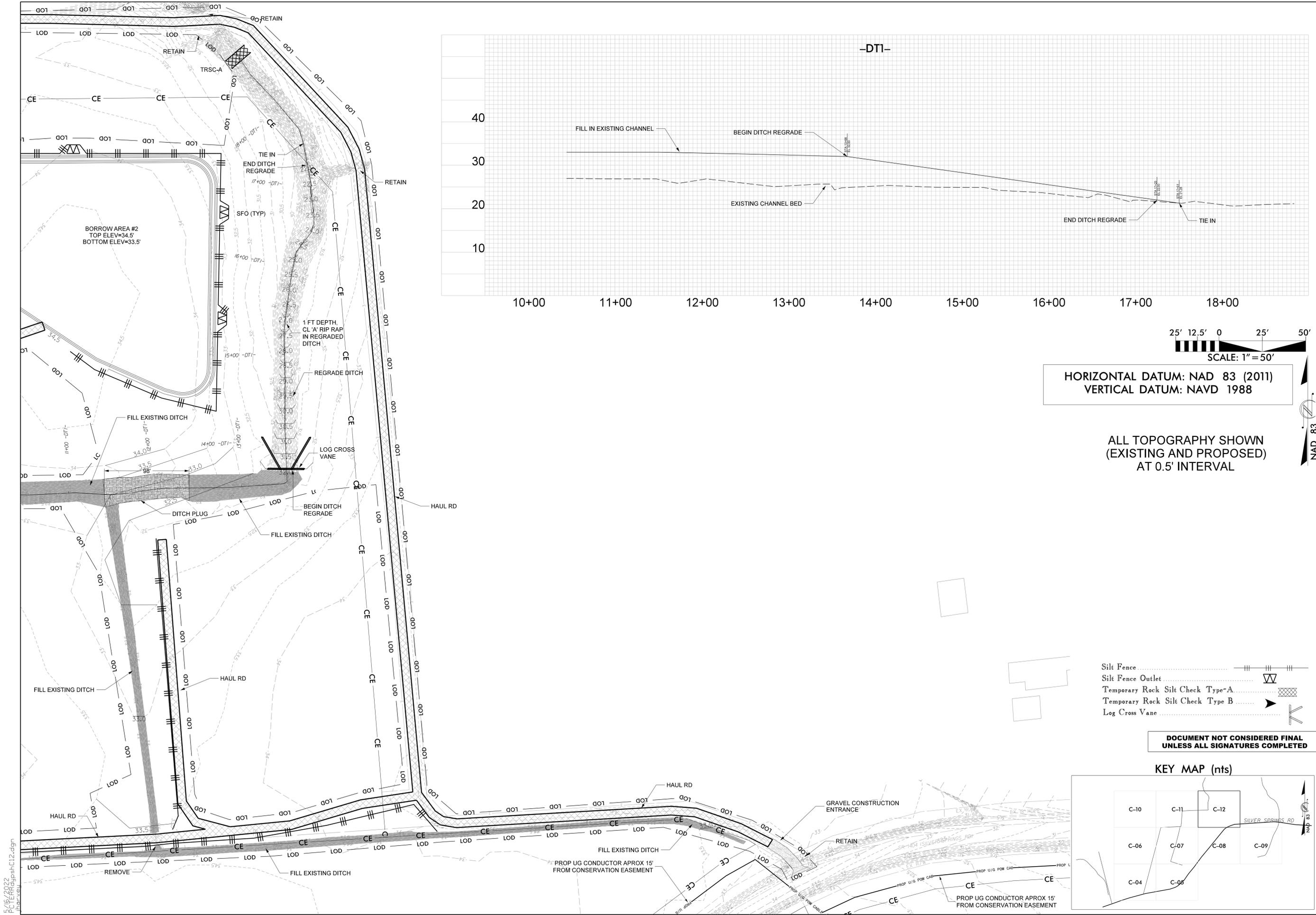
PIERCE TERRACE
 GATES COUNTY, NC
SITE IMPROVEMENT PLAN

PROJECT # : 1154-21011
 DRAWING NAME: PCTERRDYPSC11
 DATE: 2022
 DRAWN BY: JRH
 REVIEWED BY: JGD
 REVISIONS:

SHEET NO.
C-11

5/16/2022 P:\C\Projects\Piercesh\C11.dgn

© 2022 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

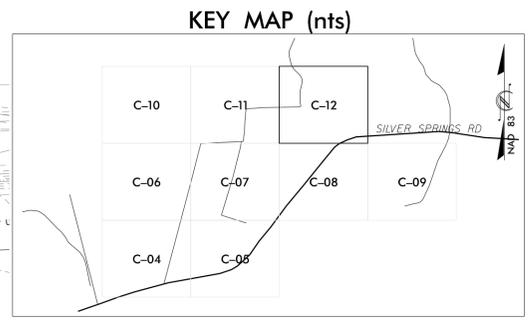


HORIZONTAL DATUM: NAD 83 (2011)
 VERTICAL DATUM: NAVD 1988

ALL TOPOGRAPHY SHOWN
 (EXISTING AND PROPOSED)
 AT 0.5' INTERVAL

- Silt Fence
- Silt Fence Outlet
- Temporary Rock Silt Check Type-A
- Temporary Rock Silt Check Type B
- Log Cross Vane

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



PROJECT # : 1154-21011
 DRAWING NAME: PCTERRDYPSHC12
 DATE: 2021
 DRAWN BY: JRH
 REVIEWED BY: JGD
 REVISIONS:

5/16/2022 P:\Projects\1154-21011\Piercing\1154-21011.dwg

© 2021 SUNGATE DESIGN GROUP, P.A. THIS DRAWING AND ALL REPRODUCTIONS OF IT ARE THE SOLE PROPERTY OF SDG. REPRODUCTION OR OTHER USES OF THIS DRAWING WITHOUT WRITTEN CONSENT OF SDG IS NOT PERMITTED.

Appendix L: NCDOT Encroachment Agreement



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

June 30, 2021

Kirby Lynn Pierce Parker
356 Silver Springs Road
Sunbury, NC 27979

County: Gates

Subject: Encroachment to allow you to remove two driveways along SR 1404.

Dear Applicant,

Attached for your records is a copy of the approved encroachment package to allow you to remove two existing driveway pipes along SR1404 and regrade the roadside ditch to allow positive drainage. **Any and all damages done to State Routes must be properly repaired.** This approval will expire on June 30, 2022 unless construction has started or been completed prior to that date. Please feel free to contact the District Office at (252) 331-4737 if you have any questions.

Sincerely yours,

DocuSigned by:

A handwritten signature in blue ink, appearing to read "D. B. Otts".

757334A95F0C4D5...

David B. Otts, PE
District Engineer

Attachments

Cc: Division Engineer (W/Attachments)
County Maintenance Engineer (W/Attachments)



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

Pre-Construction Notices

- PCN** 1 Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the encroachment agreement.
- PCN** 3 Prior to beginning work, it is the requirement of the Encroaching Party to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.
- PCN** 4 It shall be the responsibility of the encroaching party to determine the location of utilities within the encroachment area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The encroaching party shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.
- PCN** 7 Trenching, bore pits and/or other excavations shall not be left open or unsafe overnight.

Legal & Right-of-Way

- RW** 1 This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the Division Engineer's office or their representative prior to construction or during construction, if an issue arises during construction to warrant changes.
- RW** 2 NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the encroaching party to verify the right of way.
- RW** 4 Encroaching party shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.
- RW** 6 No commercial advertising shall be allowed within NCDOT Right of Way.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

Work Zone Traffic Control

TC 2 WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM

All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

For questions and/or additional information regarding this training program please refer to <https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx> or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

TC 3 The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:

TC A) Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).

TC B) NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.

TC 5 Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.

TC 8 Two-way traffic shall be maintained at all times unless designated by the District Engineer. Traffic shall not be rerouted or detoured without the prior written approval from the District Engineer. No utility work will be allowed on state holidays from 7:00 PM the night before through 9:00 AM the day prior to, following or during local events without prior approval from the District Engineer. If the construction is within 1000 feet of a school location or on a designated bus route, the construction shall be coordinated with the school start and end times to avoid traffic delays.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

- TC 9** Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.
- TC 10** Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- TC 13** Any pavement markings that are damaged or obliterated shall be restored by the encroaching party at no expense to NCDOT.
- TC 15** Parking and material storage shall not be allowed along the shoulders of any NCDOT roadways, any NCDOT roadways along the route and adjacent to the route.
- TC 16** During periods of construction inactivity, place approved traffic control drums 3' minimum from the existing travel way.
- TC 17** Any violation of the Traffic Control provisions will result in the termination of the encroachment agreement and liquidated damages in the amount of \$2,000 per hour or any portion thereof and will be assessed by the District Engineer's office.

Environmental Regulations

- EC 1** The encroaching party shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (252) 621-6310
- EC 2** When surface area in excess of one acre will be disturbed, the Encroacher shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.
- EC 4** All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Encroacher in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest NCDOT Standards Specifications for Roads and Structures and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this encroachment shall be replaced with plants of like kind or similar shape.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

- EC 5** No trees within NCDOT shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.
- EC 6** Prior to installation, the Encroaching Party shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.
- EC 7** The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.
- EC 8** The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the Division Engineer or their agent.
- EC 10** Vegetative cover shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer.

General

- G 1** An executed copy of the encroachment agreement, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.
- G 2** The Encroaching Party and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this encroachment, the District Office shall be notified by the encroaching party immediately if any violations are cited.
- G 3** Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved encroachment agreement.
- G 4** All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the Division Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.
- G 5** The encroaching party shall notify the Division Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the Division Engineer or their representative.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

- G 8** Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Recovery Area. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.
- G 13** All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the Division Engineer or their representative.
- G 16** All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.
- G 18** If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.
- G 22** Strict compliance with the Policies and Procedures for Accommodating Utilities on Highway Rights of
- G 23** The encroaching party may delegate the performance of certain provisions of this agreement to contractors or other parties. However, this shall not in any way release the encroaching party from its obligations to the terms and provisions of the encroachment.
- G 24** The encroaching party shall assume all responsibility, obligation, and liability for maintenance and operation of the installation permitted under this encroachment agreement. This condition shall be conveyed in any future buy, lease, sell or rental agreement. In the event that the encroaching party, or any future responsible party should fail to satisfy this condition, NCDOT reserves the right close or remove the installation at the encroaching party's expense.
- G 25** A one-year warranty shall be required on all work performed within the NCDOT right of way. It shall commence after District review and acceptance of the completed work associated with the encroachment.

Engineering

- E 1** All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: ASTM Standards, Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings, NCDOT Asphalt Quality Management System manual, and the approved plans.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

Excavation

- EX 1 Excavation material shall not be placed on pavement.
- EX 2 It is the responsibility of the encroaching party or their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.
- EX 5 The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest NCDOT Standard Specifications for Roads and Structures, which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.
- EX 7 All roadway sections, ditch lines and slopes, and shoulders affected by the operations under this encroachment shall be restored to the satisfaction of the District Engineer.

Pavement Repair

- PR 4 The minimum pavement design for pavement repair shall be according to NCDOT Standard Drawing 654.01 (<https://connect.ncdot.gov/resources/Specifications/2018StandardRdwyDrawings/Division%206%20Asphalt%20Bases%20and%20Pavements.pdf>) and shall include a mechanical overlay extent to be a minimum of 25 feet each side of the pavement repair area OR as directed by the District Engineer.
- PR 7 Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform encroachment work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Encroaching Party.

Post-Construction

- I 1 The Encroaching party shall notify the District Engineer's office within 2 business days after construction is complete. The District Engineer may perform a construction inspection. Any deficiencies may be noted and reported to the encroaching party to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

ROUTE Silver Springs Rd PROJECT Pierce Terrace COUNTY OF STATE OF NORTH CAROLINA
(SR-1404) Wetland Mitigation Gates

DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY ENCROACHMENT AGREEMENT
FOR NON-UTILITY ENCROACHMENTS ON
PRIMARY AND SECONDARY HIGHWAYS

-AND-

Helen Hofler Pierce, widow, by and through her
agent/attorney-in-fact Kirby Lynn Pierce Parker*

*NC Durable Power of Attorney recorded in Deed Book
346, Page 788, Gates County Registry

THIS AGREEMENT, made and entered into this the 7th day of Jun, 20 21, by and between the Department of Transportation, party of the first part; and Helen Hofler Pierce, widow, by and through her agent/attorney-in-fact Kirby Lynn Pierce Parker party of the second part,

W I T N E S S E T H

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) Silver Springs Rd (SR-1404), located in Gates County with the construction and/or erection of: Removal of two driveway culverts and associated driveways and replacement with roadside ditches. (Driveways #1 & 2)

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

It is clearly understood by the party of the second part that the party of the first part will assume no responsibility for any damage that may be caused to such facilities, within the highway rights of way limits, in carrying out its construction and maintenance operations.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the encroaching site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

R/W (161A) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161A) incorporating all revisions to date.

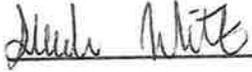
IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

DocuSigned by:
BY: 

~~Asst. Manager of Right of Way~~
DISTRICT ENGINEER

ATTEST OR WITNESS:



Sarah White



Kirby Lynn Pierce Parker

Second Party

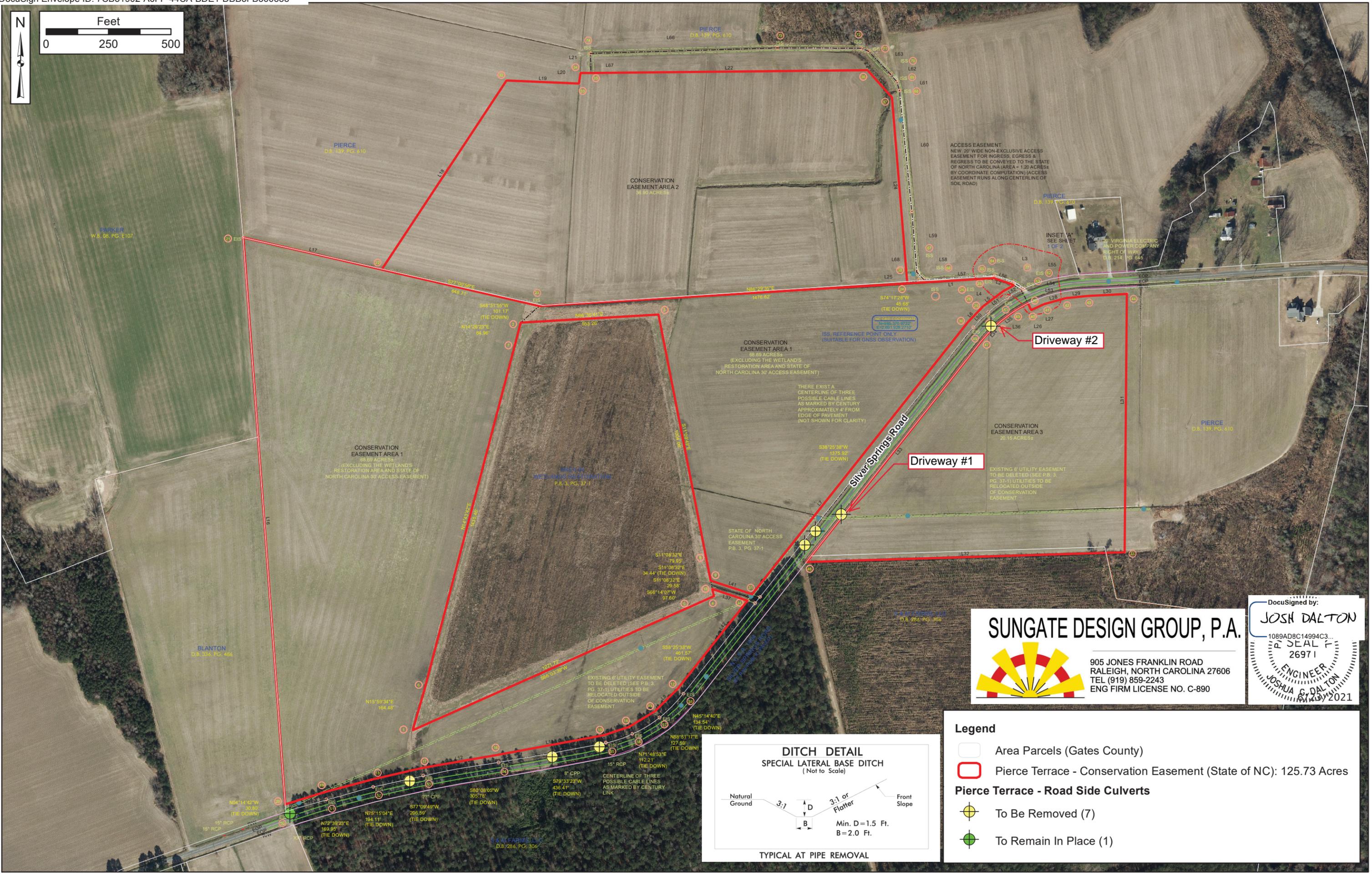
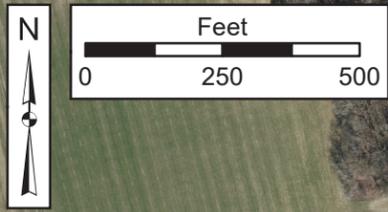
INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the Manager of Right of Way. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

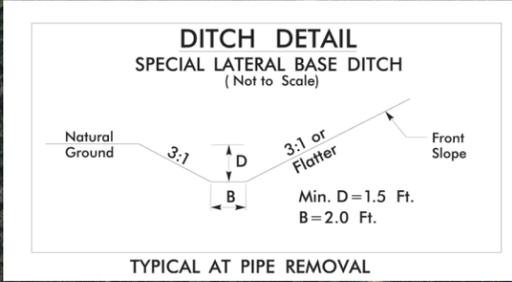
1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the proposed encroachment.
4. Length and type of encroachment.
5. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
6. Drainage structures or bridges if affected by encroachment.
7. Typical section indicating the pavement design and width, and the slopes, widths and details for either a curb and gutter or a shoulder and ditch section, whichever is applicable.
8. Horizontal alignment indicating general curve data, where applicable.
9. Vertical alignment indicated by percent grade, P.I. station and vertical curve length, where applicable.
10. Amount of material to be removed and/or placed on NCDOT right of way, if applicable.
11. Cross-sections of all grading operations, indicating slope ratio and reference by station where applicable.
12. All pertinent drainage structures proposed. Include all hydraulic data, pipe sizes, structure details and other related information.
13. Erosion and sediment control.
14. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
15. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.
16. Method of handling traffic during construction where applicable.
17. Scale of plans, north arrow, etc.



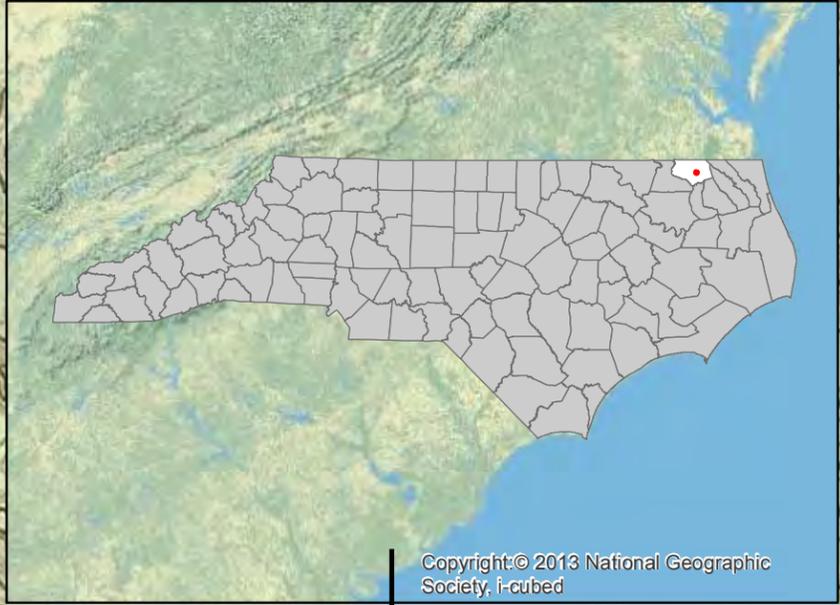
SUNGATE DESIGN GROUP, P.A.

905 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 859-2243
 ENG FIRM LICENSE NO. C-890

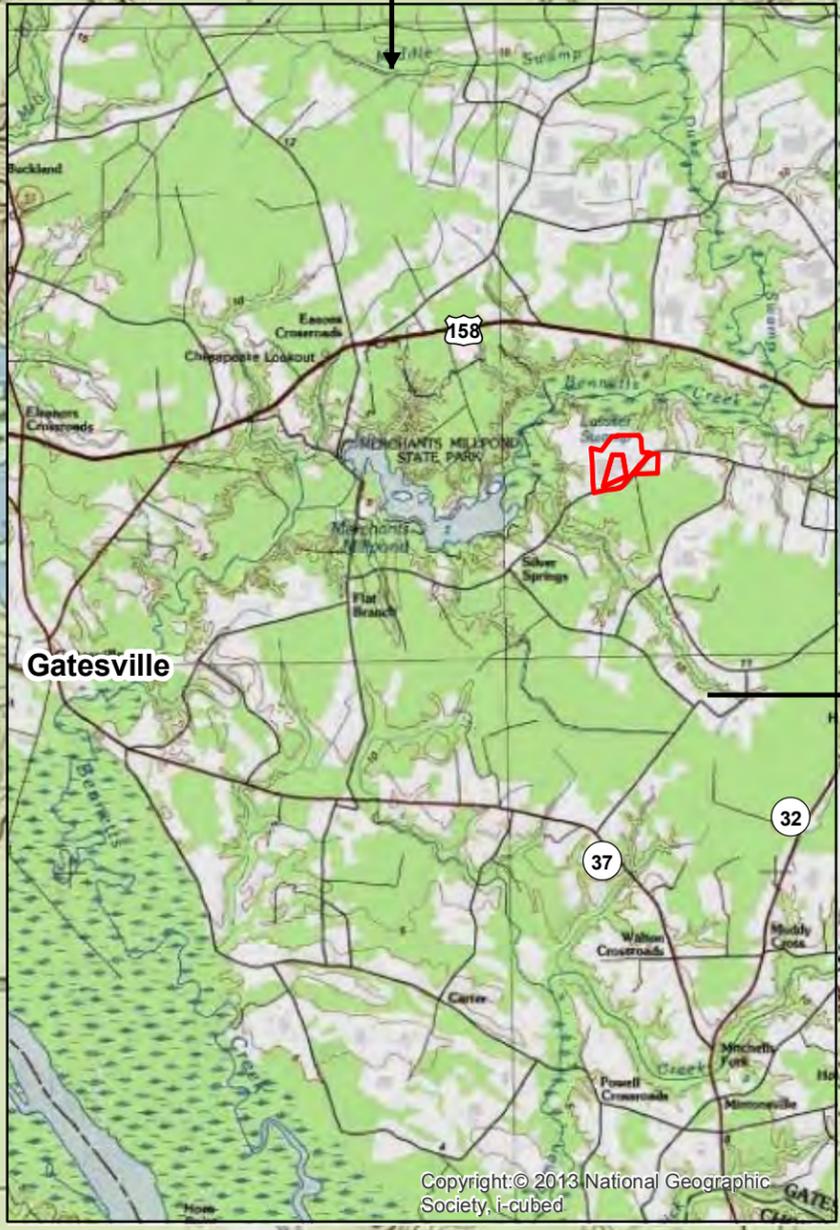
DocuSigned by:
JOSH DALTON
 1089AD8C14994C3...
 a SEAL F
 26971
 ENGINEER
 JOSHUA S. DALTON
 04/2021



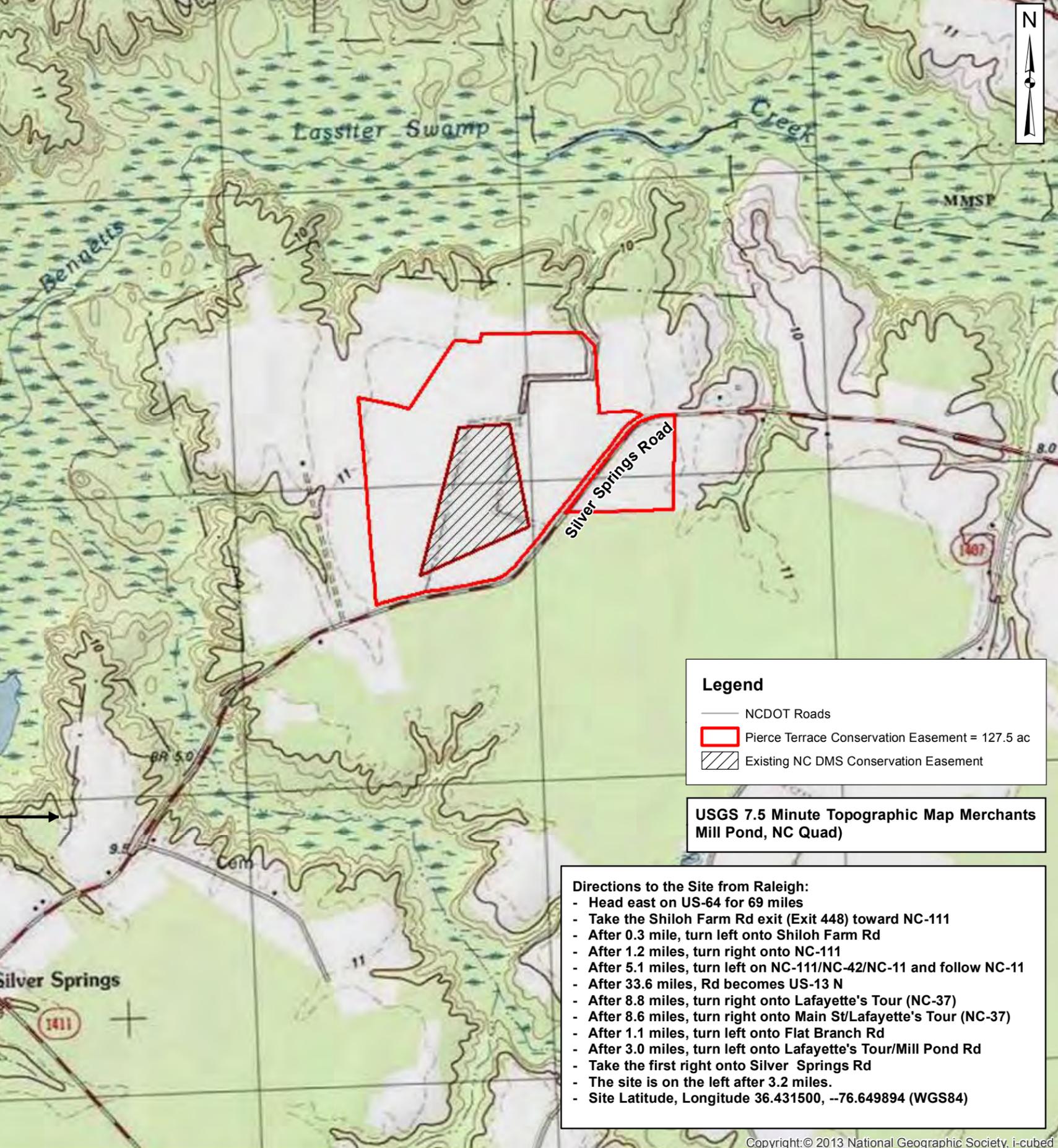
- Legend**
- Area Parcels (Gates County)
 - Pierce Terrace - Conservation Easement (State of NC): 125.73 Acres
- Pierce Terrace - Road Side Culverts**
- To Be Removed (7)
 - To Remain In Place (1)



Copyright © 2013 National Geographic Society, i-cubed



Copyright © 2013 National Geographic Society, i-cubed



Legend

- NCDOT Roads
- Pierce Terrace Conservation Easement = 127.5 ac
- Existing NC DMS Conservation Easement

USGS 7.5 Minute Topographic Map Merchants Mill Pond, NC Quad)

Directions to the Site from Raleigh:

- Head east on US-64 for 69 miles
- Take the Shiloh Farm Rd exit (Exit 448) toward NC-111
- After 0.3 mile, turn left onto Shiloh Farm Rd
- After 1.2 miles, turn right onto NC-111
- After 5.1 miles, turn left on NC-111/NC-42/NC-11 and follow NC-11
- After 33.6 miles, Rd becomes US-13 N
- After 8.8 miles, turn right onto Lafayette's Tour (NC-37)
- After 8.6 miles, turn right onto Main St/Lafayette's Tour (NC-37)
- After 1.1 miles, turn left onto Flat Branch Rd
- After 3.0 miles, turn left onto Lafayette's Tour/Mill Pond Rd
- Take the first right onto Silver Springs Rd
- The site is on the left after 3.2 miles.
- Site Latitude, Longitude 36.431500, -76.649894 (WGS84)



Project:
PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:
SITE LOCATION

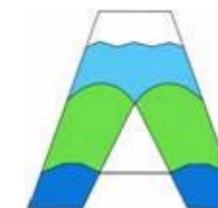
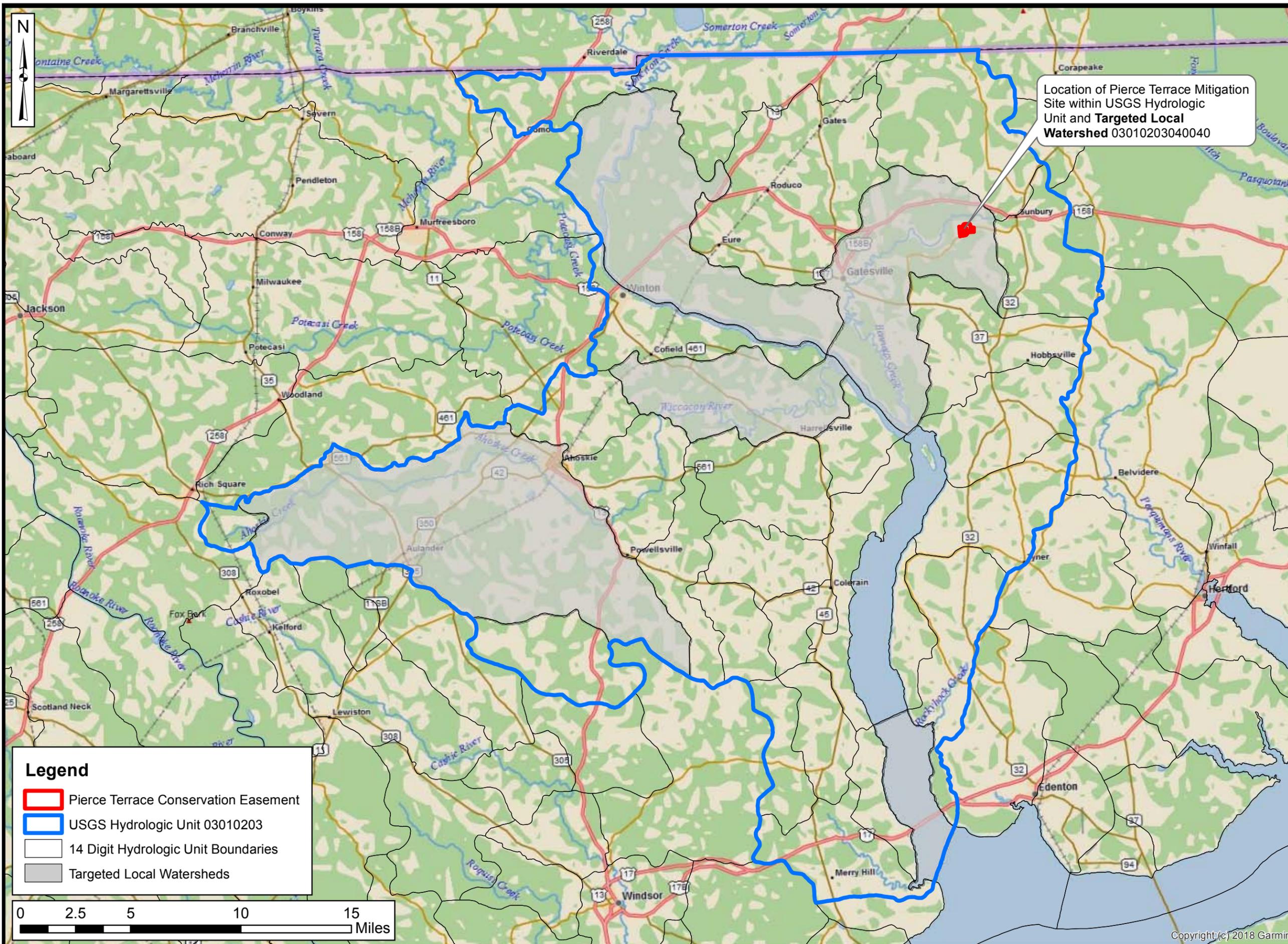
Drawn by: WGL

Date: JUL 2019

Scale: 1:20,000

Project No.: 19-001.06

FIGURE 1



Axiom Environmental, Inc.

Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

HYDROLOGIC UNIT MAP

Drawn by:

WGL

Date:

JUL 2019

Scale:

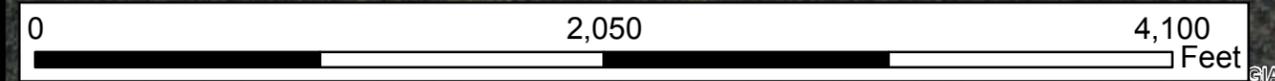
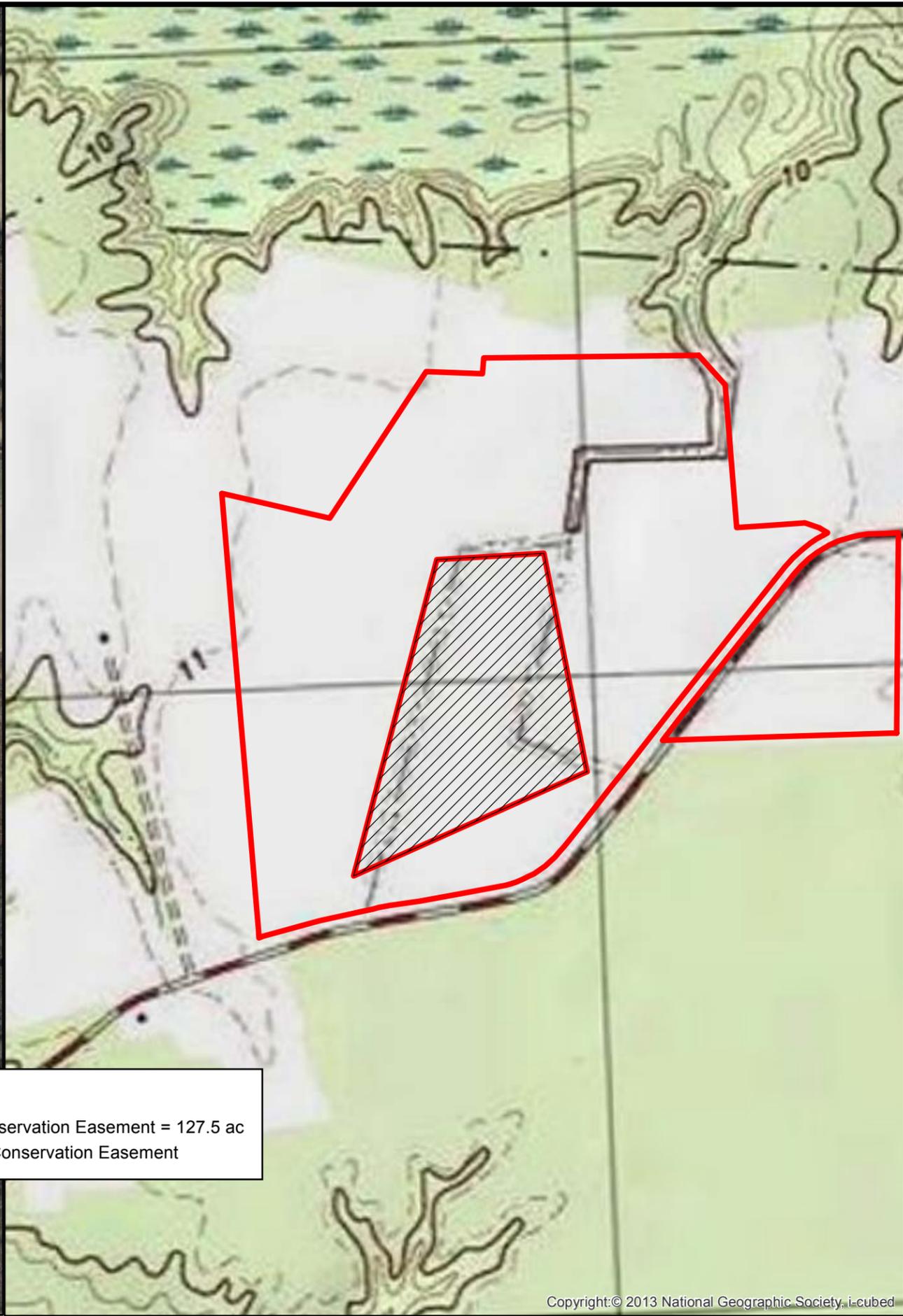
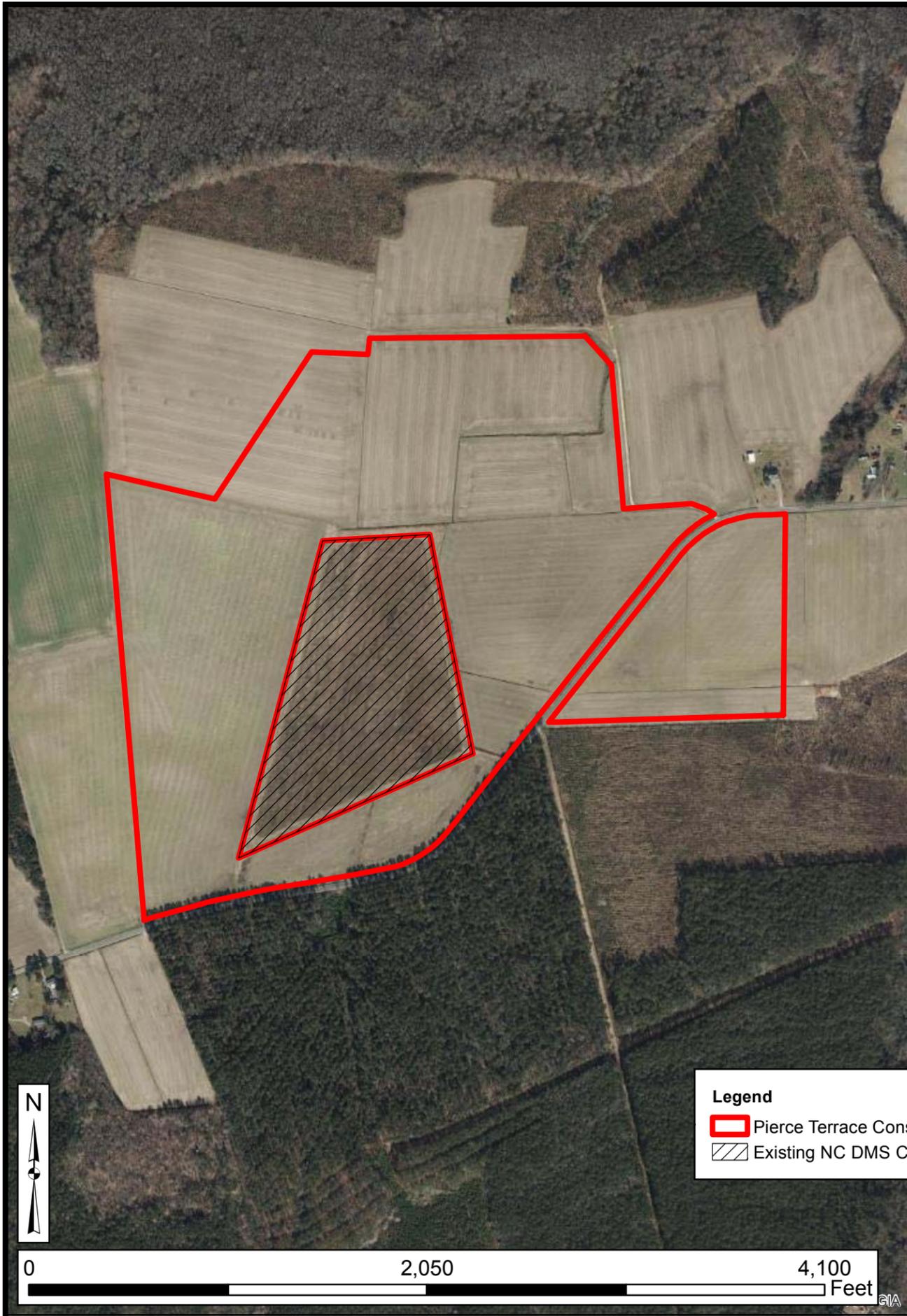
1:260,000

Project No.:

19-001.06

FIGURE

2



Legend
 [Red outline] Pierce Terrace Conservation Easement = 127.5 ac
 [Hatched box] Existing NC DMS Conservation Easement

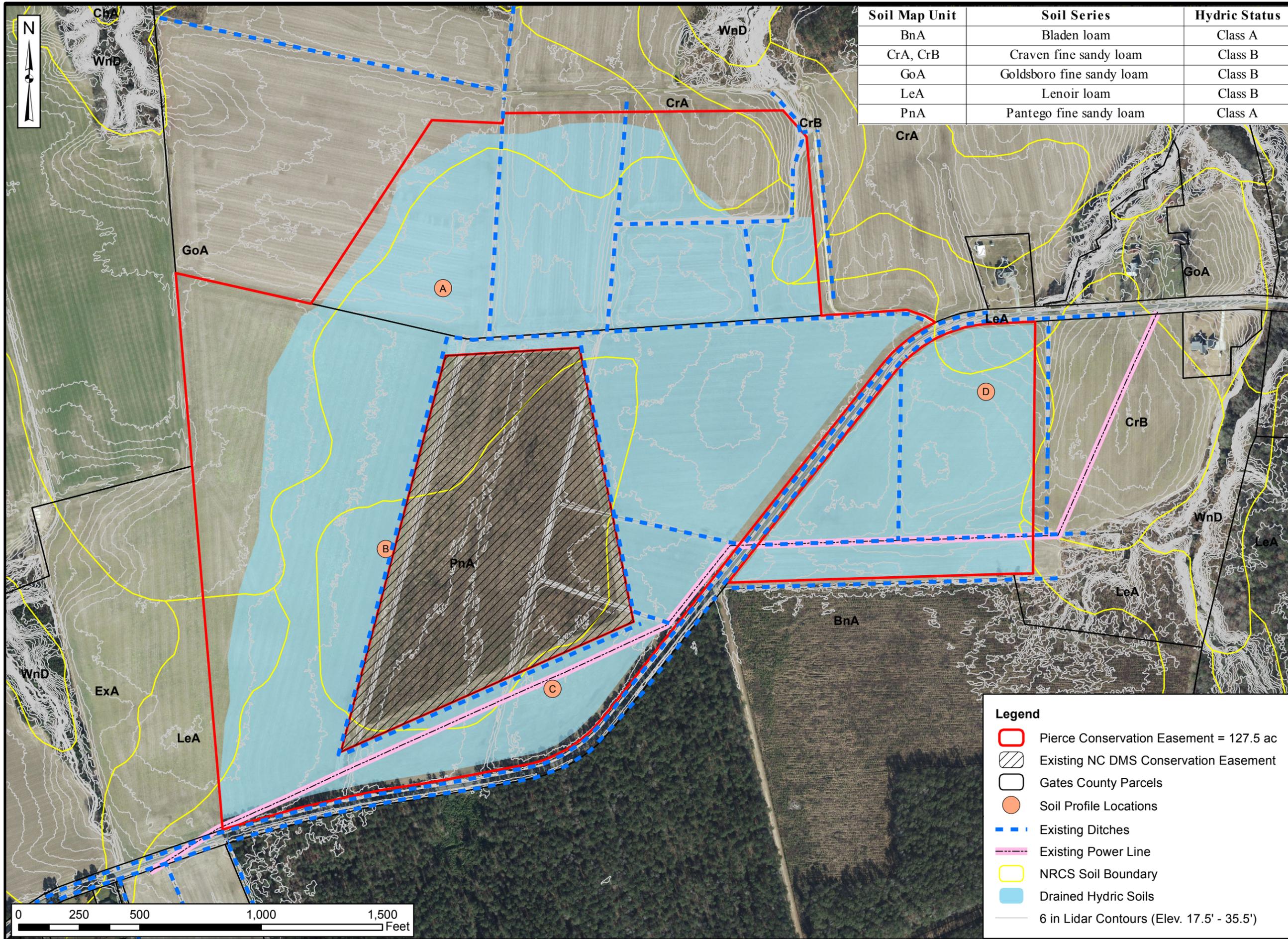


Project:
PIERCE TERRACE MITIGATION SITE
 Gates County, NC

Title:
TOPOGRAPHY AND DRAINAGE FEATURES

Drawn by: WGL
 Date: JUL 2019
 Scale: 1:34,000
 Project No.: 19-001.06

FIGURE
3



Soil Map Unit	Soil Series	Hydric Status
BnA	Bladen loam	Class A
CrA, CrB	Craven fine sandy loam	Class B
GoA	Goldsboro fine sandy loam	Class B
LeA	Lenoir loam	Class B
PnA	Pantego fine sandy loam	Class A



Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

EXISTING CONDITIONS AND SOILS

Drawn by:

WGL

Date:

AUG 2019

Scale:

1:4500

Project No.:

19-001.06

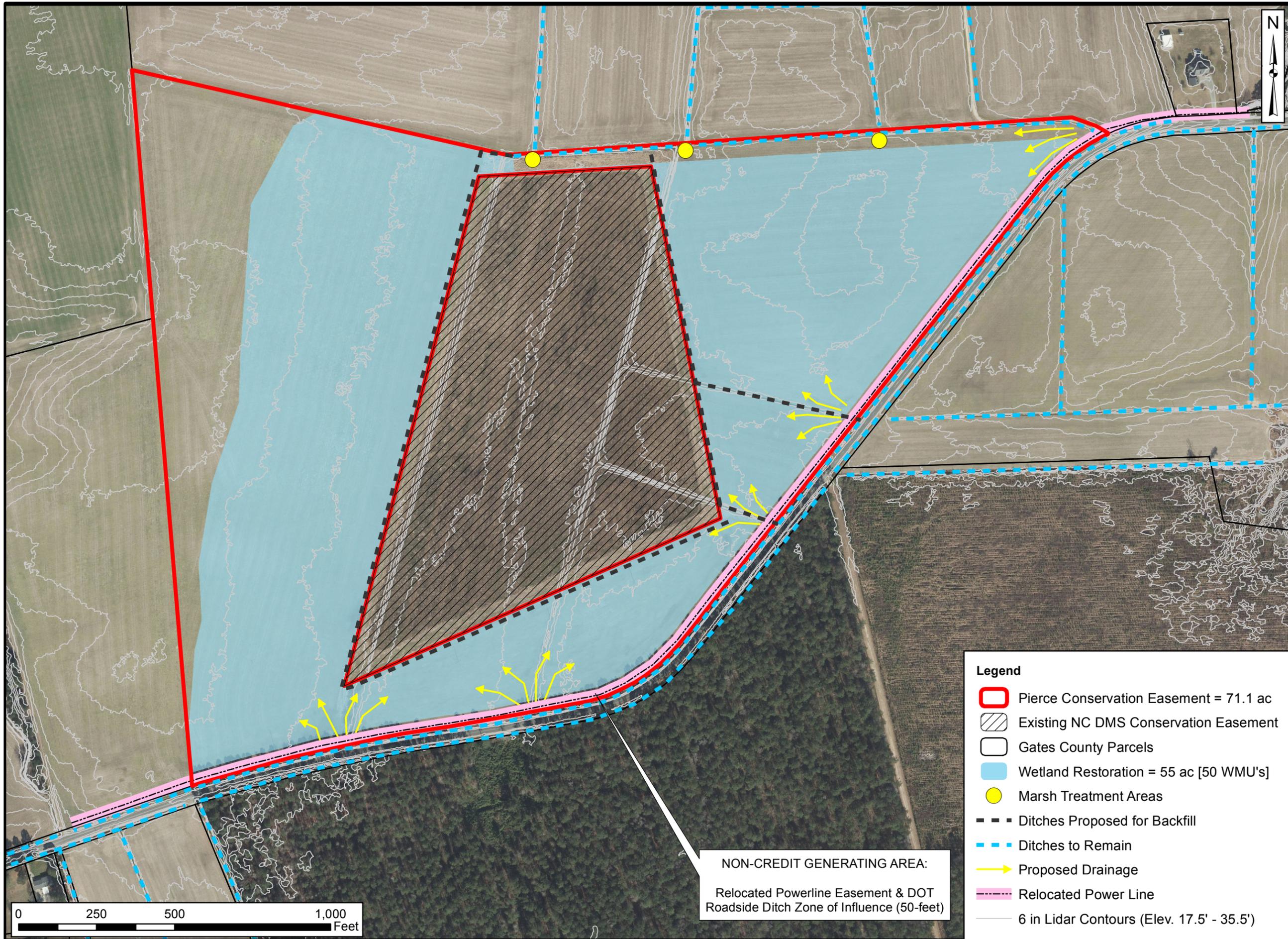
FIGURE

4

Legend

- Pierce Conservation Easement = 127.5 ac
- Existing NC DMS Conservation Easement
- Gates County Parcels
- Soil Profile Locations
- Existing Ditches
- Existing Power Line
- NRCS Soil Boundary
- Drained Hydric Soils
- 6 in Lidar Contours (Elev. 17.5' - 35.5')





Prepared for:
**PIERCE TERRACE
 MITIGATION SITE**

Gates County, NC

Title:
**PROPOSED
 CONDITIONS
 OPTION 1**

Drawn by: WGL

Date: AUG 2019

Scale: 1:3500

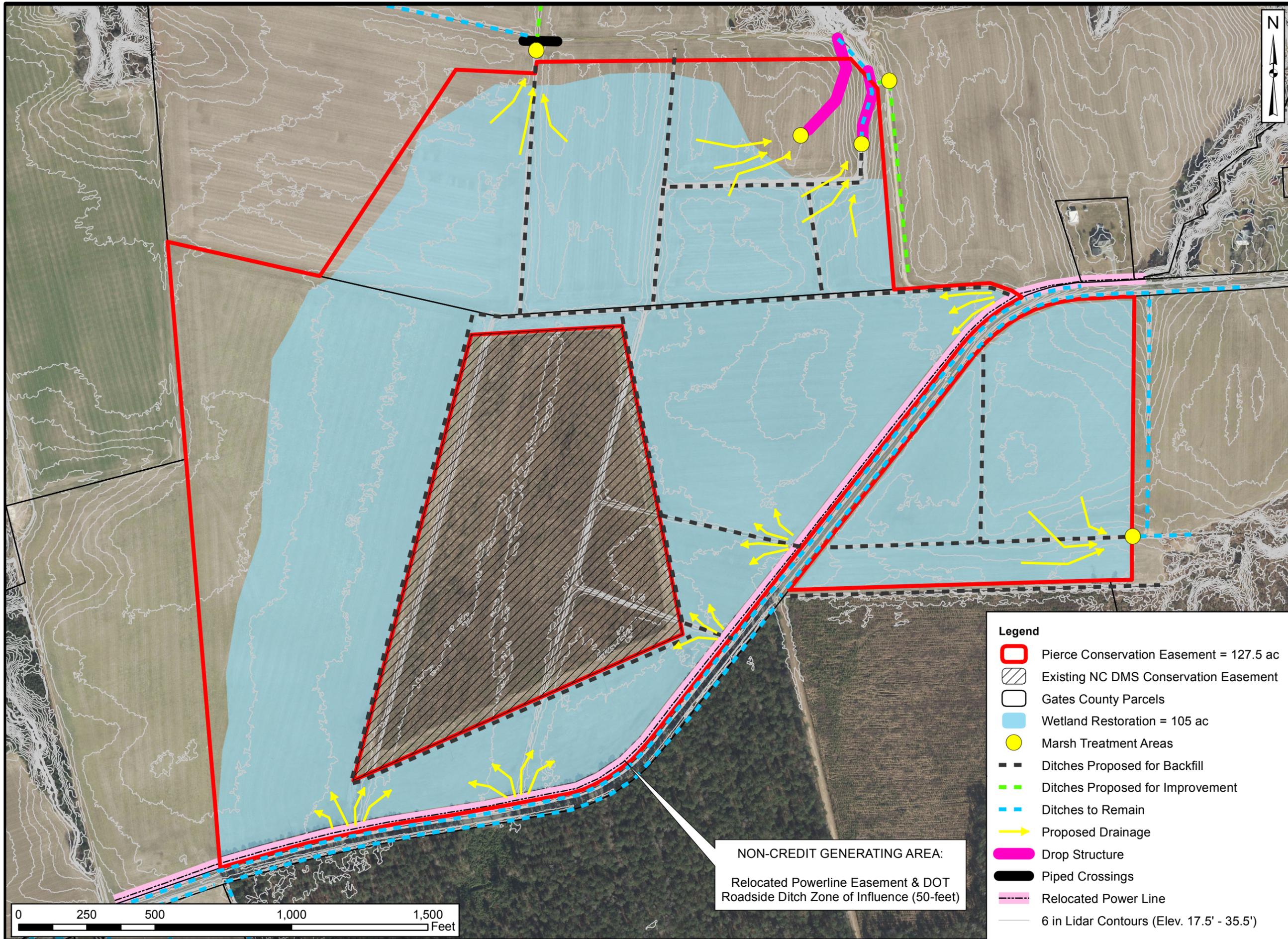
Project No.: 19-001.06

**FIGURE
 5A**

- Legend**
- Pierce Conservation Easement = 71.1 ac
 - Existing NC DMS Conservation Easement
 - Gates County Parcels
 - Wetland Restoration = 55 ac [50 WMU's]
 - Marsh Treatment Areas
 - Ditches Proposed for Backfill
 - Ditches to Remain
 - Proposed Drainage
 - Relocated Power Line
 - 6 in Lidar Contours (Elev. 17.5' - 35.5')

NON-CREDIT GENERATING AREA:
 Relocated Powerline Easement & DOT
 Roadside Ditch Zone of Influence (50-feet)

0 250 500 1,000
 Feet



Prepared for:
PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:
PROPOSED CONDITIONS OPTION 2

- Legend**
- Pierce Conservation Easement = 127.5 ac
 - Existing NC DMS Conservation Easement
 - Gates County Parcels
 - Wetland Restoration = 105 ac
 - Marsh Treatment Areas
 - Ditches Proposed for Backfill
 - Ditches Proposed for Improvement
 - Ditches to Remain
 - ➔ Proposed Drainage
 - Drop Structure
 - Piped Crossings
 - Relocated Power Line
 - 6 in Lidar Contours (Elev. 17.5' - 35.5')

Drawn by: WGL
Date: AUG 2019
Scale: 1:4000
Project No.: 19-001.06

FIGURE 5B



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

June 30, 2021

S&M Farms, LLC
James Myron Hofler, Jr.
539 NC Highway 32 South
Sunbury, NC 27979

County: Gates

Subject: Encroachment to allow you to remove five driveways along SR 1404.

Dear Applicant,

Attached for your records is a copy of the approved encroachment package to allow you to remove five existing driveway pipes along SR1404 and regrade the roadside ditch to allow positive drainage. **Any and all damages done to State Routes must be properly repaired.** This approval will expire on June 30, 2022 unless construction has started or been completed prior to that date. Please feel free to contact the District Office at (252) 331-4737 if you have any questions.

Sincerely yours,

DocuSigned by:

A handwritten signature in blue ink, appearing to read "D. B. Otts".

757334A95F0C4D5...

David B. Otts, PE
District Engineer

Attachments

Cc: Division Engineer (W/Attachments)
County Maintenance Engineer (W/Attachments)



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

Pre-Construction Notices

- PCN** 1 Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the encroachment agreement.
- PCN** 3 Prior to beginning work, it is the requirement of the Encroaching Party to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.
- PCN** 4 It shall be the responsibility of the encroaching party to determine the location of utilities within the encroachment area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The encroaching party shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.
- PCN** 7 Trenching, bore pits and/or other excavations shall not be left open or unsafe overnight.

Legal & Right-of-Way

- RW** 1 This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the Division Engineer's office or their representative prior to construction or during construction, if an issue arises during construction to warrant changes.
- RW** 2 NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the encroaching party to verify the right of way.
- RW** 4 Encroaching party shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.
- RW** 6 No commercial advertising shall be allowed within NCDOT Right of Way.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

Work Zone Traffic Control

TC 2 WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM

All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

For questions and/or additional information regarding this training program please refer to <https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx> or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

TC 3 The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:

TC A) Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).

TC B) NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.

TC 5 Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.

TC 8 Two-way traffic shall be maintained at all times unless designated by the District Engineer. Traffic shall not be rerouted or detoured without the prior written approval from the District Engineer. No utility work will be allowed on state holidays from 7:00 PM the night before through 9:00 AM the day prior to, following or during local events without prior approval from the District Engineer. If the construction is within 1000 feet of a school location or on a designated bus route, the construction shall be coordinated with the school start and end times to avoid traffic delays.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

- TC 9** Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.
- TC 10** Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- TC 13** Any pavement markings that are damaged or obliterated shall be restored by the encroaching party at no expense to NCDOT.
- TC 15** Parking and material storage shall not be allowed along the shoulders of any NCDOT roadways, any NCDOT roadways along the route and adjacent to the route.
- TC 16** During periods of construction inactivity, place approved traffic control drums 3' minimum from the existing travel way.
- TC 17** Any violation of the Traffic Control provisions will result in the termination of the encroachment agreement and liquidated damages in the amount of \$2,000 per hour or any portion thereof and will be assessed by the District Engineer's office.

Environmental Regulations

- EC 1** The encroaching party shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (252) 621-6310
- EC 2** When surface area in excess of one acre will be disturbed, the Encroacher shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.
- EC 4** All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Encroacher in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest NCDOT Standards Specifications for Roads and Structures and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this encroachment shall be replaced with plants of like kind or similar shape.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

- EC 5** No trees within NCDOT shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.
- EC 6** Prior to installation, the Encroaching Party shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.
- EC 7** The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.
- EC 8** The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the Division Engineer or their agent.
- EC 10** Vegetative cover shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer.

General

- G 1** An executed copy of the encroachment agreement, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.
- G 2** The Encroaching Party and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this encroachment, the District Office shall be notified by the encroaching party immediately if any violations are cited.
- G 3** Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved encroachment agreement.
- G 4** All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the Division Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.
- G 5** The encroaching party shall notify the Division Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the Division Engineer or their representative.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

- G 8** Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Recovery Area. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.
- G 13** All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the Division Engineer or their representative.
- G 16** All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.
- G 18** If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.
- G 22** Strict compliance with the Policies and Procedures for Accommodating Utilities on Highway Rights of
- G 23** The encroaching party may delegate the performance of certain provisions of this agreement to contractors or other parties. However, this shall not in any way release the encroaching party from its obligations to the terms and provisions of the encroachment.
- G 24** The encroaching party shall assume all responsibility, obligation, and liability for maintenance and operation of the installation permitted under this encroachment agreement. This condition shall be conveyed in any future buy, lease, sell or rental agreement. In the event that the encroaching party, or any future responsible party should fail to satisfy this condition, NCDOT reserves the right close or remove the installation at the encroaching party's expense.
- G 25** A one-year warranty shall be required on all work performed within the NCDOT right of way. It shall commence after District review and acceptance of the completed work associated with the encroachment.

Engineering

- E 1** All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: ASTM Standards, Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings, NCDOT Asphalt Quality Management System manual, and the approved plans.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

SR1404 GATES COUNTY

Excavation

- EX 1 Excavation material shall not be placed on pavement.
- EX 2 It is the responsibility of the encroaching party or their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.
- EX 5 The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest NCDOT Standard Specifications for Roads and Structures, which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.
- EX 7 All roadway sections, ditch lines and slopes, and shoulders affected by the operations under this encroachment shall be restored to the satisfaction of the District Engineer.

Pavement Repair

- PR 4 The minimum pavement design for pavement repair shall be according to NCDOT Standard Drawing 654.01 (<https://connect.ncdot.gov/resources/Specifications/2018StandardRdwyDrawings/Division%206%20Asphalt%20Bases%20and%20Pavements.pdf>) and shall include a mechanical overlay extent to be a minimum of 25 feet each side of the pavement repair area OR as directed by the District Engineer.
- PR 7 Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform encroachment work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Encroaching Party.

Post-Construction

- I 1 The Encroaching party shall notify the District Engineer's office within 2 business days after construction is complete. The District Engineer may perform a construction inspection. Any deficiencies may be noted and reported to the encroaching party to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

ROUTE Silver Springs Rd PROJECT Pierce Terrace COUNTY OF STATE OF NORTH CAROLINA
(SR-1404) Wetland Mitigation Gates

DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY ENCROACHMENT AGREEMENT
FOR NON-UTILITY ENCROACHMENTS ON
PRIMARY AND SECONDARY HIGHWAYS

-AND-

S & M Farms, LLC*

*James Myron Hofler, Jr. (manager/member)

THIS AGREEMENT, made and entered into this the 9th day of Jun, 20 21, by and between the Department of Transportation, party of the first part; and S & M Farms, LLC represented by James Myron Hofler, Jr. party of the second part,

W I T N E S S E T H

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) Silver Springs Rd (SR-1404), located in Gates County

with the construction and/or erection of: Removal of five driveway culverts and associated driveways and replacement with roadside ditches. The driveway culvert at the far western end of the property near the property corner will remain in place.

(Driveways #3-7)

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

It is clearly understood by the party of the second part that the party of the first part will assume no responsibility for any damage that may be caused to such facilities, within the highway rights of way limits, in carrying out its construction and maintenance operations.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the encroaching site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

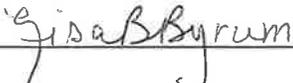
R/W (161A) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161A) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: 
~~Asst. Manager of Right of Way~~
DISTRICT ENGINEER

ATTEST OR WITNESS:



Lisa B. Byrum



James Myron Hofler Jr.

Second Party

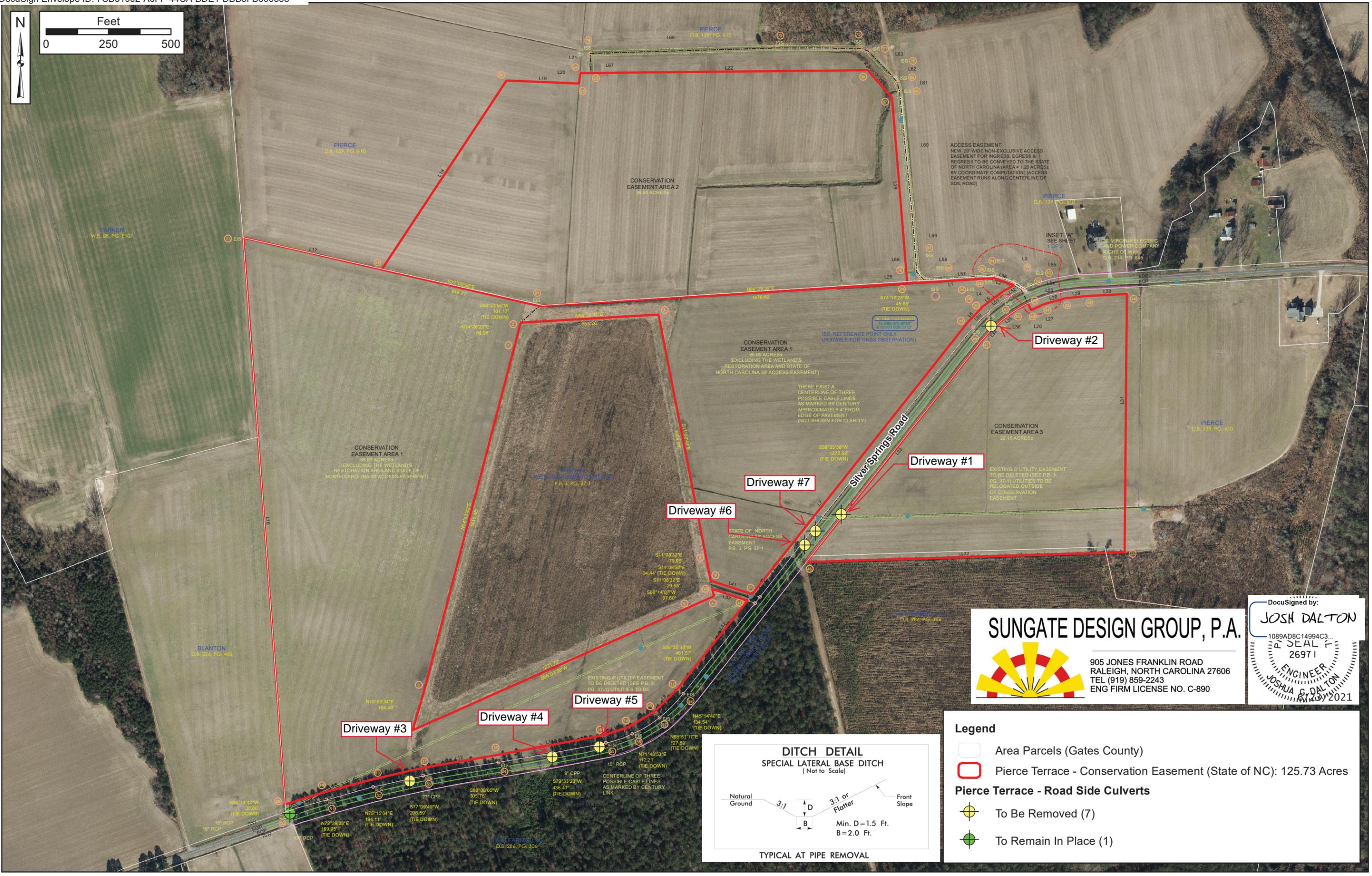
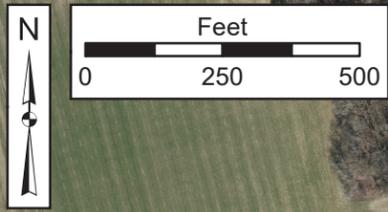
INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the Manager of Right of Way. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the proposed encroachment.
4. Length and type of encroachment.
5. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
6. Drainage structures or bridges if affected by encroachment.
7. Typical section indicating the pavement design and width, and the slopes, widths and details for either a curb and gutter or a shoulder and ditch section, whichever is applicable.
8. Horizontal alignment indicating general curve data, where applicable.
9. Vertical alignment indicated by percent grade, P.I. station and vertical curve length, where applicable.
10. Amount of material to be removed and/or placed on NCDOT right of way, if applicable.
11. Cross-sections of all grading operations, indicating slope ratio and reference by station where applicable.
12. All pertinent drainage structures proposed. Include all hydraulic data, pipe sizes, structure details and other related information.
13. Erosion and sediment control.
14. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
15. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.
16. Method of handling traffic during construction where applicable.
17. Scale of plans, north arrow, etc.

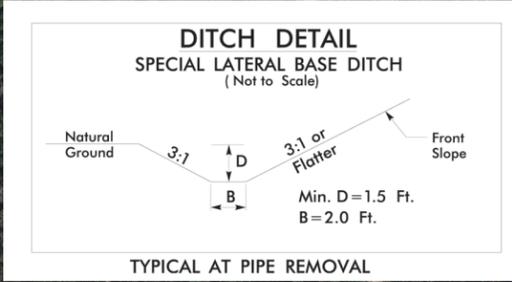


SUNGATE DESIGN GROUP, P.A.

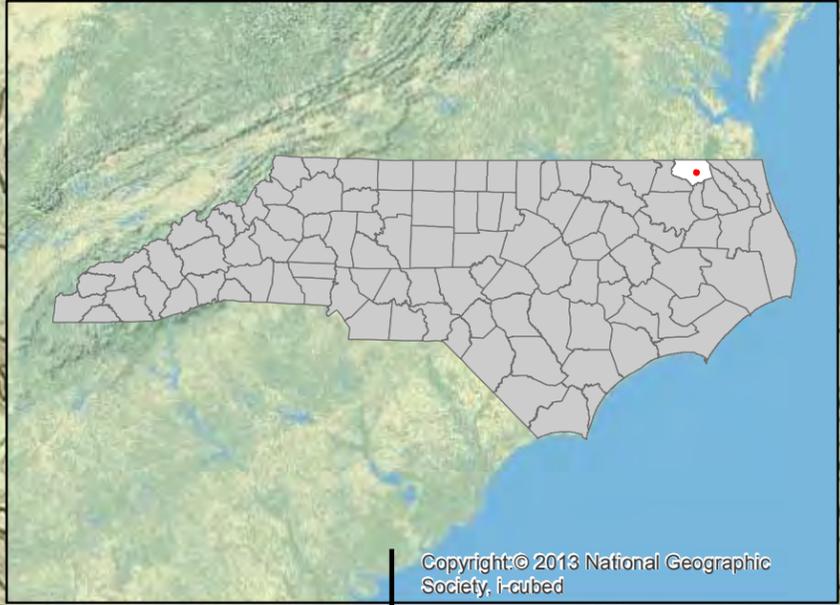


905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

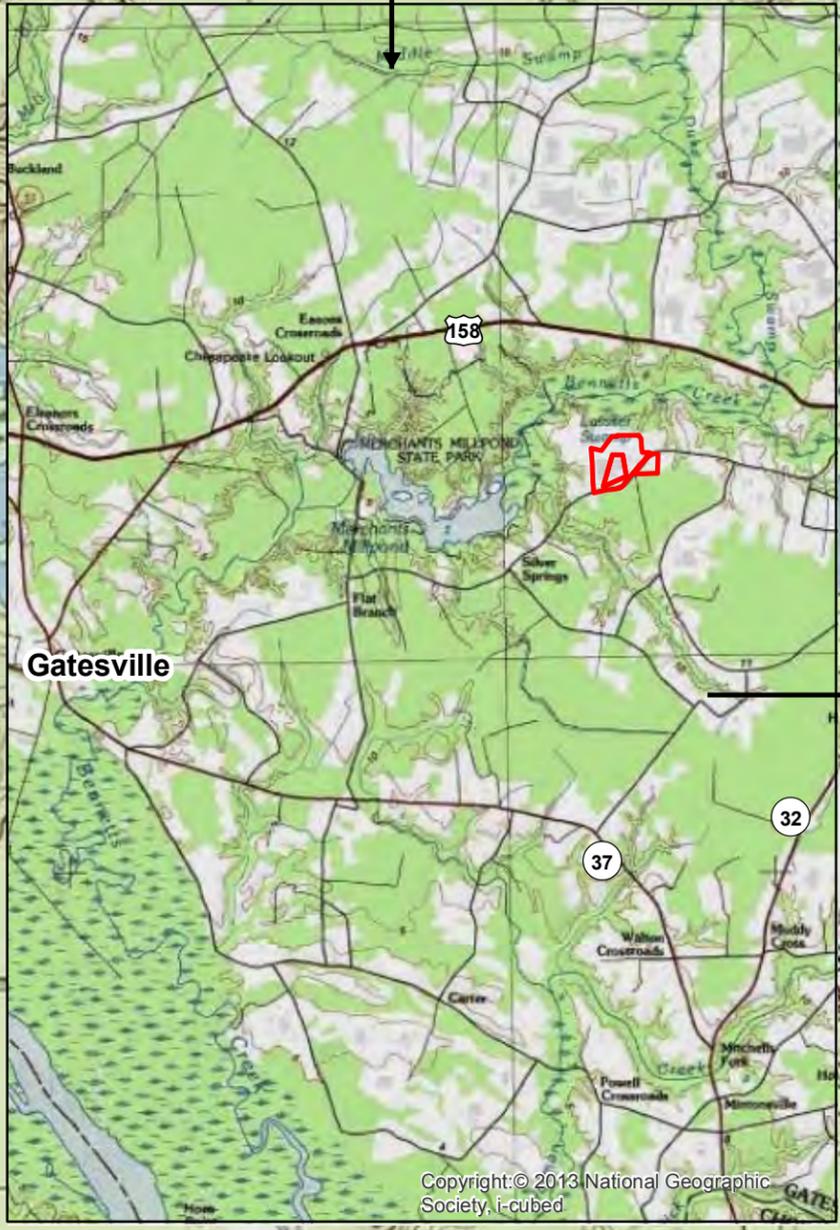
DocuSigned by:
JOSH DALTON
1089AD8C14994C3...
a SEAL F
26971
ENGINEER
JOSHUA S. DALTON
10/15/2021



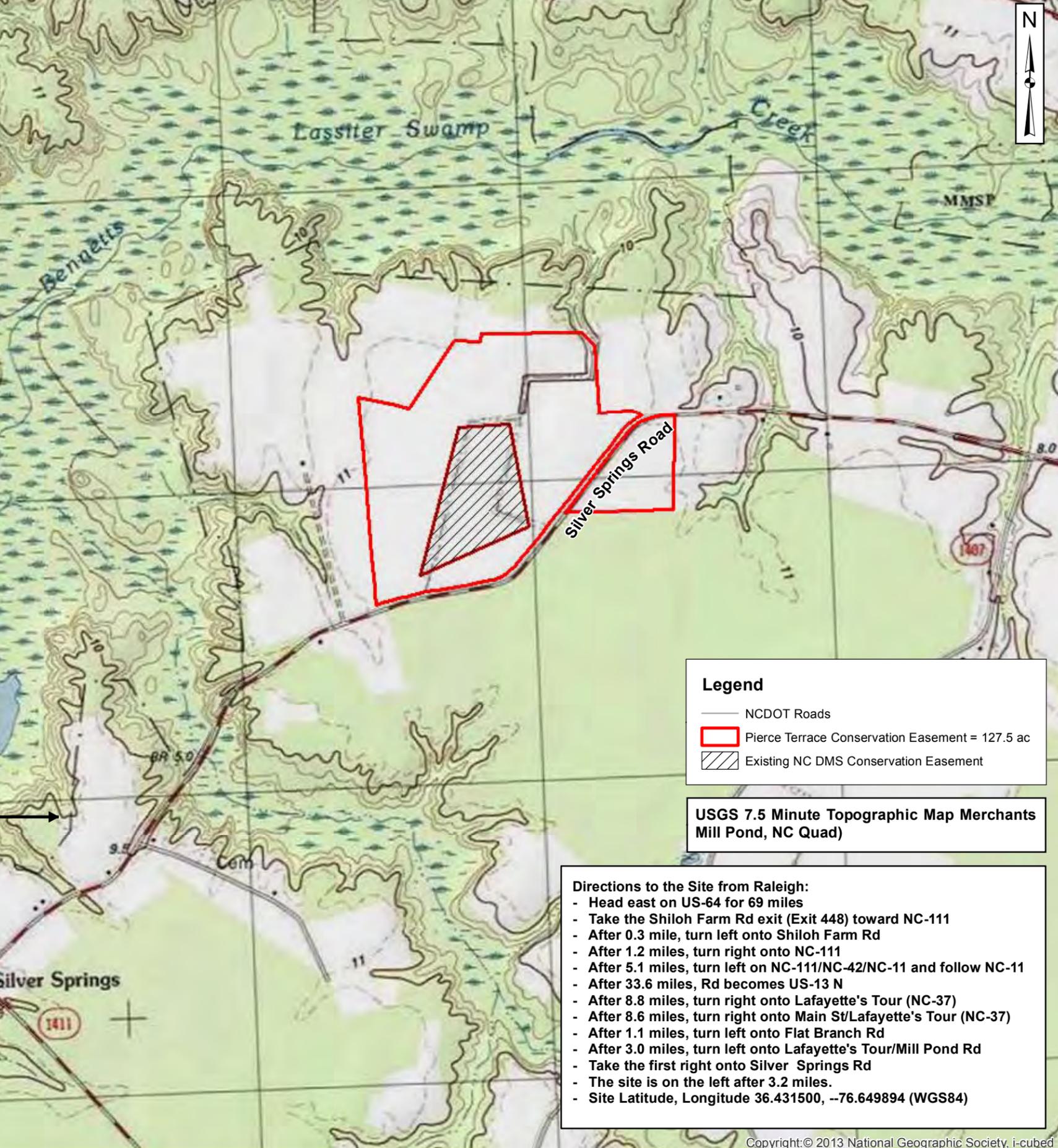
- Legend**
-  Area Parcels (Gates County)
 -  Pierce Terrace - Conservation Easement (State of NC): 125.73 Acres
 - Pierce Terrace - Road Side Culverts**
 -  To Be Removed (7)
 -  To Remain In Place (1)



Copyright © 2013 National Geographic Society, i-cubed



Copyright © 2013 National Geographic Society, i-cubed



Legend

- NCDOT Roads
- Pierce Terrace Conservation Easement = 127.5 ac
- Existing NC DMS Conservation Easement

USGS 7.5 Minute Topographic Map Merchants Mill Pond, NC Quad)

Directions to the Site from Raleigh:

- Head east on US-64 for 69 miles
- Take the Shiloh Farm Rd exit (Exit 448) toward NC-111
- After 0.3 mile, turn left onto Shiloh Farm Rd
- After 1.2 miles, turn right onto NC-111
- After 5.1 miles, turn left on NC-111/NC-42/NC-11 and follow NC-11
- After 33.6 miles, Rd becomes US-13 N
- After 8.8 miles, turn right onto Lafayette's Tour (NC-37)
- After 8.6 miles, turn right onto Main St/Lafayette's Tour (NC-37)
- After 1.1 miles, turn left onto Flat Branch Rd
- After 3.0 miles, turn left onto Lafayette's Tour/Mill Pond Rd
- Take the first right onto Silver Springs Rd
- The site is on the left after 3.2 miles.
- Site Latitude, Longitude 36.431500, -76.649894 (WGS84)

Copyright © 2013 National Geographic Society, i-cubed



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

SITE LOCATION

Drawn by: WGL

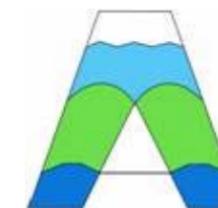
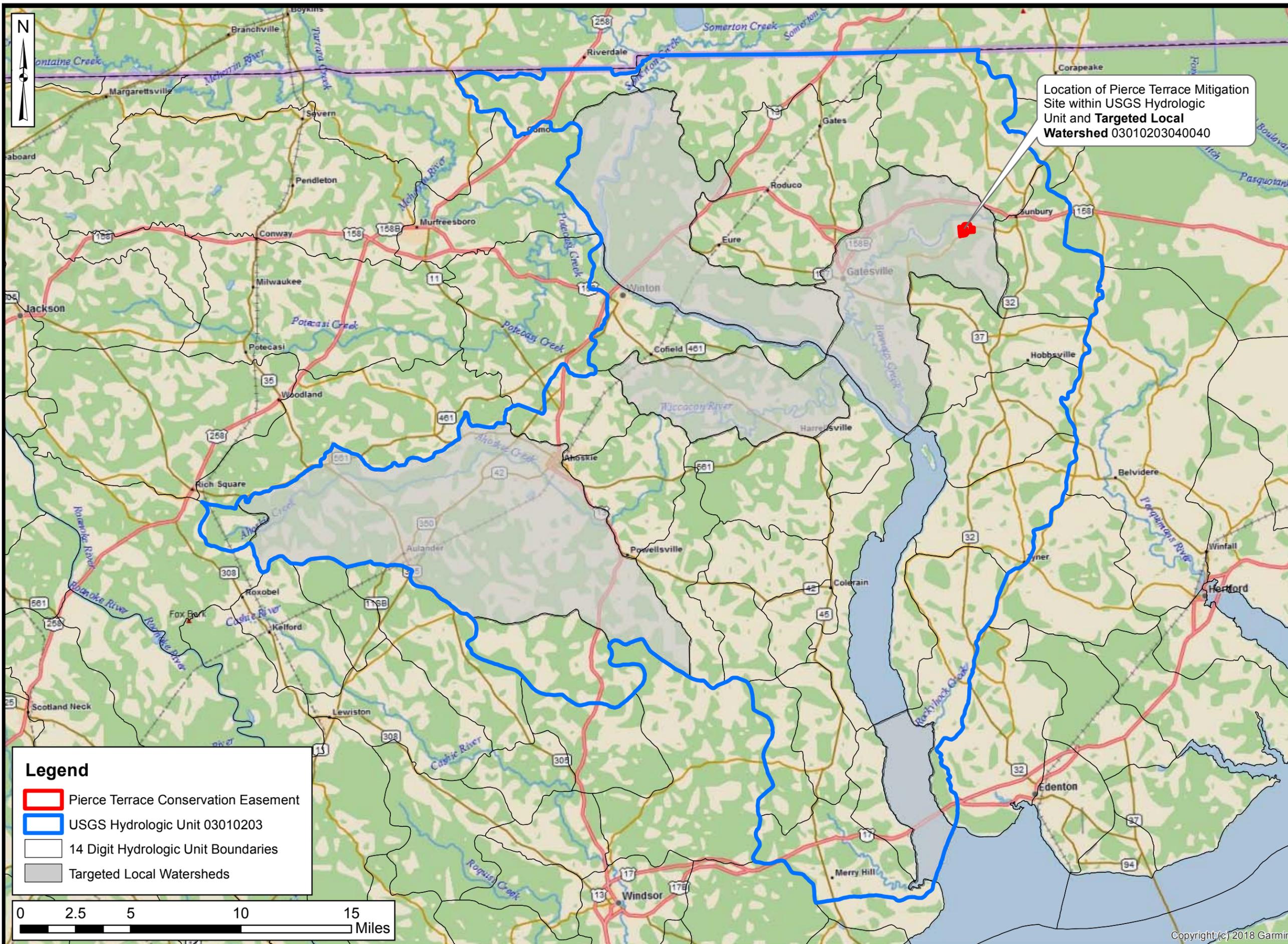
Date: JUL 2019

Scale: 1:20,000

Project No.: 19-001.06

FIGURE

1



Axiom Environmental, Inc.

Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

HYDROLOGIC UNIT MAP

Drawn by:

WGL

Date:

JUL 2019

Scale:

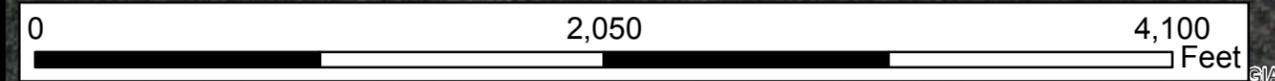
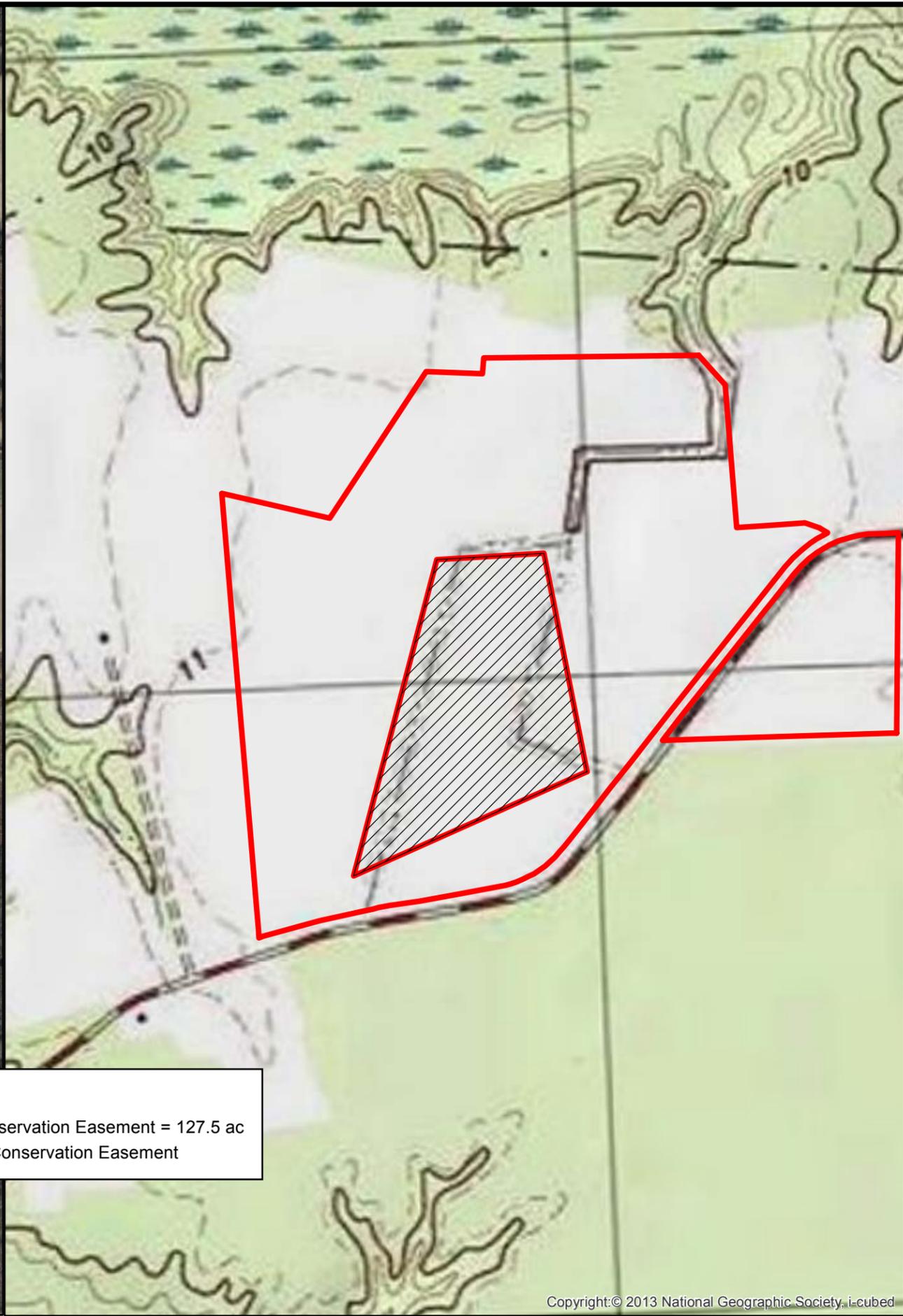
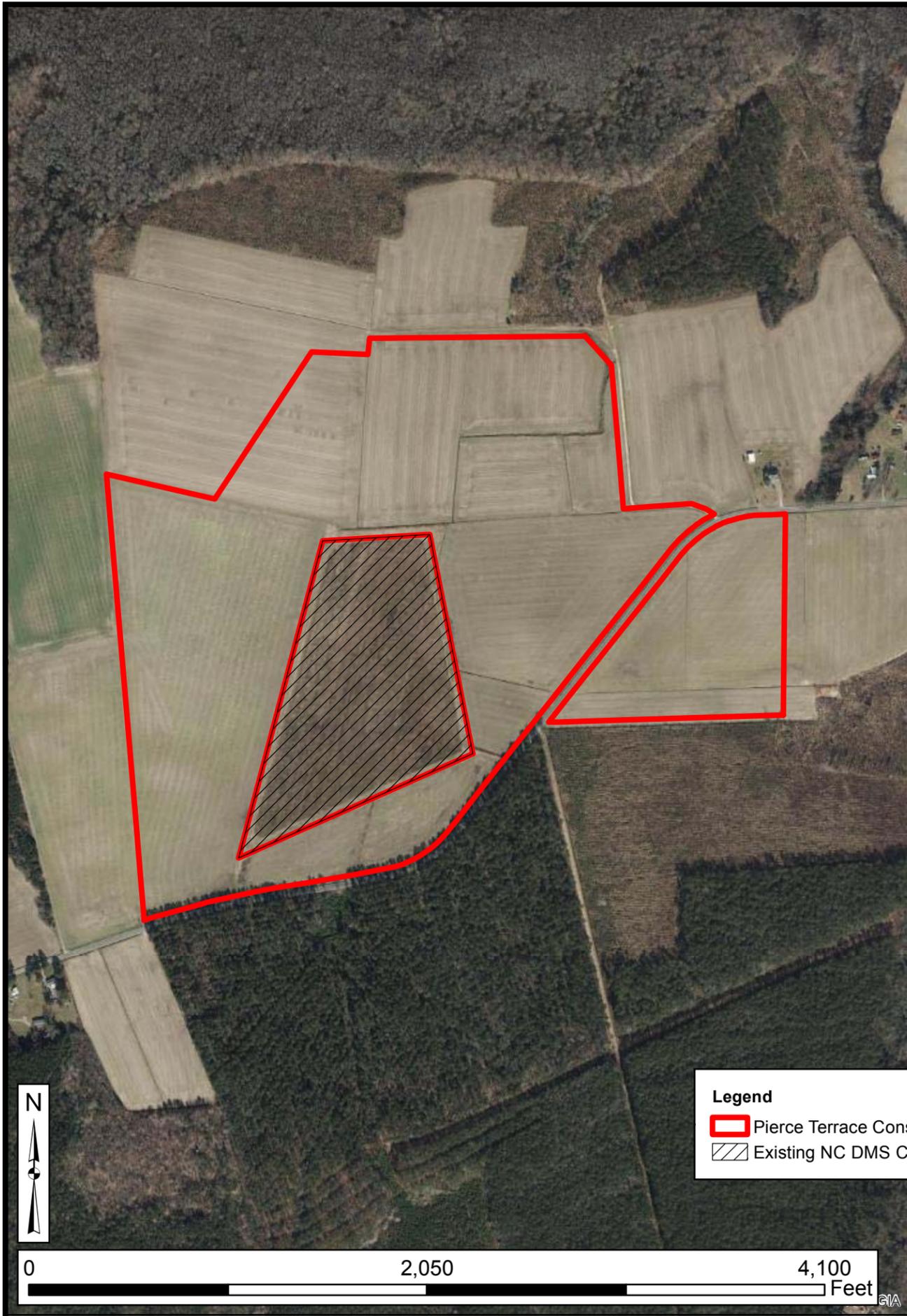
1:260,000

Project No.:

19-001.06

FIGURE

2



Legend
 [Red outline] Pierce Terrace Conservation Easement = 127.5 ac
 [Hatched box] Existing NC DMS Conservation Easement

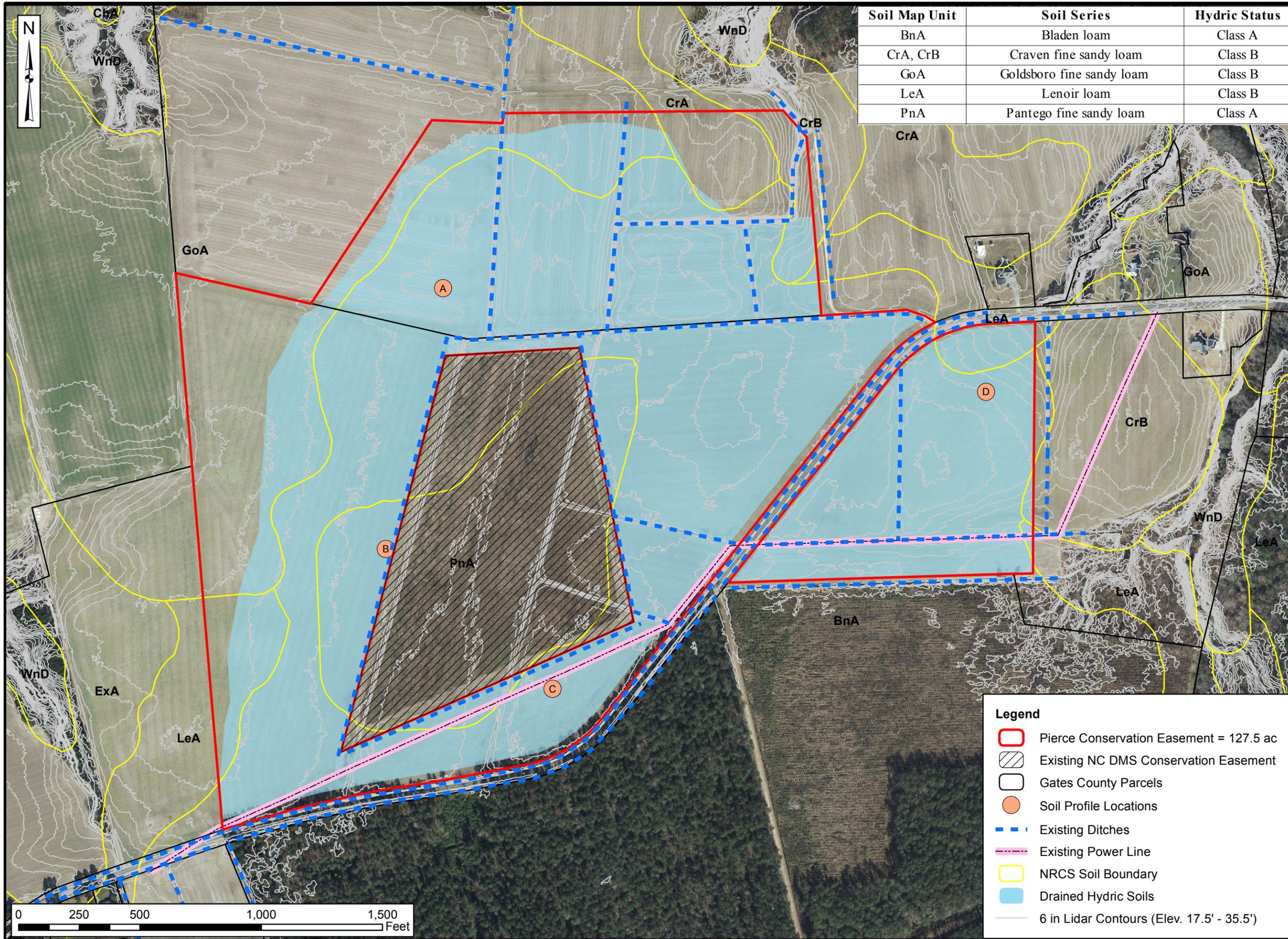


Project:
PIERCE TERRACE MITIGATION SITE
 Gates County, NC

Title:
TOPOGRAPHY AND DRAINAGE FEATURES

Drawn by: WGL
 Date: JUL 2019
 Scale: 1:34,000
 Project No.: 19-001.06

FIGURE
3



Soil Map Unit	Soil Series	Hydric Status
BnA	Bladen loam	Class A
CrA, CrB	Craven fine sandy loam	Class B
GoA	Goldsboro fine sandy loam	Class B
LeA	Lenoir loam	Class B
PnA	Pantego fine sandy loam	Class A



Prepared for:



Project:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

EXISTING CONDITIONS AND SOILS

Drawn by:

WGL

Date:

AUG 2019

Scale:

1:4500

Project No.:

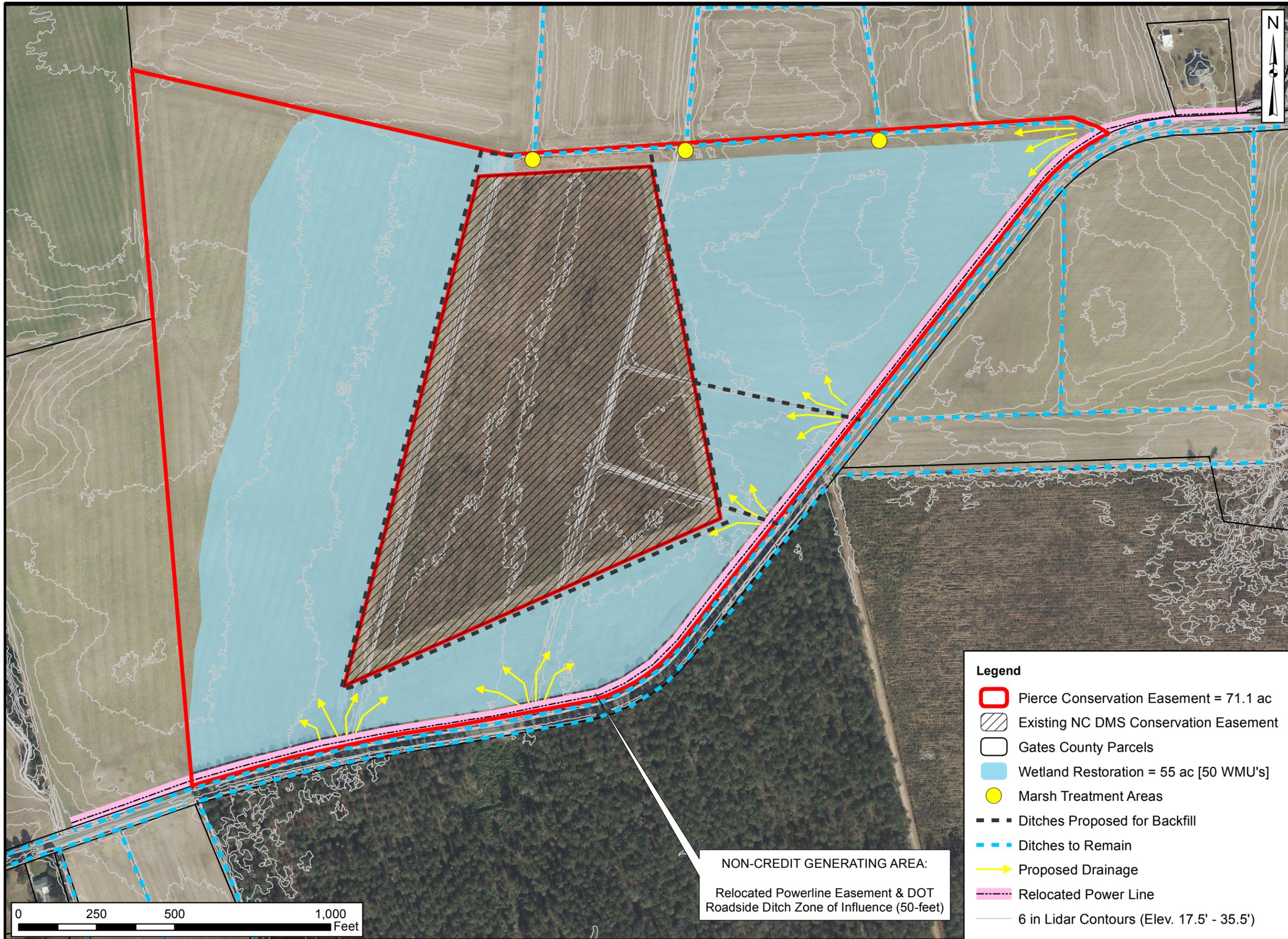
19-001.06

FIGURE

4

- Legend**
- Pierce Conservation Easement = 127.5 ac
 - Existing NC DMS Conservation Easement
 - Gates County Parcels
 - Soil Profile Locations
 - Existing Ditches
 - Existing Power Line
 - NRCS Soil Boundary
 - Drained Hydric Soils
 - 6 in Lidar Contours (Elev. 17.5' - 35.5')





Prepared for:

PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:

PROPOSED CONDITIONS OPTION 1

Drawn by: WGL

Date: AUG 2019

Scale: 1:3500

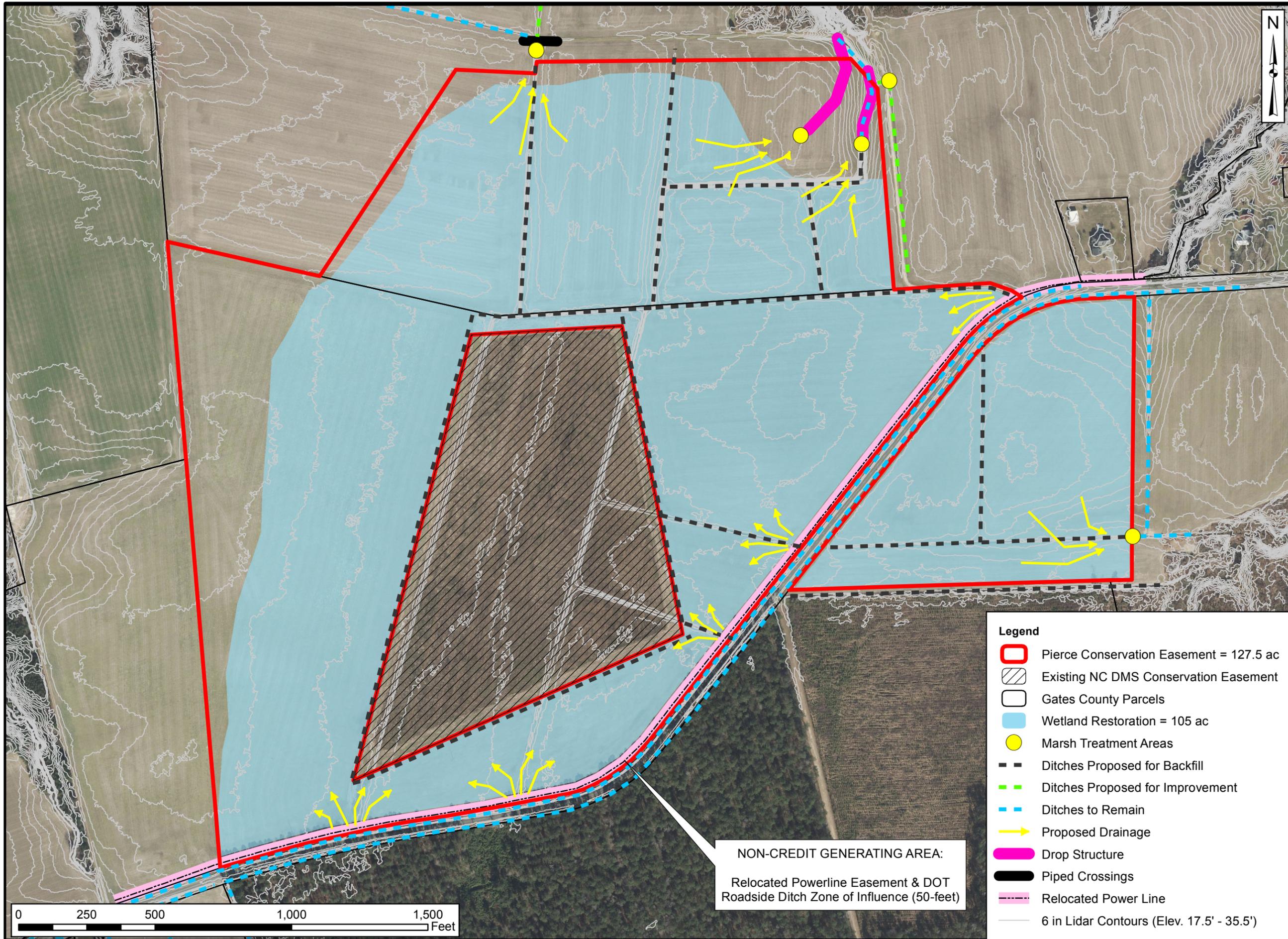
Project No.: 19-001.06

FIGURE 5A

- Legend**
- Pierce Conservation Easement = 71.1 ac
 - Existing NC DMS Conservation Easement
 - Gates County Parcels
 - Wetland Restoration = 55 ac [50 WMU's]
 - Marsh Treatment Areas
 - Ditches Proposed for Backfill
 - Ditches to Remain
 - Proposed Drainage
 - Relocated Power Line
 - 6 in Lidar Contours (Elev. 17.5' - 35.5')

NON-CREDIT GENERATING AREA:
Relocated Powerline Easement & DOT Roadside Ditch Zone of Influence (50-feet)

0 250 500 1,000 Feet



Prepared for:
PIERCE TERRACE MITIGATION SITE

Gates County, NC

Title:
PROPOSED CONDITIONS OPTION 2

- Legend**
- Pierce Conservation Easement = 127.5 ac
 - Existing NC DMS Conservation Easement
 - Gates County Parcels
 - Wetland Restoration = 105 ac
 - Marsh Treatment Areas
 - Ditches Proposed for Backfill
 - Ditches Proposed for Improvement
 - Ditches to Remain
 - ➔ Proposed Drainage
 - Drop Structure
 - Piped Crossings
 - Relocated Power Line
 - 6 in Lidar Contours (Elev. 17.5' - 35.5')

Drawn by: WGL

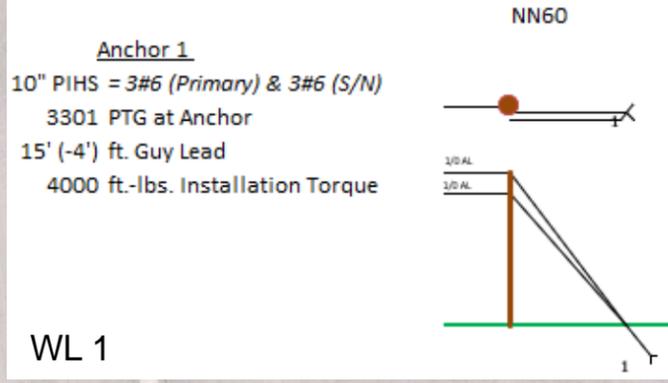
Date: AUG 2019

Scale: 1:4000

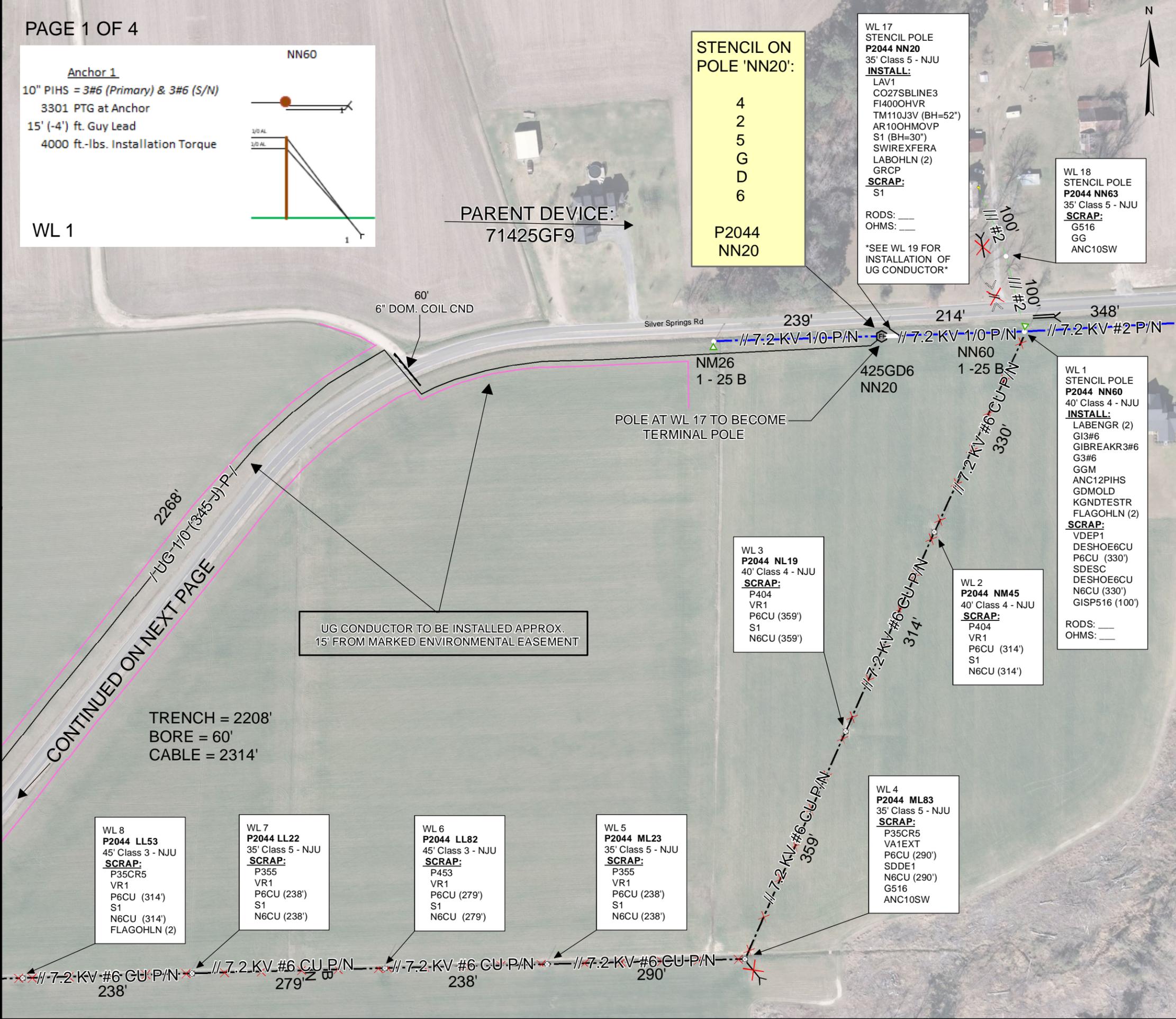
Project No.: 19-001.06

FIGURE 5B

Appendix M: Dominion Utility Relocation



WL 1



VICINITY MAP

GOOGLE MAPS:
 36.434681, -76.643386

CONSTRUCTION NOTES

- PER REQUEST, REMOVE 1 PHASE OH LINE.
- CONVERT & RELOCATE SECTION OF PRIMARY TO UG.
- POLES AT WL 16 & 17 TO BECOME TERMINAL POLES.
- ENVIRONMENTAL EASEMENT: _____

LEGEND

Existing	Proposed	Replace	Return	Symbol	Description
○	●	⊗	⊘	○	Manhole
○	○	⊗	⊘	○	Vault
○	○	⊗	⊘	○	Splice Box
○	○	⊗	⊘	○	Secondary Ped
○	○	⊗	⊘	○	Conduit
○	○	⊗	⊘	○	Closed Conduit Span
○	○	⊗	⊘	○	Duct Bank
○	○	⊗	⊘	○	Street Light
○	○	⊗	⊘	○	Watch Light
○	○	⊗	⊘	○	OH Fault Indicator
○	○	⊗	⊘	○	Existing/Proposed UG Sec. Current Limiting Fuses
○	○	⊗	⊘	○	Existing/Proposed Open Points
○	○	⊗	⊘	○	Exist/Pro. OV Arrestor
○	○	⊗	⊘	○	Push Brace
○	○	⊗	⊘	○	Down Guy & Anchor
○	○	⊗	⊘	○	Span Guy
○	○	⊗	⊘	○	OH or UG Conductors
○	○	⊗	⊘	○	See Sketch for: Voltage, Phase, Number & Size

PROJECT DATA

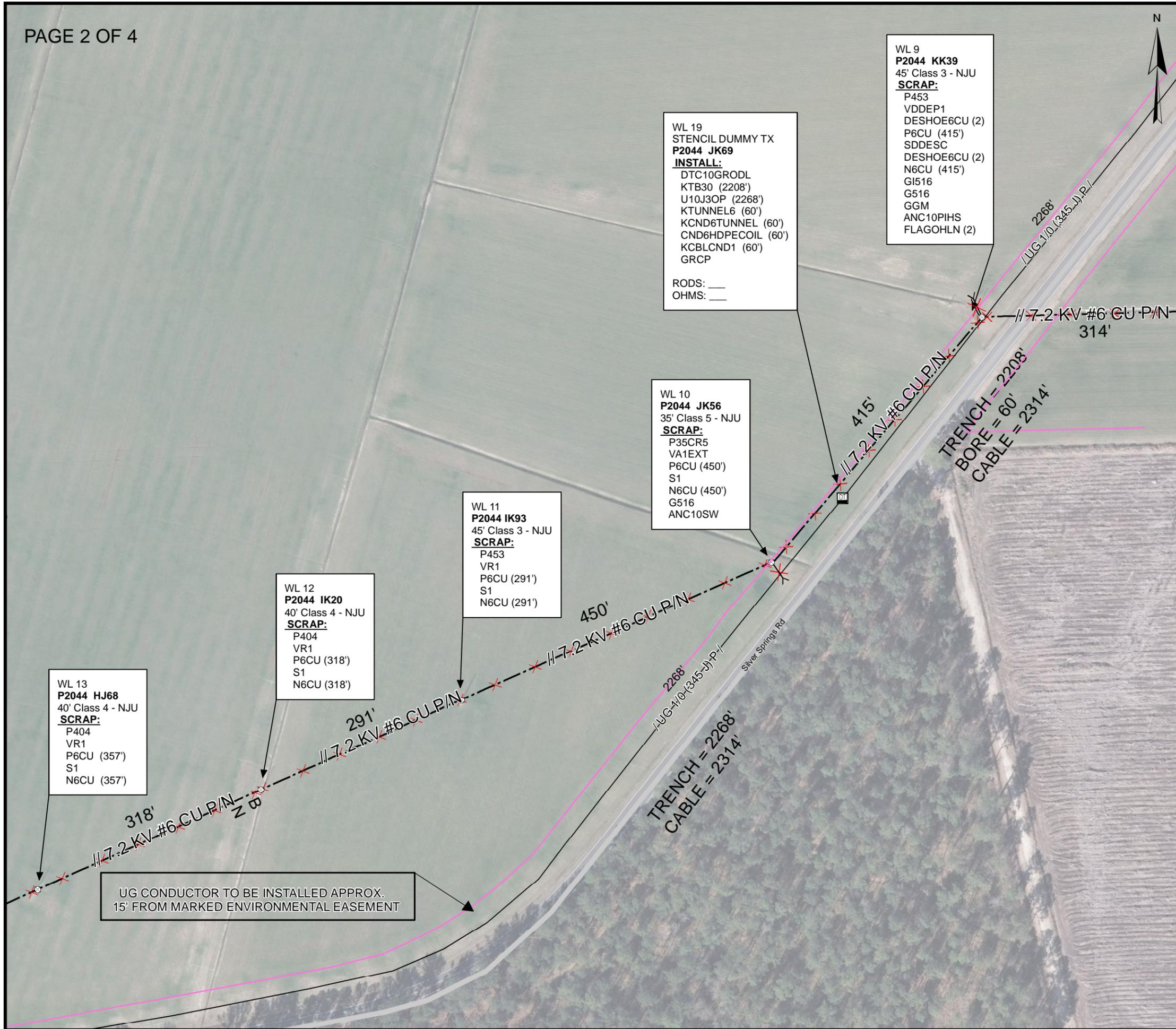
Sub Station: SUNBURY	Cir. #: 425
Tax District: 74041	Co. Grid # P2044
Easement #: N/A	Miss U # 811
Fault Current: N/A	Volt. Drop: N/A
Est. Demand N/A	Flicker: N/A
Project Manager: Robert B Wood	Device # 71425GF9
Phone # 2523081014	Scale 1 inch = 139.9 feet

VIRGINIA ELECTRIC AND POWER COMPANY
 doing business as
Dominion Energy Virginia
 or
Dominion Energy North Carolina

WR Name: RESTORATION SYSTEMS, LLC
 CONVERT & RELOCATE PRIMARY, PER CUSTOMER REQUEST.

Location: 405 SILVER SPRINGS RD SUNBURY NC

WR#: 10423491 Designer: GUNNER1 Date: 1/22/2021



VICINITY MAP

GOOGLE MAPS:
 36.432170, -76.649411

CONSTRUCTION NOTES

- REMOVE OH FACILITIES, PER CUSTOMER REQUEST.
- SEE PAGE 3 FOR TRENCHING/BOREING OF UG.

LEGEND

Existing	Proposed	Replace	Return	Symbol	Description
○	●	◐	⊗	○	Domination Pole
○	●	◐	⊗	○	Foreign Pole
▽	▾	◑	⊗	▽	OH Transformer
△	▴	◒	⊗	△	OH Step Transformer
□	■	◓	⊗	□	UG Transformer
□	■	◓	⊗	□	Dummy Transformer
□	■	◓	⊗	□	UG Step Transformer
⊗	⊗	⊗	⊗	⊗	Fuse
⊗	⊗	⊗	⊗	⊗	Recloser
⊗	⊗	⊗	⊗	⊗	Voltage Regulator
⊗	⊗	⊗	⊗	⊗	Sectionalizer
⊗	⊗	⊗	⊗	⊗	OH Switch
⊗	⊗	⊗	⊗	⊗	Capacitor
⊗	⊗	⊗	⊗	⊗	UG Switch
○	●	◐	⊗	○	Manhole
□	■	◓	⊗	□	Vault
□	■	◓	⊗	□	Spice Box
□	■	◓	⊗	□	Secondary Ped
---	---	---	---	---	Conduit
---	---	---	---	---	Closed Conduit Span
---	---	---	---	---	Duct Bank
○	●	◐	⊗	○	Street Light
○	●	◐	⊗	○	Watch Light
○	●	◐	⊗	○	OH Fault Indicator
○	●	◐	⊗	○	Existing/Proposed UG Sec. Current Limiting Fuses
○	●	◐	⊗	○	Existing/Proposed Open Points
○	●	◐	⊗	○	OH Open Point
○	●	◐	⊗	○	UG Open Point
○	●	◐	⊗	○	Exist/Pro. Arrestor
○	●	◐	⊗	○	Exist/Pro. OV Arrestor
○	●	◐	⊗	○	Push Brace
○	●	◐	⊗	○	Down Guy & Anchor
○	●	◐	⊗	○	Span Guy
○	●	◐	⊗	○	OH or UG Conductors
○	●	◐	⊗	○	See Sketch for: Voltage, Phase, Number & Size

PROJECT DATA

Sub Station: SUNBURY	Cir. #: 425
Tax District: 74041	Co. Grid # P2044
Easement #: N/A	Miss U # 811
Fault Current: N/A	Volt. Drop: N/A
Est. Demand N/A	Flicker: N/A
Project Manager: Robert B Wood	Device # 71425GF9
Phone # 2523081014	Scale 1 inch = 128.9 feet

VIRGINIA ELECTRIC AND POWER COMPANY
 doing business as
Dominion Energy Virginia
 or
Dominion Energy North Carolina

WR Name: RESTORATION SYSTEMS, LLC
 CONVERT & RELOCATE PRIMARY, PER CUSTOMER REQUEST.

Location: 405 SILVER SPRINGS RD SUNBURY NC

WR#: 10423491	Designer: GUNNER1	Date: 1/21/2021
---------------	-------------------	-----------------

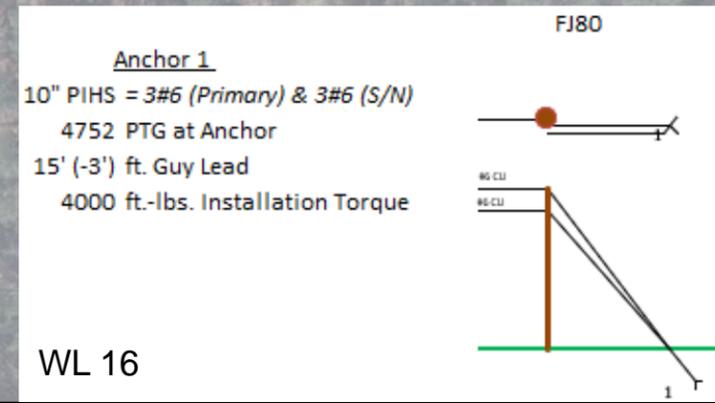
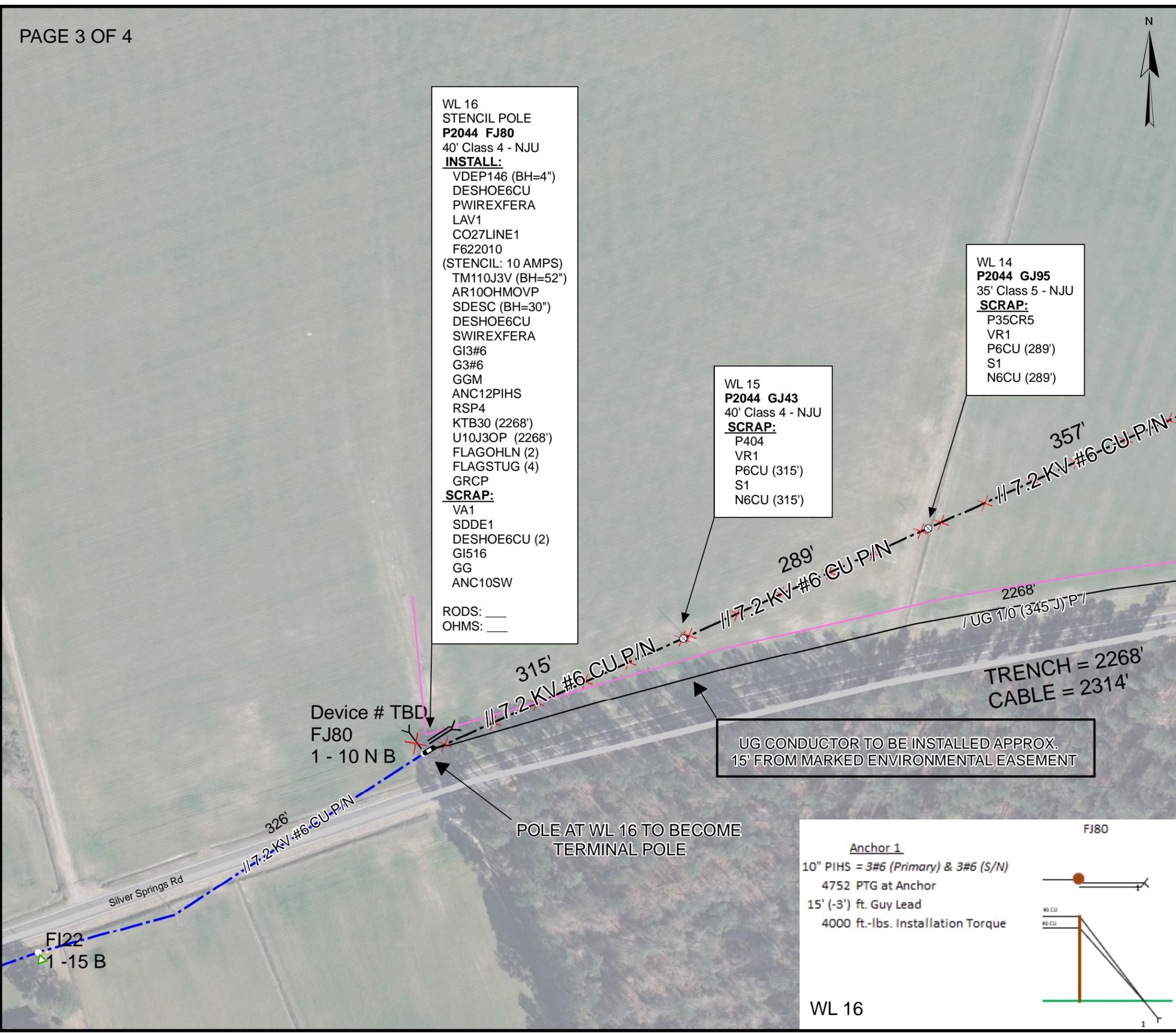


WL 16
 STENCIL POLE
P2044 FJ80
 40' Class 4 - NJU
INSTALL:
 VDEP146 (BH=4")
 DESHOE6CU
 PWIREXFERA
 LAV1
 CO27LINE1
 F622010
 (STENCIL: 10 AMPS)
 TM110J3V (BH=52")
 AR10OHMOVP
 SDESC (BH=30")
 DESHOE6CU
 SWIREXFERA
 GI3#6
 G3#6
 GGM
 ANC12PIHS
 RSP4
 KTB30 (2268")
 U10J3OP (2268")
 FLAGOHLN (2)
 FLAGSTUG (4)
 GRCP
SCRAP:
 VA1
 SDDE1
 DESHOE6CU (2)
 GI516
 GG
 ANC10SW

 RODS: ___
 OHMS: ___

WL 15
P2044 GJ43
 40' Class 4 - NJU
SCRAP:
 P404
 VR1
 P6CU (315')
 S1
 N6CU (315')

WL 14
P2044 GJ95
 35' Class 5 - NJU
SCRAP:
 P35CR5
 VR1
 P6CU (289')
 S1
 N6CU (289')



VICINITY MAP

GOOGLE MAPS:
 36.429112, -76.656723

CONSTRUCTION NOTES

- POLE AT WL 16 TO BECOME TERMINAL POLE.
 - ADJUST FACILITIES AND ADD GUYING ACCORDINGLY, TO BRING FACILITIES UP TO CURRENT STANDARDS.

LEGEND

Existing	Proposed	Replace	Return	Symbol	Description
○	●	◐	⊗	○	Dominion Pole
○	●	◐	⊗	○	Foreign Pole
▽	▼	◐	⊗	▽	OH Transformer
△	▲	◐	⊗	△	OH Step Transformer
□	■	◐	⊗	□	UG Transformer
□	■	◐	⊗	□	Dummy Transformer
□	■	◐	⊗	□	UG Step Transformer
□	■	◐	⊗	□	Fuse
□	■	◐	⊗	□	Recloser
□	■	◐	⊗	□	Voltage Regulator
□	■	◐	⊗	□	Sectionalizer
□	■	◐	⊗	□	OH Switch
□	■	◐	⊗	□	Capacitor
□	■	◐	⊗	□	UG Switch
○	●	◐	⊗	○	Manhole
○	●	◐	⊗	○	Vault
○	●	◐	⊗	○	Splice Box
○	●	◐	⊗	○	Secondary Ped
○	●	◐	⊗	○	Conduit
○	●	◐	⊗	○	Closed Conduit Span
○	●	◐	⊗	○	Duct Bank
○	●	◐	⊗	○	Street Light
○	●	◐	⊗	○	Watch Light
○	●	◐	⊗	○	OH Fault Indicator
○	●	◐	⊗	○	Existing/Proposed UG Sec. Current Limiting Fuses
○	●	◐	⊗	○	Existing/Proposed Open Points
○	●	◐	⊗	○	Exist/Pro. OV Arrestor
○	●	◐	⊗	○	Push Brace
○	●	◐	⊗	○	Down Guy & Anchor
○	●	◐	⊗	○	Span Guy
○	●	◐	⊗	○	OH or UG Conductors
○	●	◐	⊗	○	See Sketch for: Voltage, Phase, Number & Size

PROJECT DATA

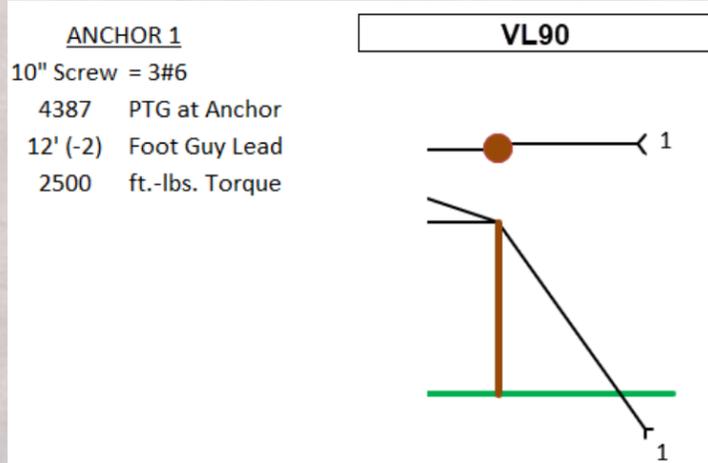
Sub Station: SUNBURY	Cir. #: 425
Tax District: 74041	Co. Grid # P2044
Easement #: N/A	Miss U # 811
Fault Current: N/A	Volt. Drop: N/A
Est. Demand N/A	Flicker: N/A
Project Manager: Robert B Wood	Device # 71425GF9
Phone # 2523081014	Scale 1 inch = 106.8 feet

VIRGINIA ELECTRIC AND POWER COMPANY
 doing business as
Dominion Energy Virginia
 or
Dominion Energy North Carolina

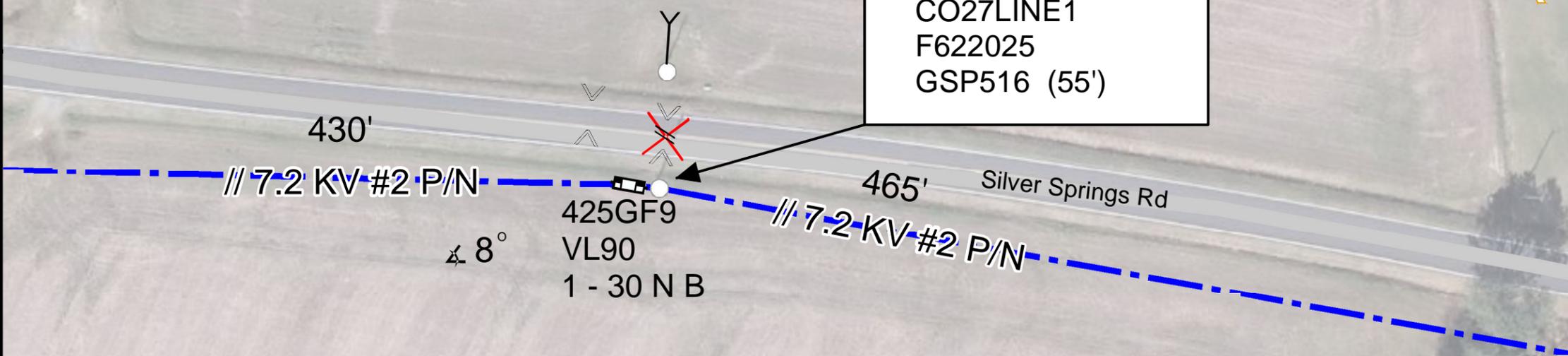
WR Name: RESTORATION SYSTEMS, LLC
 CONVERT & RELOCATE PRIMARY, PER CUSTOMER REQUEST.

Location: 405 SILVER SPRINGS RD SUNBURY NC

WR#: 10423491	Designer: GUNNER1	Date: 1/21/2021
---------------	-------------------	-----------------



WL 20
 RE-STENCIL POLE
P2044 VL90
 40' Class 4 - NJU
INSTALL:
 CO27LINE1
 F622030
 (STENCIL: 30 AMPS)
 GISP3#6 (55')
 GSP3#6 (55')
 FLAGOHLN (2)
SCRAP:
 CO27LINE1
 F622025
 GSP516 (55')



VICINITY MAP

GOOGLE MAPS:
 36.432589, -76.628868

CONSTRUCTION NOTES

- PER COORDINATION, REPLACE EXISTING 25 AMP FUSE W/ 30 AMP FUSE

- BRING EXISTING FACILITIES UP TO CURRENT STANDARDS.

LEGEND

Existing	Proposed	Replace	Return		Existing	Proposed	Replace	Return	
				Dominion Pole					Manhole
				Foreign Pole					Vault
				OH Transformer					Splice Box
				OH Step Transformer					Secondary Ped
				UG Transformer					Conduit
				Dummy Transformer					Closed Conduit Span
				UG Step Transformer					Duct Bank
				Recloser					Street Light
				Voltage Regulator					Watch Light
				Sectionalizer					OH Fault Indicator
				OH Switch					Existing/Proposed UG Sec. Current Limiting Fuses
				Capacitor					Existing/Proposed Open Points
				UG Switch					Existing/Proposed Open Points

PROJECT DATA

Sub Station: N/A	Cir. #: N/A
Tax District: 74041	Co. Grid # N/A
Easement #: N/A	Miss U # N/A
Fault Current: N/A	Volt. Drop: N/A
Est. Demand N/A	Flicker: N/A
Project Manager: Robert B Wood	Device # N/A
Phone # 2523081014	Scale 1 inch = 58.7 feet

VIRGINIA ELECTRIC AND POWER COMPANY
 doing business as
Dominion Energy Virginia
 or
Dominion Energy North Carolina

WR Name: RESTORATION SYSTEMS, LLC
 CONVERT & RELOCATE PRIMARY, PER CUSTOMER REQUEST.

Location: 405 SILVER SPRINGS RD SUNBURY NC

WR#: 10423491 **Designer:** GUNNER1 **Date:** 1/13/2021