PROJECT COMMITMENTS

US 70, Havelock Bypass Craven County Federal Aid Project No. NHF-70(49) WBS No. 34360 STIP ID No. R-1015

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

The following Project Commitments are either updated or newly-added since distribution of the ROD. Any clarifying or status comments are indicated by text in *italics*.

Project Development and Environmental Analysis Unit (PDEA)

1. After the selection of the Least Environmentally Damaging Practicable Alternative (LEDPA), NCDOT will refine the preliminary design for the selected alternative and complete a Biological Assessment (BA) concerning the red-cockaded woodpecker (RCW). The BA will be submitted to the USFWS to initiate formal consultation regarding Section 7 of the Endangered Species Act. The USFWS may request additional information and/or subsequent surveys to amend the BA before issuing their Biological Opinion (BO) to conclude formal consultation under Section 7. If an Incidental Take occurs, the USFWS will also issue an initial take statement, indicating terms and conditions, and/or reasonable and prudent measures it believes necessary to minimize the impacts to RCWs. Any such terms and conditions, and/or reasonable and prudent measures to minimize impacts to RCWs will be included in the Record of Decision (ROD).

An RCW assessment was performed, in conjunction with a NCDOT/USFS agreement of a Prescribed Burning Plan that would benefit RCW habitat. In addition, the highway footprint was reduced to less than 200-feet for 1.04 mile in the area of RCW habitat. As a result, USFWS determined that a formal consultation was not necessary. Appropriate coordination ensued with USFWS in accordance with Section 7 of the Endangered Species Act, and the USFWS concurred with the biological conclusions of "May Affect, Not Likely to Adversely Affect" for the red-cockaded woodpecker and rough-leaved loosestrife and that the project would have "No Effect" on any other federally-listed Endangered, Threatened, or Proposed plant species.

A Red Cockaded Woodpecker (RCW) foraging habitat analysis was completed in October 2018 and concluded that there were no additional conflicts with the RCW outside the original Biological Assessment/Biological Opinion. In a letter dated October 10, 2018 the USFWS re-affirmed that the biological conclusion of "May Affect, Not Likely to Adversely Affect" for the red-cockaded woodpecker is still valid.

 Prior to construction, NCDOT will coordinate with the U. S. Forest Service (USFS) to collect spring flowering goldenrod seeds from areas to be affected by the project and distribute them in an area of the Croatan National Forest (CNF) where there is appropriate habitat, but the species does not currently occur, in coordination with the USFS.

Seed collection began in 2010 and will continue up to construction. Mitigation will include planting seeds and/or plugs as well as monitoring for successful survival. Planting failures will be replanted until USFS and NCDOT staff concur that further plantings would not be beneficial. Additional details will be finalized as part of ongoing coordination with the USFS.

3. NCDOT will collect seed from existing Leconte's thistle populations and coordinate with the USFS to develop a seed increase bed for augmentation in occupied or previously occupied habitat.

Seed collection began in 2013 and continued through 2016. Mitigation will include monitoring for success and will be accomplished by NCDOT growing plugs from collected seeds then planting at locations identified by the USFS. Mitigation will also include monitoring for successful survival. Planting failures will be replanted until USFS and NCDOT staff concur that further plantings would not be beneficial. Additional details will be finalized as part of ongoing coordination with the USFS. This commitment was implemented prior to Right of Way.

4. NCDOT will collect seed from existing awned mountain mint populations and coordinate with the USFS to identify sites to seed to establish new populations.

Seed collection began in 2014 and will continue up to construction. Mitigation will be through planting seeds at locations identified by the USFS.

- A revised Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA), NCDOT, USACE, and USFS regarding the Croatan Wetland Mitigation Bank (CWMB) is in progress. The current MOU in effect (March 2003) is included in the ROD.
- 6. NCDOT will continue to coordinate appropriately with USFWS to determine if the project has the potential to affect the proposed-listed Endangered Northern long-eared bat (*Myotis septentrionalis*) and how to address these potential effects, if necessary.

Complete. The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect." The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Craven and Carteret Counties, where project R-1015 is located.

- 7. Prior to construction, NCDOT will coordinate with the USFS to identify USFS Rare Plant Species on NFS lands occurring near the project's construction limits, including the powerline corridor area, and will install high visibility protective fencing to be removed after completion of construction.
- 8. During final design, NCDOT will coordinate with the USFS on the location of any staging areas on NFS lands to avoid impacts to USFS Rare Plant Species. Where practicable, NCDOT will require contractors to place staging areas 250 feet away from USFS Rare Plant Species occurrences. To avoid unintentional impacts to USFS Rare Plant Species within powerline corridors on NFS lands, specifications will prohibit the contractor from placing heavy equipment outside the project's construction limits without prior approval from the USFS.

PDEA Human Environment Section. Archaeology Group

Archaeological Site 31CV302 is approximately 300 feet away from the project limits and for added protection of the site during construction, the NCDOT will:

- Before final design is completed, Roadway Design will verify that Site 31CV302 is avoided by any right-of-way or easement. If final design plans change, thereby causing R-1015 FEIS Sheet 3 of 7 July 2016 an adverse impact to the site, then Roadway Design will immediately notify the PDEA project manager and the NCDOT Archaeologist to initiate additional coordination to comply with historic preservation laws.
- 2. Final design plans identify the installation of high-visibility fencing around Site 31CV302, which is to be labeled as: "PROTECTED AREA." Final design plans will indicate the fence boundary and also provide an adjacent table of Northing and Easting coordinates. Project specifications should indicate that high-visibility fencing will be installed along the site boundary, prior to any clearing and grubbing operations. The contractor must precoordinated with NCDOT Archaeology (tel. 919-707-6000) so that an archaeologist field verifies fence location or is on-site when the fence is installed. The fence will be maintained for the construction duration and will be removed by the HES Archaeology Group only just before final project inspection. No construction equipment or personnel shall enter the fenced area.

Roadway Design & PDEA & Structures Management Unit

1. The Preferred Alternative includes a grade-separated crossing of the Camp Lejeune Railroad on NFS lands (operated by the Norfolk Southern Corporation). Final design will be developed to provide a 23 foot vertical clearance and adequate horizontal clearances; however, should the railroad desire additional clearances, NCDOT will coordinate with the USFS, US Government, and Norfolk-Southern regarding the review of the final design plans for this crossing.

Right-of-Way Unit & Location and Surveys & Roadway Design & Construction

1. NCDOT will pay the USFS, or their approved contractor, to measure to USFS specifications, the volume of timber on NFS lands within the proposed right-of-way limits. NCDOT will then pay the USFS for the measured timber volume at

- 2. which time the timber will become property of the NCDOT. The USFS and NCDOT will agree on the precise monetary value of the timber through appraisal at rates effective at the time of the timber sale contract.
- 3. No borrow or disposal sites related to this project are to be located on NFS lands without express written permission from the USFS and completion of all required environmental studies.
- 4. Before construction, a preconstruction conference will be held involving the contractor, pertinent local officials, the U.S. Forest Service, and NCDOT Division of Highways to discuss various construction procedures, including precautionary steps to be taken during construction that will minimize the interruption of public utility and traffic services.

Utilities & Right-of-Way Unit

1. NCDOT will coordinate with the USFS if previously undisclosed utilities are encountered during the right-of-way acquisition and construction phases of the project.

Roadway Design & Hydraulics Unit & PDEA & Construction & Division 2

- As agreed upon by the NEPA/404 Merger Team [Concurrence Meeting for Corridor Selection (Concurrence Point 3 Revisited) Meeting Summary, 10/23/2012], the East Prong of Slocum Creek will be crossed with a minimum 1,620foot bridge. The Tucker Creek tributary will be crossed with a double 10-foot by 8-foot reinforced concrete box culvert that is 400 feet in length perpendicular to the proposed roadway. The Southwest Prong of Slocum Creek will be crossed with a minimum 945-foot bridge. Existing triple R-1015 FEIS Sheet 4 of 7 July 2016 9-foot by 7-foot reinforced concrete box culvert on Tucker Creek will be extended approximately 25 feet upstream and 78 feet downstream with a triple 9-foot by 7-foot reinforced concrete box culvert. Temporary work bridges will be required to construct the proposed bridge structures, which will be addressed in the Permit Application Package.
- In order to minimize the fragmentation of red-cockaded woodpecker (RCW) habitat, plan sheets will show that the 2. right-of-way limits (and clearing limits) do not exceed 200-feet wide for the 5,500-foot (1.04-mile) section from Station 338+00 to Station 393+00. In addition, and to avoid clearing trees outside the 200-foot limits, only hand clearing will occur at the edge of the right-of-way limits of this section.

The mechanized clearing shown at permit sites 26, 27, 28A, 28B, 29, 30, and 31 has been changed to hand clearing. This coincides with the clearing restrictions indicated in the erosion control plans.

- 3. Project special provisions should indicate an in-water work moratorium for February 15 to June 15 for East Prong Slocum Creek, Southwest Prong Slocum Creek, and Tucker Creek at the proposed extension of the existing culvertat US 70. The unnamed tributaries within the project study alignments are not considered anadromous fish habitat and are not subject to anadromous fish moratoria. Design of these structures will adhere to Stream Crossing Guidelines for Anadromous Fish Passage (NCDOT, 2012).
- "NCDOT will coordinate with the NEPA/404 Merger Team at Concurrence Point 4C to identify additional measures 4. that would avoid, minimize, or otherwise mitigate direct and indirect project impacts to important groundwater resources within the project study area."

Completed. Concurrence Point 4C meeting held April 26, 2018.

Roadside Environmental Unit & Roadway Design

- NCDOT will continue to coordinate with the USFS to address landscaping, fencing, and access needs on NFS lands. • Detailed plans for these design elements will be included in the ROD.

• The Landscaping Plan will, among other normal aspects, detail appropriate native seeding mixes for erosion control and site-specific control methods for nonnative invasive species (NNIS), including a suite of acceptable herbicides for the corridor and adjacent natural habitats.

- The Landscaping Plan will also outline a plan for ongoing coordination between NCDOT and USFS personnel to maintain vegetation diversity and ensure no long-term impacts to rare species along the bypass corridor.
- 2. NCDOT will utilize a natural fiber mesh or weed-free mulch for erosion control and revegetation on NFS lands. If erosion becomes problematic in any area postconstruction, turfgrass may have to be judiciously utilized to limit soil disturbance.
- 3. No borrow or disposal sites related to this project are to be located on NFS lands without express written permission from the USFS and completion of all required environmental reviews. Contractors will coordinate with regulatory and resource agencies during the final permitting stage to ensure that other areas of non-disturbance (i.e., borrow pits, temporary access roads, staging areas, etc.) are set to minimize impacts to natural and cultural resources.

Roadside Environmental Unit & Division 2

- 1. Management of Non-Native Invasive Species (NNIS): NCDOT will work within adjacent NCDOT right-of-way to prevent the encroachment of NNIS onto NFS lands and commits to the following measures:
 - Native vegetation will be retained as much as possible. Exposed soils would be promptly revegetated to avoid recolonization by NNIS or potential soil erosion. Only approved seed mixtures and weed seed-free mulch would be used. In consultation with the USFS, NCDOT will use seed mixes of native grasses and forbs or other non-native, non-invasive species on NFS lands for erosion control and revegetation.
 - To prevent the spread of NNIS on NFS lands, NCDOT will require contractors to pressure wash all off-road equipment, including cranes, graders, pans, excavators, and loaders, prior to being brought into the CNF construction areas. Equipment would be cleaned thoroughly before moving from treatment sites to ensure that seeds or other propagules are not transported to other sites.
 - To control the spread of NNIS on NFS lands, NCDOT, in coordination with the USFS, will locate and flag areas of targeted NNIS. If any of these areas are within areas of proposed fill, those areas will be cleared and grubbed, and the material disposed of outside the limits of the CNF. If NNIS are located in areas of proposed cuts, then the material and actual thickness of root mat or other defined amount will be disposed of outside the limits of the CNF.
 - Use of mowing as a control method for NNIS should be timed to avoid spreading seeds (e.g. before seed set) to the extent possible.
 - Herbicide Treatments:

- NCDOT will only use herbicides in specific areas on National Forest System lands in consultation with the USFS. All guidelines and mitigation measures presented in Forest Manual 2150, Pesticide-Use Management and Coordination, and Forest Service Handbook 2109.14, Pesticide Use Management and Coordination Handbook would be followed. If any new herbicides come onto the market, NCDOT will coordinate with USFS before using on NFS lands.

- NCDOT will contact the USFS for non-routine maintenance and use of herbicides on NFS lands.

- Prior to treatment, proposed actions will be reviewed by forest resource specialists in the areas of wildlife biology, botany, aquatics, soils, recreation, and heritage resources.

- NCDOT will not use broadcast sprays for herbicides and pesticides on NFS lands. Herbicides and pesticides will only be used in specific areas on National Forest System lands in consultation with the USFS. In addition, NCDOT will coordinate with the USFS on any mechanical methods that would be allowed.

- Along stream edges and banks, wide-angle cone tip nozzle guards will be used on the end of herbicide applicator wands. All herbicides will be sprayed away from any water in ephemeral and perennial streams, vernal pools, or lakes.

Aquatic-labeled herbicides will be used when within 150 feet of any live water. Only surfactants/adjuvants with low toxicity to aquatic species, such as Agri-dex, will be used in these areas.

- When conducting chemical control of targeted NNIS within 10 feet of any identified USFS Rare Plant Species populations, the following guidelines apply:

- All the rare plant species occurrences would be flagged or marked prior to treatment to avoid any off-target effects.
- No chemical treatment will occur within 1 foot of the rare plant.
- Prior to applying herbicide within 1-10 feet of these plants cover the rare plants or place an appropriate barrier adjacent to them.
- For vining species, pull the vines outside one foot of adjacent rare plants.
- For larger woody stems, diameters 1 inch or greater, apply herbicide to cut stem surfaces. Apply herbicides to the cut stems with a small wick applicator if possible or with a small spray bottle to minimize drift.
- For smaller woody NNIS stems, if broadcast treatment is the only feasible treatment, cut the stems and only treat after re-sprouting from 6-inches to 1 foot in height.
- While spraying the re-sprouting foliage, place a barrier (such as an appropriately sized cardboard sheet)next to the rare plant species or cover the rare plant species with an appropriate container.
- NCDOT will post "No Treatment" signs at rare plant sites along the roadway.
- When conducting mechanical control by hand, NNIS capable of starting new plants (seeds, rhizomes, root mats, etc.) require proper disposal outside the limits of the CNF. Plants should be bagged and moved off site. Bagged plants will receive standard garbage disposal. For large woody bushes that would be difficult to move, treatments will be scheduled prior to seed set as practical. NCDOT will coordinate with the USFS on any mechanical methods that would be allowed for NNIS.

- NCDOT commits to treating roadside NNIS in the CWMB prior to turning over the site to USFS. An initial . treatment, followed by a second spot application, will address NNIS growing along or adjacent to the existing roads within the CWMB and will cover species on the USFS list of NNIS.
- NCDOT Division 2 will work with USFS staff on a periodic basis to control the presence of priority NNIS along the NCDOT right-of-way on NFS lands. In turn, USFS will work cooperatively with NCDOT to identify and effectively control prioritized NNIS. The current list of prioritized NNIS species is below; it is subject to change as new plant threats are identified.
- Lespedeza cuneata, Sericea Lespedeza
 Lespedeza bicolor, Bicolor Lespedeza
- Albizia julibrissin, Mimosa
- Ligustrum sinense, Privet
- Rosa multiflora, Multiflora Rose
- Ailanthus altissima. Tree-of-Heaven
- Miscanthus sinensis, Chinese Silver Grass
- Lonicera maacki or morrowii, Amur or
- Morrow's Honeysuckle
- Lonicera japonica, Japanese Honeysuckle
- Sorghum halepense, Johnson Grass
- Arthraxon hispidus, Basket Grass
- · Elaeagnus umbellata, Autumn Olive
- Pueraria montana var. lobata, Kudzu
- · Hedera helix var. helix, English Ivy
- Vinca minor, Periwinkle
- Kummerowia striata, Japanese-clover
- Youngia japonica, Asiatic Hawk's-beard
- Wisteria sinensis, Chinese Wisteria
- Verbena brasiliensis, Brazilian vervain
- Imperata cylindrica, Cogongrass
- Persicaria perfoliata, Mile-a-minute
- Cayratia japonica, Bushkiller
- Pyrus calleryana, Bradford Pear
 Solanum viarum, Tropical Soda Apple
- Centaurea stoebe ssp. micranthos, Spotted Knapweed
 Commelina communis, Common Dayflower
- Baccharis hamlimifolia, Eastern baccharis*
- * Native but considered invasive

Geotechnical Engineering Unit

1. If excavation work is required at the Craven County Waste Transfer Site, NCDOT will collect and analyze background soil samples to confirm the presence or absence of soil impact from arsenic, in accordance with NCDOT Policy on hazardous materials.

Hvdraulics Unit

1. The NCDOT Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Completed. An MOA was signed with the NCFMP on November 26th, 2018. No further action required.

Hvdraulics Unit & Construction & Division 2

As this project involves construction activities on or adjacent to FEMA-regulated streams, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon the completion of project construction, certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Fueling or oiling of mechanical equipment would occur away from aquatic habitats. 2

Division 2

NCDOT Division 2 staff will coordinate in future years with the USFS to allow for prescribed burns on NFS lands during construction and in the future, as detailed in Appendix A of this FEIS. Details of the prescribed burn plan will also be documented in the ROD.

Completed. On June 27, 2016 the Secretary of Transportation Nicholas Tennyson signed a letter committing to closing the Havelock Bypass during prescribed burns. On July 25, 2016 the USFS responded with a letter agreeing to prepare Prescribed Burn Plans for the area in accordance with USFS regulations and to provide advanced notice to the public and to NCDOT prior to any closure requests.

COMMITMENTS FROM PERMITTING

Construction & Division 2

- Green Sheets: All Green Sheet project commitments for R-1015 Havelock Bypass will be adhered to in the strictest
 possible manner. The project is predominately located within the Croatan National Forest with endangered species (Redcockaded Woodpecker) nesting near the proposed corridor. In particular, roadway clearing, grading and grubbing outside
 the ROW or without using the prescribed methodology (hand clearing between the edge of the ROW and toe of slope
 between STA- L- 338+00 and 393 +00) will likely shut the project down until such a time that the effects on the RCW are
 ascertained.
- 2. In order to minimize the fragmentation of red-cockaded woodpecker (RCW) habitat, plan sheets will show that the right-of-way limits (and clearing limits) do not exceed 200 -feet wide for the 5,500 -foot (1.04 -mile) section from Station 338+00 to Station 393+00. In addition, and to avoid clearing trees outside the 200-foot limits, only hand clearing will occur between the toe of slope and at the edge of the right-of-way limits of this section.

Construction, Division 2 & Roadside Environmental

1. The NC Division of Water Resources added the following special condition to their Water Quality Certification modification issued July 9, 2021 regarding gas utility line work:

Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted at Sites 1 and 2. This update shall be conducted two growing seasons after completion of the work at Sites 1 and 2 and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if compensatory wetland mitigation is to be required. [15A NCAC 02H.0506(c)(2)]



July 21, 2021

Regulatory Division

Action ID No. SAW-1993-02466

North Carolina Department of Transportation Environmental Analysis Unit Mr. Phillip S. Harris III, Unit Head 1598 Mail Service Center Raleigh, North Carolina 27699-1598

Dear Mr. Harris,

Reference the Department of the Army (DA) individual permit (IP) Action SAW-1993-02466, issued April 18, 2019 to construct a new US 70 bypass of Havelock, North Carolina in Craven County, North Carolina.

This office received permit modification request dated June 2, 2021 affecting areas of the above referenced project. Several design changes have been made to the project and the modification request details the changes by narrative and with revised plan sheets.

These changes reflect accommodations for relocation of a Piedmont Natural Gas (PNG) pipeline. Coordination between NCDOT and PNG resulted in relocation of a portion of an existing 8" steel pipeline outside of NCDOT ROW. Relocation and rerouting on new location are necessary to avoid potential conflicts with construction and maintenance of the proposed roadway, the existing pipeline, and other utilities. This relocation will result in the following impacts:

Jurisdictional Impacts:

Pipeline excavation will impact 0.67 acre of wetlands. Excavated material will be temporarily placed on to fabric, resulting in 1.0 acre of temporary fill in wetlands. There will be 0.27 acre of hand clearing needed in wetlands, but no impacts to streams or buffers. A set of permit drawings submitted June 2, 2021 depict these impacts.

Location of impacts:

Existing Gas Lines:

PNG are replacing the existing 8" gas lines right of Line -L- at the following stations: (Sta. 36+54 to Sta. 108+71), (Sta. 516+15 to Sta. 549+96), (Sta. 563+11 to Sta. 568+33) and (Sta. 577+59 to Sta. 578+23)

Proposed Gas Lines:

Wetland

Riparian Buffer

• PNG are installing new 8" steel gas lines right of Line -L- at the following stations: (Sta. 36+54 to Sta. 108+71), (Sta. 516+15 to Sta. 549+96), (Sta. 563+11 to Sta. 568+33) and (Sta. 577+59 to Sta. 578+23).

These modification requests were discussed and coordinated with the appropriate State and Federal agencies at several on-site meetings and the coordination revealed no objections to this modification request. The proposed modifications for R-1015 as detailed above are hereby modified in accordance with the specific work activities described and depicted on the plan sheets, drawings and descriptions enclosed with the permit modification request package dated June 2, 2021. Compensatory mitigation for the proposed additional 0.67 acre of wetland impacts will be obtained from the N.C. Division of Mitigation Services.

A revised impact summary sheet was received and represents the most recent modifications as follows in Table 1:

provided by DMS (<u>based on mitigat</u>	•	permits) and Re	evised Anticipate	ed impacts
Impact Type	Total Permitted Impacts (feet / acre / sq ft)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream (warm)	2,870.000	5,740.000	0.000	2,870.000
Riparian Wetland	15.820	31.640	0.000	15.820
Non-Riparian	07 700	105 500	0.670	00.450

Table 1 – Current Permitted Impacts and Associated Mitigation Requirements provided by DMS(based on issued permits) and Revised Anticipated Impacts (based on mitigation request)

*Some of the additional stream impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application fordetails. DMS will provide the amount of mitigation as determined by the regulatory agencies.

195,560

210,473.000

0.670

0.000

98,450

89,824.000

97.780

89,824.000

A revised impact summary sheet details wetland impacts on the R-1015 Havelock Bypass project due to utilities as follows in Table 2:

	Fill	Temporary Fill	Excavation	Hand Clearing
Site	(ac)	(ac)	(ac)	(ac)
Total utility impacts previously approved	<0.01		0.036	5.835
Additional impacts approved with this modification at Site 1		0.14	0.13	
Additional impacts approved with this modification at Site 2		0.79	0.50	
New impacts approved with this modification at Site 48		0.01	0.02	0.06
New impacts approved with this modification at Site 49		0.06	0.02	0.21
Difference		+ 1.0	+ 0.67	+0.27
Total	<0.01	1.0	0.71	6.11
Net Total	7.82	1	1	1

 Table 2 - Wetland Impacts due to Utilities on the R-1015 Havelock Bypass project

Total wetland impacts due to utilities = 7.82 acres

It is understood that all conditions of the original permit and applicable modifications remain valid including the expiration date. In addition, the permittee will comply with the additional special permit conditions as follows:

Permit Modification A.) All work authorized by this permit modification must be performed in strict compliance with the submitted work plans, dated June 2, 2021, which are part of this permit. Any modification to the permit plans must be approved by US Army Corps of Engineers (Corps) prior to implementation.

Permit Modification B.) The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.

Permit Modification C.) In order to compensate for impacts associated with this permit modification, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

Questions regarding this correspondence may be directed to Tom Steffens, NCDOT Coordinator/Regulatory Project Manager at the Washington Regulatory Field Office, telephone (910) 251-4615.

FOR THE DISTRICT COMMANDER

Monte Dave. 20-Matthews 09:43:18-04'00' Date: 2021.07.21

Monte Matthews Lead Project Manager Wilmington District

Enclosures:

Garcy Ward/NCDWR Stephen Lane/NCDCM Cathy Brittingham/NCDCM Chris Rivenbark/NCDOT NEU Gordon Cashin/NCDOT NEU Heather Lane/NCDOT Division 2 Jay Johnson/NCDOT Division 2 Brad Mcmannen/NCDOT Division 2 ROY COOPER Governor ELIZABETH S. BISER Secretary S. DANIEL SMITH Director



July 9, 2021

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

Subject: Modification of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Neuse Buffer Authorization with ADDITIONAL CONDITIONS for the proposed construction of the Havelock Bypass in Craven County, TIP R-1015. NCDWR Project No. 20181598 v.5

Dear Mr. Harris:

Attached hereto is a modification of Certification No. WQC004178 issued to The North Carolina Department of Transportation (NCDOT) dated April 3, 2019.

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

Sincerely, DocuSigned by:

amy Chapman

S. Daniel Smith Director

cc:

Tom Steffens, US Army Corps of Engineers, Washington Field Office Jay Johnson, Division 2 Environmental Officer Chris Rivenbark, NC Department of Transportation Amanetta Somerville, US Environmental Protection Agency Gary Jordan, US Fish and Wildlife Service Travis Wilson, NC Wildlife Resources Commission Stephen Lane, NC Division of Coastal Management Cathy Brittingham, NC Division of Coastal Management Beth Harmon, Division of Mitigation Services Garcy Ward, NC Division of Water Resources, Washington Regional Office File Copy



North Carolina Department of Environmental Quality | Division of Water Resources 512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617 919.707.9000

Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Neuse Buffer Authorization with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B.0233. This certification authorizes the NCDOT to permanently impact an additional **0.67 acres** of wetlands in Craven County as needed for the installation of a gas utility line. The project shall be constructed pursuant to the revised modification request dated received May 28, 2021. The authorized impacts are as described below:

Site	Fill (ac)	Temporary Fill (ac)	Excavation (ac)	Hand Clearing (ac)
Total utility impacts previously approved	< 0.01		0.036	5.835
Additional impacts approved with this modification at Site 1		0.14	0.13	
Additional impacts approved with this modification at Site 2		0.79	0.50	
New impacts approved with this modification at Site 48		0.01	0.02	0.06
New impacts approved with this modification at Site 49		0.06	0.02	0.21
Difference		+ 1.0	+0.67	+0.27
Total	< 0.01	1.0	0.71	6.11
Net Total			7.82	

Wetland Impacts in the Neuse River Basin due to Utilities

Total wetland impacts due to utilities = 7.82 acres

The application provides adequate assurance that the discharge of fill material onto the beach in conjunction with the proposed activity will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth. This approval is only valid for the purpose and design that you submitted in your modified application dated received May 28, 2021. Should your project change, you are required to notify NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional impacts, for this project (now or in the future) are required the applicant should contact NCDWR as a modification of this Certification may be required. For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.



Condition(s) of Certification:

- 1. This modification is applicable only to the additional proposed activities. All of the authorized activities and conditions associated with the original Water Quality Certification dated April 3, 2019 and subsequent modifications dated May1, 2020, January 8, 2021, and April 22, 2021 still apply except where superseded by this certification.
- 2. This modification results in an additional 0.67 acres of permanent wetland impacts due to utilities. Therefore, compensatory mitigation for an additional 0.67 acres of non-riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated May25, 2021 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.
- 3. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted at Sites 1 and 2. This update shall be conducted two growing seasons after completion of the work at Sites 1 and 2 and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if compensatory wetland mitigation is to be required. [15A NCAC 02H.0506(c)(2)]
- 4. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings 6714 Mail Service Center Raleigh, NC 27699-6714 Telephone: (919)-431-3000, Facsimile: (919)-431-3100



A copy of the petition must also be served on DEQ as follows:

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

This the 9th day of July, 2021

DIVISION OF WATER RESOURCES



WQC No. 004121



ROY COOPER Governor ELIZABETH S. BISER Secretary BRAXTON DAVIS Director



July 12, 2021

Mr. Philip Harris, Unit Head Environmental Analysis Unit N.C. Department of Transportation 1598 Mail Service Center Raleigh, NC 27699-1598

SUBJECT: CD 19-017 - Supplemental Consistency Concurrence, Havelock Bypass in Craven County, TIP No. R-1015 (DCM#2021038).

Dear Mr. Harris:

The N.C. Division of Coastal Management (DCM) received a supplemental consistency certification from the N.C. Department of Transportation (NCDOT) dated June 1, 2021, for TIP No. R-1015, Havelock Bypass, including a cover letter, revised utility permit plans and narrative, and a N.C. Division of Mitigation Services (DMS) acceptance letter dated May 25, 2021. The supplemental consistency certification is regarding work on a natural gas transmission pipeline by Piedmont Natural Gas (PNG) due to the project. PNG proposes to replace the pipe in some locations and install new pipe in others, with work at both ends of the project near and along existing US 70. The proposed activities will result in an additional 0.67 acres of permanent impacts to 404 wetlands due to excavation, and an additional 1.27 acres of temporary impacts to 404 wetlands due to temporary fill and hand clearing.

North Carolina's coastal zone management program consists of, but is not limited to, the Coastal Area Management Act, the State's Dredge and Fill Law, Chapter 7 of Title 15A of North Carolina's Administrative Code, and the land use plan(s) of the county and/or local municipalities in which the proposed project is located. It is the objective of DCM to manage the State's coastal resources to ensure that proposed Federal activities would be compatible with safeguarding and perpetuating the biological, social, economic and aesthetic values of the State's coastal resources.

DCM circulated the supplemental consistency certification for TIP No. R-1015 to state agencies that would have a regulatory or resource interest in the proposed development. No comments were received asserting that the proposed project would be inconsistent with North Carolina's coastal management program. DCM reviewed the information submitted by NCDOT, and the comments received from state agencies, pursuant to the management objectives and enforceable policies of Subchapters 7H and 7M of Chapter 7 in Title 15A of the North Carolina Administrative Code.



North Carolina Department of Environmental Quality | Division of Coastal Management Morehead City Office | 400 Commerce Avenue | Moorehead City, North Carolina 28557 252.808.2808 DCM concurs that the proposed project is consistent, to the maximum extent practicable, with North Carolina's approved coastal management program, with the following conditions:

- 1. Any utility line relocation and/or replacement shall only be conducted on lands owned by the N.C. Department of Transportation (NCDOT), appropriate utility entities, and/or their Right-of-Ways and/or easements.
- 2. In accordance with comments received from the N.C. Division of Water Resources Public Water Supply Section on June 18, 2021, the activities involve work in the vicinity of public water system water lines. If any water lines need to be relocated due to this project, plans must be submitted to and approved by the N.C. Division of Water Resources, Public Water Supply Section.
- 3. The project shall be implemented in accordance with the Modification of the 401 Water Quality Certification No. WQC004178 which was issued by the N.C. Division of Water Resources (DWR) on July 9, 2021 (NCDWR Project No. 20181598 v. 5).

Should the proposed action be modified further, a revised consistency determination could be necessary. This might take the form of either a supplemental consistency determination pursuant to 15 CFR 930.46, or a new consistency determination pursuant to 15 CFR 930.36. Likewise, if further project assessments reveal environmental effects not previously considered, a supplemental consistency certification may be required. If you have any questions or concerns, please contact Cathy Brittingham via e-mail at <u>cathy.brittingham@ncdenr.gov</u> or Stephen Lane via e-mail at Stephen.Lane@ncdenr.gov. Thank you for your consideration of the North Carolina coastal management program.

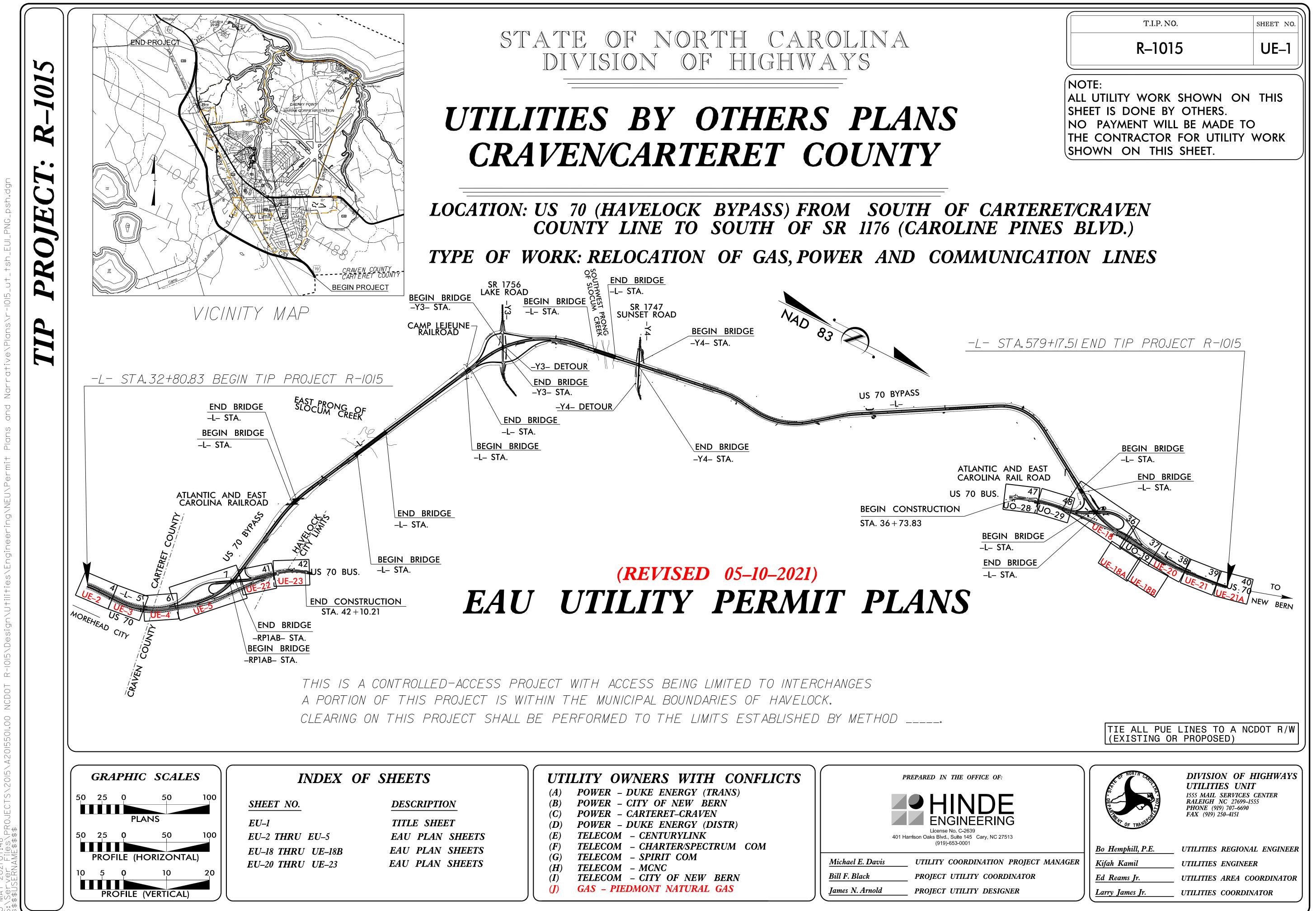
Sincerely.

Daniel Govoni Federal Consistency Coordinator N.C. Division of Coastal Management

cc: Tom Steffens, USACE Garcy Ward, DWR Beth Harmon, DMS Stephen Lane, DCM Clif Whitfield, PWSS



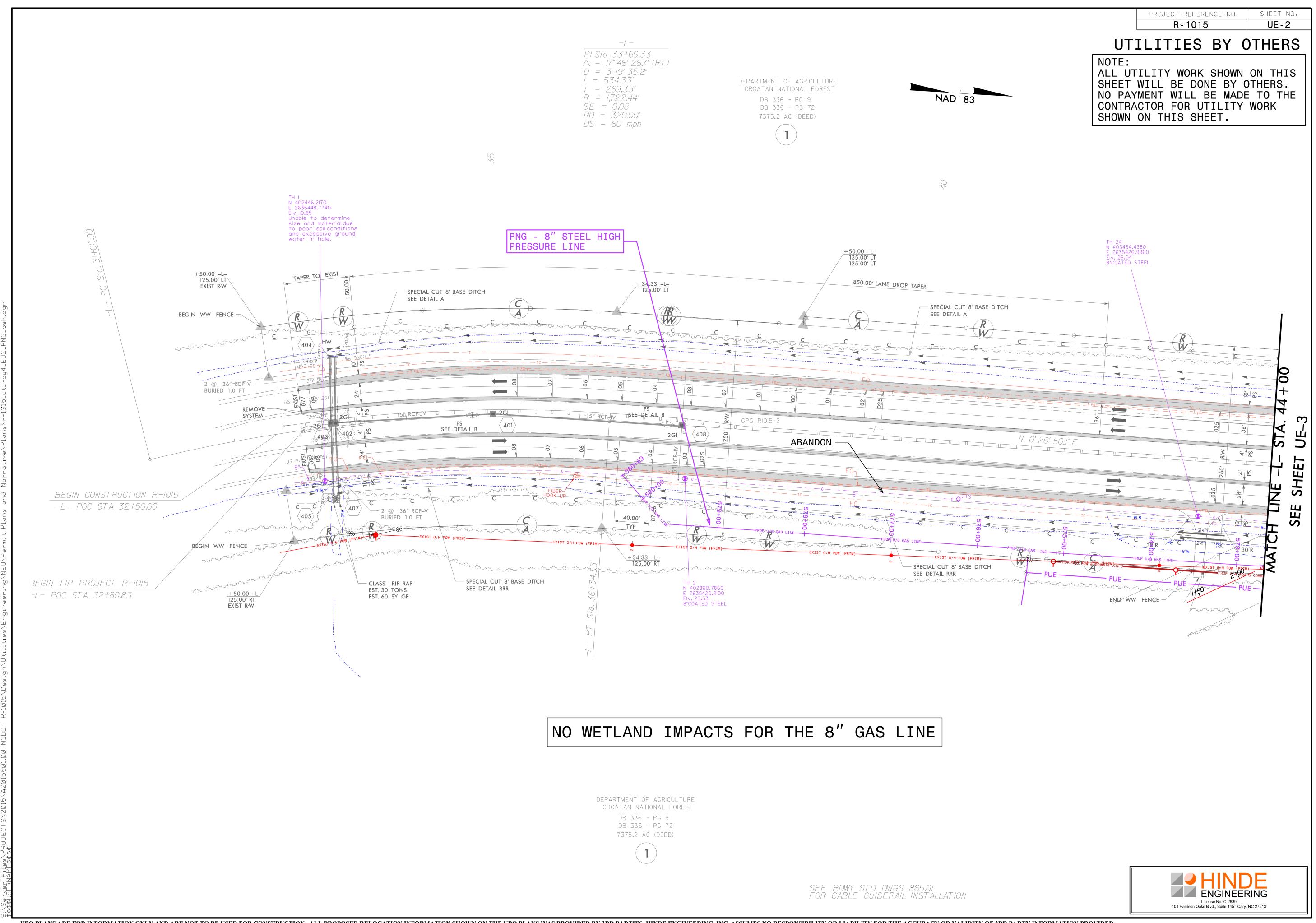
North Carolina Department of Environmental Quality | Division of Coastal Management Morehead City Office | 400 Commerce Avenue | Moorehead City, North Carolina 28557 252.808.2808

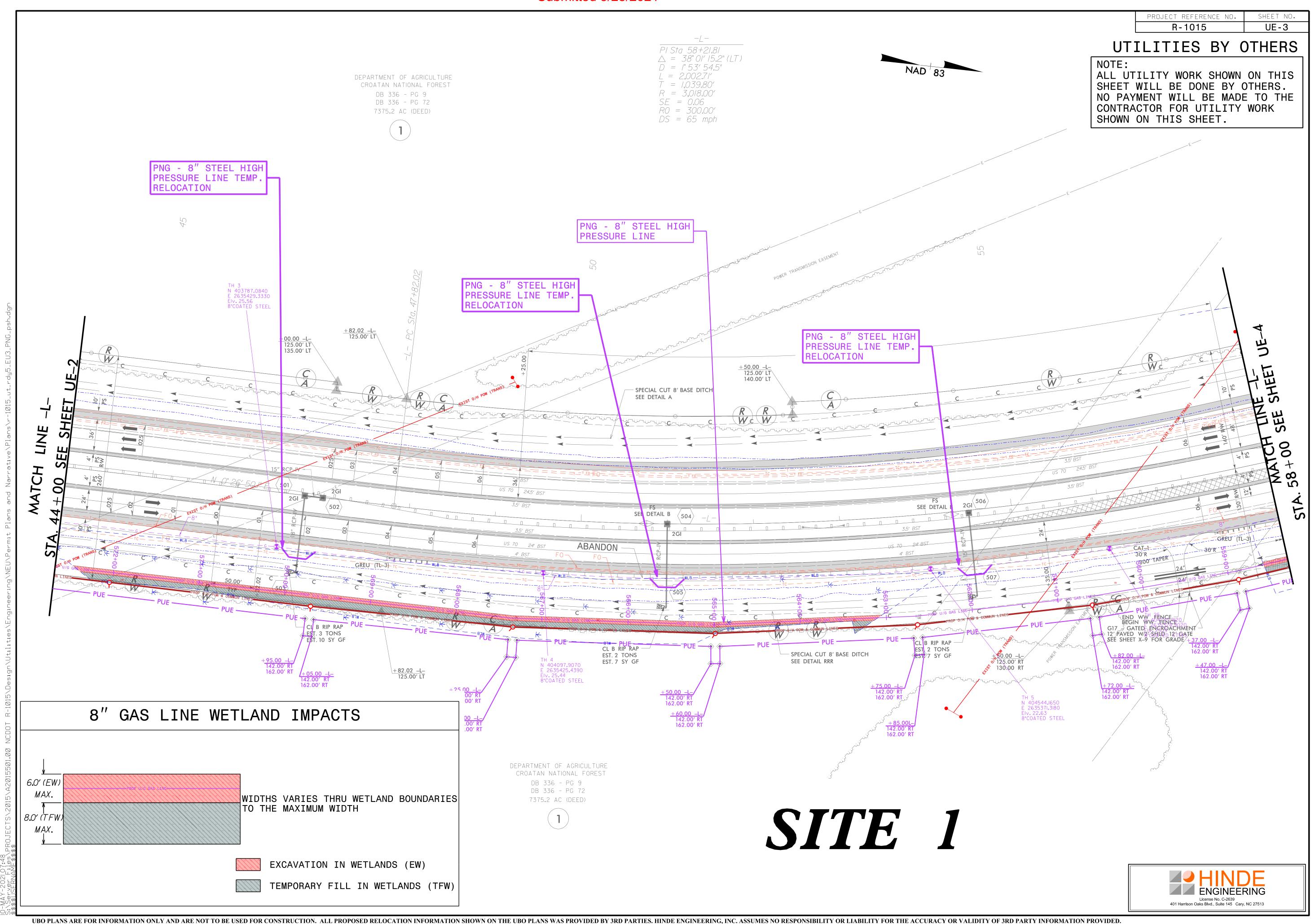


UBO PLANS ARE FOR INFORMATION ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. ALL PROPOSED RELOCATION INFORMATION SHOWN ON THE UBO PLANS WAS PROVIDED BY 3RD PARTY INFORMATION PROVIDED.

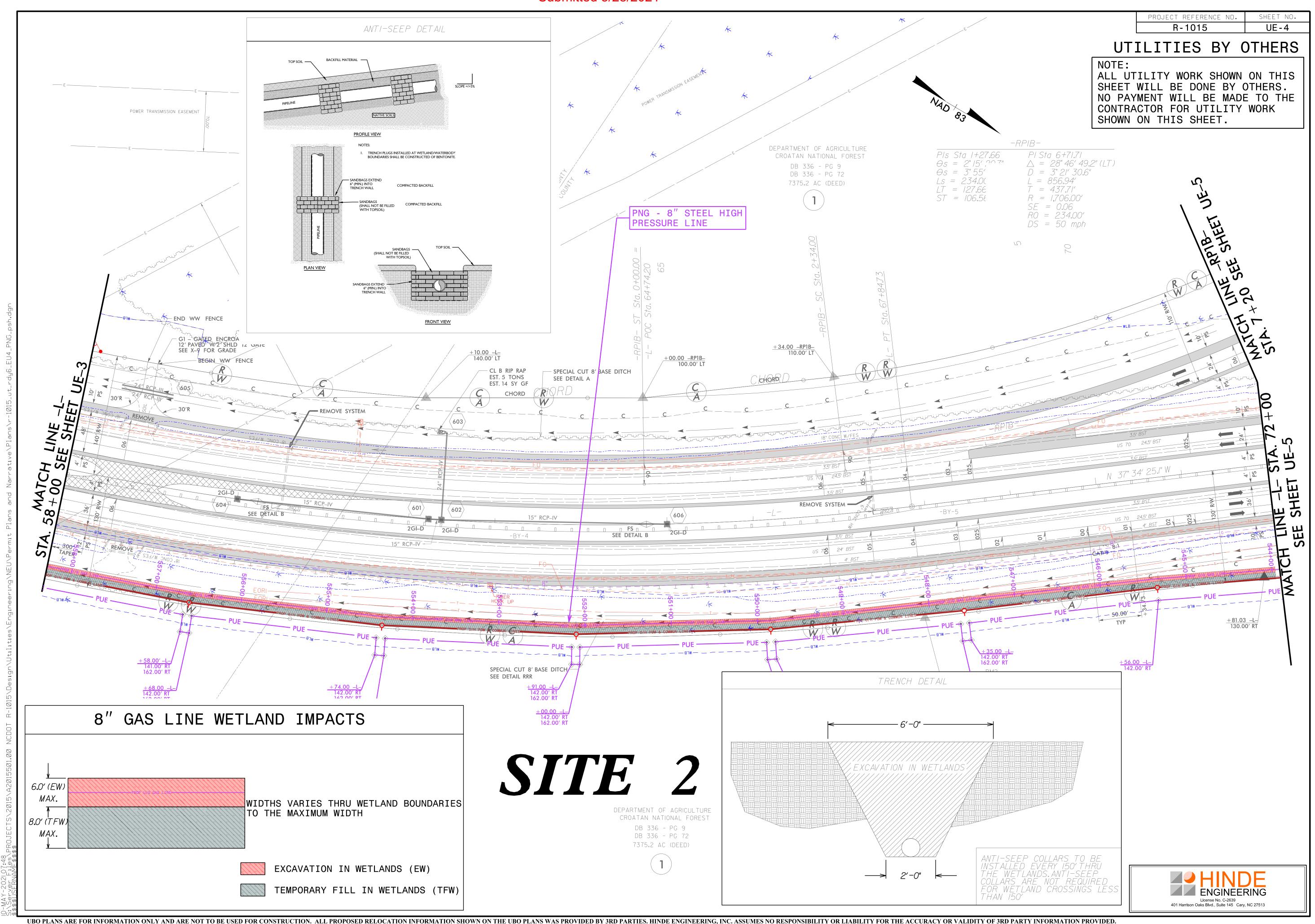


EETS	UTILITY OWNERS WITH CONFLICTS		PREPARED
ESCRIPTION	(A) POWER – DUKE ENERGY (TRANS) (B) POWER – CITY OF NEW BERN		
	(C) POWER - CARTERET-CRAVEN		
ITLE SHEET	(D) POWER – DUKE ENERGY (DISTR)		
AU PLAN SHEETS	(E) TELECOM - CENTURYLINK	401	Licer Harrison Oaks Bl
AU PLAN SHEETS	(F) TELECOM – CHARTER/SPECTRUM COM		(9
	$(G) TELECOM - SPIRIT \ COM$	Michael E. Davis	UTILIT
AU PLAN SHEETS	(H) TELECOM - MCNC		
	(I) TELECOM – CITY OF NEW BERN	Bill F. Black	PROJEC
	(J) GAS – PIEDMONT NATURAL GAS	James N. Arnold	PROJEC

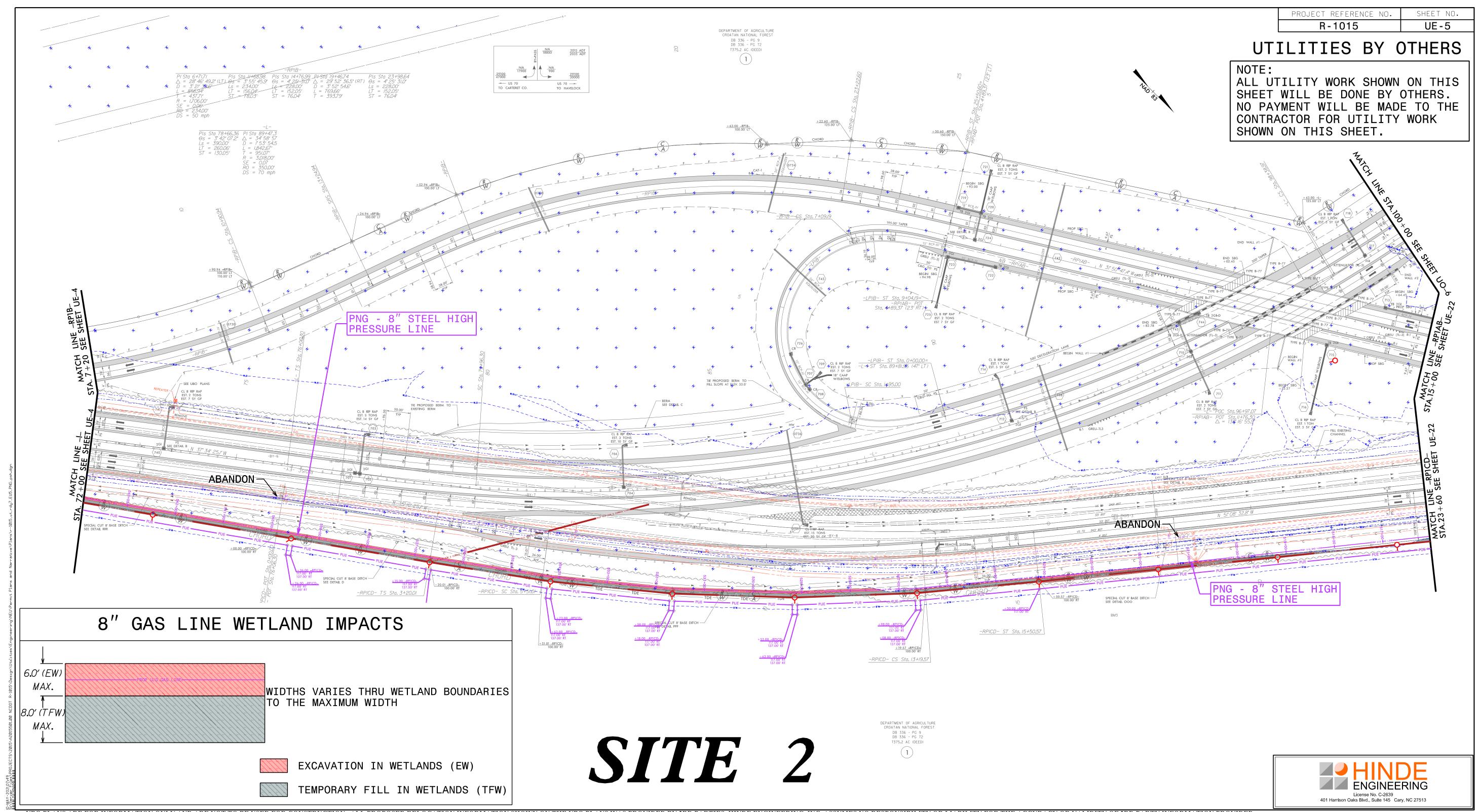




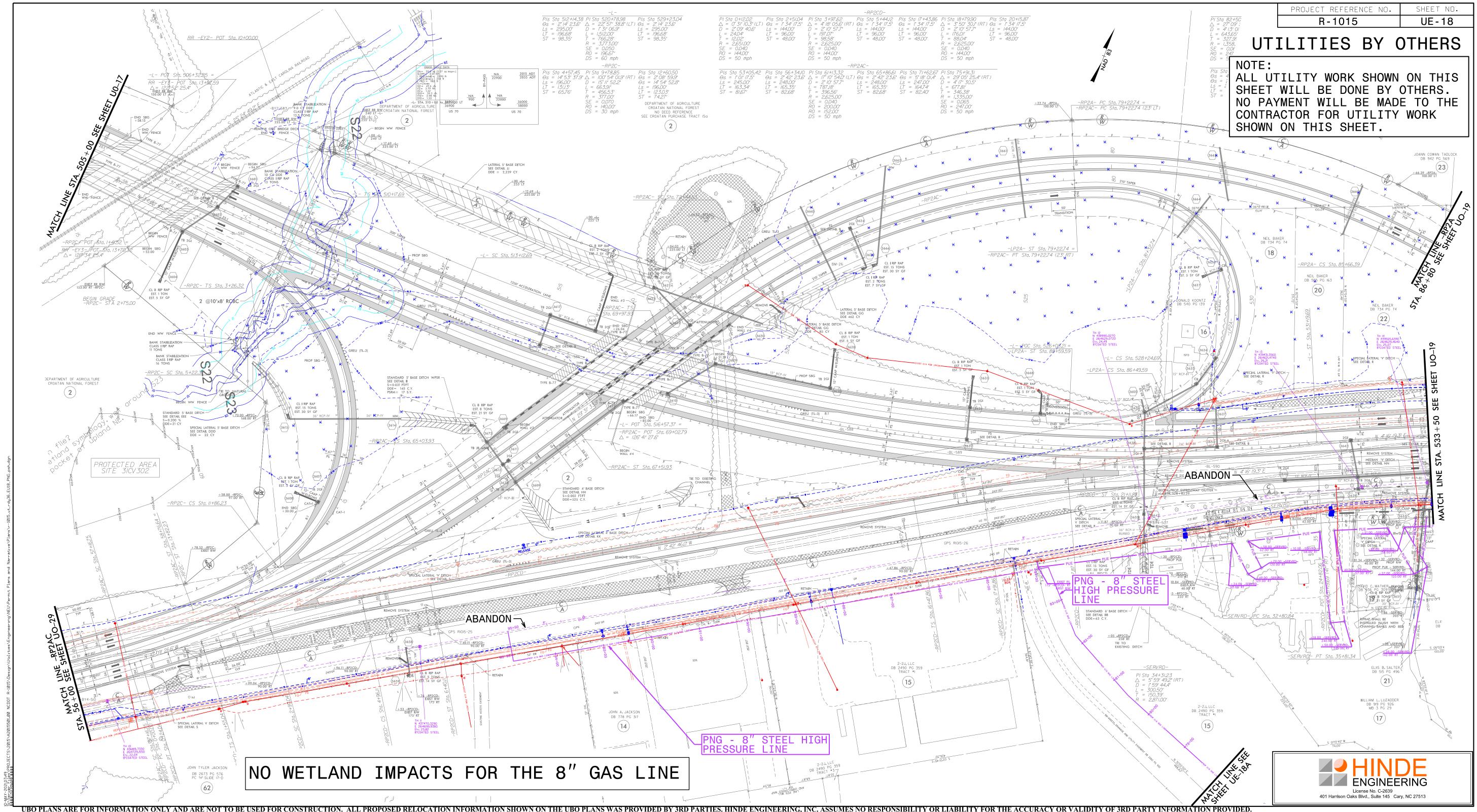




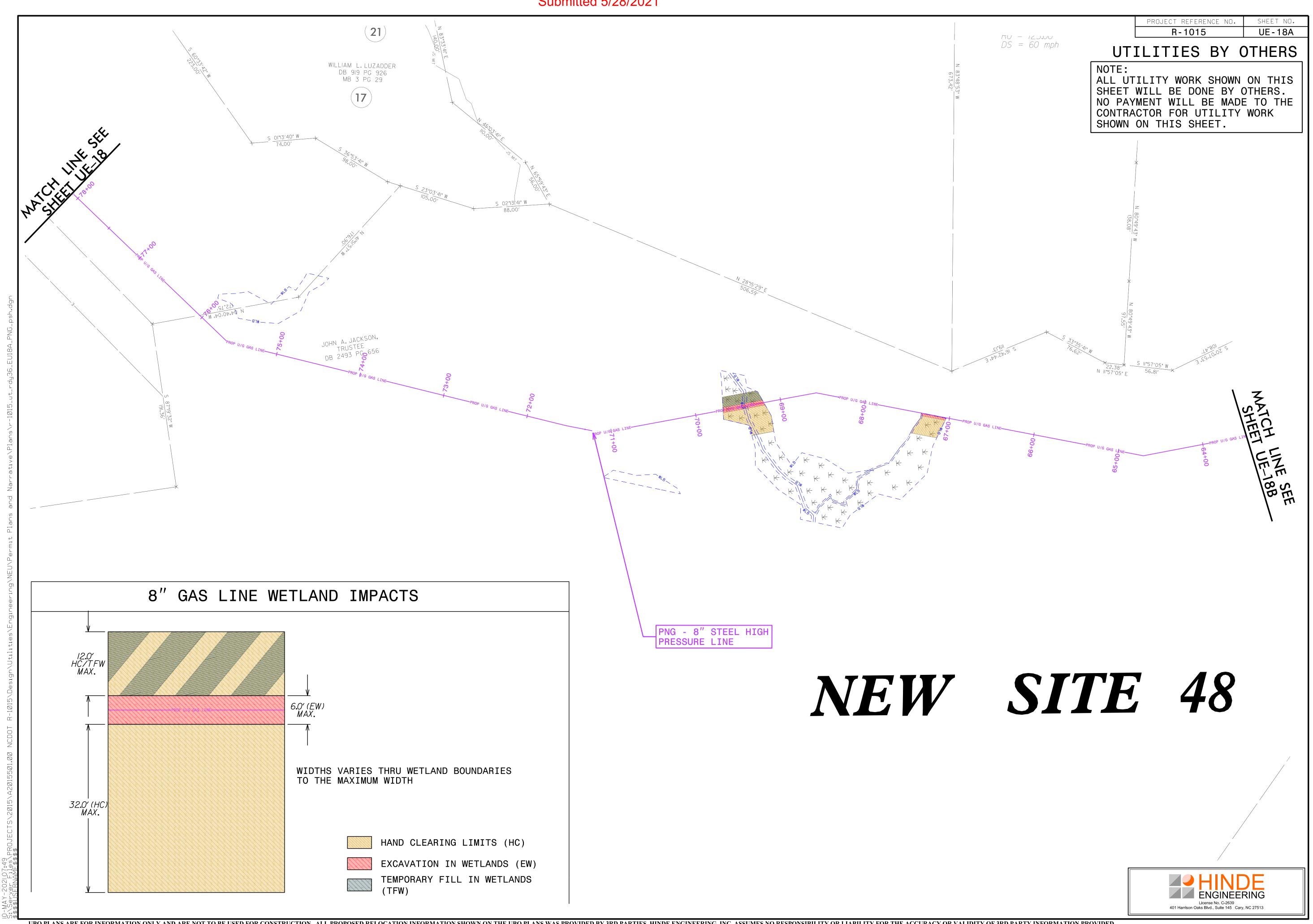
Submitted 5/28/2021

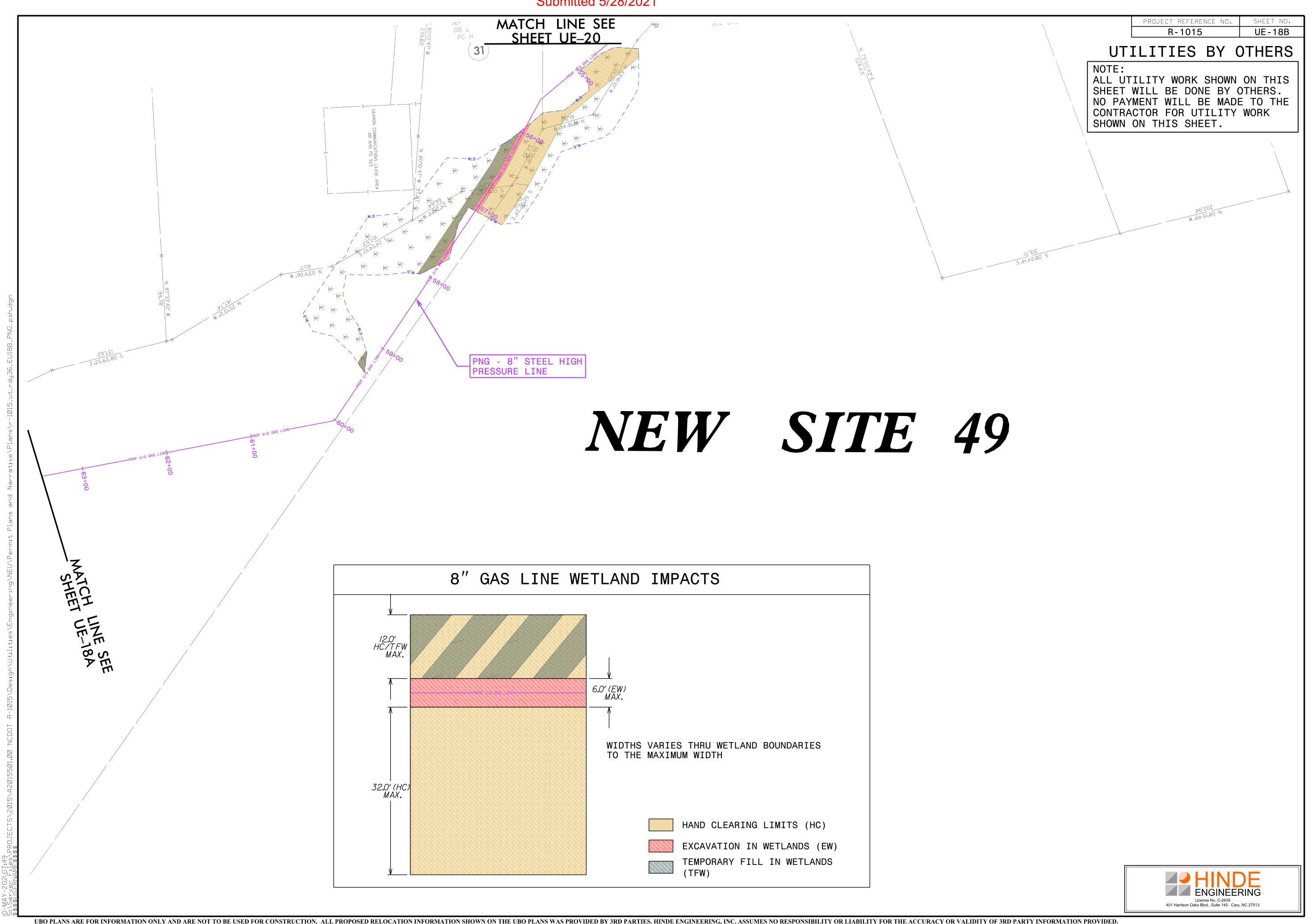


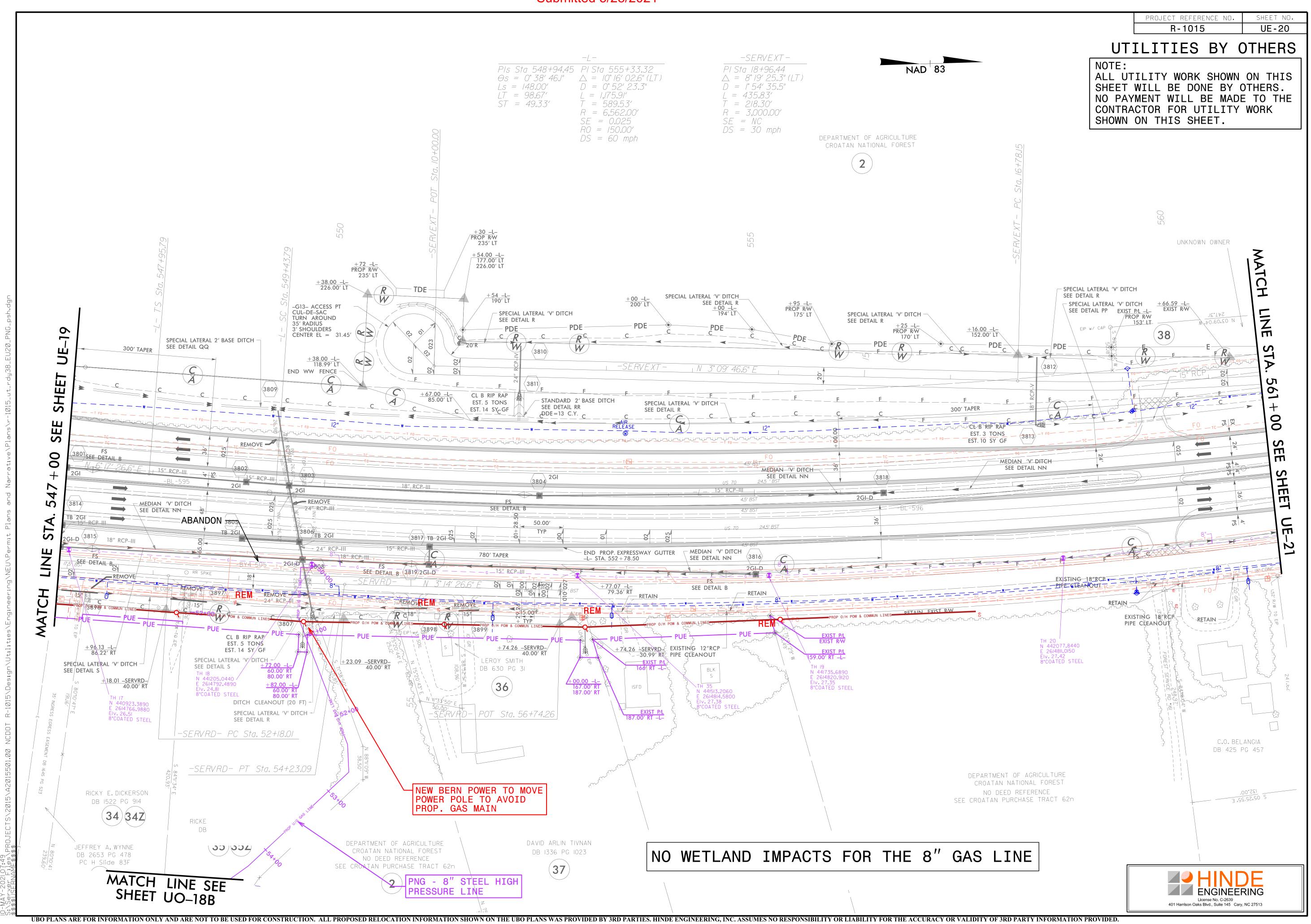
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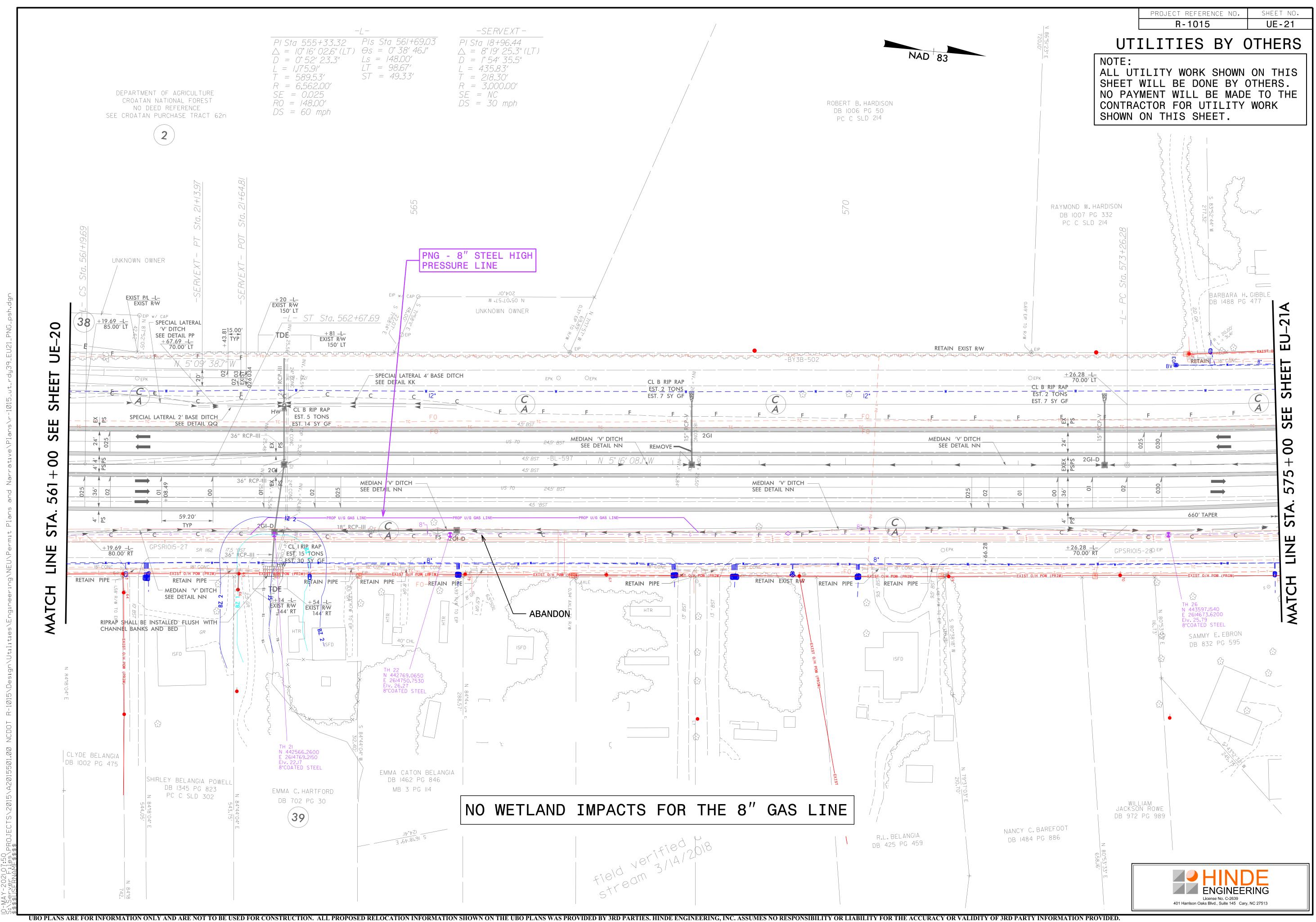


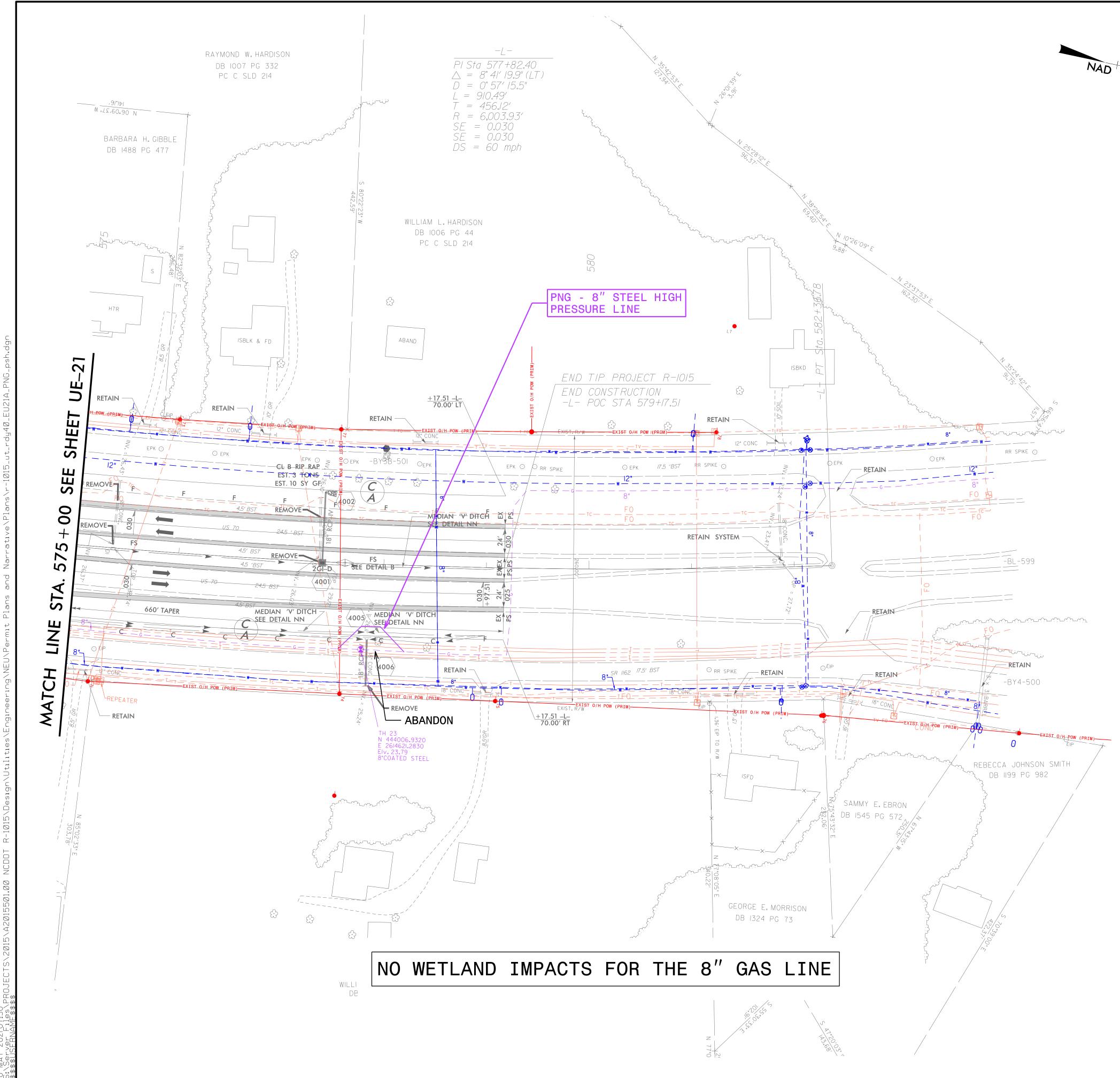
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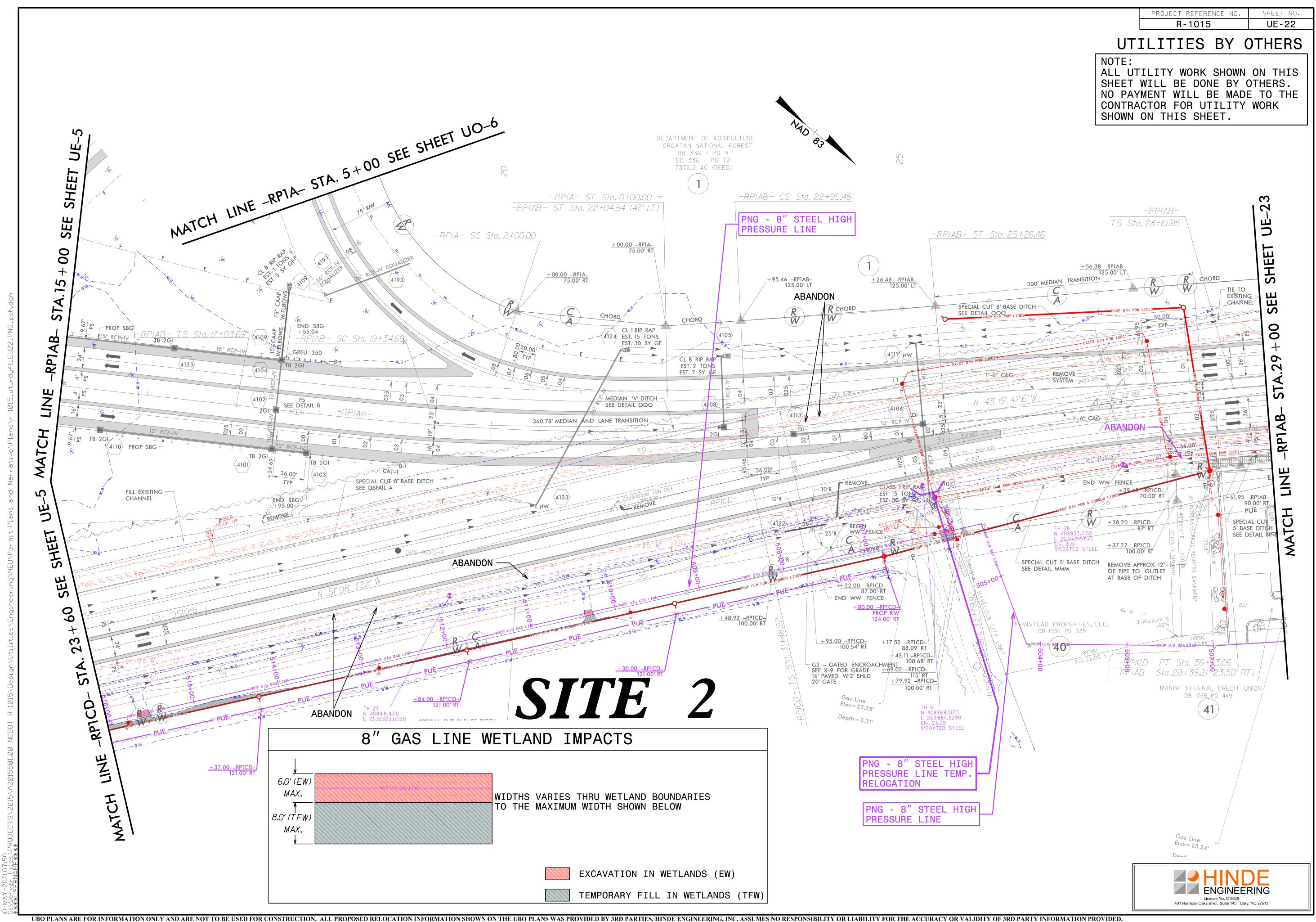


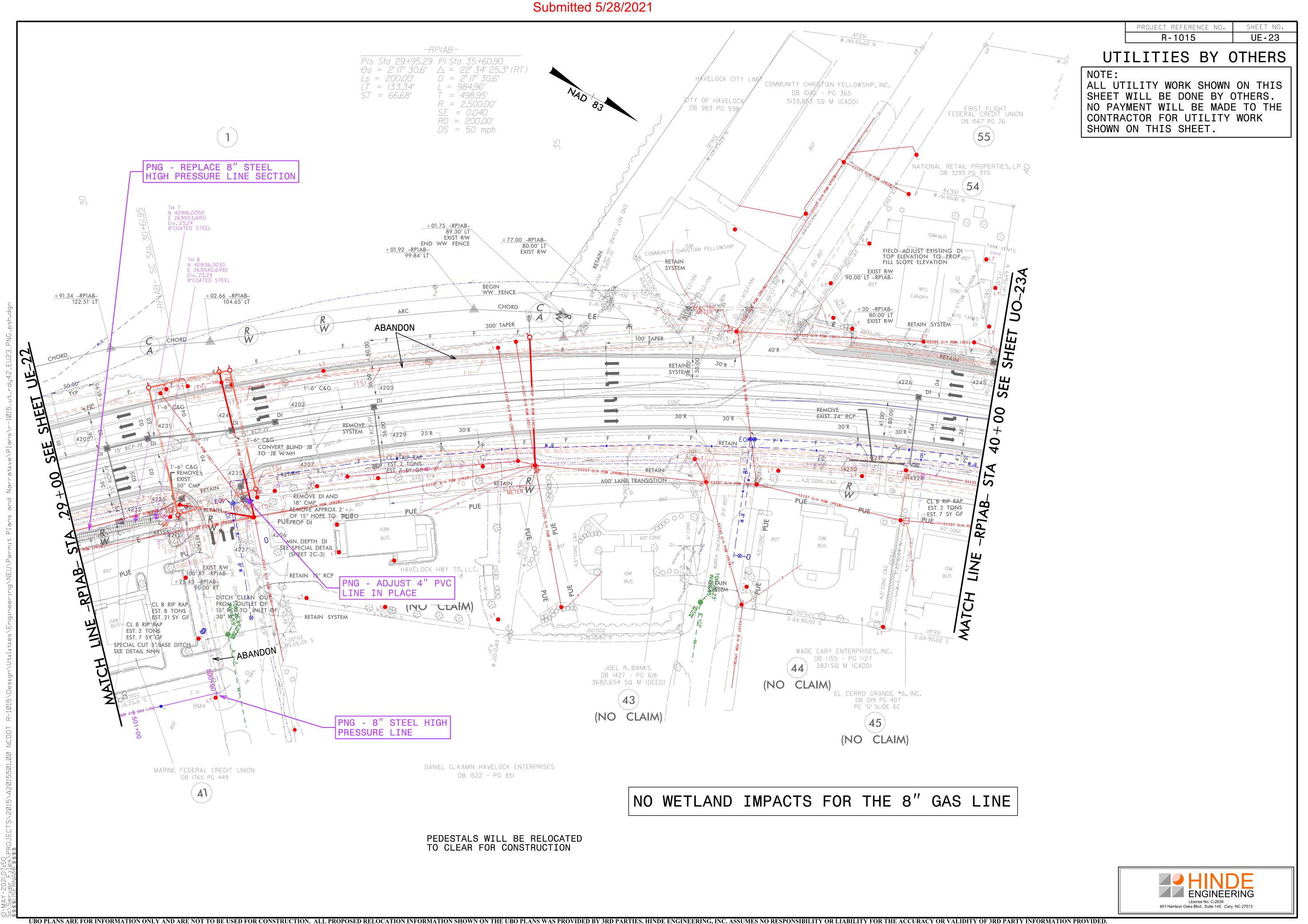




		PROJECT REFERENCE NO.	SHEET NO.
		R-1015	UE-21A
	UT	ILITIES BY C	THERS
83	SHEET NO PAY CONTRA	TILITY WORK SHOWN WILL BE DONE BY O MENT WILL BE MADE CTOR FOR UTILITY ON THIS SHEET.	E TO THE







					WETI	LAND PERM	IT IMPACT	SUMMAR	Y			
				WE	LAND IMPA				SURFACE WATER IMPACTS			
							Hand			Existing	Existing	
			Permanent	Temp.	Excavation	Mechanized	Clearing	Permanent	Temp.	Channel	Channel	Natural
Site	Station	Structure	Fill In	Fill In	in	Clearing	in	SW	SW	Impacts	Impacts	Stream
No.	(From/To)	Size / Type	Wetlands	Wetlands	Wetlands	in Wetlands	Wetlands		impacts	Permanent	Temp.	Design
	Line -L-		(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ft)	(ft)	(ft)
1	44+20 to 53+42	8" Gas Line		0.14	0.13							
2	57+72 to 87+88	8" Gas Line			0.43							
2	57+73 to 96+40	8" Gas Line		0.74								
2	88+25 to 94+66	8" Gas Line			0.04							
2	97+05 to 99+33	8" Gas Line		0.03								
2	97+76 to 97+86	8" Gas Line			0.01							
2	99+39 to 102.11	8" Gas Line		0.01								
2	101+89 to 101+98	8" Gas Line			0.01							
2	105+61 to 105+76	8" Gas Line		0.01	0.01							
New 48	536+44 to 537+09	8" Gas Line		0.01	0.01		0.04					
New 48	538+81 to 539+23	8" Gas Line			0.01		0.02					
New 49	546+46 to 546+49	8" Gas Line		0.01			0.01					
New 49	547+08 to 549+57	8" Gas Line		0.05	0.02		0.20					
FOTALS:				1.00	0.67	0.00	0.27	0.00	0.00	0.00	0.00	0.00

|--|

WETLAND DETERMINATION DATA S	Corps of Engineers HEET – Atlantic and Gulf Coasta e proponent agency is CECW-0		OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)		
Project/Site: Line 243 Relocation	City/Cour	nty: Havelock/Crav	venSampling Date: 10-26-2	2020	
Applicant/Owner: PNG			State:NCSampling Point:DP	1	
Investigator(s): WC/AB	Section, Towr	nship, Range:			
Landform (hillside, terrace, etc.): terrace	Local relief (cond	cave, convex, none	e): concave Slope (%): 0-2	2	
Subregion (LRR or MLRA): LRR T, MLRA 15	3A Lat: 34.94429	Long: -76.94	4671 Datum: NAD83	3	
Soil Map Unit Name: Goldsboro loamy fine s		0	NWI classification: R5UBH		
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X N	No (If no, explain in Remarks.)		
Are Vegetation, Soil, or Hydrol			mstances" present? Yes X No		
Are Vegetation , Soil , or Hydrol			any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach				te	
Sommart of Findings – Attach			s, transects, important reatures, e		
Hydric Soil Present?		mpled Area Wetland?	Yes <u>X</u> No		
HYDROLOGY					
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of two required	1)	
Primary Indicators (minimum of one is requir	ed; check all that apply)		Surface Soil Cracks (B6)	4	
Surface Water (A1)	Aquatic Fauna (B13)		Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)	Marl Deposits (B15) (LRR U)	X	Drainage Patterns (B10)		
Saturation (A3)	Hydrogen Sulfide Odor (C1)		Moss Trim Lines (B16)		
Water Marks (B1)	Oxidized Rhizospheres on Living F	Roots (C3)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)	Presence of Reduced Iron (C4)		Crayfish Burrows (C8)		
Drift Deposits (B3)	Recent Iron Reduction in Tilled So	olls (C6)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Thin Muck Surface (C7) Other (Explain in Remarks)		Geomorphic Position (D2)		
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7		X	Shallow Aquitard (D3) FAC-Neutral Test (D5)		
X Water-Stained Leaves (B9))	<u></u>	Sphagnum Moss (D8) (LRR T, U)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes	No X Depth (inches):				
Saturation Present? Yes	No X Depth (inches):	Wetland Hydr	rology Present? Yes X No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous ins	spections), if availa	ble:		
Remarks:					

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP1

	Absolute	Dominant	Indicator	Demission Test medicile of
<u>Tree Stratum</u> (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	25	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	15	Yes	FAC	That Are OBL, FACW, or FAC: <u>12</u> (A)
3. Pinus taeda	10	Yes	FAC	Total Number of Dominant
4				Species Across All Strata: 14 (B)
5				Percent of Dominant Species
6		. <u> </u>		That Are OBL, FACW, or FAC: 85.7% (A/B)
7		. <u></u>		Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	50 :	=Total Cover		OBL species x 1 =
50% of total cover: 25	20%	of total cover:	10	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species x 3 =
1. Morella cerifera	15	Yes	FAC	FACU species x 4 =
2. Baccharis halimifolia	15	Yes	FAC	UPL species x 5 =
3. Persea borbonia	10	Yes	FACW	Column Totals: (A) (B)
4. Ligustrum sinense	10	Yes	FAC	Prevalence Index = B/A =
5. Arundinaria gigantea	10	Yes	FACW	Hydrophytic Vegetation Indicators:
6. Ilex verticillata	5	No	FACW	1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	65 :	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 33		of total cover:	13	
Herb Stratum (Plot size: 10*10)				
1. Woodwardia areolata	30	Yes	OBL	
2. Osmundastrum cinnamomeum	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.	20	103	TAON	Definitions of Four Vegetation Strata:
4.				-
		<u> </u>		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5.		·		height.
6.		······································		
7.		·		Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	50 =	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 25	20%	of total cover:	10	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Toxicodendron radicans	2	Yes	FAC	
2. Lonicera japonica	2	Yes	FACU	
3. Parthenocissus quinquefolia	2	Yes	FACU	
4. Gelsemium sempervirens	2	Yes	FAC	
5.				I beleaste die
	8 :	=Total Cover		Hydrophytic Vegetation
50% of total cover: 4	20%	of total cover:	2	Present? Yes X No
Remarks: (If observed, list morphological adaptation	s delow.)			

SOIL

Sampling Point: DP1

Depth	Matrix Color (moist)	%		x Featur %		Loc ²	Toxtu	r0	Bon	narks
inches)		70	Color (moist)	70	Type ¹	LUC	Textu		Ren	Idiks
0-4	10YR 3/2	100					Loamy/C	layey		
4-8	10YR 5/2	60	10YR 5/4	20	С	PL	Loamy/C	layey	Distinct redox	concentrations
			10YR 5/1	20	D	Μ				
8-18	10YR 5/3	60	10YR 5/4	20	С	PL	Loamy/C	layey	Faint redox of	concentrations
			10YR 5/1	20	D	M				
	oncentration, D=Depl					d Grains.		ocation: PL=Pc	-	
Histosol			Thin Dark S		-	S, T, U)		1 cm Muck (A	-	
	bipedon (A2)		Barrier Islar			-	2 cm Muck (A10) (LRR S)			
Black Hi	stic (A3)		(MLRA 1	53B, 153	D)		Coast Prairie Redox (A16)			
Hydroge	n Sulfide (A4)		Loamy Mucky Mineral (F1) (LRR O) (outside ML						LRA 150A)	
Stratified	l Layers (A5)		Loamy Gleyed Matrix (F2)				Reduced Vertic (F18)			
Organic	Bodies (A6) (LRR P,	T, U)	X Depleted Matrix (F3)				·	(outside M	LRA 150A, 15	50B)
5 cm Mu	icky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)		Piedmont Floodplain Soils (F19) (LRR P,			
Muck Pr	esence (A8) (LRR U))	Depleted Da	ark Surfa	ce (F7)		Anomalous Bright Floodplain Soils (F20)			
1 cm Mu	ick (A9) (LRR P, T)		Redox Depr	essions	(F8)		(MLRA 153B)			
X Depleted	d Below Dark Surface	e (A11)	Marl (F10) (LRR U)			Red Parent Material (F21)			
Thick Da	ark Surface (A12)		Depleted O	chric (F1	1) (MLRA	A 151)	Very Shallow Dark Surface (F22)			
Coast Pr	rairie Redox (A16) (N	ILRA 150A)Iron-Manga	nese Ma	sses (F12	2) (LRR (O, P, T) (outside MLRA 138, 152A in FL, 154)			
Sandy N	lucky Mineral (S1) (L	.RR O, S)	Umbric Sur	ace (F13	B) (LRR F	P, T, U)	Barrier Islands Low Chroma Matrix (TS7)			
Sandy G	ileyed Matrix (S4)		Delta Ochrid	c (F17) (MLRA 15	1)	(MLRA 153B, 153D)			
Sandy R	edox (S5)		Reduced Ve	ertic (F18	B) (MLRA	150A, 1	50B)	_Other (Explai	n in Remarks))
Stripped	Matrix (S6)		Piedmont F	oodplain	n Soils (F	19) (MLR	A 149A)			
Dark Su	rface (S7) (LRR P, S	, T, U)	Anomalous	Bright Fl	oodplain	Soils (F2	:0)			
Polyvalu	e Below Surface (S8)	(MLRA 14	49A, 153	C, 153D)		³ Indicators of hydrophytic vegetation and			egetation and
(LRR S	S, T, U)		Very Shallo	w Dark S	Surface (F	22)		wetland hy	drology must	be present,
			(MLRA 1	38, 152A	in FL, 1	54)		unless dist	urbed or prob	lematic.
Restrictive L	Layer (if observed):									
Type:	- · ·									
Denth (1	nches):						Hydric S	oil Present?	Yes	No
Depth (ir	/ -									

W1 - UPL

U.S. Army WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24; th	Requirement Contr	0-xxxx, Exp: Pending ol Symbol EXEMPT: -15, paragraph 5-2a)				
Project/Site: Line 243 Relocation		City/County: Havelock/Crav	ven San	npling Date: <u>10-23-2020</u>		
Applicant/Owner: PNG (easement only)			State: NC San	npling Point: DP2		
Investigator(s): AB/WC	S	ection, Township, Range:		· · ·		
Landform (hillside, terrace, etc.): floodplain		al relief (concave, convex, none	a): none	Slope (%): 0-2		
				· · · · · · · · · · · · · · · · · · ·		
Subregion (LRR or MLRA): LRR T, MLRA 1		Long: -76.94		Datum: NAD83		
Soil Map Unit Name: Goldsboro loamy fine s	sand, 0-2% slopes		NWI classification:	N/A		
Are climatic / hydrologic conditions on the site	e typical for this time of year	r? Yes <u>X</u> N	No (If no, explai	n in Remarks.)		
Are Vegetation, Soil, or Hydro	logy significantly dist	urbed? Are "Normal Circu	mstances" present?	Yes X No		
Are Vegetation, Soil, or Hydro	logy naturally problem	natic? (If needed, explain	any answers in Remark	(S.)		
SUMMARY OF FINDINGS – Attach	site map showing sa	ampling point locations	s, transects, impor	tant features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes X No X Yes No X X	Is the Sampled Area within a Wetland?	Yes No	<u>X</u>		
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:		So	condary Indicators (mini	num of two required)		
Primary Indicators (minimum of one is requi	red: check all that apply)	<u></u>	Surface Soil Cracks (B	· · ·		
Surface Water (A1)	Aquatic Fauna (B13)		Sparsely Vegetated Co			
High Water Table (A2)	Marl Deposits (B15) (L		Drainage Patterns (B10			
Saturation (A3)	Hydrogen Sulfide Odo	r (C1)	Moss Trim Lines (B16)			
Water Marks (B1)	Oxidized Rhizosphere	s on Living Roots (C3)	Dry-Season Water Table (C2)			
Sediment Deposits (B2)	Presence of Reduced	Iron (C4)	Crayfish Burrows (C8)			
Drift Deposits (B3)	Recent Iron Reduction	in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Thin Muck Surface (C	7)	Geomorphic Position (I	02)		
Iron Deposits (B5)	Other (Explain in Rem	arks)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B	7)		FAC-Neutral Test (D5)			
Water-Stained Leaves (B9)			Sphagnum Moss (D8)	(LRR T, U)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches					
Water Table Present? Yes	No X Depth (inches					
Saturation Present? Yes	No X Depth (inches	B): Wetland Hydr	rology Present?	Yes <u>No X</u>		
(includes capillary fringe) Describe Recorded Data (stream gauge, mo	pritoring well parial photos	provious inspections) if availa	blo			
Describe Recorded Data (Sirearin gauge, inc	shitoning well, aeriai photos,	previous inspections), il availa	DIE.			
Deventer						
Remarks:						

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP2

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Albizia julibrissin	15	Yes	UPL	Number of Dominant Species
2.				That Are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.	_			Species Across All Strata: 7 (B)
5.				
				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 28.6% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	15	=Total Cover		OBL species 0 x 1 = 0
50% of total cover:	8 20%	of total cover:	3	FACW species 0 x 2 = 0
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species 45 x 3 = 135
1. Morella cerifera	10	Yes	FAC	FACU species 55 x 4 = 220
2. Liquidambar styraciflua	10	Yes	FAC	UPL species 60 x 5 = 300
3. Lespedeza cuneata	10	Yes	FACU	Column Totals: 160 (A) 655 (B)
4. Pinus taeda	5	No	FAC	Prevalence Index = B/A =4.09
5. <u>Rhus glabra</u>	5	No	UPL	Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8.				 3 - Prevalence Index is ≤3.0 ¹
	40	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:		of total cover:	8	
	20 2070	of total cover.	0	
Herb Stratum (Plot size: 10*10)				
1. Eremochloa ophiuroides	40	Yes	UPL	¹ Indicators of hydric soil and wetland hydrology must be
2. Dichanthelium acuminatum	15	No	FAC	present, unless disturbed or problematic.
3. Solidago canadensis	30	Yes	FACU	Definitions of Four Vegetation Strata:
4. Andropogon virginicus	5	No	FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.	_			more in diameter at breast height (DBH), regardless of
6.				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				
	90	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:		of total cover:	18	height.
Woody Vine Stratum (Plot size: 10*10	<u>+0</u> 2070			
	,	N	FAOL	
1. Lonicera japonica	15	Yes	FACU	
2				
3				
4				
5.				
	15	=Total Cover		Hydrophytic
50% of total cover:		of total cover:	3	Vegetation Present? Yes No X
	0 2070			
Remarks: (If observed, list morphological adapta	ations below.)			

Depth	. Matrix		th needed to document the indicator or confirm t Redox Features						-		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks		
0-12	10YR 5/1 60		10YR 6/8	20	С	<u>M</u>	Loamy/Clayey		Prominent redox concentrations		
			10YR 5/3	20	D						
								·			
Type: C=C	oncentration, D=Depl	etion. RM		/S=Mas	ked Sand	Grains	:	² Location: P	L=Pore Lining,	M=Matrix	
21	Indicators: (Applica								or Problematic	<u>^</u>	
Histosol		Thin Dark Surface (S9) (LRR S, T, U)						uck (A9) (LRR O	•		
Histic Ep	pipedon (A2)	Barrier Islands 1 cm Muck (S12)					2 cm Muck (A10) (LRR S)				
Black Histic (A3)			(MLRA 153B, 153D)					Coast Prairie Redox (A16)			
Hydrogen Sulfide (A4)			Loamy Mucky Mineral (F1) (LRR O)					(outside MLRA 150A)			
Stratified Layers (A5)			Loamy Gleyed Matrix (F2)					Reduced Vertic (F18)			
Organic Bodies (A6) (LRR P, T, U)			X Depleted Matrix (F3)					(outside MLRA 150A, 150B)			
5 cm Mucky Mineral (A7) (LRR P, T, U)			· _ · ,					Piedmont Floodplain Soils (F19) (LRR P, T			
Muck Presence (A8) (LRR U)			Depleted Dark Surface (F7)					Anomalous Bright Floodplain Soils (F20)			
1 cm Muck (A9) (LRR P, T)			Redox Depressions (F8)					(MLRA 153B)			
Depleted Below Dark Surface (A11)			Marl (F10) (LRR U)					Red Parent Material (F21)			
Thick Dark Surface (A12)			Depleted Ochric (F11) (MLRA 151)					Very Shallow Dark Surface (F22)			
	rairie Redox (A16) (M						(outside MLRA 138, 152A in FL, 154)				
	lucky Mineral (S1) (L	Umbric Surface (F13) (LRR P, T, U)					Barrier Islands Low Chroma Matrix (TS7)				
	Bleyed Matrix (S4)	Delta Ochric (F17) (MLRA 151)					(MLRA 153B, 153D)				
-	edox (S5)	Reduced Vertic (F18) (MLRA 150A, 150B)					Other (Explain in Remarks)				
Stripped	Matrix (S6)	Piedmont Floodplain Soils (F19) (MLRA 149A)									
Dark Su	rface (S7) (LRR P, S	, T, U)	Anomalous	Bright Fl	loodplain	Soils (F2	0)				
Polyvalue Below Surface (S8)			(MLRA 149A, 153C, 153D)				,	³ Indicato	ors of hydrophyti	c vegetation and	
	S, T, U)	, 	Very Shallow Dark Surface (F22)					wetland hydrology must be present,			
·	,	(MLRA 138, 152A in FL, 154)					unless disturbed or problematic.				
Restrictive I	Layer (if observed):										
Type:											
Depth (inches):							Hydric Soil Present? Yes X No				

soil consists of fill material - does not appear to be natural to the site

		W2
U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gu See ERDC/EL TR-07-24; the proponent agency is	f Coastal Plain Region Requi	Control #: 0710-xxxx, Exp: Pending irement Control Symbol EXEMPT: pority: AR 335-15, paragraph 5-2a)
Project/Site: Line 243	City/County: Havelock/Craven	Sampling Date: 10-23-2020
Applicant/Owner: PNG (easement only)		NC Sampling Point: DP3
Investigator(s): AB/WC Set	tion, Township, Range:	
Landform (hillside, terrace, etc.): hillslope Local	relief (concave, convex, none): none	Slope (%): 3-5
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.94123	Long: <u>-76.94561</u>	Datum: NAD83
Soil Map Unit Name: Suffolk loamy sand, 10-30% slopes	NWI cla	assification: PFO6C
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes <u>X</u> No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly distu	bed? Are "Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrologynaturally problem	atic? (If needed, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	npling point locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	Is the Sampled Area within a Wetland? Yes_	<u>× No</u>
Remarks:		
HYDROLOGY		
Wetland Hydrology Indicators:		icators (minimum of two required)
Primary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Aquatic Fauna (B13)		bil Cracks (B6) /egetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LF		Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor		Lines (B16)
Water Marks (B1) Oxidized Rhizospheres Sediment Deposits (B2) Presence of Reduced In		n Water Table (C2)
Drift Deposits (B3) Recent Iron Reduction i		Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface (C7)		ic Position (D2)
Iron Deposits (B5) Other (Explain in Rema	ks) Shallow Aq	uitard (D3)
Inundation Visible on Aerial Imagery (B7)		ral Test (D5)
X Water-Stained Leaves (B9)	Sphagnum	Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No X Depth (inches)		
Surface Water Present? Yes No X Depth (inches) Water Table Present? Yes No X Depth (inches)		
Saturation Present? Yes No X Depth (inches)		sent? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	evious inspections), if available:	
Remarks:		

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Quercus michauxii	30	Yes	FACW	Number of Dominant Species
2. Liquidambar styraciflua	20	Yes	FAC	That Are OBL, FACW, or FAC:4 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 4 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
50% of total equary 20		=Total Cover	40	OBL species x1 =
50% of total cover: 25	20%	of total cover:	10	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)	60	Vee		FAC species x 3 =
1. Ligustrum sinense	60	Yes	FAC	FACU species x 4 =
2. Arundinaria gigantea	10	No	FACW	UPL species $x 5 =$
3. Quercus michauxii	5	No	FACW	Column Totals: (A) (B)
4.				Prevalence Index = B/A =
5	·			Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	75	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 38	3 20%	of total cover:	15	
Herb Stratum (Plot size: 10*10)				
1		-		¹ Indicators of hydric soil and wetland hydrology must be
2.				present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less
9.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				
11.				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
12		Tatal Oscar		We also Margan Allowed the factor and the factor of the
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in height.
50% of total cover:	20%	of total cover:		neight.
Woody Vine Stratum (Plot size: 10*10)				
1. Toxicodendron radicans	20	Yes	FAC	
2. Lonicera japonica	2	No	FACU	
3				
4				
5				Hydrophytic
	22	=Total Cover		Vegetation
50% of total cover: 1	1 20%	of total cover:	5	Present? Yes X No
Remarks: (If observed, list morphological adaptation	holow)			
Remarks. (ii observed, list morphological adaptation	is below.)			

	ription: (Describe	to the dep				tor or co	onfirm the	absence	e of indicators.)		
Depth	Matrix			x Feature							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ure	Remarks		
0-10	10YR 3/1	100					Loamy/0	Clayey			
10-16	10YR 5/1	80	10YR 6/3	10	D	М	Loamy/0	Clayey			
			10YR 4/1	10	D	<u> </u>					
		·				·					
	oncentration, D=Depl					Grains.			PL=Pore Lining, M=Matrix.		
lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						In		s for Problematic Hydric Soils ³ :			
Histosol (A1) Thin Dark Surface (S9) (LRR S, T, U)						_	1 cm Muck (A9) (LRR O)				
- '	bipedon (A2)		Barrier Islands 1 cm Muck (S12)						Muck (A10) (LRR S)		
Black His	()		(MLRA 153B, 153D)					_	Prairie Redox (A16)		
	n Sulfide (A4)							side MLRA 150A)			
	Layers (A5)		Loamy Gley		(F2)				ced Vertic (F18)		
	Bodies (A6) (LRR P,		X Depleted Ma	. ,				•	side MLRA 150A, 150B)		
	cky Mineral (A7) (LR				. ,				nont Floodplain Soils (F19) (LRR P,		
	esence (A8) (LRR U))	Depleted Da		. ,				alous Bright Floodplain Soils (F20)		
	ck (A9) (LRR P, T)		Redox Depr	```	F8)			•	RA 153B)		
	Below Dark Surface	e (A11)	Marl (F10) (_	Parent Material (F21)		
	ark Surface (A12)		Depleted Oc	`	<i>,</i> .	•		_ `	Shallow Dark Surface (F22)		
	airie Redox (A16) (N		· <u> </u>		`	, .), P, I)	-	side MLRA 138, 152A in FL, 154)		
	lucky Mineral (S1) (L	.RR 0, 3)	X Umbric Surf				-	Barrier Islands Low Chroma Matrix (TS7)			
	leyed Matrix (S4)		Delta Ochric			•	(AB)	•	RA 153B, 153D)		
	edox (S5)		Reduced Ve	• •			· -	Other	(Explain in Remarks)		
	Matrix (S6)	T 10	Piedmont Fl	•	•	<i>,</i> ,	•				
	face (S7) (LRR P, S		Anomalous	-			0)	31			
	e Below Surface (S8)	(MLRA 14						ators of hydrophytic vegetation and		
	S, T, U)		Very Shallov (MLRA 13			,			land hydrology must be present, ess disturbed or problematic.		
Restrictive L	_ayer (if observed):										
Type:	,										
Depth (ir	nches):						Hydric S	Soil Pres	sent? Yes X No		
Remarks:											

W2 - UPL

10-23-2020

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is		Req	uirement	#: 0710-xxxx, Exp: F Control Symbol EX \R 335-15, paragraph	EMPT:
Project/Site: Line 243 Relocation	City/County: Havelock/Crav	ren		Sampling Date:	10-23-2
Applicant/Owner: PNG (easement only)		State:	NC	Sampling Point:	DP

Applicant/Owner:	PNG (easen	nent only)						State:	NC	Sampl	ing Point:	D	P4
Investigator(s): AB/W	С				Section,	Township, Rang	e:						
Landform (hillside, terr	ace, etc.):	hillslope			Local relief	(concave, conve	x, none):	none		S	lope (%):	1	10
Subregion (LRR or ML	.RA): LRR 1	, MLRA 153A	Lat:	34.94136		Long	: <u>-76.945</u>	77			Datum:	NAD	83
Soil Map Unit Name:	Suffolk loam	y sand, 10-30 %	5 slop	Des				NWI c	lassificat	ion: <u>N</u> /	'A		
Are climatic / hydrologi	ic conditions	on the site typic	cal fo	r this time c	of year?	Yes X	No		(If no, e	xplain ii	n Remark	s.)	
Are Vegetation	, Soil	, or Hydrology		significant	ly disturbed?	Are "Norma	I Circums	tances"	present?	۲ י	res <u>X</u>	No	
Are Vegetation	, Soil	, or Hydrology		naturally p	roblematic?	(If needed,	explain aı	ny answ	ers in Re	marks.))		
SUMMARY OF FI	NDINGS -	- Attach site	ma	p showir	ng samplii	ng point loca	tions,	transe	cts, im	porta	nt featu	ıres,	etc.
Hydrophytic Vegetatio	on Present?	Yes	Х	No	Is th	e Sampled Area	a						
Hydric Soil Present?		Yes		No X	with	in a Wetland?		Yes	·	No	X		
Wetland Hydrology P	resent?	Yes		No X	_								
Remarks:													

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (mi	nimum of two required)
Primary Indicators (minimum of one is requ	iired; check all that apply)		Surface Soil Cracks	(B6)
Surface Water (A1)	Aquatic Fauna (B13)		Sparsely Vegetated (Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)		Drainage Patterns (B	510)
Saturation (A3)	Hydrogen Sulfide Odor (C1)		Moss Trim Lines (B1	6)
Water Marks (B1)	Oxidized Rhizospheres on Living Roo	ots (C3)	Dry-Season Water Ta	able (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)		Crayfish Burrows (C8	3)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils	(C6)	Saturation Visible on	Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)		Geomorphic Position	(D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3	3)	
Inundation Visible on Aerial Imagery (B	37)		X FAC-Neutral Test (D	5)
Water-Stained Leaves (B9)			Sphagnum Moss (D8	B) (LRR T, U)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland H	Hydrology Present?	Yes No X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, previous inspe	ections), if av	vailable:	
Remarks:				

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	25	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	20	Yes	FAC	That Are OBL, FACW, or FAC: <u>8</u> (A)
3. Quercus michauxii	15	Yes	FACW	Total Number of Dominant
4				Species Across All Strata: 9 (B)
5	·			Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 88.9% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	60	=Total Cover		OBL species x 1 =
50% of total cover: 3	20%	of total cover:	12	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species x 3 =
1. Ligustrum sinense	30	Yes	FAC	FACU species x 4 =
2. Leucothoe fontanesiana	20	Yes	FACW	UPL species x 5 =
3. Callicarpa americana	10	No	FACU	Column Totals:(A) (B)
4. Quercus nigra	5	No	FAC	Prevalence Index = B/A =
5. Carpinus caroliniana	5	No	FAC	Hydrophytic Vegetation Indicators:
6. Persea borbonia	5	No	FACW	1 - Rapid Test for Hydrophytic Vegetation
7. Arundinaria gigantea	5	No	FACW	X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	80	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 4		of total cover:	16	
Herb Stratum (Plot size: 10*10)				
1. Athyrium asplenioides	20	Yes	FAC	1
2. Polystichum acrostichoides	10	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. Hexastylis arifolia	5	No	FAC	Definitions of Four Vegetation Strata:
·			TAC	C C
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5.				height.
6.				
7				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9.				
10		<u> </u>		Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	35	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:1	3 20%	of total cover:	7	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Smilax bona-nox	5	Yes	FAC	
2. Toxicodendron radicans	2	Yes	FAC	
3				
4.				
5.				The described in
	7 :	=Total Cover		Hydrophytic Vegetation
50% of total cover: 4	20%	of total cover:	2	Present? Yes X No
Remarks: (If observed, list morphological adaptation	is below.)			

	cription: (Describe	to the dep				ator or co	ntirm the absence	or indicators.)			
Depth	Matrix			x Featur	4	1 2	Tautura	Demerika			
inches)	Color (moist)	%	Color (moist)	%	Туре	Loc ²	Texture	Remarks			
0-6	10YR 4/3	100					Loamy/Clayey				
6-18	10YR 6/1	70	5YR 4/6	20	С	PL	Loamy/Clayey	Prominent redox concentrations			
	·	<u> </u>	10YR 4/4	10	С	PL		Distinct redox concentrations			
		·				·					
• •	oncentration, D=Dep					d Grains.		PL=Pore Lining, M=Matrix.			
•	Indicators: (Applica	ble to all				о т III		Indicators for Problematic Hydric Soils ³ :			
Histosol (A1) Thin Dark Surface (S9) (LRR								luck (A9) (LRR O)			
	istic Epipedon (A2) Barrier Islands 1 cm Muck (S12)							luck (A10) (LRR S)			
	ack Histic (A3) (MLRA 153B, 153D)						Prairie Redox (A16)				
_ · ·	gen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR O)					•	(outside MLRA 150A) Reduced Vertic (F18)				
	d Layers (A5)	T 10	Loamy Gleyed Matrix (F2)					(outside MLRA 150A, 150B)			
	Bodies (A6) (LRR P,	-	Depleted Ma				•	. ,			
	ucky Mineral (A7) (LR				. ,			ont Floodplain Soils (F19) (LRR P, T			
	resence (A8) (LRR U))	Depleted Da		` '			lous Bright Floodplain Soils (F20)			
	uck (A9) (LRR P, T)	()]]	Redox Depr		(F8)		•	A 153B)			
	d Below Dark Surface	e (ATT)	Marl (F10) (-		454)		rent Material (F21) nallow Dark Surface (F22)			
	ark Surface (A12)		Depleted Oc		<i>,</i> .	•		· · · ·			
	rairie Redox (A16) (N <i>I</i> ucky Mineral (S1) (L		, <u> </u>		•	, 、		ide MLRA 138, 152A in FL, 154) Islands Low Chroma Matrix (TS7)			
	Gleyed Matrix (S4)	.i.i. 0, 0)	Umbric Surf Delta Ochric		<i>,</i> ,						
	Redox (S5)		Reduced Ve				(MLRA 153B, 153D) 50B) Other (Explain in Remarks)				
	Matrix (S6)		Piedmont Fl		, .		· <u> </u>				
	urface (S7) (LRR P, S	тш	Anomalous	•		<i>,</i> .					
	ue Below Surface (S8		(MLRA 14	-	•	•	,	ors of hydrophytic vegetation and			
	S, T, U)	/	Very Shallo		-			and hydrology must be present,			
(=	0, 1, 0,		(MLRA 13		`	,		ss disturbed or problematic.			
Restrictive Type:	Layer (if observed):										
Depth (i	nches).						Hydric Soil Prese	ent? Yes No X			
Remarks:							riyune Soli Frese	ent? Yes <u>No X</u>			

	MINATION DATA		neers and Gulf Coastal Plain Re ency is CECW-CO-R	egion Require	ntrol #: 0710-xxxx, Exp: Pending ment Control Symbol EXEMPT: ity: AR 335-15, paragraph 5-2a)
Project/Site: Line 243	Relocation		City/County: Havelo	ock/Craven	Sampling Date: 10-23-2020
	PNG (easement only)				IC Sampling Point: DP5
	•				Sampling Fold. DF5
nvestigator(s): AB/WC			Section, Township, Rang	•	
andform (hillside, terra	ice, etc.): headwate	er	Local relief (concave, conve	ex, none): <u>concave</u>	Slope (%): 0-3
Subregion (LRR or MLR	RA): LRR T, MLRA 1	53A Lat: 34.9405	3 Long	g: <u>-76.94581</u>	Datum: NAD83
Soil Map Unit Name: S	Suffolk loamy sand, 10	0-30% slopes		NWI class	sification: PFO6C
Are climatic / hydrologic	conditions on the sit	te typical for this time	e of year? Yes X	No (If	no, explain in Remarks.)
Are Vegetation,	Soil . or Hydro	ology significa	ntly disturbed? Are "Norma	al Circumstances" pre	sent? Yes X No
Are Vegetation,				explain any answers	
					,
SUMMARY OF FIN	DINGS – Attach	n site map show	ving sampling point loca	ations, transects	s, important features, etc.
Hydrophytic Vegetatior Hydric Soil Present? Wetland Hydrology Pre Remarks:		Yes X No Yes X No Yes X No	Is the Sampled Are within a Wetland?	Yes	<u>× No</u>
Wetland Hydrology In					tors (minimum of two required)
Wetland Hydrology In Primary Indicators (mir	<u>nimum of one is requ</u>			Surface Soil	Cracks (B6)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1	nimum of one is requ 1)	Aquatic Fauna	(B13)	Surface Soil Sparsely Veg	Cracks (B6) Jetated Concave Surface (B8)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table	nimum of one is requ 1)	Aquatic Fauna	(B13) (B15) (LRR U)	Surface Soil Sparsely Veg Drainage Pa	Cracks (B6) jetated Concave Surface (B8) terns (B10)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table Saturation (A3)	nimum of one is requ 1) (A2)	Aquatic Fauna Marl Deposits Hydrogen Sulfi	(B13) (B15) (LRR U) ide Odor (C1)	Surface Soil Sparsely Veg Drainage Par Moss Trim Li	Cracks (B6) Jetated Concave Surface (B8) terns (B10) nes (B16)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1)	nimum of one is requ 1) (A2)	Aquatic Fauna Marl Deposits Hydrogen Sulfi Oxidized Rhizo	(B13) (B15) (LRR U) ide Odor (C1) ospheres on Living Roots (C3)	Surface Soil Sparsely Veg Drainage Pai Moss Trim Li Dry-Season	Cracks (B6) Jetated Concave Surface (B8) terns (B10) nes (B16) Water Table (C2)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits	nimum of one is requ 1) (A2) s (B2)	Aquatic Fauna Marl Deposits Hydrogen Sulfi Oxidized Rhizo	(B13) (B15) (LRR U) ide Odor (C1) ospheres on Living Roots (C3) educed Iron (C4)	Surface Soil Sparsely Veg Drainage Pai Moss Trim Li Dry-Season Crayfish Bur	Cracks (B6) Jetated Concave Surface (B8) terns (B10) nes (B16) Water Table (C2) ows (C8)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3)	nimum of one is requ 1) (A2) s (B2))	Aquatic Fauna Marl Deposits Hydrogen Sulfi Oxidized Rhizo Presence of R Recent Iron Re	(B13) (B15) (LRR U) ide Odor (C1) ospheres on Living Roots (C3) educed Iron (C4) eduction in Tilled Soils (C6)	Surface Soil Sparsely Veg Drainage Pat Moss Trim Li Dry-Season Crayfish Burn Saturation Vi	Cracks (B6) Jetated Concave Surface (B8) terns (B10) nes (B16) Water Table (C2) ows (C8) sible on Aerial Imagery (C9)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust	nimum of one is requ 1) (A2) s (B2)) (B4)	Aquatic Fauna Marl Deposits Hydrogen Sulfi Oxidized Rhizo Presence of R Recent Iron Re Thin Muck Sur	(B13) (B15) (LRR U) ide Odor (C1) ospheres on Living Roots (C3) educed Iron (C4) eduction in Tilled Soils (C6) face (C7)	Surface Soil Sparsely Veg Drainage Par Moss Trim Li Dry-Season Crayfish Bur Saturation Vi Geomorphic	Cracks (B6) Jetated Concave Surface (B8) terns (B10) nes (B16) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) Position (D2)
Primary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5)	nimum of one is requ 1) (A2) s (B2)) (B4)	Aquatic Fauna Marl Deposits Hydrogen Sulfi Oxidized Rhizo Presence of Ro Recent Iron Re Thin Muck Sur Other (Explain	(B13) (B15) (LRR U) ide Odor (C1) ospheres on Living Roots (C3) educed Iron (C4) eduction in Tilled Soils (C6) face (C7)	Surface Soil Sparsely Veg Drainage Pat Moss Trim Li Dry-Season Crayfish Burn Saturation Vi	Cracks (B6) getated Concave Surface (B8) terns (B10) nes (B16) Water Table (C2) ows (C8) sible on Aerial Imagery (C9) Position (D2) tard (D3)

Field Observations:					
Surface Water Present?					
Water Table Present?					
Saturation Present?					

(includes capillary fringe)

 Yes
 No
 X
 Depth (inches):

 Yes
 No
 X
 Depth (inches):

 Yes
 No
 X
 Depth (inches):

 Yes
 No
 X
 Depth (inches):

Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liquidambar styraciflua	50	Yes	FAC	Number of Dominant Species
2. Acer rubrum	20	Yes	FAC	That Are OBL, FACW, or FAC: 6 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 7 (B)
5.				
6.				Percent of Dominant Species
			<u> </u>	That Are OBL, FACW, or FAC: 85.7% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	70	=Total Cover		OBL species x 1 =
50% of total cover:	35 20%	of total cover:	14	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species x 3 =
1. Ligustrum sinense	30	Yes	FAC	FACU species x 4 =
2. Arundinaria gigantea	10	Yes	FACW	UPL species x 5 =
3. Ilex opaca	10	Yes	FAC	Column Totals: (A) (B)
	5			
4. Carpinus caroliniana		No	FAC	Prevalence Index = B/A =
5. Quercus michauxii	5	No	FACW	Hydrophytic Vegetation Indicators:
6. Fraxinus pennsylvanica	2	No	FACW	1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	62	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	31 20%	of total cover:	13	
Herb Stratum (Plot size: 10*10)				
	10	Vee	EACU	
1. Polystichum acrostichoides	10	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less
9.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10.				
				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	5 20%	of total cover:	2	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Toxicodendron radicans	5	Yes	FAC	
2.				
3.				
4.				
5				Hydrophytic
	5	=Total Cover		Vegetation
50% of total cover:	3 20%	of total cover:	1	Present? Yes X No
Remarks: (If observed, list morphological adaptatic	ons below.)			

	cription: (Describe	to the dep						or indicators.)			
Depth	Matrix			x Feature		. 2		_			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-8	10YR 4/1	100					Loamy/Clayey				
8-16	10YR 5/1	80	10YR 6/4	10	С	PL	Loamy/Clayey	Distinct redox concentrations			
		<u> </u>	10YR 6/3	10	<u>D</u>	<u>M</u>					
						·					
	oncentration, D=Depl					l Grains.		PL=Pore Lining, M=Matrix.			
	LRRs, unless othe			о т III		Indicators for Problematic Hydric Soils ³ :					
Histosol (A1) Thin Dark Surface (S9) (LRR S, Histic Epipedon (A2) Barrier Islands 1 cm Muck (S12)								luck (A9) (LRR O)			
_ '	,							luck (A10) (LRR S)			
Black Hi	. ,	(MLRA 153B, 153D)					Prairie Redox (A16)				
	n Sulfide (A4)							side MLRA 150A)			
	d Layers (A5)		Loamy Gley		. ,			Reduced Vertic (F18)			
Ŭ	Bodies (A6) (LRR P,		X Depleted Ma	. ,			•	ide MLRA 150A, 150B)			
	icky Mineral (A7) (LR				` '			ont Floodplain Soils (F19) (LRR P, T			
	esence (A8) (LRR U))	Depleted Da		` '			lous Bright Floodplain Soils (F20)			
	ick (A9) (LRR P, T)	<i></i>	Redox Depr		(F8)		•	RA 153B)			
·	d Below Dark Surface	e (A11)	Marl (F10) (arent Material (F21)			
	ark Surface (A12)		Depleted Oc		<i>,</i> .			hallow Dark Surface (F22)			
	rairie Redox (A16) (M		· °			, .		ide MLRA 138, 152A in FL, 154)			
	lucky Mineral (S1) (L	RR 0, S)	Umbric Surf					Islands Low Chroma Matrix (TS7)			
	eleyed Matrix (S4)		Delta Ochric	. , .		•	(MLRA 153B, 153D)				
	edox (S5)		Reduced Ve				· <u> </u>	Explain in Remarks)			
	Matrix (S6)		Piedmont Fl	•	•	<i>,</i> .					
	rface (S7) (LRR P, S		Anomalous	0	•	`	,				
	e Below Surface (S8)	(MLRA 14	•				tors of hydrophytic vegetation and			
(LRR	S, T, U)		Very Shallov (MLRA 13			,		and hydrology must be present, ss disturbed or problematic.			
Restrictive	Layer (if observed):										
Type:											
Denth (nches):						Hydric Soil Prese	ent? Yes X No			

W3 - UPL

Project/Site: Line 243 Relocation City/County: Havelock/Craven Sampling Date: 10:23:24 Applicant/Owner: PNG (easement only) State: NC Sampling Point: Decinity Innestigator(s): WCAB	U.S. Army WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24; th	Requiremen	#: 0710-xxxx, Exp: Pending t Control Symbol EXEMPT: AR 335-15, paragraph 5-2a)				
Applicant/Owner: PNG (casement only) State: NC Sampling Point: DP6 Investigator(s): WC/AB Section, Township, Range:	Project/Site: Line 243 Relocation	Ci	ty/County: Havelock/Crav	ven	Sampling Date: 10-23-	2020	
Investigator(s): WC/AB Section, Township, Range:	· · · · · · · · · · · · · · · · · · ·		· · ·				
Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 10-24 Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.94048 Long: 76.94588 Datum: NAD83 Soil Map Unit Name: Onslow loamy sand							
Subregion (LRR or MLRA): IRR T, MLRA 153A Lat: 34.94048 Long: -76.94588 Datum: NAD83 Soil Map Unit Name: Onslow loamy sand NWI classification: NA Are dimatic / hydrologic conditions on the site typical for this time of year? Yes No (ff needed, explain any answers in Remarks.) Are Vegetation , Soil , or Hydrology input any input polematic? (ff needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, et Hydrophytic Vegetation Present? Yes No X Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Yes No X Wetland Hydrology Indicators: No X No X Sparsely Vegetated Conceve Surface (B8) Surface Water (A1) Aquatic Flaux (B13) Sparsely Vegetated Conceve Surface (B8) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulface Odor (C1) Moss Tim Lines (B16) Coxidized Rhizospheres on Lining Roots (C3) Dry Season Water Table (A2) Presence of Reduced Ion IC4) CrayHish Burrows (C8) CrayHish Burrows (C8)					Slope (%): 10	20	
Soil Map Unit Name: Onslow loamy sand NWL classification: NA Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No							
Are climatic / hydrologic conditions on the site typical for this time of year? Yes_X_No_(If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantry disturbed? Are "Normal Circumstances" present? Yes_X_No_ Are Vegetation , Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, et Hydrophytic Vegetation Present? Yes No X Hydrology Present? Yes No X Wetland Hydrology Indicators: Yes No X Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Drainage Patterns (B10) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (A2) And Deposits (B2) Presence of Reduced Irin (C4) Craylish Burrows (C8) Staturation Visible on Aerial Imagery (B7) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Alged Mat or Crust (B4) Thin Muck Surface (C7)		53A Lat: 34.94048	Long: -76.94			3	
Are Vegetation							
Are Vegetation, Soll, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, et Hydrology IPresent? YesNo Hydrophytic Vegetation Present? YesNo Is the Sampled Area within a Wetland? YesNo Hydrology Present? YesNo No Is the Sampled Area within a Wetland? YesNo Remarks: Present? YesNo No Scrade Xiet (A1) Scrade Soil Cracks (B6)	Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes <u>X</u> N	lo (If no,	explain in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, et Hydrophytic Vegetation Present? Yes No X Wetland Hydrology Present? Yes No X Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) Surface Soil Cracks (B6) Surface Vater (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Surface Soil Cracks (B6) Surface Vater (A1) Oxidized Rhizospheres on Living Roots (C3) Drainage Pratterns (B10) Startation (A3) Hydrogen Sufface Orc) Grayfish Burrows (C8) Mith Deposits (B2) Presence of Reduced fron (C4) Dry-Season Water Table (C2) Mart Orcust (B4) Thin Muck Surface (C7) Greem from Science (C7) Greemorphic Positin (D2) Ind Adva Crust (B4) Thin Muck Surface (C7) Shallow Aquitard (D3) FAC-Neutral Test (D5) Shallow Aquitard (D3) Indudator Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: No X Depth (i	Are Vegetation, Soil, or Hydro	logysignificantly disturbed	d? Are "Normal Circur	nstances" presen	t? Yes X No		
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks: No X X HyDROLOGY Secondary Indicators: Secondary Indicators (minimum of two required) Surface Vater (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Mart Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sufface Odor (C1) Most Trin Lines (B16) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Shallow Aquitard Nisble on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) In Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Ket Table (Present? Yes No Water Table Present? Yes No X Depth (inches): Shallow Aquitard (D3) <tr< td=""><td>Are Vegetation, Soil, or Hydro</td><td>logy naturally problematic</td><td>? (If needed, explain</td><td>any answers in R</td><td>emarks.)</td><td></td></tr<>	Are Vegetation, Soil, or Hydro	logy naturally problematic	? (If needed, explain	any answers in R	emarks.)		
Hydric Soil Present? Yes No X within a Wetland? Yes No X Wetland Hydrology Present? Yes No X within a Wetland? Yes No X Remarks:	SUMMARY OF FINDINGS – Attach	site map showing samp	ling point locations	, transects, ir	mportant features, e	etc.	
Remarks:	Hydric Soil Present?	Yes No X wi	•	Yes	No <u>X</u>		
Wetland Hydrology Indicators: Secondary Indicators (minimum of one is required): check all that apply) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6)							
Primary Indicators (minimum of one is required: check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water Table Present? Yes No X Depth (inches): Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes No No X Depth (inches): Wetland Hydrology Present? Yes No Georded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	HYDROLOGY						
Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B3) Recent Iron Reduction in Tilled Soils (C6)	Wetland Hydrology Indicators:		Sec	ondary Indicators	(minimum of two require	d)	
High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water Table Present? Yes No X Depth (inches): Yes Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Yes No X	Primary Indicators (minimum of one is requi	red; check all that apply)		Surface Soil Crac	cks (B6)		
Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water Table Present? Yes No X Depth (inches): Saturation Present? Yes Saturation Present? Yes No X Depth (inches): Gincludes capillary fringe) Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Saturaliable:	Surface Water (A1)	Aquatic Fauna (B13)		Sparsely Vegetat	ted Concave Surface (B8))	
Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes Saturation Present? Yes No X Yes No X Depth (inches): Wetland Hydrology Present? Yes No X (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Saturaliable:				-			
Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes Sutration Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Cincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes Surface Water Present? Yes No X No X Depth (inches): Wetland Hydrology Present? Yes No Saturation Present? Yes No X Depth (inches): No X Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: If available: If available:				-			
Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes Surface Water Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes Saturation Present? Yes No X Depth (inches): Georoted Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Metiand Hydrology Present? Yes No X			. ,				
Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				1 ()			
Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Cincludes capillary fringe) Depth (inches): Wetland Hydrology Present? Yes No X Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Surface Water Present? Yes No X Depth (inches):		,					
Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X (includes capillary fringe) Depth (inches): Depth (inches): Wetland Hydrology Present? Yes No X Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Stream gauge Stream gauge <t< td=""><td>Field Observations:</td><td></td><td></td><td></td><td></td><td></td></t<>	Field Observations:						
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Ves No X	Surface Water Present? Yes	No X Depth (inches):					
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water Table Present? Yes						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Saturation Present? Yes	No X Depth (inches):					
Remarks:	Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previ	ous inspections), if availa	ble:			
	Remarks:						

		Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	_	% Cover	Species?	Status	Dominance Test worksheet:
1. <u>Pinus taeda</u>		30	Yes	FAC	Number of Dominant Species
2. Quercus rubra		10	Yes	FACU	That Are OBL, FACW, or FAC: (A)
3. Quercus michauxii		10	Yes	FACW	Total Number of Dominant
4. Cornus florida		10	Yes	FACU	Species Across All Strata: 10 (B)
5. Oxydendrum arboreum		5	No	FACU	Percent of Dominant Species
6. Quercus alba		5	No	FACU	That Are OBL, FACW, or FAC: 40.0% (A/B)
7					Prevalence Index worksheet:
8.					Total % Cover of: Multiply by:
		70	=Total Cover		OBL species x 1 =
50% of total cover:	35	20%	of total cover:	14	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species x 3 =
1. Persea borbonia	_′	10	Yes	FACW	FACU species x 4 =
2. Ilex opaca		5	Yes	FAC	UPL species x 5 =
3.					Column Totals: (A) (B)
			<u> </u>		
4.					Prevalence Index = B/A =
5.					Hydrophytic Vegetation Indicators:
6.					1 - Rapid Test for Hydrophytic Vegetation
7					2 - Dominance Test is >50%
8					3 - Prevalence Index is ≤3.0 ¹
	_	15	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	8	20%	of total cover:	3	
Herb Stratum (Plot size: 10*10)					
1. Mitchella repens		20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Polystichum acrostichoides		10	Yes	FACU	present, unless disturbed or problematic.
3.					Definitions of Four Vegetation Strata:
4.			·		
5					Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
					height.
7.					Sapling/Shrub – Woody plants, excluding vines, less
8					than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9.					
10					Herb – All herbaceous (non-woody) plants, regardless
11					of size, and woody plants less than 3.28 ft tall.
12					
	_	30	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover:	15	20%	of total cover:	6	height.
Woody Vine Stratum (Plot size: 10*10)	_			
1. Parthenocissus quinquefolia	•	5	Yes	FACU	
2. Lonicera japonica		5	Yes	FACU	
3.					
4.					
			·		
5	— –				Hydrophytic
	_		=Total Cover		Vegetation
50% of total cover:	5	20%	of total cover:	2	Present? Yes <u>No X</u>
Demortice, (If chaptering list merphological adapte	otione	bolow)			·
Remarks: (If observed, list morphological adapta	auons	DelOw.)			
Remarks. (If observed, list morphological adapta	auons	Delow.)			
Remarks. (ii observed, list morphological adapta	auons	Delow.)			
Remarks. (il observed, list morphological adapta	auons	Delow.)			

	cription: (Describe	to the depth				tor or co	onfirm th	e absence	of indicators	5.)	
Depth	Matrix			x Featur		1 2	-			D 1	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Ie	xture		Remarks	
0-3	10YR 3/3	100					Loamy	//Clayey			
3-16	10YR 6/4	100					Loamy	//Clayey	1		
						<u> </u>					
						<u> </u>					
	oncentration, D=Dep	letion RM-R	educed Matrix		ked Sand	Grains		² Location:	PL=Pore Lini	na M-Matrix	
	Indicators: (Applica									atic Hydric Sc	oils ³ :
Histosol			Thin Dark S			S. T. U)			Muck (A9) (LR	-	
Histic Epipedon (A2) Barrier Islands 1 cm Muck (S12)							•		Muck (A10) (L l	•	
Black Histic (A3) (MLRA 153B, 153D)					,	1		Prairie Redox			
Hydrogen Sulfide (A4) Loamy Mucky M						RR O)	ĩ		side MLRA 1	()	
Stratified Layers (A5) Loamy Gleye				•	• • •	,		•	ed Vertic (F18		
	Bodies (A6) (LRR P,	. T. U)	Depleted Ma		. ,				side MLRA 1	,	
	ucky Mineral (A7) (LR		Redox Dark	. ,				•		Soils (F19) (L	RR P. T
	esence (A8) (LRR U	• • • •	Depleted Da		. ,		,		•	oodplain Soils	
	uck (A9) (LRR P, T)		Redox Depr		. ,		•		RA 153B)	·	()
	d Below Dark Surface	e (A11)	 Marl (F10) (~ /			•	, arent Material	(F21)	
 Thick Da	ark Surface (A12)		Depleted Oc		1) (MLRA	151)			Shallow Dark S		
Coast P	rairie Redox (A16) (N	ILRA 150A)	Iron-Mangar	nese Ma	sses (F12	2) (LRR C), P, T)			38, 152A in FL	., 154)
Sandy N	/lucky Mineral (S1) (L	.RR O, S)	Umbric Surf	ace (F13	B) (LRR P	, T, U)		Barrie	r Islands Low	Chroma Matrix	(TS7)
Sandy G	Gleyed Matrix (S4)		Delta Ochrid	: (F17) (MLRA 15	1)		(ML	RA 153B, 153	D)	
Sandy F	Redox (S5)		Reduced Ve	ertic (F18	B) (MLRA	150A, 15	50B)	Other	(Explain in Re	marks)	
Stripped	Matrix (S6)		Piedmont Fl	oodplain	Soils (F	9) (MLR	A 149A)				
	rface (S7) (LRR P, S	, T, U)	Anomalous								
	e Below Surface (S8		(MLRA 14	I9A, 153	C, 153D)			³ Indica	ators of hydrop	hytic vegetatio	on and
(LRR	S, T, U)		Very Shallo	w Dark S	Surface (F	22)		wet	and hydrology	/ must be pres	ent,
		•	(MLRA 13	88, 152A	in FL, 1	54)		unle	ess disturbed of	or problematic.	
Restrictive	Layer (if observed):										
Type:											
Depth (i	nches):						Hydric	: Soil Pres	ent? Y	es No	<u>х</u>
Remarks:											

				W4	
U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is	•	on Requirement	t: 0710-xxxx, Exp: Pending Control Symbol EXEMPT: R 335-15, paragraph 5-2a)		
Project/Site: Line 243 Relocation Applicant/Owner: PNG (easement only)	City/County: Havelock/		Sampling Date: <u>10-23</u> Sampling Point: DI	-2020 P7	
Investigator(s): AB/WC Se	ection, Township, Range:				
	al relief (concave, convex,		Slope (%): 5-	10	
	Long: -7	-			
Soil Map Unit Name: Onslow loamy sand	• • • • • •	NWI classificat			
Are climatic / hydrologic conditions on the site typical for this time of year	·? Yes X	No (If no, e			
Are Vegetation, Soil, or Hydrologysignificantly dist			Yes X No		
Are Vegetation, Soil, or Hydrologysignmeanly dist		plain any answers in Re			
		-		- 4 -	
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point location	ons, transects, im	portant features,	etc.	
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	Is the Sampled Area within a Wetland?	YesX	No		
Remarks:				_	
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators	minimum of two require	ed)	
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Crac	<s (b6)<="" td=""><td>_</td></s>	_	
Surface Water (A1) Aquatic Fauna (B13)		Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Marl Deposits (B15) (L		Drainage Patterns (B10)			
Saturation (A3) Hydrogen Sulfide Odo		Moss Trim Lines (
Water Marks (B1) Oxidized Rhizospheres Sediment Deposits (B2) Presence of Reduced	• • • •) Dry-Season Water Table (C2) X Crayfish Burrows (C8)			
Drift Deposits (B3) Recent Iron Reduction			on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Thin Muck Surface (C	7)	Geomorphic Position (D2)			
Iron Deposits (B5) Other (Explain in Rem	arks)	Shallow Aquitard	(D3)		
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test	. ,		
X Water-Stained Leaves (B9)		Sphagnum Moss	(D8) (LRR T, U)		
Field Observations:					
Surface Water Present? Yes No X Depth (inches Water Table Present? Yes No X Depth (inches					
Saturation Present? Yes No X Depth (inches		Hydrology Present?	Yes X No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if a	vailable:			
Remarks:					

Tree Stratum (Plot size: 50*50)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species
2.				That Are OBL, FACW, or FAC: <u>3</u> (A)
3				Total Number of Dominant
4	_			Species Across All Strata: <u>3</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
		=Total Cover	_	OBL species x1 =
50% of total cover:	15 20%	of total cover:	6	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50	_)		540	FAC species x 3 =
	90	Yes	FAC	FACU species x 4 =
2.				UPL species $x 5 = $
3.				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	90 =	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	45 20%	of total cover:	18	
Herb Stratum (Plot size: 10*10)				
1				¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				One line (Ohmutha Milanda alanda analadiana itana itana
8.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9.				
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:		of total cover:		height.
Woody Vine Stratum (Plot size: 10*10)				
1. Smilax rotundifolia	15	Yes	FAC	
2				
3.				
4.				
5.				
····	15	=Total Cover		Hydrophytic
E0% of total approxim			2	Vegetation Present? Yes X No
50% of total cover:		of total cover:	3	Present? Yes X No
Remarks: (If observed, list morphological adaptat	IONS DEIOW.)			

	cription: (Describe	to the dep						of indicators.)			
Depth	Matrix			x Featur	4	. 2		- ·			
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc ²	Texture	Remarks			
0-4	10YR 3/2	100					Loamy/Clayey				
4-16	10YR 5/1	80	10YR 5/4	10	С	PL	Loamy/Clayey	Distinct redox concentrations			
		<u> </u>	10YR 6/3	10	<u>D</u>	PL					
					_	·					
	oncentration, D=Depl					l Grains.		PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Thin Dark Surface (S9) (LRR S, T, U							Indicators for Problematic Hydric Soils ³ :				
Histosol (A1) Thin Dark Surface (S9) (L Histic Epipedon (A2) Barrier Islands 1 cm Mucl								uck (A9) (LRR O)			
			`	12)		uck (A10) (LRR S) Prairie Rodex (A16)					
Black Histic (A3) Hydrogen Sulfide (A4)			(MLRA 1: Loamy Muc		•			Prairie Redox (A16) ide MLRA 150A)			
— ; ° ()			Loamy Gley	•	• • •	κκ Ο)	•	ed Vertic (F18)			
Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U)			X Depleted Ma		K (FZ)			ide MLRA 150A, 150B)			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		·	. ,	(56)		•	ont Floodplain Soils (F19) (LRR P, T			
	icky Mineral (A7) (LR				· · /						
	esence (A8) (LRR U)		Depleted Da		. ,			lous Bright Floodplain Soils (F20)			
	ick (A9) (LRR P, T)	(Redox Depr		(F8)		•	A 153B)			
·	d Below Dark Surface	e (A11)	Marl (F10) (rent Material (F21)			
	ark Surface (A12)		Depleted Oo		<i>,</i> .			nallow Dark Surface (F22)			
	rairie Redox (A16) (M		·		•	, .		ide MLRA 138, 152A in FL, 154)			
	lucky Mineral (S1) (L	KK U, SJ	Umbric Surf					Islands Low Chroma Matrix (TS7)			
	Bleyed Matrix (S4)		Delta Ochrid	· · ·		•	(MLRA 153B, 153D)				
	edox (S5)		Reduced Ve	•			· · ·	Explain in Remarks)			
	Matrix (S6)		Piedmont F								
	rface (S7) (LRR P, S		Anomalous	0	•	`	,				
	e Below Surface (S8)	(MLRA 14		-			ors of hydrophytic vegetation and			
(LRR	S, T, U)		Very Shallo (MLRA 13			,		and hydrology must be present, ss disturbed or problematic.			
Restrictive I	Layer (if observed):										
Type:											
Denth (nches):						Hydric Soil Prese	ent? Yes X No			

W4 - UPL

U.S. Army Corps of En	nineers			
WETLAND DETERMINATION DATA SHEET – Atlan	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT:			
See ERDC/EL TR-07-24; the proponent	agency is CECW-CO-R	(Authority	AR 335-15, paragrapl	h 5-2a)
Project/Site: Line 243 Relocation	aven	Sampling Date:	10-23-2020	
Applicant/Owner: PNG (easement only)			Sampling Point:	
Investigator(s): AB/AC	Section, Township, Range:			
Landform (hillside, terrace, etc.): hillslope	Local relief (concave, convex, no	ne): <u>none</u>	Slope (%):	0-5
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.93	932 Long: -76.	94947	Datum:	NAD83
Soil Map Unit Name: Rains fine sandy loam		NWI classifi	cation: N/A	
Are climatic / hydrologic conditions on the site typical for this t	me of year? Yes X	No (If no	o, explain in Remarks	s.)
Are Vegetation, Soil, or Hydrologysignif	cantly disturbed? Are "Normal Circ	umstances" prese	nt? Yes <u>X</u>	No
Are Vegetation, Soil, or Hydrologynatur	ally problematic? (If needed, explain	in any answers in	Remarks.)	
SUMMARY OF FINDINGS – Attach site map she	owing sampling point location	ns, transects,	important featu	res, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	X within a Wetland?	Yes	No <u>X</u>	
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:	S	econdary Indicato	rs (minimum of two r	equired)
Primary Indicators (minimum of one is required: check all that	t apply)	Surface Soil Cr	acks (B6)	

wetiand mydrology multi-	ators.	Secondary indicators (in	inimum or two required)					
Primary Indicators (minimu	im of one is rea		Surface Soil Cracks	(B6)				
Surface Water (A1)		Aquatio	c Fauna (B13)		Sparsely Vegetated	Concave Surface (B8)		
High Water Table (A2)	1	Marl D	eposits (B15) (LRR U)		Drainage Patterns (B10)			
Saturation (A3)	Hydrogen Sulfide Odor (C1)				Moss Trim Lines (B16)			
Water Marks (B1)		Oxidize	ed Rhizospheres on Living	g Roots (C3)	Dry-Season Water Table (C2)			
Sediment Deposits (B2	2)	Presence of Reduced Iron (C4)			Crayfish Burrows (C8)			
Drift Deposits (B3)		Recent	t Iron Reduction in Tilled	Soils (C6)	Saturation Visible or	Aerial Imagery (C9)		
Algal Mat or Crust (B4)	 Thin M	uck Surface (C7)		Geomorphic Positior	n (D2)		
Iron Deposits (B5) Other (Explain in Remarks)					Shallow Aquitard (D3	3)		
Inundation Visible on Aerial Imagery (B7)					FAC-Neutral Test (D	5)		
Water-Stained Leaves	(B9)				Sphagnum Moss (Da	B) (LRR T, U)		
Field Observations:								
Surface Water Present?	Yes	No X	Depth (inches):					
Water Table Present?	Yes	No X	Depth (inches):	-				
Saturation Present?	Yes	No X	Depth (inches):	Wetland I	Hydrology Present?	Yes No X		
(includes capillary fringe)				-	, ,,			
Describe Recorded Data (s	stream gauge,	monitoring well	, aerial photos, previous i	nspections), if a	/ailable:			
		-						
Remarks:								

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	20	Yes	FAC	Number of Dominant Species
2. <u>Ulmus rubra</u>	15	Yes	FAC	That Are OBL, FACW, or FAC: 6 (A)
3. Pinus taeda	10	Yes	FAC	Total Number of Dominant
4. Juniperus virginiana	5	No	FACU	Species Across All Strata: 8 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 75.0% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	50	=Total Cover		OBL species x 1 =
50% of total cover:		• 6 of total cover:	10	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50	<u> </u>			
1. Ligustrum sinense	.' 65	Yes	FAC	
	2	No	FAC	
	2		FACW	UPL species $x 5 =$
3				Column Totals:(A)(B)
4		·		Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	67	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	34 20%	6 of total cover:	14	
Herb Stratum (Plot size: 10*10)				
1. Microstegium vimineum	10	Yes	FAC	
2.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
	·	- <u> </u>		-
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5.	·			height.
6.				5
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	10	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover:	5 20%	6 of total cover:	2	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Lonicera japonica	5	Yes	FACU	
2. Smilax bona-nox	5	Yes	FAC	
3. Parthenocissus quinquefolia	<u>5</u>	Yes	FACU	
		165	TACO	
4.		.		
5				Hydrophytic
	15	=Total Cover		Vegetation
50% of total cover:	8 20%	6 of total cover:	3	Present? Yes X No
Remarks: (If observed, list morphological adaptation	ons below.)			
	,			

	ription: (Describe	to the dept			aicator or co	onfirm the	absence of ind	icators.)	
Depth	Matrix			x Features	1 . 2				
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Ty	be ¹ Loc ²	Text	ure	Remarks	
0-2	10YR 3/2	100				Loamy/0	Clayey		
2-16	2.5Y 5/4	100				Loamy/0	Clayey		
					(
Type: C=Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, N	//S=Masked S	Sand Grains.	²L	ocation: PL=Pd	ore Lining, M=Matrix.	
lydric Soil I	Indicators: (Applica	ble to all L	RRs, unless othe	erwise noted	.)	Ir	dicators for Pr	oblematic Hydric S	oils ³ :
Histosol	(A1)	Thin Dark S	urface (S9) (L	.RR S, T, U)		1 cm Muck (A9) (LRR O)			
Histic Epipedon (A2)			Barrier Islan	ds 1 cm Muc	k (S12)		2 cm Muck (A	A10) (LRR S)	
Black Histic (A3)			(MLRA 15	3B, 153D)			Coast Prairie	Redox (A16)	
Hydrogen Sulfide (A4)			Loamy Mucl	y Mineral (F	I) (LRR O)		(outside M	LRA 150A)	
Stratified Layers (A5)			Loamy Gley	ed Matrix (F2)		Reduced Ver	tic (F18)	
	Bodies (A6) (LRR P,	T. U)	Depleted Ma		,	_		LRA 150A, 150B)	
	icky Mineral (A7) (LR		·	Surface (F6)			•	odplain Soils (F19) (LRR P. T
	esence (A8) (LRR U			rk Surface (F	7)			Bright Floodplain Soil	
	ick (A9) (LRR P, T)	,	Redox Depr	`	.,			o 1	- ()
	Below Dark Surface	e (A11)	Marl (F10) (I	. ,			•	/aterial (F21)	
	ark Surface (A12)			hric (F11) (M	I RA 151)			Dark Surface (F22)	
	rairie Redox (A16) (N	II RA 150A	·	· / ·	(F12) (LRR C	орт) —	_ `	LRA 138, 152A in F	I 154)
	lucky Mineral (S1) (L			ace (F13) (LF		5, . , . ,	•	Is Low Chroma Matri	
	ileyed Matrix (S4)			(F17) (MLR			(MLRA 153		x (107)
_ `	edox (S5)			. , .	LRA 150A, 15	50B)	•	n in Remarks)	
	Matrix (S6)			· /·	s (F19) (MLR	· -		in in reemandy	
	rface (S7) (LRR P, S	тт			lain Soils (F2	-			
	e Below Surface (S8	-		9A, 153C, 15	•	-~)	³ Indicators of	hydrophytic vegetati	ion and
	s, T, U)	')	•	v Dark Surfac	•			drology must be pres	
(2.00	c, ., c,			8, 152A in F	. ,		•	urbed or problematic	
Restrictive L	Layer (if observed):								
Type:									
Depth (ir	nches):					Hydric S	Soil Present?	Yes N	οX
Pemarks.									

				W5	
U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is		Requirement Cont	10-xxxx, Exp: Pending rol Symbol EXEMPT: 5-15, paragraph 5-2a)		
Project/Site: Line 243 Relocation	City/County: Havelock/C	aven Sar	npling Date: 10-23-2	2020	
Applicant/Owner: PNG (easement)		State:NCSar	mpling Point: DPS	Э	
Investigator(s): AB/WC Set	ection, Township, Range:				
Landform (hillside, terrace, etc.): floodplain Loca	I relief (concave, convex, no	ne): concave	Slope (%): 3-5)	
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.93257	Long: -76	94824	Datum: NAD83		
Soil Map Unit Name: Masontown mucky fine sandy loam and Muckalee	sandy loam	NWI classification:	PFO6F		
Are climatic / hydrologic conditions on the site typical for this time of year	? Yes <u>X</u>	No (If no, expla	in in Remarks.)		
Are Vegetation, Soil, or Hydrologysignificantly dista	urbed? Are "Normal Circ	umstances" present?	Yes X No		
Are Vegetation, Soil, or Hydrologynaturally problem	natic? (If needed, expla	in any answers in Remar	ks.)		
SUMMARY OF FINDINGS – Attach site map showing sa		ns. transects. impo	rtant features, e	tc.	
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Remarks:	Is the Sampled Area within a Wetland?	Yes <u>X</u> No			
HYDROLOGY					
Wetland Hydrology Indicators:	<u>S</u>	econdary Indicators (mini	mum of two required)	
Primary Indicators (minimum of one is required: check all that apply)		Surface Soil Cracks (E	,		
Surface Water (A1) Aquatic Fauna (B13) X High Water Table (A2) Marl Deposits (B15) (L		Sparsely Vegetated Co Drainage Patterns (B1			
Saturation (A3) Hydrogen Sulfide Odol		Moss Trim Lines (B16)	,		
Water Marks (B1) Oxidized Rhizospheres		Dry-Season Water Tal			
Sediment Deposits (B2) Presence of Reduced	. ,	Crayfish Burrows (C8)			
Drift Deposits (B3) Recent Iron Reduction This Much Surface (C2)	. , _	(C6) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2)			
Algal Mat or Crust (B4) Thin Muck Surface (C7 Iron Deposits (B5) Other (Explain in Rema	·	Shallow Aquitard (D3)	D2)		
Inundation Visible on Aerial Imagery (B7)	-	X FAC-Neutral Test (D5)			
X Water-Stained Leaves (B9)		Sphagnum Moss (D8)	(LRR T, U)		
Field Observations:				-	
Surface Water Present? Yes No X Depth (inches					
Water Table Present? Yes X No Depth (inches					
Saturation Present? Yes X No Depth (inches (includes capillary fringe)): Wetland Hy	drology Present?	Yes X No	—	
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if ava	ilable:			
	· · · //				
Remarks:					

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	30	Yes	FAC	That Are OBL, FACW, or FAC: 7 (A)
3				Total Number of Dominant
4				Species Across All Strata: 7 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	60	=Total Cover		OBL species 20 $x 1 = 20$
50% of total cover:		of total cover:	12	FACW species $32 \times 2 = 64$
Sapling/Shrub Stratum (Plot size: 50*50	<u> </u>			FAC species 91 $x 3 = 273$
) 20	Vee		
1. Arundinaria gigantea	20	Yes	FACW	
2. Ligustrum sinense	15	Yes	FAC	UPL species $0 \times 5 = 0$
3. Liquidambar styraciflua	10	Yes	FAC	Column Totals: <u>143</u> (A) <u>357</u> (B)
4				Prevalence Index = B/A = 2.50
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				$\frac{1}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$
0	45	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
			0	
	23 20%	of total cover:	9	
Herb Stratum (Plot size: 10*10)				
1. Woodwardia areolata	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be
2. Osmundastrum cinnamomeum	10	Yes	FACW	present, unless disturbed or problematic.
3. Onoclea sensibilis	2	No	FACW	Definitions of Four Vegetation Strata:
4. Conoclinium coelestinum	2	No	FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	34	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover:	17 20%	of total cover:	7	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Vitis rotundifolia	2	No	FAC	
2. Toxicodendron radicans	2	No	FAC	
			170	
3.				
4				
5				Hydrophytic
	4	=Total Cover		Vegetation
50% of total cover:	2 20%	of total cover:	1	Present? Yes X No
Remarks: (If observed, list morphological adaptation	ons below)			
Remarks. (in observed, list morphological adaptatic	J13 DCIOW.)			

	cription: (Describe	to the dep				ator or C	uninin the	ausence o	n multators.)
Depth (inchos)	Matrix Color (moist)	%	Redo Color (moist)	x Featur %	res Type ¹	Loc ²	Text	uro	Remarks
(inches)		70		70	туре	LUC	Text		Rellidiks
0-6	10YR 3/1	100					Mucky Lo	am/Clay	
6-12	10YR 5/1	90	5YR 5/8	10	С	PL	Loamy/0	Clayey	Prominent redox concentrations
						_			
	oncentration, D=Depl					d Grains.			PL=Pore Lining, M=Matrix.
•	Indicators: (Applica	ble to all				ст II)	Ir		for Problematic Hydric Soils ³ :
Histosol	pipedon (A2)		Thin Dark S Barrier Islan	•	<i>,</i> .		-		uck (A9) (LRR O) uck (A10) (LRR S)
Black Hi	1 ()		(MLRA 15			12)	-		Prairie Redox (A16)
	en Sulfide (A4)		Loamy Muck	•			-		ide MLRA 150A)
_ · ·	d Layers (A5)		Loamy Gley	•	• • •			•	d Vertic (F18)
	Bodies (A6) (LRR P,	τ ιι	X Depleted Ma		. ,		—		ide MLRA 150A, 150B)
	icky Mineral (A7) (LR	•••	·	. ,				•	nt Floodplain Soils (F19) (LRR P, T
	esence (A8) (LRR U)		Depleted Da		` '		-		ous Bright Floodplain Soils (F20)
	ick (A9) (LRR P, T)	,	Redox Depr		. ,		_		A 153B)
	d Below Dark Surface	Δ11)	Marl (F10) (I		(10)			•	rent Material (F21)
·	ark Surface (A12)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Depleted Oc		1) (MI RA	A 151)	_		allow Dark Surface (F22)
	rairie Redox (A16) (N	II RA 150			<i>,</i> .		орт) —		ide MLRA 138, 152A in FL, 154)
	lucky Mineral (S1) (L		X Umbric Surfa		•	<i>,</i> .	0,1,1,	•	Islands Low Chroma Matrix (TS7)
	Bleyed Matrix (S4)		Delta Ochric		<i>,</i> ,		_		A 153B, 153D)
	Redox (S5)		Reduced Ve	• • •			50B)	•	Explain in Remarks)
	Matrix (S6)		Piedmont FI	•	<i>,</i> .		· -	- (• -/
	rface (S7) (LRR P, S	, T, U)	Anomalous	•	`	<i>,</i> ,			
	e Below Surface (S8		(MLRA 14	-				³ Indicate	ors of hydrophytic vegetation and
	S, T, U)	,	Very Shallov	•	•				nd hydrology must be present,
	· •		(MLRA 13			,			s disturbed or problematic.
Restrictive	Layer (if observed):		-			-			
Type:									
Depth (i	nches):						Hydric	Soil Prese	nt? Yes X No
Remarks:	· · ·						-		

W5 - UPL

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gu See ERDC/EL TR-07-24; the proponent agency is	-	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Line 243 Relocation	City/County: Havelock/Crav	ven Sampling Date: 10-23-2020
Applicant/Owner: PNG (easement only)		State: NC Sampling Point: DP10
Investigator(s): AB/AC Set	ction, Township, Range:	
Landform (hillside, terrace, etc.): hillslope Local	relief (concave, convex, none	e): none Slope (%): 5-10
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.93233	Long: -76.94	1835 Datum: NAD83
Soil Map Unit Name: Norfolk loamy fine sand, 2-6% slopes		NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X N	lo (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distu		nstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problem		any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations	, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	Is the Sampled Area within a Wetland?	Yes NoX
Remarks:		
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Aquatic Fauna (B13)	<u>Sec</u>	condary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LF	RR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor	. ,	Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizospheres		Dry-Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduced In Drift Deposits (B3) Recent Iron Reduction i		Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)Recent Iron Reduction i Algal Mat or Crust (B4) Thin Muck Surface (C7)		Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in Rema		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	,	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes No X Depth (inches) Water Table Present? Yes No X Depth (inches) Saturation Present? Yes No X Depth (inches) (includes capillary fringe) Ves No X Depth (inches) Describe Recorded Data (stream gauge, monitoring well, aerial photos, provide the stream gauge) No X No	Wetland Hydr	rology Present? Yes <u>No X</u> ble:
Remarks:		

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Fagus grandifolia	35	Yes	FACU	Number of Dominant Species
2. Pinua taeda	10	Yes		That Are OBL, FACW, or FAC:5 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 9 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 55.6% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	45	=Total Cover		OBL species x 1 =
50% of total cover:		of total cover:	9	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species x 3 =
1. Ligustrum sinense	, 15	Yes	FAC	FACU species x 4 =
2. Arundinaria gigantea	10	Yes	FACW	UPL species x 5 =
3. Prunus serotina	2	No	FACU	Column Totals: (A) (B)
4. Albizia julibrissin	2	No	UPL	Prevalence Index = B/A =
·		NU	UFL	
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7		<u> </u>		X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
	15 20%	of total cover:	6	
Herb Stratum (Plot size: 10*10)				
1. Solidago canadensis	15	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Symphyotrichum lateriflorum	5	Yes	FAC	present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6				height.
7.				Capling/Chruh Weath planta avaluding vines loss
8				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				
	20	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover:	10 20%	of total cover:	4	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Parthenocissus quinquefolia	15	Yes	FACU	
2. Smilax bona-nox	5	Yes	FAC	
3. Vitis rotundifolia	5	Yes	FAC	
4.				
5.				
	25	=Total Cover		Hydrophytic
50% of total cover:		of total cover:	5	Vegetation Present? Yes X No
				Present? Yes X No
Remarks: (If observed, list morphological adaptation	ons below.)			

	ription: (Describe	to the dep					minin th	e ausence of	mulcators.)	
Depth	Matrix			x Featur		1 2	т.		D	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	le	xture	Rer	marks
0-4	10YR 3/2	100					Loamy	y/Clayey		
4-16	2.5Y 6/3	100					Loamy	y/Clayey		
						·				
						·				
Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, N	/IS=Masl	ked Sand	Grains.		² Location: PL	=Pore Lining, M=	=Matrix.
•	Indicators: (Applica	ble to all L							r Problematic H	ydric Soils ³ :
Histosol			Thin Dark S	urface (S	9) (LRR	S, T, U)		1 cm Muc	k (A9) (LRR O)	
Histic Ep	oipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)		2 cm Muc	k (A10) (LRR S)	
Black His	stic (A3)		(MLRA 15	3B, 153	D)			Coast Pra	airie Redox (A16)	
Hydroge	n Sulfide (A4)		Loamy Mucl	ky Minera	al (F1) (L	RR O)		(outside	e MLRA 150A)	
Stratified	l Layers (A5)		Loamy Gley	ed Matrix	k (F2)			Reduced	Vertic (F18)	
Organic	Bodies (A6) (LRR P,	T, U)	Depleted Ma	atrix (F3)				(outside	e MLRA 150A, 1	50B)
5 cm Mu	icky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)			Piedmont	Floodplain Soils	(F19) (LRR P, T
Muck Pre	esence (A8) (LRR U))	Depleted Da	rk Surfa	ce (F7)			Anomalou	us Bright Floodpla	ain Soils (F20)
1 cm Mu	ick (A9) (LRR P, T)		Redox Depr	essions ((F8)			(MLRA	153B)	
Depleted	Below Dark Surface	e (A11)	Marl (F10) (_RR U)				Red Pare	nt Material (F21)	
Thick Da	ark Surface (A12)		Depleted Oc	hric (F1	1) (MLRA	151)		Very Shal	low Dark Surface	e (F22)
Coast Pr	rairie Redox (A16) (N	ILRA 150A) Iron-Mangar	iese Mas	sses (F12	2) (LRR C), P, T)	(outside	e MLRA 138, 15	2A in FL, 154)
	lucky Mineral (S1) (L		Umbric Surf		`	, 、		•	ands Low Chrom	
	leyed Matrix (S4)		Delta Ochric	`	, 、				153B, 153D)	(-)
	edox (S5)		Reduced Ve	· / ·			50B)	•	plain in Remarks	.)
	Matrix (S6)		Piedmont FI	•			-			,
	rface (S7) (LRR P, S	. T. U)	Anomalous	•		<i>,</i> ,				
	e Below Surface (S8		(MLRA 14	-			-,	³ Indicator	s of hydrophytic v	vegetation and
	S, T, U)	,	Very Shallov			22)			d hydrology must	0
(=	c, ., c,		(MLRA 13						disturbed or prob	•
	('f - h))			0, 132A		·,		uness		
Type:	Layer (if observed):									
Depth (ir	nches):						Hydrid	c Soil Present	? Yes	No X
Remarks:										

		W6
U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is		OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Line 243 Relocation	Citv/County: Havelock/Cra	ven Sampling Date: 10-27-2020
Applicant/Owner: PNG (easement only)		State: NC Sampling Point: DP11
Investigator(s): AB/WC Se		
		e): concave Slope (%): 2-5
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.93138		
Soil Map Unit Name: Masontown mucky fine sandy loam and Muckalee		NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year		No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly distu		mstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problem		n any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa		
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	Is the Sampled Area within a Wetland?	Yes <u>X</u> No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) X Surface Water (A1)		condary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (L Saturation (A3) Hydrogen Sulfide Odor Water Marks (B1) Oxidized Rhizospheres Sediment Deposits (B2) Presence of Reduced Drift Deposits (B3) Recent Iron Reduction Algal Mat or Crust (B4) Thin Muck Surface (C7 Iron Deposits (B5) Other (Explain in Remaining Content (Explain in Remain	r (C1) s on Living Roots (C3) Iron (C4) i in Tilled Soils (C6) 7) arks)	Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes X No Depth (inches Water Table Present? Yes X No Depth (inches Saturation Present? Yes X No Depth (inches (includes capillary fringe) Ves X No Depth (inches Describe Recorded Data (stream gauge, monitoring well, aerial photos, Describe Recorded Data (stream gauge, monitoring well, aerial photos,	s): Wetland Hyd	rology Present? Yes X No
Remarks:		

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 6 (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>6</u> (B)
5				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
-		Total Cover		OBL species 20 x1 = 20
50% of total cover:	20%	of total cover:		FACW species 35 x 2 = 70
Sapling/Shrub Stratum (Plot size: 50*50)	4 -		54.014	FAC species 35 $x = 105$
1. Leucothoe fontanesiana	15	Yes	FACW	FACU species $0 x 4 = 0$
2. Persea borbonia	15	Yes	FACW	UPL species $0 \times 5 = 0$
3. Morella cerifera	10	No	FAC	Column Totals: 90 (A) 195 (B)
4. Liquidambar styraciflua	10	No	FAC	Prevalence Index = B/A =
5. Arundinaria gigantea	5	No	FACW	Hydrophytic Vegetation Indicators:
6		·		1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8	<u> </u>	,		X_3 - Prevalence Index is ≤3.0 ¹
_		=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 28	20%	of total cover:	11	
Herb Stratum (Plot size: 10*10)				
1. Woodwardia areolata	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6				height.
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb All berbasseus (non weady) plants, regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12				
_	20 =	Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover: 10	20%	of total cover:	4	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Vitis rotundifolia	5	Yes	FAC	
2. Smilax rotundifolia	5	Yes	FAC	
3. Gelsemium sempervirens	5	Yes	FAC	
4.				
5.				Hydrophytic
	15 =	=Total Cover		Vegetation
50% of total cover: 8	20%	of total cover:	3	Present? Yes X No
Remarks: (If observed, list morphological adaptations	below.)			

Profile Desc	cription: (Describe	to the dep	oth needed to doc	ument t	he indica	ator or co	onfirm the	e absence	e of indicators.)
Depth	Matrix			x Featur					
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Те	dure	Remarks
0-4	10YR 2/1	100					Loamy	/Clayey	-
4-14	10YR 5/1	55	10YR 2/1	45	С	Μ	Loamy	/Clayey	Distinct redox concentrations
Type: C=C	oncentration, D=Dep	letion. RM	=Reduced Matrix. N	 MS=Mas		d Grains.		² Location:	PL=Pore Lining, M=Matrix.
	Indicators: (Applica								s for Problematic Hydric Soils ³ :
Histosol	(A1)		Thin Dark S	urface (S	59) (LRR	S, T, U)	_	1 cm 1	Muck (A9) (LRR O)
Histic Ep	pipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)	•	2 cm M	Muck (A10) (LRR S)
Black Hi	stic (A3)		(MLRA 15	53B, 153	D)		•	Coast	Prairie Redox (A16)
Hydroge	n Sulfide (A4)		Loamy Mucl	ky Miner	al (F1) (L	.RR O)	-	(out	side MLRA 150A)
Stratified	d Layers (A5)		Loamy Gley	ed Matri	x (F2)			Reduc	ced Vertic (F18)
Organic	Bodies (A6) (LRR P,	, T, U)	Depleted Ma	atrix (F3))		-	(out	side MLRA 150A, 150B)
	icky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)			Piedm	nont Floodplain Soils (F19) (LRR P, T
Muck Pr	esence (A8) (LRR U)	Depleted Da	ark Surfa	ice (F7)		-	Anoma	alous Bright Floodplain Soils (F20)
	ick (A9) (LRR P, T)	,	X Redox Depr		. ,		-		RA 153B)
	d Below Dark Surface	e (A11)	Marl (F10) (()			•	arent Material (F21)
·	ark Surface (A12)	- ()	Depleted Oc		1) (MLR	A 151)	-		Shallow Dark Surface (F22)
	rairie Redox (A16) (N	AI RA 1504		•	<i>,</i> .		Р. Т.)		side MLRA 138, 152A in FL, 154)
	lucky Mineral (S1) (L		Umbric Surf		•	<i>,</i> ,	-,-,-,	•	r Islands Low Chroma Matrix (TS7)
	Bleyed Matrix (S4)	-,-,	Delta Ochric	•	, .		-		RA 153B, 153D)
	Redox (S5)		Reduced Ve	· · ·		•	50B)	•	(Explain in Remarks)
	Matrix (S6)		Piedmont Fl	•	<i>,</i> .				()
	rface (S7) (LRR P, S	. т. u)	Anomalous				-		
	le Below Surface (S8	-	(MLRA 14	0	•	•	- /	³ Indica	ators of hydrophytic vegetation and
	S, T, U)	·)	Very Shallov						land hydrology must be present,
	-, ·, · ,		(MLRA 13			,			ess disturbed or problematic.
Restrictive	Layer (if observed):		-			-			
Type:									
Depth (ir	nches):						Hydric	Soil Pres	ent? Yes X No
Remarks:									

W6 - UPL

U.S. Arm WETLAND DETERMINATION DATA See ERDC/EL TR-07-24;	-	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)	'				
Project/Site: Line 243 Relocation		City/County: Havelock/Crav	ven Sampling Date: 10-27-	2020			
Applicant/Owner: PNG (easement)			State: NC Sampling Point: DP	12			
Investigator(s): AB/AC	S	ection, Township, Range:					
Landform (hillside, terrace, etc.): hillslope	Loca	al relief (concave, convex, none	e): none Slope (%): 5-1	15			
Subregion (LRR or MLRA): LRR T, MLRA	153A Lat: 34.93145	Long: -76.94	4789 Datum: NAD83	3			
Soil Map Unit Name: Norfolk loamy fine sa			NWI classification: N/A				
Are climatic / hydrologic conditions on the s		? Yes_X_N	No (If no, explain in Remarks.)				
Are Vegetation, Soil, or Hyd			mstances" present? Yes X No				
Are Vegetation, Soil, or Hyd			any answers in Remarks.)				
SUMMARY OF FINDINGS – Attac			-	oto			
SUMMART OF FINDINGS - Allac	in site map showing sa		s, transects, important reatures, e				
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes X No Yes No X	Is the Sampled Area within a Wetland?	Yes NoX				
Wetland Hydrology Present? Remarks:	Yes <u>No X</u>						
HYDROLOGY							
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of two required	d)			
Primary Indicators (minimum of one is req	uired; check all that apply)		Surface Soil Cracks (B6)	-			
Surface Water (A1)	Aquatic Fauna (B13)		Sparsely Vegetated Concave Surface (B8)	,			
High Water Table (A2)	Marl Deposits (B15) (L		Drainage Patterns (B10)				
Saturation (A3)	Hydrogen Sulfide Odo		Moss Trim Lines (B16)				
Water Marks (B1) Sediment Deposits (B2)	Presence of Reduced	s on Living Roots (C3)	Dry-Season Water Table (C2)				
Drift Deposits (B3)	Recent Iron Reduction	. ,	Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Thin Muck Surface (C		Geomorphic Position (D2)				
Iron Deposits (B5)	Other (Explain in Rem						
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)					
Water-Stained Leaves (B9)			Sphagnum Moss (D8) (LRR T, U)				
Field Observations:	No. X. Death (back of	、 、					
Surface Water Present? Yes Water Table Present? Yes	No X Depth (inches No X Depth (inches						
Saturation Present? Yes	No X Depth (inches		rology Present? Yes No	х			
(includes capillary fringe)		,					
Describe Recorded Data (stream gauge, r	nonitoring well, aerial photos,	previous inspections), if availa	ble:				
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Pinus taeda	35	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	15	Yes	FAC	That Are OBL, FACW, or FAC:5 (A)
3. Liriodendron tulipifera	10	No	FACU	Total Number of Dominant
4				Species Across All Strata: 7 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 71.4% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
		=Total Cover		OBL species x 1 =
50% of total cover: 3	0 20%	of total cover:	12	FACW species <u>5</u> x 2 = <u>10</u>
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species94 x 3 =282
1. Morella cerifera	20	Yes	FAC	FACU species x 4 = 108
2. Liquidambar styraciflua	10	Yes	FAC	UPL species x 5 =
3. Fraxinus pennsylvanica	5	No	FACW	Column Totals: <u>126</u> (A) <u>400</u> (B)
4. Quercus nigra	5	No	FAC	Prevalence Index = B/A =
5. Fagus grandifolia	5	No	FACU	Hydrophytic Vegetation Indicators:
6. Ilex opaca	2	No	FAC	1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	47 :	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 2	4 20%	of total cover:	10	
Herb Stratum (Plot size: 10*10)				
1. Mitchella repens	2	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6				height.
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Harb All borbassous (non-weach) plants, recordings
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				
	2 :	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover:1	20%	of total cover:	1	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Lonicera japonica	5	Yes	FACU	
2. Gelsemium sempervirens	5	Yes	FAC	
3. Parthenocissus quinquefolia	5	Yes	FACU	
4. Toxicodendron radicans	2	No	FAC	
5.				the description
	17 :	=Total Cover		Hydrophytic Vegetation
50% of total cover:9	20%	of total cover:	4	Present? Yes X No
Remarks: (If observed, list morphological adaptation				
Nemarka. (ii uuseiveu, iist muiphulugicai adaptatioi	is DelUW.)			

Depth	cription: (Describe) Matrix	to the dep		x Featur			ausenc	
inches)	Color (moist)	%	Color (moist)	% realu	Type ¹	Loc ²	Texture	Remarks
0-3	10YR 4/3	100					Loamy/Clayey	
3-7	10YR 3/2	100						
							Loamy/Clayey	
7-14	10YR 4/3	80	10YR 2/1	20		<u>M</u>	Loamy/Clayey	Distinct redox concentrations
Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, I	MS=Mas	ked Sand	d Grains.	² Location	: PL=Pore Lining, M=Matrix.
lydric Soil	Indicators: (Applica	able to all I	_RRs, unless oth	erwise r	oted.)		Indicator	s for Problematic Hydric Soils ³ :
Histosol	(A1)		Thin Dark S	urface (S	69) (LRR	S, T, U)	1 cm	Muck (A9) (LRR O)
Histic Ep	oipedon (A2)		Barrier Islar	ids 1 cm	Muck (S	12)	2 cm	Muck (A10) (LRR S)
	stic (A3)		(MLRA 1	53B, 153	D)		Coas	t Prairie Redox (A16)
Hydroge	en Sulfide (A4)		Loamy Muc	ky Miner	al (F1) (L	RR O)	(ou	itside MLRA 150A)
Stratified	d Layers (A5)		Loamy Gley	ed Matri	x (F2)		Redu	iced Vertic (F18)
Organic	Bodies (A6) (LRR P,	, T, U)	Depleted Ma	atrix (F3)			(ou	itside MLRA 150A, 150B)
5 cm Mu	ucky Mineral (A7) (LR	RR P, T, U)	Redox Dark	Surface	(F6)		Piedr	mont Floodplain Soils (F19) (LRR P, T
Muck Pr	esence (A8) (LRR U)	Depleted Da	ark Surfa	ce (F7)		Anon	nalous Bright Floodplain Soils (F20)
1 cm Mu	uck (A9) (LRR P, T)		Redox Depr	essions	(F8)		(MI	LRA 153B)
Depleted	d Below Dark Surface	e (A11)	Marl (F10) (LRR U)			Red I	Parent Material (F21)
Thick Da	ark Surface (A12)		Depleted O	chric (F1	1) (MLRA	A 151)		Shallow Dark Surface (F22)
Coast P	rairie Redox (A16) (N	ILRA 150A) Iron-Mangai	nese Ma	sses (F12	2) (LRR C), P, T) (ou	Itside MLRA 138, 152A in FL, 154)
	/ucky Mineral (S1) (L		Umbric Surf					er Islands Low Chroma Matrix (TS7)
Sandy G	Bleyed Matrix (S4)		Delta Ochrid	c (F17) (I	MLRA 15	1)	(MI	LRA 153B, 153D)
Sandy R	Redox (S5)		Reduced Ve	ertic (F18	B) (MLRA	150A, 15	50B) Othe	r (Explain in Remarks)
Stripped	Matrix (S6)		Piedmont F	oodplair	Soils (F	19) (MLR		
	rface (S7) (LRR P, S	5, T, U)	Anomalous	•		<i>,</i> .	•	
	e Below Surface (S8	-	(MLRA 14	•	•	`	,	cators of hydrophytic vegetation and
-	S, T, U)		Very Shallo					etland hydrology must be present,
,			(MLRA 13		`	,		less disturbed or problematic.
Restrictive	Layer (if observed):							
Type:								
Depth (i	nches):						Hydric Soil Pre	sent? Yes <u>No X</u>
Remarks:								

		W7
U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is	-	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Line 243 Relocation	City/County: Havelock/	Craven Sampling Date: 10-27-2020
Applicant/Owner: PNG (easement only)		State: NC Sampling Point: DP13
	ection. Township. Range:	0
Landform (hillside, terrace, etc.): <u>floodplain</u> Loca	,	
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.93004		
Soil Map Unit Name: Masontown mucky fine sandy loam and Muckalee		NWI classification: PFO6F
Are climatic / hydrologic conditions on the site typical for this time of year		No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly dist		
Are Vegetation, Soil, or Hydrologynaturally problem		lain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	Is the Sampled Area within a Wetland?	Yes <u>X</u> No
Remarks:	<u> </u>	
HYDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required: check all that apply)		Surface Soil Cracks (B6)
X Surface Water (A1) Aquatic Fauna (B13)		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (L		X Drainage Patterns (B10) Moss Trim Lines (B16)
Saturation (A3) Hydrogen Sulfide Odo Water Marks (B1) Oxidized Rhizosphere		Dry-Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduced	σ, , ,	Crayfish Burrows (C8)
X Drift Deposits (B3)	in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface (C		X Geomorphic Position (D2)
Iron Deposits (B5)Other (Explain in Rem	arks)	Shallow Aquitard (D3)
X Inundation Visible on Aerial Imagery (B7) X Water-Stained Leaves (B9)	r	X FAC-Neutral Test (D5)
Field Observations:	<u>_</u>	Sphagnum Moss (D8) (LRR T, U)
Surface Water Present? Yes X No Depth (inches	s): 12	
Water Table Present? Yes X No Depth (inches		
Saturation Present? Yes X No Depth (inches		Hydrology Present? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if av	/ailable:
Remarks:		

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Taxodium distichum	30	Yes	OBL	Number of Dominant Species
2. Nyssa biflora	20	Yes	OBL	That Are OBL, FACW, or FAC: 7 (A)
3. Quercus michauxii	10	No	FACW	Total Number of Dominant
4				Species Across All Strata: 7 (B)
5.				Percent of Dominant Species
6.		·		That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	60	=Total Cover		OBL species x 1 =
50% of total cover:		6 of total cover:	12	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species x 3 =
1. Carpinus caroliniana	′ 20	Yes	FAC	FACU species x 4 =
2. Persea borbonia		Yes	FACW	
3. Leucothoe fontanesiana	10	Yes	FACW	Column Totals: (A) (B)
4. Vaccinium corymbosum	5	No	FACW	Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	45	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:		- % of total cover:	9	
Herb Stratum (Plot size: 15*15)	20,			
	20	Vee	OBL	
		Yes		¹ Indicators of hydric soil and wetland hydrology must be
2. Boehmeria cylindrica		<u>No</u>	FACW	present, unless disturbed or problematic.
3. Osmundastrum cinnamomeum	2	No	FACW	Definitions of Four Vegetation Strata:
4. Osmunda spectabilis	2	No	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of height.
6				neight.
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9.				
10.				
11				Herb – All herbaceous (non-woody) plants, regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11 12				of size, and woody plants less than 3.28 ft tall.
12.		=Total Cover		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
12 50% of total cover:	-	=Total Cover % of total cover:	6	of size, and woody plants less than 3.28 ft tall.
12	-		6	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
12 50% of total cover:	-		6 FAC	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
12	<u>15</u> 20%)	6 of total cover:		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
12	<u>15</u> 20%)	6 of total cover:		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
12	<u>15</u> 20%)	6 of total cover:		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
12	<u>15</u> 20%)	6 of total cover:		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. Smilax rotundifolia 2. 3. 4.	<u>15</u> 209) 5 	6 of total cover: Yes		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. Smilax rotundifolia 2. 3. 4. 5.	<u>15</u> 209) 5 5	6 of total cover: Yes 		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. <u>Smilax rotundifolia</u> 2. 3. 3. 4. 5. 50% of total cover:	15 209) 5 5 5 5 5 5 5 3 209	6 of total cover: Yes		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. Smilax rotundifolia 2. 3. 4. 5.	15 209) 5 5 5 5 5 5 5 3 209	6 of total cover: Yes 		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. <u>Smilax rotundifolia</u> 2. 3. 3. 4. 5. 50% of total cover:	15 209) 5 5 5 5 5 5 5 3 209	6 of total cover: Yes 		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. <u>Smilax rotundifolia</u> 2. 3. 3. 4. 5. 50% of total cover:	15 209) 5 5 5 5 5 5 5 3 209	6 of total cover: Yes 		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
12. 50% of total cover: <u>Woody Vine Stratum</u> (Plot size: 15*15 1. <u>Smilax rotundifolia</u> 2. 3. 3. 4. 5. 50% of total cover:	15 209) 5 5 5 5 5 5 5 3 209	6 of total cover: Yes 		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation

Profile Desc	cription: (Describe	to the dep	th needed to doc	ument t	he indica	ator or co	onfirm the	absence o	of indicators.)			
Depth	Matrix			Redox Features								
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Tex	ture	Remarks			
0-5	10YR 2/1	100					Mucky Loam/Clay					
5-14	10YR 5/1 60		10YR 2/1	40	С	М	Loamy/Clayey		Distinct redox cor	x concentrations		
		·										
	oncentration, D=Dep					d Grains.			PL=Pore Lining, M=Mat			
Histosol		ible to all	RRs, unless otherwise noted.) Thin Dark Surface (S9) (LRR S, T, U)					Indicators for Problematic Hydric Soils ³ : 1 cm Muck (A9) (LRR O)				
	pipedon (A2)	Barrier Islands 1 cm Muck (S12)					2 cm Muck (A10) (LRR S)					
	stic (A3)		(MLRA 153B, 153D)					Coast Prairie Redox (A16)				
	en Sulfide (A4)	•	Loamy Mucky Mineral (F1) (LRR O)					(outside MLRA 150A)				
_ · ·	d Layers (A5)		Loamy Gleyed Matrix (F2)					d Vertic (F18)				
	Bodies (A6) (LRR P,		X Depleted Matrix (F3)					ide MLRA 150A, 150B	`			
Ŭ	icky Mineral (A7) (LR	Redox Dark Surface (F6)					Piedmont Floodplain Soils (F19) (LRR P, T					
	esence (A8) (LRR U		Depleted Dark Surface (F7)					Anomalous Bright Floodplain Soils (F20)				
	ick (A9) (LRR P, T)	·	Redox Depressions (F8)					(MLRA 153B)				
	d Below Dark Surface	Marl (F10) (LRR U)					Red Parent Material (F21)					
·	ark Surface (A12)		Depleted Ochric (F11) (MLRA 151)					Very Shallow Dark Surface (F22)				
	rairie Redox (A16) (N	·	Iron-Manganese Masses (F12) (LRR O, P, T									
	lucky Mineral (S1) (L	·	Umbric Surface (F13) (LRR P, T, U)					Barrier Islands Low Chroma Matrix (TS7)				
	Bleyed Matrix (S4)		Delta Ochric (F17) (MLRA 151)					(MLRA 153B, 153D)				
	Redox (S5)		Reduced Vertic (F18) (MLRA 150A, 150B)									
	Matrix (S6)	Piedmont Fl	•	<i>,</i> .			,					
	rface (S7) (LRR P, S		Anomalous Bright Floodplain Soils (F20)									
	e Below Surface (S8		(MLRA 149A, 153C, 153D)					³ Indicators of hydrophytic vegetation and				
	S, T, U)	•	Very Shallow Dark Surface (F22)					wetland hydrology must be present,				
•	· · · ·		(MLRA 13			,			s disturbed or problem			
Restrictive	Layer (if observed):											
Type:	- · ·											
Depth (ii	nches):						Hydric	Soil Prese	nt? Yes <u>X</u>	No		
Remarks:							1					

W7 - UPL

WETLAND DETERMINATION DATA	Corps of Engineers SHEET – Atlantic and Gulf Coasta he proponent agency is CECW-	•	Requirement Con	10-xxxx, Exp: Pending trol Symbol EXEMPT: 5-15, paragraph 5-2a)			
Project/Site: Line 243 Relocation	City/Cou	nty: Havelock/Crav	ven Sa	mpling Date: 10-27-20			
Applicant/Owner: PNG (easement only)		- <u> </u>	State: NC Sa	mpling Point: DP14			
Investigator(s): AB/WC	Section, Tow	nship, Range:					
Landform (hillside, terrace, etc.): hillslope		cave, convex, none); none	Slope (%): 5-10			
Subregion (LRR or MLRA): LRR T, MLRA 1		Long: -76.94		Datum: NAD83			
		Long70.92					
Soil Map Unit Name: Norfolk loamy fine sar			NWI classification:				
Are climatic / hydrologic conditions on the sit	,,			ain in Remarks.)			
Are Vegetation, Soil, or Hydro			nstances" present?	Yes X No			
Are Vegetation, Soil, or Hydro	logynaturally problematic?	(If needed, explain	any answers in Rema	rks.)			
SUMMARY OF FINDINGS – Attack	site map showing sampling p	oint locations	, transects, impo	rtant features, etc			
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes No X within a	mpled Area Wetland?	Yes No	o_X_			
Wetland Hydrology Present?	Yes NoX						
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is requ Surface Water (A1)	ired: check all that apply) Aquatic Fauna (B13)	<u>Sec</u>	condary Indicators (min Surface Soil Cracks (I Sparsely Vegetated C	,			
High Water Table (A2)	Marl Deposits (B15) (LRR U)		Drainage Patterns (B10)				
Saturation (A3)	Hydrogen Sulfide Odor (C1)		Moss Trim Lines (B16)				
Water Marks (B1)	Oxidized Rhizospheres on Living	Roots (C3)	Dry-Season Water Ta	. ,			
Sediment Deposits (B2)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So		Crayfish Burrows (C8)				
Drift Deposits (B3) Algal Mat or Crust (B4)	Thin Muck Surface (C7)		Saturation Visible on A Geomorphic Position				
Iron Deposits (B5)	Other (Explain in Remarks)	,					
Inundation Visible on Aerial Imagery (B			FAC-Neutral Test (D5				
Water-Stained Leaves (B9)			Sphagnum Moss (D8)	(LRR T, U)			
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	No X Depth (inches): No X Depth (inches): No X Depth (inches): No X Depth (inches): onitoring well, aerial photos, previous instant		ology Present? ble:	Yes <u>No X</u>			
Remarks:							

	Absolute	Dominant	Indicator						
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:					
1. Liquidambar styraciflua	20			Number of Dominant Species					
2. Liriodendron tulipifera	15	Yes	FACU	That Are OBL, FACW, or FAC: 8 (A)					
3. Acer rubrum	10	No	FAC	Total Number of Dominant					
4. Quercus nigra	10	No	FAC	Species Across All Strata: 12 (B)					
5. Nyssa biflora	5	No	OBL	Percent of Dominant Species					
6				That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)					
7.				Prevalence Index worksheet:					
8.				Total % Cover of: Multiply by:					
	60	=Total Cover		OBL species x 1 =					
50% of total cover:	30 20%	of total cover:	12	FACW species x 2 =					
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species x 3 =					
1. Carpinus caroliniana	10	Yes	FAC	FACU species x 4 =					
2. Persea borbonia	10	Yes	FACW	UPL species x 5 =					
3. Magnolia tripetala	10	Yes	FACU	Column Totals: (A) (B)					
4. Vaccinium corymbosum	10	Yes	FACW	Prevalence Index = B/A =					
5. Leucothoe fontanesiana	15	Yes	FACW	Hydrophytic Vegetation Indicators:					
6. Callicarpa americana	15	Yes	FACU	1 - Rapid Test for Hydrophytic Vegetation					
7.	15	165	TACO	X 2 - Dominance Test is >50%					
8.									
o	70	Tatal Causer		3 - Prevalence Index is $\leq 3.0^{1}$					
500/ // /	70	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)					
	35 20%	of total cover:	14						
Herb Stratum (Plot size: 10*10)									
1. Athyrium asplenioides	10	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be					
2. <u>Mitchella repens</u>	5	Yes	FACU	present, unless disturbed or problematic.					
3. Hexastylis arifolia	2	No	FAC	Definitions of Four Vegetation Strata:					
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or					
5				more in diameter at breast height (DBH), regardless of					
6				height.					
7				Sapling/Shrub – Woody plants, excluding vines, less					
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.					
9.									
10				Herb – All herbaceous (non-woody) plants, regardless					
11				of size, and woody plants less than 3.28 ft tall.					
12									
	17	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in					
50% of total cover:	9 20%	of total cover:	4	height.					
Woody Vine Stratum (Plot size: 10*10)									
1. Smilax rotundifolia	5	Yes	FAC						
2. Toxicodendron radicans	5	Yes	FAC						
3.									
4.									
5.									
	10	=Total Cover		Hydrophytic					
50% of total cover:		of total cover:	2	Vegetation Present? Yes X No					
Remarks: (If observed, list morphological adaptation	ons below.)								

Profile Desc	ription: (Describe t	o the dep	in needed to doc	ument t	ne muica	tor or co	ntirm the	e absence	of indi	cators.)		
Depth	Matrix	Redox Features										
inches) Color (moist) %			Color (moist)	%	Type ¹	Loc ²	Texture		Remarks			
0-12	10YR 2/2 100					<u> </u>	Loamy/Clayey					
									·			
									·			
									·			
Туре: С=Сс	oncentration, D=Deple	etion, RM=	Reduced Matrix, N	/IS=Mas	ked Sand	Grains.		² Location:	PL=Po	re Lining, M	=Matrix.	
lydric Soil I	ndicators: (Applical	ble to all I	RRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils ³ :				
Histosol	(A1)		Thin Dark Surface (S9) (LRR S, T, U)					1 cm Muck (A9) (LRR O)				
Histic Ep	ipedon (A2)	Barrier Islands 1 cm Muck (S12)					2 cm Muck (A10) (LRR S)					
Black His	stic (A3)	(MLRA 153B, 153D)					Coast Prairie Redox (A16)					
Hydroge	n Sulfide (A4)	Loamy Mucky Mineral (F1) (LRR O)					(outside MLRA 150A)					
Stratified	l Layers (A5)	Loamy Gleyed Matrix (F2)					Reduced Vertic (F18)					
Organic	Bodies (A6) (LRR P,	Depleted Matrix (F3)					(outside MLRA 150A, 150B)					
5 cm Mu	cky Mineral (A7) (LR	R P, T, U)	Redox Dark Surface (F6)					Piedmont Floodplain Soils (F19) (LRR P, 1				
	esence (A8) (LRR U)		Depleted Dark Surface (F7)					Anomalous Bright Floodplain Soils (F20)				
	ck (A9) (LRR P, T)		Redox Depressions (F8)					(MLRA 153B)				
	Below Dark Surface	Marl (F10) (LRR U)					Red Parent Material (F21)					
	rk Surface (A12)	Depleted Ochric (F11) (MLRA 151)					Very Shallow Dark Surface (F22)					
	airie Redox (A16) (M) (outside MLRA 138, 152A in FL, 154)					
	lucky Mineral (S1) (LI	Umbric Surface (F13) (LRR P, T, U)					Barrier Islands Low Chroma Matrix (TS7)					
_	leyed Matrix (S4)	Delta Ochric (F17) (MLRA 151)					(MLRA 153B, 153D)					
	edox (S5)	Reduced Vertic (F18) (MLRA 150A, 150B)					Other (Explain in Remarks)					
	Matrix (S6)	Piedmont Floodplain Soils (F19) (MLRA 149A)						(-)		
	face (S7) (LRR P, S,	T. U)	Anomalous	•		<i>,</i> .						
	e Below Surface (S8)		(MLRA 149A, 153C, 153D)					³ Indicators of hydrophytic vegetation and				
	S, T, U)	-	Very Shallow Dark Surface (F22)				wetland hydrology must be present,					
(-, -, -, -,	(MLRA 138, 152A in FL, 154)					unless disturbed or problematic.					
Restrictive L	ayer (if observed):											
Туре:												
Depth (inches):						Hvdric	Soil Pres	ent?	Yes	No	Х	

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)	
Project/Site: Line 243 Relocation	City/County: Havelock/Crav	ven Sampling Date: 10-27-2020
Applicant/Owner: PNG (easement only)		State: NC Sampling Point: DP15
	ection, Township, Range:	
	I relief (concave, convex, none	e): concave Slope (%): 3-5
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.92899	Long: -76.94	·
Soil Map Unit Name: Suffolk loamy sand, 10-30% slopes	Eong	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year	? Yes X N	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly dist		mstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problem		any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations	s, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	Is the Sampled Area within a Wetland?	Yes <u>X</u> No
HYDROLOGY		
Wetland Hydrology Indicators:	Sec	condary Indicators (minimum of two required)
Primary Indicators (minimum of one is required: check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15) (L		Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
X Saturation (A3) Hydrogen Sulfide Odo		Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizospheres		Dry-Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduced		Crayfish Burrows (C8)
Drift Deposits (B3)	in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface (C		Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in Rem		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	<u></u>	FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes NoX Depth (inchest)	·)•	
Surface Water Present? Yes No X Depth (inches Water Table Present? Yes No X Depth (inches		
Saturation Present? Yes X No Depth (inches		rology Present? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if availa	ble:
Remarks:		

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 20*20)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	35	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	20	Yes	FAC	That Are OBL, FACW, or FAC: 5 (A)
3. <u>Salix nigra</u>	5	No	OBL	Total Number of Dominant
4				Species Across All Strata: 5 (B)
5				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	60	=Total Cover		OBL species 5 x 1 = 5
50% of total cover: 3	0 20%	of total cover:	12	FACW species 0 x 2 = 0
Sapling/Shrub Stratum (Plot size: 20*20)				FAC species 120 x 3 = 360
1. Ligustrum sinense	45	Yes	FAC	FACU species $0 x 4 = 0$
2. Acer rubrum	15	Yes	FAC	UPL species 0 x 5 = 0
3.				Column Totals: 125 (A) 365 (B)
4.				Prevalence Index = $B/A = 2.92$
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				X 3 - Prevalence Index is $\leq 3.0^{1}$
o				Problematic Hydrophytic Vegetation ¹ (Explain)
		=Total Cover	40	
	20%	of total cover:	12	
Herb Stratum (Plot size: 10*10)				
				¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6				height.
7				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:		of total cover:		height.
Woody Vine Stratum (Plot size: 10*10)				
1. Toxicodendron radicans	5	Yes	FAC	
2.		100	1710	
4.				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	320%	of total cover:		Present? Yes X No
Remarks: (If observed, list morphological adaptatio	ns below.)			

	ription: (Describe	to the dep				ator or co	onfirm the	e absence c	or indicators.)		
Depth (inchos)	Matrix Color (moist)	%	Color (moist)	x Featur %	res Type ¹	Loc ²	То	dure	Remarks		
inches)		70		70	туре	LUC	163	Ruie	Reindiks		
0-6	10YR 2/2	100					Loamy	/Clayey			
6-14	10YR 5/2	70	10YR 4/6	30	С	PL	Loamy	/Clayey	Prominent redox concentrations		
Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, I	 MS=Mas	ked Sand			² Location: F	PL=Pore Lining, M=Matrix.		
	Indicators: (Applica								or Problematic Hydric Soils ³ :		
Histosol	(A1)		Thin Dark S	urface (S	59) (LRR	S, T, U)	-	1 cm Mu	uck (A9) (LRR O)		
Histic Ep	oipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)	_	2 cm Mu	uck (A10) (LRR S)		
Black Histic (A3)			(MLRA 15	53B, 153	D)		_	Coast P	rairie Redox (A16)		
Hydrogen Sulfide (A4)			Loamy Mucl	Loamy Mucky Mineral (F1) (LRR O)					(outside MLRA 150A)		
Stratified	Loamy Gleyed Matrix (F			x (F2)			Reduce	d Vertic (F18)			
Organic	Bodies (A6) (LRR P, T, U) X Depleted Matrix			atrix (F3)	1			(outsi	ide MLRA 150A, 150B)		
5 cm Mu	icky Mineral (A7) (LR	RR P, T, U)	Redox Dark	Surface	(F6)			Piedmo	nt Floodplain Soils (F19) (LRR P, T		
Muck Pre	esence (A8) (LRR U)	Depleted Da	ark Surfa	ce (F7)		•	Anomal	ous Bright Floodplain Soils (F20)		
1 cm Mu	ick (A9) (LRR P, T)		Redox Depr	essions	(F8)		-	(MLR	A 153B)		
X Depleted	Below Dark Surface	e (A11)	Marl (F10) (LRR U)				Red Pa	rent Material (F21)		
Thick Da	ark Surface (A12)	. ,	Depleted Oc	hric (F1	1) (MLRA	A 151)	-	Very Sh	allow Dark Surface (F22)		
Coast Pr	rairie Redox (A16) (N	ILRA 150	A) Iron-Mangar	nese Ma	sses (F12	2) (LRR (), P, T)	(outsi	de MLRA 138, 152A in FL, 154)		
	lucky Mineral (S1) (L		Umbric Surf			<i>,</i> .		Barrier I	slands Low Chroma Matrix (TS7)		
 Sandy G	Bleyed Matrix (S4)		Delta Ochric	`	<i>,</i> .		•		A 153B, 153D)		
	edox (S5)		Reduced Ve			•	50B)	•	Explain in Remarks)		
	Matrix (S6)		Piedmont FI		<i>,</i> .		· ·	`	. ,		
	rface (S7) (LRR P, S	5, T, U)	Anomalous	•		<i>,</i> .					
	e Below Surface (S8	-	(MLRA 14	-			,	³ Indicate	ors of hydrophytic vegetation and		
	S, T, U)	,	Very Shallov						nd hydrology must be present,		
,			(MLRA 13						s disturbed or problematic.		
Restrictive L	Layer (if observed):										
Туре:											
Depth (ir	nches):						Hydric	Soil Prese	nt? Yes <u>X</u> No		
Remarks:											

W8 - UPL

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)			
Project/Site: Line 243 Relocation City/County: Havelock/ Cra	ven Sampling Date: 10-27-2020			
Applicant/Owner: PNG (easement only)	State: NC Sampling Point: DP16			
Investigator(s): AB/AC Section, Township, Range:				
Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none	e): none Slope (%): 15-30			
	·			
Soil Map Unit Name: Suffolk loamy sand, 10-30% slopes	NWI classification: N/A			
	No (If no, explain in Remarks.)			
	mstances" present? Yes X No			
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain	any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations	s, transects, important features, etc.			
Hydrophytic Vegetation Present?YesXNoIs the Sampled AreaHydric Soil Present?YesNoXwithin a Wetland?	Yes No X			
Wetland Hydrology Present? Yes No X	Yes No_X			
Remarks:				
HYDROLOGY				
· · · · · · · · · · · · · · · · · · ·	condary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required: check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10) Moss Trim Lines (B16)			
Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)			
Sediment Deposits (B2) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)			
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4) Thin Muck Surface (C7)	Geomorphic Position (D2)			
Iron Deposits (B5) Other (Explain in Remarks)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)			
Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)			
Field Observations:				
Surface Water Present? Yes No X Depth (inches):				
Water Table Present? Yes No X Depth (inches): Wetland Hydr Saturation Present? Yes No X Depth (inches): Wetland Hydr	rology Present? Yes No X			
Saturation Present? Yes No X Depth (inches): Wetland Hydr (includes capillary fringe)	rology Present? Yes <u>No X</u>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if availa	ble:			

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species
2. Liriodendron tulipifera	20	Yes	FACU	That Are OBL, FACW, or FAC: <u>5</u> (A)
3. Liquidambar styraciflua	15	Yes	FAC	Total Number of Dominant
4.				Species Across All Strata: 7 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 71.4% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
		=Total Cover	10	OBL species 0 x 1 = 0
	33 20%	of total cover:	13	FACW species $0 x^2 = 0$
Sapling/Shrub Stratum (Plot size: 50*50))		540	FAC species 120 x 3 = 360
1. Ligustrum sinense	65	Yes	FAC	FACU species 24 $x 4 = 96$
2.				UPL species 10 $x 5 = 50$
3.				Column Totals: 154 (A) 506 (B)
4.				Prevalence Index = $B/A = 3.29$
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
	33 20%	of total cover:	13	
Herb Stratum (Plot size: 10*10)				
1. Asplenium platyneuron	2	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Polystichum acrostichoides	2	No	FACU	present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of height.
6				neight.
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	2 20%	of total cover:	1	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Wisteria sinensis	10	Yes	UPL	
2. Toxicodendron radicans	5	Yes	FAC	
3. Smilax rotundifolia	5	Yes	FAC	
4				
5			,	Hydrophytic
	20 =	=Total Cover		Vegetation
50% of total cover:1	10 20%	of total cover:	4	Present? Yes X No
Remarks: (If observed, list morphological adaptatio	ns below.)			
	,			

	ription: (Describe	to the dept				tor or co	onfirm th	e absence o	f indicators.)	
Depth	Matrix			x Featur			_		_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Te	xture	F	Remarks
0-2	10YR 2/2	100					Loamy	/Clayey		
2-14	10YR 3/3	100					Loamy	/Clayey		
						<u> </u>		·		
						<u> </u>				
21	oncentration, D=Dep					Grains.			L=Pore Lining,	
•	ndicators: (Applica	ble to all L							or Problematic	-
Histosol			Thin Dark S		<i>,</i> .				ıck (A9) (LRR O	•
Histic Ep	pipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)		2 cm Mu	uck (A10) (LRR	S)
Black His	stic (A3)		(MLRA 15	3B, 153	D)			Coast Pr	rairie Redox (A1	6)
Hydrogen Sulfide (A4)			Loamy Muck	y Miner	al (F1) (L	RR O)		(outside MLRA 150A)		
Stratified Layers (A5)			Loamy Gleyed Matrix (F2)					Reduced Vertic (F18)		
Organic	Bodies (A6) (LRR P,	, T, U)	Depleted Ma	trix (F3)				(outsid	de MLRA 150A	, 150B)
5 cm Mu	cky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)			Piedmor	nt Floodplain So	ils (F19) (LRR P, 1
Muck Pre	esence (A8) (LRR U))	Depleted Da	rk Surfa	ce (F7)			Anomalo	ous Bright Flood	Iplain Soils (F20)
1 cm Mu	ck (A9) (LRR P, T)		Redox Depre	essions	(F8)			(MLRA	A 153B)	
Depleted	Below Dark Surface	e (A11)	Marl (F10) (I	.RR U)				Red Par	ent Material (F2	:1)
Thick Da	ark Surface (A12)		Depleted Oc	hric (F1	1) (MLR A	151)		Very Sha	allow Dark Surfa	ace (F22)
Coast Pr	airie Redox (A16) (N	ILRA 150A) Iron-Mangar	ese Ma	sses (F12) (LRR C), P, T)	(outsid	de MLRA 138, ⁻	152A in FL, 154)
Sandy M	lucky Mineral (S1) (L	.RR O, S)	Umbric Surfa	ace (F13	B) (LRR P	, T, U)	-	Barrier Is	slands Low Chro	oma Matrix (TS7)
Sandy G	leyed Matrix (S4)		Delta Ochric			-		(MLRA	A 153B, 153D)	, , , , , , , , , , , , , , , , , , ,
	edox (S5)		Reduced Ve	• • •		•	50B)	•	xplain in Remai	rks)
	Matrix (S6)		Piedmont Fl	•	, .		-	`		
	face (S7) (LRR P, S	, T, U)	Anomalous I	•		<i>,</i> .				
	e Below Surface (S8		(MLRA 14	-	•	``		³ Indicato	ors of hydrophyti	ic vegetation and
	S, T, U)	,	Very Shallov	•		22)			nd hydrology mu	•
			(MLRA 13			,			s disturbed or p	•
Restrictive L	_ayer (if observed):									
Type:										
Depth (ir	nches):						Hydrid	c Soil Preser	nt? Yes	No X
Remarks:										

				W9)
U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf See ERDC/EL TR-07-24; the proponent agency is C	-	Requirement Contr	0-xxxx, Exp: Pending ol Symbol EXEMPT: -15, paragraph 5-2a)		
Project/Site: Line 243 Relocation 0	City/County: Havelock/Crav	ren San	npling Date: 10-27-2	2020	
Applicant/Owner: PNG (easement only)		State: NC San	-		
	on, Township, Range:			<u> </u>	
	lief (concave, convex, none): none	Slope (%): 0-2	<u>,</u>	
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.84496	Long: -76.88		Datum: NAD83		
Soil Map Unit Name: Pantego fine loamy sand	Long	NWI classification:	·		
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X N	lo (If no, explai			
		nstances" present?		v	
Are Vegetation X, Soil , or Hydrology significantly disturbed				<u>^</u>	
Are Vegetation, Soil, or Hydrologynaturally problemati		any answers in Remark	,		
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations	, transects, impor	tant features, e	tc.	
	s the Sampled Area vithin a Wetland?	Yes <u>X</u> No			
Remarks: Area within NCDOT ROW has been cleared					
HYDROLOGY					
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Aquatic Fauna (B13) X High Water Table (A2) Marl Deposits (B15) (LRR Saturation (A3) Hydrogen Sulfide Odor (C Water Marks (B1) Oxidized Rhizospheres or Sediment Deposits (B2) Presence of Reduced Iror Drift Deposits (B3) Recent Iron Reduction in Algal Mat or Crust (B4) Thin Muck Surface (C7) Iron Deposits (B5) Other (Explain in Remarks) Inundation Visible on Aerial Imagery (B7) X Water-Stained Leaves (B9)	U) 1) 1) 1 Living Roots (C3) (C4) Tilled Soils (C6) S) X	ondary Indicators (mini Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Moss Trim Lines (B16) Dry-Season Water Tab Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum Moss (D8)	6) oncave Surface (B8) 0) le (C2) erial Imagery (C9) D2)	-	
Field Observations:					
Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre-	Wetland Hydr	ology Present?	Yes X No	_	
Remarks:					

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species
2. Nyssa biflora	20	Yes	OBL	That Are OBL, FACW, or FAC: 7 (A)
3. Pinus taeda	15	Yes	FAC	Total Number of Dominant
4. Liquidambar styraciflua	10	No	FAC	Species Across All Strata: 8 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 87.5% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	75	=Total Cover		OBL species x 1 =
50% of total cover: 3	8 20%	of total cover:	15	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species x 3 =
1. Arundinaria gigantea	50	Yes	FACW	FACU species x 4 =
2. Persea borbonia	30	Yes	FACW	UPL species x 5 =
3. Vaccinium corymbosum	10	No	FACW	Column Totals: (A) (B)
4. Morella cerifera	5	No	FAC	Prevalence Index = B/A =
	5			Hydrophytic Vegetation Indicators:
5. <u>Acer rubrum</u>	5	No	FAC	
6.			······	1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 50%	0 20%	of total cover:	20	
Herb Stratum (Plot size: 10*10)				
1				¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9.				
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless
12.				of size, and woody plants less than 3.28 ft tall.
12.		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:		of total cover:		height.
	2078	or total cover.		
/	F	Vaa		
1. Smilax smallii	5	Yes	FACU	
2. Gelsemium sempervirens	5	Yes	FAC	
3. Smilax rotundifolia	5	Yes	FAC	
4.				
5.				Hydrophytic
	15	=Total Cover		Vegetation
50% of total cover:8	3 20%	of total cover:	3	Present? Yes X No
Remarks: (If observed, list morphological adaptation	ns below.)			•
	,			

	ription: (Describe	to the dep				tor or C	onfirm th	e absence	e of Indi	cators.)		
Depth	Matrix			x Feature		. 2	-					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	le	xture	·	Re	marks	
0-16	2.5Y 2.5/1	100					Mucky L	_oam/Clay				
									. <u> </u>			
Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, N	/IS=Mask	ked Sand	Grains.		² Location:	PL=Poi	re Lining, M	=Matrix.	
lydric Soil I	Indicators: (Applica	ble to all I	RRs, unless othe	erwise ne	oted.)			Indicators	s for Pro	blematic H	ydric Soils ³ :	:
Histosol	(A1)		Thin Dark S	urface (S	9) (LRR	S, T, U)		1 cm l	Muck (As	9) (LRR O)		
Histic Ep	oipedon (A2)		Barrier Islan	ds 1 cm l	Muck (S	12)		2 cm l	Muck (A	10) (LRR S)		
Black Hi	stic (A3)		(MLRA 15	3B, 153D	D)			Coast	Prairie I	Redox (A16))	
Hydroge	n Sulfide (A4)		Loamy Mucł	xy Minera	al (F1) (L	RR O)		(out	side ML	.RA 150A)		
Stratified	l Layers (A5)		Loamy Gley	ed Matrix	(F2)			Reduc	ced Verti	c (F18)		
Organic	Bodies (A6) (LRR P,	T, U)	Depleted Ma	trix (F3)				(out	side ML	.RA 150A, 1	50B)	
X 5 cm Mu	icky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)			Piedm	nont Floc	odplain Soils	s (F19) (LRR	P , T
Muck Pr	esence (A8) (LRR U))	Depleted Da	rk Surfac	ce (F7)			Anom	alous Br	ight Floodpl	ain Soils (F2	0)
1 cm Mu	ick (A9) (LRR P, T)		Redox Depr	essions (F8)			(ML	RA 1538	3)		
Depleted	d Below Dark Surface	e (A11)	Marl (F10) (I	.RR U)				Red P	arent Ma	aterial (F21)		
Thick Da	ark Surface (A12)		Depleted Oc	hric (F11) (MLR A	151)		Very S	Shallow I	Dark Surfac	e (F22)	
Coast Pr	rairie Redox (A16) (M	ILRA 150A) Iron-Mangar	ese Mas	ses (F12) (LRR (D, P, T)	(out	side ML	.RA 138, 15	2A in FL, 15	4)
Sandy N	lucky Mineral (S1) (L	RR O, S)	X Umbric Surfa	ace (F13)) (LRR P	, T, U)		Barrie	r Islands	Low Chron	na Matrix (TS	57)
Sandy G	ileyed Matrix (S4)		Delta Ochric	(F17) (N	ILRA 15	1)		(ML	RA 1538	3, 153D)		
Sandy R	edox (S5)		Reduced Ve	rtic (F18)) (MLRA	150A, 1	50B)	Other	(Explain	in Remarks	S)	
Stripped	Matrix (S6)		Piedmont Fl	oodplain	Soils (F	9) (MLR	RA 149A)					
Dark Su	rface (S7) (LRR P, S	, T, U)	Anomalous	Bright Flo	oodplain	Soils (F2	20)					
	e Below Surface (S8	-	(MLRA 14	9A, 1530	C, 153D)			³ Indica	ators of I	nydrophytic	vegetation ar	nd
	S, T, U)		Very Shallow	v Dark Su	urface (F	22)		wet	land hyd	Irology mus	t be present,	
			(MLRA 13	8, 152A	in FL, 1	54)		unle	ess distu	urbed or prol	blematic.	
Restrictive I	Layer (if observed):											
Type:	· · · · ·											
Depth (ir	nches):						Hydrid	Soil Pres	sent?	Yes	X No	
Remarks:												

W9 - UPL

U.S. Arm WETLAND DETERMINATION DATA See ERDC/EL TR-07-24;	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)			
Project/Site: Line 243 Relocation		City/County: Havelock/Cra	venSar	mpling Date: <u>10-27-2020</u>
Applicant/Owner: PNG (easement only	')		State: NC Sar	mpling Point: DP18
Investigator(s): AB/AC		Section, Township, Range:		
Landform (hillside, terrace, etc.): terrace		_ocal relief (concave, convex, none	e): none	Slope (%): 2-3
Subregion (LRR or MLRA): LRR T, MLRA		Long: -76.8	8250	Datum: NAD83
Soil Map Unit Name: Pantego fine sandy lo			NWI classification:	
Are climatic / hydrologic conditions on the s			No (If no, expla	
Are Vegetation <u>X</u> , Soil <u>X</u> , or Hydr		·		Yes No _X
Are Vegetation, Soil, or Hydr			any answers in Remar	
SUMMARY OF FINDINGS – Attac			-	
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes X No X Yes No X X	Is the Sampled Area within a Wetland?	Yes <u>No</u>	<u></u>
Remarks: data point is within disturbed NCDOT ROW	V. All vegetation has been	n recently removed and soil has be	een disturbed.	
HYDROLOGY				
Wetland Hydrology Indicators:		Sec	condary Indicators (mini	mum of two required)
Primary Indicators (minimum of one is requ	••••		Surface Soil Cracks (B	,
Surface Water (A1)	Aquatic Fauna (B1		Sparsely Vegetated Co	· · /
High Water Table (A2)	Marl Deposits (B15		Drainage Patterns (B1	,
Saturation (A3)	Hydrogen Sulfide (Odor (C1)	Moss Trim Lines (B16)	

	/					510)		
Saturation (A3)		Hydro	ogen Sulfide Odor (C1)		Moss Trim Lines (B16)			
Water Marks (B1)	Water Marks (B1) Oxidized Rhizospheres on Living Root					Table (C2)		
Sediment Deposits (B2	Sediment Deposits (B2) Presence of Reduced Iron (C4)				Crayfish Burrows (C	8)		
Drift Deposits (B3)		Rece	nt Iron Reduction in Tilled	Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4	.)	 Thin I	Muck Surface (C7)		Geomorphic Position	n (D2)		
Iron Deposits (B5)		Other	r (Explain in Remarks)		Shallow Aquitard (D	3)		
Inundation Visible on A	Aerial Imagery (B7)			FAC-Neutral Test (D			
Water-Stained Leaves	; (B9)				Sphagnum Moss (D	8) (LRR T, U)		
Field Observations:								
Surface Water Present?	Yes	No X	Depth (inches):	_				
Water Table Present?	Yes	No X	Depth (inches):					
Saturation Present?	Yes	No X	Depth (inches):	Wetland I	Hydrology Present?	Yes No X		
(includes capillary fringe)			·					
Describe Recorded Data (s	stream gauge, r	monitoring we	II, aerial photos, previous	inspections), if a	/ailable:			
Remarks:								

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1 2.				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 1 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
		=Total Cover		OBL species x 1 =
50% of total cover:		of total cover:		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species x 3 =
1.				FACU species x 4 =
2.				UPL species x 5 =
3.				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	:	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	20%	of total cover:		
Herb Stratum (Plot size: 15*15)				
1. Lolium perenne	90	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Trifolium repens	10	No	FACU	present, unless disturbed or problematic.
3. Plantago lanceolata	5	No	FACU	Definitions of Four Vegetation Strata:
4. Hydrocotyle umbellata	5	No	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
· · · · · · · · · · · · · · · · · · ·				
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	110	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover: 5	520%	of total cover:	22	height.
Woody Vine Stratum (Plot size:)				
1.				
2.				
3.				
4.				
5.				
·····		Total Cavar		Hydrophytic
500/ // / /		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes <u>No X</u>
Remarks: (If observed, list morphological adaptation	ns below.)			
Vegetation is within NCDOT maintained ROW				

	ription: (Describe	to the dep					minin th	e ausence of	mulcators.)	
Depth	Matrix			x Featur		1 2	т.		D	
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Ie	xture	Ren	narks
0-3	10YR 2/1	100					Loamy	//Clayey		
3-12	10YR 3/1	100					Loamy	//Clayey		
						·				
Type: C=Cc		letion. RM=	-Reduced Matrix. N	 //S=Mas	 ked Sanc	Grains.		² Location: PL	_=Pore Lining, M=	-Matrix.
21	ndicators: (Applica		· · · · ·						r Problematic Hy	0
Histosol	(A1)		Thin Dark S	urface (S	69) (LRR	S, T, U)		1 cm Muc	ck (A9) (LRR O)	
Histic Ep	ipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)		2 cm Muc	ck (A10) (LRR S)	
Black His	stic (A3)		(MLRA 15	3B, 153	D)	,	1	Coast Pra	airie Redox (A16)	
	n Sulfide (A4)		Loamy Much		•	RR O)	1		e MLRA 150A)	
_ ` `	Layers (A5)		Loamy Gley	•		,		•	Vertic (F18)	
	Bodies (A6) (LRR P,	. T. U)	Depleted Ma				,		e MLRA 150A, 1	50B)
	cky Mineral (A7) (LR		·	```				•	Floodplain Soils	•
	esence (A8) (LRR U)		Depleted Da		` '		,		us Bright Floodpla	
	ck (A9) (LRR P, T)	,	Redox Depr					(MLRA	•	
	Below Dark Surface	e (A11)	Marl (F10) (()			•	ent Material (F21)	
·	rk Surface (A12)	- ()	Depleted Oc		1) (MLRA	151)			llow Dark Surface	e (F22)
	airie Redox (A16) (M	ILRA 150A			<i>,</i> .). P. T)		e MLRA 138, 152	. ,
	lucky Mineral (S1) (L		X Umbric Surf		•	, 、	,,,,,,	•	lands Low Chrom	
	leyed Matrix (S4)		Delta Ochric		<i>,</i> .		•		153B, 153D)	
	edox (S5)		Reduced Ve	· / ·			50B)	•	plain in Remarks)
	Matrix (S6)		Piedmont FI							,
	face (S7) (LRR P, S	5. T. U)	Anomalous	•	•	, .				
	e Below Surface (S8	-	(MLRA 14			(• =	- /	³ Indicator	s of hydrophytic v	egetation and
	S, T, U)	,	Very Shallov	•	• •	22)			d hydrology must	0
,	, , - ,		(MLRA 13						disturbed or prob	
Restrictive L	_ayer (if observed):		-						· ·	
Type:										
Depth (ir	nches):						Hydric	: Soil Present	t? Yes >	(No
Remarks:										

W1	0

U.S. Arm WETLAND DETERMINATION DATA See ERDC/EL TR-07-24;	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)				
Project/Site: Line 243 Relocation	City/Count	y: Havelock/Cart	teretSampling Date: 10-27-202		
Applicant/Owner: PNG (easement only	/)		State: NC Sampling Point: DP19		
Investigator(s): AB/AC	Section, Towns	hip, Range:			
Landform (hillside, terrace, etc.): terrace	Local relief (conca	ive, convex, none	e): none Slope (%): 0-3		
Subregion (LRR or MLRA): LRR T, MLRA	153A Lat: 34.84032	Long: -76.88	8197 Datum: NAD83		
Soil Map Unit Name: Torhunta mucky fine			NWI classification: PFO3/4Bd		
Are climatic / hydrologic conditions on the	site typical for this time of year?	Yes X N	No (If no, explain in Remarks.)		
Are Vegetation X, Soil X, or Hyd			mstances" present? Yes No _ X		
Are Vegetation, Soil, or Hyd			any answers in Remarks.)		
			s, transects, important features, etc		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Is the Sam Yes X No within a W Yes X No	•	Yes <u>X</u> No		
HYDROLOGY					
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of two required)		
Primary Indicators (minimum of one is rec		<u> </u>	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)		
X Surface Water (A1) High Water Table (A2)	Aquatic Fauna (B13) Marl Deposits (B15) (LRR U)		Drainage Patterns (B10)		
Saturation (A3)	Hydrogen Sulfide Odor (C1)		Moss Trim Lines (B16)		
Water Marks (B1)	Oxidized Rhizospheres on Living Ro	oots (C3)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	· · ·	Crayfish Burrows (C8)		
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils	s (C6)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Thin Muck Surface (C7)		Geomorphic Position (D2)		
Iron Deposits (B5)	Other (Explain in Remarks)		Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)		
X Water-Stained Leaves (B9)		<u></u> X	_Sphagnum Moss (D8) (LRR T, U)		
Field Observations:					
Surface Water Present? Yes X	No Depth (inches):2				
Water Table Present? Yes X	No Depth (inches):				
Saturation Present? Yes X	No Depth (inches):	Wetland Hydi	rology Present? Yes X No		
(includes capillary fringe)	monitoring well, porial shotos, province incr	ontiona) if availa	able:		
Sound Recorded Data (Sileani yauye, I	nonitoring well, aerial photos, previous insp	outroj, ir avalla	auto.		

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1 2				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
3 4				Total Number of Dominant Species Across All Strata: 1 (B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
		=Total Cover		OBL species x 1 =
50% of total cover:	20%	of total cover:		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)				FAC species x 3 =
1. Arundinaria gigantea	20	Yes	FACW	FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: (A) (B)
4.				Prevalence Index = B/A =
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	20	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 1	0 20%	of total cover:	4	
Herb Stratum (Plot size:)				
· · · · · · · · · · · · · · · · · · ·				1
1 2				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less
9.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				
11.				Herb – All herbaceous (non-woody) plants, regardless
12.				of size, and woody plants less than 3.28 ft tall.
12.		Total Cover		Woody Vine All woody vince greater than 2.28 ft in
500/ - () - ()		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in height.
50% of total cover:	20%	of total cover:		
Woody Vine Stratum (Plot size:)				
1				
2				
3				
4				
5				Hydrophytic
	:	=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No
Remarks: (If observed, list morphological adaptatio Vegetation very highly disturbed during clearing by I		regetation pres	sent.	

	cription: (Describe	to the dep			dicator or c	confirm the	e absence of i	indicators.)
Depth	Matrix			x Features	1 . 2	_		
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Тур	be ¹ Loc ²	Tex	ture	Remarks
0-8	10YR 2/1	100				Mucky L	oam/Clay	
8-14	10YR 3/1	100				Loamy	/Clayey	
		·						
Type: C=Co	oncentration, D=Depl	letion, RM=	Reduced Matrix, N	/IS=Masked S	Sand Grains.	. 2	² Location: PL:	=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applica	ble to all I	LRRs, unless othe	erwise noted	.)	I		Problematic Hydric Soils ³ :
Histosol	(A1)		Thin Dark S	urface (S9) (L	.RR S, T, U)		1 cm Muc	k (A9) (LRR O)
Histic Ep	pipedon (A2)		Barrier Islan	ds 1 cm Mucł	k (S12)	-	2 cm Muc	k (A10) (LRR S)
Black Hi	stic (A3)		(MLRA 15	3B, 153D)		-	Coast Pra	irie Redox (A16)
Hydroge	n Sulfide (A4)		Loamy Mucl	ky Mineral (F1) (LRR O)		(outside	e MLRA 150A)
Stratified	d Layers (A5)		Loamy Gley	ed Matrix (F2))	_	Reduced V	Vertic (F18)
Organic	Bodies (A6) (LRR P,	T, U)	Depleted Ma	atrix (F3)			(outside	e MLRA 150A, 150B)
X 5 cm Mu	icky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface (F6)			Piedmont	Floodplain Soils (F19) (LRR P,
Muck Pr	esence (A8) (LRR U))	Depleted Da	irk Surface (F	7)		Anomalou	s Bright Floodplain Soils (F20)
1 cm Mu	ick (A9) (LRR P, T)		Redox Depr	essions (F8)			(MLRA	153B)
Depleted	d Below Dark Surface	e (A11)	Marl (F10) (LRR U)			Red Parer	nt Material (F21)
Thick Da	ark Surface (A12)		Depleted Oc	hric (F11) (M	LRA 151)	-	Very Shall	low Dark Surface (F22)
Coast Pr	rairie Redox (A16) (N	ILRA 150A) Iron-Mangar	nese Masses	(F12) (LRR	O, P, T)	(outside	e MLRA 138, 152A in FL, 154)
	lucky Mineral (S1) (L		X Umbric Surf				•	ands Low Chroma Matrix (TS7)
Sandy G	Bleved Matrix (S4)			: (F17) (MLR A		-		153B, 153D)
	edox (S5)			rtic (F18) (ML	•	50B)	•	plain in Remarks)
	Matrix (S6)			oodplain Soils		-	- \ - 1	- /
	rface (S7) (LRR P, S	. T. U)		Bright Floodp	· / ·			
	e Below Surface (S8			9A, 153C, 15	`	-/	³ Indicators	s of hydrophytic vegetation and
	S, T, U)	/	•	v Dark Surfac				I hydrology must be present,
(=	-, -, -,			8, 152A in Fl	· · ·			disturbed or problematic.
Restrictive I	Layer (if observed):		,		. /	1		
Type:								
Depth (ir	nches):					Hydric	Soil Present	? Yes X No
Remarks:								

W10 - UPL

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is	
Project/Site: Line 243 Relocation	City/County: Havelock/Carteret Sampling Date: 10-27-2020
Applicant/Owner: PNG (easement only)	State: NC Sampling Point: DP20
Investigator(s): AB/WC S	ection, Township, Range:
Landform (hillside, terrace, etc.): terrace Loca	I relief (concave, convex, none): convex Slope (%): 2-3
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.84259	Long: -76.88183 Datum: NAD83
Soil Map Unit Name: Torhunta mucky fine sandy loam	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of yea	? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly dist	urbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally problem	
	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes No X	Is the Sampled Area within a Wetland? Yes <u>No X</u>
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (I	
Saturation (A3) Hydrogen Sulfide Odd	r (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosphere	s on Living Roots (C3) Dry-Season Water Table (C2)
Sediment Deposits (B2)Presence of Reduced	
Drift Deposits (B3) Recent Iron Reduction This Mark of Cardinate (D4)	
Algal Mat or Crust (B4) Thin Muck Surface (C Iron Deposits (B5) Other (Explain in Rem	,
Inundation Visible on Aerial Imagery (B7)	X FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No _X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
Remarks:	

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 50*50)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liquidambar styraciflua	20	Yes	FAC	Number of Dominant Species
2. Pinus taeda	15	Yes	FAC	That Are OBL, FACW, or FAC:9 (A)
3. Acer rubrum	15	Yes	FAC	Total Number of Dominant
4				Species Across All Strata: 10 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 90.0% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	50	=Total Cover		OBL species x 1 =
50% of total cover:	25 20%	of total cover:	10	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species x 3 =
1. Arundinaria gigantea	25	Yes	FACW	FACU species x 4 =
2. Morella cerifera	15	Yes	FAC	UPL species x 5 =
3. Persea borbonia	10	No	FACW	Column Totals:(A)(B)
4. Quercus phellos	5	No	FACW	Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	55	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	28 20%	of total cover:	11	
Herb Stratum (Plot size: 10*10)				
1. Dichanthelium acuminatum	5	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be
2. Pteridium aquilinum	5	Yes	FACU	present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less
9.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
12	10	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
E0% of total approx			2	height.
	5 20%	of total cover:	2	g
Woody Vine Stratum (Plot size: 10*10)	~	N	FAC	
1. Vitis rotundifolia	5	Yes	FAC	
2. Gelsemium sempervirens	5	Yes	FAC	
3. Smilax rotundifolia	5	Yes	FAC	
4				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	8 20%	of total cover:	3	Present? Yes X No
Remarks: (If observed, list morphological adaptatic	ons below.)			

Profile Desc	ription: (Describe	to the dep	th needed to doc	ument t	he indica	tor or co	onfirm the	e absence of	indicators.)	
Depth	Matrix		Redo	x Featur						
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Tex	ture	R	emarks
0-6	10YR 2/1	100					Loamy	/Clayey		
6-12	10YR 3/1	100					Loamy	/Clayey		
		<u> </u>				<u> </u>		<u> </u>		
						<u> </u>				
		<u> </u>				<u> </u>				
Туре: С=Со	ncentration, D=Dep	letion, RM	Reduced Matrix, N	IS=Mas	ked Sand	Grains.	2	² Location: PL	_=Pore Lining, N	/I=Matrix.
lydric Soil I	ndicators: (Applica	ble to all	LRRs, unless othe	erwise r	oted.)		I	Indicators fo	r Problematic	Hydric Soils ³ :
Histosol ((A1)		Thin Dark St	urface (S	69) (LRR	S, T, U)	_	1 cm Muo	ck (A9) (LRR O))
Histic Ep	ipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)	-	2 cm Muo	ck (A10) (LRR S	5)
Black His	stic (A3)		(MLRA 15	3B, 153	D)			Coast Pra	airie Redox (A1	6)
Hydroger	Loamy Muck	y Miner	al (F1) (L	RR O)		(outsid	le MLRA 150A)			
Stratified	Layers (A5)		Loamy Gley	ed Matri	x (F2)		_	Reduced	Vertic (F18)	
Organic E	Bodies (A6) (LRR P	, T, U)	Depleted Ma	trix (F3)				(outsid	le MLRA 150A,	150B)
5 cm Mu	cky Mineral (A7) (LF	R P, T, U)	Redox Dark	Surface	(F6)		_	Piedmon	t Floodplain Soi	ls (F19) (LRR P,
Muck Pre	esence (A8) (LRR U)	Depleted Da	rk Surfa	ce (F7)			Anomalo	us Bright Flood	olain Soils (F20)
1 cm Muo	ck (A9) (LRR P, T)		Redox Depre	essions	(F8)			(MLRA	153B)	
Depleted	Below Dark Surface	e (A11)	Marl (F10) (I	.RR U)				Red Pare	ent Material (F21	1)
Thick Da	rk Surface (A12)		Depleted Oc	hric (F1	1) (MLRA	A 151)	-	Very Sha	llow Dark Surfa	ce (F22)
Coast Pra	airie Redox (A16) (N	ILRA 1504) Iron-Mangar	ese Ma	sses (F12	2) (LRR C), P, T) [–]	(outsid	le MLRA 138, 1	52A in FL, 154)
	ucky Mineral (S1) (L		X Umbric Surfa	ace (F13	B) (LRR P	, T, U)		Barrier Is	lands Low Chro	ma Matrix (TS7)
Sandy Gl	eyed Matrix (S4)	-	Delta Ochric	(F17) (MLRA 15	1)	-	(MLRA	153B, 153D)	· · · · ·
_	edox (S5)		Reduced Ve			•	60B)	•	plain in Remarl	ks)
Stripped	Matrix (S6)		Piedmont Fl	oodplair	Soils (F	19) (MLR	A 149A)			,
	face (S7) (LRR P, S	, T, U)	Anomalous I	•		<i>,</i> .				
	e Below Surface (S8	-	(MLRA 14	0	•	•	,	³ Indicator	rs of hydrophytic	c vegetation and
	5, T, U)	,	Very Shallov						d hydrology mu	-
,			(MLRA 13		`	,			disturbed or pro	•
	ayer (if observed):									
Туре:										
Depth (in	ches):						Hydric	Soil Presen	t? Yes_	<u>X</u> No
Remarks:										

		W11
U.S. Army Corps of E WETLAND DETERMINATION DATA SHEET – Atla See ERDC/EL TR-07-24; the proponer	antic and Gulf Coastal Plain Region	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Line 243 Relocation	City/County: Havelock/Ca	rteret Sampling Date: 10-27-2020
Applicant/Owner: PNG (easement only)		State: NC Sampling Point: DP21
Investigator(s): AB/WC	Section, Township, Range:	
Landform (hillside, terrace, etc.): terrace	Local relief (concave, convex, nor	ne): Slope (%): 1-3
Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34		38189 Datum: NAD83
Soil Map Unit Name: Rains fine sandy loam, 0-2% slopes		NWI classification: PFO3/4Bd
Are climatic / hydrologic conditions on the site typical for thi		No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysig		umstances" present? Yes X No
Are Vegetation, Soil, or Hydrology na		n any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s		s, transects, important reatures, etc.
	No Is the Sampled Area No within a Wetland?	Yes <u>X</u> No
HYDROLOGY		
Wetland Hydrology Indicators:	<u>Se</u>	econdary Indicators (minimum of two required)
Primary Indicators (minimum of one is required: check all		_Surface Soil Cracks (B6)
	Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
	n Sulfide Odor (C1)	C Drainage Patterns (B10) Moss Trim Lines (B16)
	Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
	e of Reduced Iron (C4)	Crayfish Burrows (C8)
	ron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
	ck Surface (C7)	Geomorphic Position (D2)
	xplain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)	<u> </u>	Sphagnum Moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes X No	Depth (inches): 12	
Surface Water Present? Yes X No Water Table Present? Yes X No	Depth (inches):	trology Present? Yes X No
Surface Water Present? Yes X No Water Table Present? Yes X No Saturation Present? Yes X No	Depth (inches):	drology Present? Yes X No
Surface Water Present? Yes X No Water Table Present? Yes X No	Depth (inches): Wetland Hyd	
Surface Water Present? Yes X No Water Table Present? Yes X No Saturation Present? Yes X No (includes capillary fringe) Ves Ves X	Depth (inches): Wetland Hyd	
Surface Water Present? Yes X No Water Table Present? Yes X No Saturation Present? Yes X No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	Depth (inches): Wetland Hyd	
Surface Water Present? Yes X No Water Table Present? Yes X No Saturation Present? Yes X No (includes capillary fringe) Ves Ves X	Depth (inches): Wetland Hyd	
Surface Water Present? Yes X No Water Table Present? Yes X No Saturation Present? Yes X No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	Depth (inches): Wetland Hyd	
Surface Water Present? Yes X No Water Table Present? Yes X No Saturation Present? Yes X No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	Depth (inches): Wetland Hyd	

Tree Stratum (Plot size: 50*50)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>1.</u>	/0 00001	000000	Oldius	
2.				Number of Dominant Species That Are OBL, FACW, or FAC:5(A)
3				Total Number of Dominant Species Across All Strata: 5 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
8		<u> </u>		Total % Cover of: Multiply by:
		=Total Cover		OBL species x 1 =
50% of total cover:	20%	of total cover:		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50))			FAC species x 3 =
1. Acer rubrum	10	Yes	FAC	FACU species x 4 =
2. Liquidambar styraciflua	10	Yes	FAC	UPL species x 5 =
3. Persea borbonia	10	Yes	FACW	Column Totals: (A) (B)
4. Morella cerifera	10	Yes	FAC	Prevalence Index = B/A =
5. Salix nigra	5	No	OBL	Hydrophytic Vegetation Indicators:
6. Baccharis halimifolia	5	No	FAC	1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8.				$3 - \text{Prevalence Index is } \leq 3.0^1$
o		=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
FOR of total anyon			40	
	25 20%	of total cover:	10	
Herb Stratum (Plot size: 10*10)				
1. Persicaria hydropiper	5	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be
2				present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
5.		_		more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8.				Sapling/Shrub – Woody plants, excluding vines, less
9.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11			. <u> </u>	of size, and woody plants less than 3.28 ft tall.
12				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	320%	of total cover:	1	height.
Woody Vine Stratum (Plot size:)				
1				
2				
4.				
5			. <u> </u>	Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No
Remarks: (If observed, list morphological adaptation	ns below.)			
	···· ,			

	cription: (Describe	to the dep					ommin ur	e absence of	mulcators.)		
Depth inches)	Matrix Color (moist)	%	Color (moist)	x Featur %	res Type ¹	Loc ²	Te	xture	Re	marks	
				70	турс	100				mano	
0-10	10YR 2/1	100					Mucky L	.oam/Clay			
10-14	10YR 4/2	100					Loamy	//Clayey			
Гуре: С=Со	oncentration, D=Dep	letion, RM=	Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.		² Location: Pl	L=Pore Lining, M	=Matrix.	
ydric Soil I	Indicators: (Applica	ble to all l	RRs, unless oth	erwise r	noted.)			Indicators fo	or Problematic H	lydric Soils ³ :	
Histosol	(A1)		Thin Dark S	urface (S	59) (LRR	S, T, U)		1 cm Mu	ck (A9) (LRR O)		
Histic Ep	oipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)		2 cm Mu	ck (A10) (LRR S)		
Black Histic (A3)					D)			Coast Pr	airie Redox (A16))	
Hydroge	n Sulfide (A4)		Loamy Mucl	ky Miner	al (F1) (L	RR O)		(outsic	de MLRA 150A)		
Stratified	d Layers (A5)		Loamy Gley	ed Matri	x (F2)		-	Reduced Vertic (F18)			
Organic	Bodies (A6) (LRR P	T, U)	Depleted Ma	atrix (F3))			(outsic	de MLRA 150A, 1	50B)	
X 5 cm Mu	icky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)		-	Piedmon	t Floodplain Soils	s (F19) (LRR P, T	
Muck Pr	esence (A8) (LRR U)	Depleted Da	irk Surfa	ice (F7)			Anomalo	us Bright Floodpl	ain Soils (F20)	
1 cm Mu	ick (A9) (LRR P, T)		Redox Depr	essions	(F8)			(MLRA	153B)		
Depleted	d Below Dark Surface	e (A11)	Marl (F10) (LRR U)				Red Pare	ent Material (F21))	
Thick Da	ark Surface (A12)		Depleted Oc	hric (F1	1) (MLRA	A 151)		Very Sha	allow Dark Surfac	e (F22)	
Coast Pr	rairie Redox (A16) (N	ILRA 150A) Iron-Mangar	nese Ma	sses (F12	2) (LRR	O, P, T)	(outsic	de MLRA 138, 15	2A in FL, 154)	
Sandy N	lucky Mineral (S1) (L	.RR O, S)	X Umbric Surf	ace (F13	B) (LRR F	P, T, U)		Barrier Is	lands Low Chron	na Matrix (TS7)	
Sandy G	leyed Matrix (S4)		Delta Ochric	(F17) (MLRA 15	1)		(MLRA	153B, 153D)		
Sandy R	edox (S5)		Reduced Ve	rtic (F18	B) (MLRA	150A, 1	50B)	Other (E:	xplain in Remarks	5)	
Stripped	Matrix (S6)		Piedmont Fl	oodplair	n Soils (F	19) (MLF	RA 149A)				
Dark Su	rface (S7) (LRR P, S	, T, U)	Anomalous	Bright F	loodplain	Soils (F2	20)				
Polyvalu	e Below Surface (S8)	(MLRA 14	9A, 153	C, 153D)			³ Indicato	rs of hydrophytic	vegetation and	
(LRR	S, T, U)		Very Shallov	v Dark S	Surface (F	22)			d hydrology mus	-	
-	-		(MLRA 13	8, 152A	in FL, 1	54)		unless	disturbed or prol	blematic.	
Restrictive I	Layer (if observed):										
Туре:											
Depth (ir	nches):						Hydric	: Soil Presen	t? Yes	X No	
emarks:											

W11 - UPL

U.S. Army Cor WETLAND DETERMINATION DATA SHEE See ERDC/EL TR-07-24; the pr	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)				
Project/Site: Line 243 Relocation	City/County: Havelock/Cart	teret Sampling Date: 10-27-2020			
Applicant/Owner: PNG (easement only)		State: NC Sampling Point: DP22			
Investigator(s): AB/WC	Section, Township, Range:				
Landform (hillside, terrace, etc.): terrace	Local relief (concave, convex, none	e): concave Slope (%): 2-5			
Subregion (LRR or MLRA): LRR T, MLRA 153A	Lat: 34.83716 Long: -76.8	8189 Datum: NAD83			
Soil Map Unit Name: Rains fine sandy loam, 0-29		NWI classification: N/A			
Are climatic / hydrologic conditions on the site typic	cal for this time of year? Yes X	No (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology		mstances" present? Yes X No			
Are Vegetation, Soil, or Hydrology		any answers in Remarks.)			
	map showing sampling point locations				
-	X No Is the Sampled Area				
	No X within a Wetland?	Yes No <u>_X_</u>			
Wetland Hydrology Present? Yes Remarks:	No <u>X</u>				
data form collected in existing maintained PNG ea	asement				
HYDROLOGY					
	Soc	conden (Indicators (minimum of two required)			
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: c		condary Indicators (minimum of two required) Surface Soil Cracks (B6)			
	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)			
	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)			
	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)			
Water Marks (B1)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)			
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)			
Drift Deposits (B3)	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Geomorphic Position (D2)				
	Other (Explain in Remarks)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)			
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)			
Field Observations:					
	X Depth (inches):				
Water Table Present? Yes No Saturation Present? Yes No		release No. Voc. No. V			
Saturation Present? Yes No (includes capillary fringe)	X Depth (inches): Wetland Hydr	rology Present? Yes <u>No X</u>			
	ng well, aerial photos, previous inspections), if availa	ble:			
······································					
Remarks:					

Tree Stratum (Plot size: 50*50)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2.				That Are OBL, FACW, or FAC:4 (A)
3. 4.				Total Number of DominantSpecies Across All Strata:66(B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
7	_			Prevalence Index worksheet:
8		·		Total % Cover of: Multiply by:
		=Total Cover		OBL species x 1 =
50% of total cover:	20%	of total cover:		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 50*50)			FAC species x 3 =
1. <u>Ilex coriacea</u>	45	Yes	FACW	FACU species x 4 =
2. Morella cerifera	20	Yes	FAC	UPL species x 5 =
3. <u>Pinus taeda</u>	15	No	FAC	Column Totals:(A)(B)
4. Liquidambar styraciflua	10	No	FAC	Prevalence Index = B/A =
5. <u>Persea borbonia</u>	5	No	FACW	Hydrophytic Vegetation Indicators:
6. <i>Rubus argutus</i>	5	No	FAC	1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8	_	<u></u> .		3 - Prevalence Index is ≤3.0 ¹
	100	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	50 20%	of total cover:	20	
Herb Stratum (Plot size: 10*10)				
1. Dichanthelium acuminatum	35	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be
2. Eupatorium capillifolium	10	Yes	FACU	present, unless disturbed or problematic.
3. Symphyotrichum pilosum	2	No	FAC	Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6	_			height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9.				
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				
	47	=Total Cover		Woody Vine - All woody vines greater than 3.28 ft in
50% of total cover:	24 20%	of total cover:	10	height.
Woody Vine Stratum (Plot size: 10*10)				
1. Gelsemium sempervirens	5	Yes	FAC	
2. Smilax smallii	5	Yes	FACU	
3.				
4.				
5.	_			
	10	=Total Cover		Hydrophytic Vegetation
50% of total cover:	5 20%	of total cover:	2	Present? Yes X No
Remarks: (If observed, list morphological adaptat	ions delow.)			

	ription: (Describe	to the dep				ator or cont	firm the absence o	of indicators.)		
Depth ()	Matrix			x Featur	4	12	Tardana	D		
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc ²	Texture	Re	marks	
0-12 10YR 3/2	10YR 3/2	60	10YR 4/2	20	D	Μ				
		10YR 5/6	20	<u> </u>	<u>M</u>		Prominent redox concentrations			
		<u> </u>								
		<u> </u>								
71	oncentration, D=Depl	,	,			d Grains.		PL=Pore Lining, M		
•	Indicators: (Applica	ble to all						or Problematic H	lydric Soils ³ :	
	Histosol (A1) Thin Dark Surface (S9) (LRR S, T, U)							1 cm Muck (A9) (LRR O)		
	pipedon (A2)	Barrier Islands 1 cm Muck (S12)						2 cm Muck (A10) (LRR S)		
Black Histic (A3) (MLRA 153B, 153D)						Coast Prairie Redox (A16)				
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR O)					(outsi	(outside MLRA 150A)				
Stratified Layers (A5) Loamy Gleyed Matrix (F2)						Reduced Vertic (F18)				
Organic Bodies (A6) (LRR P, T, U) Depleted Matrix (F3)						(outside MLRA 150A, 150B)				
5 cm Mucky Mineral (A7) (LRR P, T, U)			Redox Dark	Redox Dark Surface (F6)			Piedmor	Piedmont Floodplain Soils (F19) (LRR P, T)		
Muck Presence (A8) (LRR U)			Depleted Da	Depleted Dark Surface (F7)			Anomale	Anomalous Bright Floodplain Soils (F20)		
1 cm Muck (A9) (LRR P, T)			Redox Depr	Redox Depressions (F8)			(MLR/	(MLRA 153B)		
Depleted Below Dark Surface (A11)			Marl (F10) (Marl (F10) (LRR U)			Red Par	Red Parent Material (F21)		
Thick Dark Surface (A12)			Depleted Oc	Depleted Ochric (F11) (MLRA 151)			Very Sh	Very Shallow Dark Surface (F22)		
Coast Prairie Redox (A16) (MLRA 150A)			A) Iron-Mangar	Iron-Manganese Masses (F12) (LRR O, P, T)			P, T) (outsi	(outside MLRA 138, 152A in FL, 154)		
Sandy Mucky Mineral (S1) (LRR O, S)			Umbric Surf	Umbric Surface (F13) (LRR P, T, U)				Barrier Islands Low Chroma Matrix (TS7)		
Sandy Gleyed Matrix (S4) Delta Ochric (F17) (N				MLRA 15	1)	(MLRA 153B, 153D)				
Sandy Redox (S5) Reduced Vertic (F18) (MLRA 150A, 15						150A, 150	B) Other (E	xplain in Remark	5)	
Stripped	Matrix (S6)		Piedmont Fl	oodplain	Soils (F	19) (MLRA	149A)			
Dark Sur	face (S7) (LRR P, S	, T, U)	Anomalous	Bright Flo	oodplain	Soils (F20)				
Polyvalue Below Surface (S8) (MLRA 149A, 153C, 153D)				³ Indicators of hydrophytic vegetation and						
(LRR S, T, U)		-	Very Shallow Dark Surface (F22)				wetland hydrology must be present,			
-			(MLRA 13	(MLRA 138, 152A in FL, 154)				unless disturbed or problematic.		
Restrictive L	_ayer (if observed):									
T										
Type:	Depth (inches):						Hydric Soil Present? Yes No X			