



Soil & Environmental Consultants, PA

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December 20, 2004

S&EC Project No.: 04-9221.W1

Ballentine Associates
Attn: Glenn Phillips
221 Providence Road
Chapel Hill, NC 27514

Re: Detailed Wetlands Delineation and Cape Fear River Buffer Evaluation
Dixon Property
Farrington Village, Chatham County

Dear Mr. Phillips:

On December 14, 2004 S&EC conducted a detailed wetland delineation and Cape Fear River Buffer evaluation on the Dixon Property. The site is approximately 40 acres in size and is located on the south side of Mann's Chapel Road (SR 1532) approximately 1,750-feet southwest of the intersection of Poythress Road (SR 1534) and Mann's Chapel Road. Figure 1 shows the location of the site on a USGS topographic quadrangle.

EXECUTIVE SUMMARY

We have determined that wetlands and jurisdictional waters (i.e., streams, ponds, or lakes) exist on the site. The attached wetland sketch map depicts the approximate location of wetlands and jurisdictional waters identified on the site. Please refer to the sketch map and the results and recommendations section below for more detailed information.

SCOPE OF WORK

The detailed wetland delineation consisted of pedestrian reconnaissance of the property to examine the soils, vegetation, and hydrology for the presence of areas that meet the criteria for jurisdictional wetlands by the procedures described in the Corps of Engineers Wetlands Delineation Manual (January 1987 – Final Report). Areas on the site with positive indicators of hydric soils and evidence of wetland hydrology and hydrophytic vegetation were flagged with sequentially numbered, pink S&EC logo flagging. Proof of wetland hydrology would be the existence of hydric soils with oxidized root channels in the upper 12 inches of the soil profile,

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water borne deposits, drift lines, scour marks, drainage patterns, regional indicators of soil saturation, etc. Surface waters such as intermittent and perennial stream channels, ponds, and lakes, which are also subject to regulation by the US Army Corps of Engineers (USACE) as waters of the US, were also identified. These surface waters may also be referred to as jurisdictional waters to indicate that they are within the jurisdiction of the USACE. It is important to note that wetlands are also classified as waters of the US and regulated by the USACE.

The Cape Fear River Basin proposed rules would apply 50-foot wide riparian buffers directly adjacent to surface waters in the Cape Fear River Basin (intermittent streams, perennial streams, lakes, ponds, and estuaries), excluding wetlands. The proposed rule defines surface waters as features approximately shown on either the most recent version of the soil survey map prepared by the Natural Resource Conservation Service (NRCS) of the US Department of Agriculture (USDA) or the 7.5-minute quadrangle topographic maps prepared by the US Geologic Survey (USGS). Surface waters that appear on these maps are not subject only if an on-site determination by the NC Division of Water Quality (NC-DWQ) shows that they fall into one of the following categories:

- 1) Ditches and manmade conveyances other than modified natural streams;
- 2) Manmade ponds and lakes that are located outside natural drainage ways; or
- 3) Ephemeral (stormwater) streams.

S&EC's Cape Fear River buffer evaluation consisted of examining each feature on the site that is shown on the most recent version of the pertinent topographic map or soil survey for applicability to the Cape Fear River Basin riparian buffer rule using NC-DWQ stream evaluation techniques. Figure 2 shows the location of the site on the relevant Chatham County Soil Survey map.

RESULTS & RECOMMENDATIONS

The results of the detailed delineation of jurisdictional wetlands and other waters of the US along with the evaluation of surface waters on the site subject or potentially subject to the proposed Cape Fear River Basin riparian buffer rule are discussed below.

Wetlands and Jurisdictional Waters:

We have determined that wetlands and other jurisdictional waters (i.e., streams, ponds, or lakes) exist on the site. The attached wetland sketch map depicts the approximate location of wetlands and jurisdictional waters identified within the evaluated area. Please refer to the attached sketch map for specific flag numbers, sizes, and locations throughout the property. Wetlands on the site consist of headwater-forested wetlands along features A, B, C, and D on the attached sketch map. Feature A has an extensive wetland area throughout the drainage area. Feature B also has extensive wetland areas where it is an intermittent stream. However, the wetland areas are smaller and limited to the immediate streamside once the feature becomes a perennial stream.

The jurisdictional stream features located throughout the property include feature A, B, and D (see wetland sketch map). Feature A is an intermittent stream beginning at flag S-02 and stopping at flag S-01. Feature B contains an intermittent stream that enters the property from the north property line and becomes a perennial stream at and below flag S-03. Feature B remains a perennial stream disappearing below the ground, briefly, between flag S-04 and S-05. Feature B continues as a perennial stream below flag S-05 and remains so until it exits the south property line. Feature D is an intermittent stream beginning at flag S-06. Surface waters on this site drain into Wilkinson Creek, which has been classified in NC-DWQ's "Classification and Water Quality Standards Applicable to Surface Waters and Wetlands of North Carolina" as WS-IV; NSW (WS-IV surface freshwater classification, Nutrient Sensitive Waters DWQ supplemental classification). No other wetlands or jurisdictional waters were found within the project boundaries.

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All S&EC flags comprising the wetland and jurisdictional waters delineation should be surveyed and a Wetland Delineation Map generated for use in USACE approval and permitting.

Although not flagged, stream channels A, B, and D noted on the attached sketch map should be surveyed with stream widths noted at each survey point. The Wetland Delineation Map should include all of the information listed on the attached 'Requirements for Wetland Delineation Maps'. S&EC delineation flag numbers should be shown on the wetland survey. Please have the property owner complete the attached agent authorization form if you would like S&EC to act on their behalf for requesting approval of the wetland delineation. This form will also be used in preparing a permit application for impacts to wetlands or surface waters when we are provided with a plan showing the proposed impacts. **S&EC cannot conduct correspondence with the USACE unless we have agent authorization (see attached Agent Authorization). This authorization form must be filled out in its entirety by the current landowner and sent to S&EC (a faxed copy is acceptable).**

Cape Fear River Buffers:

The surface waters (i.e., intermittent streams, perennial streams, lakes, ponds or estuaries) potentially subject to the proposed 50-foot Cape Fear Buffers include features A, B and C. No other surface waters are indicated on either the USGS topographic or Chatham County Soil Survey maps. The only surface waters that S&EC actually believes are subject to the buffers consist of Feature A from flag S-02 to S-01 and Feature B from the north property line to flag S-04 and from flag S-05 to the south property line. If the Cape Fear River Buffer Rules are adopted prior to site plan approval, the NC-DWQ would have to confirm our determination regarding the subjectivity of the aforementioned channels in order for our determination to be valid. Other, local municipal stream buffers may also apply.

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REGULATIONS

Regulations that apply to jurisdictional wetlands and waters present on the site are discussed below.

Proposed Cape Fear River Buffer Rules

It was decided by the Environmental Management Commission that temporary Cape Fear River Basin Rules would not be enacted prior to adopting permanent rules. A specific date has not been set as to when the permanent Cape Fear Buffer Rules will be enacted. **It is important to note that the decision to not adopt temporary rules can be changed at any time.** The buffer rules will protect up to 50 feet from the edge of existing "surface waters" (i.e., intermittent streams, perennial streams, ponds, lakes and estuaries) found within the Cape Fear River Basin. The 50-foot buffer consists of two zones. The first zone is measured 30 feet landward from the top bank of streams and is intended to contain an undisturbed forested area. The second zone extends 20 feet landward from the edge of the first zone and is intended to contain a vegetated buffer. Grading with re-vegetating is permissible in Zone 2 (the outer 20 feet of the 50 foot buffer). Mitigation for road crossings is mandatory for impacts greater than 150 feet in width and utility lines running parallel and within Zone 1. Please call if you would like to discuss the uses/allowances within buffered areas. **In order for a project not to be subject to these buffer rules, an approved site specific plan for proposed impacts to wetlands and other waters of the US would have to be obtained from the USACE and the DWQ prior to enactment of the rules.**

← buffer info

Water Supply Waters Rules

Perennial streams within a classified water supply watershed require a 100-foot buffer for new development activities with greater than 24 percent "built upon" area (i.e., percent covered by impervious or partially impervious cover) and a 30-foot buffer for activities with less than 24 percent built upon area by the NC-DWQ. (These buffers are in addition to the 50-foot Cape Fear River Buffers. The stricter of the two buffers applies to these stream channels.) Other regulations may also apply.

Wetland Permitting

Wetland impact permits are issued on a per-project basis as determined by the USACE. The USACE has determined that impacts on parcels sub-divided from larger tracts are sometimes considered to be cumulative to existing impacts for the large tract. If this is the case, then thresholds as discussed below may not apply and impacts to wetlands must be considered in light of existing permits.

Preconstruction notification to the USACE and the NC-DWQ is not required for wetland impacts that meet the general conditions of Nationwide Permit 39 and that impact less than 1/10 acre per project. Preconstruction notification and approval by the USACE is required for wetland impacts that exceed 1/10 of an acre and /or any stream channel impacts. **Preconstruction notification and approval by the NC-DWQ is required for wetland impacts that exceed 1/10 of an acre**

if the property is west of I-95 or 1/3 of an acre if the project is east of I-95. **Preconstruction notification and approval by the NC-DWQ is required for any stream channel impacts within buffered basins (i.e. the Neuse, Tar-Pamlico, Randleman, and portions of the Catawba Basins) or for cumulative stream impacts that exceed 150 linear feet in non-buffered basins.** If development impacts exceed the thresholds for notification and proposed impervious area for the project or any part of the project exceeds 30%, then stormwater treatment to meet the pollutant removal design standard of 85% removal of total suspended solids (i.e., wet detention basins, stormwater wetlands, bioretention areas, etc.) and 30% of Nitrogen will likely be required by the NC-DWQ. The maximum permanent impact allowed per project under the nationwide permits is 1/2 acre of wetland and/or 300 linear feet of USACE important stream channel. Nationwide Permit 39 limits above-grade fills within 100-year floodplains specifically prohibiting above-grade fill within the floodway. Additionally, Nationwide Permit 39 limits stream channelization and relocation to streams with an average annual flow of less than 1cfs.

Per project impacts to vegetated wetlands in excess of 1 acre or impacts to streams that contain "significant aquatic function" in excess of 150 linear feet will most likely require mitigation by the NC-DWQ. The USACE may require mitigation for any wetland/jurisdictional waters impacts. Actual mitigation requirements are typically determined on a case-by-case basis. Wetland mitigation is a complex process that requires planning and monitoring. S&EC will discuss mitigation issues with you if we believe your project may require mitigation. Impacts to channels containing "significant aquatic function" in excess of the notification thresholds may require mitigation. Channel mitigation is typically intended to replace lost significant aquatic functions and values. Relocating channels is considered to be an adverse impact and typically results in mitigation within the new channel. Therefore, this type of mitigation usually requires that meanders be created within constructed channels. Side-slopes and beds be vegetated; riprap is discouraged.

A complete NC-DWQ 401 Water Quality Certification application for a Nationwide Permit has a maximum 60-day processing period. A complete USACE Nationwide Permit application has a 45-day processing period, while Individual Permit applications submitted to the USACE have no maximum processing periods. **The USACE requires that all impacts to wetlands or Waters of the US, less than 1/10 acre, be reported to the USACE within 30 days of the completion of construction.**

Nationwide Permits can potentially be utilized if the project is designed to impact up to 1/2 acre of jurisdictional wetlands or waters of the US including a maximum of 300 linear feet of important stream channel impact under NWP 39. Cumulative impacts per project over these nationwide thresholds will require an individual permit. Individual Permits require an analysis to determine that the proposed impact is the least environmentally damaging practical alternative, typically require compensatory mitigation, notification to adjacent property owners, a public notice, and may require a public hearing. All impacts greater than 1/10 acre require written justification.

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ADDITIONAL SERVICES

If you choose to have us perform additional work, the following is a list of additional services that apply: (1) Request that the USACE verify our delineation, and (2) Send notification to the USACE and NC-DWQ regarding impacts to jurisdictional areas and riparian buffers and address permitting issues, if required. This additional work can be completed at our hourly rates or a proposal can be generated. Please advise.

Please call Jason Payne if you need further explanation of the information provided.

Sincerely,

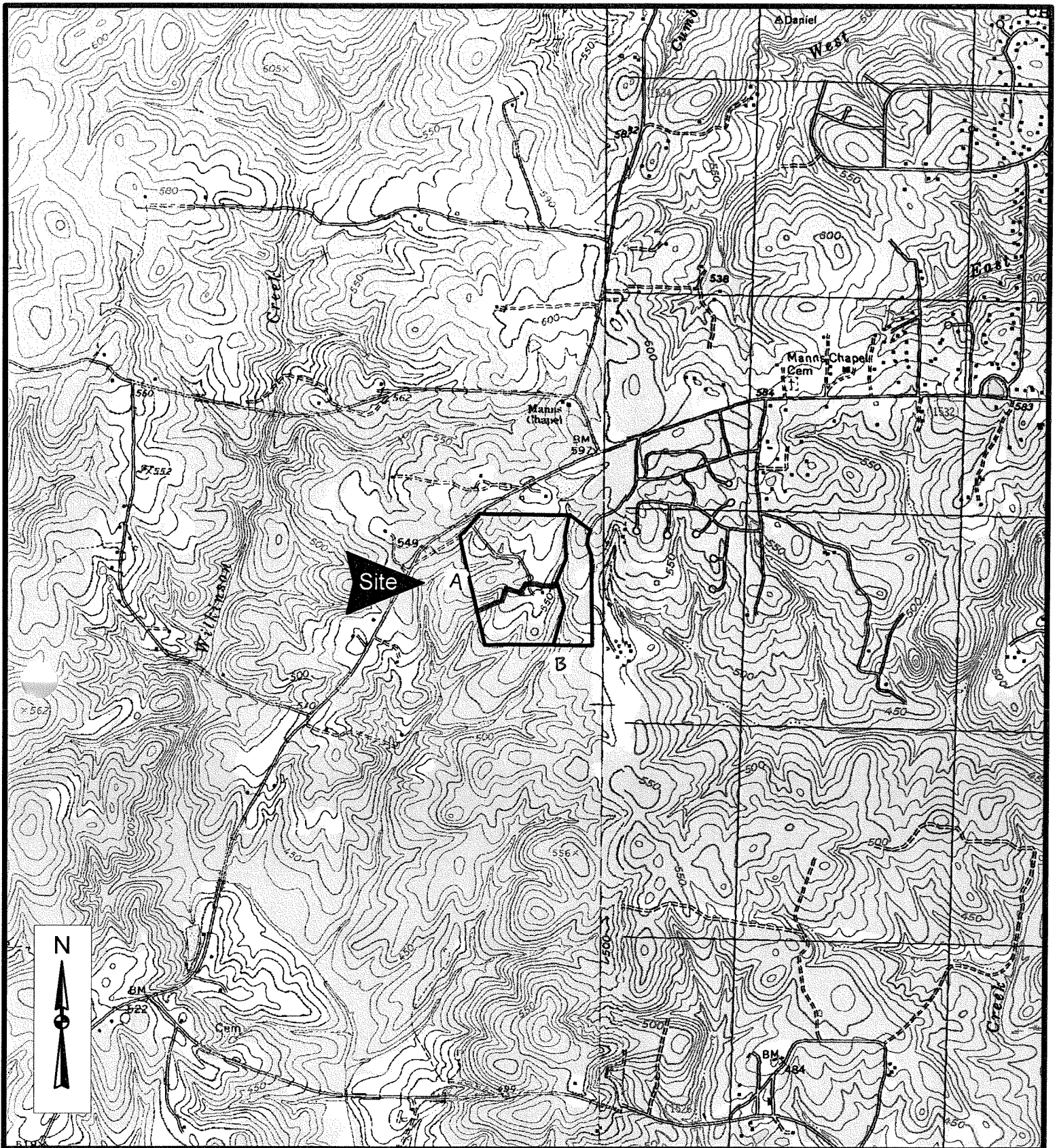


Jason Payne
Wetland Scientist



Mark Allen
Wetland Scientist

Attachments: A: USGS Topographic Quadrangle
B: Chatham County Soil Survey Map
C: Sketch Map
E: Agent Authorization Form
F: Requirements for Wetland Delineation Maps



Project No.
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Figure 1 - USGS Map

Project Mgr.:

Dixon Property
Chatham County, NC

Scale:
1" = 2,000'

11/30/04

Bynum & Farrington Quadrangles

S&EC

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ORANGE COUNTY, NC

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11/30/04

Figure 2 - Soil Survey Map

Dixon Property
Chatham County, NC

Chatham County Soil Survey

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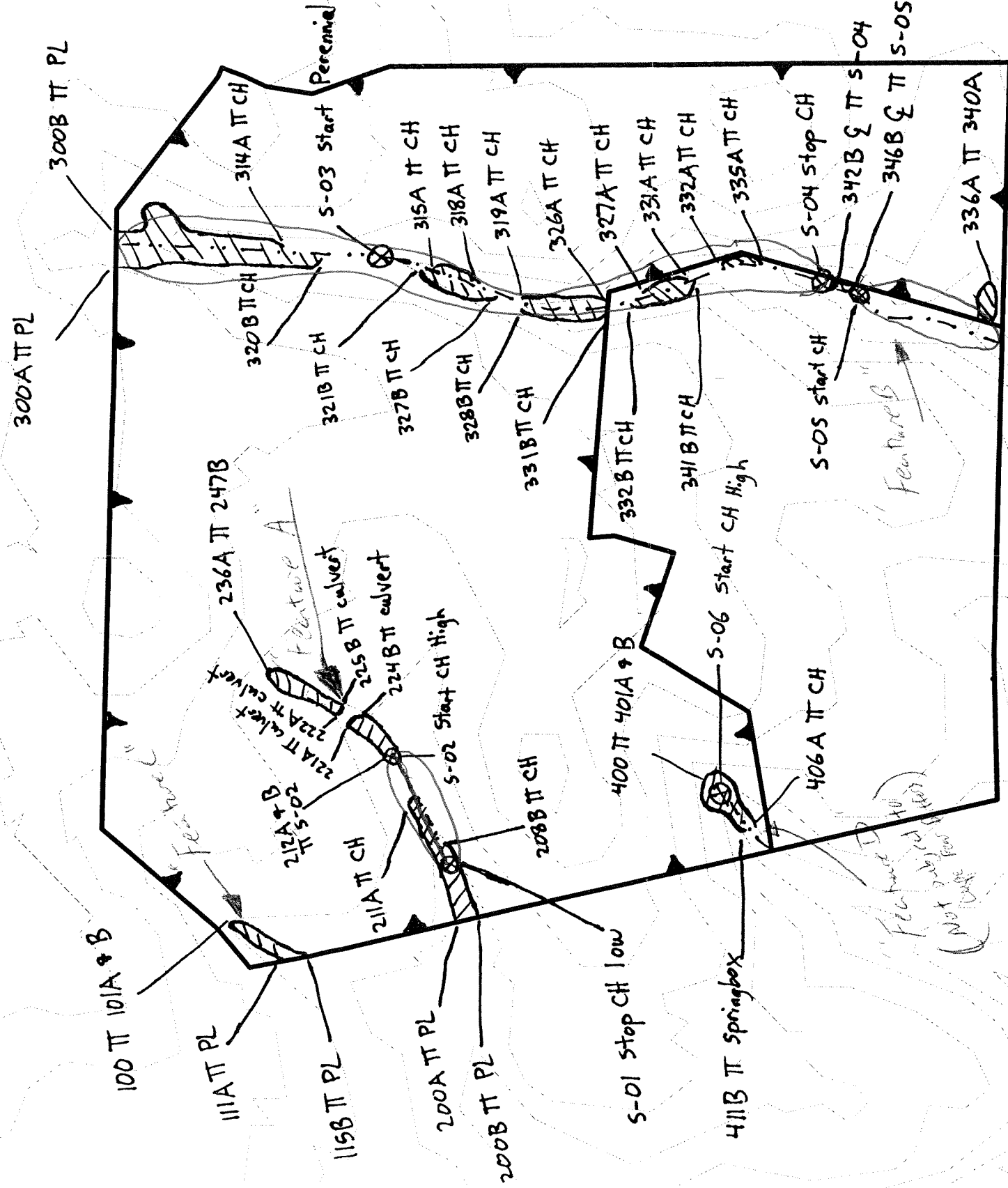
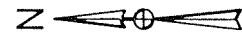


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Preliminary Wetland Approximation
Suitable for Preliminary Planning Only

S&EC reserves the right to modify this map based on more fieldwork, surveyed delineations and any other additional information. Approximations were mapped using topographic maps and ground truthing.

If these areas are to be used, they must be approved and Permitted by the U.S. Army Corps of Engineers.



Legend



= WETLANDS/LINEAR WETLANDS [must be confirmed by the USACE]



= WATERS OF THE US POTENTIALLY SUBJECT TO THE PROPOSED CAPE FEAR



= RIVER BUFFERS [i.e., intermittent streams; must be confirmed by the USACE and DWQ]



= WATERS OF THE US POTENTIALLY SUBJECT TO THE PROPOSED CAPE FEAR



= RIVER BUFFERS [i.e., *Perennial* streams; must be confirmed by the USACE and DWQ]



= BOUNDARY OF EVALUATED AREA



= TIE TO CH = CHANNEL PL = PROPERTY LINE

Wetland Sketch Map

Dixon Property
Chatham County, NC

Scale: **NTS**

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Project Mgr.:
SC

Prepared by:
Mark Allen



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