

Wetland Delineation and Stream Report
Secrest Commons Site
Monroe, Union County, North Carolina

Prepared for

**Paul Shriver
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November 10, 2017

Prepared By



WETLANDS & WATERS, INC.

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Summary and Map of Findings:

Wetlands & Waters, Inc. (W&W) has conducted an evaluation of property (+/- 124 acres; Tax ID 09321004 90 & 09321004 80) in Union County as depicted on the attached Figures for the purpose of identifying the presence of surface waters and wetlands subject to federal and state jurisdiction and permitting requirements under Sections 404 and 401 of the Clean Water Act. The limits of assessed jurisdictional wetlands and streams as assessed within the evaluation area are depicted in Figure 1: Approximate Depiction of Waters and Wetlands. Findings and assessments made by consultants regarding jurisdictional limits and permitting requirements are subject to verification by the US Army Corps of Engineers and, in some cases, the State agencies charged with protection of surface water resources. Unless stated otherwise, this report is limited in scope to Federal and State jurisdiction under sections 404 and 401 of the Clean Water Act as administered under the Nationwide Permit program and does not address local requirements.

Public Sourced Natural Resource Mapping

The approximate boundaries of the evaluated areas are depicted on the attached public sourced maps and figures. The Army Corps of Engineers utilizes these mapping resources as baseline information and data when initiating site reviews for jurisdictional determinations. W&W makes no representations relating to the completeness or accuracy of baseline data and layers depicted on these maps and figures.

County GIS (Figure 2)

Relevant water resource layers and hydrologic layers have been activated for this figure. Water resources depicted on this figure are not typically field verified by local staff, but rather they are generated at the county's direction and are most likely based on other public sourced maps or by GIS staff photo-interpretation. When jurisdictional streams are identified on a property by onsite inspection but are absent on County GIS mapping, the local authorities will typically apply local buffer ordinances or rules to those features. Conversely, if a stream channel is depicted on the local GIS but is determined to not be regulated by the Army Corps and/or NCDWR, local governments have the option to remove local buffer protections for those drainages if the owner can produce confirmation from the Corps or DWR.

USGS Topographical Map (Figure 3)

Generally, a feature that is depicted in blue or magenta is a water resource. However, some of these features may not be jurisdictional resources due to complex nuances within the regulations. Additional jurisdictional water resources may be present though they are not depicted on this mapping resource. Wetland and stream jurisdictional determinations are based on field evaluations not merely the presence or absence of blue or magenta features depicted on this map.

Soil Survey (Figure 4)

These maps generally depict large scale soils characteristics within the evaluated area; typically, the maps do not show specific soils units that are less than two acres in size. These maps were not intended to be used to define jurisdictional wetlands and streams but this information is useful to professionals familiar with soils types, hydric soils, and their characteristics, as well as locating historic surface drainage features.

National Wetland Inventory (Figure 5)

These maps depict wetlands based on US Fish and Wildlife Service criteria, and are produced by trained image analysts who identify and classify wetlands and deepwater habitats from aerial imagery. They are not a substitute for a field evaluation.

NC Surface Water Classification (Figure 6)

These maps are used to determine the surface water classifications of potentially jurisdictional features. Certain classifications may trigger additional 404/401 permit verification and water quality certification limitations, notification requirements, and/or conditions. Streams with special classifications can also have state or local rules and ordinances that imposed buffers or that have development restrictions.

FEMA Flood Mapping (Figure 7)

Federal Emergency Management Act flood maps are utilized by the Army Corps to determine if regulated floodplains are present. The President's Executive Order 11990, Protection of Wetlands, requires federal agencies to consider the need to mitigate flood and storm hazards in consideration of all actions. The Corps, as stated in general condition 10 and 27 of the nationwide permits, requires completion of a PCN form for identification of projects that require coordination involving work in FEMA designated 100-Year Floodplains. If a Section 404 permit is required, the proposed activity must comply with applicable FEMA approved state or local floodplain management requirements. Additional notification requirements, conditions, restrictions or prohibitions may be imposed depending on the type of proposed activity or permit.

Field Evaluation

The field evaluation was conducted utilizing current methodologies which are consistent with those outlined in the appropriate regional supplement¹ of the 1987 US Army Corps Wetland Delineation Manual², post *Rapanos* Supreme Court decision guidance (2007), and Regulatory Guidance Letters.

Upon review of the existing site conditions, potentially jurisdictional surface waters are present in the form of both perennial (perennial-relatively permanent waters) and intermittent (seasonal-relatively permanent waters) tributaries. The primary channel is located near the southern boundary of the property, flowing eastward, and was assessed to have perennial flow based upon the strong, consistent presence of an ordinary high water mark (OHWM), baseflow conditions, aquatic life, and the presence of hydric soils indicating a close proximity to the seasonal high water table. This stream is an unnamed tributary to Bearskin Creek is shown on the attached sketch as a solid blue line. Two smaller drainages, which are tributaries to the main channel, are also present on site. These features were determined to exhibit seasonal flow characteristics based upon the lack of consistent baseflow and aquatic life. However, they were assessed to be potentially jurisdictional due to the presence of an ordinary high water mark (OHWM). These features are shown as dashed blue lines on the attached sketch.

The remainders of the drainages above the endpoints of seasonal flow were assessed to be non-jurisdictional based upon the lack of an ordinary high water mark (OHWM), no baseflow, and a channel elevation that appears to be above the seasonal high water table. However, all of these ephemeral drainages exhibit some marginal characteristics of regulated tributaries, including somewhat defined bed and bank features, sorting of channel substrate materials, and evidence of rack lines. These drainages likely only flow during and immediately following storm events and were therefore assessed to be non-jurisdictional. However, these features could appear to be jurisdictional based upon seasonal weather conditions at the time of the site visit. These ephemeral features are shown as dashed orange lines on the attached sketch.

¹ U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0, ed. J. F. Berkowitz, J. S. Wakeley, R. W. Lichvar, C. V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

² Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Potential wetland areas on the site were evaluated for the presence of hydric soils and evidence of wetland hydrology and vegetation. In these areas, hydrologic proof would be the existence of hydric soils with oxidized root channels in the upper soil horizons that have low chroma matrix colors. Indicators of wetland hydrology may include water borne deposits, drift lines, scour marks, the presence of crayfish burrows, or regional indicators of soil saturation. After careful observation several potentially jurisdictional wetlands were found on site. These wetlands are primarily located adjacent to the primary channel and were determined to be jurisdictional based upon the 3-parameter approach. These wetlands were flagged in the field with sequentially numbered orange flagging and are shown as green polygons on the attached sketch.

All findings listed above are subject to verification by the Army Corps of Engineers and North Carolina Division of Water Resources.

We strongly recommend that a request for a Jurisdictional Determination be submitted to the US Army Corps of Engineers in order to confirm our findings. Once the Corps has confirmed the limits of jurisdiction by site visit or issuance of a JD, we recommend that the regulated features be flagged in the field and subsequently surveyed by a licensed land surveyor in order to account for potential impact requests. JD requests submitted without a Pre-Construction Notification are currently taking many months to process, however there is no time limit for the review period. JD requests submitted with PCN's are given priority.

Permitting

Construction activities for residential developments within jurisdictional wetlands and stream channels or tributaries (collectively referred to as Waters of the US) require written permit verification by the US Army Corps of Engineers and/or State water resources agencies prior to the completion of impacts. Issuance of a permit verification will depend on the ability of the project proponent to demonstrate that all appropriate and practicable avoidance and minimization of impacts has been achieved. We can assist with the preparation and submittal of a Pre-construction Notification (PCN) to the Corps and DWR if it is determined that impacts to regulated features are unavoidable. For this particular project, the anticipated focus of the regulatory reviewers will be whether or not the proposed infrastructure or development has avoided and minimized impacts to regulated features to the maximum extent practicable. This avoidance and minimization process might include an alternatives analysis, site plan review, and review of design and construction specifications. Given the potential expansion of regulated features in comparison to previous work, it will be critical to incorporate this new delineation into the initial site planning phase in order to accomplish this avoidance and minimization and estimate potential impacts.

Army Corps consideration for a project's eligibility under the Nationwide Permit program also includes a review for impacts to cultural and historic resources, natural heritage resources, and protected federal species. A permit verification can only be issued after it has been determined that the proposed development is not likely to adversely impact any of those resources. Impacts of less than 150 linear feet of streams and fills of less than 1/10th acre of jurisdictional waters and wetlands are routinely permitted under the Nationwide Permit program, and may not require compensatory mitigation for impacts. Impacts of 150 linear feet of stream up to 300 linear feet of stream and from 1/10th to ½ acre of wetland may be authorized under the Nationwide Program, but a more thorough review for avoidance and minimization of impacts will be conducted by both the Army Corps of Engineers and the NC Division of Water Resources, and compensatory mitigation will be required for stream and wetland losses.

Authorized activities must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site. Once avoidance and minimization has been demonstrated, the appropriate compensatory mitigation can be determined. In North Carolina, impacts to wetlands and stream channels typically require compensatory mitigation at a 2 to 1 ratio, meaning that two wetland credits must be provided for an acre of

wetland impact, and two stream credits must be provided per linear foot of impact. As referenced in the prior paragraph, projects that impact less than 150 linear feet of stream channel may not require compensatory mitigation for stream losses. However, when stream loss equals or exceeds the 150 foot threshold, mitigation must provide for all stream loss for the entire project, and must account for all linear footage of impacts starting from zero. The 2:1 ratio may be adjusted based on the results of NC WAM and/or NC SAM evaluations in order to account for high or low quality aquatic resources and ensure that compensatory mitigation requirements are appropriate.

Unavoidable impacts that exceed Nationwide Permit thresholds may only be authorized under an Individual permit and certification, and involve both public notices and comment periods. Impact that exceed 300 lf and ½ acre typically require an individual permit and certification, which have no time limits for review and processing, but are typically issued for residential projects within one year.

If impacts to jurisdictional features are necessary for completion of the project, DWR water quality certification requires post-construction stormwater treatment that meets the minimum state requirements for treatment. Minimally, proof of local approvals of a post-construction, stormwater management plan is required by NC DWR as a condition of the water quality certification (additional information is provided in Attachment A of the WQC No. 3890 found at the link below).

The following links to the full text of Nationwide Permit 29 and its Water Quality certification (for residential developments) are provided for your review:

<http://saw-reg.usace.army.mil/NWP2017/2017NWP29.pdf>

<http://edocs.deq.nc.gov/WaterResources/DocView.aspx?dbid=0&id=493434&page=1&cr=1>

Federally Protected Species

No activity can be authorized under a nationwide permit that is likely to directly or indirectly have an adverse effect on a designated threatened or endangered species or its critical habitat as identified under the Federal Endangered Species Act (ESA).

If impacts to jurisdictional wetlands or waters of the US are necessary for the completion of the project, the Corps must determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat. Work associated with a NWP verification request cannot commence until the Corps has notified the applicant in writing that the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation with the US Fish and Wildlife Service has been completed. If the applicant for a permit verification has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

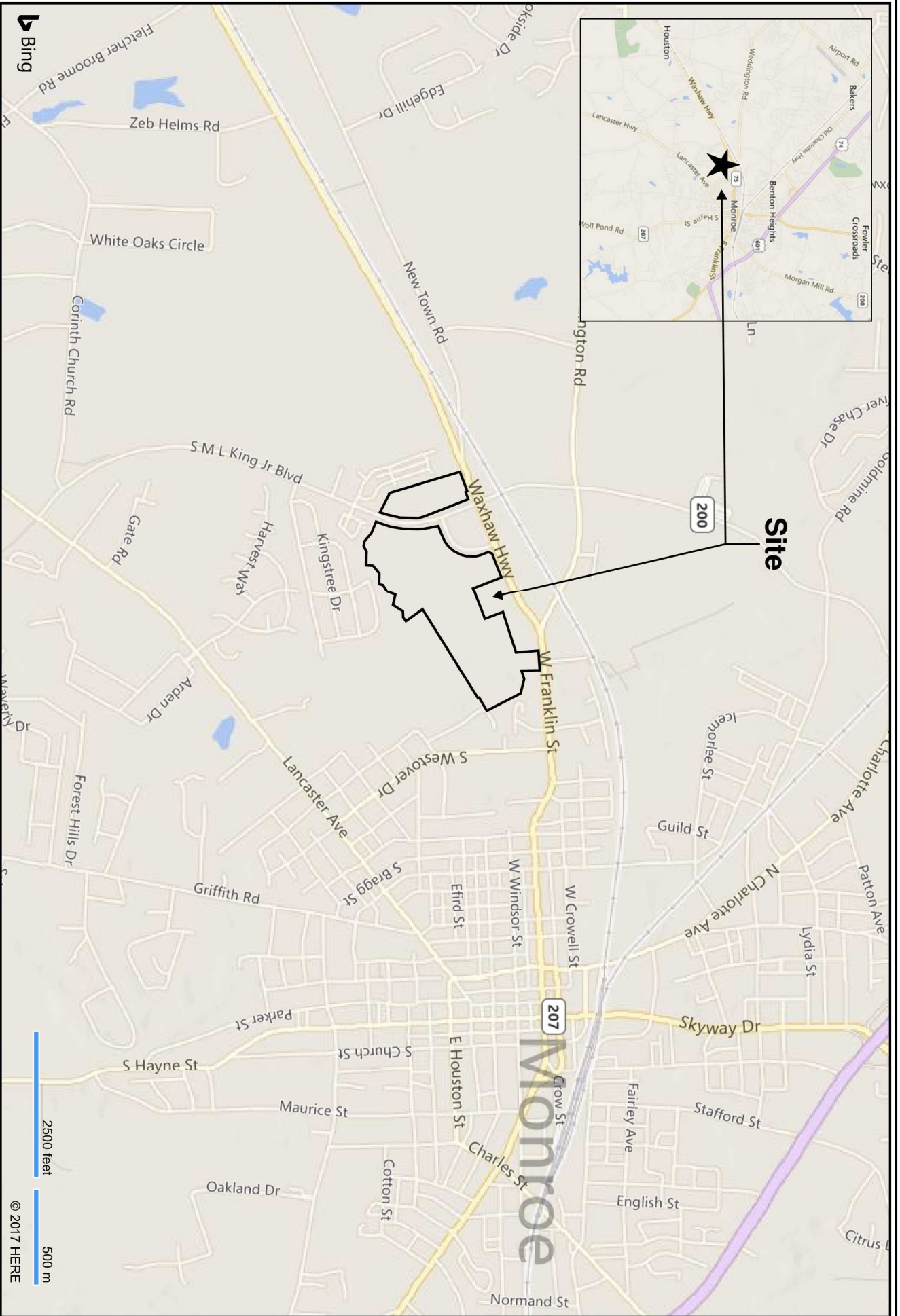
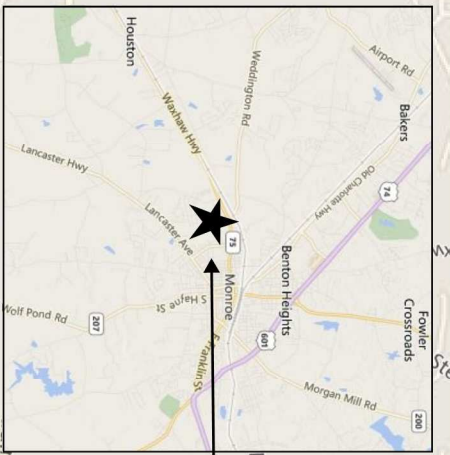
This concludes our initial field assessment and delineation of regulated Waters of the US and wetlands within the area of interest. Please let us know if you have questions or if we can be of further assistance.

Sincerely,



Perry Isner

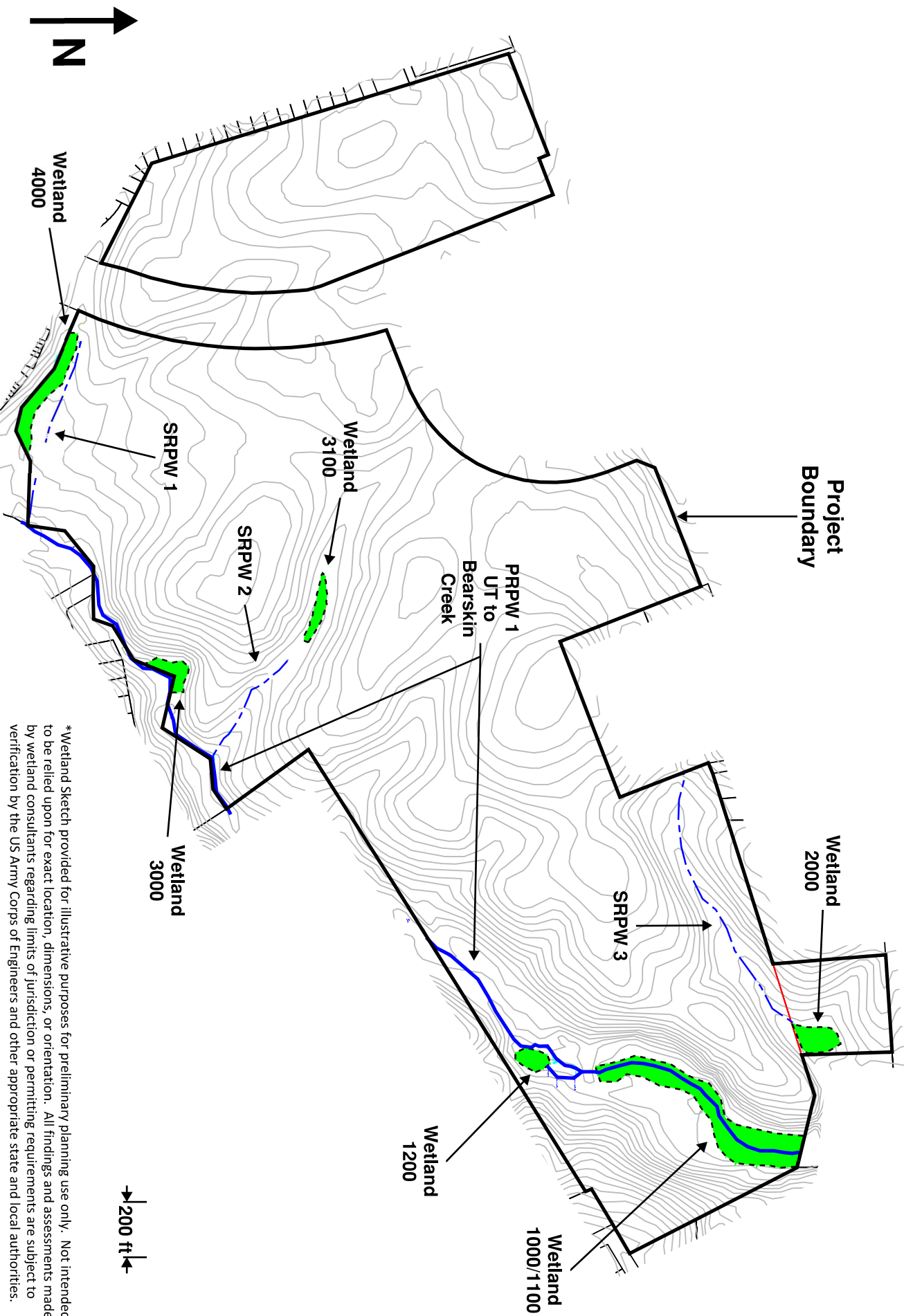
Attachments: Site Vicinity Map
 Figure 1. Approximate Depiction of Waters and Wetlands
 Figure 2. County GIS Aerial Map
 Figure 3. USGS Topographic Quadrangle
 Figure 4. NRCS Soil Survey Map
 Figure 5. National Wetlands Inventory Map
 Figure 6. NC Surface Water Classification Map
 Figure 7. FEMA Floodplain Map



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Vicinity Map

Project Name:	Secrest Commons		
Owner / Developer:	MT Land, LLC		
City / County:	Monroe / Union		
Tax PIN(s):	09321004 90 & 09321004 80		
Coordinates:	Lat. 34.97789	Long. -80.57453	Scale: graphic
Date:	Nov. 10, 2017		



*Wetland Sketch provided for illustrative purposes for preliminary planning use only. Not intended to be relied upon for exact location, dimensions, or orientation. All findings and assessments made by wetland consultants regarding limits of jurisdiction or permitting requirements are subject to verification by the US Army Corps of Engineers and other appropriate state and local authorities.


			
Project Name:		Secret Commons	
Owner / Developer:		MT Land, LLC	
City / County:		Monroe / Union	
Tax PIN(s):		09321004 90 & 09321004 80	
Coordinates:		Scale: graphic	
Lat: 34.97789		Date: Nov. 10, 2017	
Long: -80.57453			

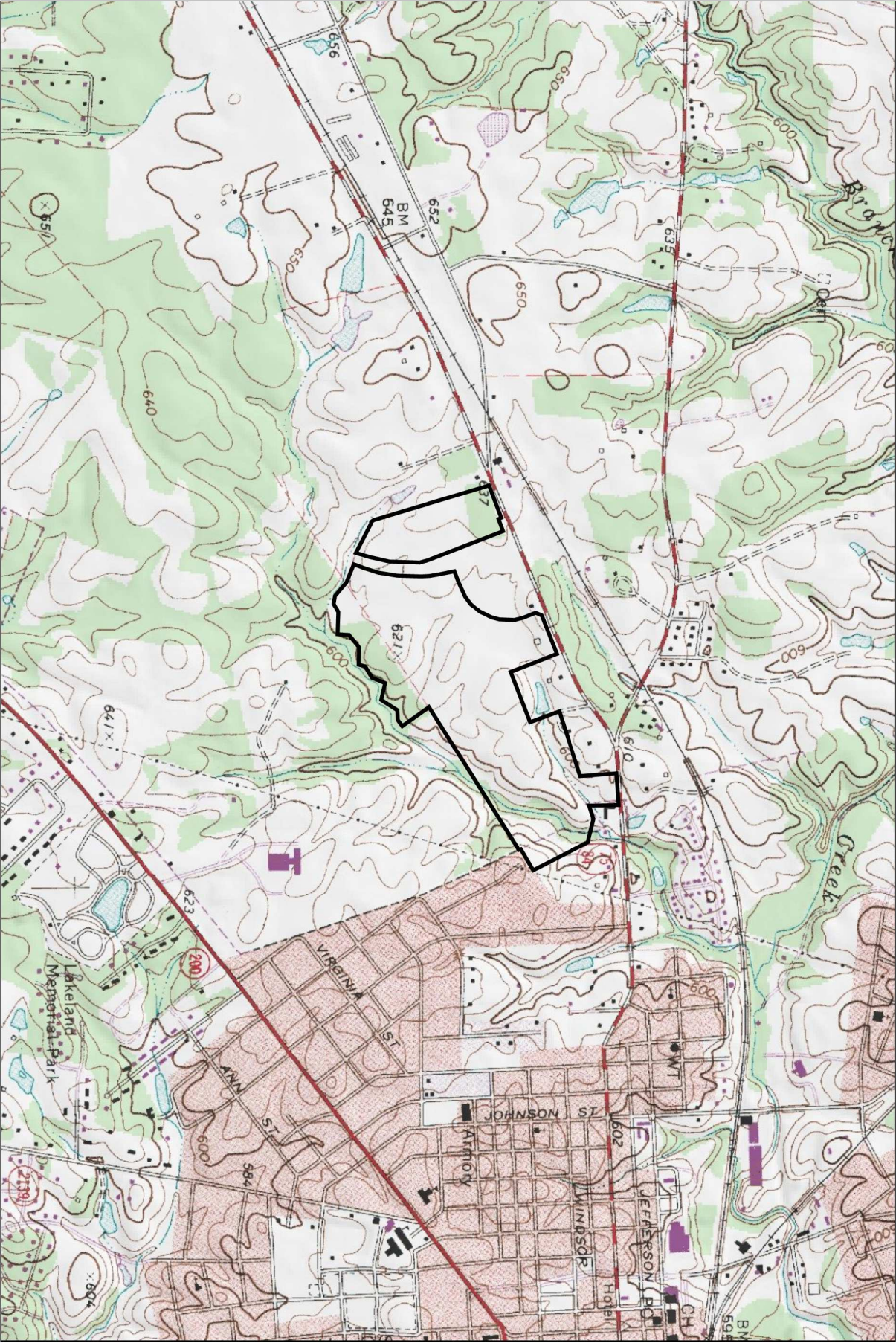
Fig 1 : Approx. Depiction of Waters and Wetlands



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Figure 2: County GIS

Project Name:		Secretst Commons	
Owner / Developer:		MT Land, LLC	
City / County:		Monroe / Union	
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Coordinates:		Lat: 34.97789 Long: -80.57453	
		Scale:	Date:
		graphic	Nov. 10, 2017



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0 2000 Ft

Map provided by MyTopo.com

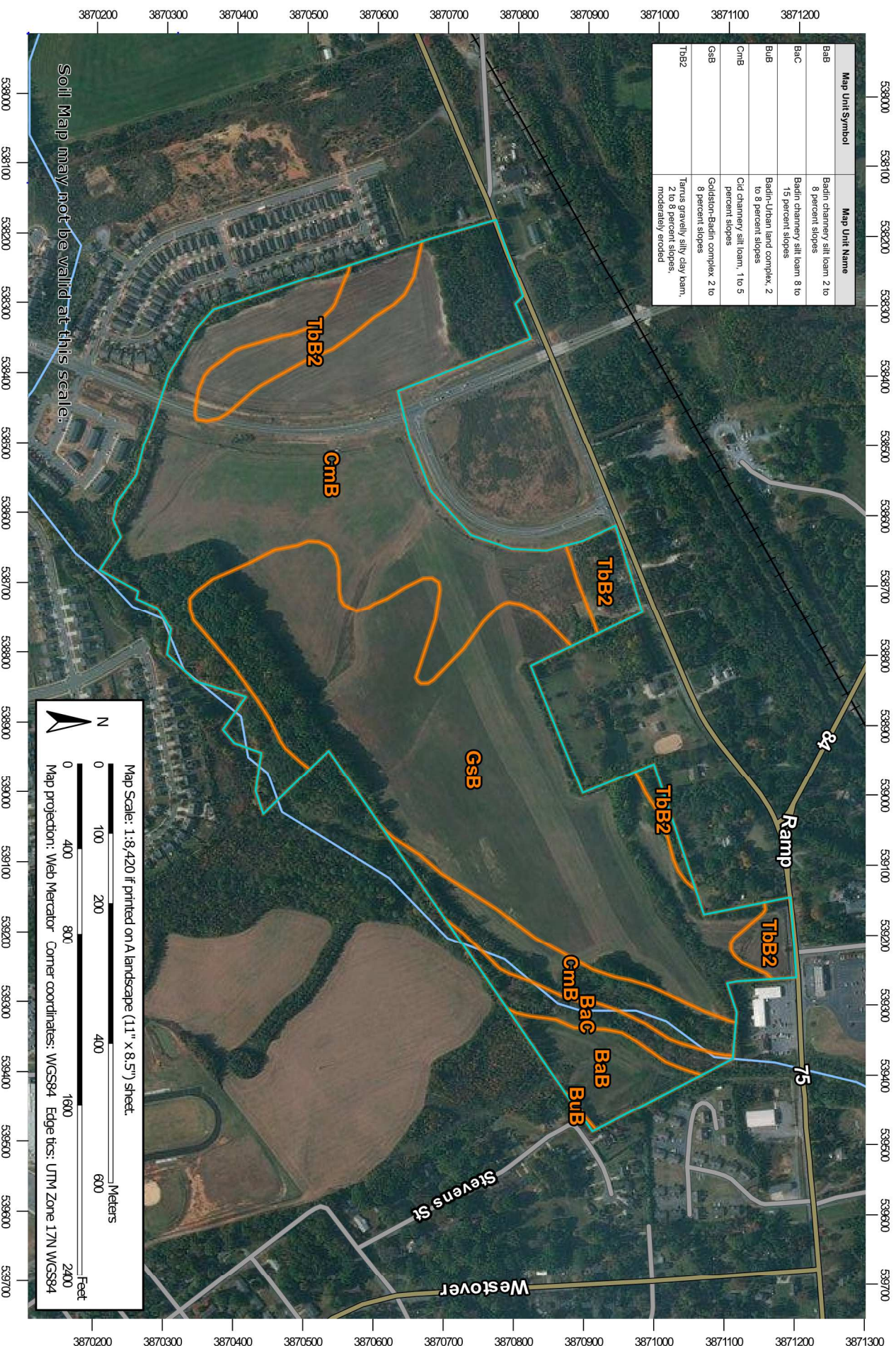


Figure 3: USGS Topo Quad

Project Name:	Secretrest Commons		
Owner / Developer:	MT Land, LLC		
City / County:	Monroe / Union		
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Coordinates:	Lat: 34.97789	Long: -80.57453	Scale: graphic
			Date: Nov. 10, 2017

Soil Map—Union County, North Carolina

Map Unit Symbol	Map Unit Name
BaB	Badin clayey silt loam 2 to 8 percent slopes
BaC	Badin clayey silt loam 8 to 15 percent slopes
BuB	Badin-Urban land complex, 2 to 8 percent slopes
CmB	Cid clayey silt loam, 1 to 5 percent slopes
GsB	Goldston-Badin complex 2 to 8 percent slopes
TbB2	Tamus gravelly silty clay loam, 2 to 8 percent slopes, moderately eroded



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Figure 4: Soil Survey

Project Name: **Secrest Commons**

Owner / Developer: **MT Land, LLC**

City / County: **Monroe / Union**

Tax PIN(s): **09321004 90 & 09321004 80**

Coordinates: **Scale: graphic**

Lat: 34.97789 Long: -80.57453

Date: **Nov. 10, 2017**



U.S. Fish and Wildlife Service

National Wetlands Inventory

- Wetlands**
- Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
 - Riverine



U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov



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Figure 5: National Wetland Inventory Map

Project Name: Secret Commons

Owner / Developer: MT Land, LLC

City / County: Monroe / Union

Tax PIN(s): 09321004 90 & 09321004 80

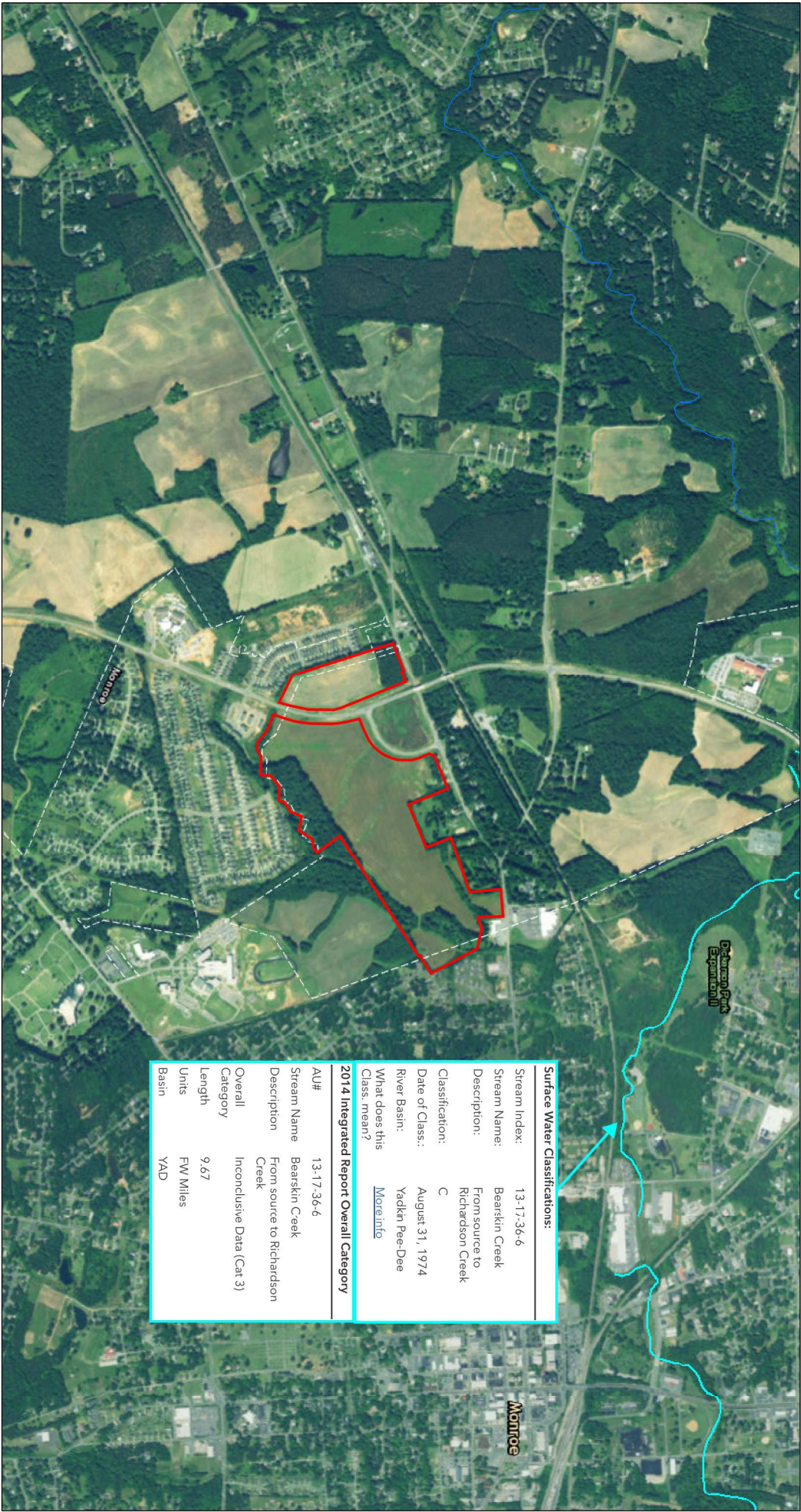
Coordinates:
Lat: 34.97789

Long: -80.57453

Scale: graphic

Date: Nov. 10, 2017

NC Surface Water Classification



Surface Water Classifications
DWR 2014 IR Overall Cat. (Zoom in for faster results)
Inconclusive Data (Cat 3)
No Data

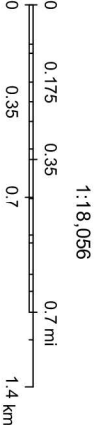


Figure 6: Stream Classification Map

Project Name: Secret Commons	
Owner / Developer: MT Land, LLC	
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Scale: graphic	Date: Nov. 10, 2017

FEMA's National Flood Hazard Layer (Official)

NFHL (click to expand)

LOMRS

 Effective

LOMAS



FIRM Panels



Cross-Sections



Limit of Moderate Wave Action



Flood Hazard Boundaries

Limit Lines

SFHA / Flood Zone

Boundary

Other Boundaries

Flood Hazard Zones

1% Annual Chance

Flood Hazard

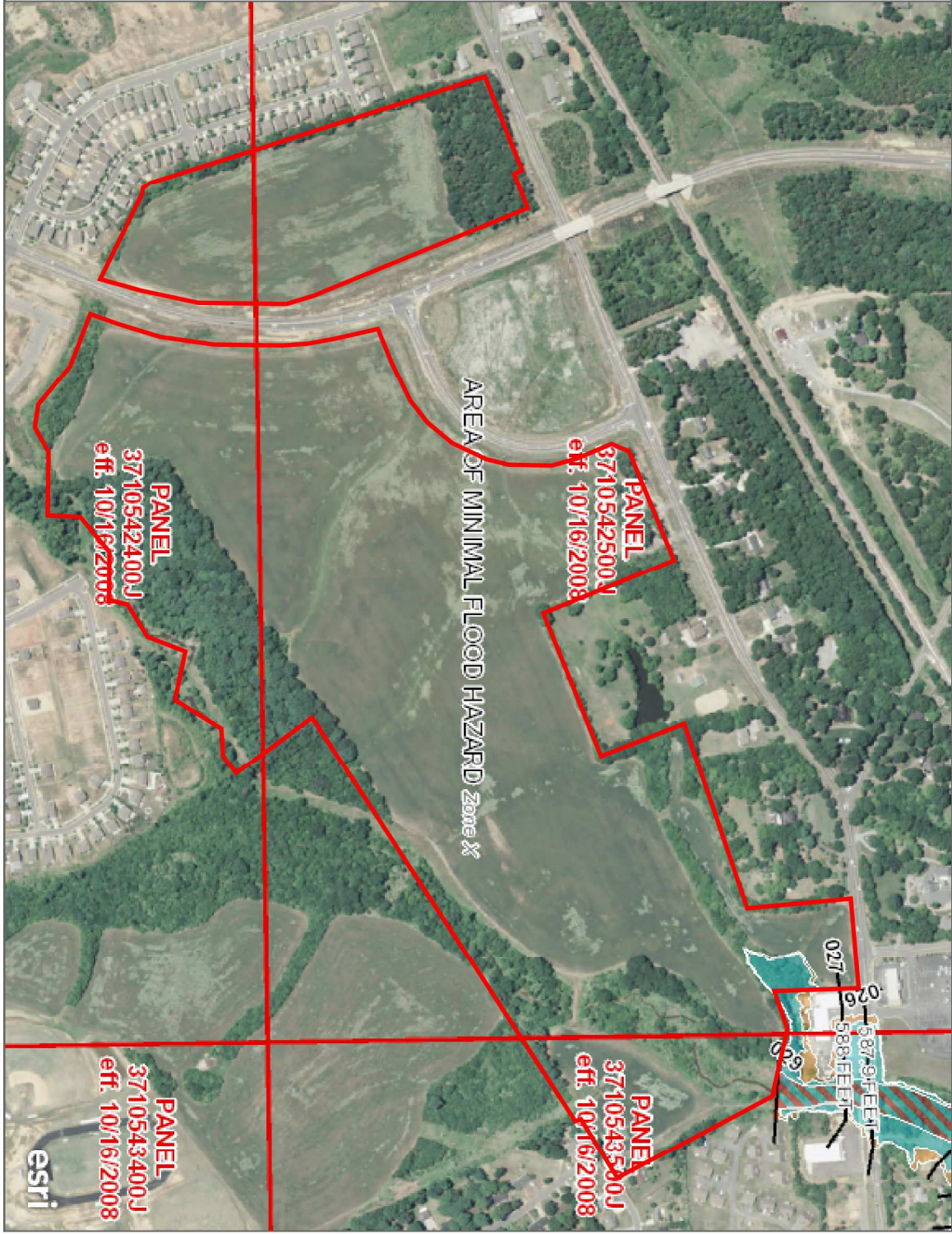
Regulatory Floodway

Special Floodway

Area of

Undetermined Flood Hazard

0.2% Annual Chance Flood Hazard



esri



Figure 7: FEMA Floodplain Map

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