



Wake County Environmental Services Department  
Water Quality Division, Watershed Management Section  
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602  
TEL 919 856-7400 • FAX 919 743-4772

## WMCPCR – ROLESVILLE, WENDELL, ZEBULON WATERSHED MANAGEMENT CONSTRUCTION PLAN DISAPPROVAL AND REVIEW COMMENTS

Project Name	Merritt Reserve Subdivision	Watershed	Buffaloe Creek	Jurisdiction	Rolesville
Date Received	04/25/2025	Date Processing Initiated	04/25/2025	Disturbed Acreage	131.22 Acres
S&E Permit Number	SEC-145177-2025	S&E Plan Review Fee	\$32,805.00 PAID	S&E Permit Fee	\$32,805.00 PENDING
SW Permit Number	SWF-145398-2025	SW Plan Review Fee	\$2,500.00 PAID	SW Permit Fee	\$2,500.00 PENDING
Financial Responsible Party (FRP):		Engineer:			
Name	BRD Land & Investment Management, LLC	Name:	Jakob Klein		
Address:	6433 Bannington Rd. Charlotte, NC 28226	Address:	4020 Westchase Blvd. Ste 450 Raleigh, NC 27608		
Phone:	919-348-6014	Phone:	919-469-1101		
Email:	Jeri@brdevelop.com	Email:	jklein@american-ea.com or bheartling@american-ea.com		

Plan Date/Revision Date: 04/14/2025

Review Status: 05/19/2025	<input checked="" type="checkbox"/>	Construction Plan Not Approved and Incomplete (Items 1-4 required to be a complete submittal)
	<input checked="" type="checkbox"/>	Construction Plan Not Approved and requires additional information

<b>Construction Plan Review Comments</b>	
Items marked with an "X" were noted as either insufficient or not provided. Engineer comments are in RED and provide the necessary requirements for construction plan approval.	
References for Erosion and Sediment Control: <a href="#">Wake County Unified Development Ordinance (UDO) Article 10</a>	
References for Stormwater Management are as follows:	
ROLESVILLE: Town of Rolesville Land Development Ordinance <a href="#">Appendix B: Flood Damage Prevention and Stormwater Management, Section 1.2 Stormwater Management</a> effective June 1, 2021.	
WENDELL: Town of Wendell Unified Development Ordinance (UDO) <a href="#">Chapter 6: Environmental Protection, adopted 7/26/10</a> .	
ZEBULON: Town of Zebulon, NC Code of Ordinances: <a href="#">Chapter 151</a>	
<input type="checkbox"/>	1. <a href="#">Erosion Control and Stormwater Joint Application</a> (Required to initiate processing)
<input type="checkbox"/>	2. <a href="#">Review Fees</a> (Required to initiate processing) RESUBMITTALS: The first resubmittal is free, but all subsequent Stormwater resubmissions require a \$150 Resubmission Fee and Erosion Control resubmissions require a \$75 Resubmission Fee.
<input type="checkbox"/>	3. Notarized <a href="#">Wake County Financial Responsibility/Ownership Form</a> (Required to initiate processing)



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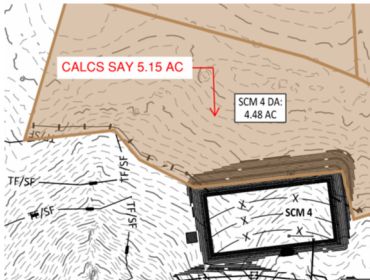
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<input type="checkbox"/>	a.	The application must include the owner's notarized written consent for the applicant to submit an erosion and sedimentation control plan and to conduct the anticipated land-disturbing activity if the applicant is not the owner of the land to be disturbed [10-30-2-(B)-(2)-(c)]
<input checked="" type="checkbox"/>	4.	Other documents:
<input checked="" type="checkbox"/>	a.	Engineering Approval: Copy of approval notification for projects in a municipality's zoning jurisdiction
<input type="checkbox"/>	b.	401/404 Documentation (Buffer determination letters, PCN application, comments, and approval) Documentation of wetland delineations.
<input checked="" type="checkbox"/>	c.	NCDOT Approval (Temporary Construction Entrances, Encroachment Agreements). Wake County does not recommend the construction access at Strips Drive due to conflicting construction traffic and potential future homeowners concerns.
<input type="checkbox"/>	d.	Encroachment agreement(s) completed, signed and notarized for all off-site construction
<input checked="" type="checkbox"/>	5.	Cover letter stating the purpose of the submission, describing site drainage, stormwater management objectives, and how the proposed stormwater management plan will meet the objectives and be implemented RESUBMITTALS: A letter detailing any changes, comments, proposed solutions to review comments, etc.
<input type="checkbox"/>	6.	Copy of the USGS Quad Map with delineated project limits
<input type="checkbox"/>	7.	Copy of the Wake County Soil Survey map with delineated project limits from 1970 manuscript
<input checked="" type="checkbox"/>	8.	One (1) electronic copy of a complete set of construction drawings for 1st resubmission, number (#) copies for final approval.
<input checked="" type="checkbox"/>	9.	One (1) electronic copy of the Municipal Stormwater Design Tool ( <a href="#">click here</a> ); submit Excel workbook (Site Data Sheet, Drainage Area Sheets, Site Summary Sheet, BMP Sheets, and BMP Summary sheet). Please include the <a href="#">Municipal Stormwater Design Tool</a> .
<input type="checkbox"/>	10.	Drainage Area Maps with stormwater discharge points and Tc flow paths (existing/post construction/post BMP)
<input type="checkbox"/>	11.	Drainage Area Map showing drainage areas to erosion control devices (can delineate on plan sheets)
<input checked="" type="checkbox"/>	12.	Stormwater and Erosion Control Calculations:



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		<p>Sediment basin design (See website for <a href="#">Wake County Design Criteria</a>) On the drainage report, please make sure drainage areas on maps and calculations match. Please make sure names of basins on maps and calculations match. Please make sure dewatering time is between 3-5 days per Wake County standard. Please check required volume calculations, they are not matching when checked. Examples provided below.</p> <p><b>Use Spillway Capacity Sheet to Size Primary a</b></p> <table><tr><td>3</td><td>Skimmer Size (inches)</td></tr><tr><td>0.25</td><td>Head on Skimmer (feet)</td></tr><tr><td>2.25</td><td>Orifice Size (1/4 inch increments)</td></tr><tr><td>0.27</td><td>Dewatering Time (days)</td></tr></table> <p>Suggest about 3 days</p>  <p><b>Selection of Sediment Control Measure</b></p> <table><tr><td>2.03</td><td>Total Drainage Area</td><td>User entry</td><td>TSB 5</td></tr><tr><td>Do Not Use</td><td>Temporary Sediment Trap</td><td>Calculated Value</td><td>4/13/25</td></tr><tr><td>Okay</td><td>Skimmer Sediment Basin</td><td></td><td></td></tr><tr><td>24.30</td><td>Peak FLOW FROM 10-year storm (cfs)</td><td></td><td></td></tr></table> <table><tr><td>10042.23</td><td>Required Volume ft<sup>3</sup></td><td>9</td><td>10044</td><td>Required Volume (ft<sup>3</sup>)</td></tr><tr><td>7898</td><td>Required Surface Area ft<sup>2</sup></td><td>10</td><td>10571</td><td>Required Surface Area (ft<sup>2</sup>)</td></tr><tr><td>62.8</td><td>Suggested Width ft</td><td>11</td><td>72.7</td><td>Suggested Width (ft)</td></tr><tr><td>125.7</td><td>Suggested Length ft</td><td>12</td><td>145.4</td><td>Suggested Length (ft)</td></tr></table> <p>65 Trial Top Width at Spillway Invert ft</p>	3	Skimmer Size (inches)	0.25	Head on Skimmer (feet)	2.25	Orifice Size (1/4 inch increments)	0.27	Dewatering Time (days)	2.03	Total Drainage Area	User entry	TSB 5	Do Not Use	Temporary Sediment Trap	Calculated Value	4/13/25	Okay	Skimmer Sediment Basin			24.30	Peak FLOW FROM 10-year storm (cfs)			10042.23	Required Volume ft <sup>3</sup>	9	10044	Required Volume (ft <sup>3</sup> )	7898	Required Surface Area ft <sup>2</sup>	10	10571	Required Surface Area (ft <sup>2</sup> )	62.8	Suggested Width ft	11	72.7	Suggested Width (ft)	125.7	Suggested Length ft	12	145.4	Suggested Length (ft)
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<input checked="" type="checkbox"/>	a.																																													
<input checked="" type="checkbox"/>	b.	Ditches, swales, and channels: Q10/V10. Tractive force (shear stress), capacity and geometry Please make sure all ditches are shown in the DA maps in the drainage report. Please include the ditch calculation table on the plan set.																																												
<input type="checkbox"/>	c.	Dissipaters: Q10 velocities, stone size and dimensions																																												
<input type="checkbox"/>	d.	Velocity calculations for stormwater runoff at points of discharge resulting from a 10-year storm after development were not provided or do not comply																																												

Commented [EP1]: ?



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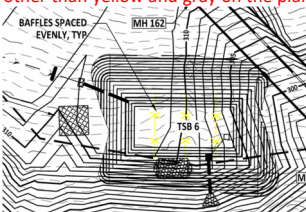
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<input type="checkbox"/>	e.	Support data for all stormwater practice designs, such as inflow/outflow rates, stage/storage data, hydrographs, outlet designs, infiltration rates, water elevations, design output, summary, etc.
<input type="checkbox"/>	f.	Other hydraulic and hydrologic computations critical to the plan/designs
<input checked="" type="checkbox"/>	g.	Signature, Date and Professional Seal: for all Stormwater design management proposals, i.e., calculations, BMP designs, operations/maintenance/budget/as built/inspections/manuals. <b>Please sign and seal drainage report.</b>
<input checked="" type="checkbox"/>	13.	Draft Stormwater Agreement and draft Maintenance Agreement. <b>Please include the <a href="#">Stormwater Agreement</a>.</b>
<input checked="" type="checkbox"/>	14.	Proposed Site Plan:
<input checked="" type="checkbox"/>	a.	<a href="#">Combined Erosion Control, Stormwater and Floodplain Approval Block</a> (Cover Sheet) <b>Please include.</b>
<input type="checkbox"/>	b.	Location/Vicinity Map
<input type="checkbox"/>	c.	North arrow, graphic scale, drafting version date, legend and professional seal
<input type="checkbox"/>	d.	Existing and proposed contours: plan and profiles for roadways
<input type="checkbox"/>	e.	Boundaries of tract: including project limits
<input checked="" type="checkbox"/>	f.	Table with impervious calculations - existing and proposed impervious surfaces: roads, well lots, recreation sites, single family residences, etc. (consistent with the Municipal Stormwater Design Tool inputs). <b>Please break out impervious areas into a table into roads, well lots, recreation sites, single family residences, etc.</b>
<input type="checkbox"/>	g.	Proposed improvements: roads, buildings, parking areas, grassed, landscaped and natural areas.
<input checked="" type="checkbox"/>	h.	Lot lines, lot numbers, road names, and impervious limit on each lot rounded to nearest whole number. <b>Please include impervious limit per lot on a plan sheet or in a separate table.</b>
<input type="checkbox"/>	i.	Utilities: community water and sewer, plan/profiles, easements and sediment controls
<input type="checkbox"/>	j.	Stormwater Network: inlets, culverts, swales, ditches, channels and drainage easements



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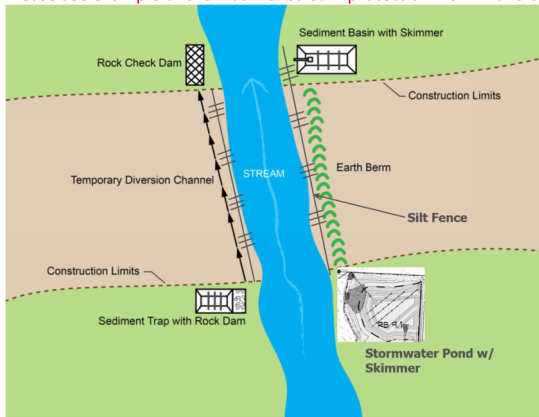
		<p>TEMPORARY SEDIMENT CONTROLS: locations and dimensions of gravel entrances, diversion ditches, silt fence, sediment basins, inlet protection, etc.</p> <p>- Please provide inlet protection at all applicable locations (example shown but not limited to YI 158A).</p>  <p>- Baffle height is to be 2" below spillway, the material of the baffle may vary. Please make baffles a color other than yellow and gray on the plans (hard to see).</p>  <p>k. <input checked="" type="checkbox"/></p> <p>- Please provide note that Rolled Erosion Control Product (RECP) needs to be installed on site where the difference in elevation is greater than 10 ft, within basins, and where slopes are greater than 3:1.</p> <p>- There are 2 extra road entrances on the west side of the project that need to be blocked off.</p> <p>- Please extend construction entrance length to 100 ft. Add note about length to the detail on sheet CE-500.</p> <p>- E&amp;SC measures needed on road improvement plan for Rolesville Road (see sheet CT-301).</p> <p>- Items to include and have an overall timeline for:</p> <ul style="list-style-type: none"><li>- removal of skimmer and baffles</li><li>- removing accumulated sediment and re-shaping required contours for volume control requirements</li><li>- installing the proper draw down orifice</li><li>- notes about timing and method of planting of wetland plants and permanent slope stabilization</li><li>- ensuring installation of all conveyances to SCMs, pipe networks, or swales; are lots graded to ponds if required per plan?</li></ul>
	<p><input checked="" type="checkbox"/></p>	<p>l. <input checked="" type="checkbox"/></p> <p>Sediment Basin Dewatering Bags: Provide a dewatering bag and location pad adjacent to all sediment basins for maintenance and closeout. Label the bag and pad with dimensions. Please add and label dewatering bags for closeout conditions in phase 1 stage 3. Please include dewatering bags at all temporary sediment basins.</p>

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<input checked="" type="checkbox"/>	m.	<p>Stream Culvert Construction Phasing: Provide a detailed construction sequence for installation of culverts at streams and show the stream crossing(s) on the erosion control plan sheets. Include all applicable details related to managing the stream flow during the culvert installation (silt bags, pumparound, impervious dikes, etc.).</p> <p>- Please make sure all details and sequence items on plans are referring to C-502 for initial stage construction sequence and C-147 for final stage construction sequence.</p> <p>- For the crossing detail on sheet CE-502, please provide sides along edge of timber mat, constructed of 2x10 or 2x12 and provide a geotextile underlayment of timber bridge.</p>
<input checked="" type="checkbox"/>	n.	<p>Stream Protection: Design temporary sediment storage during the construction phase of stream culvert installation on all four-corners of the stream crossing (where applicable) and show on the erosion control plan sheets. Provide erosion control blankets on all permanent slopes of culvert at stream crossing. Please see example of the 4 corner stream protection from Wake County.</p> 
<input type="checkbox"/>	o.	PERMANENT EROSION CONTROLS: locations and dimensions of dissipaters, ditch linings, armoring, level spreaders, retaining walls, etc.
<input type="checkbox"/>	p.	DETAILED COMMENTS REGARDING PERMANENT SEDIMENT CONTROLS:

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Commented [EP4R3]: Sheet 82 of 127 (CE-147)

Commented [EP5R3]: Sheet 104-105 (CE-240-241)

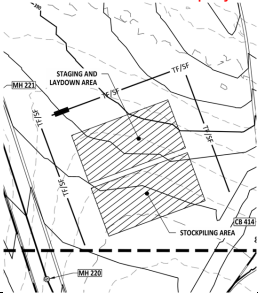
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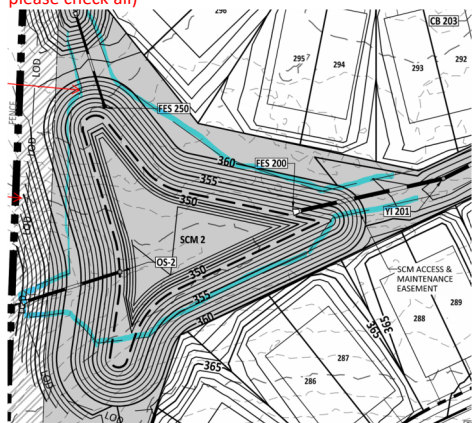
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<input checked="" type="checkbox"/>	q.	<p>Location and requirements for stockpiles (see website for <a href="#">Stockpile Requirements</a>) Please confirm and label 25ft width between stockpile and silt fence per Wake County design criteria. Please include maintenance requirements on plan. May need to have more than 1 stockpile/staging and laydown area based on the size of the project site. Please include E&amp;SC measures with all locations.</p> 
<input checked="" type="checkbox"/>	r.	<p><a href="#">Wake County Construction Sequence</a> (Provide project specific details as needed).</p> <ul style="list-style-type: none"> <li>- Please include a construction sequence for each phase and provide project specific details.</li> <li>- You can remove the required Wake County construction sequence on sheet G-004.</li> <li>- Please make clear in the notes that Wake County does not need to be contacted for compliance until all measures are installed.</li> <li>- May recommend adding a note for contacting Rolesville regarding approval of silt fences/tree fences prior to installation of basins for Wake County.</li> <li>- Please add "Contact DEQ for removal/dewatering after contacting Wake County for field approval" to the basin removal sequence on G-004.</li> <li>- Please remove the construction sequence references for Kalas Falls on sheet G-004 and replace with Merritt Reserve.</li> <li>- Please provide a site specific construction sequence for each SCM on the pond detail sheets, these notes are for the contractor. Please provide permanent stabilization for those slopes.</li> <li>- Please remove references to Raleigh and replace with Rolesville where applicable.</li> </ul>
<input checked="" type="checkbox"/>	s.	<p><a href="#">Wake County Construction Details</a></p> <ul style="list-style-type: none"> <li>-Please include detail for installation of erosion control blanket on slopes.</li> <li>-Please provide a pumparound detail for culvert installation at the stream crossings.</li> </ul>
<input type="checkbox"/>	t.	<a href="#">Wake County Stabilization Guidelines</a>
<input checked="" type="checkbox"/>	u.	<p><a href="#">Wake County Basin Removal Sequence</a></p> <p>Wake County must grant permission to convert the sediment basin over to stormwater use prior to completing any related work (construction sequence or note elsewhere on the plan should indicate this).</p> <ul style="list-style-type: none"> <li>- Please give more project specific details for the SCM conversion sequence on G-004.</li> </ul>
<input checked="" type="checkbox"/>	v.	Show all Riparian Buffers (Neuse: [15A NCAC 2B .0714]). Please label riparian buffers on all site plan sheets and erosion control plan sheets.
<input type="checkbox"/>	w.	Delineation of current FEMA boundaries (floodway, non-encroachment areas, flood fringe and future/0.2%)



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<input checked="" type="checkbox"/>	x.	PERMANENT STORMWATER MANAGEMENT STRUCTURES: locations and types of all proposed stormwater management structures ( <i>grass swale, wet/dry detention basin, filtering/infiltration basin, bioretention, etc.</i> ). <b>Please label type of SCMs on plan drawing sheets.</b>
<input checked="" type="checkbox"/>	y.	DETAILED COMMENTS REGARDING PERMANENT STORMWATER MANAGEMENT: <b>Please show contours for the forebay sections of each SCM where the inlet pipes are draining into the pond.</b>
<input checked="" type="checkbox"/>	z.	Proposed stormwater easements, access lanes and backwater easements. Provide and label minimum 20 ft. Access easement and 10 ft. Maintenance easement from toe of stormwater pond embankment. <b>Please revise shape of easements to be 10ft from toe of stormwater pond embankment. (example here in blue, please check all)</b> 
<b>Standards and Requirements</b> Items marked with an "X" note relevant standards to be applied to the proposed development. Notes in <b>RED</b> provide review comments and/or any required elements to comply with standard. Ordinance references are shown in brackets.		
<input checked="" type="checkbox"/>	15.	<b>Stormwater Review Required</b> – All residential subdivision development must submit a plan to comply with the applicable municipalities' stormwater ordinance. Office, institutional, commercial or industrial development that <u>disturbs</u> greater than 20,000 square feet is required to comply with the stormwater management regulations. Development and redevelopment that disturb less than 20,000 square feet are not exempt if such activities are part of a larger common plan of development or sale, even though multiple, separate or distinct activities take place at different times on different schedules. <b>Rolesville [1.2.1.(E)], Wendell [ 6.5(F)], Zebulon [151.05]</b>
<input checked="" type="checkbox"/>	16.	<b>Stormwater Permit</b> – is required for all development and redevelopment unless exempt pursuant to the Code of Ordinances. A permit may only be issued subsequent to a properly submitted, reviewed and approved stormwater management plan and permit application. <b>Rolesville [1.2.3.(B)(2)], Wendell [6.5(F)(3)], Zebulon [151.21(A)]</b> Note: A permit may not be required if there are no post-construction requirements (i.e. SCMs).

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<input checked="" type="checkbox"/>	17.	<p><b>SCMs</b> – For projects requiring stormwater treatment for quality and/or quantity control, the applicant must 1) comply with the <a href="#">NC Stormwater Design Manual</a> <b>Rolesville</b> [1.2.4.(B)(2)], <b>Wendell</b> [6.5(N)(2)], <b>Zebulon</b> [151.07] 2) as well as <i>Completion of Improvements and Maintenance</i>, prior to issuance of a certificate of compliance or occupancy. <b>Rolesville</b> [1.2.5], <b>Wendell</b> [6.5(O)], <b>Zebulon</b> [151.50 – 151.56]</p>
<input checked="" type="checkbox"/>	18.	<p><b>Standards Based on Project Density</b> – In accordance with the definitions, projects are identified as Ultra Low-Density (15% or less Built-Up Area, referred to as BUA, and less than one dwelling unit per acre), Low-Density (more than 15% BUA and no more than 24% BUA), and High-Density (24% or more BUA). <b>Rolesville</b> [7.5.4], <b>Wendell</b> [6.5(E)], <b>Zebulon</b> [151.10]</p>
<input type="checkbox"/>		<p><b>Standards for Ultra-Low and Low-Density Projects:</b></p> <ul style="list-style-type: none"> <li>• Use of vegetated conveyances to maximum extent practicable</li> <li>• Location of development and redevelopment outside Riparian Buffer and Flood Protection Zones</li> <li>• Recorded deed restrictions or protective covenants to ensure future development maintains consistency with approved project plans</li> <li>• Permanent SCMs (Stormwater Control Measures) are to be designed in accordance with and as specified in the North Carolina Department of Environmental Quality's Design Manual.</li> <li>• For Low-Density only, no net increase in peak flow leaving the site from the pre-development conditions for the 1 yr-24hr storm. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120 hours.</li> <li>• Residential runoff after development must not exceed the Target Curve Numbers listed in the chart "Maximum Composite Curve Number, by Soil Group".</li> <li>• Ultra-Low and Low-Density projects may be eligible for target curve number credits.</li> </ul> <p><b>Wendell Only:</b> Nitrogen export limited to 3.6 pounds per acre per year unless project achieves classification as an LID Project.</p> <p><b>Rolesville</b> [1.2.4(A)(1-3)], <b>Wendell</b> [6.5(M)(1)], <b>Zebulon</b> [151.35(A-C)]</p>
<input checked="" type="checkbox"/>		<p><b>Standards for High-Density Projects:</b></p> <ul style="list-style-type: none"> <li>• Measures shall control and treat runoff from the first inch of rain. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120 hours.</li> <li>• Structural measures shall be designed to have a minimum of 85 % average annual removal for Total Suspended Solids (TSS)</li> <li>• Permanent SCMs (Stormwater Control Measures) are to be designed in accordance with and as specified in the North Carolina Department of Environmental Quality's Design Manual.</li> <li>• No net increase in peak flow leaving the site from the pre-development conditions for the 1 yr-24hr storm. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120 hours.</li> <li>• Location of development and redevelopment outside Riparian Buffer and Flood Protection Zones</li> </ul> <p><b>Rolesville</b> [1.2.4(A)(4)], <b>Wendell</b> [6.5(M)(4)], <b>Zebulon</b> [151.35(D)]</p>
<input type="checkbox"/>		<p><b>Low Impact Development (LID) Classification:</b></p> <ul style="list-style-type: none"> <li>• All development or redevelopment may be submitted for LID classification</li> <li>• Development must mimic the pre-developed hydrologic conditions of the site, as defined as "woods in good condition" for the 2-yr, 24 hr storm, within 10%.</li> <li>• Techniques required to achieve LID classification             <ul style="list-style-type: none"> <li>➢ Natural site design</li> <li>➢ Bio-retention systems or on-site infiltration (at least one must be used)</li> <li>➢ At least <b>two</b> other techniques from the list provided in <b>Rolesville</b> [1.2.4.(B)(5)(e)], and <b>Zebulon</b> [151.36(E)(5)]</li> <li>➢ At least <b>one</b> other technique from the list provided in <b>Wendell</b> [6.5(N)(5)(e)]</li> </ul> </li> </ul>



Wake County Environmental Services Department  
 Water Quality Division, Watershed Management Section  
 336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602  
 TEL 919 856-7400 • FAX 919 743-4772

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 CONSTRUCTION PLAN DISAPPROVAL AND REVIEW COMMENTS**

<input checked="" type="checkbox"/>	19.	<b>Downstream Impact Analysis</b> – Required analysis using the “10% rule” drainage area evaluation of the 10-year, 24-hour peak flow of the pre/post development to determine if the project will have any impacts on flooding or channel degradation downstream of the project site in accordance with <b>Rolesville</b> [1.2.4.(B)(1)] <b>Wendell</b> [6.5(N)(1)], <b>Zebulon</b> [151.36(A)]. <b>Please provide Downstream Impact Analysis per Town of Rolesville Stormwater Ordinance.</b>
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Wake County UDO Article 10 - Erosion and Sedimentation Control Requirements (Applies to Rolesville, Wendell and Zebulon)		
<input checked="" type="checkbox"/>	20.	<b>Erosion Control:</b> This project will require a Land Disturbance Permit if it involves <u>greater than one acre of disturbance</u> . <b>Note:</b> If the land disturbance is part of a common plan of development that is greater than one acre of disturbance, an Approved Erosion and Sediment Control Plan and Land Disturbance Permit are required for each individual tract or parcel disturbance within the common plan of development, regardless of land disturbance acreage in each tract/parcel.
<input checked="" type="checkbox"/>	21.	<b>Minimum Standards [Article 10-20-1]</b> – All soil erosion and sedimentation control plans and measures must conform to the minimum applicable standards specified in <i>North Carolina’s Erosion and Sediment Control Planning and Design Manual</i> . Erosion control devices must be installed to prevent any offsite sedimentation for any construction site regardless of the size of the land disturbance.
<input type="checkbox"/>	22.	<b>Operation in Lakes or Natural Watercourses [Article 10-20-3]</b> – Land disturbing activity in connection with construction in, on, over, or under a lake or natural watercourse must minimize the extent and duration of disruption of the stream channel. Where relocation of a stream forms an essential part of the proposed activity, the relocation must minimize unnecessary changes in the stream flow characteristics.
<input type="checkbox"/>	23.	<b>Standards for High Quality Water (HQW) Zones [Article 10-20-11]</b> Land-disturbing activities to be conducted in High Quality Water Zones must be designed as follows:
<input type="checkbox"/>	a.	Uncovered areas in High Quality Water (HQW) zones must be limited at any time to a maximum total area of 20 acres within the boundaries of the tract.
<input type="checkbox"/>	b.	<b>Maximum Peak Rate of Runoff</b> – Erosion and sedimentation control measures, structures, and devices within HQW zones must be planned, designed and constructed to provide protection from the runoff of the 25-year storm.
<input type="checkbox"/>	c.	<b>Settling Efficiency</b> – Sediment basins within HQW zones must be designed and constructed so that the basin will have a settling efficiency of at least 70% for the 40 micron (0.04mm) size soil particle transported into the basin by the runoff of that 2-year storm which produces the maximum peak rate of runoff.
<input type="checkbox"/>	d.	<b>Grade</b> – The angle for side slopes must be sufficient to restrain accelerated erosion (side slopes no steeper than two (2) horizontal to one (1) vertical if a vegetative cover is used for stabilization unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices or other acceptable ditch liners)
<input type="checkbox"/>	24.	<b>Senate Bill 1020; “SECTION 3.(h) Additional standards for land-disturbing activities in the water supply watershed”:</b>
<input type="checkbox"/>	a.	Erosion and sedimentation control measures, structures, and devices shall be planned, designed, and constructed to provide protection from the runoff of the 25-year storm
<input type="checkbox"/>	b.	Sediment basins shall be planned, designed, and constructed so that the basin will have a settling efficiency of at least seventy percent (70%) for the 40-micron size soil particle transported into the basin by the runoff of the two-year storm that produces the maximum peak rate of runoff



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<input type="checkbox"/>	c.	Newly constructed open channels shall be planned, designed, and constructed with side slopes no steeper than two horizontal to one vertical if a vegetative cover is used for stabilization unless soil conditions permit steeper slopes or where the slopes are stabilized by using mechanical devices, structural devices, or other acceptable ditch liners.
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**Neuse Riparian Buffer Rules**

<input checked="" type="checkbox"/>	25.	Due to the location of this project, it should be noted that a rule to protect and maintain existing buffers along watercourses in the Neuse River Basin became effective on July 22, 1997. The <b>Neuse River Riparian Area Protection and Maintenance Rule (15A NCAC 2B .0714)</b> applies to all perennial and intermittent streams, lakes, ponds and estuaries in the Neuse River Basin with forest vegetation on the adjacent land or "riparian area".
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**North Carolina General Statute § 113A-61 (c) - Right to Appeal the Decision**

<input checked="" type="checkbox"/>	26.	The applicant has the right to appeal this decision per North Carolina General Statute § 113A-61 (c).
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**Additional Suggested Changes/Comments**

<input checked="" type="checkbox"/>	27.	<ul style="list-style-type: none"> <li>- Please update arrangement of erosion control plans, details and SCM details to be sequential in the overall plan set. It is difficult to follow when the stages are broken up by other sheets.</li> <li>- Recommend limiting exposed area to no more than 75 acres ("rolling" acres) in accordance with 10-30-4 item A3 in the Wake County UDO.</li> <li>- Please revise plan notes to make clear that this project is a mass grade only.</li> <li>- Has the project already received the demo permits from Building, Septic, and Well departments?</li> <li>- Please show EC measures such as perimeter silt fence and include notes for the demolition phase of this project. Can be done on the demolition sheet or as a part of phase 1.</li> <li>- Please make sure basin numbers and information are matching from the plan set to the drainage report.</li> <li>- All checked items are required for the erosion and sediment control and stormwater management submittal to Wake County. Please feel free to contact me if you have any questions regarding these items.</li> </ul>
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Environmental Consultant: **Marlena Brown, REHS** Contact Info: [marlena.brown@wake.gov](mailto:marlena.brown@wake.gov)  
 919-743-4772

Environmental Engineer:  **Elizabeth Powell, PE** Contact Info: [elizabeth.powell@wake.gov](mailto:elizabeth.powell@wake.gov)  
 919-856-7422