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File;	
2/9/2021	
Woodlands at Echo Farms Tract 3C TRC Rev. 1	

The following is a list of comments for review from planning regarding the project. Please provide your corrections as listed below. A staff summary of comments:

Staff	Department	Notes
Brian Chambers	Planning, Plan Review	Comments below
Eric Seidel	Engineering	Comments attached
Chris Walker	Fire	No comments
Mitesh Baxi	Traffic Engineering	Comments attached
Bill McDow	Transportation	Comments attached
Anna Reh-Gingerich	Stormwater	Comments attached

Planning Review

Brian Chambers, brian.chambers@wilmingtonnc.gov, 910.342.2782

Comments:

- This project cannot be approved until after the pending preliminary plan is approved by the Subdivision Review Board.
- Remove signature blocks, plans will receive digital approval stamp.
- With the smaller building footprints there may be an opportunity to save additional trees behind lots 1 thru 4.
- Please examine if any of the highlighted trees (below) can be saved.



Engineering has reviewed the plans for the Woodlands at Echo Farms-Tract 3C project submitted January 6, 2021 for TRC review and have the following comments:

Stormwater Management Permit Application Form

- 1. IV. Project Information; #13: Minor Discrepancy-Pond 3C-2's off-site and on-site drainage areas do not equal the total listed.
- <u>Plans</u>
 - 2. C1:
 - a. Can CI 3C-21 be connected to CI 3C-19 to eliminate the pipe outside of the public r/w and the need for the public drainage easement? DI 3C-20 would remain connected to CI 3C-19 as shown but the pipe diameter could possibly be reduced.
 - b. Pond 3C-2 does not have an acceptable emergency spillway. The emergency spillway must be independent of the primary outlet structure. A second outlet structure can be added and connected to the 36" outlet piping downstream of the primary outlet structure.
 - 3. C1.4: Pervious Concrete Pavement Section: Permeable Pavement Recommendation 2: Geotextiles: Geotextiles (permeable) should line the sides of the aggregate base to prevent migration of adjacent soils into the system and subsequent permeability and storage capacity reduction. This problem is more likely in sandy or loamy soils. Geotextiles are not recommended under the aggregate base in an infiltration design because they can accumulate fines and inhibit infiltration.
 - 4. C2: Water/Sewer installation in Appleton Way public r/w must follow City's Street cut policy. Add appropriate City standard details for utility installation and road rebuild/repair (SD 1-04, 1-05, 1-07).
 - 5. Detail sheets: Update all City details to be the most recent pdf version downloaded from the city website. City standard details must show the City titleblock.
 - 6. L1.0:
 - a. Street trees must be located a minimum of 10 feet from storm inlets and 15 feet from street lights.
 - b. Update the storm layout to better highlight possible landscaping placement conflicts. Several trees are planted too close or over top of storm drain piping.
 - c. Is it possible to save more trees behind units 1-4? The grading looks as if it could be pulled in and the storm piping realigned to save a grove of trees.
 - d. Pull all landscaping off the side slopes of Pond 3C-2.

Please call or email if there are any questions. Thank you.

BASE INFORMATION:

- Revise relevant sheets to accurately illustrate the existing conditions on and surrounding this parcel. Show all adjacent traffic signs, lane configurations, traffic control devices and pavement markings on the site inventory plan. Please refer to the Technical Standards and Specifications Manual (link is below) Ch. VII C.1.a.2.for specific information and distance requirements. Contact Traffic Engineering at 341-7888 if you need assistance locating these elements. https://www.wilmingtonnc.gov/home/showdocument?id=11856
- Coordinate with Engineering division for any variance to the technical standards.

TECHNICAL STANDARDS – ACCESS:

- 1. Dimension the proposed cul-de-sac circular radius.
- 2. Install the stop bar at the egress of Coosaw pl on Appleton Way.
- 3. The proposed high visibility pavement marking for the crosswalk on Coosaw PI in advance of culde-sac is not required and shall not be installed as the design is considered and labelled as a culde-sac and not configured as a roundabout.
- 4. Any of the required signs shall not be installed in the public right-of-way when the signs being installed are intended to function as traffic control for a private driveway (Figure 1.4, Figure 2.1). [Sec 1 A (18) CofW Sign Specification] https://www.wilmingtonnc.gov/home/showdocument?id=3940

- 5. Please keep the MUP clear from any traffic signage.
- 6. The driveways accessing Road A.1 off proposed Coosaw PI ROW have sidewalk portion been partly included by 8' wide MUP. Preference would be to have flares and concrete width extended till the back of MUP. Please coordinate with Engineering for its configuration.

TECHNICAL STANDARDS – PARKING:

- 7. All off street parking areas shall be arranged so that ingress and egress is by forward motion of vehicles. [Sec.18-526 CofW LDC] The angled parking in the vicinity of southern access of Road A.2 has a potential to back into the sidewalk. Please revise.
- 8. Dimension angle parking stalls, radii, and parking aisles. [Sec. 18-529(b)(2) CofW LDC]
- 9. The recommended minimum and standard on-street parking space measured from the face of curb shall be eight feet (8 ft.) wide and twenty-three feet (23 ft.), measured parallel with the edge of roadway. [Chapter VII (D) page 7-16 of CofWTSSM] Subject to variance.
- 10. Wheel stops shall be installed for angle parking space to restrict the vehicle from approaching the 8' MUP between block 22 and 23.
- 11. Provide a turning movement analysis of a largest vehicle expected to access this facility, cul-desac, and proposed street/s.
- 12. For any parking spaces an allowance for a 2.5' vehicle overhang must be considered. The adjacent curb may not be more than 4" in height to protect the vehicle from getting damaged. [Page 7-20 of CofWTSSM]
- 13. Please show location of accessible ramp(s) and parking signs and provide details on the plan.
- 14. Note/label the plan with spot elevations that clearly indicate the accessible route from the HC space(s) to the building. [Sec. 18-529(b)(2) CofW LDC]
- 15. Existing wheelchair ramps shall be retrofitted with flexible surface-applied detectable warning mats [Chapter II (E) (6) of CofWTSSM].

STREET LIGHTING [City of Wilmington Street Lighting Policy]:

- 1. The standard streetlight shall be DEP designated LED equivalent fixture installed within the recommended range of mounting heights for the specific fixture. The standard streetlight shall be installed on a wooden pole in areas served from overhead facilities and on a fiberglass pole in areas served from underground facilities.
- 2. A layout for the proposed Standard street lighting locations and updated notes is attached with this review. Minimum of 3 (three) streetlights are required for this sub-division.
- 3. Developers may choose to provide any extra lights or ornamental. Any installations above the criteria of Standard street lighting, will be considered as non-standard and must conform to the City's non-standard street lighting procedure as per the policy.
- 4. If non-standard lighting is desired, the light spacing would be ½ of indicated on the plan.
- 5. Developers shall bear any installation costs associated with streetlights, if applicable. In areas served from underground facilities, the developers shall pay the one-time underground contribution charge, if applicable.
- 6. The Planning, Development and Transportation Director or designee and the City Landscape Designer will coordinate plaza plantings and streetlight locations to minimize the obstruction of light by vegetation.
- 7. All the streetlights shall be installed within the public ROW.

GENERAL NOTES TO ADD TO THE PLAN:

A. Street trees must be located a minimum of 15 feet from streetlights. [CofW SD 15-17]

NOTES TO BE AMENDED:

- B. City of Wilmington note 8.: Contact 811 prior to contacting City of Wilmington, Traffic Engineering regarding the utilities in ROW.
- C. City of Wilmington note 10.: contact 341-5899.

Please let me know if you have any questions or if I can be of further assistance.



Project Name: WOODLANDS AT ECHO TRACT 3C TRC Date: 02.11.2021 Reviewer Name: BILL McDow Reviewer Department/Division: PDT/Transportation Planning

TECHNICAL STANDARDS:

- 1. The site has proposed a 62 unit residential project.
- 2. This project was a part of the original Woodlands at Echo TIA.
- 3. Please show the approved SRB and variance conditions on the site plan.
- 4. Please show TIA improvements from the Woodlands at Echo TIA on the site plans.
- 5. Please verify the length of the Cul-De-Sac was approved during the SRB.
- 6. The site has sidewalk and an 8' MUP. Please consider providing bicycle parking on the site plans.

Please let me know if you have any questions regarding the comments.

Project: Woodlands at Echo Farms Tract 3C TRC Meeting Date: 2/11/21 Reviewer: Anna Reh-Gingerich Department: Stormwater Services

To Whom It May Concern:

The Woodlands at Echo Farms Tract 3C project falls within the Barnards Creek Watershed. Any additional stormwater capture on-site would help reduce the amount of stormwater runoff and pollution that could enter Barnards Creek and, eventually, the Cape Fear River.

My comments:

- 1. Thank you for incorporating some native plants! I would like to encourage you to incorporate more:
 - Weeping Willow, Chinese Elm, Crape Myrtle, and Sawleaf Zelkova are all technically species not native to North Carolina even though they enjoy the conditions here. Consider native trees such as serviceberry, persimmon, loblolly bay, American hophornbeam, redbuds, dogwoods, Carolina cherry laurel, red maple (*acer rubrum*), or cherrybark oak (*Quercus pagoda*) to name a few. More are available in this booklet, as well as more native shrub options: <u>https://ncwildflower.org/handouts/Coastal-Landscaping-Guide-Book.pdf</u>
 - Rather than the Formosa Azalea, consider a variety native to North Carolina. A list of native azaleas is available here: <u>https://www.trianglegardener.com/wpcontent/uploads/2018/12/Native-Azalea-Chart.pdf</u>
 - A variety of sedges would also work: <u>http://hoffmannursery.com/assets/files/Hoffman_Nursery_Green_Infrastructure_Chart.pdf</u>
 - The North Carolina Extension Gardener toolbox is also a great resource for researching the native ranges of plants and finding suitable native alternatives: <u>https://plants.ces.ncsu.edu/</u>
- 2. Thank you for proposing pervious parking areas! I would even suggest using pervious materials in sections of the driveways if the soils and water table allow. Converting even just a small portion of the driveway can make a big difference in soaking in stormwater runoff.
- 3. Incorporate more tree save into the site plan. Many citizens have voiced concerns over tree loss and the Mayor has promoted an initiative to promote tree retention and planting within City limits to improve the overall tree canopy. Trees are helpful for erosion control, stormwater management, and reduced energy costs. Could more of the trees near the 0.12 ac wetland area be saved?
- 4. Although allowed by ordinance, the proposed wet ponds are not recommended for approval. With recent incidents of anatoxin-A and other bacteria associated with blue-green algae in wet ponds, as well as recent and on-going research by NC State University, UNC-Wilmington and NCDEMLR concerning the efficacy and overall public health and safety and water quality

performance of wet ponds, we recommend alternative stormwater control measures, depending on the soils and ground water conditions. These could include bio-retention, constructed stormwater wetlands, and infiltration practices, using the NCDEMLR Stormwater MDC Design Manual.

 If the wet ponds move forward, consider incorporating floating wetland islands to provide more nutrient removal. We are encouraging more practices to reduce the potential for toxic algal blooms, which pose a public health and safety risk. They fall under Design Variant 1 in the NCDEQ Stormwater Design Manual (page 15): <u>https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Stormwa</u> <u>ter/BMP%20Manual/C-3%20%20Wet%20Pond%2004-17-17.pdf</u>.

Thank you for the opportunity to review! Please do not hesitate to reach out to me if you have any other questions or would like to explore other ways to incorporate green infrastructure into the project.

Thank you,

Anna Reh-Gingerich

Interim Watershed Coordinator - Heal Our Waterways Program City of Wilmington Stormwater Services 209 Coleman Drive Wilmington, NC 28412 Ph: 910-765-0629 | Fax: 910-341-7832 anna.reh-gingerich@wilmingtonnc.gov www.healourwaterways.org

