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MEMORANDUM

Date: March 05, 2024
To: Michael Elabarger
From: Jacqueline Thompson, PE
Subject: The Preserve at Moody Farm
CID 24-09 2nd Submittal
Town of Rolesville, NC

This memo summarizes the review of the construction infrastructure drawings submitted by American Engineering Associates, dated 02/03/25 (received 02/06/25).

Sheet CVR:

1. The 2nd CD Submittal date should be corrected to show 2025 instead of 2024.

Sheet C3.0:

2. Repeat: Ensure erosion control plans follow NCDEQ design criteria. There are areas where the silt fence appears to be handling a decent amount of area without any other erosion control measures. Table 6.62a in NCDEQ's NC Erosion and Sediment Control Planning and Design Manual specifies the maximum areas silt fence can be designed for without adding additional measures. Consider adding additional diversion ditches routed towards the proposed sediment basins.

Sheet C3.6:

3. Repeat: Ensure silt fence outlets are located at low points along the silt fence. Please add a silt fence outlet at the low point south of the existing pond on this sheet, similar to what was shown in the previous submittal.

Sheet C3.7:

4. Repeat: Dewatering bag should not be placed in a way that the water will naturally flow back into the sediment basin. If water is being routed around the basins, ensure it is able to remain in the limits of disturbance and not conflict with other erosion control measures.
 - a. This comment also applies to Sheets C3.8 and C3.9.
5. There is a leader indicating "existing soil path," however the path is not showing. Please show the path or remove the leader based on intentions for this phase of erosion control.

6. Repeat: Specify how access to existing houses will be maintained throughout construction. If the existing dirt drive is to be maintained during Phase 1 of erosion control it should be shown on the plans.

Sheet C3.9:

7. The SB#3 dewatering bag should be moved outside of the extents of the sediment basin.

Sheet C3.11:

8. Repeat: Provide inlet protection around all inlets that do not have any.

Sheet C3.9:

9. Please add additional contour labels northeast of SB#4.
10. Clarify what the line through the southwest corner of SB#2 represents. If it is a contour, it should be adjusted so as not to overlap with other contours.

Sheet C4.4:

11. Extend the WP#2 access easement to include the full extents of the access path around the pond.

Sheet C5.0:

12. Repeat: Slopes are not to exceed 3:1 without additional steps taken for stabilization. Slopes of 3:1 or less are recommended. The geotechnical report also recommends that permanent slopes do not exceed 3:1. Due to environmental impacts, if the engineer chooses to go steeper we will allow it, but a railing must be installed adjacent to sidewalk. In addition, appropriate stabilization needs to be provided on the steeper slopes, such as rolled erosion control products.

Sheet C5.1:

13. The storm drainage easement along lot 25 may be reduced based on the updated storm pipe locations in this area.

Sheet C5.2:

14. There appears to be a low point near CB 308 and CB 306 that is not being collected. Please adjust storm design as necessary to prevent any pooling here.
15. Repeat: Extents of headwalls should be clearly shown on plans. Ensure grading meets maximum slope requirements.
 - a. This comment also applies to Sheet ***
16. The slope at the existing cemetery access point is currently very steep. Please ensure grades allow for easy access to the cemetery.

Sheet C5.3:

17. Repeat: There appears to be a low point south near CB 510 and YI 509 that is not being collected. Please adjust storm design as necessary to prevent any pooling here.

Sheet C5.4:

18. The proposed contours at the low point of the multiuse path west of WP#4 indicate that the path is not appropriately sloped to avoid water from pooling up. Please adjust contours and/or grading in this location as needed.

19. The contours along Cranapple Lane do not appear to be showing correctly. Please adjust them to show the correct grading.

Sheet C5.5:

20. Ensure the design shown on the plan set (all acreages, drainage areas, storm layout, etc.) matches that shown in the SIA report. This comment applies to all drainage sheets and SIA report pages.

Sheet C7.1:

21. Repeat: Ensure minimum drop requirements in storm structures are met. A minimum of 0.1' is required for angles between 0-45 degrees and a 0.2' drop is required for angles between 45-90 degrees.

Sheet C8.5:

22. There are proposed contours by HW 613 that are not tying in to existing. If these contours are meant to be there, please show how they are to tie in, otherwise remove them.

Sheet C10.0:

23. Repeat: To meet the Town of Rolesville requirements, all vertical curve lengths shall be in 50-foot increments.
 - a. This comment applies to all street profiles.
24. Repeat: Ensure the proposed grade is tying in to the existing surface on the Tansley Crest Loop profile.

Sheet C11.0:

25. Repeat: Typically, grade change is not to exceed 3% without a vertical curve. Due to this being allowed on a previous project and with this project being under the UDO and not LDO/S, if you feel confident in your design then we can proceed as designed. If there are issues after construction, the inspector's acceptance will dictate any changes that may need to be made in the field for safe and comfortable driving conditions. Please keep in mind that going forward on projects, the Town will be enforcing grade change exceeding 3% to have a vertical curve.
26. Repeat: To meet NCDOT and the Town of Rolesville requirements, K values as defined in the Town's Standards Manual will be required. In the case of stopping conditions, the minimum K value is 14 for residential local roads.
 - a. This comment applies to all street profiles.

Sheet C13.0:

27. Label minimum separation between storm and sanitary sewer on the "Sewer Outfall (A) at Vintage Vinery Court" Profile.

Sheet C14.0:

28. Adjust the proposed grade leader on the "CB 503 to FES 500" Profile so that it is pointing to the proposed grade rather than existing. If the proposed grade is meant to extend to where the leader is, please ensure the linework is shown correctly on the plans.

SIA Report:

29. On the Pre-Development Point of Discharge Area Map, please ensure the colors shown accurately represent the pre-development conditions. Update the legend as necessary to include all existing conditions.
30. On the Post-Development Point of Discharge Area Map, there is a drainage area near the intersection of Woodlyn Park Dr and Tansley Crest Loop that is not defined. Please include a label for this section so it is clear how it was considered for the calculations.
31. Ensure all inlet drainage areas accurately match contours. If the intent is to swale drainage to a particular inlet, the swale should be shown on the plans.
32. When adjusting plans to ensure low points are being collected, make sure to update drainage areas/storm calculations to match those adjustments.
33. The drainage area for PDD #4 on the Permanent Diversion Ditch Drainage Areas map does not match the existing contours. Please update the drainage area to accurately reflect the area draining towards PDD #4.
34. Verify the time of concentration calculations. Make sure sections with defined channels are taken into account in the channel flow portion of the calculations.
35. The HGL must remain in the storm pipes for the 10-year storm.
36. Please ensure the Post POD 1 and Post POD 2 peak flows are both shown (as two separate values) so it can easily be seen that the post-development flows at those points do not exceed the pre-development flows.