

May 11, 2022

Re: Cobey Creek 2nd Plat

Anderson Engineering has received your comments dated March 30, 2022 and have the following responses:

City of Lee's Summit – Engineering Plan Review – Street and Storm Sewer
Gene Williams, P.E. – (816) 969-1223

1. Stormwater report was missing from the submittal. No review was performed on Sheet C503 concerning the detention basin construction elevations, storage volume, discharge rates, etc.. Please submit a stormwater report for this phase of the project. Please note we will require a pond setup table or other printout from the software showing the sizing and elevations of various orifices and weirs used in the outlet structure. **This basin was re-designed based on the original drainage report included in Cobey Creek 1st Plat, and is intended to serve that purpose. Due to the existing water main and associated easement that is located at the southwest corner of the Cobey Creek property, a minor revision was made to the far southwest detention basin to avoid conflict. The basin is still intended to serve the purpose of the originally approved basin. The stormwater study will be submitted with resubmittal of these plans.**
2. Is the intent to include the erosion and sediment control plan within this plan set? If so, no land disturbance can be permitted until the street, stormwater and Master Drainage Plan have been submitted. You may wish to consider leaving the mass grading, erosion and sediment control plan out of these plans, as most developers are interested in mass grading and erosion and sediment control prior to approval of the street and stormwater plans. Please review and revise as you feel appropriate. **It was my original understanding after going through the city process with the Highland Meadows development, that the city preferred these to be separate plan sets, but also included in the street and storm plans. Since the contractor will bid the entire project at once, and not begin construction until the entire project is approved, we will disregard the stand-alone "Mass Grading and Erosion Control" plan set and just keep them all together in the Street/Storm plans.**
3. Sheet C503: In order to facilitate a smooth approval process of the as-built condition of the detention basin, the following items shall be required on this sheet:
1) 2-, 10-, and 100-year storage. By providing this information on the construction plans, it will be a simple matter at the back end to provide the as-built information by crossing-out and showing the as-built condition. Please revise as appropriate. **Design storage volumes have been added to the sheet as requested.**

4. Is 4 feet of depth sufficient for the permanent pool? Please be aware that fish cannot survive in this configuration, and it is likely that mosquitoes could become an issue. The originally approved basin was designed with a depth of 4 feet in the Cobey Creek 1st Plat plan set and drainage study, and I tried to change as little as possible from what was originally approved. In this revised submittal, I increased the depth by an additional 4 feet to provide siltation volume.
5. KCAPWA requires a minimum of 4.0 feet for a permanent pool depth, plus an allowance for 5 years of siltation. It does not appear any allowance was made for siltation. Please review and revise as appropriate. The originally approved basin was designed with a depth of 4 feet in the Cobey Creek 1st Plat plan set and drainage study, and I tried to change as little as possible from what was originally approved. In this revised submittal, I increased the depth by an additional 4 feet to provide siltation volume.
6. All ADA-accessible Ramp Detail Sheets: At all stop-controlled intersections, please show the minimum 5-foot-wide ADA-accessible route across the intersection, including the maximum 1.5% slope across the entire route. Please review and update as appropriate. 5-foot-wide route with max. cross slope arrows have been added to the ADA Ramp Detail sheets.
7. Please show on the plans where sidewalk and ADA-accessible ramps will be constructed. All ADA-ramps shall be constructed during construction of the improvements shown on these plans, and all sidewalk along unplatted tracts or common area tracts shall also be constructed during construction of the improvements shown on the plans. Please indicate by notes on the plans, preferably on the general layout sheet and the individual plan and profile sheets. All other sidewalk should be noted as "to be constructed by homebuilder" or equivalent language. Please refer to the Master Sidewalk and ADA Ramp Layout (sheet 43) for a visual of sidewalk hatching and notes that were added to distinguish what sidewalk needs to be constructed with the public improvements.
8. Regarding sidewalk notes (above comment), it may be easiest to provide notes in the legend, along with corresponding notes on the plan view. The intent should be to clearly show the contractor and inspector the limits of construction of sidewalk and ADA-accessible ramps. Please review and update as appropriate. Distinguishability has been added by hatching the sidewalk that the contractors are responsible for in a darker color and clarifying it on the hatch legend of the plans.
9. Sheet C410: The detail on the lower right-hand side of the sheet shows a straight-in ADA ramp with detectable warning more than 5.0 feet from back of curb. The detectable warning should be skewed at this location so that no more than 5.0 feet between the detectable warning and the back of curb exists. Please revise. Detectable warning strips have been revised to be skewed at an angle along the curb



for each ADA ramp location.

10. General Note on Master Drainage Plan: All sheets comprising the Master Drainage Plan shall be titled as such. There are sheets related to the Master Drainage Plan that are titled as "Minimum Building Opening", and this is ok but should be prefaced as "Master Drainage Plan". The City also has adopted "Minimum Building Opening Elevation (MBOE)" as the official nomenclature, and this should also be reflected on the sheets comprising the Master Drainage Plan. The reason behind this requirement is that the Master Drainage Plan is used by Development Services permit technicians during plot plan reviews, and it can become confusing on the nomenclature if this is not followed. Please review and revise as appropriate. **The Grading Plan is now called the "Master Drainage & Grading Plan". The MBOE Plans are now called "Master Drainage Plan – MBOE North" and "Master Drainage Plan MBOE South" respectively.**
11. The MBOEs for the lots do not necessarily need to be specified for each lot. The City has encountered issues with this requirement in the past, and has now adopted a less stringent requirement for setting MBOEs for lots. In general, the following design philosophy is recognized as acceptable: 1) MBOEs are only required along detention basin tracts or emergency overflow swales where the underground system cannot manage the 100-year event without surcharging (i.e., defined as the HGL being less than 6 inches from the throat of the inlet during the 100 year event assuming pressure flow), 2) where overflow swales are required, the HGL within the overflow swale is generally-calculated as the excess above and beyond what the inlet cannot manage using the criteria specified above in item 1 (i.e., calculation of flow within the overflow swale need not consider a fully-clogged condition, but rather, the incremental flow above and beyond what the underground system cannot manage without surcharging), and 3) any other situation where the design engineer feels that an MBOE is required to protect property from flooding. A minimum freeboard of 2.0 feet is required from the 100-year HGL to the lowest opening in the structure. Please review, analyze, and revise as deemed appropriate. **MBOE Plans have been revised to meet the above requirements.**
12. Regarding the above comment, if the design engineer feels MBOEs are prudent for each lot, that is also acceptable. It is not required, however, and I wanted to make you aware of this design philosophy so that individual homebuilders have options during construction, and individual plot plans are then subsequently reviewed on the basis of "good lot grading practice" (i.e., minimum slope away from building, minimum slope in any direction within the lot, etc.). **Acknowledged. Thank you for the clarification.**
13. Master Drainage Plan: The City is requiring all lots to specify walkout, daylight, or standard basement types for each lot. Please review and revise as appropriate. **It is difficult for us as the public infrastructure engineers to predict what type of home**



they will try to fit on any given lot for any given customer. They might be able to make a walkout work depending on the situation. If it's a split entry home for example, a "walkout" would be feasible due to the elevated front door. I'm not sure if the homeowner's association allows split entry homes at Cobey Creek or if Summit Homes even has any split entry models, but this is just one example. I believe this is something that should really be specified at the time of Plot Plan submission. At that time, the lot will be what the lot is, and the plot plan engineer will know what the building footprint looks like in relation to the lot shape and topography given to work with are. If we attempted to define what can be allowed on any given lot at this stage, we would potentially be limiting the home builder to the possible home/lot combinations that are possible.

14. Please specify "wet detention" or equivalent language on all sheets where the new detention basin is to be constructed. **Revised.**
15. All Storm Sheets: Recommend all storm lines be sized for the 100-year event (i.e., pressure flow with the HGL no less than 6 inches from the throat of the inlet). If not, emergency overflow swales shall be designated for each scenario, along with detailing of each swale by sections at appropriate intervals. It would appear the system may already be functioning in this fashion, but unclear unless I review the individual calculation sheets. Recommend showing the HGL for the 100-year event on the profile view. If the 100-year HGL is out of tolerance specified above, recommend upsizing the pipe to manage the 100-year event during pressure flow. Please analyze, review, and revise as appropriate. **The storm pipes in Phase 1 were only designed for the 10-year storm, so our Phase 2 storm pipes that connect to existing are limited in size to the pipes downstream. In any instance where the 100-yr HGL exceeds the finish grade surface, stormwater will flow in the street gutter as a secondary routing method as explained in the general notes at the top of sheet C500. All new storm sewer systems that connect directly to the existing dry detention basin without passing through any Phase 1 storm sewer pipes have been designed for the 100-year storm and their HGLs have been added to the plans.**

If you have any further questions, feel free to contact me at 913-284-9362 or by email at gcates@ae-inc.com.

Sincerely,



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