

Date: Friday, May 31, 2019

To:

HG CONSULT, INC
Kevin Sterrett, P.E.
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Fax #: <NO FAX NUMBER>

From: Gene Williams, P.E.
Senior Staff Engineer

Application Number: PL2018209

Application Type: Engineering Plan Review

Application Name: Cobey Creek 1st Plat - Street, Storm, MDP, and Land Disturbance

The Development Services Department received plans for this project on May 16, 2019. We have completed our review and offer the following comments listed below.

- Resubmit three (3) full size sets of plans (no larger than 24"x36") folded to 8-½"x11", one (1) comment response letter, and one (1) digital copy following the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within ten (10) business days of the date received.

Engineering Review

1. There is still concern about the size and quantity of the orifices used to comply with the 40 hour extended detention requirement on the north detention basin. If it is demonstrated after construction, that drawdown of the detention basin is not occurring within two (2) days after rain events, modifications and redesign shall be required prior to issuance of a Certificate of Substantial Completion and/or Certificate of Final Acceptance.
2. Within the plans or report, perhaps on the detail sheet showing the north detention basin, please call-out the "effective height" of the dam. Please refer to TR-60 for a definition in relation to the centerline of the dam, the existing grade elevation, auxilliary spillway, etc. It appears the effective height is less than 10 feet, but a statement should be made either on the plans, or within the body of the stormwater report.
3. As discussed in the previous comment letter, additional energy dissipation measures are required at the discharge end at the north detention basin. For the minimal cost associated with this potential liability issue, the City continues to maintain the necessity of this requirement. It has been our experience on past projects, with drainage areas significantly lower than this project, that the City's Design and Construction Manual, and MoDOT standard designs, are not adequate to protect adjacent property, when

discharging stormwater directly onto adjacent property. In general, a design is required which creates a hydraulic jump fully-contained within the off-site drainage easement, up to and including the 100 year event.

4. The following items were missing from the Engineer's Estimate of Probable Construction Costs dated Apr. 1, 2019: 1) paving as per the detail shown on Sheet 41, upper detail for the commercial local street with upgraded pavement thickness, and upgraded aggregate thickness, 2) stilling basin for north detention basin (see comments concerning this required feature), 3) erosion and sediment control devices, and measures, 4) final restoration, including seeding, fertilizer, mulch, and topsoil.

In order to calculate the Engineering Plan Review and Inspection Fee, a sealed Engineer's Opinion of Probable Construction Costs shall accompany your final submittal copies. The itemized estimate (material and installation) shall be sufficiently broken down and shall include the following items, as applicable.

- Public infrastructure, both onsite and offsite.
- Private street construction, including parking lots and driveways.
- Sidewalks located within the right-of-way.
- ADA accessible ramps.
- Sanitary sewer manholes and piping between manholes, including private mains.
- Connection of the building sanitary sewer stub to the public main.
- Waterlines larger than 2 inches in diameter, valves, hydrants, and backflow preventer with vault, if outside the building.
- Stormwater piping greater than 6 inches in diameter, structures, and detention / retention facilities - public or private.
- Water quality features installed to meet the 40-hour extended duration detention requirements.
- Grading for detention / retention ponds.
- Grading to establish proper site drainage.
- Utility infrastructure adjustments to finished grade (i.e. manhole lids, water valves, etc.).
- Erosion and sediment control devices required for construction.
- Re-vegetation and other post-construction erosion and sediment control activities.

Electronic Plans for Resubmittal

All Planning application and development engineering plan resubmittals shall include an electronic copy of the documents as well as the required number of paper copies.

Electronic copies shall be provided in the following formats

- Plats – All plats shall be provided in multi-page Portable Document Format (PDF).
- Engineered Civil Plans – All engineered civil plans shall be provided in multi-page Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).

Please contact me if you have any questions or comments.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer
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cc: Development Engineering Project File