

April 10, 2023

Gene Williams, PE
Senior Staff Engineer
City of Lee's Summit
220 SE Green Street
Lee's Summit, MO 64063

**RE: PL2023051 BLACKWELL RESERVE
ENGINEERING PLAN REVIEW DATED MARCH 28, 2023
PUBLIC STREET AND STORM SEWER**

Dear Gene:

Thank you for your review comments for the above-referenced public street and storm sewer plans dated March 28, 2023. Please see the responses below:

Engineering Review – Corrections

1. A stormwater memorandum shall be required which describes the stormwater detention being provided outside the limits of the plat. This is required for documentation purposes and shall describe why detention is not being constructed for this portion of the project, but rather, shall be provided by other adjacent portions of the project.

Response: The stormwater report has been revised to include this additional language.

2. Informational Comment: It is our understanding that a second street access point is required with a new connection to Blue Pkwy. Just west of the roundabout. This will change the geometry of the overall street plan, as well as the water line plans and the sanitary sewer plans.

Response: A fire access road through the commercial development has been provided with this submittal. This is in conformance with the approved preliminary plat.

3. Profile Views of Storm Lines: Please show the hydraulic grade line for the design storm event on the profile view of the storm lines. If the system cannot manage the 100-year event without surcharging (i.e., defined as being less than 6 inches from the throat of an inlet), an overflow route shall be established, and minimum building opening elevations shall be established for all habitable structures along the overflow route. The opening elevations shall be a minimum of 2.0 feet above the 100-year water surface elevation in this instance.

Response:

Revised as requested.

4. A typical section view of the pavement shall be provided for the pavement, with stationing shown for beginning and end. The typical section shall meet the requirements shown in the Design and Construction Manual for construction of streets..

Response: Revised as requested.

5. Sheet 13: ADA-accessible ramps shall be detailed with: 1) running slope callouts not to exceed 7.5% design slope, 2) cross-slope callouts not to exceed 1.5%, 3) ADA-accessible route across stop-controlled intersection with a minimum of 5 foot width and 1.5% cross-slope. Please revise as appropriate.

Response: Revised as requested.

6. Private alley appears to be shown without curb and gutter. Curb and gutter should be shown for the private alleys. Please revise as appropriate.

Response: Private alleys do not include curb and gutter, rather that have an inverted crown and grate inlets along the centerline. This is consistent with previously approved projects in the City of Lee's Summit, and is a critical design feature.

7. Information Comment: If the development is being platted as separate lots, a Master Drainage Plan shall be required. The Master Drainage Plan is normally a part of the street and stormwater plans. Further discussion is being held about the applicability of this development being in the form of separate lot ownership, and hence may affect the requirement for a separate Master Drainage Plan.

Response: A master drainage plan is included with the Street and Storm sewer plans.

8. Area inlets are called out within the private alley. There does not appear to be any detail within the plans for an "Area Inlet". The City has a standard detail for a field inlet, but this does not appear appropriate for an alley. Please review and revise as appropriate and ensure there are sufficient details contained in the plans for construction.

Response: Please see APWA grate inlet detail provided on sheet 24.

9. Field inlet 1001: This field inlet was called out on Sheet 18 without any corresponding callouts for the number and cardinal direction of openings. Please callout the openings for this field inlet.

Response: Provided as requested.

10. The swale along the west side of the property which begins at approximately lot 11 and ends at the aforementioned field inlet is long. Details concerning this swale, such as flow rate, depth of flow, and vertical distance to building openings were not provided. This information is typically shown on the Master Drainage Plan discussed previously, but regardless of whether a Master Drainage Plan is required or not, this swale shall be designed with a minimum 2.0 foot freeboard

between the 100-year water surface elevation and any building opening along the swale. Please evaluate and revise as appropriate.

Response: Master drainage plan and swale calcs have been provided with this submittal.

11. The same comment above also applies to the swale along the north side of the development. Please evaluate and revise as appropriate.

Response: Master drainage plan and swale calcs have been provided with this submittal.

12. Turf reinforcement mat should be shown for all swales described above. Please revise as appropriate.

Response: Revised as requested

13. Depending upon how this development is platted, sidewalks along "lot lines" may be required during construction rather than individual builders. The notes on the plans state the sidewalks will be constructed by others unless otherwise noted. Please evaluate and revise as appropriate.

Response: Revised as requested

14. A trenching and backfill detail appeared to be missing. Please provide a trenching and backfill detail for the storm lines, and ensure the new standard of 12 inches aggregate over the top of pipe is shown.

Response: Provided as requested on sheet 24.

15. It appears some of the stationing for storm sewer structures were missing. Please ensure the plans shown the stationing on the revised plans.

Response: Revised as requested.

16. Sheet 5: The drainage map shows the limits of "onsite 4" ending at the west property line. Is there any drainage from offsite areas that will contribute to the flows within the western or northern swales? It is difficult to determine from the plans as the offsite contours are not labelled. Please evaluate and review, and revise if appropriate.

Response: The grade falls away from the site at the property line, so the onsite watershed stops there. Additional contours labels have been provided as requested.

17. The same comment as above applies to the northern property line. The drainage area appears to abruptly terminate at the property line. Are there any offsite contributors to flow within the northern swale? Please evaluate and review, and revise if appropriate.

Response: The grade falls away from the site at the property line, so the onsite watershed stops there. Additional contours labels have been provided as requested

18. Information Comment: An itemized and sealed Engineer's Estimate of Probable Construction Costs shall be required prior to formal approval. The Engineering Plan Review and Inspection Fee is based on this estimate.

Response: Understood.

Traffic Review – Not Required

1. Street name signs should be a mix of upper and lower case letters, per City standard details.

Response: Revised as requested.

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 property 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 resubmittal 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).

Should you have additional comments or questions, please do not hesitate to contact me.

Sincerely,

SCHLAGEL & ASSOCIATES, P.A.

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Attachments