

---

**DEVELOPMENT SERVICES**

**Date:** Wednesday, July 13, 2022

**To:** ENGINEERING SOLUTIONS  
50 SE 30TH ST  
LEES SUMMIT, MO 64082

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

**Application Number:** PL2022248

**Application Type:** Engineering Plan Review

**Application Name:** THE VILLAS OF CHAPEL RIDGE 2ND PLAT, LOTS 43-74 AND TRACTS C-1 AND D-1  
- Street, Stormwater and Master Drainage Plan

---

The Development Services Department has completed its review of the above-referenced plans dated Jun. 24, 2022 and offer the following comments listed below.

- See comments below to determine the required revisions and resubmit to the Development Services Department public portal located at [devservices.cityofls.net](https://devservices.cityofls.net). Digital documents shall follow the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within ten (10) business days of the date received.

**Engineering Review - Corrections**

1. A stormwater report or memorandum was missing from the application. Please include a stormwater report or memorandum discussing whether or not detention is required, and the suitability of the existing detention basin to accept and manage the stormwater flows from this project.
2. Collector street asphalt paving section does not meet the requirements of the Design and Construction Manual in terms of asphalt thickness, MoDOT Type 5 aggregate, or subgrade stabilization. Please review and revise as appropriate.
3. It appears right of way may not be dedicated for the connection point to Dick Howser Dr. The plat "East Lake Village 2nd Plat" appears to show a strip of land blocking access to the Dick Howser Dr. connection point. Please verify if right of way extends to the plat boundary, as it is difficult to determine from the old plat recorded in 1986.
4. Please provide contour labels for Lots 48 through 51. It is difficult to determine the grading in this area without the labels.
5. Please provide contour elevation labels along Lot 63 and 74.

6. Lots requiring an MBOE were not shown on the Master Drainage Plan. Please evaluate and revise as appropriate. If no MBOEs are necessary, please add a note stating "no MBOEs are required. Final grading and elevations to be reviewed during plot plan review process" or equivalent language.
7. Basement type was not included on the Master Drainage Plan for each lot. Please show basement type (i.e., daylight, walkout, or standard) on the Master Drainage Plan.
8. Cover Sheet: Sheet C.200 is labeled as including the SWPPP. Was this a typographical error? SWPPP is a standalone document required with the erosion and sediment control and mass grading plans.
9. Would it be beneficial to include notes on the Master Drainage Plan to construct sideyard auxiliary swales between the homes during home construction? Currently, drainage is directed toward the new lots, and without the sideyard swales being constructed when the homebuilder pulls building permit and plot plan, there is the potential to create a dam in the backyard. Please review and revise as appropriate.
10. ADA-accessible ramps do not follow the Design and Construction Manual in terms of running slope, cross slope, distance from truncated domes to the back of curb, and ADA-accessible route across stop-controlled intersection. Please review and revise as appropriate.
11. Slope callouts for the ADA-accessible routes across the intersections were not provided. Please show the proposed cross-slope across these intersections, and ensure they are no more than 1.5% design slope and minimum of 5 feet width.
12. It is unclear how the ADA-accessible route across Independence Ave. will be possible with the slopes shown on the profile view shown on Sheet C.203. A maximum cross slope of 1.5% is allowed at this stop-controlled intersection, and the profile view shows greater than 3.95%. Please evaluate and revise as necessary.
13. The same issue (above) exists for the ADA-accessible route across Troon Dr. at Independence Ave. A 1.73% cross slope is shown on the profile view on Sheet C.204, while 1.5% is the maximum design slope across the ADA-accessible route in the stop controlled scenario. Please review and revise as appropriate.
14. The ADA-accessible ramp details do not show the start and stop points of construction. Please show the limits of construction on these sheets.
15. The second ADA-accessible ramp on Sheet C204 does not appear to meet any of the City standards in regard to geometry. Please be aware the old Type B ramp shown in the standard details is now an acceptable alternative to the mono-directional ramp design requested in the past. Please review and revise as appropriate.

16. Sidewalk installed along all common area tracts and unplatted land shall be installed with these improvements. I did not see anywhere in the plans where this was specifically shown. This would pertain to the tracts, and also the sidewalk to be installed just north of the plat boundary near Dick Howser Dr. Please clearly shown the limits of construction of these required sidewalk improvements.
17. It appears two (2) additional curb inlets and storm line are warranted near Dick Howser Dr. Please review and revise as appropriate, and show how the storm line will be directed towards the detention basin.
18. Storm line 1 last segment is shown with an excessive slope that can be mitigated by installing deeper. This slope will lead to supercritical flow at the outlet. Please review, analyze, and revise as appropriate.
19. Sheet C.301: Why are field inlets called-out along the street on storm line 1 and 2? Please review and revise as appropriate.
20. HDPE is not allowed beneath collector streets (i.e., Independence Ave.). Acceptable alternatives include RCP and CPP. Please review and revise as appropriate.
21. Sheet C.300: A field inlet is called-out on Troon Dr. Please correct.
22. Sheet C.301: A note and arrow is pointing to "Storm Line 1" which does not make sense. This note is located on the inset plan view of storm line 2 on north side of Lot 63. Please review and revise as appropriate.
23. The easement between Lot 71 and Lot 70 is too narrow for the storm line. This is also the case for the easement between Lots 66 and 67. The easement should be twice the depth of the storm line at its deepest point.
24. What is the plan for discharge into the existing detention basin? As shown, there is no plan other than direct-discharge to a point on the ground, and then subsequent rilling and erosion will take place. A plan shall be submitted showing how this discharge will be managed. It shall show the limits of the detention basin including the normal pool elevation, and a plan for how the stormwater will be discharged without a negative impact. It shall include off-site contours and contour elevations (proposed and existing), along with any structures needed to manage stormwater. As shown, severe erosion shall take place without a proper design.
25. Standard details were provided for underdrains, but neither the method to use was specified, nor the location shown elsewhere in the plans. These shall be installed at sump locations between curb inlets. Please revise as appropriate.
26. A trenching and backfill detail was missing for the storm line. Please provide a detail for trenching and backfill. Ensure the new standard of 12 inches of aggregate over top of pipe is shown.

27. A concrete anchor or other means of securing the shallow pipe at the discharge point to the detention basin is warranted. There is the potential to float. Please revise as appropriate.
28. Ensure the cover sheet note is updated when revising the pavement section for collector street (i.e., Independence Ave.).

### **Traffic Review - Corrections**

1. C.203 - Sta. 6+18 K Value too low. Minimum 37 for residential collector.
2. Gen.: Please include street name signs for review. Size and styles can be found on the City's details.

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,

/s/ electronically signed Jul. 13, 2022

Gene Williams, P.E.  
Senior Staff Engineer  
(816) 969-1223  
Gene.Williams@cityofls.net

cc: Development Engineering Project File