
PUBLIC WORKS ENGINEERING DIVISION

Date: Friday, May 05, 2017

To:

ENGINEERING SOLUTIONS

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From: Gene Williams, P.E.

Senior Staff Engineer

Application Number: PL2016152

Application Type: Engineering Plan Review

Application Name: Village at View High Drive On-Site and Off-Site Water Line Plans

The Development Services Department received plans for this project on Apr. 28, 2017. We have completed our review and offer the following comments:

Engineering Review

1. Please refer to comment #1 of the comment letter dated Apr. 20, 2017 (hereinafter referred to as "the comment letter). Sheet C.501 is the Water Line General Layout Sheet, and does not show the loop to the south as requested in this comment. In addition, Line numbers are provided for Water Line 1 and Water Line 2, but the other legs of the water line improvements are not labeled on this sheet. Please correct.
2. A grading plan must be provided for the water line loop to the south (i.e., from the intersection of Village Park Dr./Kessler Dr. to 3rd St. along the future Kessler Dr. extension). In other words, grading along this corridor will be required along with the water line improvements. Adequate drainage structures, if needed, must be provided.
3. Please refer to comment #4 of the previous comment letter. Details concerning the reconnection of existing water meters along View High Dr. were requested, but a simple note was provided stating that these water services would be reconnected. Please show the locations of the water meters, and relocate the note adjacent to the water meter.
4. Please refer to comment #6 of the previous comment letter. Locations of all bends and angle of the bends were requested, but were not labeled and the angle was not called-out.
5. Please refer to comment #7 of the previous comment letter. The sanitary sewer crossing on Sheet C.503 between station 5+00 and 6+00 was not shown as requested. This should be shown on the profile view.

6. Please refer to comment #8 of the previous comment letter. Repair and replacement of driveways is shown as being 4" of concrete. A 6" minimum thickness is required. In addition, final restoration notes were not provided as requested.

Sheet C.503: It appears an additional fire hydrant is required near station 4+50 along Village Park Dr.

9. Sheet C.504: A butterfly valve is called-out for the 8" line at station 10+00. This should be called-out as a gate valve.
10. Sheet C.504: This sheet is labeled Water Line 1. This does not match the overview sheet. Please rename this water line, and ensure it reflects what is shown on the overview sheet.
11. Sheet C.505: This water line is labeled as Water Main 1, which does not reflect what is shown on the overview sheet. Please rename this line, and ensure it reflects what is shown on the overview sheet.
12. Sheet C.505: An 8" butterfly valve is called-out. To reiterate, gate valves are required on all water mains less than 12". Butterfly valves are required for all water mains 12" and greater.
13. Sheet C.505: The profile view shows the 12" water main terminating at Kessler Dr. This is incorrect, and will not create the 12" loop that was required. The 12" water line must be extended to Village Park Dr., where it will then turn east, then south along the future Kessler Rd. connection, and beneath 3rd St. to complete the 12" loop.
14. Sheet C.507 and C.508 are shown after the detail sheet. Please move these sheets prior to the detail sheet. It is confusing to our field inspectors, Records Technicians, and the contractor to place these plans after the detail sheet.
15. Sheets C.507 and C.508: The future road layout of Kessler Dr. must be shown. A grading plan is required, as well as a drainage plan to deal with the grading. In other words, the City is not going to allow for the 12" water line loop to be installed without up-front grading and drainage features to ensure the water line loop is protected. As shown, the water line appears to have designed with a depth of 42" beneath existing grade, with no provision for street design meeting the vertical curve requirements meeting the Design and Construction Manual. If this line were to be installed as shown, it would need to be relocated at a later date to meet the final grades of Kessler Dr.
16. Sheet C.508: An abrupt bend is shown just prior to the casing carrier pipe beneath 3rd St. Please show details how this abrupt change will be performed. The City will not allow this type of deflection without suitable design of the directional change.

17. Notes must be added that the water shut-down to install the new tee on the south side of 3rd St. must be performed at night, with coordination between the inspector prior to shutdown, and including public notice by the contractor prior to shut-down. The total time of the shut-down must not exceed 8 hours.
18. Sheet C.508: A greyed-out outline of an unknown water line is shown to the west of the new water line along "future Kessler Dr.". It is labeled as an existing 12" water line. Isn't this an 8" water line?
19. Sheet C.508: Our records indicate that an additional 8" water line exists at the corner of Kessler Dr. and 3rd St. which runs to the east. How is this line going to be connected to the new 12" water line? Details must be provided showing this connection.
20. Valves were absent from the new 12" water line loop along the "future Kessler Dr." alignment. Please see the Design and Construction Manual for the maximum distance between valves.
21. Fire hydrants were absent from the 12" water line loop along the "future Kessler Dr." alignment. Fire hydrants must be shown for this loop.
22. Sheet C.501: The General Overview Sheet must reflect the comments above. Please ensure all revisions to the individual line sheets reflect the overview sheet, and vice versa.
23. Cover Sheet: Note 10 does not reflect the City of Lee's Summit construction standard for placement of fill prior to installation of water lines. The City requirement for placement of fill goes above and beyond pipe being installed "above grade". Please see the Design and Construction Manual for specific details, and make revisions to this note as appropriate.
24. Revisions to the cost estimate are required. Please see specific comments related to new additional fire hydrants, grading for future Kessler Dr. extension, drainage to accommodate grading for future Kessler Dr. extension, etc.

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

Beginning Monday, May 23, 2016, 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 will not be required for initial application submittals at this time as the plans are subject to change.

Electronic copies shall be provided on CD in the following formats

- Plats – All plats shall be provided in Tagged Image Format File (TIFF) Group 4 compression.
- Engineered Civil Plans – All engineered civil plans shall be provided in Tagged Image Format File (TIFF) Group 4 compression. All sheets shall be individually saved and titled with the sheet title.
- Architectural and other plan drawings – Architectural and other plan drawings, such as site electrical and landscaping, shall be provided in Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).
- It is requested that each plan sheet be a maximum of 2MB.

Please contact Staff with any questions or concerns you may have.

If you have any questions or comments, please contact me, Gene Williams either at (816) 969-1812 or e-mail to Gene.Williams@cityofls.net.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer

cc: Development Engineering Project File