

**PUBLIC WORKS ENGINEERING DIVISION**

**Date:** Tuesday, May 23, 2017

**To:**

BHC RHODES

Patrick Joyce, P.E.

EMAIL: PATRICK.JOYCE@IBHC.COM

Fax #: (913) 663-1633

**From:** Gene Williams, P.E.

Senior Staff Engineer

**Application Number:** PL2017091

**Application Type:** Engineering Plan Review

**Application Name:** The Grove at Lee's Summit LLC - Phase 1A - Public Water Line

---

The Development Services Department received plans for this project on Apr. 21, 2017. We have completed our review and offer the following comments:

**Engineering Review**

1. Please add a note stating that "...all construction shall follow the City of Lee's Summit Design and Construction Manual as adopted by Ordinance 5813. Where discrepancies exist between these plans and the Design and Construction Manual, the Design and Construction Manual shall prevail."
2. Sheet 1: Why is the proposed 12" water main tie-in to the south, along 16th St., shown crossing Summit St. and offset to the west? Is there a particular reason for offsetting the water line at this location?
3. Sheet 1: It appears there are instances where the water line is shown exceeding the minimum radius of deflection. Please show the location(s) of all bends on this sheet.
4. Sheet 1: A blow-off is shown at a dead end location on the north end of Decker St. Blow-offs are not allowed. Where water lines are to be extended in the future, an in-line temporary fire hydrant is required at the end of the line.
5. Sheet 1: Please show an outline (grayed-out) of the future road extension from the roundabout, to the west (i.e., to M-291). Please ensure the water line is a minimum of 4 feet behind the back of curb.
6. Sheet 1: The easement shown for the water line near the northeast corner of the roundabout should be continuous (i.e., no gap between the right of way and the easement). It should be described as a general utility easement rather than a dedicated water line easement.

7. All Sheets: Please add a note to the profile views stating that the maximum depth of cover for the water main is 7 feet.
8. All Sheets: Where 12" water mains are shown with valves, please specify a butterfly valve. Where water mains are shown less than 12" diameter, please specify a gate valve.
9. Sheet 2: A blow-off assembly is shown, and not allowed. Remove the blow-off assembly, and replace with a temporary in-line fire hydrant. See previous comment for further information.
10. Sheet 2: There are several intervals of pipe that are near the 7 foot depth of cover requirement. Please make the water line more shallow (i.e., as close to 3.5 feet as possible over the top of the pipe).
11. All Sheets: Why is DIP called-out? The City prefers C900 pipe.
12. Sheet 3: It appears the minimum radius of deflection is exceeded in several instances along Summit St. Please show the locations of bends, and show the degree of deflection of the bends.
13. All Sheets: Fire hydrants are shown on the wrong side of the water main. They should be located near the back of curb in accordance with the measurements shown on the standard detail. This is 2 feet as measured from the centerline of the fire hydrant to the back of curb. Where sidewalk is constructed against the back of curb, fire hydrants should be installed adjacent to the sidewalk (i.e., not in the sidewalk).
14. Sheet 4: The water line is too deep near station 21+38. The maximum depth of cover is 7 feet. Please go over the top of the 12" pipe, or move the 12" pipe.
15. Sheet 4: Please show a new 6" gate valve on the east side of the tee for the connection at 16th St.
16. Sheet 4: If it is impossible to construct a straight connection of the 12" water main to the 6" water main (see previous comment related to this), then the City would like at least four (4) 45 degree bends at the Summit St. crossing, rather than two (2) 90 degree bends. This will also allow for smaller thrust blocks.
17. Sheet 5: The water line is shown beneath a 12" pipe, and is greater than 7 feet of cover. Please go over the top of the pipe, or move the 12" pipe.
18. Sheet 6: The water line is too deep near station 2+50.
19. Sheet 6: Please show the future road extension to M-291 along Summit St. Ensure the water line is a minimum of 4 feet from the back of the curb.

20. Sheet 6: It appears the minimum radius of deflection has been exceeded for the water main. Please show the locations of all bends, and the magnitude of the bend.
21. Please remove the water casing pipe detail and the trench check detail. These are not required for this project.
22. Sheet 4: Please add a note stating the water line beneath 16th St. shall be bored. Casing is not required, however.

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) 969-1223 or e-mail to [Gene.Williams@cityofls.net](mailto:Gene.Williams@cityofls.net).

Sincerely,

*Original Signed*

Gene Williams, P.E.  
Senior Staff Engineer

cc: Development Engineering Project File