



PUBLIC WORKS ENGINEERING DIVISION

Date: Friday, October 06, 2017

To:

PHOENIX ENGINEERING & SURVEYING LLC

Brian Glenn, P.E.

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From: Gene Williams, P.E.

Senior Staff Engineer

Application Number: PL2017193

Application Type: Engineering Plan Review

Application Name: Whispering Woods 1st Plat - On-Site Water Line Plans

The Development Services Department received plans for this project on September 14, 2017. We have completed our review and offer the following comments:

Engineering Review

1. Title block on all sheets reads "Sanitary Sewer Plans". Please correct.
2. Sheet 3 of 8: The geometry of the northern loop water line connection shows the water main installed beneath the creek, with no consideration of the future box culvert. This geometry will require moving the water line in the future when the box culvert is installed. As an alternative, it may be beneficial to review a geometry that eliminates the need to move the water line in when the box culvert is installed.
3. The fire hydrant near the east end of SW 27th St. should be installed at the end of the line, as a temporary fire hydrant in-line with the water main. As shown, this fire hydrant is shown in the offset fashion.
4. The same comment applies to the fire hydrant on the north end of SW River Run Dr.
5. The same comment pertains to the fire hydrant on the east end of SW 26th Terr.
6. No fire hydrants were shown on Water Line B (i.e., on SW 26th Terr.).
7. Three (3) valves are shown at tees. Only two (2) valves are needed at tees, and the City does not want any more than two (2) valves due to maintenance issues. Please revise as appropriate throughout the

plans.

8. Ductile iron pipe is specified throughout the project, but C900 should be specified except at stream crossings. Please revise as appropriate.
9. There appear to be numerous instances where the water line will exceed the minimum radius of deflection as specified by the manufacturer. Please show the locations of all bends on the water line to eliminate this issue, and to specify to the contractor where bends will be located. Please show the location of the bend, and the magnitude of the bend.
10. Please add a note stating that the minimum depth of cover over the water line is 42 inches, and the maximum depth of cover is 7 feet.
11. Sheet 4 of 8: It appears an additional gate valve is required along SW River Run Dr., perhaps near station 5+50?
12. Sheet 6 of 8: Stationing along SW 26th Terr. appeared to be missing.
13. Sheet 6 of 8: The location of the stream was not shown on the plan view.
14. Sheet 6 of 8: Ductile iron pipe with restrained joints should be specified for the stream crossing, with two (2) valves on each side of the stream to isolate the segment from the balance of the system. Valves should be located approximately 20 feet into the bank on each side of the stream. The water main should be located 42" below the natural stream bottom, and encased in concrete. Please ensure the water main is not installed with a depth of cover greater than 7 feet. The encasement should be called-out in terms of stationing.
15. A trenching and backfill detail was missing.
16. The note on Sheet 2 of 8 specifies polywrap for ductile iron pipe greater than 12 inches. This is not correct. All ductile iron pipe requires polywrap, regardless of size.
17. Please call-out the size of the water main along Pryor Rd. Show the locations of the nearest in-line valves on this line.
18. Add notes concerning the connections to the water line on Pryor Rd. Night work will be required to make this connection. A cut-in tee will also be required (i.e., not a wet tap). The maximum shut-down of the line will be no longer than 8 hours. Coordination between the City and the contractor shall be necessary to make these connections.

19. Show the locations of all new butterfly valves on the water main along Pryor Rd. Two (2) valves are required at every tee, so one (1) valve is required on the north/south leg, and one (1) valve on the east/west leg serving the subdivision.
20. Sheet 4 of 8: The water line plans at the box culvert are incomplete. No box culvert is shown in the profile view, and it is unclear where the water line will be installed in relation to it. It is for this reason that no further comments can be made at this time. Please be aware that the water line will not be allowed beneath the box culvert. If insufficient clearance is available above the box culvert, the geometry may need to be adjusted around the box culvert.

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, either at (816) 969-1223 or e-mail to gene.williams@cityofls.net.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer

cc: Development Engineering Project File