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## PUBLIC WORKS ENGINEERING DIVISION

**Date:** Monday, April 25, 2016

**To:**

WESTWOOD PROFESSIONAL SERVICES

Email:

Fax #: <NO FAX NUMBER>

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

**Application Number:** PL2016083

**Application Type:** Engineering Plan Review

**Application Name:** John Knox Village Meadows - Public and Private Sanitary Sewer and Public and Private Water Line Engineering Plans

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The Public Works Department received plans for this project on April 15, 2016. We have completed our review and offer the following comments:

### Engineering Review

1. Please be aware these comments are focused on the public water line relocation and public sanitary sewer line relocation, but comments on the private fire lines and private sanitary sewers will also be included in this comment letter.
2. Please be aware that the City is not self-permitting for water or sanitary sewer. However, the City will only require an MDNR permit for the sanitary sewer since the public water line is essentially being placed in the same location (i.e., upsized to an 8"). After the sanitary sewer plan is approvable by the City, a concurrence letter will be generated by the City for the sanitary sewer plans, and submitted to the applicant. This letter will need to be attached to the MDNR construction permit application. For the sanitary sewer, a letter will also be required from the receiving sanitary sewer authority, the Little Blue Valley Sewer District (LBVSD). The contact person at the LBVSD is David Lilly, 816-796-9191. The applicant shall be responsible for obtaining all necessary permits on the sanitary sewer from the MDNR.
3. Toward the northwest portion of the project, an easement is shown for the water line, along with a dead end plug. This line should be designed as "private", and no easement should be designated or platted for it. Finally, the end of the line should be terminated in an "in-line" temporary fire hydrant assembly, and a backflow vault should be shown near the public main along with a gate valve prior to the vault for this private fire line extension. The backflow vault should be located outside any easements, on the private side, and within six (6) feet of the easement.
4. A note is provided at the intersection of O'Brien Rd. and Shamrock stating "...cap existing 6" water". This tee should be removed and replaced with the new 8" tee.
5. There appears to be an extra note toward this same intersection (northeast corner) stating "8" PVC" that doesn't appear to be shown correctly. Please review and correct as necessary.

6. Sheet 8 of the Sanitary Sewer Profile: Please call-out the City manhole number on the existing sanitary sewer manhole toward the northeast of the project. It is #29-071.
7. Sheet 8 of the Sanitary Sewer Profile SS Line 1: Please show the existing flow lines of all incoming sanitary sewers, including the north, the northeast, and the south.
8. Sheet 8 of the Sanitary Sewer Profile SS Line 1: Please refer to the minimum drops that are required for the high deflection angles at this junction. This is contained within the City of Lee's Summit Design and Construction Manual.
9. Sheet 8 of the Sanitary Sewer Profile SS Line 1: Please refer to the Design and Construction Manual concerning the connection at sanitary manhole #29-071. As required by the Design and Construction Manual, when a smaller sewer joins a large one, the invert of the larger sewer should be lowered sufficiently to maintain the same energy gradient. An approximate method for accomplishing this is to place the 0.8 depth point of both sewers at the same elevation.
10. It does not appear that the sanitary sewer line will meet the distance requirements from the public water line along the west side of the project. In general, ten (10) feet is required as measured from the outside of the pipe.
11. Please show the City manhole number for the nearest connection at the southeast portion of the project. This manhole is #29-089 and is immediately downstream of the new manhole to be constructed at the connection point.
12. Please show the incoming flow line elevations of the new connection point at the southeast corner of the project. Please provide the same design standards as described in the previous comments. It would appear a minimum of 0.5 feet of fall would need to be provided in this instance.
13. Please call-out the existing manhole number at the west side of the project (i.e., the common connection point for SS Line 1 and SS Line 2). This manhole is #29-083.
14. Profile View of SS Line 1: Please label this line as "public".
15. It would appear that the sanitary sewer line running roughly east/west from station 0+00 on SS Line 1 to the west to station 0+00 on SS Line 2, should be public rather than private. A profile view of this segment appears to be missing.
16. The same segment discussed above (i.e., the public segment from station 0+00 on SS Line 1 to the west) appears to be too close to the storm sewer towards the daylight end of the two (2) 60" storm lines. Please provide additional manholes to avoid conflicts with the two (2) 60" storm lines and the concrete headwall and energy dissipation structures.
17. The manhole at station 3+46 on SS Line 1 only shows a 0.2 foot drop. Since the deflection angle is near 90 degrees, a minimum drop of 0.5 feet is required.
18. Sheet 8: SS Line 2 on the profile view states "...connect to existing manhole". According to the plan view, this is a new manhole. Please show a new manhole (doghouse manholes not allowed), and ensure that the minimum 0.5 foot drop for the high deflection angle is achieved.

19. Sheet 8: It appears that the manhole for SS Line 1 at station 0+00 is below proposed grade. Please review and correct.
20. Sheet 8: It is not clear where the top of the manhole rim is in relation to proposed grade for SS Line 2 at station 1+23.
21. Sheet 8: It appears the manhole on SS Line 1 at station 11+29 is extending four (4) feet above proposed grade. Is there a reason for this? In general, this is not allowed even if future grading will take place. If future grading will take place, the manhole should be adjusted at that time.
22. Water Line Plans: It did not appear that a profile view was submitted for the public water line plans. These are only required for the public portion of the water line plans (i.e., not the private fire lines, domestic services, or public fire hydrants along O'Brien Rd. and Moore St.). Please show a minimum cover of 3.5 feet, with a maximum cover of 7 feet, both measured from the top of pipe to the proposed grade.
23. Please be aware that sanitary sewer easements, water line easements, and general utility easements will be required prior to the issuance of a Certificate of Substantial Completion. Also, the vacation of existing easements will be coordinated during construction for those portions of public utilities being relocated.
24. An itemized and sealed Engineer's Estimate of Probable Construction Costs will be required prior to approval. The Engineering Plan Review and Inspection Fee is based on this estimate, plus a \$100 per trip fee for the observation and collection of water samples. Please see the previous applicant letter for the Final Development Plan for specific items to include in this estimate.

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](mailto:Gene.Williams@cityofls.net).

Sincerely,

*Original Signed*

Gene Williams, P.E.  
Senior Staff Engineer

cc: Development Engineering Project File