LEE'S SUMMIT
MISSOURI

DEVELOPMENT SERVICES

Date: Tuesday, August 17, 2021

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

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

Application Number: PL2021297
Application Type: Engineering Plan Review
Application Name: NAPA VALLEY 5TH PLAT - SANITARY

The Development Services Department received plans for this project on August 02, 2021. We have completed our review 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**. 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. Please remove the blue radius circles from the general layout sheet and other sheets in the plan set. It is not clear what they represent, and are distracting.

2. Sanitary sewer line A is a dead end, and the City has new standards for slope towards the end of these lines. Please see the Design and Construction Manual for specific slope requirements. It is based on the number of upstream lots at a given point. In general, 1 to 14 connections require a minimum slope of 1.00%, and 15 to 30 connections require 0.80%, while 31 or more connections requires a minimum slope of 0.60%.

3. Please label the existing manhole connection point as #60-160.

4. Sheet C.403: Storm line is too close to the sanitary sewer line. A minimum separation of 18 inches is required, unless structural support is provided between the bottom of the storm line and the top of the sanitary sewer line. It would appear the simplest solution is to raise the storm line.

5. C.404: Trenching and backfill detail shows 6 inches of aggregate on top of the pipe. Standards have changed, and this should be shown as 12 inches rather than 6 inches.

6. Connection point shows an 8 inch sanitary sewer below the crown of the existing 18 inch sanitary sewer line. Please see Design and Construction Manual for specific information regarding the incoming flowline in relation to larger pipe diameter connections. 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.

Traffic Review - Not Required

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 developmrnt 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 mulit-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/ Gene Williams electronically signed Aug. 17, 2021

Gene Williams, P.E.
Senior Staff Engineer
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cc: Development Engineering Project File