

**Date:** Sunday, May 08, 2022

**To:** POWELL CWM INC  
3200 S STATE ROUTE 291 BLDG 1  
INDEPENDENCE, MO 64057

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

**Application Number:** PL2022162

**Application Type:** Engineering Plan Review

**Application Name:** Lakewood Business Center on I-470 Plat S - Public Water

The Development Services Department has completed its review of the above-referenced plans dated Apr. 7, 2022 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](https://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. According to our GIS, we are showing a 16 inch line at Hagan rather than a 12 inch line. Was this determined using as-builts? Please reconcile.
2. In commercial, industrial, and apartment house areas, fire hydrants shall be provided so that in no case shall more than 300 feet of fire hose, using an approved route, be required to reach any point at the base of any exterior building wall from the nearest fire hydrant to supply the stipulated fire flow. Please review and ensure these conditions are met for all future customers. It appears at least one (1) additional fire hydrant is required, and it also appears the spacing needs to be adjusted.
3. Plan view of water line does not appear to show locations of bends in vicinity of Cargo and Maguire. It appears there is a reliance on bending the pipe to fit. This is not allowed. The only deflection that may be allowed is within the joint itself, and only 1 degree of deflection is allowed in that case. This equates to roughly a 1200 foot radius of curvature. No bend is allowed within the body of the pipe itself, as this degrades the pipe and lessens the life of the pipe. Please show the location of all bends on the plan view, along with the magnitude of the bend.
4. Sheet C-512: Will a vertical bend be required at this location? It is difficult to determine based on the exaggerated vertical scale. Please see above comments concerning deflection of pipe.

## **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**

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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 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 multi-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/ electronically signed May 8, 2022

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

