



May 18, 2020

Lee's Summit Missouri Development Services  
Shannon McGuire, Planner  
220 SE Green Street  
Lee's Summit, MO 64063

Subject: Firestone Complete Auto Care  
3501 SW Market St., Lees Summit, MO 64082  
Gresham Smith Project Number: 40831.45

Dear Shannon McGuire:

The following are Gresham Smith responses to your comments from your letter dated May 12, 2020 regarding FS Lee's Summit, LLC:

**Fire review – Jim Eden (816) 969-1303**

1. Comment: The last revision removed the hydrant from the property and placed a pedestal FDC on the backflow vault. A hydrant is required on the property to meet the 300' rule to the most exterior portion of the building. According to Development Services Engineering the hydrant shall be private and located after the backflow. This negates being able to locate an FDC on the backflow and therefore the FDC has to be located after the sprinkler riser and on the building. Per discussions with JP, the private hydrant shall be located on the island at the southwest corner of the parking lot and the FDC on the southwest corner of the building. Review the comments from Development Services Engineering on configuration of the public/private transition of the main on the west side of the road.

**Response: The private hydrant has been added on the island at the southwest corner of the parking lot after the backflow preventer and the FDC has been located on the western portion of the building.**

**Planning Review – Shannon McGuire (816) 969-1237**

1. Comment: No comments

**Response: No action taken**

**Engineering Review – Gene Williams (816) 969-1223**

1. Comment: The City has reviewed the geotechnical report, and it does not include a thorough analysis of the design for the pavement. Please review the report for specific language related to this issue, where the report mentions that it used assumed values rather than a comprehensive soil sampling regimen, and therefore, a thorough pavement design was not considered as part of the scope of the project. In lieu of a geotechnical report, the City highly recommends using the standard design for parking lots listed in the Unified Development Ordinance. This standard design has proven to be a tried and tested method of pavement design. The design proposed in the Final Development Plan falls short in terms of pavement thickness, and subgrade design, and our opinion is the

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pavement will fail within a short period of time.

**Response:** The geotechnical engineers' states that recommendations are "based on pavement-related design parameters that are considered to be typical for the area soils types." These parameters are based on extensive knowledge of area soils and their properties. When more extensive testing is not available, PSI utilizes conservative values for these assumed properties.

PSI's heavy-duty pavement recommendation is for 60,000 ESAL's over a 20-year life. Firestone has collected data from over 2,200 stores nationwide and they average 27-30 vehicles per day which matches studies in ITE's trip generation manual. Firestone has tires delivered once a week, over 20 years 7,040 ESAL's.

2. **Comment:** An additional private fire hydrant, as per the Fire Department, is required. The public fire hydrant on the west side of Market St. is needed to terminate the line in accordance with the Design and Construction Manual, where a fire hydrant is required at the end of all water mains. This fire hydrant, however, does not eliminate the need for a private fire hydrant, in accordance with Fire Department requirements, to service this development. If the Fire Department requires this fire hydrant on the interior of the lot, it will be private, and must be placed downstream of the backflow vault.

**Response:** A private fire hydrant has been coordinated with Jim Eden with the city and added to the plans at the southwest island of the parking lot and placed downstream of the backflow vault. See sheet C500 for location of the added fire hydrant.

3. **Comment:** The method to drain the backflow vault includes a note saying, "install gravel drain or sump". This is not sufficient design detail. A complete design is required for this component of the backflow vault.

**Response:** An 18-inch minimum concrete sump has been added to the backflow vault detail with a 4-inch line running from the vault to the catch basin. Please see sheet C300 for routing and Detail 11 on sheet C903.

4. **Comment:** Is the backflow vault top traffic-rated? There will be mowing equipment that may potentially impact this vault, so it may be necessary to provide a traffic-rated lid. Bollards may be considered to prevent this occurrence, however, and will be required to prevent damage to the Fire Department Connection.

**Response:** Detail 11 on sheet C903 calls out "Provide traffic rated vault when required." Note has been revised to state that a traffic rated vault is required, therefore no bollards have been added to the plans around the vault.

5. **Comment:** No bollards were shown for the fire department connection, as we recommended in the email from last week. Without these bollards, the fire department connection has the potential to be hit by mowing equipment and would have the potential to create an impact to the City's public water system.

**Response:** The fire department connection has been moved from a remote unit that would require bollards to a wall mounted unit. No bollards would be required for this scenario. Please see sheet C500 for relocated FDC location.



6. Comment: Two (2) separate connections are required for domestic water and irrigation lines. The single tap is not acceptable.  
Response: **2 separate taps are now being utilized. See sheet C500 for revised routing and taps.**
7. Comment: The irrigation meter should be placed near the domestic water meter, rather than several tens of feet to the east. It is currently shown well into the interior of the project. It should be either within right of way, or a general utility easement.  
Response: **Irrigation meter is located right next to domestic meter within the right of way. Notation was misleading on sheet C500. Notations and leader lines have been corrected.**
8. Comment: Please remove any references to "coordinate with Gene Williams" on the plans. Coordination should always be with the City inspector during construction.  
Response: **All references noted above have been changed to City Inspector.**
9. Comment: General Comments Related to the Off-Site Water Line Plans: A separate plan set must be provided for the off-site water main. It must also include a profile view. Clearances between storm boxes, storm lines, and structures such as utility boxes, power poles, and retaining walls, if any, must be observed and shown on the plans. In general, a minimum of 5 feet clearance between the outside of the water main, and the outside of any storm box or storm line is required. A minimum of 10 feet is required from any power pole or utility box such as a telephone pedestal, if possible. If not possible, please call to discuss. There may be some leeway to make the line fit within established right of way or easements, but without specific dimensions between these features, we cannot make a firm commitment on the placement of the line in relation to power poles, or utility boxes.  
Response: **Off-site public water line extension profile has been added, see sheet C503 for plan and profile of the public main extension with existing utilities. Water extensions crosses only a gas line along SW Summitcrest Drive.**
10. Comment: Off-site private easement(s) must be acquired for drainage. This is required prior to approval of the Final Development Plan. Please send a courtesy review copy of the proposed private drainage easement to Development Services prior to execution. Following a brief review via email to ensure it contains the language and exhibit needed to define the easement, the easement should be executed and recorded at the Jackson County Recorder of Deeds office.  
Response: **Currently in the process of finalizing the off-site private easement for drainage. Surveyor is coordinating with the city and Jackson County Recorder of Deeds office.**
11. Comment: An itemized and sealed Engineer's Estimate of Probable Costs should accompany your final submittal drawings. This estimate should include all public and private sitework necessary to complete the project, including paving, subgrade, chemically-stabilized subgrade or geogrid, including the area one (1) foot beyond the back of curb, aggregate subgrade, curb and gutter, storm lines and structures, sanitary sewer lines and connections, detention basin and detention basin outlet structure, rip rap, grading necessary to establish drainage patterns on the site, backflow vault and backflow assembly, bollards, fire hydrants, fire lines, domestic water lines, valves, fittings, tees, erosion and



sediment control devices, final restoration including sodding, seeding, fertilizer, mulch, and topsoil.  
**Response:** **An itemized and sealed engineer estimate of probable costs has been included in the resubmittal package.**

**Traffic Review – Michael Park (816) 969-1820**

1. Comment: No comments

**Response:** **No action taken.**

**Building Codes Review – Joe Frogge (816) 969-1241**

1. Comment: No comments

**Response:** **No action taken.**

If you have any questions, please do not hesitate to call me at 615.770.8175

Sincerely,

JP Michael, EI  
Engineer – Civil

Copy                      Joe Johnston  
                                 Kevin Crumley  
                                 Jason Horowitz