Gresham Smith

February 7, 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 January 24, 2020 regarding FS Lee's Summit, LLC:

Analysis of Commercial Preliminary Development Plan:

1. Comment: Trash enclosure areas shall be improved with a Portland cement concrete pad and a Portland cement concrete approach 30 feet in length, measured from the enclosure opening. The pad and approach shall be improved with a minimum six inches of full depth unreinforced Portland cement concrete constructed on a sub-grade of four inches of granular base course. As shown the pad does not meet this requirement.
   Response: Concrete approach has been revised per the above comment. Approach is now 30 feet in length and a note regarding concrete thickness has been added. See sheet C200.

2. Comment: Please show the location of all oil and gas wells on the property. If none are present please add a note stating such and cite the source of your information.
   Response: Not applicable for this site, a note has been added to sheet C200. Refer to existing conditions plan, sheet C100.

3. Comment: Please show all proposed exterior lighting, including parking lot lights and wall-mounted fixtures, including fixture type, location, height and intensity. Manufacturer's specification sheets shall be submitted.
   Response: Site lighting plan was kicked off as soon as the site and landscaping plans were revised. Lighting plan was not available at the time of re-submittal, I will forward the photometric plan as soon as it is made available.

4. Comment: Screening to a height of 2.5 feet must be provided along the edge of the parking lot or loading area closest to and parallel to the street. (See Sec. 8.820 for requirements).
   Response: Landscape screening to a height of 2.5 feet along SW Market Street frontage has been added. See sheet L200.

5. Comment: Parking lots shall be set back a minimum 6 feet from the side or rear property line when not part of shared parking and/or cross access. The north east and south west corners of the parking lot is violating this set back.

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Response: **Parking lot has been revised. All sides are greater than 6 feet from the property lines. See sheet C200.**

6. Comment: CG-1 concrete curbing required around all parking areas and access drives in office, commercial and industrial districts. The detail on sheet C900 shows the wrong style.

Response: **The CG-1 details has been added to sheet C904 and replaces the previous curb detail.**

7. Comment: All signs must comply with the sign requirements as outlined in the sign section of the ordinance. If additional or larger signs are going to be requested you must request a modification.

Response: **A fourth wall sign has been added to the proposed Firestone exterior. Updated sign package has been included with this re-submittal.**

8. Comment: Any division of land or unplatted piece of property requires platting prior to the issuance of building permits.

Response: **Re-platting of the site will be complete prior to Final Development Submittal and approval.**

9. Comment: The use of curb blocks in parking areas shall be prohibited, except at the head of accessible parking spaces when they are adjacent to a pedestrian walkway with no raised curb.

Response: **Curb blocks have been removed from all areas except in front of the accessible parking spaces. See sheet C200.**

10. Comment: All roof-mounted equipment shall be screened entirely from view by using parapet walls at the same height as the mechanical units. As shown the screening walls may not meet this requirement.

Response: **Roof-mounted equipment is screened entirely from view by use of parapet walls. See building elevations.**

Fire Review

1. Comment: Extend the heavy duty asphalt (fire lane) to the hydrant and FDC, or relocate the proposed hydrant and FDC to the front of the building.

Response*:* **New water and fire line routing, hydrant and FDC located to front of building. Heavy duty asphalt extended to new hydrant locations. See sheet C200.**

2. Comment: The area near the FDC and fire hydrant shall be posted.

Response*:* **No Parking – Fire Lane designation added to pavement in front of the new FDC location to prevent access.**

Engineering Review

1. Comment: The "Post-Construction Stormwater Management Plan" dated Jan. 8, 2020 (hereinafter referred to as the stormwater study) discusses under the "Stormwater Quantity" section that "...post-developed conditions are not to exceed pre-developed conditions." The City of Lee's Summit requires a different design standard, which is based on a flat release rate per acre for the 2, 10, and 100 year events.

Response*:* **The flat release rates per acre required for the post-developed conditions are not achievable due to site's existing conditions and drainage patterns. Post-developed flow rates are less than pre-developed flor rates for all points of interests used in analysis. A waiver will also be completed and submitted for**

this condition.

2. Comment: The stormwater study presented an existing condition diagram, which did not include the "points of interest" where stormwater flow transitions from sheet flow to concentrated flow. This is required in order to determine the allowable, and may require an analysis of off-site areas where sheet flow transitions to concentrated flow.

   Response*:* **2 points of interest have been selected for analysis of the pre- versus post-stormwater calculations. See revised stormwater report for locations of existing POI's.**

3. Comment: The stormwater study presented a proposed conditions drainage map, which did not include the points of interest described above.

   Response*:* **2 points of interest have been selected for analysis of the pre- versus post-stormwater calculations and have been labeled/identified on the drainage map. See revised stormwater report for locations of proposed POI's.**

4. Comment: Without appropriate points of interest, it is impossible to determine allowable peak flow rates for the site. Each point of interest should have a corresponding allowable peak flow rate, based on the flat release rates described in the Design and Construction Manual under "Comprehensive Control Strategy".

   Response: **2 points of interest have been selected for analysis of the pre- versus post-stormwater calculations. See revised stormwater report for locations of POI's.**

5. Comment: There appears to be at least two (2) points of interest, and both appear to be off-site. One (1) of the points of interest appears to be within the street right of way along Market St. in the gutter, and the other point of interest appears to be to the east of the site, where sheet flow appears to transition to concentrated flow. It is a matter of accounting for the sub-areas upstream of these points of interest, including calculation of the existing condition peak flow rates for each off-site area, and adding these to the on-site drainage areas. The goal is determine what the allowable peak flow rate at each respective point of interest.

   Response: **2 points of interest have been selected for analysis of the pre- versus post-stormwater calculations. See revised stormwater report for locations of POI's.**

6. Comment: It appears that the rational method was utilized to construct hydrographs, which is not a recognized method for constructing hydrographs.

   Response: **All calculations and hydrograph constructions has been revised to SCS calculations. See revised stormwater report.**

7. Comment: The pond setup table contained within the appendix appears to show an outlet pipe (i.e., culvert A as denoted by Hydraflow Hydrographs) that is unable to convey the 100 year storm event. The outlet structure and the outlet pipe must be sized to handle the 100 year event. The emergency spillway should be designed so it is never used, unless there is clogging of the outlet structure. It does not appear this criteria is met.

   Response: **Culvert A has been designed such that the 100 year storm event can safely pass through while still maintaining the 6 inch minimum of freeboard from the emergency spillway crest.**

8. Comment: The body of the stormwater study does not include any conclusions.
   Response: Conclusions have been added to the revised stormwater report.

9. Comment: The Preliminary Development Plan must show, in graphic format and elevation call-out, the location of the maximum water surface elevation within the detention basin. Typically this is the 100 year water surface elevation for the 100% clogged condition, zero available storage. This elevation is always higher than the nominal 100 year water surface elevation, and is based on the flow through the emergency spillway based on 100% clogging and zero available storage (i.e., detention basin is full).
   Response: Maximum water surface elevation has been added to the preliminary development plan and emergency spillway detail. See sheets C300 and detail 6 on C903.

10. Comment: The maximum water surface elevation described in the above comment must be a minimum of twenty (20) feet from any property line, and any building. It does not appear this requirement was met.
    Response: Maximum water surface elevation has been added to the preliminary development plan. Detention pond has been revised to maintain a 20 foot distance from the proposed building as well as the property lines. See sheet C300.

11. Comment: Please review the Design and Construction Manual, Section 5608.4(E) and (F) for specific design standards related to the detention basin emergency spillway, and outlet works. In particular, minimum freeboard requirements between the nominal 100 year water surface elevation within the basin and the crest of the emergency spillway. Also, the minimum freeboard between the 100% clogged condition/zero available storage 100 year water surface elevation, and the top of the dam. All criteria must be met. In regard to the latter, it does not appear this criteria will be met. It appears the top of the dam is at 1014.5, and the crest of the emergency spillway is at 1013.5, whereas one (1) foot of freeboard is required between the water level within the emergency spillway, and the top of dam. If desired, we can provide a diagram of the requirements in pictorial form, showing the design parameters. Please inquire if this is needed.
    Response: A 100% clogged scenario has been calculated to design of the emergency spillway. Please see sheet C300, revised stormwater report for details, as well as detail 6 on sheet C903 for detention pond emergency spillway detail.

12. Comment: Water service must be served from Market St., not the east M-291 off-ramp. This will require the extension of public water line along SW Market St., to a point where the site can be served by public water. A concept plan should be provided showing the connection point at SW Summitcrest Dr. and SW Market St., boring beneath, SW Summitcrest Dr. and the extension of a water main.
    Response: Water line service has been revised to attached from the west side of SW Market Street. Currently working on 2 options to bring water across SW Market Street, revised plans show preferred option to tap existing 8 inch line and bring directly to site.

13. Comment: Sheet C201: The conceptual plan shows what appears to be one (1) lot to the north of the Firestone project. Are other lots being

proposed? What is the final proposed lot layout? This information is needed to determine the termination of the public water main extension discussed earlier in this comment letter.

Response: **At time of re-submittal, it is unknown to the developer, property owner or engineer whether or not the remainder of the property is to be developed. A note has been added to sheet C201**

14. Comment: Sheet C300: The discharge from the detention basin is shown off-site. If this option is desired, a private drainage easement is required. It must be sufficiently-long and sufficiently-wide to extend to the point of transition from sheet flow to concentrated flow. This point appears to be approximately 125 feet from the point of discharge. Grading activities will also be required, to construct a suitable drainage swale or other method of stormwater conveyance.

Response: **A temporary grading easement will be utilized from the pond discharge back to concentrated flow via a drainage easement along the southern property line. See sheet C201.**

15. Comment: Site Details, Erosion and Sediment Control, Etc.: These sheets were not reviewed, since this is a Preliminary Development Plan. We did, however, notice that the asphalt pavement detail does not follow the Unified Development Ordinance (UDO) in terms of the required thickness, base, and chemically-stabilized subgrade or geogrid. It may be better to eliminate these details until the Final Development Plan is submitted, because specific comments related to these details are not being provided at this time.

Response: **The pavement detail and EPSC sheets have been removed from the resubmittal package until the Final Development Plan will be submitted.**

16. Comment: Portions of the grading plan appear to adversely affect the adjacent property to the south. Any grading activities on the Firestone site cannot direct stormwater onto adjacent properties, or alter the existing drainage patterns to the extent that an adverse impact results to the adjacent property, unless an appropriate private agreement is obtained from the adjacent owner. This includes the alteration of existing drainage patterns from the adjacent property, where it creates an adverse impact on the adjacent property. It would appear from the GIS contours that the existing drainage pattern from the south may be impacted by the proposed grading.

Response: **The proposed grading conveys the stormwater through a detention pond before discharging from the site. Bypass flows are encountered along the north and east property lines that sheet flow along their existing drainage patterns. The proposed drainage scheme does not increase runoff/affect the existing properties to the south. See sheet C300. An agreement with the adjacent property owner is being developed and will be sent to the city of Lee's Summit as soon as available. The drainage patters remain the same between existing conditions and post-development, with a flow reduction to each point of interest. Refer to stormwater report for detailed drainage areas and calculations.**

17. Comment: It appears that the proposed grading on the north side of the project has the potential to create an adverse impact to the property to the north of the Firestone project. Please see previous comments related to this issue. If alteration of existing drainage patterns is desired, then appropriate easements or agreements

between the adjacent property owner and the applicant should be executed.

Response: **The proposed grading conveys the stormwater through a detention pond before discharging from the site. Bypass flows are encountered along the north and east property lines that sheet flow along their existing drainage patterns. The proposed drainage scheme does not increase runoff/affect the existing properties to the south. See sheet C300. The current property as well as the adjacent property in question is all owned by the same property owner. The drainage patterns remain the same between existing conditions and post-development, with a flow reduction to each point of interest. Refer to stormwater report for detailed drainage areas and calculations.**

18. Comment: Sheet C500: Sanitary sewer service cannot tie directly into a manhole as shown. A cut-in tee downstream of the existing manhole is required for the 6 inch private line.

Response: **Sanitary sewer service has been revised to tie in downstream of existing manhole using a cut-in tee connection or approved equal. See sheet C500.**

Traffic Review

1. Comment: The driveway design and truck circulation does not appear to meet minimum requirements. The truck movements depicted require full use of all lanes on Market Street, overlap curb, encroach upon sidewalks (and potentially building area). Consider larger driveway curb returns, additional setbacks, etc. Truck movements may use adjacent turn lane space on Market, but should not require full use of all traffic lanes and intersection area to complete an ingress or egress movement. The truck movement should also not encroach upon curbs, sidewalks or building areas. No Truck backing from Market Street will be allowed.

Response: **Driveway throat increased 2 feet to a total of 36 feet wide. The interior radius onsite was also increased for truck movement ease. The swept path for the truck has been revised with the larger driveway and radius. Truck no longer sweeps out into oncoming traffic. 1 parking space was lost as well. See sheet C200.**

2. Comment: The sidewalk located at the southwest corner, where matching existing, should have a tapered or "smoothed" transition from existing to proposed; not angular as depicted. Sidewalk north of the driveway does not appear to have adequate setback from the curb (4' minimum). Additional ROW may be needed in this area.

Response: **Sidewalk transition has been revised to a taper from existing to proposed. Sidewalk along SW Market Street is now 4 feet from back of curb, R.O.W. dedication will be required.**

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