

May 14, 2018

Mr. Mike Weisenborn  
Project Manager  
City of Lee's Summit  
220 SE Green St.  
Lee's Summit, MO 64063

Re: **Summit Square Phase II**

Mr. Weisenborn,

Please see the following responses to the City of Lee's Summit's Applicant Letter dated Friday, April 27<sup>th</sup>, 2018. Note that the sheets have been renumbered since the original submittal.

Planning Review:

1. Comment: File an Application for minor plat to combine the two lots.

*Engineer Response: Acknowledged. The minor plat application will follow under separate cover.*

2. Comment: All parking spaces not abutting a 6' wide sidewalk or curbed landscaped area shall be 19' log per Section 12.120.C of the UDO

*Engineer Response: Parking spaces abutting landscape islands that were 5' wide from the face of the curb were reduced from 18' to 17.5' to provide a 6' wide island. Parking spaces near the back of the detached parking garages provide more than 3' of overhang, measured from the face of curb.*

3. Comment: Accessible Parking Sign. The double arrow is not needed unless the stall is either a parallel parking space or there is a row of accessible spaces. See detail on Sheet C31.

*Engineer Response: The detail has been revised to remove the arrow.*

4. Comment: Sheet C02 states that there are 323 total units, but sheet SP1.00 states there are 320 units. Also, C02 states there are 93 attached garage stalls, while SP1.00 states there are 92 tuck under garages. C02 states there are 95 carport spaces, while SP1.00 states there are 103 carport spaces. C02 states there are 317 surface stalls, while SP1.00 states there are 309. Which is correct? Please reconcile. Are the differences in the counts due to how the ADA spaces are being counted?

*Engineer Response: Discrepancies have been resolved.*

5. Comment: Open Area Yard Calculations: Did you remember to exclude the building footprints? I didn't see that in the calculations on Sheet L1.00.

*Landscape Architect Response: Building Footprints have been removed from the calculations.*

6. Street Frontage Landscaping. Adjust the street frontage calculations by removing the portion that is comprised of driveways from the total, then recalculate. This is the number that has to be met, otherwise the plan will have to go through the public hearing process as a preliminary development plan to request a modification.

*Landscape Architect Response: Driveways have been removed from the calculations.*

7. Lighting. Revise the lighting plan to reflect the accurate # of each type of lighting (for example, I counted 91 SL1 and 47 SL3). In addition, SL5 appears to be a single headed fixture but the remarks indicate that it has 2 heads and vice-versa for SL8.

*Engineer Response: See attached Memorandum.*

8. Comment: There are a number of places where the pavement width does not meet the minimum (24' exclusive of the curb and gutter, 28' if you include the curb and gutter). One such area is the driveway onto Tudor on Sheet C05.

*Engineer Response: Driveways revised as requested.*

#### Fire Review:

1. Comment: All issues pertaining to life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises and to the safety to fire fighters and emergency responders during emergency operations, shall be in accordance with the 2012 International Fire Code.

*Engineer Response: Acknowledged.*

2. Comment: Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet from a hydrant on a fire apparatus access road, as measured by an approved route, on-site fire hydrants and mains shall be provided where required by the fire code official.

*Engineer Response: Sheet C17, Fire Hydrant Protection Plan, has been added to the FDPs to show hydrant locations, hydrant coverage areas, and designated fire lanes. The water demand statement submitted with the FDPs stated that the required fire flow for the development is 4,000 gpm. Table C102.1 from the IFC-2015 requires the average spacing between hydrants is 350 feet.*

3. Comment: Fire Department Connections. Provide a hydrant plan that meets this requirement for all buildings and provides fire flow and distribution of hydrants in accordance with IFC App. B-105 and App C-103. All hydrants shall be readily accessible.

*Engineer Response: Fire hydrant locations have been revised as necessary and FDCs are shown in Sheet C17.*

- 7.1 Comment: It is likely an aerial apparatus would not be able to make the turn from the existing private drive to the parking lot of Building 2. Rework the entrance.

*Engineer Response: Aerial apparatus turning templates are provided on Sheet C17. There is also a profile of the design vehicle used in the turning movements.*

- 7.2 Comment: Fire lanes in front of the buildings shall 26' driveable surface and without vertical obstruction.

*Engineer Response: Drive Aisles have been revised to provide 26' of drivable surface in front of the buildings.*

8. Comment: All fire lanes shall be marked.

*Engineer Response: Marking locations are included in Sheet C17.*

9. Comment: Knox boxes are required on all buildings at the FDC

*Engineer Response: Knox boxes are called out on Sheet C17.*

#### Engineering Review

##### Comments 1-4: Waterline Connection Comments

*Engineer Response: The client is coordinating with city staff regarding the waterline on the East side of Ward Road. Plans will be revised if necessary following the conclusion of those discussions.*

5. Comment: General Layout Sheet: Please label all private storm sewers, private sanitary sewers, and private water lines. Also please label all public storm sewers, public sanitary sewers, and public water mains. All interior utilities shall be private, with tie-in points on existing utilities to remain public.

*Engineer Response: Labeled as requested.*

6. Comment: General Layout Sheet: Where is the overflow for the two (2) ponds? Where is the discharge directed for these features?

*Engineer Response: See Sheet C29, Pond Plan, showing the pond hydraulics.*

7. ADA-accessible ramp details for the commercial entrances were not provided. A generic standard detail is not sufficient. A specific design must be presented, which includes the minimum design details presented in Section 5304.8 of the Design and Construction Manual. Please note that elevation call-outs will not be sufficient. Slope callouts, section views, and other minimum design details specified in section 5304.8 must be included for each ADA-accessible ramp location. If using a "straight through" ADA-accessible route through the commercial entrance (i.e., no ramp), please verify the commercial entrance will meet the slope change requirements set forth in the Design and Construction Manual (i.e, to avoid vehicles bottoming-out on the entrance). Also ensure the minimum width of 10 feet is provided for the greenway trail route across the commercial entrance, and 5 feet across normal sidewalk crossings at the commercial entrance. Ensure the design criteria of 1.5% cross-slope is met, and 7.5% running slope criteria is met for the running slope on any ADA-accessible ramp. These City-specific design requirements are more stringent than those specified in PROWAG.

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*Engineer Response: ADA ramps and design have been provided.*

8. Comment: Please add street name labels on all sheets. This will help establish a reference in the field.

*Engineer Response: Revised as requested.*

9. Comment: Grading Plan: The finish floor elevation for Building #1 is shown at 1008.00. The water surface elevation for the upper pond is shown at 1005.50. What is the 100 year water surface elevation within this pond, and the lower pond? The finish floor elevation must be set at a minimum of 2.0 feet higher than the 100 year water surface elevation within the ponds.

*Engineer Response: See Sheet C29, Pond Plan, showing the pond hydraulics.*

10. Comment: Grading Plan: The contours in the vicinity of the ponds are not defined in terms of elevation. Please label and show the outline of the normal pool elevation along with an outline of the 100 year water surface elevation within the pond(s). Also, show the contours indicating the depth of the ponds. Please see Section 5600 for specific design requirements related to pond design, including minimum depths, sediment allowance, and anti clogging features, drawdown provisions (e.g., a drain).

*Engineer Response: See Sheet C29, Pond Plan. Please note, ponds are for aesthetics only and are not required for detention.*

11. Comment: General Layout Sheet: Where are the locations of the retaining walls? Later references within the plans show retaining walls, with no reference on where these are located. Please ensure that all retaining walls are not located within public easements, and ensure they are located a minimum of 15 feet from any public water line or public sanitary sewer line. This separation requirement includes any geogrid needed on the high side of the retaining wall, if using a modular block wall or other type of retaining wall which utilizes tie-back features.

*Engineer Response: Retaining wall callouts have been added to the general layout.*

12. Comment: Sheet C11: Retaining wall details are shown, with no reference where these features are located. Please show where these retaining walls are located on the General Layout, and provide specific references to their location on the plans, referencing the dimension plan and / or the General Layout sheet. In other words, make it clear to an inspector / contractor where these features are located in relation to the dimension plan and / or the General Layout sheet.

*Engineer Response: Retaining wall callouts have been added to the general layout.*

13. Comment: A profile view must be provided for the retaining walls. Finally, if not providing a specific design for these walls, notes must be provided stating that the modular block walls shall be designed by a design professional licensed in the State of Missouri, and approved by the City of Lee's Summit.

*Engineer Response: Retaining walls shall be design-build by the contractor. Final retaining wall design plans, specifications and structural calculations shall be submitted with permit review.*

14. Comment: Ductile iron pipe is called-out for the private fire line and domestic water line. Is there a specific reason for this? The City prefers the use of PVC due to corrosion concerns. If using DIP, polywrapping and

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other special requirements shall be necessary, even though these features are private.

*Engineer Response: Pipe material has been revised to C900.*

15. Comment: All valves feeding fire hydrants should be shown on the plans, even though the standard details show the inclusion of a valve prior to the fire hydrant. It does not appear this was done. As an alternative, you may elect to leave the valve location off the plan view, but you must clearly reference the standard detail on the plan view.

*Engineer Response: Detail referenced as requested in the Fire Protection Plan.*

16. Comment: Sanitary Sewer Sheets: Please label as "Private". All interior portions of the sanitary sewer shall be considered private, up to the point of connection to the public system.

*Engineer Response: Revised as requested.*

17. Comment: Sanitary Sewer Sheets: The locations of service laterals appear to be vague in terms of stationing and connection details. If entering the private main, a wye should be specified.

*Engineer Response: Additional Information has been added to the Sanitary Plan.*

18. Comment: Storm Line Plan and Profile Sheets: The hydraulic grade line should be shown, along with the design storm. If not capable of managing the 100 year event, then a suitable overflow route must be established which does not adversely affect structures, buildings, or public infrastructure.

*Engineer Response: 100 Year HGLs have been added to the storm profile.*

19. Comment: Was the receiving storm sewer analyzed in terms of capacity of the receiving system ?

*Engineer Response: Yes. This information will be provided in a revised storm study.*

20. Comment: Sheet C19: What is the pipe size of the existing curb inlet XA1 ? Please show on the plan and profile view.

*Engineer Response: Revised as requested.*

21. Comment: A Stormwater Pollution Prevention Plan (SWPPP) shall be required prior to approval of the Final Development Plan.

*Engineer Response: Please find the attached SWPPP as requested.*

22. Comment: Pond construction details appear to be lacking in terms of grading details, drawdown provisions, depth, sediment allowance, emergency overflow, etc. Sheet C29 shows two (2) section views of the spillway section and limestone pond wall detail, but that is the extent of the design. Please elaborate on the design of these two (2) ponds.

*Engineer Response: See Sheet C29, Pond Plan.*

23. Comment: How will the two ponds drain? Where do they drain?

*Engineer Response: See Sheet C29, Pond Plan.*

24. Comment: A spillway detail is presented for the north pond, but it does not appear to show the 100 year water surface elevation. Is this the emergency spillway? If so, where is the primary outlet works? If this is the emergency spillway, the crest elevation should be placed a minimum of 0.5 feet below the 100year water surface elevation assuming 100% clogging of the primary outlet works, and subsuming no available storage. Please show design calculations for the 100 year water surface elevation, and ensure the spillway meets the freeboard requirements set forth in Section 5600 of the Design and Construction Manual.

*Engineer Response: See Sheet C29, Pond Plan. Please note, pods are for aesthetics only and are not required for detention.*

25. Comment: Sheet C29: Typical section views for asphalt paving do not meet the Unified Development Ordinance (UDO) Article 12 "Parking" in terms of subgrade design. Please see the UDO for specific subgrade requirements.

*Engineer Response: Details have been revised as requested.*

26. Comment: Sheet C29: Curb and gutter details are missing the subgrade extension a minimum of one (1) foot beyond the back of the curb. Please provide a typical section view of curb and gutter, which shows the extension of the aggregate base and soil stabilization / geogrid a minimum of one (1) foot beyond the back of curb.

*Engineer Response: The City of Lee's Summit standard detail for curb and gutter has been provided.*

27. Comment: Sheet C31: Fire hydrant details do not comply with the City standard details. We would recommend you insert the City of Lee's Summit standard details for fire hydrants.

*Engineer Response: Detail has been revised.*

28. Comment: Sheet C32: All of the details shown on this sheet do not correspond with the City of Lee's Summit standard details. Please see City of Lee's Summit standard details, and insert as necessary. Do not, however, use the City of Lee's Summit standard detail for ADA-accessible ramps. A specific design is required for these features, and should be shown elsewhere in the plans.

*Engineer Response: Details have been revised.*

29. Comment: Landscape Tree Plan: There appear to be utility conflicts, in particular, with the tree planting plan and the public sanitary sewer. A minimum of five (5) feet is required between the outside of the mature tree trunk, and the outside of any sanitary sewer line or sanitary sewer manhole.

*Landscape Architect Response: All trees have been relocated away from utilities.*

30. Comment: Are there any contributing drainage points to the two (2) ponds? Where are they located? Will stormwater be piped to these ponds?

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*Engineer Response: See Sheet C29, Pond Plan.*

31. Comment: A channel appears to be shown between the two (2) ponds. How will this be constructed? Is there a typical section view of this feature? Again, it appears the ponds lack design details, and further details must be provided.

*Engineer Response: See Sheet C29, Pond Plan. The channel has been removed.*

32. Comment: Please indicate on the plans the location of heavy duty asphalt paving, and standard pavement.

*Engineer Response: Hatching has been revised to indicate different paving.*

33. Comment: It appears the downspout plan was not shown on the plans for storm lines greater than 6 inches in diameter. Please show the locations of all storm lines greater than 6 inches. If downspouts are 6 inches and less, it is not necessarily needed on the plans, but recommended. Finally, a plan and profile view of all storm lines, including downspouts, is required for storm lines greater than 6 inches in diameter.

*Engineer Response: All downspouts will be 6" or less in diameter.*

34. Comment: An itemized and sealed Engineer's Estimate of Probable Construction Costs should accompany your final submittal drawings. The Engineering Plan Review and Inspection Fee is based on the estimate, and calculated at 3% of the total sitework, plus a nominal per trip fee for observation and collection of water samples. Items to include in the estimate include: 1) all storm lines (public and private) greater than 6 inches diameter, 2) all stormwater structures (public and private), 3) all sanitary sewer lines and structure (public and private), 4) grading to establish proper drainage, 5) paving, 6) subgrade (i.e., aggregate base and subgrade stabilization/geogrid, including the area one (1) foot beyond the back of curb, 7) curb and gutter, 8) public ADA-accessible ramps, 9) public sidewalk, 10) KCMMB commercial entrances, 11) retaining walls, 12) pond construction and outlet/inlet construction, 13) channel construction between ponds, 14) erosion and sediment control device, and 15) final restoration, including sodding, seeding, fertilizer, mulch, and topsoil.

*Engineer Response: See the attached estimate.*

#### Traffic Review:

1. Comment: Consider the inclusion of bike parking throughout the site.

*Engineer Response: Bike racks will be placed near the club house entrance.*

2. Recommend a sidewalk connection between Building 5 and Tudor Road (or Ward Road near the intersection) in proximity of the northwest corner of the building. The nearest sidewalk connection is otherwise south of Building 4.

*Engineer Response: There are no public entries from Building 5 to Tudor; therefore, sidewalk is not necessary.*

3. Recommend a sidewalk connection(s) between Building 1 and the sidewalk along Donovan.



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*Engineer Response: We have included the recommended sidewalk connection.*

4. Review the driveway location shown along Donovan 215' from the centerline of Ward Road. This location only provides about 100 feet of space between the stop position on Donovan at Ward Road and the driveway. This short distance will likely be problematic in the event Donovan is extended west of Ward, or with any significant volume of traffic on Donovan rendering the driveway blocked by queued traffic waiting to egress onto Ward from the stop control (or possible traffic signal). Does this driveway location also support alignment with driveway plans to the south of Donovan? Recommend at least 200 feet of separation between Ward Road and the driveway and coordinate its location with development south of Donovan.

*Engineer Response: The development has 4 total proposed entry/exit location including a second further east on Donovan. This circulation pattern created provides tenants with various opportunities for entering and exiting the site in order to avoid such potential conflicts. Additionally, Building 1 only holds 99 dwelling units. Spread over 2 hours of peak traffic, the building will generate 1.2 trips per minute leaving Building 1. This low traffic volume will utilize both the driveway along Donovan and the east driveway to the private drive.*

Building Codes Review:

1. Specify sizes of water meters based on calculated flow rates.

*Engineer Response: Provided as requested.*

2. Specify size of building sewer pipes (per 2012 IPC Section 10) as they exit structures and provide cleanouts as applicable (per 2012 IPC Section 708.3.2).

*Engineer Response: Provided as requested.*

5. Provide Complete Retaining Wall Designs.

*Engineer Response: Retaining walls shall be design-build by the contractor. Final retaining wall design plans, specifications and structural calculations shall be submitted with permit review.*

Please feel free to contact me if you have any additional questions.



**RENAISSANCE INFRASTRUCTURE CONSULTING**

Mick E. Slutter, PE  
Project Manager, Vice President



## Memorandum

Date: May 9, 2018

From: Rich Beardmore, P.E., LEED AP

To: Mick Slutter, Tim Baldrige, Brad Hus

Re: Summit Square 2 FDP Responses

We are in receipt of the Lee's Summit comments on the original FDP submittal dated April 27, 2018.

One comment in the Planning Review, #7, requested clarification on light fixture quantity and whether SL5 and SL8 were single or double heads.

A column was added to the fixture schedule noting the quantity of each fixture type and also clarified the SL5 and SL8 fixtures.

This information is on the revised Sheet E0.01.

If there are any questions, please contact me.