



April 10, 2019

Hector Soto, Jr.
Planning Division Manager
City of Lee's Summit
220 SE Green Street
Lee's Summit, MO 64063

**RE: Lee's Summit Medical Center – Medical Office Building
PL2017190 Comment Response Narrative & Resubmittal Letter
Lee's Summit, Missouri**

Dear Mr. Soto:

Please consider this submittal as a formal response to comments received April 1, 2019 for the above referenced project. Below, please find a summary of how each comment has been addressed.

Engineering Comments

Gene Williams

- 1) Incoming pipes to the detention basin are shown at or below the outgoing pipe elevation of 992.30. In this area, infiltration is not an effective means for stormwater removal, and will lead to mosquitoes. As we previously commented, 2.0% slope is required in all directions within the detention basin bottom. There can be no allowance for standing water after a storm event, as it will pond for weeks.
 - *A two percent (2%) slope across the pond bottom is shown on the typical pond cross section details provided on Sheet C6.4, as well as on the grading and drainage plan on Sheet C6.2.*
- 2) The pond outlet structure shown on Sheet C6.4 is missing the following design elements: 1) thickness of the walls, 2) steel reinforcement details, 3) step details for access, 4) zero slope in the bottom, leading to the formation of mosquito breeding issues, 5) details concerning the construction of the skimmer, including material to be used, method of attachment, comprehensive dimensions, and reasoning behind this particular design. Is the skimmer detail being utilized to offer anti-clogging protection to the orifices? If so, then a 16 inch stand –off from the outside of the structure will do little to prevent clogging?
 - *This comment contains multiple components. As such, they will be addressed one by one:*
 - *As a civil engineer is cannot be responsible for structural design, thickness of the walls are to be precast constructed per ASTM C890;*
 - *As a civil engineer is cannot be responsible for structural design, steel reinforcement within the structure are to be precast constructed per ASTM C890. See Note1, Sheet C6.4*
 - *Step design to be constructed in accordance with ASTM C497. See Note 2, Sheet C6.4*
 - *No slope across the structure bottom is necessary. As the outflow pipe's invert from the structure is now located at the bottom, no water can stage within the structure itself. See details sheet C6.4.*
 - *The intent of the skimmer's spacing was to provide sufficient spacing from the pipe orifice to prevent a skimmer-induced outflow restriction. As the skimmer design provided was of concern, a downturned "gooseneck" orifice is proposed instead. See details Sheet 6.4.*

- 3) The anti-clogging method appears to be lacking in terms of achieving the goal of preventing clogging of the orifices.
 - *As the skimmer design provided was of concern, a downturned "gooseneck" orifice is proposed instead. See details Sheet 6.4.*
- 4) Specific slope call-outs are required in the bottom of the detention basin. The minimum is 2.0% in all directions. Soils in this area will not drain, and infiltration, although a possibility in other parts of the U.S., is not feasible in this area. Without a 2.0% slope in all directions, it has been our experience that the bottom of detention basins will hold water for an extended length of time, and will lead to mosquito issues.
 - *A two percent (2%) slope across the pond bottom is shown on the typical pond cross section details provided on Sheet C6.4, as well as on the grading and drainage plan Sheet C6.2. Any water held against the bottom of the pond berm will be infiltrated and evacuated per the proposed underdrains located proximal to the toe of slope, thus preventing a detention time of longer than 3 days (72 hours). Please see detail on Sheet C6.4 and supporting calculations provided in the Drainage Design Summary, Appendix VII (PDF page 140).*
- 5) An Engineer's Estimate of Probable Construction Costs should accompany your final design drawings. The Engineering Plan Review and Inspection Fee is based on this estimate, and calculated at 3% of the total site work, plus a nominal water sample collection fee (i.e., per trip). Items to include in the estimate should be itemized, and limited only to site work to complete the project.
 - *An Engineer's Estimate of Probably Construction Costs has been included with this resubmittal.*

Fire Comments

Jim Eden

- 1) 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 2018 International Fire Code.
 - *This is understood.*

Should you have any questions or concerns, please feel free to call (407-975-1273) or e-mail me (ghuddleston@smeinc.com).

Sincerely,

S&ME, INC.

A handwritten signature in black ink, appearing to read 'G. Huddleston, PE', with a stylized flourish at the end.

George Huddleston, PE
Area Manager – Healthcare