LEE'S SUMMIT
MISSOURI

DEVELOPMENT SERVICES

Date: Wednesday, July 03, 2019

To:

OLSSON
Ryan Fleming, P.E.
Email: rfleming@olsson.com
Fax #: none

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

Application Number:	PL2019212
Application Type:	Engineering Plan Review
Application Name:	THE PRINCETON - OLDHAM PKWY & PRINCETON DR IMPROVEMENTS

The Development Services Department received plans for this project on June 21, 2019. We have completed our review and offer the following comments listed below.

- Resubmit three (3) full size sets of plans (no larger than 24"x36") folded to 8-½"x11", one (1) comment response letter, and one (1) digital copy following the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within five (5) business days of the date received.

Engineering Review

1. Please adjust the "index of sheets" to reflect the water line plans being separate, and not a part of these plans.

2. Sheet T6: Surface course asphaltic concrete pavement for Princeton Dr. should be specified as Type 5 or 6, and the base course for Princeton Dr. should be specified as Type 5. This changed recently in the Design and Construction Manual.

3. Sheet T12: The intersection of Princeton Dr. and Oldham Pkwy. is at a stop-controlled condition. The design grade across the ADA-accessible route must be designed with a cross-slope no greater than 1.5%, and a minimum width of 5 feet across the ADA-accessible route. This is different than PROWAG, and is a City of Lee's Summit requirement. This allows for tolerance in construction, since the City will allow for a construction tolerance of no greater than 2.0% cross-slope across the ADA-accessible route.

4. Sheet T13: A minimum 5 foot wide ADA-accessible ramp must be shown across the driveway, with a maximum design cross-slope of 1.5%.

5. Sheet T15: The maximum design running slope for an ADA-accessible ramp within the City of Lee's Summit is 7.5%. There are instances where this design standard are not met. Please revise.

6. Sheet T15: All ADA-accessible ramps within right of way require that certain design elements presented in Section 5304.8 of the Design and Construction Manual be specified. In particular, call-outs are required for the distance between the tactile warning and the back of curb. This distance cannot be more than 5.0 feet. Cross-sections A-A, B-B, and C-C are also required for each ramp, with call-outs of the slopes, elevations, etc. For your reference, cross-section A-A must be shown along the long axis of the ramp, B-B must be across the width of the ramp, and C-C must be along the curb opening of the ramp.

7. Sheet T15: Tapered "wings" are shown on the various ADA-accessible ramps, for no apparent reason. Is it possible to grade the surrounding earth to achieve a reasonable slope, without using the tapered "wings"? These "wings" are problematic to our Operations group, and do not serve any purpose.

8. Sheet T15: Please show the ADA-accessible route across Princeton Dr. since this is at a stop-controlled intersection. Maximum cross-slope should be 1.5%, and the minimum width is 5.0 feet.

9. Sheet T15: Please show the ADA-accessible route across the new drive entrance from Oldham Pkwy. Please see above comment concerning maximum cross-slope and minimum width.

10. Sheet T18: Please add a prominent note stating that these details are meant to describe tie bar locations, and isolation joints. It is not meant to supercede the site-specific design details for the ADA-accessible ramps.

11. If there are any additional questions concerning the ADA-accessible ramp design details, please contact me. The issue the City has been experiencing in the past, is there is not enough up-front engineering design emphasis on these ramps, and they eventually are designed in the field. Many of these need to be removed and replaced, because the field design was not correct.

12. Sheet ST1: Please define "HP" pipe. Is this CPP? Is this HDPE?

13. Sheet ST1.0: It appears the finish grade was omitted between station 6+00 and 6+50.

14. General Note Concerning Hydraulic Grade Line: While it is acceptable to show the 4% chance storm event within the pipe, the City needs to see that the 10% chance event is below the top of the crown of the pipe in all instances. Please revise the profile view to show the 10% chance event hydraulic grade line is below the top of the pipe in all instances, or provide upsizing of the pipe to ensure this occurs.

15. Sheet ST1.3: The 10% annual chance hydraulic grade line is shown above the crown of the pipe on Storm Line 6. The City requires the 10% chance event hydraulic grade line to be below the top of the crown of the pipe. Please revise the design to ensure this occurs.

16. Rip rap calculations may be required by MoDOT. Please be aware of this, and be prepared to make adjustments to the design as needed.

Traffic Review

1. Improvements related to Oldham Parkway are subject to MoDOT review and approval. Please submit documentation that MoDOT has reviewed and approved the portion of these plans related to Oldham Parkway.

2. The alignment of Princeton Drive between L2 and L3 is not described; update the plans with this information.

3. Was paved shoulder along the north side of Oldham Parkway omitted and deferred to coordinate with Oldham Improvements between Ranson Road and the development, or should the plans be revised to include this shoulder in the area of road widening? The improved typical section supported was intended to match (or be similar with) what was approved and constructed for Blue Parkway west of Todd George in association with recent development on the NW Quadrant of the interchange based on the PDP; subject to MoDOT approval.

4. Existing 4" Dashed Yellow Line should be changed to 4" Solid Double Yellow.

5. The S.L (25) sign on Princeton Drive just north of the existing street connection (for northbound traffic) should be removed.

6. The stop line and double yellow line on Princeton Drive should be removed.

7. Any existing end of road markings and dead end signing associated with existing Princeton Drive should be removed.

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

All Planning application and developmrnt 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 mulit-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,

Original Signed

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