
PUBLIC WORKS ENGINEERING DIVISION

Date: Tuesday, August 07, 2018

To:

SCHLAGEL & ASSOCIATES

Mark Breuer, P.E.

Email: mab@schlagelassociates.com

Fax #: (913) 492-8400

From: Gene Williams, P.E.

Senior Staff Engineer

Application Number: PL2018117

Application Type: Engineering Plan Review

Application Name: Oakview Public and Private Infrastructure - Street, Storm, Grading & ESC

The Development Services Department received plans for this project on July 13, 2018. 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. Sheet C2.0: A public easement is shown for the storm line proceeding to the northwest corner of the site. As discussed previously, we do not want an easement dedicated to the City. This is a private storm line, to be maintained by a private entity(s).
2. Sheet C2.0: What agreements have been executed concerning the discharge of stormwater at the northwest corner of the site? It appears there will be considerable grading and storm line installation in this area.
3. Sheet C2.0: A note is provided stating "proposed turn lane improvements per separate plan...", but it appears that they are included in this plan set?
4. Sheet C3.0: Please call out the word "SWALE" on the north property line, along with the running slope where a swale is evident.
5. Sheet C3.0: Will Storm Line 600 discharge into an existing channel? Will there be any adverse impacts to adjoining property owners?
6. No details are provided for the Douglas Street turn lane improvements, other than a simple plan view on Sheet C3.2. The simple plan view calls out items such as "asphalt per City standards", "install Type A

Ramp", "install Type B ramp", and show what appears to be an existing utility box in the middle of a proposed sidewalk. Plans for the Douglas Street turn lane should be detailed, and include dimensions, striping, elevation call-outs, site-specific ADA-accessible ramp details (i.e., generic call-outs are not sufficient), slopes, traffic control plan, and all other information necessary to show how the turn lane will be constructed.

7. Sheet C5.1: Structure 201 appears to be pointing to the incorrect feature.
8. Sheet C5.2: Where are the rip rap calculations?
9. Sheet C6.0: Isn't this a fire line plan? It might be a good idea to rename this sheet, since there are other utilities covered by separate plans.
10. Sheet C6.0: Please specify a cut-in tee, to eliminate the question of whether a saddle can be used.
11. Sheet C6.0: Please be aware that the placement of fire hydrants as shown on the plan may need to be changed when individual Final Development Plans are submitted for the various buildings. We cannot comment on the suitability of the arrangement shown, since no buildings are shown on the plan. Fire shall provide specific comments related to the placement of fire hydrants when individual Final Development Plans for the various lots are submitted to the City.
12. Sheet C6.0: All notes related to the sanitary sewer should include a specific note which references the user to the sanitary sewer plans. In particular, there is one note on Victoria Dr. related to boring and casing for the sanitary, but does not reference the separate plan set. Please be clear so there are no misunderstandings.
13. The City standard detail for the backflow vault was missing. Also, it is not clear how the sump will be drained on the backflow vault. Show how the sump will drain, either to an inlet, daylighting, or a gravel-filled sump of perhaps 3 feet wide by 5 foot depth, lined with geofabric?
14. Standard details for the fire hydrant assembly was missing.
15. Provide the location of all valves feeding the individual private fire hydrants. Ensure the locations of all fire hydrants is to scale, with sufficient room to install the valve as per the standard detail.
16. Sheet C7.0: Curb and gutter detail must show the engineered subgrade (i.e., the aggregate base, and chemically-stabilized subgrade or geogrid) extending a minimum of one (1) foot beyond the back of curb. The detail provided is for curb replacement, not new curb and gutter.
17. KCMMB concrete is required for the new entrance on Douglas. It should extend from the sawcut, to the

right of way line (i.e., the new right of way line after vacation of right of way). Please show.

18. All Stormwater Profile Sheets: Please show the hydraulic grade line for the design storm.
19. Underground Detention Design: Is the underground detention system deep enough to prevent "floating"?
20. Sheet C7.2: Please remove the generic details. They should be consulted to provide a site-specific design for all ADA-accessible ramps within right of way, but should not be relied upon to construct an ADA-accessible ramp. A site-specific design is required for each ramp, which incorporates all the design elements contained within Section 5304.8 of the Design and Construction Manual. Please be aware that Section 5305, Table LS-5 and Table LS-6 provides specific design criteria which differ from the standard details.
21. Sheet C7.3: What is the purpose of a street signage plan? If not used, please remove.
22. Sheet C6.0: Modular block walls are called-out, without any profile view, larger-sized plan view, notes, etc. If constructing the modular block walls at this time, we will need to see a larger plan view, along with a profile view. Specific elevation call-outs should be given for the top of wall, and bottom of wall. If utilizing a separate design engineer to provide a design for the retaining walls, notes should be provided stating this is the case. Finally, a design, sealed by a design professional registered in the State of Missouri, must be provided prior to approval.
23. A separate profile view should be provided for the fire line loop. The reason for this requirement is to ensure there is adequate clearance between storm sewers, sanitary sewers, etc.
24. Is the current ADA-accessible ramp at the northwest corner of Victoria Dr. and Douglas St. compliant with City standards? The note on Sheet C2.0 states "reconstruct as needed". Please provide a site-specific design in accordance with Section 5302.8, and Table LS-5 and LS-6.
25. What is the condition of the existing ADA-accessible ramp at the existing shared entrance on Victoria Dr.? Will it need to be reconstructed? If so, a site-specific design is required in accordance with Section 5304.8 and Table LS-5 and LS-6.
26. Standard details should be provided for thrust blocks.

Traffic Review

1. Include a pavement marking plan for the turn lane along Douglas. Plan should be consistent with the City's standards and specifications. Include City Standard Details for pavement markings and plan notes detailing materials: all symbols shall be preformed thermoplastic and all longitudinal lines shall be high build paint meeting specifications of the Design and Construction Manual.

2. The turn lane taper along Douglas should be designed as a straight line in lieu of the reverse curve. Turn lane taper should be 150' in length, but consider any impact to adjacent access that may be planned to the north (taper cannot encroach on adjacent access; no continuous right-turn lanes) in the event a shorter taper requires consideration.
3. The turn lane plans lack sufficient dimensions, offsets, reference points, location notes, alignment/NE/Control, PC, PT, etc. for pavement, sidewalk, curb, saw cut, etc.
4. Provide a typical section with pavement design information for the turn lane widening of Douglas.

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

Development 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 on CD in the following formats

- Plats – All plats shall be provided in Tagged Image Format File (TIFF) Group 4 compression.
- Engineered Civil Plans – All engineered civil plans shall be provided in Tagged Image Format File (TIFF) Group 4 compression. All sheets shall be individually saved and titled with the sheet title.
- Architectural and other plan drawings – Architectural and other plan drawings, such as site electrical and landscaping, shall be provided in Portable Document Format (PDF).

- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).
- It is requested that each plan sheet be a maximum of 2MB.

Please contact me if you have any questions or comments.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer
(816) 969-1223
Gene.Williams@cityofls.net

cc: Development Engineering Project File