

Date: Wednesday, February 06, 2019

To:

WEST PRYOR VILLAGE LLC

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KAW VALLEY ENGINEERING

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From: Sue Pyles, P.E.

Senior Staff Engineer

Application Number: PL2019016

Application Type: Engineering Plan Review

Application Name: STREETS OF WEST PRYOR - MASS GRADING & STORM SEWER PLANS

The Development Services Department received plans for this project on January 17, 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.

Engineering Review

1. Add to plans:

- Developer's contact information.
- Note stating that all construction shall follow the Design and Construction Manual.
- Contractor to notify Development Engineering Inspection at 816-969-1200 at least 48 hours prior to starting construction.
- Summary of Quantities Table.
- Storm sewer inlet calculations.

2. Storm Sewer:

- Retaining walls are not allowed within public easements. Therefore, Line C will have to be revised to avoid the retaining wall on Lot 2.
- There are several instances of private storm sewer being in close proximity to retaining walls. If any repairs are required to the storm sewers, the integrity of the retaining walls could be compromised. Wall failure could endanger the public, therefore the City recommends that the "wall design area" behind the wall be kept clear of any kind of pipes.

3. General:
 - Revise all sanitary easements to match the Final Plat and remove all easements and easement dimensions not used.
 - These comments may be revised based on review of other plan sets for this overall development.
 - Review plans for overlapping text and relocate text as needed for clarity. Stationing quite often makes information hard to read.
4. Erosion and Sediment Control (ESC) Plan:
 - Include separate ESC plan sheets for prior to construction, during construction, and after completion of the work. Each of those may be phased if needed.
 - Include the “temporary ditch” shown on the grading plan. How will the ditch be sized? What erosion control will be used with the ditch ?
 - The Sediment Basin standard details include the design information but not specific design of the basin. As indicated on the detail, construction plans must provide specific site construction arrangements. Include enough detail to construct the basin, baffles, skimmer, outlet structure, etc.
5. Submit:
 - SWPPP
 - Engineer’s Estimate of Probable Construction Costs
6. Sheet C-1:
 - Revise “Mass Grading Plan” to “Mass Grading and Storm Sewer Improvements” in the project title.
 - Revise the Water and Sanitary contact information to Water Utilities at 816-969-1900.
 - For other City contact information, use Public Works at 816-969-1800 and/or Development Engineering at 816-969-1200.
 - The information for Sheets C-29 & C-30 is reversed in the Index of Sheets.
 - The information shown for Sheet C-34 is incorrect in the Index of Sheets.
7. Sheet C-2: Include street plans in the boxed note reference to other plans on this sheet and throughout the plan set.
8. Sheet C-10:
 - The drainage area to Structure A-3 should be shaded. Please revise.
 - If there is no Structure J-5, please remove the label.
 - Please separate the Structure B-2 drainage area label from the street label for clarity.
9. Sheet C-11: The sheet number is incorrect, please revise.

10. Sheet C-15:

- Revise the sheet numbers included in the Sheet Index schematic on this and all grading sheets, they are incorrect.
- Why are some elevations for some retaining walls shown as Top/Toe while others are Top/GR? Please use one labeling system for clarity and revise the legend if needed on this and all grading sheets.
- The ground elevation at the Sta. 5+85 (approx.) bend of Retaining Wall E does not appear to match the contours. Please review and revise if needed.
- It is unclear if building footprints are being shown or if contours are being shown which look like building footprints. Please clarify on this and all grading sheets.

11. Sheet C-16:

- There appears to be a retaining wall shown on the west side of Lot 6, just south of Retaining Wall J that isn't shown anywhere else in the plans. Please show throughout the plan set and label it on this sheet.
- Include wall elevations for Retaining Walls C & D.
- Revise overlapping text near the east end of Retaining Wall D for clarity.
- It is unclear when and how the temporary inlet opening will be provided. Include this information as a part of the Erosion and Sediment Control Plan, rather than a part of the grading plan.

12. Sheet C-17:

- Revise overlapping text near the west end of Retaining Wall L for clarity.
- Please review the Toe elevations at the southeast corners of Retaining Walls K & L and the southwest end of Retaining Wall L. They don't appear to match contours. Revise if needed.
- Label the proposed ditches as a temporary drainage way and refer to the ESC plans on this and all grading sheets.

13. Sheet C-18:

- The Toe elevation at the Sta. 583+80 (approx.) bend of Retaining Wall P does not appear to match the contours. Please review and revise if needed.

14. Sheet C-24:

- Indicate the Class of RCP required in the Profile view on this and all applicable sheets.
- Show existing grade in the Profile view upstream of Sta. 205+00.
- Label Line B in the Plan view.
- Label Structure A-4 in the Plan view.
- Revise the flowlines in the Profile view so that the incoming flowlines are shown on the upstream side of the flowline label and the outgoing flowlines are shown on the downstream side of the flowline label on this and all Profile views throughout the plan set.
- Include station equations where multiple lines connect to a structure on this sheet and all profile views throughout the plan set.

- Revise the Profile view to show the existing grade along the entire profile.
- Include station equations where multiple lines join together on this and all applicable sheets.

15. Sheet C-25:

- Please label Structure A-6 in the Plan view.
- Structure A-8 is missing from the Profile view. Please revise.
- Structure A-9 stationing is missing from the Profile view. Please revise.
- Include the following note on any profile sheet applicable: "Compacted Fill shall be placed to a minimum 18" above the top of the pipe prior to installation."
- Show and label the limits of the compacted fill placement in the Profile view. Use hatching for clarity.

16. Sheet B-26:

- Show and label the "temporary ditch" in both Plan and Profile views on this sheet and all other applicable sheets throughout the plan set.
- Show and label "Compacted Fill" areas due to "temporary ditch" grading in the Profile view on this sheet and all other applicable sheets throughout the plan set.
- Revise the Profile view to show the existing grade along the entire profile.
- Labels for Structures B-6 & B-7 refer to an incorrect detail, please revise.

17. Sheet C-27:

- Line C will be public between Structures C-1 & C-7. Please revise the note indicating the public line location and make it more prominent for clarity.
- There is an interim channel referenced in the Profile view between Structures C-4 & C-5, but there is no channel shown in that location anywhere else in the plan set. Please revise as needed.
- There is a note between Structures C-4 & C-5 indicating the storm sewer should coordinate with the mass grading project. Please remove the note or clarify the meaning since the storm sewer and mass grading are both a part of the same project.
- Label Structure C-11 in the Plan view.
- The label for Structure C-4 refers to an incorrect detail, please revise.
- Include the retaining wall between Structures C-4 & C-5 in the Profile view.

18. Sheet C-28: There is a note between Structures C-12 & C-13 indicating the storm sewer should coordinate with the mass grading plan. Please remove the note or clarify the meaning since the storm sewer and mass grading are both a part of the same project.

19. Sheet C-29:

- Relocate the label for Structure S-2 in the Plan view for clarity.
- Verify the sanitary sewer crossing Line S, it appears separation could be a problem.
- Show enough in the Plan view to be able to tell that Structure S-1 is located in the West detention basin.

- Why does Structure S-2 extend above the proposed grade so far?
- If riprap is shown in the Plan view, include it in the Profile view.
- The Profile view and the note above the Profile view each label the South Detention Basin outlet structure differently. Please reconcile.
- Review the orifice cardinal directions for the outlet structure, they appear incorrect.
- The 4" diameter orifice opening information does not match the Final Stormwater Report submitted. Please reconcile.

20. Sheet C-30:

- If riprap is shown in the Plan view, include it in the Profile view on this sheet and throughout the plan set.
- Include calculations showing the riprap is adequate for the discharge velocity.
- Include riprap dimensions.

21. Sheet C-31:

- Show and label the detention basin in the Plan view.
- The Plan view shows Structure W-2 as having a double grate inlet while the outlet note shows a solid top. Please reconcile.

22. Sheet C-32:

- Review and revise this sheet for clarity, it is very hard to read due to overlapping text as well as everything being the same line weight.
- Labels for Structure A-10 refers to detail ???, please revise.

23. Sheet C-33: Delete the extraneous pipe information in the lower portion of the Line C-13 Profile view.

24. Sheet C-35:

- Show and label the overflow spillway length and location. The proposed contours must match the spillway elevation.
- What does the 973.5 spot elevation refer to? The elevation does not match the proposed contours.
- Relocate the tract label, as shown it looks like the name of the basin.
- Label the basin.

25. Sheet C-36:

- Include size (D(50)) and thickness design information for the detention basin riprap.
- The 100-year WSE shown does not match the Final Stormwater Report. Please reconcile.
- Include a typical section through the overflow spillway each way.
- Design information for the material required in the bottom of the basin must be included.

26. Sheet C-37:

- Relocate the tract label, as shown it looks like the name of the basin.
- Label the basin and forebay.

27. Sheet C-38:

- The Toe of Embankment label is missing a dimension.
- Design information for the material required in the bottom of the basin must be included.
- Include a typical section through the overflow spillway each way.
- Include the forebay in the basin typical section along the centerline perpendicular to the typical section shown.

28. Sheet C-39:

- Proposed Retaining Wall G profile is missing the wall.
- Delete the extraneous wall label above the Wall G Profile view.
- Include profiles for retaining walls A & L.
- Delete the Proposed Retaining Wall "M" label in the Proposed Retaining Wall Index on this sheet and all applicable sheets.

29. Sheets C-42 – C-57:

- Special designs are required for inlets exceeding 7'-0" in depth, measured as shown on the standard details. Please include and reference them throughout the plan set as applicable.
- The Lee's Summit Junction Box standard detail, STM-3, is included in the plan set as required. Remove Detail 403. If a grate inlet or double grate inlet standard detail is required, please base it on the City's standard details.
- Sheet C-53 is blank. It appears APWA ESC-10 was intended to be on this sheet.

30. Due to the number of comments on this review, the resubmittal review time will be extended beyond 5 days.

Due to inlet calculations not included in the plan set, a more complete review of the storm sewer will be done when the calculations are furnished.

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 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 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 multi-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,

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cc: Development Engineering Project File