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Memorandum

To: Stacey Nerger, Senior Planner

Date: May 18, 2021

From: Alex Mestdagh, P.E., Engineering Services Manager
Michael Walton, E.I.T, Project Engineer

Cc: Tom Williams, P.E., Director of Engineering/Public Works

Subject: Compark Village South Filing No. 1 – Site Plan Amendment

The Engineering Department has reviewed the documents submitted with this application. The submittal consisted of the following documents:

<u>Document</u>	<u>Date Received</u>
Belford Ave CDs	April 2021
Bridge Plans	April 2021
Drainage Report	April 2021
Streetscaping Plans	April 2021

Thank you for the opportunity to review this application. Based on our review we have the following comments:

Roadway and Storm Plans

1. Please discuss the title of the plan set with Town Staff. If a plat is not necessary for this work, Filing No. 3 will not be the appropriate title.
2. It is critical that the proposed Belford Avenue alignment and profile are coordinated with the adjacent Chambers Highpoint design. The Town would prefer that this plan set show a portion of the Highpoint profile as “By Others” (and vice versa) to ensure there is no confusion. Please coordinate this with the Highpoint team – the Town can help arrange a meeting if necessary.
3. Staff recommends removing the proposed Type R inlet in the “Residential Storm Lateral” line and instead just plugging the RCP and adding a locator or marker.

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4. Replace the diagonal curb ramps at the Belford Avenue/Future Street intersection with direction ramps across Future Street (Town Detail 18). Staff assumes there will not be an opposing intersection across Belford, and pedestrian crossings of Belford will not be promoted at this intersection.
5. Include delineators outside of the temporary shoulder of Belford Avenue to help display the roadway edge during adverse weather conditions.
6. Please note that the Town has recently updated its Roadway Standard Details. Please download the updated versions from www.parkeronline.org and use those in this plan set.
7. Storm Drainage Infrastructure Notes on sheet 2 appear to be out of date. Include current notes provided in the SDECM on the Town's website (<http://parkeronline.org/577/Storm-Drainage-and-Environmental-Criteri>)
8. Sheet 10 & Sheet 12: Per SDECM section 6.3.3.4 The minor storm's HGL must be located below the crown of the pipe and the major storm's HGL must be a minimum of 12-inches below finished grade.
9. Sheet 12: All proposed storm sewer infrastructure other than the bridge itself needs to be included in the Road and Storm Sewer plan set. This includes the storm sewer infrastructure proposed for the bridge.
10. Sheet 12: INL – C appears to tie out to another proposed inlet within the bridge. Please consider using one larger inlet rather than two smaller inlets to accommodate the drainage needs in this area.
11. Sheet 12: HGL's not provided for the Lateral E profile.
12. Sheet 16: Detention Basin Outfall profile missing HGLs.
13. Provide temporary swales along the proposed roadway widening area to convey stormwater to the proposed inlets during the interim condition. Please include all swale sizing calculations within the drainage report.
14. Forebay maintenance ramps must be a minimum of 10 – feet wide.
15. Sheet 16: Provide a call out referencing the low tailwater basin detail provided in the plans on sheet 33. Please also use the "low tailwater basin" nomenclature in lieu of "riprap bank protection" to avoid potential confusion in the field.

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16. Provide additional details for the retaining wall design and ensure the design meets all the standards provided in SDECM section 7.3.13. It was specifically noted that the terrace width and slope does not appear to meet these criteria.
17. Per the Town's maintenance road detail, Figure 7.4 of the Town's SDECM, maintenance access side slopes must be 4:1 or flatter. Detail currently calls out 3:1 to existing grade.
18. The "Emergency Overflow Water Surface" should reflect the water surface above the spillway crest if the 100-year flow rate was passed through the spillway, not the 100-year water surface reached due to ponding.
19. The outlet structure details do not appear to include a well screen for the orifice plate. Please note the well screen should be on the outside of the outlet box and the orifice plate should be on the inside of the outlet box per SDECM Figure 7.9.
20. With the low point in Belford appearing to be located within or near the bridge approach slab, the stormwater ponding that will occur in this area should be minimized to prevent issues with the structure. It be appropriate to add another flanking inlet to decrease ponding limits in the major storm. Please discuss the proposed conditions and mitigation with Town Staff.

Streetscaping Plans

21. Please confirm that the roadway linework is scaled correctly – the roadway elements do not appear to scale to expected dimensions. This is necessary to confirm that the necessary sight distances are being preserved – the required ISD is 500 feet for this roadway.
22. Show and label all utilities. Ensure that no trees are located within eight feet of any storm sewer infrastructure crossing the tree lawn.

Drainage Report

23. Provide the drainage report for the bridge infrastructure and Happy Canyon Creek improvements as stated in the Compark Village South F3 Drainage Report.
24. Please revise the title and engineer's statement to reflect that this is the "Final" drainage report to match Town nomenclature.

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25. Provide discussion on whether the Town of Parker Stream Preservation Standards apply and if so, how they are being met.
26. Provide the values used for the rainfall intensities within the Hydrologic Criteria section of the report.
27. Reference the Mile High Flood District Detention worksheet used for design in the Hydrologic Criteria section. Also, provide additional details regarding the detention release requirements in this section (i.e. 90 percent of 100 year historic flows).
28. Discuss the method used for sizing storm sewer pipes in the Hydraulic Criteria section.
29. Please provide a Variance from Criteria section per the SDECM Drainage Report checklist. If no variances are requested, please simply state this within said section.
30. Provide discussion on wetland areas, jurisdictional status, impacts to threatened and endangered species, presence of Habitat Protection and Stream Restoration areas, and compliance with all other state and federal environmental permit regulations that may apply to the site in the Environmental Protection Criteria General section of the report.
31. Please delineate approximate boundaries of the Site on the FIRM. The label "Site" was provided, but the extents of the site are unclear.
32. State requirements for time to drain from the detention facility are not being met. Per Colorado Statute 37-92-602(8) rainfall events equal to or less than the 5-year storm must release or infiltrate 97 percent of all flows within 72 hours and rainfall events greater than the 5-year storm must release or infiltrate 99 percent of all flows within 120 hours.
33. Several other aspects of the detention worksheet do not appear to meet the typical design intent. Please coordinate with Town staff to provide clarity on some of the design choices made.
34. Please verify that Happy Canyon Creek is still applicable for a Nationwide Permit with the recent regulatory changes to what is defined as a Water of the US. If not, please coordinate with the State on what permitting will be required in this case.
35. Please note the Floodplain Development Permit will be reviewed as part of the Grading Permit Application.

Culvert and Wingwalls Plans

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36. Please confirm that recoverable slopes (4:1 or flatter) are provided between the edge of Belford Avenue and the proposed fence on the end of the culvert crossing.
37. Further discussion is warranted regarding the aesthetics/finish on the culverts and associated wingwalls. Where formliner is used, the Town would prefer to match a standard currently being specified on Town projects (uploaded to eTrakit for reference). Other areas of exposed concrete should be coated with Davis Color No. 641 (Sequoia Sand) to match other Town structures.
38. The Town would prefer the culvert railing color be specified as “Parker Brown”, equivalent to TNEMEC Endura Shield Color F073D3884A. All railing steel shall be galvanized and powder coated per CDOT standard specification.

This submittal is not in general conformance with Town criteria and must be revised and resubmitted for review. An attempt has been made to identify all of the items that do not meet the Town of Parker’s design criteria; however, it remains the developer’s responsibility to ensure that all criteria are met.

If you have any questions regarding the comments please do not hesitate to contact the Engineering Department at (303) 840-9546.