

October 05, 2017

Ms. Stacey Nerger
Town of Parker
20120 E Mainstreet
Parker CO 80138

Re: Trails at Crowfoot Filing #1 Project #SUB17-039
Final Plat 1st Referral
PWSD Project #2017-069

Dear Ms. Nerger:

Thank you for forwarding the referral request for the above mentioned project. After a review of the documents submitted, the Parker Water & Sanitation District has the following comments:

- Submit an executed Standard Improvement Agreement with all required exhibits.
- A wet stamped and signed Engineers Estimate with a 20% contingency must be submitted for verification and District approval. The approved document will be an Exhibit for the Standard Improvement Agreement and Letter of Credit.
- A letter of credit or Cash in Lieu based on the approved Engineers Estimate must be submitted before final approval is granted.
- A copy of the signed/recorded Final Plat must be provided to the District prior to construction plan approval.
- All easements must be called out and shown on the plans as well as the Plat. The District requires single utility easements to be 30-foot exclusive PWSD easements and multiple utilities to be 50-foot non-exclusive PWSD easements (with 10-foot separation between any utility). ALL easements must be done by separate document (on the District's standard Easement Agreement) regardless if they are done by Plat.
- Submit completed PWSD Plan Requirements Checklist with the next submittal to ensure all plan requirements have been met. Checklist is available online at www.pwsd.org
- List all fittings on overall utility and plan and profile sheets with numbers (man holes, blow offs, gate valves, butterfly valves, fire hydrants, air release valves, tie in locations, etc. i.e. TC-GV1 or TC-MH1).
- Please add an additional sheets to the plans in a smaller scale that show the entire overall utility plan in three sheets or less.
- Please send a full size paper copy of the plans for PWSD to review on the next submittal.
- Please revise the labeling & callouts. On sheet 10 the sanitary sewer line is called out as a 16" PVC WL.

- On sheet 37&38 the plans show the proposed sanitary sewer main having an 18" DIP main tie into a 12" PVC main, then the 12" main ties into the 8" existing sanitary sewer stub out. As discussed in our meeting please verify the size of the existing stub out. It is not an 8" main as shown on the plans, PWSD believes it is either a 24" or 27" main and stub-out. At the location the 18" proposed sanitary sewer main ties into the 12" main, please upsize the line to an 18" main from TC-SSMH-OS47 to the existing stub-out/tie-in location.
- PWSD does not like to use DIP for sanitary sewer mains due the corrosive nature of sanitary sewer flows and gases. Please consider using SDR-35 or SDR-26 PVC instead of DIP.
- On sheets 3, 8 & 9 please call out the LF of the proposed 16" DIP water main and add it to the materials list.
- Please ensure the materials list on the cover sheet is correct and up to date. PWSD feel there are missing services lines on the materials list. Please review and ensure the linear feet of the proposed various sizes of main is accurate on the materials list.
- Please show and call out on the overall utility plans what lots will require water and sanitary sewer service lines to be installed in this filing. Include the lot numbers and the filing number.
- Please callout PRV in the necessary locations.
- Please show and call out in the plans & profile sheets what manholes will be outside drop manholes. Please note PWSD does not permit an inside drop manhole to have a drop greater than 18".
- Manholes over 20-feet in depth will require an intermediate platform. Please clearly label intermediate plat forms on all manholes greater than 20' in depth on the plan& profile sheets.
- On sheet 8 please callout the proposed 16" X 12" reducer on the water main.
- No more than one fire hydrant and/or 15 lots may be out of service with the closing of two or more valves.
- On sheet 6 additional gate valves are needed at the intersection of N Pinery PKWY and Rose Mallow St to ensure no more than one FH is put out of service. An additional gate valve will need to be added on the West end of N Pinery PKWY just to the West of the fire hydrant near Crowfoot valley Rd.
- On sheet 4 on Scarlet Sage Ave in the stub-out location to the East move the gate before the stub out terminates. This will make it easy to shut down when the main is continued to the East.
- Manholes must be installed at a distance not greater than 400' in separation. On sheet 13 MH2 to MH3 is greater than 400'. Please add a manhole.
- On the profile sheets the there are multiple instances where the storm sewer line crossing is miss labeled as a water line (WL). Please refer to sheet 18 profile view as an example. Please ensure all lines are correctly called-out.
- On sheet 26 please look at the sanitary sewer alignment. PWSD feels it may be possible to reduce the number of manholes (possibly up to 4 manholes) between MH170 to MH243.
- On sheet 28 including additional sheets there are no station or elevation numbers called out for the manholes, instead it is callout as ???, ???, ???. Also the 6" water line crossing is not called out in the plan and profile on sheet 28.

- Please create a water and sanitary sewer service table that shows stationing information for each lots water and sanitary sewer service line.
- All proposed water main lowering's are required to have low point blow off valves called out on the plans per PWSD standards. Please call out all necessary blow off valves in the plan and profile sheets.
- Please call out all 6" water line crossings in the plans.
- On sheet 7 there are no manholes called out, please callout and label all manholes.
- On sheet 38 MH47 in the profile the callout is incorrect. The plans view shows two invert-ins going into the manhole yet in the profile only one invert is called out. Please call out all inverts into manholes.
- On sheet 26 storm crossings are called out in the profile but not in the plan view. Please ensure that all relevant crossings are shown in both the plans view and profile view. Also the water line crossing at approximately STA 22+10 is not called out.
- Please ensure that ROW and/or PWSD easements are called out on all relevant sheets. Please note, If ROW has not been dedicated before installation of PWSD infrastructure temporary PWSD easements will be required.
- All water main stub-outs to future filings are required to have temporary blow-off valves.
- The high point in the water main will require air-vac valves to be called out in the plan and profile sheets and installed to PWSD standards. Please see PWSD water specification section 4.2.6.
- Callout irrigation tap sizing and the proposed 5 location on plans including the overall utility plans.
- Please add all necessary PWSD details sheets to the plans. For example PWSD sanitary sewer detail sheet S3.5 Cast in Place Manhole Base Detail is missing.
- Provide a physical address for all proposed irrigation taps on the Landscape/Irrigation Worksheet in the space provided.
- ET based Smart Irrigation Controllers with rain sensors are required on all projects. Choose a controller from the Districts approved ET Controller list and specify the manufacturer and model number on the irrigation worksheet.
www.pwsd.org/pdf/Conservation/AvailableSmartIrrigationControlTechnologies.pdf
- Please note that PWSD has listed multiple comments based on our specification for this review. Please note that it is the engineering firm's responsibility to ensure that all water and sanitary sewer plans conform to PWSD specifications. All comments must be addressed with a response letter during the next submittal.

Please let us know if you have any question on the above comments. We look forward to the final submittal on this project.

Sincerely,
Parker Water & Sanitation District


Drayton Sanderson
Engineering Technician 