

January 16, 2023

Project: Outfall Sewer – Plum Creek Pkwy – Segment 1

Project Narrative

Kennedy Jenks Consultants (KJ), on behalf of Villages at Castle Rock Metropolitan District No. 4 (District), is submitting final design documents for the project titled “Outfall Sewer – Plum Creek Pkwy – Segment 1.” The project consists of approximately 4,200 linear feet of 8-inch gravity sewer to convey wastewater from the future development in Villages Metropolitan District No. 9 (Memmen Trust Parcel) and six (6) additional abutting properties to the Town of Castle Rock’s (TCR/Town) existing sewer system near the intersection of Plum Creek Parkway and Eaton Circle. In total, the proposed sewer will serve six (6) properties along the alignment.

A wastewater system study was completed in July 2021 and submitted to the Town with the Pre-Application for the subject project. The exhibits were updated in March 2023. The original study evaluated two (2) lift station scenarios, along with the gravity sewer main to Plum Creek Pkwy. At the Town’s discretion, the study also evaluated the capacity of the Town’s existing sewer system downstream of the proposed connection point using projected flows at build-out. The Town, District, and the adjacent property owners all prefer the gravity sewer option discussed herein. The current version of the study is included with this submittal.

The recently redesigned sewer alignment has been previously reviewed and accepted by TCR Engineering Staff and the CIP Group, in close coordination with the Town’s Plum Creek Parkway Widening Project. Three segments of the original design located in the southern lanes of Plum Creek Parkway were accelerated, escrow funded, and constructed with the roadway project – and are now shown as existing in this final set of sewer plans. All proposed work avoids excavation in the new southern lanes. Further, the alignment leaves the Plum Creek Parkway ROW to avoid excavation in the recently constructed roundabout at Plum Creek Parkway and Eaton Circle, as well as the box culvert that will serve as a walking trail extension. Easement acquisition is currently in progress.

Because the project is not a development project, but simply a sanitary sewer outfall project, neither a Site Development Permit (SDP) nor a Final PD Site Plan (FPD) were prepared for this project. A Land Use Application is included with this submittal.

The sanitary sewer design was completed in accordance with the Town’s Wastewater Collection Design 2018 Criteria Manual, dated December 4, 2018. The TESC plans in the submittal package were prepared in accordance with Temporary Erosion and Sediment Control (TESC) Manual dated June 2019.

We are requesting a technical criteria variance from the sanitary sewer design criteria to reduce the depth of cover over the sanitary sewer pipe through the drainage area named Sellars Gulch Tributary #2. A reinforced concrete encasement will be installed on the sewer pipe to protect it from damage. This variance has been previously reviewed and approved by TCR staff. The formal request is included in this submittal package.

A log containing TCR comments from the October 2021 PRE-APP, with responses from the design team, is included below:

Development Services

DS1	Please contact TJ Kucewesky with questions at TKucewesky@crgov.com or 720-733-3593.
	Comment acknowledged. We have been in contact with TJ Kucewesky and Andrew Focht during design of the sewer outfall and construction of the roadway project.
DS2	This project will require an Intergovernmental Agreement between the Town and the Metro District to be approved through a public hearing, prior to any construction. Next steps would be to meet with the Town, including our legal team, to discuss the structure of this and the following questions/items:
	The Town and District 4 entered into a Master Intergovernmental Agreement (MIGA) in 1995, which clearly specifies how the District will design and construct certain public improvements to Town Standards and also outlines the process for inspection, conveyance, and acceptance of said improvements. There were several projects (Storage Tank 6-C and the Ridge Road Transmission Main) that did require Construction and Funding Agreements. Those projects were jointly funded by District 4, Castlewood Ranch Metro District, and the Town. Those agreements primarily addressed the escrowed funds and the process for project management, reporting, and the processing of monthly Pay Applications and Draws from Escrow. This Sewer Outfall will be funded by District 4 and 5 Participants through a separate Agreement not involving the Town of Castle Rock. District 4 does not believe that a separate IGA will be required for this Sewer Outfall project.
DS3	What entity or properties will carry the debt? Will any existing residents be committed to paying for this through their Metro District?
	District 4's share of the Project is funded thru existing funds in our Capital Projects Fund. No new debt is required. All other funding will come from Participants per future Participation Agreements and Escrow Account.
DS4	How is the debt going to be repaid? Please note that the Town will not enter into an agreement to share system development fees for this project.
	No additional debt to be incurred or funded for the Outfall Sewer project. District 4 already manages certain Development and Impact Fee Collections from the 1995 MIGA and this Project does not affect those long-standing provisions. District 4 is not seeking any new Fee Credits or other compensation from the Town.
DS5	If this moves forward, the Town is not obligated to allow any connections to properties in unincorporated Douglas County, and this will be clarified in the IGA. Any future connections would be evaluated at the time of land use application for those parcels, at the sole discretion of the Town.
	District 4 fully acknowledges the Town's position on this issue. Two of the Participant properties may be the subject of Infill Annexations. District 4 will request that the Town obligate those future annexed properties, to reconcile construction participation with District 4, as a part of their municipal entitlements, zoning, platting, and SIAs. District 4 will regularly update the Town Staff, Town Attorney and the CIP Group with regards to a Participation Agreement, Escrow Agreement and legal documents related to the Outfall Sewer (Lower Segment).
DS7	Please see attached CD Checklist (Attachment A).
	Design revisions have been made based on the CD checklist. An updated CD checklist is included with this submittal.
DS8	TESC plan required for areas outside of the ROW in the Town Limits (Attachment B).
	TESC plans are included with this submittal.
DS9	Coordination with Douglas County will be required for installation of the Sanitary Line outside of the Town Boundary.

	This submittal is for Segment 1 in Plum Creek Pkwy ROW. We will coordinate with TCR and Douglas County engineering staff in the future to confirm an acceptable sanitary sewer alignment for the upper segment north of Plum Creek Pkwy (Segment 2).
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Castle Rock Water/Drainage

D1	Please contact Tina Close, PE, Plan Review Supervisor with questions at tclose@crgov.com or 720-733-6089.
	Comment acknowledged. No action.
D2	Castle Rock Water would prefer the gravity sewer. Design of the sanitary sewer main in Plum Creek Parkway would have to verify no impacts to existing storm infrastructure.
	Gravity sewer option is moving forward. The design is part of this submittal.

Castle Rock Water/San

U1	Please contact Ken Torres with questions at ktorres@crgov.com or 720-733-6072.
	Comment acknowledged. No action.
U2	Based on the information provided, Castle Rock Water would not support alternatives that include Town wastewater lift stations. During the last master plan, we assumed that this area would flow into the gravity system in Gilbert. The Conceptual alignment of Alternative C proposes an 8" gravity sanitary sewer line that connects to a recently completed roundabout at the intersection of Plum Creek Parkway and Easton Street. Castle Rock Public Works must concur with this proposed tie-in location.
	Gravity sewer option is moving forward. We have coordinated with TCR for acceptable horizontal SS alignment and vertical pipe profiles, including the connection point.
U3	As shown on the attached GIS utility map (Attachment C), there are existing sanitary sewer collectors that could potentially be used for connections. This may require sanitary extending from adjacent developments. Easements for any water mains outside of public right-of-way are required and must meet access criteria.
	We have coordinated with TCR for acceptable horizontal SS alignment and vertical pipe profiles, including the connection point. District 4 is coordinating easement agreements for areas outside of ROW. We have included the legal descriptions and exhibits with this submittal. Recorded easement agreements will be submitted prior to construction.
U4	Moving forward with development will require the applicant's engineer to determine how the sanitary sewer collection systems will be configured to serve the site. It is recommended that the exact location (both horizontally and vertically) of each be verified early in the design process. Utility reports consistent with the guidelines established in the Town's water and wastewater manuals must be supplied with the applicable submittals. See Sections 3.2.2 of the Town of Castle Rock Wastewater Collection Design Criteria Manual for Utility Report requirements.
	We coordinated with TCR staff for horizontal SS alignment and vertical pipe profiles of Segment 1. We also coordinate with TCR staff for the location of the connection point. We will coordinate with TCR staff for design of the future upper segment (Segment 2). We respectfully request that the W. Memmen Wastewater System Study from 2021/22, previously submitted with our PREAPP, be considered the official Utility Report for this project. The study includes a wastewater flow analysis for ultimate build-out, pipe sizing calculations, and a capacity analysis of the Town's existing system downstream of the connection point. This study has been reviewed by TCR and is included with this submittal for reference.
U5	An Engineering wastewater system analysis will need to be provided for the proposed primary collection line and connections to the existing system. Hydraulic modeling shall be provided for anticipated full build out to determine average daily flows and peak design flows of wastewater for

	the proposed neighborhood. Downstream sewer segments may require a capacity evaluation as deemed necessary by Castle Rock Water as it appears a potential capacity issue may be created for the segment of existing 8" sanitary sewer along Baldwin Park Road, prior to Gilbert Street.
	In July 2021 (mapping updated March 2022), KJ completed a wastewater analysis for the gravity outfall sewer as part of an alternatives analysis for District 4. The wastewater analysis includes average daily and peak design flows for ultimate build-out, pipe sizing calcs, and a capacity analysis of the Town's existing system downstream of the connection point. The current version of the study has been submitted with the final design package herein.

Floodplain

FD1	Please contact David Van Dellen with questions at DVanDellen@crgov.com or 720-733-6029.
	Comment acknowledged. No action.
FD2	A floodplain development permit may be required for sewer crossings with major drainageways. Keep manholes out of 100-year floodplain and channel protection may be necessary to protect sewer main.
	There are no manholes proposed within the existing or proposed 100-year floodplain. A reinforced concrete encasement is proposed where SS crosses the drainage area. The drainage area will be restored to match current grade and condition. No revisions will be made to the drainage area. Please advise if a floodplain development permit is required for this project.

Public Works/Transportation

PW1	Please contact Jay Jensma with questions at Jjensma@crgov.com or 720-733-2264 or the Development Division Manager, Keith Johnston at KJohnston@crgov.com or 720-733-3535 or, the CIP Project Manager, Andrew Focht at Afocht@crgov.com or 720-733-2471.
	Comment acknowledged. We have been coordinating with Andrew Focht throughout the design process.
PW2	Timing of the project is critical. The two additional lanes of PCP (Plum Creek Parkway) and the reconstruction of the existing two lanes from Eaton Street to Ridge Road are scheduled for construction in 2022. Proposed start date, 4/4/2022.
	Sewer Outfall project has been coordinated with TCR's roadway widening project. Several short segments of sanitary sewer pipe were installed by the Town's contractor during the roadway project. There will be no more construction in the newly-constructed southern lanes.
PW3	The proposed connection to SMH 5554 is not supported. This manhole is within the newly constructed RAB (Roundabout) at PCP and Eaton Street. An alternative outfall needs to be identified.
	Sewer connection has been moved to a location 10' from existing MH 5556 in Eaton Circle, southeast of the roundabout in the apartment complex driveway. This connection point has been coordinated with TCR engineering staff. There will be no construction in recently-constructed roadways.
PW4	Construction of the new sanitary sewer in any newly constructed roadway within a public ROW will not be supported.
	There will be no construction in recently-constructed roadways. We worked with TCR staff to install several short segments of sewer pipe that cross the south lanes of Plum Creek Pkwy as part of the 2022 roadway widening project.
PW5	Additional utility easements may be required to facilitate construction of the new sanitary sewer.
	The District is obtaining the necessary easements. We have included legal descriptions and exhibits for reference. Recorded easement agreements will be submitted prior to construction.

PW6	Additional comments are included in the referenced attachments (Attachments D & E).
	Horizontal and vertical SS alignment has been updated and comments via Attachment D are addressed in the current submittal. The cost estimate has been revised since the previous application, and comments via Attachment E have been addressed.

Parks

P1	Please contact Brain Peterson with questions at BPeterson@crgov.com or 303-814-7452.
	Comment acknowledged. We have been in contact with Brian Peterson about the grade separation.
P2	Please see the attached noting the future grade separated trail alignment beneath Plum Creek Parkway (Attachment F).
	SS alignment has been revised to avoid the grade separation (box culvert) that will be part of the trail route in this area.