



The Town of Palisade manages wastewater for approximately 2,400 customers within its service area.

As you may be aware through various news reports or communication with the Town and its project development team, the Town plans to change and upgrade how it treats wastewater in the future through a collaborative effort with Clifton Sanitation District. The Palisade Sewer Transfer Project (“Project”) has been planned to meet and exceed environmental requirements for the future in a manner that is cost effective, both near and long term.

There are questions, and some misperceptions, as to “why”, “how” and “when” the Project will be implemented. The Town has developed this summary to address many of these questions.

WHAT DOES A WASTEWATER TREATMENT FACILITY DO?

Wastewater treatment facilities utilize microbial digestion with disinfection processes to neutralize pathogens, separate non-biodegradable materials and prepare water that goes through sinks and toilets for re-entry into the watershed. An on-site waste transfer system (septic system) works on the same premise, at a smaller scale with less active treatment methods.

With any wastewater facility or septic system, water is treated and discharged back into waterways downstream. In the Grand Valley, this endpoint is the Colorado River.

Wastewater contains both an “organic load” and several “nutrients”. These nutrients, primarily nitrogen and phosphorus, are basic elements commonly used in fertilizer for the benefit of plants and crops, however they can be harmful when introduced to waterways. The quantity of the organic load and nutrients contained within water discharged after treatment constitutes the impact to the receiving waters. The water within any “fresh water” source contains a certain natural nutrient and organic load.

The primary goal of the Project is to effectively treat the water discharged from the process to reduce the additive nutrient and organic load to acceptable levels pursuant to federal and state regulations.

HOW ARE WASTEWATER TREATMENT FACILITIES REGULATED?

The Colorado Department of Public Health & Environment (CDPHE) is the regulatory authority for water quality within the State of Colorado. CDPHE develops water quality standards, consistent with federal regulations, and enforces those standards. This includes regulation over municipal wastewater systems.

With greater population densities, increased demand for water resources and heightened awareness of water quality, CDPHE water quality and wastewater treatment standards have become more stringent. The Town’s wastewater treatment facility operates under a permit from CDPHE to discharge treated water into the Colorado River Basin.



WHY DOES THE TOWN NEED TO UPGRADE IT'S WASTEWATER TREATMENT?

The Town of Palisade's Wastewater Treatment Facility has been in existence for over 60 years and has been expanded and updated on several occasions. The facility is comprised of series of aerated lagoons, which provide for microbial digestion of organic load but are not capable of nutrient reduction. As wastewater passes through lagoons, the sequential microbial digestion processes separate and treat the water until its point of discharge. The Town's facility receives approximately 180,000 gallons of wastewater for treatment daily.

The Town's treated wastewater discharge utilizes a diffuser within the Colorado River, dispersing treated wastewater over a large surface area, versus a single endpoint, diluting the organic load at its point of introduction within the Colorado River. This does not, however, lessen the impact of nutrients discharged from the lagoon system. The diffuser is located upstream from the intake for Clifton Water District and other municipal entities drawing water from the Colorado River for subsequent treatment and potable water delivery.

In 2009, CDPHE reduced the organic load limit which could be discharged with an effective date of compliance of 2013. The Town's facilities could not treat wastewater to meet the 2013 regulatory standard. Since 2009, the Town has sought solutions to become compliant with the 2013 standard. In the interim, CDPHE discharge standards have been further limited with effective dates of compliance by 2027.

Should CDPHE find the Town in violation of meeting the new effluent limits anticipated to be put in place in 2027, the Town could be fined up to \$54,833 per day per violation.

HOW WAS THE CHOSEN ALTERNATIVE DETERMINED?

The Town and its consulting engineer, J-U-B Engineers, studied various alternatives to address the Town's non-compliance with CDPHE requirements, including construction of new wastewater treatment facilities to cooperative agreements with other wastewater treatment facilities.

Construction of a new wastewater treatment facility was cost prohibitive and perpetuated a point of treated water discharge to the Colorado River Basin upstream of the Grand Valley. Regional wastewater treatment with other municipal facilities was deemed a better option, addressing environmental regulatory compliance and while being cost effective.

Of importance was to implement a gravity flow system to a municipal partner for wastewater treatment, wherever possible, to reduce mechanization and maintenance costs. The logical partner to treat the Town's wastewater was Clifton Sanitation District ("CSD"). To implement the wastewater treatment solution with CSD, the Town requires a system to deliver its wastewater 5 ½ miles west to CSD's facilities.

Siting alternatives were analyzed for a wastewater delivery pipeline that balanced environment, impacts, constructability, construction costs and long-term operation and maintenance costs. The Town weighed pros and cons to alternatives and developed a *preferred alternative*.



WHAT IS THE BENEFIT OF PARTNERING WITH CLIFTON SANITATION DISTRICT?

Clifton Sanitation District (“CSD”) constructed its new facility at 3217 D Road in 2009, with the intent of being a regional wastewater treatment provider. CSD presently treats 1,250,000 gallon of wastewater per day, and its facility has capacity to treat up to 2,500,000 gallons per day.

CSD presently discharges treated water at levels that not only meet, but exceed, upcoming CDPHE 2027 standards for nutrients and organic loading. In addition, CSD is a member of the CDPHE Voluntary Nutrient Reduction Incentive program.

In 2021, CSD and the Town executed an agreement for CSD to treat the Town’s wastewater. In lieu of the Town operating and maintaining wastewater treatment facilities, the Town will contract with CSD for wastewater treatment, funded through monthly customer accounts.

WHAT LEVEL OF ENVIRONMENTAL ANALYSIS WAS CONDUCTED?

The costs for communities, like the Town of Palisade, to implement wastewater treatment solutions are prohibitive.

The Town sought federal funding through the United States Department of Agriculture (“USDA”) Rural Development Water and Waste Disposal Loan and Grant Program to construct the Project utilizing the preferred alternative. This required the Town to conduct an in-depth environmental analysis of the Project. The Town, in conjunction with J-U-B submitted an *Environmental Assessment for the Palisade Sewer Transfer Conveyance Project*, pursuant to USDA Rural Development Requirements, dated November 2021. This document is referred to as an “EA”. It is available from the Town’s web site at the following link:

<https://palisade.colorado.gov/sites/palisade/files/documents/Town%20of%20Palisade%20-%20Sewer%20Transfer%20Project%20ER-1.pdf>

The EA provides an analysis of numerous environmental inputs potentially affected Project, including:

Land Use	Biological Resources	Noise
Floodplains	Cultural Resources	Transportation
Wetlands	Aesthetics	Health and Safety
Water Resources	Air Quality	Corridor Analysis
Coastal Resources	Socioeconomic Impacts	

The EA included consult with federal, state, and local agencies and invitation for comments including:

CDPHE	BLM	USDA
USDA	U.S. Army Corp. of Engineers	U.S. Fish & Wildlife Services
U.S. Forest Service	Colorado Parks & Wildlife	History Colorado
Colorado Water Conservation Board	Colorado Department of Natural Resources	Mesa County Planning/Dept. of Public Works
Clifton Sanitation District	Southern Ute Indian Tribe	Ute Mountain Ute Tribe
Ute Tribe of the Uintah and Ouray Reservation		



USDA Rural Development reviewed the EA and issued a Finding of No Significant Impact (“FONSI”) on September 13, 2022.

The endpoint for the Town’s treated water is the Colorado River. The 15-mile segment of the river from the GVIC diversion to the confluence with the Gunnison River is critical habitat to four endangered species of fish – the razorback sucker, bonytail chub, humpback chub and Colorado pikeminnow.

Construction of the Project does not occur within or have a direct impact to the Colorado River. Of note, the preferred alternative eliminates the nutrient and organic load presently discharged to the Colorado River, enhancing the habitat for these endangered fish species.

HOW IS THIS PROJECT FUNDED?

Subsequent to USDA’s FONSI, the Town secured \$22,145,000 in funding through USDA to construct the Project based upon the preferred alternative. The funding is tied to a scheduled completion date of 2027.

The Town’s development of the Project must meet Federal, State and local agency guidelines for design, material sourcing, construction, right-of-way procurement, environmental, insurance, financing and debt service.

The USDA loan to support construction, operation and maintenance will be serviced by the Town’s wastewater patrons.

WHERE IS WASTEWATER TRANSFER LINE PROPOSED?

The Town’s existing sewer service mains will discharge to a newly constructed wastewater transfer pipeline near the Town’s existing lagoons. As presently conceptualized, the transfer line will allow for gravity flow of wastewater generally through the Town’s River Bend Park to 36¼ Road.

At 36¼ Road, the gravity transfer line crosses beneath the GVIC Canal and follows the north bank service access for GVIC to 35 Road.

Due to the anticipated elevations at 35 Road, a lift station will be constructed near the 35 Road crossing, which will pump wastewater to the west in a force main (versus gravity). The transfer line force main will be constructed within existing F Road right of way for approximately one-half mile, then transition back to a gravity flow line within F Road right of way west to 34 Road.

At 34 Road, the transfer line moves south within 34 Road right-of-way for approximately one-half mile, then turns west and crosses private property for one mile to the Waterbridge Drain, where it will continue south to the north bank of the GVIC Canal.



The transfer line then follows the GVIC Canal southwesterly for approximately 1 mile and connects with CSD's existing wastewater transfer infrastructure which is already capable of conveying current and future wastewater flows from this point to CSD's Wastewater Treatment Facility.

WHAT IS THE TRANSFER LINE CONSTRUCTED OF?

The transfer pipeline will be constructed underground, below the frost line. The gravity transfer pipes are constructed with PVC pipes, with wall thickness and pressure ratings designed to wastewater infrastructure standards. This IS NOT hardware store grade PVC pipe.

The gravity pipe size varies along the transfer line route from 12 inches to 15 inches in diameter. The pipe is manufactured in 13.5' long segments and belled on one end.



This is a gasketed bell and spigot joint between pipe segments, and the pipes are pressure tested during construction to identify leaks and make repairs prior to passing inspection.

The approximately one-half mile of force main will be constructed of 8" or 10" C-900 PVC. The force main pipe materials and construction method are identical to that of a potable water pipe line, easily capable of conveyance at the operating pressures necessary. The force main is pressure tested as well before it can pass inspection.

Modern PVC wastewater pipe has a 100-year effective life.

WHAT IF THE PIPE LEAKS IN THE FUTURE?

As the transfer system is moving untreated wastewater, it is often assumed that a leak could pose an environmental concern if exposed to groundwater.

The wastewater within the gravity transfer pipes is typically less than the hydraulic pressure of the groundwater on the outside of the pipe. Leaks are routinely identified by *increased water volumes* passing through the pipes from the migration of groundwater into the pipe.

Leaks in gasketed PVC pipe systems are very infrequent, however if there was suspicion of a leak, the transfer line would be inspected via camera with a GPS positioner to identify where a leak existed within the transfer line and repaired at that location.



WOULD SERVICE BE AVAILABLE TO PROPERTIES ALONG THE PIPE ROUTE?

The transfer line passes through the Palisade Buffer zone, a cooperative planning area established by the Town of Palisade, City of Grand Junction, and Mesa County to preserve the rural character of the area south of Interstate 70 between 33 ¾ Road to 36 Road north of the GVIC Canal.

At present, property within the Buffer Zone is not served by municipal wastewater. Property along the transfer line located within either the Town or CSD's service districts or future planning areas may be eligible to connect to the gravity lines. No connections can be made to the force main.

WILL THE SERVICE LINE CONFLICT WITH OTHER UTILITIES ALONG THE ROUTE?

The Town has been in coordination with public utility providers including Xcel Energy, Clifton Water, GVIC, and the Grand Valley Drainage District, to identify existing facilities along the transfer line route and develop engineering solutions to permit the transfer line to occupy the space.

The Town is required by Colorado law to conduct sub-surface utility investigation and identify vertical and horizontal locations of utility infrastructure in furtherance of design and construction.

The integrity of existing infrastructure and the safety of construction workers, maintenance personnel and the public is paramount before, during and after construction.

Sub-surface utility investigation and identification, in support of operational safety, is the primary purpose behind the Town's request to enter private properties along the transfer service route.

WHAT ARE MEANS AND METHODS OF CONSTRUCTION?

Construction of the transfer line will require excavation to the bottom depth of the pipe. The topsoil will be removed and set aside the trench. The fill material below will be set aside the trench to backfill over the pipe after it is constructed and tested. The excess fill resulting from the space occupied by the transfer line will be hauled away. For irrigated areas or areas outside the GVIC two track access road, the topsoil will be replaced after the trench is backfilled and the surface reseeded to the condition that existed prior. For areas along the GVIC access road the road will be put back in service as a gravel surface access road. The access road will be accessible only to GVIC and for intermittent sewer line maintenance or inspection.

The work area during construction will be approximately 30 feet wide, unless otherwise constrained. There will be excavation equipment excavating and backfilling the trench, dump trucks hauling excess materials and trucks delivering equipment, pipe and supplies. There are public roads to access the construction zone at roughly one-quarter to one-half mile increments.



WHAT IS THE ANTICIPATED CONSTRUCTION SCHEDULE?

The Town is in the process of advancing the design which is anticipated to be completed to provide bid documents in summer of 2025.

There are easements to be acquired by the Town to accommodate the placement and maintenance of the transfer line and associated facilities. Negotiations to acquire easements can commence upon resolution of the horizontal location of the transfer line and associated facilities. The easement acquisition process is estimated to commence in May of 2024.

Construction at or near irrigation facilities will be schedule between November 1 and April 1, when the facilities are not actively moving water.

WILL THERE BE DETRIMENTS TO WILDLIFE DURING CONSTRUCTION?

Construction of the Project does not occur within the Colorado River, identified as critical habitat for the razorback sucker, bonytail chub, humpback chub and Colorado pikeminnow. The transfer line crosses the GVIC canal in one location. While there may be fish congregated in remnant pools within the GVIC Canal near the crossing, any loss would be incidental. There is a significant positive enhancement of the Colorado River habitat by elimination of the treated wastewater discharge from the Town's existing wastewater treatment facility.

As identified in the EA, nesting habitat/trees utilized by raptors or other birds will be disturbed outside of nesting season.

While there will certainly be some interaction with construction and wildlife, these should be limited and will be temporary.

WILL THERE BE ODOR ASSOCIATED WITH THE SEWER TRANSFER SYSTEM?

Decomposition of wastewater produces certain gases. The transfer line is enclosed and pressure tested to avoid leaking solids, liquids or gases.

Pipes will be joined at underground vaults with manholes where the transfer line changes course, and at other locations for maintenance access. The manhole covers are gasket-sealed to preclude gas venting through the manhole. The transfer line is designed to provide a consistent, laminar flow of wastewater to avoid turbulence within the system that promulgates gas emissions.

A non-toxic chemical additive will be infused with the wastewater as it is pumped from the lift station to suppress odor.



WHAT IS GVIC'S POSITION WITH THE PROJECT?

GVIC was the first area "utility" and serves a vital role in the Grand Valley. GVIC has a right of access for maintenance along both sides of the canal. The north bank of the GVIC Canal from 36 1/4 Road to 35 Road and roughly from 33 3/4 Road to 33 1/3 Road is an existing utility corridor for placement and maintenance of an Xcel natural gas pipeline.

The GVIC Canal corridor is highly suited to accommodate the Project improvements and is utilized for sanitary sewer lines in numerous other locations within the Grand Valley. Below is an example of an existing sanitary sewer system that runs adjacent to and crosses under the GVIC Canal.





The Town engaged GVIC early in alternatives analysis and will be working with GVIC to develop an agreement that protects and preserves GVIC's rights and accommodates the Town's transfer line.

WHAT IS THE PROCESS FOR THE TOWN TO ACQUIRE EASEMENTS?

The Town is obligated to secure the legal right to occupy public or private property for the construction and maintenance of the transfer line.

When the transfer line is within a public right of way, a permit to occupy the alignment is issued by the jurisdiction that owns the right-of-way. Within the Project limits, the permits will be issued by Mesa County. Disturbance to the public roadways must be restored by the Town to Mesa County Engineering Department and Road and Bridge Department specifications.

There are instances where the Town may utilize existing public utility easements that were granted by an easement or dedicated on a subdivision plat.

When the Town needs to obtain property rights for its transfer line and facilities to occupy private property permanently, and/or temporarily to facilitate the initial project construction, the Town will adhere to federal property acquisition regulations and Colorado law, which generally mirror one another.

Upon determination of the horizontal location of the transfer line and appurtenant facilities upon private property, the Town will have a legal description prepared for the property, permanent easement and/or temporary construction easement, as required on a property by property basis, and provide notice of the Town's intent to acquire the property interest(s) as legally described.

The Town will be required to determine the value of the property interest(s) it seeks to acquire and subsequently present an offer to acquire the property interest(s) to the property owner. The Town's goal is to negotiate the purchase and develop an equitable agreement for the sale of the property interest(s) to the Town.

The costs of transferring title to property or easements will be at the expense of the Town.

WILL THE TOWN UTILIZE THE TRANSFER LINE CORRIDOR FOR OTHER PURPOSES?

The Town's Project objective is to manage its wastewater in compliance with CDPHE regulations in a cost-effective manner and no other purpose.

IF I HAVE ADDITIONAL QUESTIONS, WHO DO I CONTACT?

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