



Monterey Bay Engineers, Inc.

Civil Engineering • Land Surveying

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Carmel Area Wastewater District
3945 Rio Road
Carmel, CA 93923

Re: Assessment District No. 23-01
Corona Road Area Sanitary Sewer System Project

To Whom It May Concern:

Monterey Bay Engineers, Inc. has presented to the Carmel Area Wastewater District (CAWD) an Assessment Engineer's Report for CAWD's proposed Assessment District No. 23-01, (Corona Road Area Sanitary Sewer System Project). The Assessment Engineer's Report contains the information required for the purposes of creating an assessment district.

This supplemental letter is presented as information property owners may need to help determine votes about formation of the assessment district. This letter sets forth the opinions of Monterey Bay Engineers, Inc.; it is only presented as a statement of relevant facts. The following explains the past relevant history of sewer service in the Carmel Highlands area, the rationale for this project, and the benefits to the property owners that will be realized after the assessment district is created. This assessment district will enable the design and construction of a sanitary sewer collection system. There is no possibility to provide sewer services to this area without the construction of a sewage collection and pumping system.

Introduction and History

CAWD is a public agency governed by an elected Board of Directors. The district provides sewage collection and treatment services to Del Monte Forest to the north, Carmel Highlands to the south, and Carmel Valley (currently the most easterly point will be the Carmel Valley Manor). The district's water recycling plant is located west of State Highway 1, at the Carmel River. The district is currently providing treated wastewater to the Pebble Beach Company for golf course irrigation. The plant has capacity for additional connections.

During 2004, an Assessment District was formed in the Carmel Highlands that included the Highlands Inn, the Tickle Pink Inn, and 11 other private residential properties near Highlands Drive. This project was triggered by public health issues and difficulties experienced by these properties to dispose of their septic systems' effluent. A gravity sewage collection system, and a lift station were constructed at Highlands Drive. A 4-inch diameter sanitary sewer force

main was also constructed as a part of this project in State Highway 1 from Highlands Drive to north of Ribera Road, just southerly of the water recycling plant.

Since 2007 other property owners have taken advantage of the existence of the sanitary sewer force main in State Highway 1. All of these properties had experienced failures with the ability of their septic systems to dispose of septic tank effluent, and are now pumping their sanitary waste into the existing force main.

The properties that connect directly to the 4-inch force main are:

- Carmel Highlands Fire Protection district (73 Fern Canyon Road)
- Beshoff residence (29300 State Highway 1)

Other properties are pumping their sanitary waste into the sewage collection system near the Highlands Pump Station:

- Cappo residence (230 State Highway 1)
- Horvath residence (243 State Highway 1)
- Cortopassi residence (255 State Highway 1)

In all, there are two (2) hotels and seventeen (17) other properties in Carmel Highlands, southerly of Point Lobos, which are presently served by the CAWD.

General Description of the rationale for connection to the CAWD

The difficulties associated with septic systems to dispose of effluent in the Carmel Highlands area are generally due to a relatively shallow topsoil mantle and steep natural slopes. The topsoil typically overlays granite bedrock or impervious soils, neither of which are suitable for percolation properties. All these factors have proven to be problems for the continued use of leach fields to dispose of septic system effluent.

During 2018 the County of Monterey adopted new regulations for the design and continued operation of Septic Systems, known as the Local Agency Management Program for Onsite Wastewater Treatment Systems (OWTS). These standards are more commonly known as the Local Agency Wastewater Treatments Systems Management Program (LAMP). In Carmel Highlands the requirement is that an alternate OWTS with advanced supplemental treatment including nitrogen reduction will be necessary. This applies to replacement OWTS when an existing septic system fails, needs tank pumping at least three times a year, or when repairs are necessary. The projected costs that each property owner may encounter if their septic system should fail or need repairs are estimated to be at least \$70,000. The actual costs for any particular system are difficult to predict, and would depend on specific site parameters such as topography, site accessibility, areas suitable for a disposal system, soil conditions, etc. Advanced OWTS must be designed by an approved professional, they all rely on electrical power to function, and they must be operated and inspected with the benefit of an Operation Agreement between the property owner and the County of Monterey Department of Environmental Health.

There are also some public health issues and environmental concerns associated with the continued use of existing septic systems in the Corona Road area. Some residents have reported the odor of sewage, especially during times of seasonal moisture. Personnel from Caltrans have frequently reported that there must be a broken sewer main because of odors at the highway. High (shallow) groundwater is not compatible with conventional leach fields. Some septic systems in the area have experienced flooding of leach fields, and have had problems with groundwater filling the septic tank.

During 2020 the Carmel Area Wastewater District (CAWD) completed an annexation of the areas surrounding Corona Road north of Fern Canyon Road, including properties westerly of State Highway 1 northerly of Highlands Drive. The Corona Road properties that are included in this proposed Assessment District are already within the service area of the CAWD.

Within this proposed assessment district there are 55 privately owned properties that could connect to a sanitary sewer collection system. Of those 55 properties, 50 are presently improved with structures with existing septic systems. During 2020, a majority of the property owners in the Corona Road area submitted a petition to the CAWD to begin the process of forming an Assessment District. In addition to the signed petition, funds were contributed to pay the initial costs for the formation of the proposed Assessment District.

In conclusion, the proposed assessment district, if approved by the property owners, will provide this area with sewer collection and treatment systems. The number and density of septic systems in this area has caused environmental and public health problems. The only realistic alternatives to solve the current problems would be:

- 1) Install a community system via an assessment district (payable over the next 30 years).
 - Each property owner will have the option to choose the best time to connect to the collection system.
 - The District connection fee, and the annual charge for sewer service, would only apply when each connection is made to the system.
 - The CAWD Board, at their meeting of December 12, 2023, has expressed interest in re-evaluating the amount of the connection fee.
 - The annual assessment for the community sewer system will be levied on property tax bills, and will be payable starting with the first tax year after bonds are issued to finance the project.
 - The operation and maintenance of the community sewer system and pumping system will be the responsibility of the CAWD.
 - The property owner will need to maintain the plumbing systems in their own property.

OR

- 2) An Advanced OWTS must be designed and constructed when repairs to any septic system are necessary (lump sum payable at one time). An Advanced OWTS has the following requirements:

- Monterey County Code, Section 15.20.190 requires all new and replacement septic systems in the Carmel Highlands area to have supplemental treatment measures, including Nitrogen reduction.
- Monterey County Code, Section 15.20.150 requires Operating Permits for maintenance, and inspections of the Advanced OWTS.
- Annual Inspections by qualified professionals, on-going maintenance, and groundwater quality monitoring are required.
- New groundwater monitoring wells may also be required.
- An estimate of the design and installation costs is given above.
- The Monterey County Code requires that a deed restriction be recorded on title to notify current and future owners that an Advanced OWTS is installed.

Description of the Public Improvements necessary to allow connections to the CAWD

A gravity sewage collection system along with a lift station will be required. The collection system will allow each property a point of connection. The lift station will allow temporary storage and the pumping capabilities to discharge raw sewage into the existing force main in Highway 1.

- The proposed sanitary sewer collection system will consist of three (3) separate gravity mains. All these main line sanitary sewers will be made of Polyvinyl Chloride pipe, now most commonly used for sanitary sewer gravity mains. The longest main will be approximately 3,200 feet in length, beginning at the intersection of Corona Road and State Highway 1, and will extend easterly and upward along Corona Road. Another branch gravity main is proposed in Corona Way. The third branch gravity main will be approximately 500 feet in length and will be constructed along the easterly side of State Highway 1 from Corona Road. The sewer mains that cross under State Highway 1 will be constructed with the means of horizontal lateral boring. High Density Polyethylene (HDPE) pipe material will be used for these sections of the sewer main.
- A sanitary sewer stub-out will be provided for all properties situated easterly of State Highway 1. Each stub-out will be placed at a point accessible by a gravity pipeline along the property frontage where gravity flow is possible.
- Two separate manifold connection points will be provided in the private roads serving the properties situated to the westerly (downhill) side of Highway 1. All these properties are situated at elevations that will not allow gravity flow to the proposed pumping station.
- A sanitary sewer pumping station will be constructed within an easement within the Rodgers' property on the westerly side of the highway. The lift station will be constructed such that it is all underground, with the exception of the electrical service panel and control panels. The proposed sewer pumping station will have duplex centrifugal pumps that will provide the pressure to discharge periodically into the existing 4-inch sanitary sewer force main in State Highway 1. Electrical power will be furnished via a new service from P.G. & E. During times that power outages could occur, the wet well in the lift station should have the capacity to store raw sewage until power could be restored. If power is absent for an extended time, a portable generator would be used to allow functioning of the lift station.

Steps necessary within the private properties to make connections to the CAWD.

In the cases where the elevation of the building sewer exiting the home is above the elevation of the sanitary sewer main adjacent to the property, the following must occur:

- A new sanitary sewer line, connecting from the building sewer drain to the end of the CAWD sanitary sewer stub-out must be constructed. The design must comply with the Uniform Plumbing Code standards for pipe slopes and clean-out spacing.
- The existing septic tank, diversion valves, and leach fields must be abandoned in accordance with the requirements of the Monterey County Health Department.

In those cases where the building sewer exiting the home is below the elevation of the sanitary sewer main adjacent to the property, the following must occur:

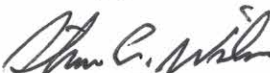
- A discharge pump must be installed in a holding tank, or wet well. The holding tank would be located below where the building sewer exits the house. In some cases, the existing septic tank could be modified to serve as a holding tank.
- The capacity of the pump must be determined by the elevation difference between the pump and the sewer main, and the length / size of the discharge pipe.
- A discharge line must be constructed to connect between the discharge pump and the end of the CAWD sanitary sewer stub-out.
- The existing septic tank (if not modified to serve as a wet well), diversion valves, and leach fields must be abandoned in accordance with the requirements of the Monterey County Health Department.

This area of Carmel Highlands has been without some services that are usually assumed to exist in a community. The presence of too many septic systems has created a situation where either of the following must occur to solve the current problems:

- 1) Connections to a public sewer collection system.
- 2) Installations of individual advanced onsite treatment systems.

This assessment district provides a method to mitigate the current problems inherent with multiple septic systems, especially when combined with the geologic setting of this area. We should be aware that the California Coastal Commission may in the future prohibit all existing and proposed OWTS in the Carmel Highlands area.

Sincerely yours,


Steven C. Wilson
Civil Engineer