

**APPENDIX R**  
**SEWER SERVICE OVERVIEW**

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**MEMORANDUM**

**952-002**

**TO:** Dan Niebaum, A.I.C.P., Lightfoot Planning Group

**FROM:** Andrew M. Oven, P.E., Dexter Wilson Engineering, Inc.

**DATE:** October 6, 2020

**SUBJECT:** North River Road Planned Block Development Overlay  
District – Sewer Service Overview

**Introduction**

The proposed North River Road Planned Block Development Overlay District includes two separate parcels located at 4665 North River Road (Parcel A, APN 157-060-40) and 4617 North River Road (Parcel B, APN 157-060-17). These properties comprise approximately 25.6 acres of land located on the south side of North River Road generally between Avenida Descanso and Calle Montecito in the North Valley Neighborhood of the City of Oceanside. Parcel A consists of a total land area of 9.7 acres; however, approximately 1.8 acres are composed of existing roadway and emergency access rights-of-way. Thus, Parcel A contains 7.9 gross developable acres of land which reduces the total developable acreage for both parcels to 23.8 acres.

The purpose of this technical memorandum is to address sewer service to the proposed project. This memorandum will outline the existing sewer facilities in the vicinity of the proposed project and qualitatively comment on the ability of the existing facilities to provide adequate sewer service.

## **Land Use**

The Planned Block Development Overlay District property is currently designated as Light Industrial (LI) by the City of Oceanside General Plan, and as Limited Industrial (IL) under the City's Comprehensive Zoning Ordinance. The project proponent is planning to make application to amend the current land use designation to Medium Density - C Residential (MDC-R) and rezone the property to Medium Density Residential C (RM-C) to allow for future residential development of the site.

The North River Road PBD property is including in its re-zoning proposal a maximum cap of 400 dwelling units for the combined two parcels. This results in dwelling unit density of 16.8 units/acre.

## **Sewage Generation**

As stated above, the existing land use for the project site is Light Industrial. Sewage generation based on this land use is calculated using the sewer generation factor for Industrial Land Use from Table 3.3 Recommended Flow Factors for Future Flow Estimation, Sewer Master Plan, City of Oceanside, October 2015 – Final.

Here is the calculation for sewage generation for the proposed project site based on existing land use.

$$23.8 \text{ acres} \times 1,000 \text{ gpd/ac} = 23,800 \text{ gpd average}$$

The proposed land use for the project site is Medium-Density Residential. From the Sewer Master Plan cited above, the sewage flow factor for Medium-/High-Density Residential is 140 gpd/EDU. Assuming each dwelling unit within the proposed project is one equivalent dwelling unit (EDU), the sewer flow expected from the proposed project is calculated below.

$$400 \text{ Dwelling Units} \times 140 \text{ gpd/EDU} = 56,000 \text{ gpd average}$$

Based on the change in land use, the proposed project is estimated to increase the sewer generation for this site by 32,200 gpd average.

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North River Road PBD Sewer Service

From the October 2015 Sewer Master Plan, Table 3.9, the Peak Wet Weather Flow peaking factor is 2.58 for Near-Term analysis. Thus, the additional sewage flow for the proposed project equates to 83,076 gpd peak or 57.7 gpm peak.

### **Existing Sewer System**

Exhibit A presents the existing sewer system in the vicinity of the proposed project. The proposed project fronts North River Road between Avenida Descanso and Calle Montecito. In North River Road fronting the property there is an existing 27-inch gravity sewer which increases to 30-inch diameter as it gravity flows west to the San Luis Rey Wastewater Treatment Plant by way of the North Valley Sewer Lift Station. This lift station is located at 3930 North River Road.

The North River Road Trunk Sewer extends east in North River Road to Stallion Drive where the Rainbow MWD flow enters the City of Oceanside sewer system. The Sewer Master Plan October 2015 does not show any Near-Term or Long-Term improvements to the North River Road Trunk Sewer.

There are local collector sewers in Calle Montecito, and Calle Joven. An existing 8-inch sewer main in Calle Joven flows east to Calle Montecito then north to North River Road where it connects to the existing 27-inch gravity trunk sewer.

### **Potential Sewer System Improvements**

The potential sewer system improvements discussion will be divided between the onsite sewer collection system and potential offsite sewer improvements.

**Onsite Sewer System.** Local sewers for the project may include an onsite private sewer collection system. Private collector sewers would connect to the existing 8-inch public sewer in Calle Joven pending confirmation of adequate capacity. Additional study can determine how many dwelling units can be accommodated by the existing 8-inch public sewer in Calle Joven and Calle Montecito. As an alternative, the onsite private sewer

collection system can make a new connection to the existing 27-inch or 30-inch North River Road Trunk Sewer. This trunk sewer line will have capacity for at least a portion of the proposed residential project as will be discussed in the following paragraphs.

**Offsite Gravity Sewer Piping.** As noted earlier in this memorandum, the October 2015 Sewer Master Plan does not identify any Near-Term nor Long-Term improvements needed for the North River Road Trunk Sewer. This means that there is sewer flow capacity available for the existing land use for the subject project.

By re-zoning the two parcels of interest to medium density residential, the sewage generation increases by 83,076 gpd PWWF. This is equivalent to 0.083 mgd. This is a small increment of flow in a gravity sewer system where the existing 30-inch sewer has a full pipe capacity ranging from 8 mgd to 11 mgd depending on the slope. If the sewer is flowing between half full and full, the incremental flow from the proposed project would constitute a maximum of 2 percent of the total flow.

As part of the entitlement process for this proposed project, a sewer analysis would need to be completed to assess the impact of the increase in peak sewer flow added to the North River Road Trunk Sewer by the proposed project. The analysis would determine the project's cost share for any necessary improvements.

**North Valley Sewer Lift Station.** The North Valley Sewer Lift Station receives all the flow from the North River Road Trunk Sewer and pumps it to the San Luis Rey Wastewater Treatment Plant. Many areas of the City of Oceanside flow into the North River Road Trunk Sewer and to the North Valley Sewer Lift Station including the flow from Rainbow MWD.

The City's Sewer Master Plan, October 2015, Chapter 8, discusses the City's lift stations and force mains. Table 8.1 on page 8-2 of the Sewer Master Plan summarizes future sewer lift station capacities for the City's lift stations. For the North Valley Sewer Lift Station, Table 8.1 shows a firm pumping capacity of 8.52 mgd and an existing peak wet weather flow to the lift station of 6.69 mgd. The long term peak wet weather flow to the North Valley Sewer Lift Station is shown in the table to be 7.34 mgd.

The incremental Peak Wet Weather Flow from the proposed North River Road PBD project is 0.083 mgd. Thus, when adding this incremental flow to the estimated long term flows to the North Valley Sewer Lift Station, the total flow is 7.42 mgd which is less than the firm pumping capacity of 8.52 mgd. This suggests that there is sufficient pumping capacity at the North Valley Sewer Lift Station to accommodate the additional sewage flow.

However, the City has expressed concern about the North Valley Sewer Lift Station over the past two years primarily because of a lack of response time during an operational emergency. The main reason for their concern is that the lift station does not have any emergency storage volume. Therefore, the lift station is at greater risk of a sewage spill. In addition, the City is reviewing the pumping capacity of the existing pumps; as sewage flows increase, new pumps may be needed.

Since the North River Road PBD project is proposing a change in zoning which will increase sewage flow generation as compared to the October 2015 Master Plan projections, the project, when entitled, will be expected to contribute its share of the costs for potential North Valley Sewer Lift Station modifications.

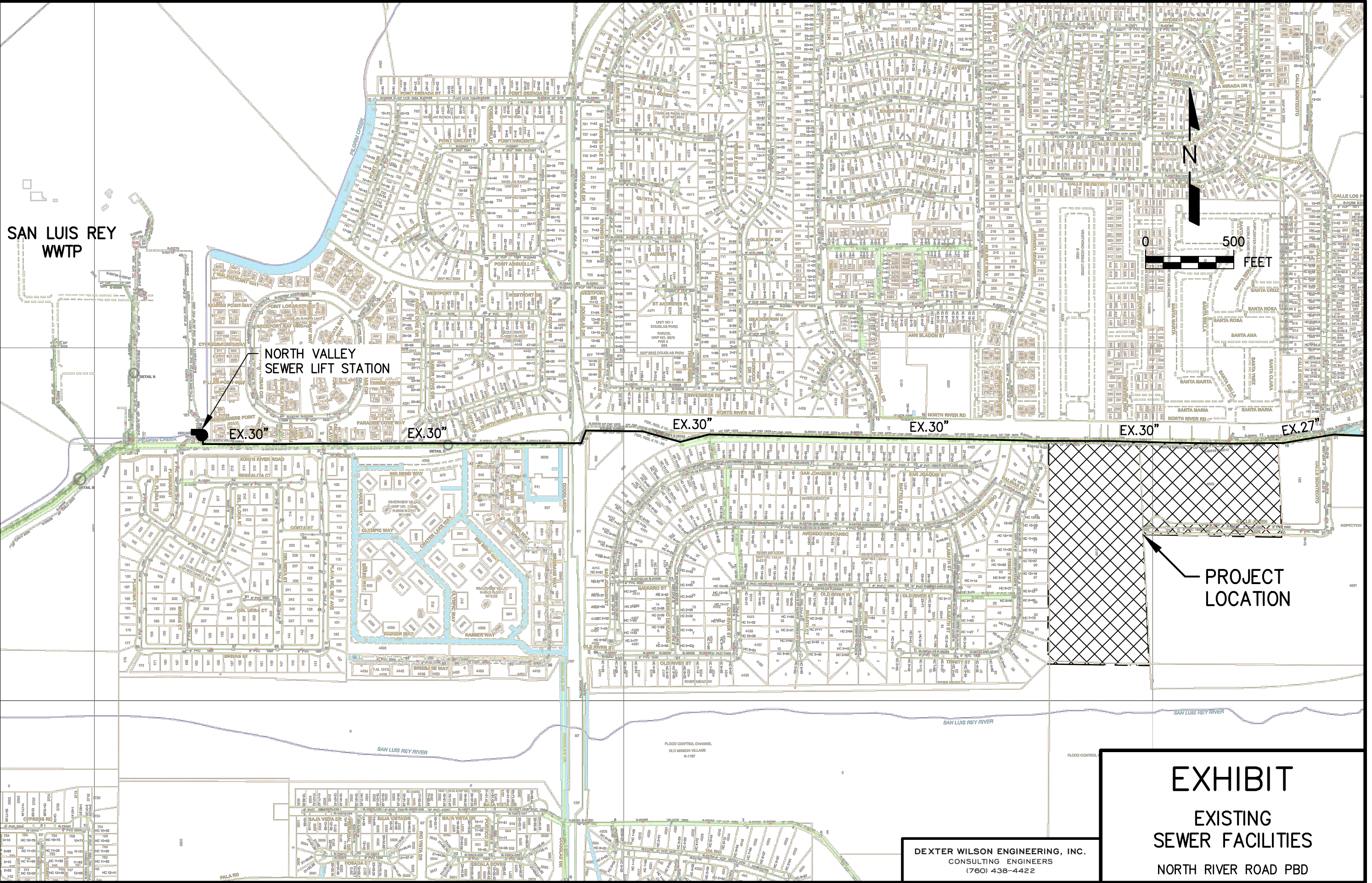
### **Wastewater Treatment Plant Capacity**

Because of the proposed change in land use for the project the sewage flow generated by these properties will be greater than what was accounted for in the October 2015 Master Plan. The additional peak sewage flow is estimated to be 0.083 mgd. The buy-in cost for wastewater treatment and disposal is expected to be satisfied by the payment of the sewer connection fees on a per dwelling unit basis. Since the San Luis Rey WWTP is undergoing expansion to accommodate the flows from the La Salina WWTP which is being shut down, there is not a concern that the small increment of flow generated by the proposed project can be accommodated by the San Luis Rey WWTP.

**EXHIBIT A**

**EXISTING SEWER FACILITIES**

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SAN LUIS REY  
WWTP

NORTH VALLEY  
SEWER LIFT STATION

EX.30"

EX.30"

EX.30"

EX.30"

EX.30"

EX.27"

PROJECT  
LOCATION

**EXHIBIT**  
**EXISTING**  
**SEWER FACILITIES**  
 NORTH RIVER ROAD PBD

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