

# SEWER CAPACITY STUDY

**For**

**Slater Avenue**

**PROJECT LOCATION**

Plot bordered by Slater Avenue and San Mateo Street.  
Fountain Valley, CA

**PREPARED FOR:**

Slater Investments LLC,  
190 Newport Center Drive, Suite 100  
Newport Beach, CA 92660

**PREPARED BY:**

**HUITT-ZOLLARS**

2603 Main Street, Suite 400  
Irvine, CA 92614

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Jeff Okamoto, P.E.

12/29/2021

Date

**PREPARED: December 29, 2021**



## Introduction

This report has been prepared for a 5 story residential wrap along Slater Avenue bordered by San Mateo Street to the east and El Corazon to the north in the City of Fountain Valley, in the County of Orange, California (Figure 1). This report analyzes the sanitary sewer capacity of the proposed 8” PVC sewer line that discharges to the existing 8” VCP sewer line within El Corazon Avenue and compares the existing site sewer based on existing and proposed land uses. See the Sewer Capacity Study Exhibit in Appendix A for the existing City Sewer Atlas, and the preliminary utility plan.

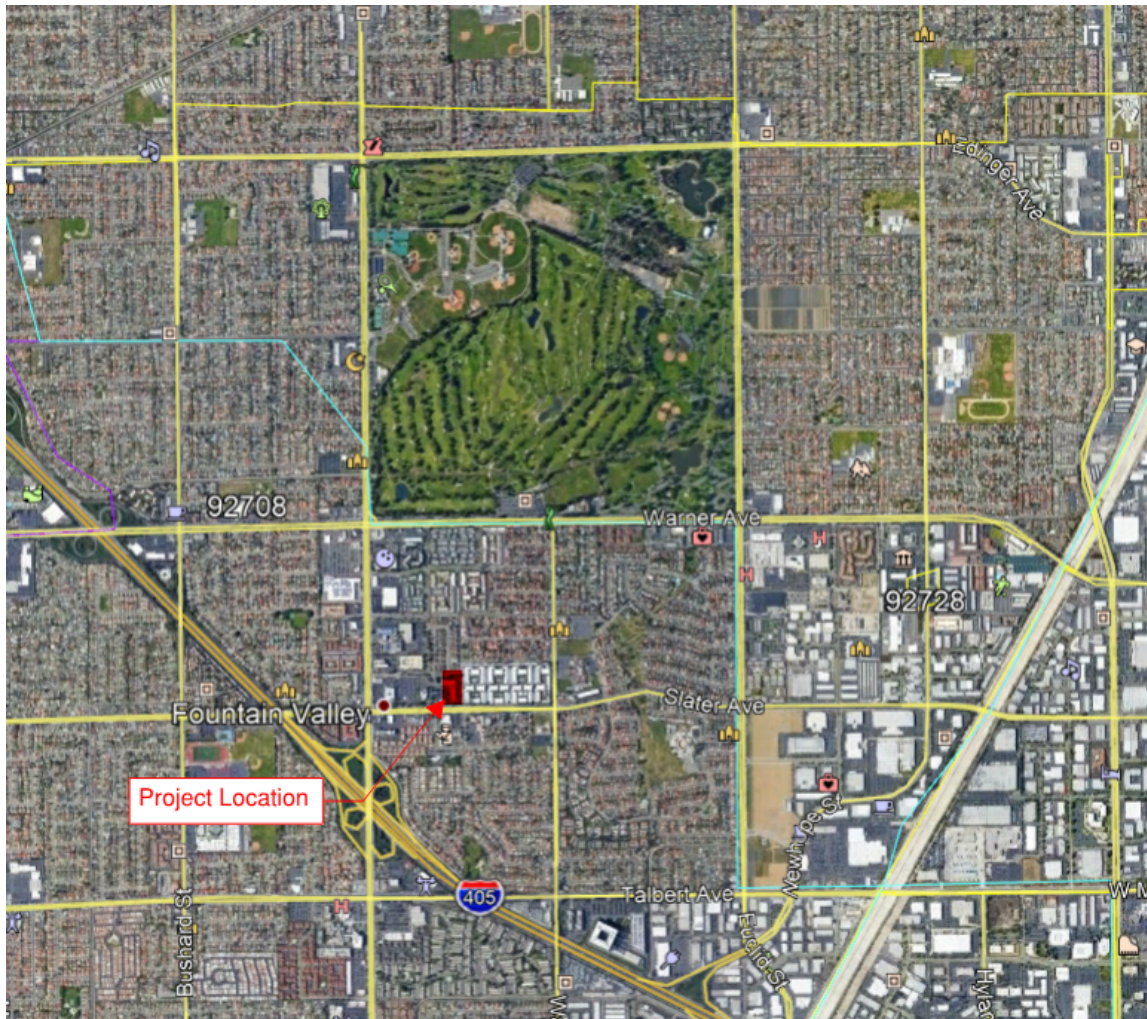


Figure 1: Location Map

## Purpose & Criteria

The purpose of this report is to determine the existing and proposed sewer flow rates from the Project site to the existing sewer mains within El Corazon Avenue. This report will also provide analysis of the existing sewer main to determine the additional impact created by the proposed development.

Analysis presented within this report includes sewer flows from the existing sewer main that discharges into Slater Avenue and the proposed sewer flows for the proposed development.

## Existing Conditions

An existing 8" VCP sewer main is located along the Project frontage within the north half of Slater Avenue. This portion of the sewer main receives flows from residential and commercial properties, upstream of the Project site (See Appendix A for Atlas).

Calculation of the sewer rates from the existing land uses yields a total flow along the main line of 0.019 cfs, with a velocity of 1.93 fps, and a depth ratio of 0.06. See Appendix B for existing flow calculations.

## Proposed Conditions

The Project proposes an 8" PVC sewer connections to connect along the existing 8" VCP sewer within El Corazon Avenue. The flows included in the calculation include the proposed 270 units as well as the proposed commercial amenities for the project including a 7,000 square-foot restaurant and a 1,660 square-foot art gallery.

Connecting to El Corazon, the maximum flow is 0.29 cfs, the velocity is 3.43 fps, and the depth ratio is 0.15.

## Conclusion

The existing sewer connection to our site within El Corazon appears to be downstream of 17 sfd along this portion of sewer resulting in an impact of an additional 0.27 cfs at the point of connection.

# **Appendix A**

## **City Sewer Atlas**

### **Conceptual Utility Plan**

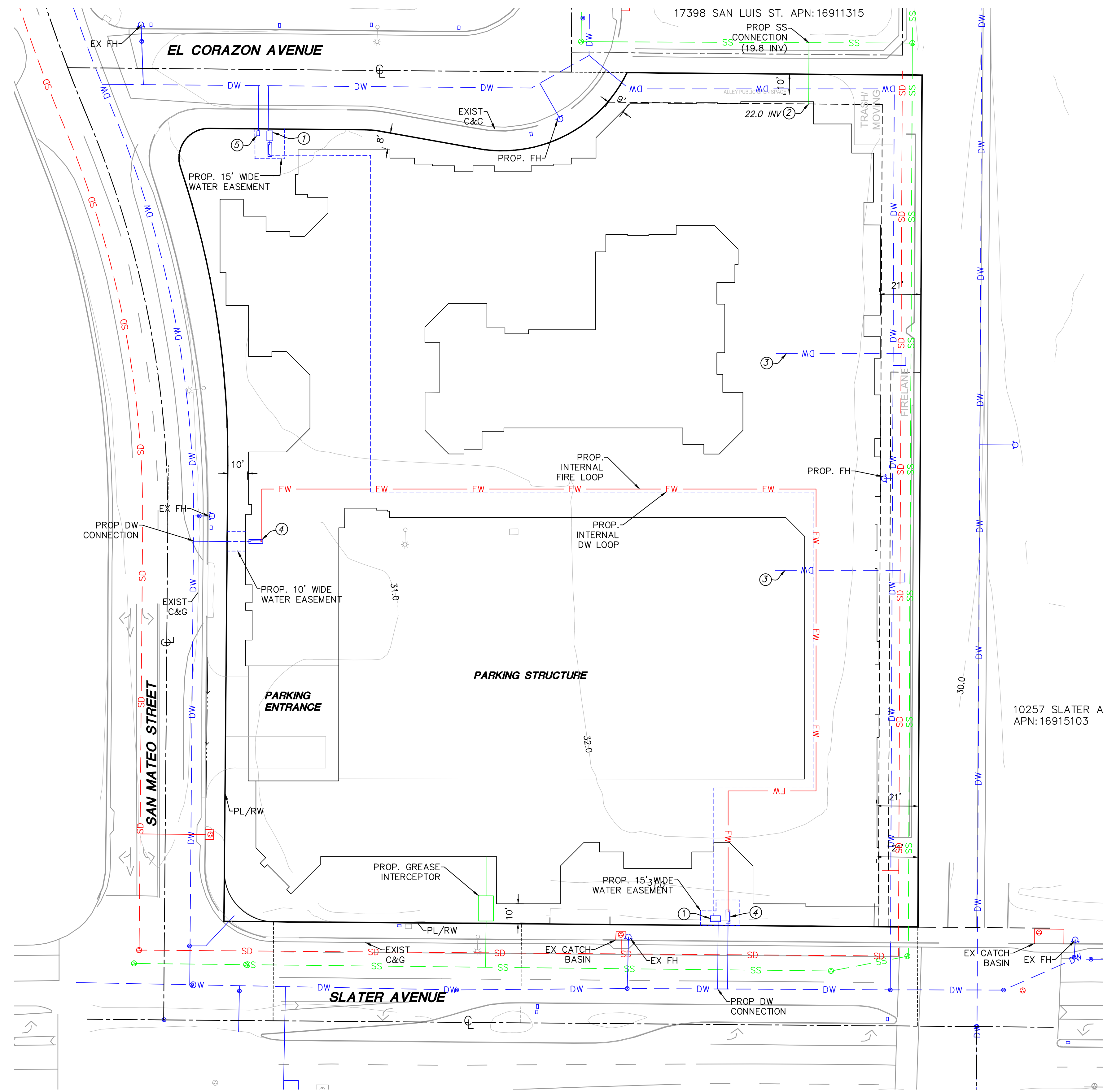


- Legend**
- Fountain Valley MH's Symbol**
- Cleanout
  - Coated MH's
  - Drop MH and Coated
  - Drop MH's
  - Fountain Valley MH's
  - Garden Grove MH's
  - Huntington MH's
  - Midway MH's
  - OCSD MH's
  - Private Cleanout
  - Private MH's
  - Pump Station
- F4b Fountain Valley Pipes Symbol**
- Abandoned Pipes
  - Fountain Valley Pipes
  - Garden Grove Pipes
  - Huntington Beach Main
  - Liner Pipe
  - Midway Sewer Line
  - Overflow Pipes
  - Private Sewer Pipes
  - Siphon
  - boundaryline
  - Parcels



D1b	E1b	F1b	G1b	H1b	J1b
C2a	D2a	E2a	F2a	G2a	H2a
C2b	D2b	E2b	F2b	G2b	H2b
C3a	D3a	E3a	F3a	G3a	H3a
C3b	D3b	E3b	F3b	G3b	H3b
B4a	C4a	D4a	E4a	F4a	G4a
B4b	C4b	D4b	E4b	F4b	G4b
B5a	C5a	D5a	E5a	F5a	G5a
B5b	C5b	D5b	E5b	F5b	G5b
B6a	C6a	D6a	E6a	F6a	G6a
B6b	C6b	D6b	E6b	F6b	G6b
B7a	C7a	D7a	E7a	F7a	G7a
B7b	C7b	D7b	E7b	F7b	G7b

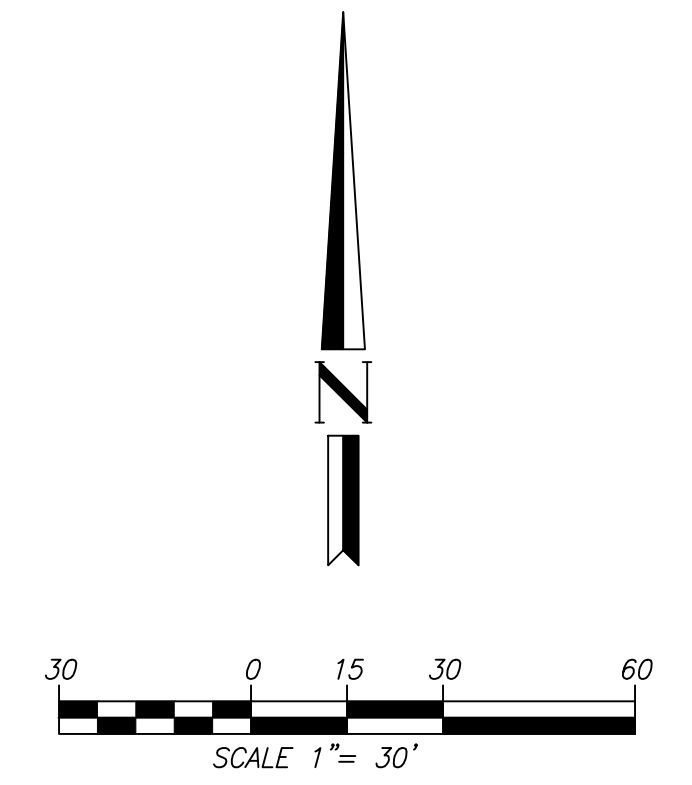




- CONSTRUCTION NOTES:**
- ① PROPOSED DOMESTIC WATER METER W/ BFP
  - ② PROPOSED 8" SEWER LATERAL
  - ③ REMOVE EXISTING UTILITY
  - ④ PROPOSED 8" FIRE PROTECTION LINE
  - ⑤ PROPOSED 2" METER FOR LANDSCAPE PURPOSES W/ BFP

**LEGEND**

	PROPOSED DOMESTIC WATER
	PROPOSED DOMESTIC WATER LOOP
	PROPOSED FIRE WATER LOOP
	EXISTING 8" DOMESTIC WATER
	EXISTING 12" SEWER



# SLATER AVENUE

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FOUNTAIN VALLEY, CA



## UTILITY PLAN

DATE: 11-03-21  
 JOB NO.: R313364.01

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## **Appendix B**

### **Existing Condition Flow Calculations**

### **Proposed Condition Flow Calculations**



1. Design Criteria

Assumed design flows

Residential					
	Average Flow	105	gpcd (gallons per capita per day)		
	Per capita factor	1.96	people per household		
	Peak Factor	3.25			

Non-Residential					
	Commerical	2,262	gpd/acre		
	Industrial	3,167	gpd/acre		
	Institutional	2,715	gpd/acre		
	Peak Factor	1.7			

Velocity: 2 fps minimum, 10 fps maximum

2. Project Site Data

Proposed Site Plan, prepared by AO and Huitt-Zollars, dated 11/03/21

272 Proposed Residential Units

3. Sewer Generation

Existing On Site					
Lot	Land Use	Acres	Sewer Generation (gpd)	Peak (gpd)	CFS
P.M.B.60/29	Commerical	1.48	3,348	5,691	0.0085
P.M.B.60/29	Commerical	1.18	2,669	4,538	0.0068
PTR OSA-5807379	Commerical	0.57	1,289	2,192	0.0033
PTR OSA-5807379	Commerical	0.11	249	423	0.0006
	<b>Total</b>	<b>3.34</b>	<b>7,555</b>	<b>12,844</b>	<b>0.019</b>

Assumed 8" VCP pipe at s=0.02  
**Results:**  
 at s=0.0200, velocity is 1.93 fps

Proposed On Site					
Lot	Land Use	Unit type	Sewer Generation (gpd)	Peak (gpd)	CFS
MFD	Residential	272	55,978	181,927	0.2729
Mix-use	Commercial		7,555	12,844	0.0190
	<b>Total</b>		<b>63,533</b>	<b>194,771</b>	<b>0.29</b>

Assumed 8" PVC pipe at s=0.01  
**Results:**  
 at s=0.0100, velocity is 3.43 fps

Condition	Sewer generation (gpd)	Peak (gpd)	Peak (cfs)	Velocity (fps)
Existing	7,555	12,844	0.019	1.93
Proposed - MFD/Commercial	63,533	194,771	0.29	3.43