

Appendix H
Sewer Capacity Study



SEWER CAPACITY STUDY
8555 SANTA MONICA BOULEVARD
WEST HOLLYWOOD, CALIFORNIA 90069

April 26, 2017

Prepared For:

SOTO CAPITAL, LP

P.O. BOX 17119

BEVERLY HILLS, CA 90209

Prepared by:



VIRGIL C. AOANAN, P.E. S.E., QSD

Los Angeles County

1041 S. Garfield Avenue, Alhambra, CA 91801

Tel: 323-729-6098 ■ Fax: 323-729-6043

e-mail: vca@vcaeng.com

Orange County

2151 Michelson Dr. # 242, Irvine, CA 92612

Tel: 949-679-0870 ■ Fax: 949-679-9370

www.vcaeng.com

1. Introduction

This sewer capacity study has been prepared by VCA Engineers, Inc. to examine the existing sanitary sewer system that will be affected by the proposed mixed-use project located at 8555 Santa Monica Boulevard in the City of West Hollywood. The project involves the demolition of three two-story commercial structures, three one-story single-family residence, surface parking areas, and the construction of a mixed-use development with commercial and residential uses including one level of subterranean parking.

This study will verify that the proposed development will not adversely impact the flow capacity of the existing sewer infrastructure downstream of the project location.

This study will analyze the existing peak flow demand of the existing 8-inch vitrified clay pipe (VCP) sewer line along Santa Monica Boulevard extending from West Knoll Drive to Westbourne Drive by conducting a 7-day flow monitoring of this sewer mainline. Furthermore, the peak flow generated by the proposed development will be determined using land use table of the LA County Sanitation District No 4. Similarly, the peak flow of the existing land use will be calculated for the demolished area using the same LA County table. These two flows increased with a peaking factor of 2.5 will be used to determine the net flow generated by the proposed development. From this data, the Post Development Flow downstream of the development can then be determined by adding the monitored existing maximum flow to the factored Proposed Peak Flow and reducing it by the factored Existing Peak Flow associated with the demolished site.

The post development flow will then be compared to the calculated designed flow capacity of the existing sewer mainline flowing at half full and with a roughness coefficient of 0.013 using Manning's Formula per LA County Department of Public Works standards. If the sewer mainline has enough capacity for the post development flow, we can then conclude that the sewer mainline is adequate to handle the increase in flow of the new development.

Los Angeles County

1041 S. Garfield Avenue, Alhambra, CA 91801
Tel: 323-729-6098 ■ Fax: 323-729-6043
e-mail: vca@vcaeng.com

Orange County

2151 Michelson Dr. # 242, Irvine, CA 92612
Tel: 949-679-0870 ■ Fax: 949-679-9370
www.vcaeng.com

2. Project Description

The proposed development consists of a 5-story mixed-used development with commercial and residential uses with one (1) level of subterranean parking. The 55,147 square foot site is composed of Lots 6-11 located at the northwest intersection of Santa Monica Boulevard and West Knoll Drive. There will be a driveway entrance at Santa Monica Boulevard to the subterranean parking and at West Knoll Drive to the mezzanine level parking.

The existing site currently consists of three two-story commercial structures, three existing one-story single-family residence, and surface parking areas. Existing commercial structures usage consists of various units such as retail stores, restaurant, massage parlor, shoe repair, and acupuncture clinic.

3. Site Description

The project site is composed of Lot 6 APN: 4339-005-010, 4339-005-011 and 4339-005-012, Lot 7 APN: 4339-005-013, and Lots 8-11: APN: 4339-005-025 per Los Angeles County Assessor Parcel Map. The site acreage is approximately 1.266 acres. See Figure 1 for the Vicinity Map.

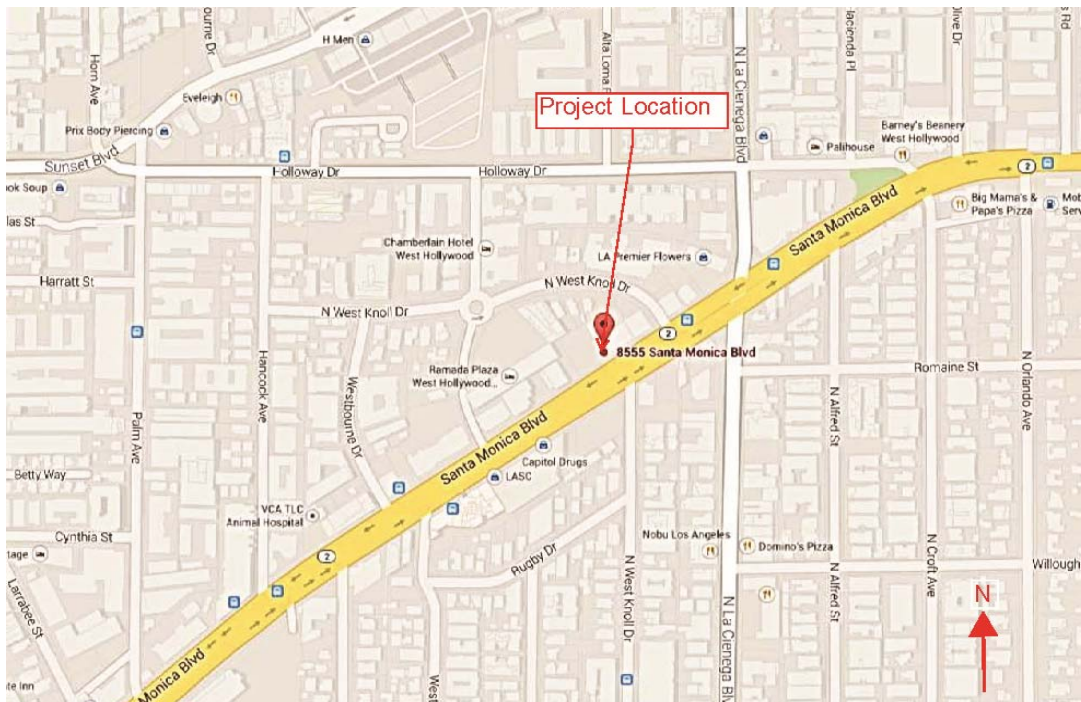


Figure 1. Vicinity Map

Los Angeles County

1041 S. Garfield Avenue, Alhambra, CA 91801

Tel: 323-729-6098 ■ Fax: 323-729-6043

e-mail: vca@vcaeng.com

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2151 Michelson Dr. # 242, Irvine, CA 92612

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4. Existing Sewer Pipe Capacity Analysis

A. Existing Sewer Connections

The project site is currently serviced by an existing 8-inch VCP main sewer line along Santa Monica Boulevard. The existing sewer main line, lateral connections and manholes are shown on Figure 2 below. This existing main sewer line is owned and operated by the City of West Hollywood.

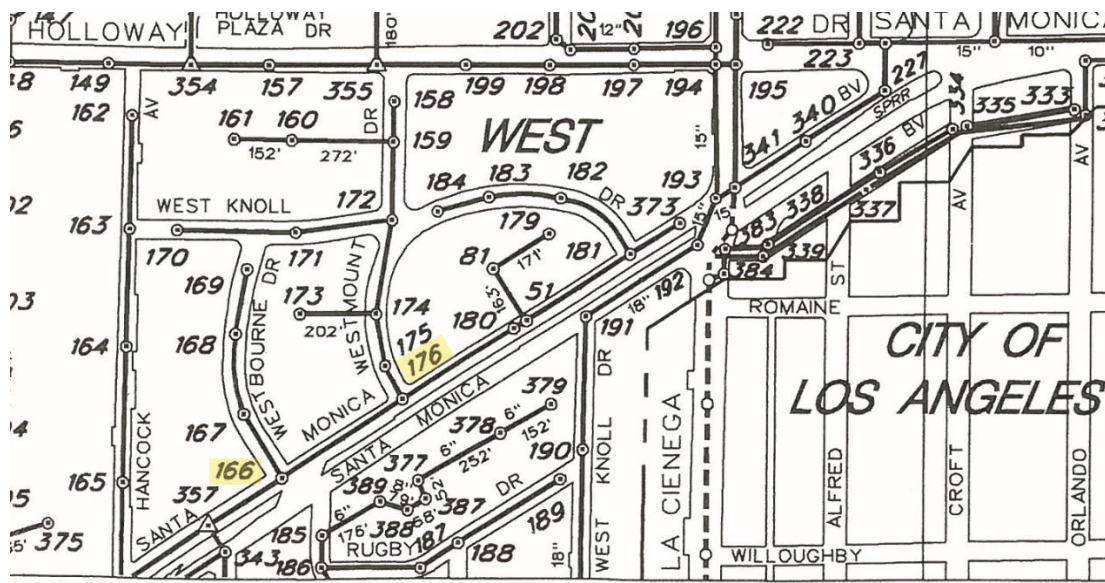


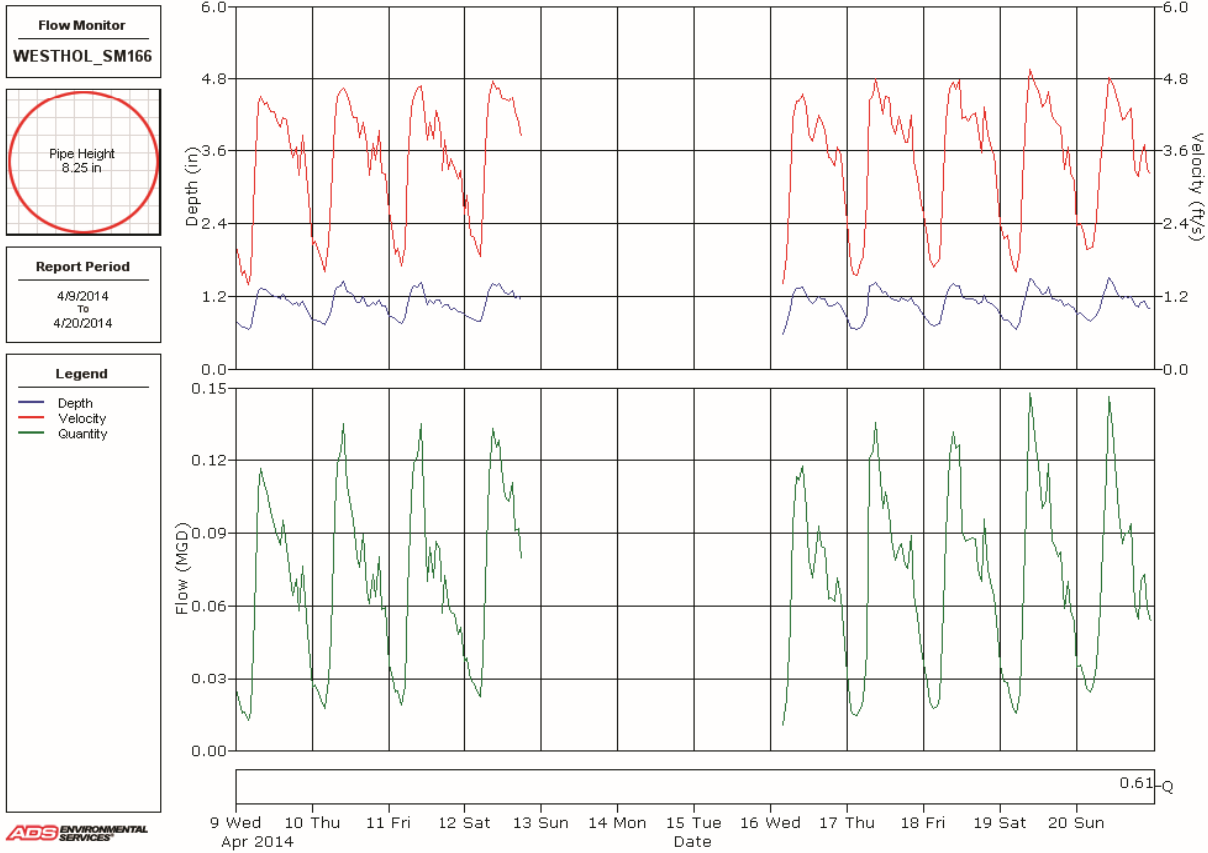
Figure 2. Existing Sewer Connections and Manholes

B. 7-Day Flow Monitoring

A 7-day flow monitoring study was conducted by ADS Environmental Services to analyze the existing flow of the sewer mainlines serving the proposed development. Flow tests were conducted on the sanitary sewer lines on Santa Monica Boulevard. During the study, conducted from April 9th to April 20th, 2014, existing sewer flow was tested with Peak Doppler Monitors at two locations downstream of the potential sewer lateral. The first test was conducted at Sewer Manhole "SM166", located at the intersection of Santa Monica Boulevard and Westbourne Drive. The location of manholes to be monitored was determined pursuant to the direction given by the City of West Hollywood during the acquirement of the monitoring permit on March 26, 2014. Figure 3 provides a summary of the sewer flow monitoring and observed flow conditions. A second test was conducted at Sewer Manhole "SM176", located at the intersection of Santa Monica Boulevard and Westmount Drive. Figure 4 provides a summary of the sewer flow monitoring and observed flow conditions. Figure 2 shows the location of these manholes.



HYDROGRAPH REPORT
 WESTHOL_SM166

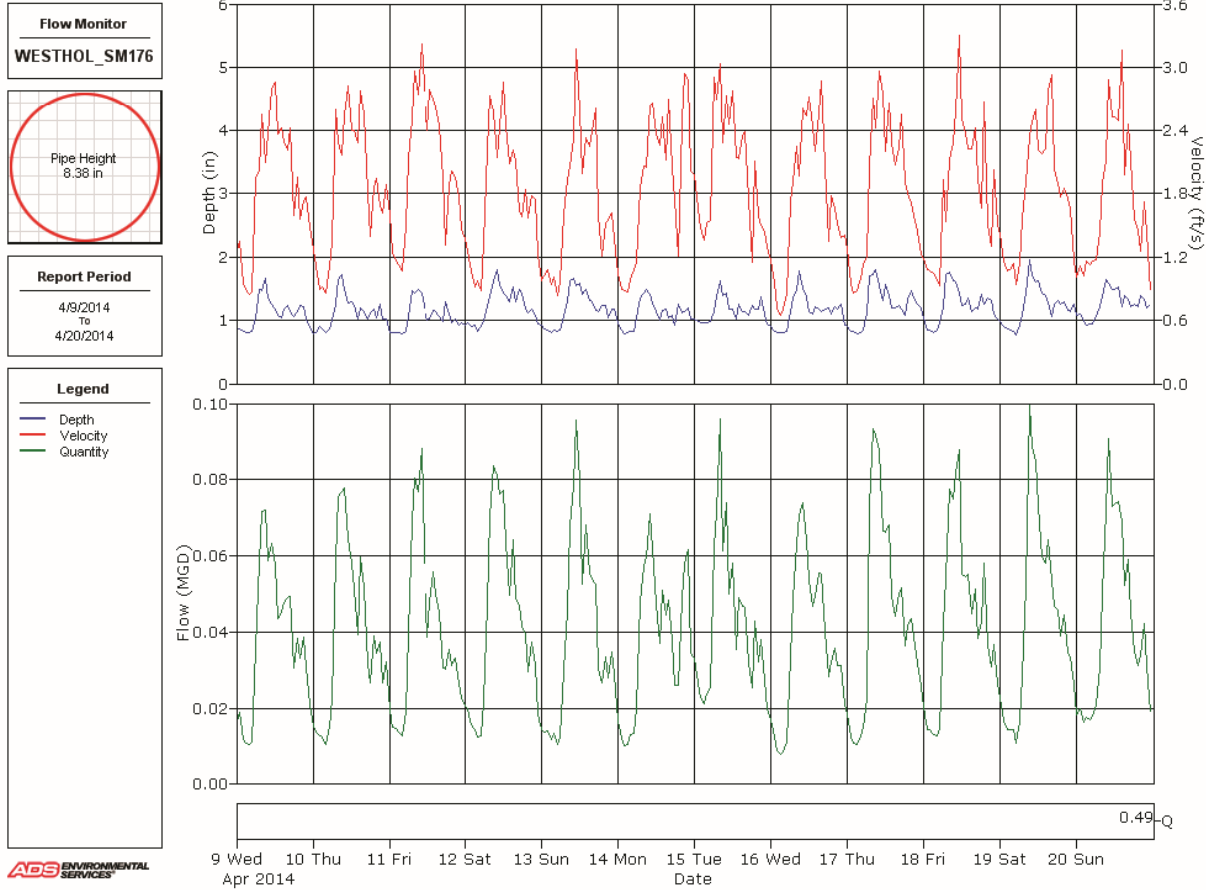


| SM#166 Observed Flow Conditions | | | | |
|---------------------------------|------------|-----------------|----------|---------|
| Item | Depth (in) | Velocity (ft/s) | Quantity | |
| | | | (MGD) | (CFS) |
| Average | 1.07 | 3.47 | 0.072 | 0.11140 |
| Minimum | 0.50 | 1.08 | 0.008 | .012378 |
| Maximum (Peak) | 1.91 | 5.88 | 0.251 | 0.38835 |

Figure 3. GRAPHICAL AND TABULAR SUMMARY OF SANTA MONICA BOULEVARD SMH #166 SEWER FLOW MONITORING

HYDROGRAPH REPORT

WESTHOL_SM176



ADS ENVIRONMENTAL SERVICES

SM#176 Observed Flow Conditions

| Item | Depth (in) | Velocity (ft/s) | Quantity | |
|-----------------------|------------|-----------------|----------|--------|
| | | | (MGD) | (CFS) |
| Average | 1.17 | 1.84 | 0.041 | .06344 |
| Minimum | 0.66 | 0.42 | 0.005 | .00774 |
| Maximum (Peak) | 2.55 | 4.35 | 0.201 | .31099 |

Figure 4. GRAPHICAL AND TABULAR SUMMARY OF SANTA MONICA BOULEVARD SMH #176 SEWER FLOW MONITORING

C. Existing Site Flow Generated

The calculated flow demand produced from the existing site will be based off the chart in the “City of West Hollywood Department of Public Works Engineering Division Sewer Capacity Study Requirements” (See Appendix I for detailed chart). Table 1 summarizes the total GPD generated per each existing user category in the aforementioned table. To determine the maximum peak flow rate for sewer diameters less than 15 inches, a peaking factor of 2.5 was used per City of West Hollywood requirements. The calculated existing site peak flow rate (QPF) equates to 0.02635 CFS (See Appendix III for detailed Sewer Capacity Calculations).

| No. of Units | Unit Type | User Category | Flow Per Unit (Gallons Per Day) | Total |
|---|-----------------------|---|---------------------------------|---------------------|
| 4058 | 1,000 ft ² | Gymnasium (Health/Fitness) | 250 | 1,014.50 GPD |
| 32 | Seat | Restaurant: Full Service (Indoor Seating) | 30 | 960 GPD |
| 37 | Seat | Restaurant: Full Service (Outdoor Seating) | 18 | 666 GPD |
| 21,130 | 1,000 ft ² | Auto Parking | 20 | 422.60 GPD |
| 10,426 | 1000 ft ² | Store (Retail) | 80 | 834.08 GPD |
| 3 | EA Unit | Residential: Single Family Detached – 2 Bedroom | 180 | 540 GPD |
| 4,211 | 1,000 ft ² | Office | 150 | 631.65 GPD |
| 6,218 | 1,000 ft ² | Beauty Parlor (Hair Salon/Facial) | 280 | 1,741.04 GPD |
| Total Existing Flow Rate | | | | 6,809.87 GPD |
| | | | | 0.01054 CFS |
| Total Existing Peak Flow Rate (Q_{PF-EXIST}) (X 2.5 Peaking Factor) | | | | 0.02635 CFS |

TABLE 1. TABULAR SUMMARY OF EXISTING USER CATEGORIES AND MEAN LOADING

5. Proposed Flow Generation

A. Proposed Land Use

The proposed development will consist of a combination of the following categories:

- 97 residential apartments.
- 12 live/work units.
- 109,091 square feet of auto parking/garage.
- 6,079 square feet of office space.
- Indoor seating restaurant with 106 seats.
- 3,718 square feet of hair salon.
- 15,679 square feet of retail space.
- 3,020 square feet of storage.
- 639 square feet of lobby area.
- 610 square feet of recreation room.

Live/work flow units were calculated using GPD of residential apartments with one bedroom and recreation units were calculated using GPD for a lounge.

B. Proposed Site Flow Generation

Table 2 summarizes the appropriate user categories and mean loading for the mixed-used development using values taken from the County Sanitation District No. 4 of Los Angeles County Mean Loading table. Based on the amount of residential units, square footage of commercial usage and proposed site usage, the average proposed sewer flow calculated from the proposed site is 23,420.11 gallons per day or 0.03624 CFS. To determine the maximum peak flow rate for sewer diameters less than 15 inches, a peaking factor of 2.5 was used per City of West Hollywood requirements. The calculated proposed site peak flow rate (QPF) equates to 0.09061 CFS (See Appendix III for detailed Sewer Capacity Calculations).

| No. of Units | Unit Type | User Category | Flow Per Unit (Gallons Per Day) | Total |
|--|-----------------------|--|------------------------------------|----------------------|
| 40 | EA Unit | Residential Apartment - 1 Bedroom | 120 | 4,800.00 GPD |
| 57 | EA Unit | Residential Apartment - 2 Bedroom | 160 | 9,120.00 GPD |
| 12 | EA Unit | Residential Apartment - Live/Work | 120 | 1,440.00 GPD |
| 109,091 | 1,000 ft ² | Auto Parking | 20 | 2,181.82 GPD |
| 106 | Seat | Restaurant: Full Service (Indoor Seating) | 30 | 3,180.00 GPD |
| 3,718 | 1,000 ft ² | Hair salon | 100 | 371.80 GPD |
| 6,079 | 1,000 ft ² | Office | 150 | 911.85 GPD |
| 15,679 | 1,000 ft ² | Retail | 80 | 1,254.32 GPD |
| 3,020 | 1,000 ft ² | Storage | 20 | 60.40 GPD |
| 639 | 1,000 ft ² | Lobby of Residential | 80 | 51.12 GPD |
| 610 | 1,000 ft ² | Residential Recreation Room (Lounge) | 80 | 48.80 GPD |
| Total Proposed Flow Rate | | | | 23,420.11 GPD |
| | | | | 0.03624 CFS |
| Total Proposed Peak Flow Rate (Q_{PF-PROPOSED}) (X 2.5 Peaking Factor) | | | | 0.09061 CFS |

TABLE 2. TABULAR SUMMARY OF PROPOSED USER CATEGORIES AND MEAN LOADING

6. Conclusion

Peak sewer flow post development was determined by adding the monitored existing maximum flow to the factored proposed peak flow and then reducing the factored existing peak flow from the demolished site. The peak sewer flow post development was then compared to the sewer pipe capacity to determine adequacy of the existing pipe (See Appendix III for detailed calculation.)

As shown on Table 3, the sewer main at sewer manhole #176 has a sewer pipe capacity of 0.88 CFS while the demand of the post development peak flow rate equals 0.38 CFS. The demand from the new development does not exceed the capacity of the existing sewer main (D/C = 43%)*.

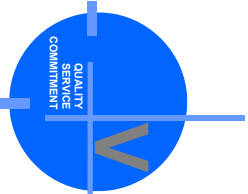
Also per Table 3, the sewer main at sewer manhole #166 has a sewer pipe capacity of 0.90 CFS while the demand of the post development peak flow rate equals 0.45 CFS. The demand from the new development does not exceed the capacity of the existing sewer main (D/C = 50%)*.

Despite the increase in sewer flow from the new development, the existing sanitary sewer system owned and operated by the City of West Hollywood will not be detrimentally affected by the additional flow. The existing sewer system is adequately sized to handle peak flow generated by the new development without impacting the existing sewer capacity. Applicant/Developer to replace the existing sewer, between manholes 81 to 179, with installation of a new sewer which will be placed partially within proposed Development's parking garage. Also new manhole and cleanouts, accessible to maintenance crew, will be built by Applicant/Developer per City specifications. Sewer service to buildings at 8552 and 8562 West Knoll will be maintained during construction.

Prior to issuance of building permits, the applicant shall have a Civil Engineer licensed to practice in the State of California prepare sewer plans to the satisfaction of the City Engineer for replacement of the sewer line between manholes 81 and 179, including installation of a new sewer which will be partially within the proposed development's parking garage, with a new manhole and cleanouts which are accessible to the City's maintenance crew.

Prior to issuance of the certificate of occupancy, the applicant shall complete construction of the new sewer as well as dedicate to the City easements for access and maintenance of the new sewer.

* *D/C = Demand-Capacity Ratio*



| Sewer Manhole | Size (in) | Inlet Pipe Slope | 7-Day Sewer Flow Monitoring | | LA County Sanitation District 4 Table | | Sewer Pipe Capacity @ D/d = 0.5 Q _{CAP} (CFS) | Proposed Peak Flow Q _{PF} = 2.5 X Q _{AF} (CFS) | Peak Sewer Flow Post Development (CFS) |
|-----------------|-----------|------------------|---|--|--|--|--|--|--|
| | | | Existing Sewer Ave. Flow Q _{EXIST} (CFS) | Existing Sewer Peak Flow (CFS) Q _{EXIST-PEAK} | Average Daily Proposed Flow Rate Q _{AF} (CFS) | Average Daily Existing Flow Rate Q _{EXIST-AF} (CFS) | | | |
| SM #176 | 8 | 2.12% | 0.06344 | 0.31099 | 0.03624 | 0.01054 | 0.88 | 0.09061 | 0.38 |
| SM # 166 | 8 | 2.20% | 0.11140 | 0.38835 | 0.03624 | 0.01054 | 0.90 | 0.09061 | 0.45 |

TABLE 3. TABULAR SUMMARY OF SEWER CAPACITY ANALYSIS

Los Angeles County

1041 S. Garfield Avenue, Alhambra, CA 91801
 Tel: 323-729-6098 ■ Fax: 323-729-6043
 e-mail: vca@vcaeng.com

Orange County

2151 Michelson Dr. # 242, Irvine, CA 92612
 Tel: 949-679-0870 ■ Fax: 949-679-9370
 www.vcaeng.com

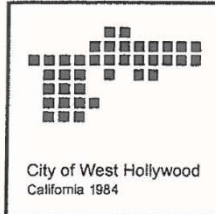
Appendix I: City of West Hollywood Sewer Capacity Study Requirements & Los Angeles County Bureau of Sanitation District User Categories and Loading

Los Angeles County

1041 S. Garfield Avenue, Alhambra, CA 91801
Tel: 323-729-6098 ■ Fax: 323-729-6043
e-mail: vca@vcaeng.com

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2151 Michelson Dr. # 242, Irvine, CA 92612
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**City of West Hollywood
Department of Public Works
Engineering Division**

Sewer Capacity Study Requirements

1. The sewer capacity study shall be certified by a California licensed Civil Engineer.
2. Project Description: The study should have a project description describing what is being proposed on the development site. The current land uses and proposed land uses of the development shall also be indentified.
3. Site Description: The site description shall describe the project's location, the approximate acreage of the project site, and contain a vicinity map to identify the project's location.
4. Existing Sewer Pipe Capacity Analysis: This section shall identify any existing connections to the sewer system. A 7-day flow monitoring study will be required to obtain the existing flow capacity. This shall be done at the downstream sewer manhole, or at a location that makes sense to adequately determine existing flow capacity. Additional monitoring locations may be required to verify downstream capacity of the local sewer network as well as if the project will connect to a nearby trunk line. The City of Los Angeles sewers located downstream may be impacted by a proposed development project. Therefore, the sewer study may need to include monitoring locations in the City of Los Angeles. The existing average daily flow (Q_{exist}) and peak flow shall be determined in cubic feet per second.
5. Proposed Flow Generation: This section shall include the proposed land use(s). Flow generation shall be determined by the user category that most closely matches the County Sanitation District No. 4 of Los Angeles County mean loading table. This will determine your average daily flow (Q_{AF}) in gallons per day (gpd) that shall then be converted to cubic feet per second (cfs).

The City of West Hollywood was an unincorporated area of Los Angeles County until 1984; therefore the sewer system was designed to the County of Los Angeles Department of Public Works standards, where all pipes are designed for peak flow.

$$n = 0.013$$
$$D/d \leq 0.50 \text{ for } d \leq 15''$$
$$D/d \leq 0.75 \text{ for } d > 15''$$

These assumptions will determine the Q_{cap} = Sewer pipe capacity.

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e-mail: vca@vcaeng.com

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Tel: 949-679-0870 ■ Fax: 949-679-9370
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The peak flow (Q_{PF}) for this study shall be calculated in cubic feet per second (cfs) by $Q_{PF} = 2.5 \times Q_{AF}$ where 2.5 is the peaking factor used to determine the maximum peak flow rate for sewer diameters less than 15". The peaking factor shall be 2.0 for diameters greater than 15".

6. Conclusion: The conclusion shall identify the sewer capacity of the pipe as a flow rate (Q_{cap}). The calculations shall demonstrate that the sewer mainline has the capacity for the existing flow and the added flow at average and peak conditions. If the sewer is found to be inadequate, recommendations shall be provided to handle the increase in sewer flow. If this is a large site that has several sewer connection options, the conclusion shall address those options and make a recommendation for the project. The recommendations will be incorporated into the mitigation measures for the project.

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SANITATION DISTRICT NO. 4
 CONNECTION FEE LOADINGS, CAPACITY UNITS, AND UNIT RATES
 July 1, 2013 - June 30, 2014

| CATEGORY | UNIT OF USAGE | LOADINGS | | | CAPACITY UNITS | CHARGE |
|--|----------------------|------------|-----------|----------|----------------|-----------|
| | | FLOW (GPD) | COD (FPD) | SS (PPD) | | |
| Amputation Office/Clinic | 1000 ft ² | 150 | 0.16 | 0.10 | 0.46 | 821.00 |
| Arcade - Video Games | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Auditorium | Seat | 4 | 0.01 | 0.02 | 0.02 | 34.00 |
| Auto Parking | 1000 ft ² | 20 | 0.03 | 0.03 | 0.07 | 120.00 |
| Auto Body/Mech. Repair Shop | 1000 ft ² | 80 | 0.12 | 0.16 | 0.31 | 550.00 |
| Bakery | 1000 ft ² | 280 | 2.34 | 1.40 | 2.16 | 3,694.00 |
| Bank: Headquarters | 1000 ft ² | 150 | 0.16 | 0.10 | 0.48 | 821.00 |
| Bank: Branch | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Banquet Room/Ballroom | 1000 ft ² | 800 | 6.57 | 4.00 | 6.17 | 10,551.00 |
| Bar: Cocktail, Fixed Seat | Seat | 18 | 0.03 | 0.03 | 0.07 | 120.00 |
| Bar: Juice, No Baking Facilities | 1000 ft ² | 120 | 0.20 | 0.20 | 0.45 | 770.00 |
| Bar: Juice, With Baking Facilities | 1000 ft ² | 280 | 2.34 | 1.40 | 2.16 | 3,694.00 |
| Bar: Cocktail, Public Table Area | 1000 ft ² | 500 | 4.17 | 2.50 | 3.55 | 6,594.00 |
| Barber Shop | 1000 ft ² | 100 | 0.13 | 0.13 | 0.35 | 599.00 |
| Beauty Parlor | 1000 ft ² | 280 | 0.35 | 0.35 | 0.97 | 1,659.00 |
| Bldg. Construction Office | Office | 150 | 0.19 | 0.19 | 0.52 | 869.00 |
| Bowling Alley: Alley, Lanes & Lobby Area | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Cafeteria: Fixed Seat | Seat | 30 | 0.25 | 0.15 | 0.23 | 353.00 |
| Car Wash: Wind Type | 1000 ft ² | 700 | 3.00 | 1.58 | 3.65 | 6,089.00 |
| Car Wash: Tunnel - Recycling Type | 1000 ft ² | 2,770 | 11.74 | 6.16 | 13.53 | 23,549.00 |
| Car Wash: Tunnel - Non-Recycling Type | 1000 ft ² | 3,720 | 15.86 | 8.33 | 18.82 | 32,182.00 |
| Chapel: Fixed Seat | Seat | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Chiropractic Office | 1000 ft ² | 150 | 0.16 | 0.10 | 0.48 | 821.00 |
| Church: Fixed Seat | Seat | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Church School: Day Care/Elem | 1000 ft ² | 200 | 0.22 | 0.01 | 0.03 | 51.00 |
| Cocktail Lounge: Fixed Seat | Seat | 18 | 0.03 | 0.03 | 0.07 | 120.00 |
| Coffee House: No Pastry Baking/Food Prep | 1000 ft ² | 120 | 0.20 | 0.20 | 0.45 | 770.00 |
| Coffee House: Pastry Baking Only | 1000 ft ² | 280 | 2.34 | 1.40 | 2.16 | 3,694.00 |
| Coffee House: Service Prepared Food | 1000 ft ² | 30 | 0.25 | 0.15 | 0.23 | 353.00 |
| Cold Storage: No Sales | 1000 ft ² | 20 | 0.03 | 0.03 | 0.07 | 120.00 |
| Cold Storage: Retail Sales | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Conduit Station: Public | 1000 ft ² | 100 | 0.13 | 0.13 | 0.35 | 599.00 |
| Commercial Use | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Community Center | Occupant | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Counseling Center | 1000 ft ² | 150 | 0.16 | 0.10 | 0.48 | 821.00 |
| Credit Union | 1000 ft ² | 150 | 0.19 | 0.19 | 0.52 | 869.00 |
| Dancing Area (of Bars or Nightclub) | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Dance Studio | 1000 ft ² | 600 | 1.00 | 1.00 | 2.27 | 3,852.00 |
| Dental Office/Clinic | 1000 ft ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Doughnut Shop | 1000 ft ² | 250 | 0.27 | 0.17 | 0.28 | 479.00 |
| Drug Rehabilitation Center | 1000 ft ² | 280 | 2.34 | 1.40 | 2.16 | 3,694.00 |
| Equipment Booth | 1000 ft ² | 150 | 0.16 | 0.10 | 0.48 | 821.00 |
| Film Processing - 1 Hour Photo, Etc. | 1000 ft ² | 20 | 0.03 | 0.03 | 0.07 | 120.00 |
| Gas Station: Self Service | 1000 ft ² | 100 | 0.13 | 0.13 | 0.35 | 599.00 |
| Gas Station: Four Bays Max | Station | 430 | 0.15 | 0.23 | 0.39 | 667.00 |
| Gymnasium - Basketball, Volleyball | 1000 ft ² | 250 | 0.65 | 1.00 | 1.69 | 2,690.00 |
| Hangar (Aircraft) | 1000 ft ² | 80 | 0.31 | 0.31 | 0.86 | 1,471.00 |
| Health Club/Spa | 1000 ft ² | 800 | 1.00 | 0.19 | 2.77 | 4,737.00 |
| Homeless Shelter | Bed | 75 | 0.13 | 0.13 | 0.29 | 495.00 |
| Hospital: Convalescent | Bed | 75 | 0.16 | 0.06 | 0.25 | 479.00 |

Page 1 of 3

X = 0.5567 Y = 0.1992 Z = 0.1441 Connection Fee Rate = \$1,710.00

* including, but not limited to, Convention Center, Fairground, Racetrack, Sports Stadium/Arena

Los Angeles County
 1041 S. Garfield Avenue, Alhambra, CA 91801
 Tel: 323-729-6098 ■ Fax: 323-729-6043
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SANTATION DISTRICT NO. 4
 CONNECTION FEE LOADINGS, CAPACITY UNITS, AND UNIT RATES
 July 1, 2013 - June 30, 2014

| CATEGORY | UNIT OF USAGE | LOADINGS | | SS (PPD) | CAPACITY UNITS | CHARGE |
|---|----------------------|------------|-----------|----------|----------------|----------|
| | | FLOW (GPD) | COD (PPD) | | | |
| Hospital: Animal | 1000 ft ² | 280 | 0.35 | 0.35 | 0.97 | 1,659.00 |
| Hotel: Use Guest Rooms Only | Room | 130 | 0.34 | 0.52 | 0.52 | 893.00 |
| Jail | Inmate | 85 | 0.22 | 0.09 | 0.34 | 881.00 |
| Kennel: Dog Kennel/Open | 1000 ft ² | 100 | 0.13 | 0.13 | 0.35 | 659.00 |
| Laundromat | Machine | 170 | 0.21 | 0.16 | 0.57 | 875.00 |
| Library: Public Area | 1000 ft ² | 80 | 0.10 | 0.10 | 0.26 | 479.00 |
| Library: Stacks, Storage | 1000 ft ² | 26 | 0.03 | 0.03 | 0.09 | 154.00 |
| Lobby: Of Retail Area | 1000 ft ² | 60 | 0.10 | 0.10 | 0.26 | 479.00 |
| Lodge: Hall | Seat | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Lounge | 1000 ft ² | 80 | 0.13 | 0.13 | 0.30 | 513.00 |
| Machine Shop | 1000 ft ² | 80 | 0.10 | 0.10 | 0.26 | 479.00 |
| Manufacturing (Dry) Facility | 1000 ft ² | 80 | 0.10 | 0.10 | 0.26 | 479.00 |
| Massage Parlor | 1000 ft ² | 275 | 0.34 | 0.34 | 0.95 | 1,625.00 |
| Medical Building | 1000 ft ² | 250 | 0.27 | 0.17 | 0.80 | 1,368.00 |
| Medical: Lab in Hospital | 1000 ft ² | 250 | 0.69 | 0.31 | 1.03 | 1,761.00 |
| Medical Office/Clinic | 1000 ft ² | 250 | 0.27 | 0.17 | 0.80 | 1,368.00 |
| Mini-Mall | 1000 ft ² | 80 | 0.40 | 0.27 | 0.46 | 787.00 |
| Mortuary: Chapel | Seat | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Mortuary: Embalming | 1000 ft ² | 7-15 | 4.77 | 4.77 | 5.39 | 9,217.00 |
| Mortuary: Living Area | 1000 ft ² | 80 | 0.14 | 0.14 | 0.31 | 630.00 |
| Monk: Use Guest Rooms Only | Room | 130 | 0.34 | 0.13 | 0.52 | 889.00 |
| Museum: All Area | 1000 ft ² | 20 | 0.03 | 0.03 | 0.07 | 120.00 |
| Museum: Office Over 15% | 1000 ft ² | 150 | 0.19 | 0.19 | 0.52 | 899.00 |
| Museum: Sales Area | 1000 ft ² | 80 | 0.10 | 0.10 | 0.26 | 479.00 |
| Office Building | 1000 ft ² | 150 | 0.16 | 0.16 | 0.48 | 821.00 |
| Office: Bldg w/ Cooling Tower | 1000 ft ² | 80 | 0.16 | 0.10 | 0.56 | 958.00 |
| Pool Hall (No Alcohol) | 1000 ft ² | 160 | 0.10 | 0.10 | 0.28 | 479.00 |
| Post Office: Full Service | 1000 ft ² | 150 | 0.19 | 0.19 | 0.52 | 899.00 |
| Post Office: Private Mail Box Rental | 1000 ft ² | 80 | 0.10 | 0.10 | 0.26 | 479.00 |
| Prisons | Inmate | 175 | 0.45 | 0.18 | 0.69 | 1,180.00 |
| Residential: Dorm: College Or Residential | Student Bed | 75 | 0.13 | 0.13 | 0.29 | 496.00 |
| Residential: Boarding House | Bed | 75 | 0.13 | 0.13 | 0.29 | 496.00 |
| Residential: Apt - Bachelor | Dwelling Unit | 80 | 0.14 | 0.14 | 0.31 | 630.00 |
| Residential: Apt - 1 Bedroom | Dwelling Unit | 120 | 0.22 | 0.21 | 0.47 | 804.00 |
| Residential: Apt - 2 Bedroom | Dwelling Unit | 160 | 0.29 | 0.27 | 0.62 | 1,060.00 |
| Residential: Apt - 3 Bedroom | Dwelling Unit | 200 | 0.36 | 0.34 | 0.77 | 1,317.00 |
| Residential: Apt - >3 Bedroom | Additional Bdrm | 40 | 0.07 | 0.07 | 0.15 | 267.00 |
| Residential: Condo - 1 Bedroom | Dwelling Unit | 120 | 0.22 | 0.21 | 0.47 | 804.00 |
| Residential: Condo - 2 Bedroom | Dwelling Unit | 160 | 0.29 | 0.27 | 0.62 | 1,060.00 |
| Residential: Condo - 3 Bedroom | Dwelling Unit | 200 | 0.36 | 0.34 | 0.77 | 1,317.00 |
| Residential: Condo - >3 Bedroom | Additional Bdrm | 40 | 0.07 | 0.07 | 0.15 | 267.00 |
| Residential: Duplex/Townhouse/SFD - 1 Bdrm | Dwelling Unit | 130 | 0.23 | 0.22 | 0.50 | 855.00 |
| Residential: Duplex/Townhouse/SFD - 2 Bdrm | Dwelling Unit | 160 | 0.32 | 0.31 | 0.69 | 1,180.00 |
| Residential: Duplex/Townhouse/SFD - 3 Bdrm | Dwelling Unit | 230 | 0.41 | 0.39 | 0.88 | 1,565.00 |
| Residential: Duplex/Townhouse/SFD - >3 Bdrm | Additional Bdrm | 50 | 0.09 | 0.09 | 0.19 | 325.00 |
| Residential: Room Addition: Bedroom | Bedroom | 66 | 0.09 | 0.09 | 0.19 | 325.00 |
| Residential: Room Conversion: Into A Bdrm | Bedroom | 60 | 0.09 | 0.09 | 0.19 | 325.00 |
| Residential: Mobile Home | Dwelling Unit | 160 | 0.29 | 0.27 | 0.62 | 1,060.00 |
| Residential: Mobile Home | Dwelling Unit | 250 | 0.45 | 0.43 | 0.96 | 1,642.00 |
| Residential: Artist Residence | Dwelling Unit | 80 | 0.14 | 0.14 | 0.31 | 590.00 |
| Residential: Guest Home w/ Kitchen | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Residential: Guest Home w/o Kitchen | Bedroom | 50 | 0.06 | 0.06 | 0.17 | 291.00 |
| Rest Home | Bed | 75 | 0.16 | 0.06 | 0.28 | 479.00 |

Page 2 of 3

X = 0.6567 Y = 0.1992 Z = 0.1441 Connection Fee Rate = \$1,710.00

* Including, but not limited to, Convention Center, Fairground, Racetrack, Sports Stadium/Arena

Los Angeles County
 1041 S. Garfield Avenue, Alhambra, CA 91801
 Tel: 323-729-6098 ■ Fax: 323-729-6043
 e-mail: vca@vcaeng.com

Orange County
 2151 Michelson Dr. # 242, Irvine, CA 92612
 Tel: 949-679-0870 ■ Fax: 949-679-9370
 www.vcaeng.com



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SANITATION DISTRICT NO. 4
 CONNECTION FEE LOADINGS, CAPACITY UNITS, AND UNIT RATES
 July 1, 2013 - June 30, 2014

| CATEGORY | UNIT OF USAGE | LOADINGS | | | CAPACITY UNITS | CHARGE |
|---|---------------------|------------|-----------|----------|----------------|----------|
| | | FLOW (GPD) | COD (PPD) | SS (PPD) | | |
| Restaurant: Drive-In | Seat | 40 | 0.33 | 0.20 | 0.31 | 530.00 |
| Restaurant: Drive-In | Seat | 20 | 0.17 | 0.10 | 0.16 | 274.00 |
| Restaurant: Fast Food - Indoor Seat | Seat | 20 | 0.17 | 0.10 | 0.16 | 274.00 |
| Restaurant: Fast Food - Outdoor Seat | Seat | 12 | 0.10 | 0.06 | 0.09 | 154.00 |
| Restaurant: Full Service - Indoor Seat | Seat | 30 | 0.25 | 0.16 | 0.23 | 393.00 |
| Restaurant: Full Service - Outdoor Seat | Seat | 18 | 0.15 | 0.09 | 0.14 | 239.00 |
| Restaurant: Take-Out | Seat | 300 | 2.50 | 1.50 | 2.31 | 3,950.00 |
| Retail Area | 1000 R ² | 60 | 0.10 | 0.10 | 0.28 | 479.00 |
| Rifle Range: Shootin Stalls & Lanes, Lobby | 1000 R ² | 60 | 0.10 | 0.10 | 0.28 | 479.00 |
| School: Arts/Dancing/Music | 1000 R ² | 80 | 0.09 | 0.07 | 0.26 | 445.00 |
| School: Day Care Center | Child | 8 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: Elementary/Jr. High | Student | 12 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: High School | Student | 200 | 0.22 | 0.17 | 0.04 | 66.00 |
| School: Kindergarten | 1000 R ² | 80 | 0.09 | 0.07 | 0.26 | 445.00 |
| School: Montail Arts | Child | 8 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: Nursery-Day Care | Child | 8 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: Special Class | Student | 12 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: Trade Or Vocational | Student | 12 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: Training | Student | 12 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: University/College | Student | 12 | 0.01 | 0.01 | 0.03 | 51.00 |
| School: Dormitory | Student | 16 | 0.02 | 0.02 | 0.06 | 103.00 |
| School: Stadium, Pavilion | Seat | 75 | 0.13 | 0.13 | 0.28 | 496.00 |
| Storage: Building/Warehouse | 1000 R ² | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Storage: Self Storage Bldg. | 1000 R ² | 20 | 0.03 | 0.03 | 0.07 | 120.00 |
| Store: Ice Cream/Yogurt | 1000 R ² | 20 | 0.03 | 0.03 | 0.07 | 120.00 |
| Store: Retail | 1000 R ² | 80 | 0.67 | 0.40 | 0.62 | 1,060.00 |
| Studio: Film/TV - Audience Viewing Room | Seat | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Studio: Film/TV - Regular Use-Indoor Filming Ar | 1000 R ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Studio: Film/TV - Industrial Use (Domestic) | 1000 R ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Studio: Recording | 1000 R ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Tanning Salon: Independent, No Shower | 1000 R ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Tanning Salon: Within A Health Spa/Cub | 1000 R ² | 800 | 1.00 | 1.00 | 2.77 | 4,737.00 |
| Theater: Drive-In | Vehicle | 10 | 0.01 | 0.01 | 0.03 | 51.00 |
| Theater: Cinema | Seat | 4 | 0.01 | 0.01 | 0.02 | 34.00 |
| Tract: Commercial/Residential | Acre | 1 | 0.00 | 0.00 | 0.02 | 34.00 |
| Trailer - Const/Field Office | Office | 1 | 0.00 | 0.00 | 0.00 | .00 |
| Veterinary Clinic/Office | 1000 R ² | 150 | 0.19 | 0.16 | 0.52 | 869.00 |
| Warehouse | 1000 R ² | 260 | 0.30 | 0.15 | 0.90 | 1,539.00 |
| Waste Dump: Recreational | Station | 430 | 0.03 | 0.03 | 0.07 | 120.00 |
| Wine Tasting Room: Kitchen | 1000 R ² | 215 | 0.27 | 0.27 | 0.75 | 1,283.00 |
| Wine Tasting Room: All Area | 1000 R ² | 80 | 0.10 | 0.10 | 0.28 | 479.00 |
| Fourplex | Parcel | 624 | 2.92 | 1.40 | 3.28 | 5,609.00 |

X = 0.6567 Y = 0.1992 Z = 0.1441 Connection Fee Rate = \$1,710.00

* Including, but not limited to, Convention Center, Fairground, Racetrack, Sports Stadium/Arena

Appendix II: City of West Hollywood Sewer As-Built

Los Angeles County

1041 S. Garfield Avenue, Alhambra, CA 91801

Tel: 323-729-6098 ■ Fax: 323-729-6043

e-mail: vca@vcaeng.com

Orange County

2151 Michelson Dr. # 242, Irvine, CA 92612

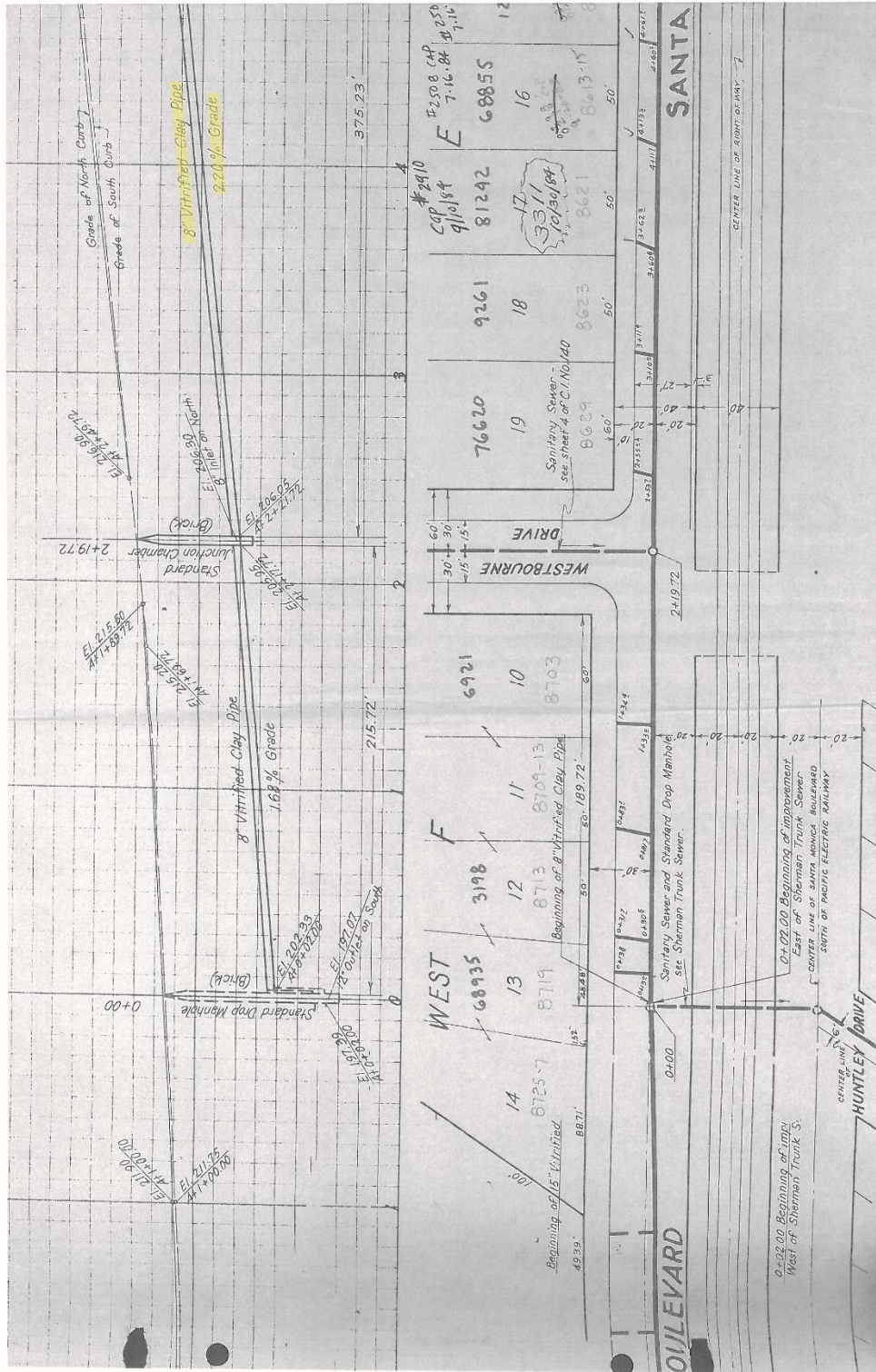
Tel: 949-679-0870 ■ Fax: 949-679-9370

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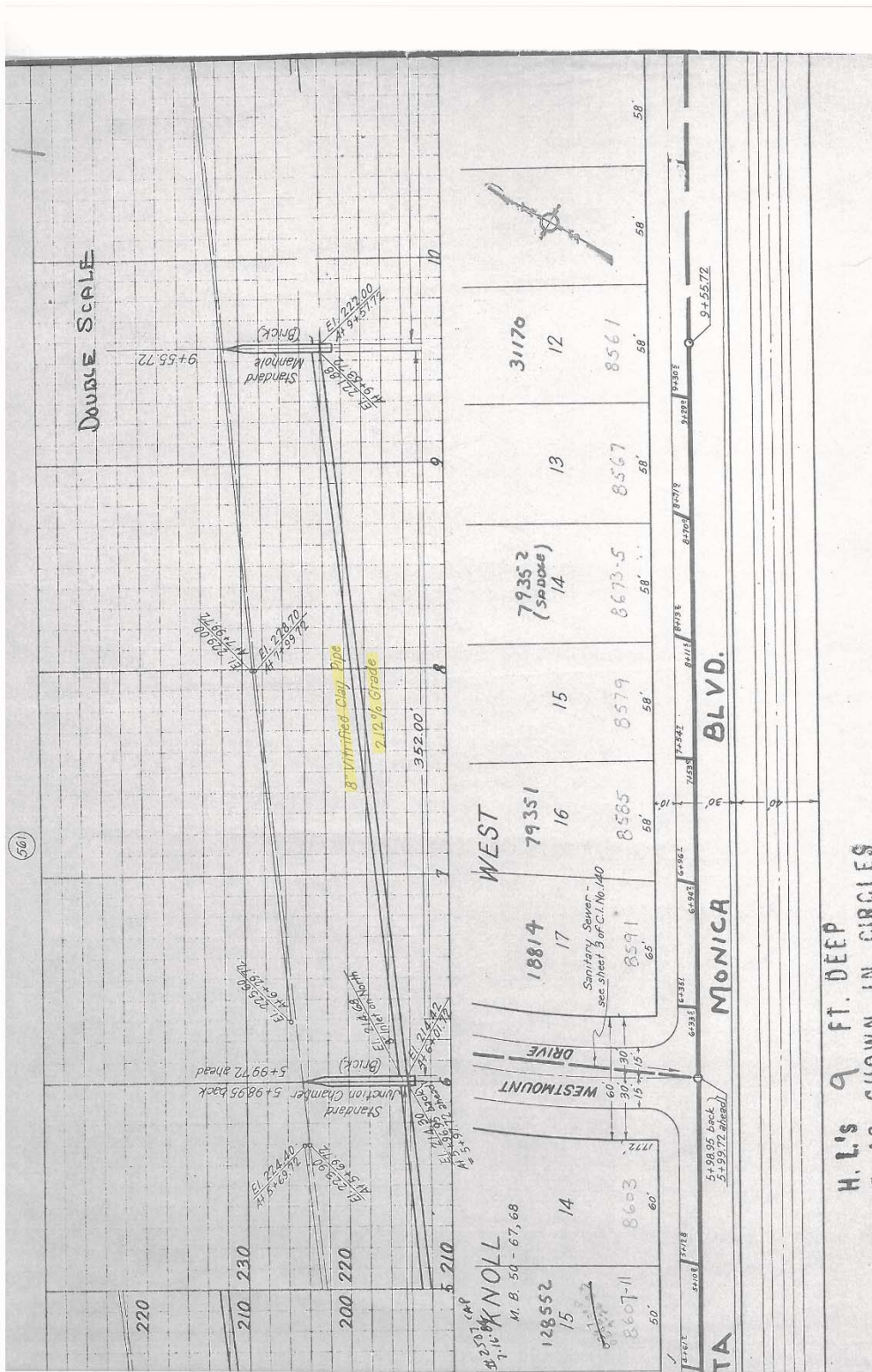
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Appendix III: Sewer Capacity Calculations

Los Angeles County

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e-mail: vca@vcaeng.com

Orange County

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Project: 8555 Santa Monica Blvd.

Project Number: 1082-114

Developer: Soto Capital, LP

Santa Monica Boulevard Sewer Manhole #176 Capacity Calculations

Manhole Location: Santa Monica Boulevard & Westmount Drive
 Existing Pipe Size: 8 inches
 Existing Material: Vitrified Clay Pipe
 Pipe Area: .349066 SF
 Date of Flow Test: 04/09/2014 – 04/20/2014
 Sewer Design Capacity: **0.88 CFS**
 568,761 gal/day

Existing Sewer Monitoring Average Flow (Q_{EXIST})

Calculated Average Flow (Gallons/Day):

Average Flow Condition 0.041 MGD

$$41,000 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.06344 \text{ CFS}}$$

Existing Sewer Monitoring Maximum Flow

Calculated Maximum Flow (Gallons/Day):

Maximum Flow Condition 0.201 MGD

$$201,000 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.31099 \text{ CFS}}$$

Existing Site Flow Rate

Calculated Average Flow (Gallons/Day):

$$6,809.87 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.01054 \text{ CFS}}$$

* Apply Peak Factor of 2.5 per City of West Hollywood for d < 15"

$$Q_{PF} = 0.01054 \text{ CFS} \times 2.5$$

$$= \mathbf{0.02635 \text{ CFS}}$$

Proposed New Site Sewer Flow (Q_{AF})

Calculated Average Flow (Gallons/Day):

$$23,409.83 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.03624 \text{ CFS}}$$

* Apply Peak Factor of 2.5 per City of West Hollywood for d < 15"

$$\begin{aligned} Q_{PF} &= 0.03624 \text{ CFS} \times 2.5 \\ &= \mathbf{0.09061 \text{ CFS}} \end{aligned}$$

Peak Sewer Flow Post Development

$$\begin{aligned} \text{Post Development Flow} &= \text{Existing Sewer Max Flow} - \text{Existing Peak Flow} + \text{Proposed Peak Flow} \\ &= 0.31099 \text{ CFS} - 0.02635 \text{ CFS} + 0.09061 \text{ CFS} \end{aligned}$$

$$\text{Post Development Flow} = \mathbf{0.37525 \text{ CFS}}$$

Peak Sewer Flow Post Development and Sewer Pipe Capacity Comparison

Post Development Flow < Sewer Pipe Capacity (Q_{CAP})

$$0.37525 \text{ CFS} < 0.88 \text{ CFS} \quad \mathbf{O.K.}$$

Project: 8555 Santa Monica Blvd.

Project Number: 1082-114

Developer: Soto Capital, LP

Santa Monica Boulevard Sewer Manhole #166 Capacity Calculations

Manhole Location: Santa Monica Boulevard & Westbourne Drive
 Manhole No.: SM# 166
 Existing Pipe Size: 8 inches
 Existing Material: Vitrified Clay Pipe
 Pipe Area: .349066 SF
 Date of Flow Test: 04/09/2014 – 04/20/2014
 Sewer Design Capacity: **0.90 CFS**
 568,761 gal/day

Existing Sewer Monitoring Average Flow (Q_{EXIST})

Calculated Average Flow (Gallons/Day):

Average Flow Condition 0.072 MGD

$$72,000 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.11140 \text{ CFS}}$$

Existing Sewer Monitoring Maximum Flow

Calculated Maximum Flow (Gallons/Day):

Maximum Flow Condition 0.251 MGD

$$251,000 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.38835 \text{ CFS}}$$

Existing Site Flow Rate

Calculated Average Flow (Gallons/Day):

$$6,809.87 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.01054 \text{ CFS}}$$

* Apply Peak Factor of 2.5 per City of West Hollywood for d < 15"

$$Q_{PF} = 0.01054 \text{ CFS} \times 2.5$$

$$= \mathbf{0.02635 \text{ CFS}}$$

Proposed New Site Sewer Flow (Q_{AF})

Calculated Average Flow (Gallons/Day):

$$23,409.83 \text{ gal/day} \times 0.133681 \text{ ft}^3/\text{gal} \times 1.1574 \times 10^{-5} \text{ sec/day} = \mathbf{0.03624 \text{ CFS}}$$

* Apply Peak Factor of 2.5 per City of West Hollywood for d < 15"

$$Q_{PF} = 0.03624 \text{ CFS} \times 2.5$$

$$= \mathbf{0.09061 \text{ CFS}}$$

Peak Sewer Flow Post Development

$$\text{Post Development Flow} = \text{Existing Sewer Max Flow} - \text{Existing Peak Flow} + \text{Proposed Peak Flow}$$

$$= 0.38835 \text{ CFS} - 0.02635 \text{ CFS} + 0.09061 \text{ CFS}$$

$$\text{Post Development Flow} = \mathbf{0.45261 \text{ CFS}}$$

Peak Sewer Flow Post Development and Sewer Pipe Capacity Comparison

$$\text{Post Development Flow} < \text{Sewer Pipe Capacity (Q}_{CAP})$$

$$0.45261 \text{ CFS} < 0.90 \text{ CFS} \quad \mathbf{O.K.}$$