Appendix M-1

Azusa Delaney Square Sewer System
Analysis Memorandum

Azusa Delaney Square

Sewer System Analysis Memorandum

Azusa, CA

August 2025

PREPARED FOR:
Taylor Morrison
6440 Oak Canyon, Suite 200
Irvine, CA 92618

PREPARED BY:
Kimley»Horn
25152 Springfield Ct, Suite 200
Santa Clarita, CA 91355
KH Project No.: 194439012

TABLE OF CONTENTS

1. Introduction 2
Objective *2*
Project Description *2*
2. Analysis Criteria 3
Flow Estimation *3*
Pipe Capacity *3*
3. Sewer Analysis 5
Proposed Sewer Facilities *5*
Existing Sewer Facilities *5*
On-Site Sewer Analysis *6*
Off-Site Sewer Analysis *6*
4. Conclusion 7

LIST OF FIGURES AND TABLES

Figure 1 - Project Vicinity Map 2
Table 1 – Wastewater Flow Estimation Criteria 3
Table 2 – Pipe Capacity Design Criteria 4
Figure 2 – Proposed Sewer POC and Monitored MH 5
Table 4 – Proposed On-Site Wastewater Flows 6
Table 5 – Proposed On-Site Sewer Hydraulics 6
Table 6 – Proposed Wastewater Flows Overall 6
Table 7 – Proposed Off-Site Sewer Hydraulics 6

APPENDICES

LA County Estimated Average Daily Sewage Flows for Various Occupancies ..... Appendix A
Policies for Managing Available Sewer Capacity and Sewage Discharge ..... Appendix B
LADPW Private Contract Sanitary Sewer Manual Excerpt ..... Appendix C
Project Utility Plan ..... Appendix D
Sewer Monitoring Report ..... Appendix E
Sewer As-Builts ..... Appendix F
Sewer Flow and Depth Calculations ..... Appendix G

1. INTRODUCTION

Objective

Kimley-Horn was tasked with analyzing the proposed sewer facilities which would serve the proposed Azusa Delaney Square Residential (Project). The results of Kimley-Horn's analysis are presented in this Sewer Study.

Project Description

The Project is a proposed residential development located in the City of Azusa in the County of Los Angeles, CA. It is north of East Mauna Loa Avenue and east of North Calera Avenue. The Project location and surrounding vicinity are depicted in **Figure 1**.



Figure 1 - Project Vicinity Map

The Project site is comprised of approximately 9.77 acres. The proposed Project site consists of one parcel that was the existing Powell Elementary School. This parcel will be split into two smaller lots, one for single-family homes and another for town homes. The project will be serviced by Azusa Light and Water and the City of Azusa Public Works.

2. ANALYSIS CRITERIA

This sewer study has been prepared in accordance with LADPW, utilizing Project information provided by the Applicant. The following reference documents and tools were utilized in the preparation of this sewer study:

- LA County Estimated Average Daily Sewage Flows for Various Occupancies
- Policies for Managing Available Sewer Capacity and Sewage Discharge in Excess of Design Capacity (October 12, 2005)
- Private Contract Sanitary Sewer Procedural Manual (Revised December 1987)
- Los Angeles County Public Works GIS Sewer Operations Maps

Flow Estimation

Wastewater collection system capacities within the County are outlined in the Policies for Managing Available Sewer Capacity and Sewage Discharge in Excess of Design Capacity Letter dated October 12, 2005, **Appendix B**. Wastewater flows are based on gallons per day per dwelling unit as outlined in the Estimated Average Daily Sewage Flows for Various Occupancies in **Appendix A** and in **Table 1** below. Unit counts for the project are provided by the project Architect.

Off-site flows were monitored by Utility Systems, Science, and Software Inc. (US^3) and analysis was provided in a report by US^3, see **Appendix E**.

To determine onsite peak wastewater flows, the occupancy type was multiplied by 2.5 as stated in the LA County Estimated Average Daily Sewage Flows for Various Occupancies.

Table 1 – Estimated Daily Sewage Flows

Occupancy	Average Daily Flow
2 Bedroom Dwelling Unit	250 gal/D.U.
3 Bedroom or More Dwelling Unit	300 gal/D.U.

Pipe Capacity

The City of Azusa determines available capacity in a sewer mainline less than 15” in diameter to be considered full (100%) when the depth to diameter ration is equal to 0.5 and a sewer mainline equal or greater than 15” in diameter to be considered full (100%) when the depth to diameter ratio is 0.75 as outlined in the Sewer Capacity Policy Memorandum, see **Appendix B**.

Flow depths are determined using Manning’s formula:

$$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$$

Where Q is the peak flow (CFS), n is Manning’s number, A is the pipe cross sectional area in (ft^2), R is the hydraulic radius (feet), and S is the pipe slope (ft/ft).

Pipe slopes for the proposed lines are to be 1.0% to maintain appropriate cover. Additional criteria is presented in **Table 2**.

Table 2 – Pipe Capacity Design Criteria

Manning's n (VCP)	
Proposed/Existing	0.011
Peak Flow Depth (d/D)	
Proposed Diameter ≤ 15 inches	< 0.50
Proposed Diameter > 15 inches	< 0.75

The proposed development has proposed 8" VCP sewer main lines to prevent maintenance problems and allow for sufficient space to convey sewer generation and debris downstream.

3. SEWER ANALYSIS

Proposed Sewer Facilities

The Project area includes 8-inch diameter sewer gravity system that runs through the proposed streets in the development. There will be one proposed sewer connection to the existing manhole in East Mauna Loa Avenue (POC) shown in **Figure 2**. A slope analysis was performed to confirm adequate pipe cover throughout the Project Site. The proposed sewer system will maintain at least 5.5-feet of cover for sewer mainlines and 6-feet of cover for house laterals under the curb face per the LADPW Private Contract Sanitary Sewer Procedural Manual (**Appendix C**). Additionally, manhole drops of 0.2-feet are provided to accommodate right angle alignment bends and 0.1-feet to accommodate straight alignments. A Project Utility Plan is provided in **Appendix D**.

Existing Sewer Facilities

The Project intends to connect to the existing 8-inch sewer located in East Mauna Loa Avenue. Sewer monitoring was performed on the manhole just downstream (approximately 195 feet west) of the POC shown in **Figure 2**. The existing wastewater flows and depths were provided by US^3 in a flow monitoring report (**Appendix E**).



Figure 2 - Proposed Sewer POC and Monitored MH

On-Site Sewer Analysis

On-site pipes will be 8-inch diameter gravity sewer lines. Flows will enter LADPW existing sewer system at a point of connection (POC) with an 8-inch diameter gravity main in East Mauna Loa Avenue shown in **Figure 2**. An analysis showing the assumed sewer generation rate, including estimated peak flows from the Project is presented in **Table 4**. Detailed sewer generation calculations are provided in **Appendix E**.

Table 4 – Proposed On-Site Wastewater Flows

Location	Peaking Factor	Peak Flow (CFS)	Peak Flow (GPD)
POC	**2.5**	**0.15**	**93,875**

The results of sewer hydraulic calculations are presented in **Table 5**. Bentley FlowMaster was used to calculate flow depth, employing the Manning friction method as discussed in *Section 2*. Complete calculations are provided in **Appendix G**.

Table 5 – Proposed On-Site Sewer Hydraulics

Location	Peak Flow (CFS)	Diameter (IN)	Slope (%)	Flow Depth	
				d (IN)	d/D
POC	0.15	8	1.00	1.8	0.23

Off-Site Sewer Analysis

Existing sewer generation was monitored at a manhole downstream of the project's POC for a continuous 7-day period to determine the impact of the Project on the existing sewer system. **Table 6** displays the total flow generation from the monitoring report (**Appendix E**), including the Project connection to the existing 8-inch sewer main in East Mauna Loa Avenue. **Table 7** summarizes the off-site hydraulics, including the Project addition, at the POC depicted in **Figure 2**.

As listed in **Table 2**, pipes less than 15" in diameter have a maximum depth of flow (d/D) of 0.50. The existing 8" pipe after the POC has a depth of flow equal to 0.44 which is below the limit of 0.50.

Table 6 – Proposed Wastewater Flows Overall

Location	Existing Peak Flow (CFS)	Combined Peak Flow (CFS)
MH-1	0.48	0.63

*See **Table 4** for Project flows

Table 7 – Proposed Off-Site Sewer Hydraulics

Segment		Peak Flow (CFS)	Diameter (IN)	Slope (%)	Flow Depth	
Start	End				d (IN)	d/D
POC	MH-1	0.63	8	1.2	3.5	0.44

(complete calculations provided in **Appendix G**)

4. CONCLUSION

Based on the normal depths calculated using Manning's equation, the capacity of the existing 8" sewer main within East Mauna Loa Avenue including the proposed development sewer demand was found to be no greater than 44% (See **Appendix G**). Since the calculated peak capacity of the downstream sewer system with proposed sewer demand is flowing at less than 50% capacity, the existing sewer line can adequately serve the proposed development.

APPENDIX A

LA County Estimated Average Daily Sewage Flows for Various Occupancies

Estimated Average Daily Sewage Flows for Various Occupancies

Occupancy	Abbreviation	*Average daily flow	
Apartment Buildings:			
Bachelor or Single dwelling units	Apt	150	gal/D.U.
1 bedroom dwelling units	Apt	200	gal/D.U.
2 bedroom dwelling units	Apt	250	gal/D.U.
3 bedroom or more dwelling units	Apt	300	gal/D.U.
Auditoriums, churches, etc.	Aud	5	gal/seat
Automobile parking	P	25	gal/1000 sq ft gross floor area
Bars, cocktails lounges, etc.	Bar	20	gal/seat
Commercial Shops & Stores	CS	100	gal/1000 sq ft gross floor area
Hospitals (surgical)	HS	500	gal/bed
Hospitals (convalescent)	HC	85	gal/bed
Hotels	H	150	gal/room
Medical Buildings	MB	300	gal/1000 sq ft gross floor area
Motels	MB	150	gal/unit
Office Buildings	Off	200	gal/1000 sq ft gross floor area
Restaurants, cafeterias, etc.	R	50	gal/seat
Schools:			
Elementary or Jr. High	S	10	gal/student
High Schools	HS	15	gal/student
Universities or Colleges	U	20	gal/student
College Dormitories	CD	85	gal/student

*Multiply the average daily flow by 2.5 to obtain the peak flow

Zoning Coefficients

Zone	Coefficient (cfs/Acre)
Agriculture ----------	0.001
Residential*:	
R-1 ----------	0.004
R-2 ----------	0.008
R-3 ----------	0.012
R-4 ----------	0.016*
Commercial:	
C-1 through C-4 ----------	0.015*
Heavy Industrial:	
M-1 through M-4 ----------	0.021*

* Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown

* Use 0.001 (cfs/unit) for condominiums only

APPENDIX B

Policies for Managing Available Sewer Capacity and Sewage Discharge

October 12, 2005

Approved

TO: Dean Efstathiou

FROM: Dennis Hunter
Land Development Division

POLICIES FOR MANAGING AVAILABLE SEWER CAPACITY AND SEWAGE DISCHARGE IN EXCESS OF DESIGN CAPACITY

The following will set forth Public Works' policies related to managing sewer infrastructure capacity. Design capacity of the sewer mainline is defined as follows:

< 15" diameter	½ full = 100% capacity (d/D)
≥ 15" diameter	¾ full = 100% capacity (d/D)

When Public Works determines there is available capacity in a mainline sewer for infill and redevelopment projects, the remaining available capacity shall be allocated on a first come – first serve basis.

Sewer Advisory Committee

A Sewer Advisory Committee (SAC) will be formed for the purpose of recommending courses of action to address proposed development connecting to existing sewers that will cause them to be operating beyond their design capacity. The SAC will make their recommendations to Dean Efstathiou, Assistant Director. The SAC will be chaired by Waterworks and Sewer Maintenance Division and will have representatives from Design and Land Development Divisions. Each Division will appoint a Principal Engineer or Senior Civil Engineer as a representative to the SAC and will convene whenever sewer decisions are required to address developmental impacts. Sewer Maintenance will maintain records of SAC meetings and will prepare recommendations to Administration for approval. The SAC may require other Division representatives to participate on a case-by-case basis when necessary, such as Building and Safety and Programs Development.

Divisional Responsibilities

Design Division

1. Support activities of the SAC.

2. Prepare sewer area studies when required.

3. Maintain records/archive of all approved sewer area studies and flow measurements.

Land Development Division

1. Support activities of the SAC.

2. Impose sewer area study requirements for private developments if necessary and review/approve all submittals.

3. Refer cases to SAC when both sewer area studies and flow measurements indicate that a potential overload situation exists or will exist based on criteria described below.

4. Provide copies of all approved sewer area studies and flow measurements to Design Division for archiving.

Waterworks and Sewer Maintenance Division

1. Chair the SAC, maintain meeting records and prepare position papers to Administration.

2. Advise the SAC when an overload condition is observed during maintenance activities.

3. Initiate effort to track and map all overload areas within the Consolidated Maintenance District.

4. Keep database of all flow measurement results.

Design Criteria

1. Capacity of sewer mainlines less than 15" in diameter are considered full (100 percent) when the ratio of the depth of flow (d) over the pipe diameter (D) is equal to 0.5, expressed as d/D = 0.5.

2. Capacity of sewer mainlines equal to or greater than 15" in diameter are considered full (100 percent) when the ratio of the depth of flow (d) over the pipe diameter (D) is equal to 0.75, expressed as d/D = 0.75.

3. When an area study indicates that flow conditions based on calculated discharges is between 101 percent to 150 percent of capacity, no flow measurements and no mitigation will be required. If maintenance records warrant, a flow test may be required.

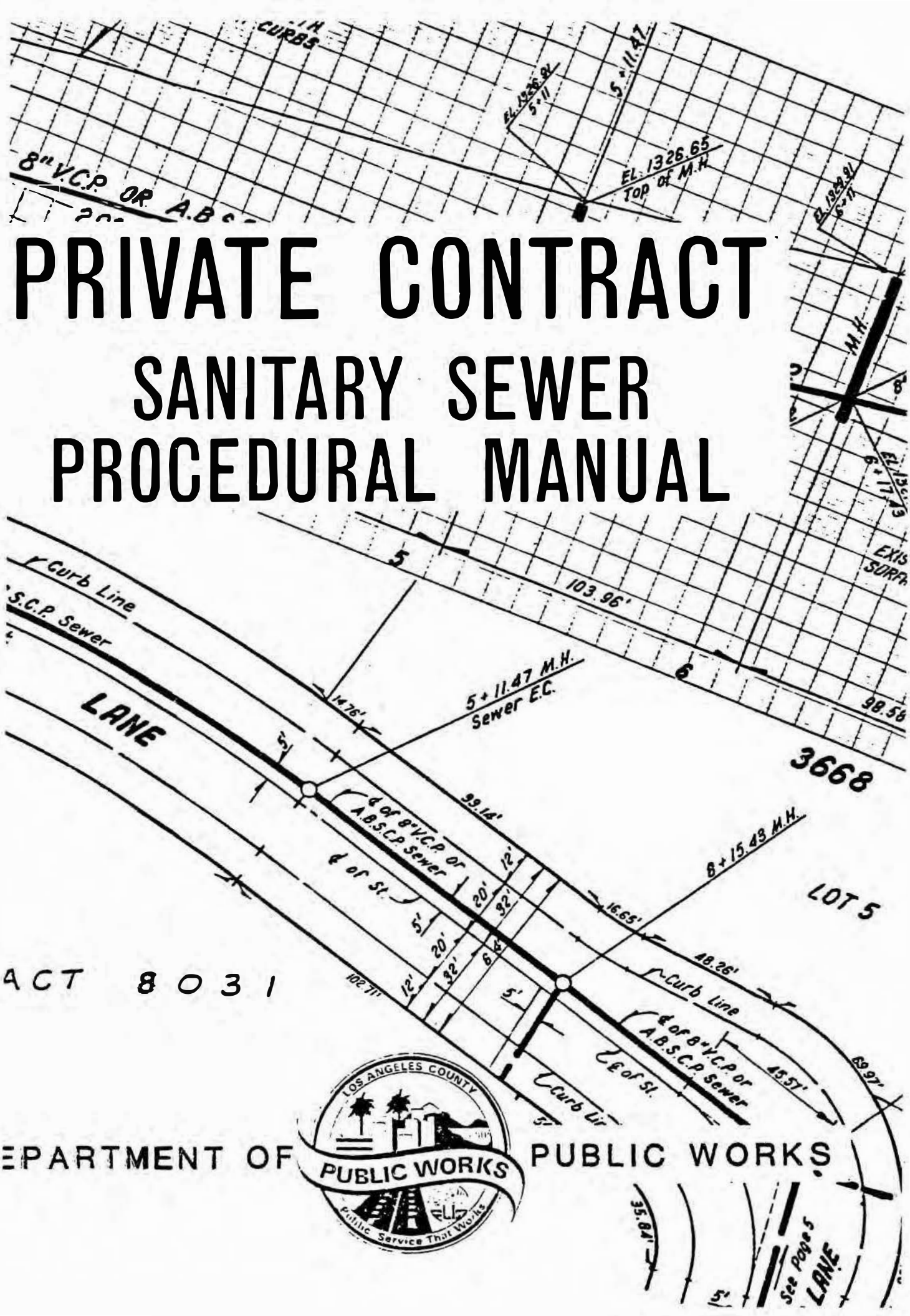
4. When an area study for a development that proposes to increase the density or change the zoning indicates that flow conditions are between 151 to 200 percent of capacity, flow measurements shall be required. If the flow test indicates that the actual flow condition is below 151 percent, no mitigation will be required. If the flow test results indicate the actual flow is above 151 percent, the case shall be referred to the SAC to evaluate options and make recommendations to Administration for approval. These options may include, but are not limited to: requiring full mitigation from the development, assessing pro-rata shares, creation of a reimbursement district, or establishing a County Improvement (CI) district.

AHN:ca
P:\LDPUB\SUBPCHECK\SEWER\MISCELLANEOUS\SEWER INFRASTRUCTURE MANAGEMENT

cc: Administration (Kelly)
Building and Safety (Patel)
Design (Kumar)
Land Development (D'Antonio, Burger, Ruiz, Chong, Witler, Narag)
Programs Development (Afshari)
Waterworks and Sewer Maintenance (Del Real, Lehto)

APPENDIX C

LADPW Private Contract Sanitary Sewer Manual Excerpt



PRIVATE CONTRACT

SANITARY SEWER PROCEDURAL MANUAL

STANDARD PROCEDURES for PROCESSING PRIVATE CONTRACT SANITARY SEWER PLANS

DEPARTMENT OF PUBLIC WORKS

THOMAS A TIDEMANSON
DIRECTOR OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

CARL L. BLUM
Division Engineer
738-2151

BRIAN D. HOOPER
Assistant Division Engineer
738-4051

JOHN SQUIER
Supervising Civil Engineer III
738-4109

REVISED
DECEMBER 1987

PART II

DESIGN REQUIREMENTS

A. PLAN AND PROFILE

1. Sample Plan and Profile

A sample plan and profile is enclosed with this Manual. Current procedures and instructional notes have been shown and referral to these plans will answer many questions.

2. Standard Sheet Size

Standardized tracing cloth sheets (32 inches long) with preprinted title pages are available from local blueprint agencies. The use of these sheets will greatly expedite plan and profile preparation. Upon complete approval of the plans, these sheets become the property of the County of Los Angeles.

3. Depth of Main Line Sewer

The minimum depth of a residential sewer is that depth necessary to obtain a house lateral depth of 6 feet below curb elevation at property line. The depth is 7.5 feet if the grade of curb is accurately known and 8.0 feet if curb grades are accurate to ±6 inches. However, in some cases, if the existing outlet sewers are too shallow to obtain such a depth, a shallower depth may be approved. The County may require greater depths when it is necessary to extend the main line sewers to serve other areas.

4. House Lateral Sewers

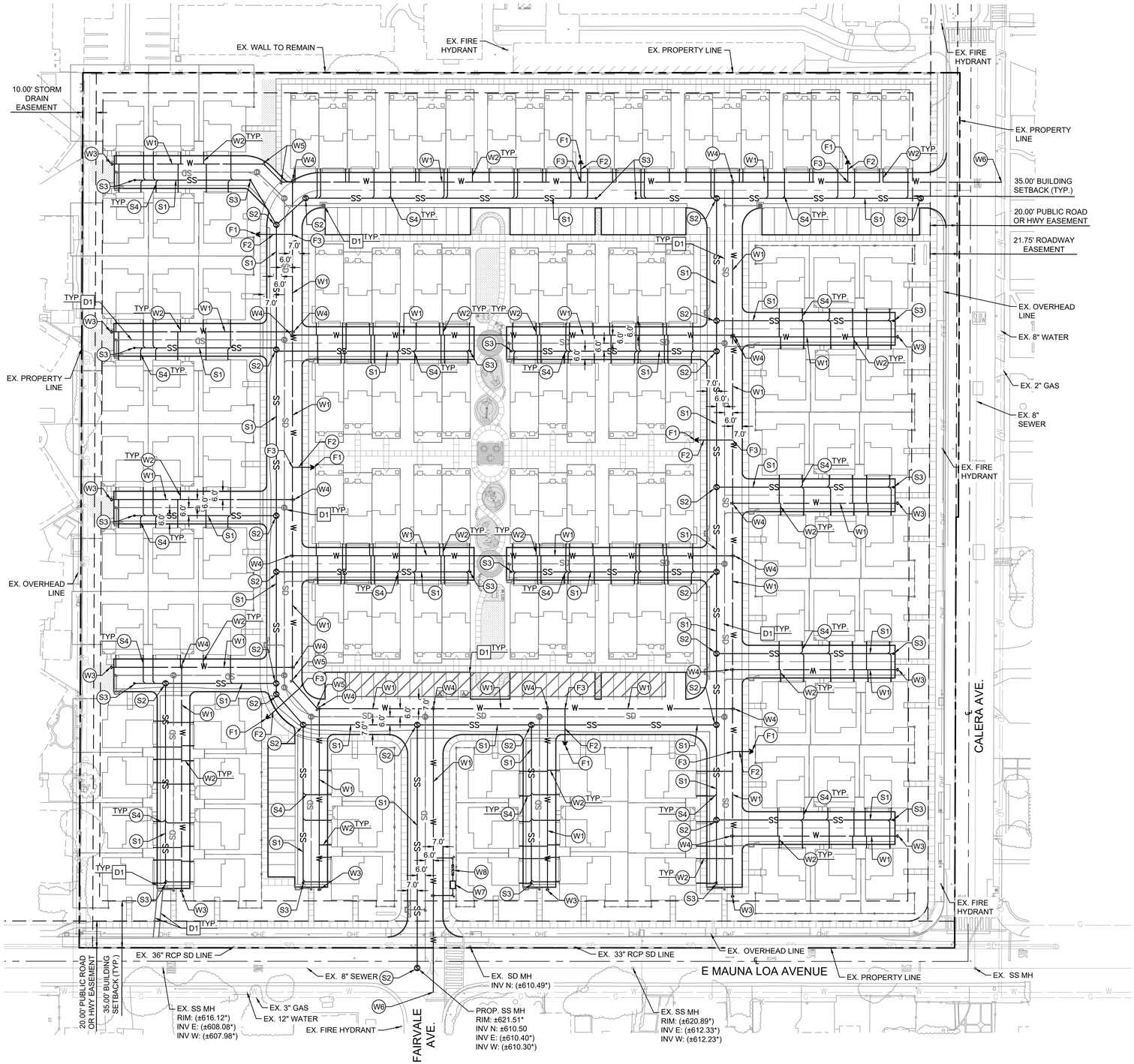
A 4-inch or 6-inch internal diameter house lateral sewer shall be provided in the street from the main line sewer to the property line for each lot as specified in Section 20.32.510 of Los Angeles County Code-Title 20.

5. Depth of House Laterals

a. The minimum depth at the property line for house laterals shall be 6 feet below the curb grade or street center line as specified in Section 20.32.520 of Los Angeles County Code-Title 20.

APPENDIX D

Project Utility Plan



LEGEND

- PROPERTY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- PROPOSED SANITARY SEWER PIPE
- PROPOSED STORM DRAIN PIPE
- PROPOSED WATER PIPE
- EXISTING SANITARY SEWER PIPE
- EXISTING STORM DRAIN PIPE (> 12"Ø)
- EXISTING GAS LINE
- EXISTING WATER PIPE
- EXISTING OVERHEAD LINE

EXISTING UTILITY NOTE

1. THE EXISTING UTILITIES SHOWN ON THE PLAN ARE BASED ON AVAILABLE RECORDS. THE CONTRACTOR MUST FIELD DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. REPORT DISCREPANCIES AND POTENTIAL CONFLICTS WITH PROPOSED UTILITIES TO ENGINEER PRIOR TO INSTALLATION OF ANY PIPING.
2. EXISTING UTILITIES ARE APPROXIMATE AND SCALED BASED ON THE FOLLOWING RECORD DRAWING(S):
   - 2.1. LOS ANGELES COUNTY FLOOD CONTROL DISTRICT - COUNTY PROJECT NO.1219 UNIT I, LINE D PLAN AND PROFILE.
   - 2.2. LOS ANGELES COUNTY PUBLIC WORKS PROFILE, ALIGNMENT, AND GRADE OF SANITARY SEWERS TO BE CONSTRUCTED IN TRACT NO. 20498 - PRIVATE CONTRACT NO.3229

*INVERT ELEVATIONS ARE BASED ON RECORD PLAN PC NO. 3229 DATED OCTOBER 1954 AND ADJUSTED TO SURVEY DATUM BY VERTEX SURVEY, INC. DATED DECEMBER 18, 2024. EXISTING INVERTS SHOULD BE VERIFIED IN THE FIELD.

DOMESTIC WATER

- (W1) INSTALL WATER MAIN.
- (W2) INSTALL WATER LATERAL HOUSE CONNECTION.
- (W3) INSTALL WATER BLOW-OFF VALVE.
- (W4) INSTALL 90° BEND AND THRUST BLOCK.
- (W5) INSTALL 45° BEND AND THRUST BLOCK.
- (W6) CONNECT TO EXISTING WATER MAIN.
- (W7) INSTALL WATER METER.
- (W8) INSTALL WATER BACKFLOW.

FIRE WATER

- (F1) INSTALL FIRE HYDRANT ASSEMBLY.
- (F2) INSTALL FIRE WATER LINE.
- (F3) CONNECT TO PROPOSED WATER MAIN.

SEWER

- (S1) INSTALL 8" VCP SEWER MAIN. SLOPE 1.0%
- (S2) INSTALL SEWER MANHOLE.
- (S3) INSTALL SEWER CLEANOUT.
- (S4) INSTALL SEWER LATERAL HOUSE CONNECTION.
- (S5) CONNECT TO EXISTING SEWER MAIN.

STORM DRAIN

- [D1] PROPOSED STORM DRAIN PIPING AND APPURTENANCES. REFER TO DRAINAGE PLAN FOR DESIGN INFORMATION.

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

Plotted By:Crump, Brenna Sheet Set:Taylor Morrison – Delaney Square Layout:UTILITY PLAN June 17, 2025 06:28:13pm K:\SCI_LOE\194439012-azusa mouna loa\CAD\plansheets\C7.0 UTILITY PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
25152 SPRINGFIELD COURT, SUITE 200, SANTA CLARITA, CA 91355
PHONE: 213-261-4040
WWW.KIMLEY-HORN.COM

KHA PROJECT	194439012
DATE	6/17/2025
SCALE	AS SHOWN
DESIGNED BY	BC
DRAWN BY	CB
CHECKED BY	CY

DELANEY SQUARE
PREPARED FOR
TAYLOR MORRISON
CITY OF AZUSA CALIFORNIA

PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PRELIMINARY UTILITY PLAN

SHEET NUMBER
C3.0

APPENDIX E

Sewer Monitoring Report

Flow Monitoring Standard Statistics Report

Prepared for:
Kimley-Horn

Utility Systems Science and Software, Inc.
601 N. Parkcenter Dr. Suite 209
Santa Ana, CA 92705
Phone 714-542-1004 Fax: 714-542-1332

Methods & Procedures & Equipment

Methods and Procedures

Utility Systems Science & Software provided Kimley-Horn with an off the shelf, non-proprietary flow monitoring solution that included one state of the art Hach Flo-Dar® AV Sensor system. The project course of action is listed below. The US^3 team:

- Assessed permitting and traffic control at the site on Mauna Loa Ave in Azusa, CA.
- Prepared the traffic control plan and assessed the City Encroachment Permit.
- Installed and removed traffic control in accord with approved traffic control plans per California Temporary Traffic Control Handbook (CATTCH) requirements for the installation, calibration and removal of equipment.
- Validated the site for suitability for sewer flow monitoring for the 1035 E Mauna Loa Ave Project.
    - **Site 1: Mauna Loa Ave MH 115** had no laterals with moderate to rapid open channel hydraulics. Reading was monitored at the downstream line as it provided the best hydraulics during inspection.
- Installed and calibrated the flow monitoring equipment at the site per manufacturer recommendations on 06/19/2025.
    - Follow-up on the installation confirmed equipment was reading properly.
    - Collected 15-minute interval depth and velocity data points over the entire monitoring period.
- Removed the equipment on 06/27/2025 and validated the data.
    - All of the equipment went through diagnostic testing before and after the study with less than a 1% deviation between manual and meter level readings and less than a 5% deviation between manual and meter velocity readings.
    - Equipment calibration was verified in accordance with manufacturer specifications.
- Prepared the data reports.
    - The table below contains a summary of the average (Avg) and maximum (Max) velocities (Vel) and levels (Lev) collected during this study as well as the calculated flow rates (Flow).

Site	Pipe Size (in)	Avg Vel (fps)	Max Vel (fps)	Avg Lev (in)	Max Lev (in)	Avg Flow (gpm)	Max Flow (gpm)
1	8	3.94	4.72	2.06	2.69	129.45	217.34

Site Report

June 19, 2025

Customer Name: Kimley-Horn Site Address:~18602 E Mauna Loa Ave Azusa CA 91702 Site Name: Mauna Loa Ave MH 115

Access:
MH north of address, located on Mauna Loa Ave

System Type			
Sanitary	Storm	Combined	Other
X			

Install Date:
June 19, 2025
Install Time:
08:54



Map



Traffic Safety

Gas			
O2	H2S	CO	LEL
20.9%	0ppm	0ppm	0%

Device Statistics	
Meter Depth (in): 82.82"	
MH Coordinates: 34.125099, -117.887853	
Device SN: n/a	
Avg Measured Level (in)	2.10"
Multiplier	1.00

Notes
Mauna Loa Ave MH 115

Traffic Safety

Land Use			
Residential	Commercial	Industrial	Trunk
X			

Field Conditions	Sunshine
Manhole Depth (in)	99.00"
Monitored Pipe Size (in)	8"
Inner Pipe Size (in) (In/Out)	8"/8"
Pipe Shape	Round
Pipe Condition	Unknown
Manhole Material	Brick
Sensor Offset (in)	16.18"
Sensor Dist. to Crown (in)	8.18"
Flow Direction	West
Sensor Direction	Downstream

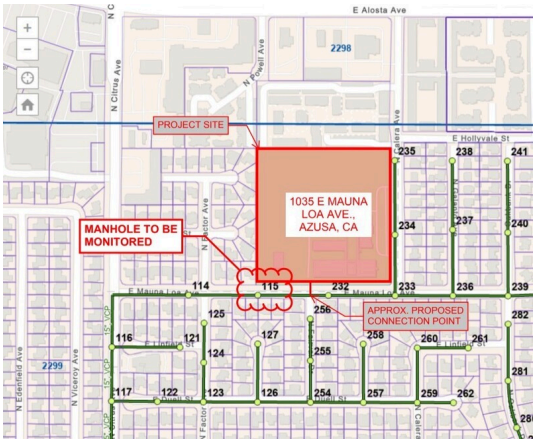
Customer Name: Kimley-Horn Site Address:~18602 E Mauna Loa Ave Azusa CA 91702 Site Name: Mauna Loa Ave MH 115



Site



Before Install



Sewer Map



Installed



Downstream



Downstream Pipe Size

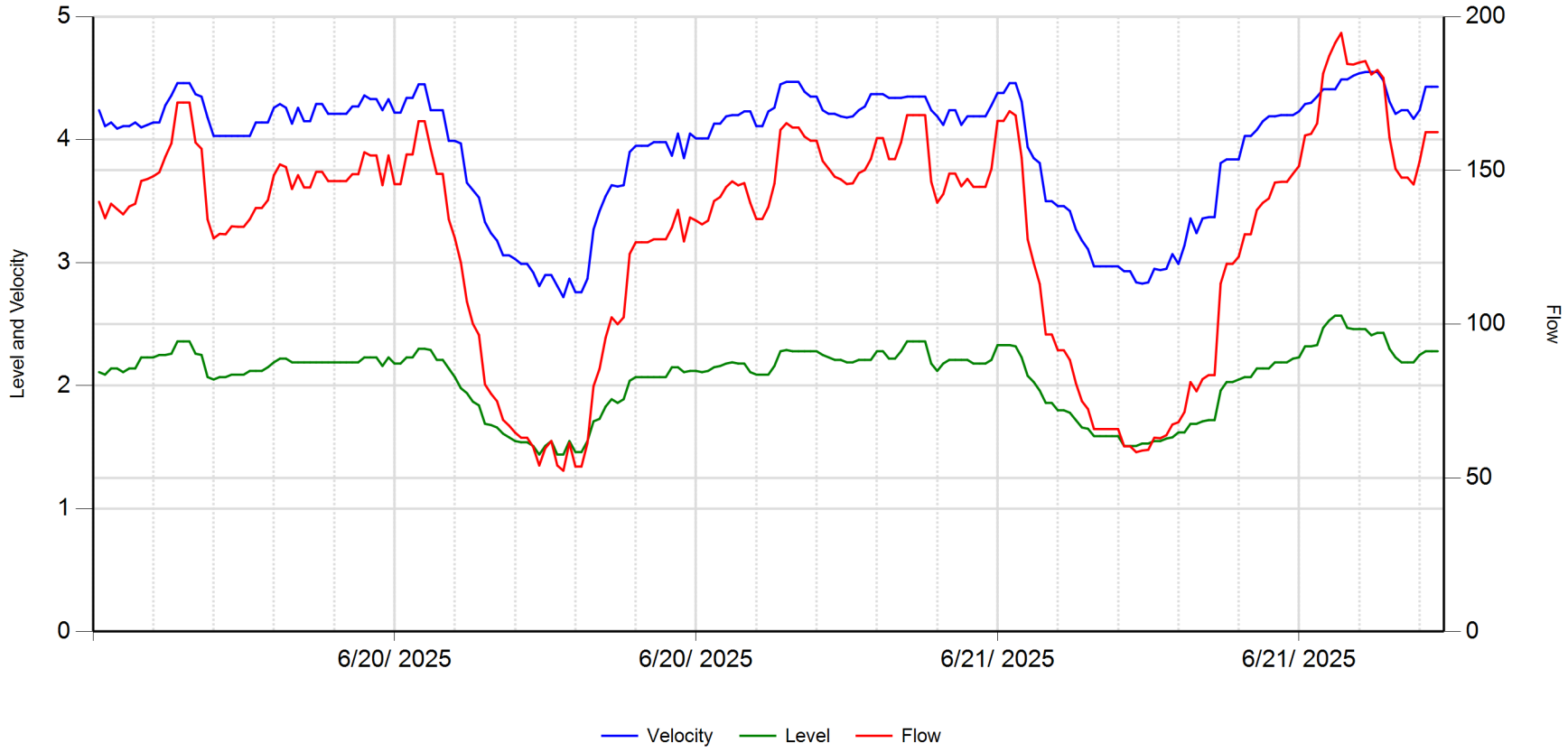
Utility Systems Science and Software

Report Date: 07/10/2025
Customer: Kimley-Horn
Group: 1035 E Mauna Loa Ave
Site: 2025.06 Mauna Loa Ave MH 115

Statistics for 2025.06 Mauna Loa Ave MH 115: 6/19/2025 thru 6/27/2025

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Total Gal**	**Rain**
6/19/25	144.11	172.09	127.92	0.21	0.25	0.18	4.18	4.46	4.03	2.17	2.36	2.05	207,512	
6/20/25	125.00	166.02	52.34	0.18	0.24	0.08	3.90	4.47	2.72	2.03	2.30	1.44	179,997	
6/21/25	130.04	194.73	58.38	0.19	0.28	0.08	3.92	4.55	2.83	2.07	2.57	1.51	187,256	
6/22/25	131.41	217.34	48.84	0.19	0.31	0.07	3.94	4.69	2.58	2.07	2.69	1.43	189,229	
Week:	**132.64**	**217.34**	**48.84**	**0.19**	**0.31**	**0.07**	**3.98**	**4.69**	**2.58**	**2.09**	**2.69**	**1.43**	**763,994**	
6/23/25	129.60	181.76	55.95	0.19	0.26	0.08	3.96	4.51	2.87	2.06	2.46	1.46	186,623	
6/24/25	126.93	182.05	51.15	0.18	0.26	0.07	3.91	4.53	2.70	2.04	2.43	1.43	182,778	
6/25/25	136.18	203.35	68.83	0.20	0.29	0.10	4.04	4.62	3.02	2.11	2.59	1.62	196,100	
6/26/25	129.58	198.77	56.03	0.19	0.29	0.08	3.94	4.72	2.73	2.07	2.51	1.51	186,595	
6/27/25	116.45	171.73	56.30	0.17	0.25	0.08	3.76	4.56	2.81	1.96	2.32	1.48	167,687	
Week:	**127.75**	**203.35**	**51.15**	**0.18**	**0.29**	**0.07**	**3.92**	**4.72**	**2.70**	**2.05**	**2.59**	**1.43**	**919,783**	
Totals:	**129.92**	**217.34**	**48.84**	**0.19**	**0.31**	**0.07**	**3.95**	**4.72**	**2.58**	**2.07**	**2.69**	**1.43**	**1,683,777**	

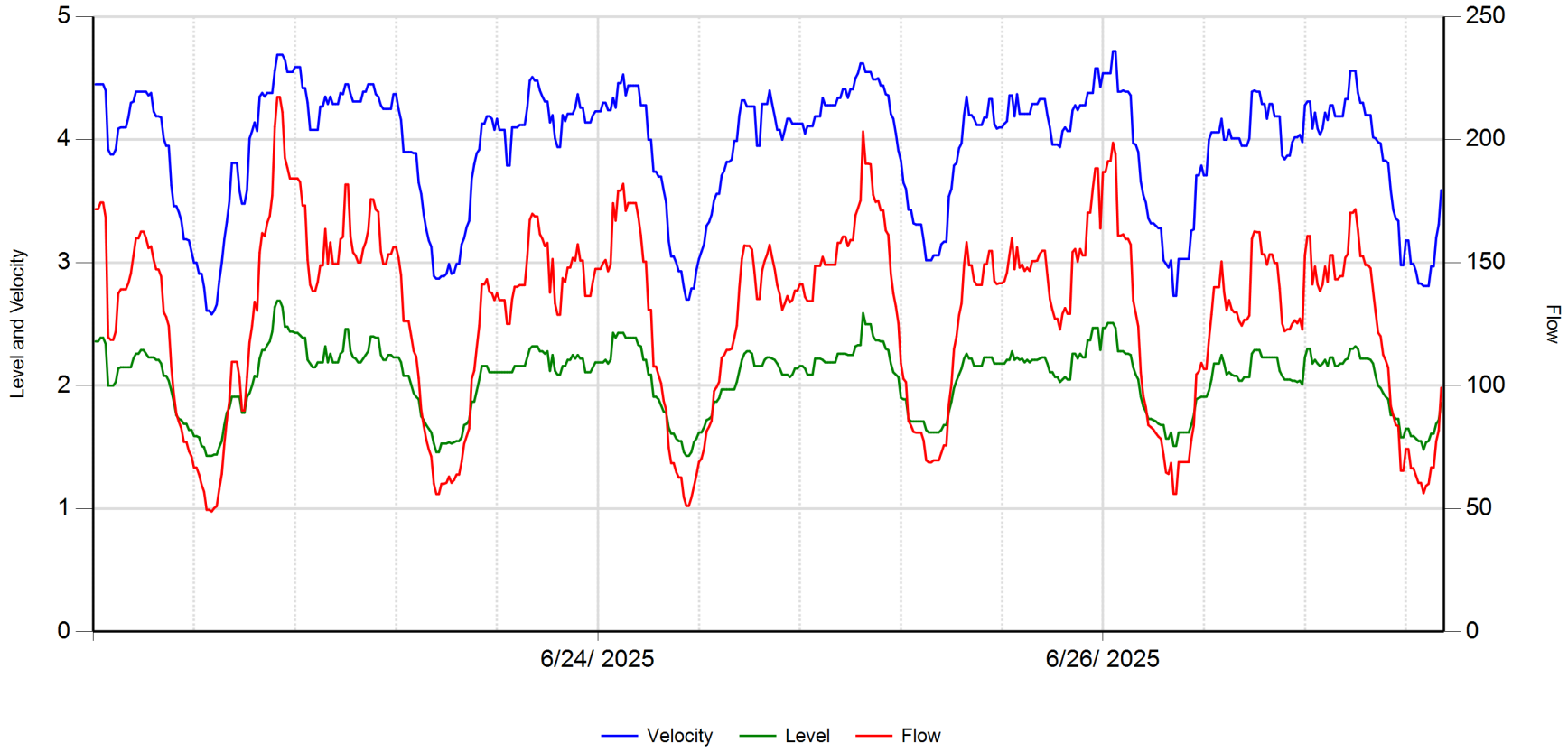
2025.06 Mauna Loa Ave MH 115



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	3.947	2.065	129.824	**RainFall**	Inches
Maximum	4.550	2.570	194.730		
Minimum	2.720	1.440	52.340		

7/10/2025

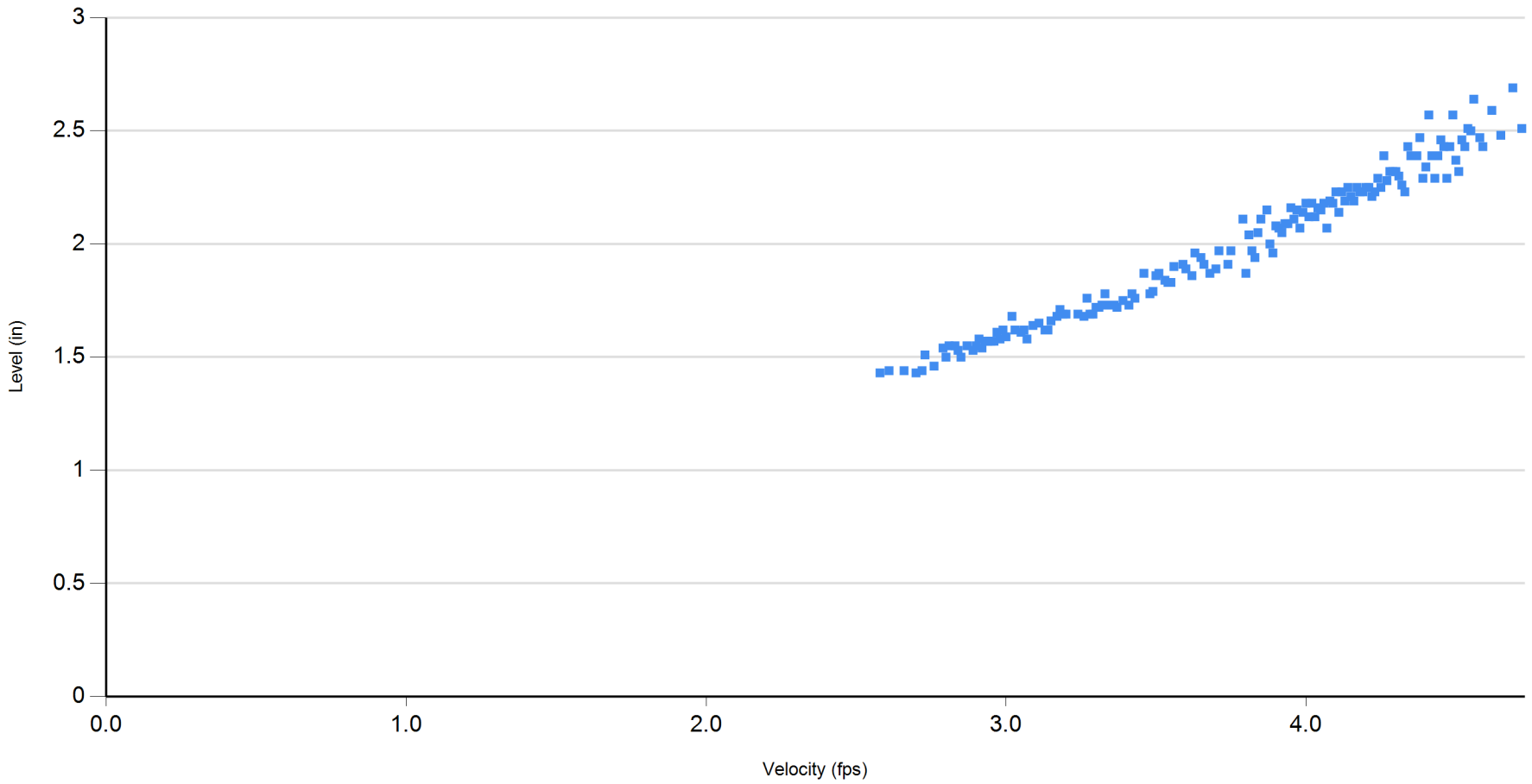
2025.06 Mauna Loa Ave MH 115



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	3.938	2.060	129.238	**RainFall**	Inches
Maximum	4.720	2.690	217.340		
Minimum	2.580	1.430	48.840		

7/10/2025

2025.06 Mauna Loa Ave MH 115



6/19/2025 thru 6/27/2025

7/10/2025 2:00:00 PM

Equipment

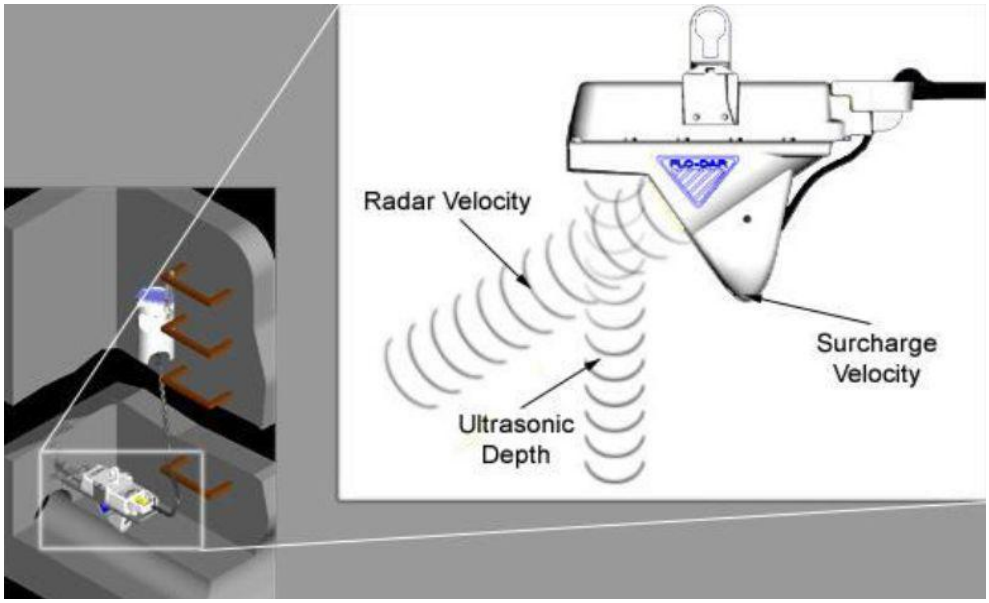


Figure above: Equipment installed for the Sewer Flow Monitoring Study



Figure above: Web-Enabled Flo-Dar® AV Sensor, Radar-Based Velocity/Area Flow Meter

FloDar® AV Sensor Specifications:

- **Enclosure**
  - IP68 Waterproof rating, Polystyrene
- **Dimensions**
  - 160.5 W x 432.2 L x 297 D mm (6.32 x 16.66 x 11.7 in.),
  - With SVS, D = 387 mm (15.2 in.)
- **Weight**
  - 4.8 kg (10.5 lbs.)
- **Operating Temperature**
  - -10 to 50°C (14 to 122°F)
- **Storage Temperature**
  - -40 to 60°C (-40 to 140°F)
- **Power Requirements**
  - Supplied by FL900 Flow Logger, Flo-Logger, or Flo-Station
- **Interconnecting Cable**
  - Disconnect available at both sensor and logger or Flo-Station
  - Polyurethane, 0.400 (±0.015) in. diameter; IP68
  - Standard length 9 m (30 ft), maximum 305 m (1000 ft)
- **Cables – available in two styles:**
  - connectors at both ends
  - connector from sensor with open leads to desiccant hub, desiccant hub with connector to logger. A potting/sealant kit will be included. This can be used to run the cable through conduit.
- **Certification**
  - Certified to: FCC Part 15.245: FCC ID: VIC-FLODAR24
  - Industry Canada Spec. RSS210. v7: IC No.: 6149A-FLODAR24

SURCHARGE DEPTH MEASUREMENT

  - Auto zero function maintains zero error below 0.5 cm (0.2 in.)
- **Method**
  - Piezo-resistive pressure transducer with stainless steel diaphragm
- **Range**
  - 3.5 m (138 in.), overpressure rating 2.5 x full scale

VELOCITY MEASUREMENT

- **Method**
  - Radar
- **Range**
  - 0.23 to 6.10 m/s (0.75 to 20 ft/s)

- **Frequency Range**
  - 24.075 to 24.175 GHz, 15.2 mW (max.)
- **Accuracy**
  - ±0.5%; ±0.03 m/s (±0.1 ft/s)

DEPTH MEASUREMENT

- **Method**
  - Ultrasonic
- **Standard Operating Range from Flo-Dar® Housing to Liquid**
  - 0 to 152.4 cm (0 to 60 in.)
- **Optional Extended Level Operating Range from Transducer Face to Liquid**
  - 0 to 6.1 m (0 to 20 ft.) with 43.18 cm (17 in.) dead band, temperature compensated.
- **Accuracy**
  - ±1%; ±0.25 cm (±0.1 in.)

FLOW MEASUREMENT

- **Method**
  - Based on Continuity Equation
- **Accuracy**
  - ±5% of reading typical where flow is in a channel with uniform flow conditions and is not surcharged, ±1% full scale max.

SURCHARGE CONDITIONS DEPTH/VELOCITY DEPTH (Std with Flo-Dar® Sensor)

- **Surcharge depth supplied by Flo-Dar® sensor.**

VELOCITY (Optional Surcharge Velocity Sensor)

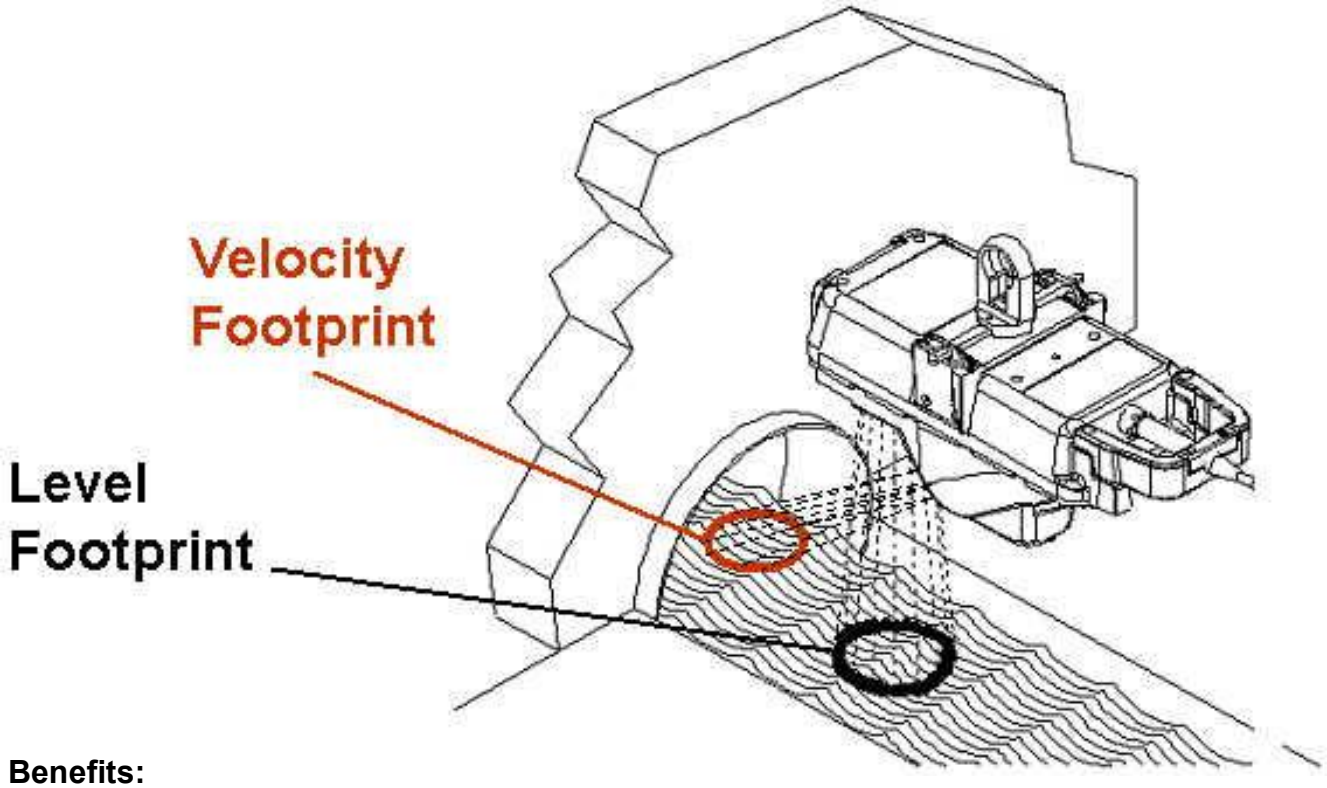
- **Method**
  - Electromagnetic
- **Range**
  - ±4.8 m/s (±16 ft/s)
- **Accuracy**
  - ±0.15 ft/s or 4% of reading, whichever is greater.
- **Zero Stability**
  - ±0.05 ft/s

The Flo-Dar® Open Channel Flow Meters provide an innovative approach to open channel flow monitoring. Combining digital Doppler radar velocity sensing with ultrasonic pulse echo level sensing Flo-Dar® provides accurate open channel flow monitoring without the fouling problems associated with submerged sensors.

Perfect Solution for Difficult Flow Conditions:

- Flows with High Solids Content
- High Temperature Flows
- Caustic Flows
- Large Man-Made Channel
- High Velocities
- Shallow Flows





Benefits:

1. Personnel have no contact with the flow during installation.
2. Maintenance caused by sensor fouling is eliminated.
3. Field Replaceable/Interchangeable Sensors and Monitors

How It Works

Flo-Dar® transmits a digital Doppler radar beam that interacts with the fluid and reflects back signals at a different frequency than that which was transmitted. These reflected signals are compared with the transmitted frequency. The resulting frequency shift provides an accurate measure of the velocity and the direction of the flow. Level is detected by ultrasonic pulse echo. Flow is then calculated based on the Continuity Equation:

Q = V x A, Where Q = Flow, V = Average Velocity and A = Area

Accurate Flow Measurements

Flo-Dar® provides the user with highly accurate flow measurements under a wide range of flows and site conditions. By measuring the velocity of the fluid from above, Flo-Dar® eliminates accuracy problems inherent with submerged sensors including sensor disturbances, high solids content and distribution of reflectors.

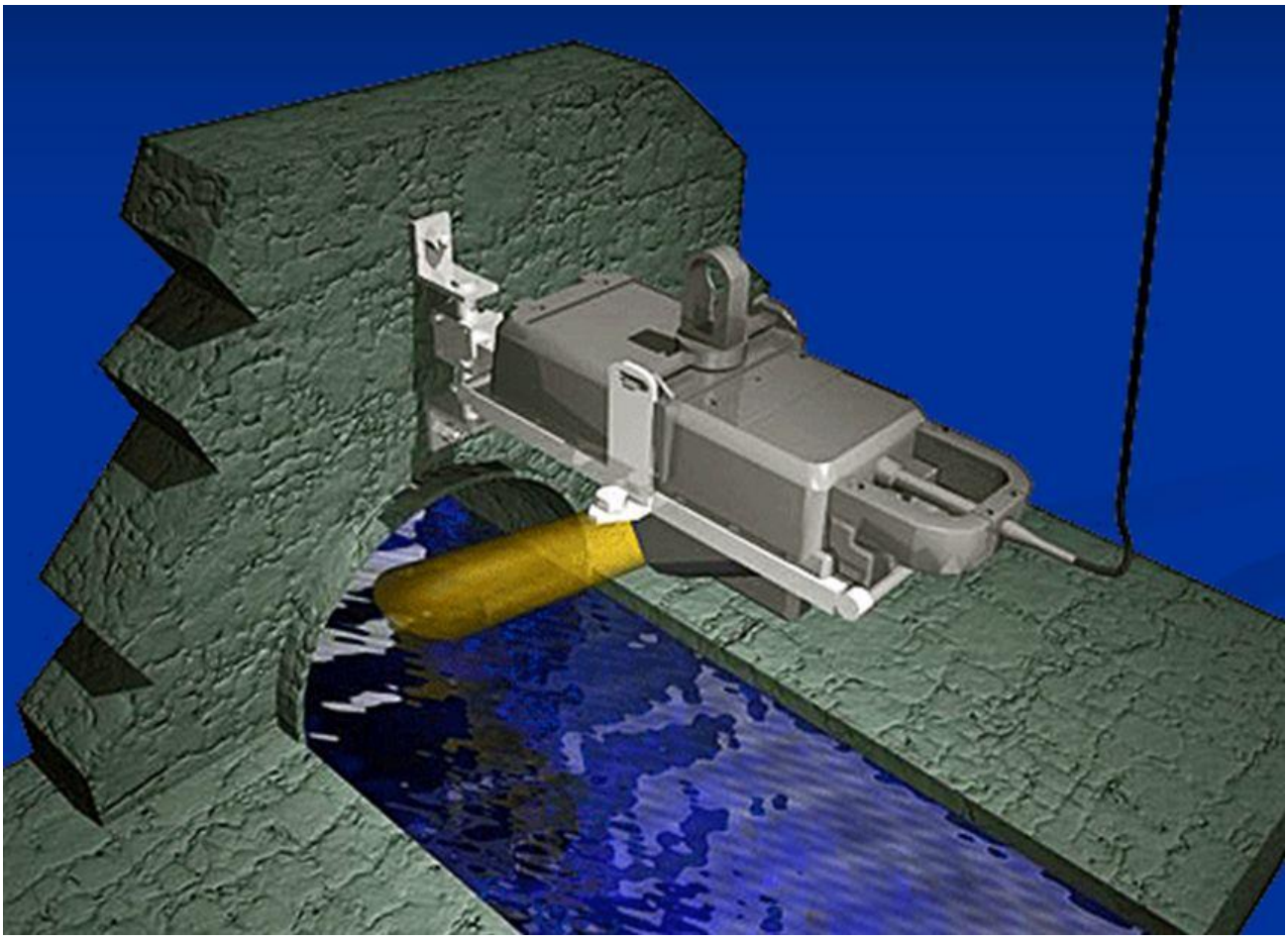


Figure above: US^3 utilizes exclusively Hach March-McBirney Flo-Dar® Meters

US³ Company Information

US³ is a California Corporation **Federal ID No. 33-0729605** and qualifies as a Minority Business Enterprise. US³ has certified as an MBE with the California Public Utility Commission's authorized clearinghouse, **Verification Number: 97ES0008.**

US³ is a specialty service company for the Water & Waste Water industry, providing monitoring and control for Utilities since 1996. US³ is in the forefront of this industry by taking the proven technological approaches developed in other high-tech industries and applying them to protect one of our most precious natural resources - our water.

US³ engineers and technical personnel have applied advanced instrumentation system technology to water/wastewater open channel flow monitoring, pipeline evaluation, engineering, and data analysis, all coupled to the power of the Internet. This unique integrated systems approach allows the company to bring greater insight and intelligence to gathering information about water/wastewater system performance of our clients, and in turn, to support the fulfillment of their commitments to manage and cost effectively design, operate, and maintain these systems.

Moreover, ***US³*** supports Municipalities, Consulting Engineering firms and other water/waste water systems integrators by providing temporary technical services for engineering, software programming and technical site maintenance and calibration site support work, primarily in the Water and Waste Water industries.



Figure at right: All US³ technicians are certified for Confined Space Entry.

Key Personnel Assigned

US³ provided the necessary resources to fully implement this project. Primary in support of this effort were the following personnel:

Mr. Mark Serres: Mr. Serres is a degreed electrical engineer with over 30 years of experience with fresh/wastewater systems, project management, and systems integration in relation to complex industrial systems. This includes experience in industrial automation and water/wastewater industries. Mr. Serres is responsible for assuring client satisfaction and marshalling the required resources to meet the project requirements.

Mr. Thomas Williams: Mr. Williams is an Engineering Manager with over 25 years of experience in complex systems development for wastewater monitoring. This experience includes hydraulic compatibility, instrumentation, communications and analysis. Mr. Williams is responsible for assuring that the required equipment is designed and calibrated to meet the project requirements.

Darlene Szczublewski, PE: Mrs. Szczublewski is a licensed Civil Engineer in multiple states. She has over 20 years of engineering experience with stormwater/wastewater related projects. She assisted in the completion of several Sanitary Sewer Evaluation Surveys and Capacity Analysis projects to meet Consent Decrees as well as completing numerous Infiltration and Inflow (I&I) studies for other clients. Mrs. Szczublewski has developed numerous flow data analysis techniques to present a clear informative picture of flow in a monitored system. Her work also includes the development of training programs for clients describing I&I and capacity analysis methodologies. Mrs. Szczublewski is responsible for analyzing the data as well as the data collection process and assuring that the reports meet the project requirements.

Name, title, address and telephone number of persons to contact regarding this US³ project.

Darlene Szczublewski, PE
Senior Civil Engineer
darlene.szczublewski@uscubed.com

1300 Hill Street
El Cajon, CA 92020
619-546-4281 (work)
619-246-5304 (cell)

Tom Williams
Engineering Manager
tom.williams@uscubed.com

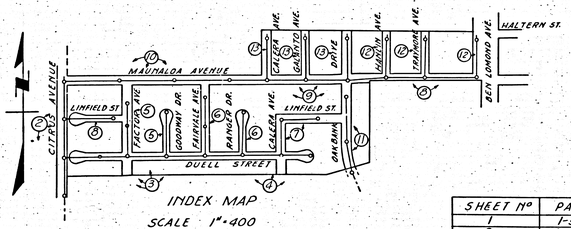
1300 Hill Street
El Cajon, CA 92020
619-546-4281 (work)
619-398-7799 (cell)

APPENDIX F

Sewer As-Builts

SAN DIMAS Bldg. Dist. No. 10

BENCH MARK:
SG 1180 L&T 22± North of Northeast curb return at Citrus Ave. and Baseline Rd. Elev. 600.67



INDEX MAP
SCALE 1"=400
TRACT Nº 20498
P.C.3229 J.N. 1010.11

SHEET Nº	PAGES
1	1-5
2	6-10
3	11-13

COLLECT CHARGES AS INDICATED
R.P. Fabro 11-24-54

Locked 1-5-55 McLaren

NOTE:
Provide stakes on the property lines or property lines produced at right angles to the sewer line at the center line of each manhole.
No representative of the County Engineer will survey or layout any portion of the work. The owner or his authorized representative shall furnish the County Engineer with grade sheets and stations for all house laterals and Y branches and shall provide stakes for them at their proper locations with stationing plainly marked. Any change in location shall be requested in writing by the owner or his representative.
No revisions shall be made in these plans without the approval of the County Engineer.

1. Use standard manhole frames and covers, S-a-117.
2. Use standard strength pipe except as noted.
3. Use cement mortar for all vitrified clay pipe joints.
4. Resurface all trench within paved area to meet L.A. County Road Dept. or Calif. State Highway Dept. requirements in accordance with permit.
5. Encase four feet of sewer at points of interference with poles, S-a-119.
6. House laterals to be constructed with inverts at property line.....6.....feet below curb grade except as noted.
7. All structures shall be brick sewer structures, S-a-104.
8. For allowable leakage test, use Formula No...../...., Spec's., Sec. 51.

PROFILE, ALIGNMENT AND GRADE OF
SANITARY SEWERS
TO BE CONSTRUCTED IN
TRACT Nº 20498

P. C. 3229
J. N. 1100.02
PAGE 1

PRIVATE CONTRACT NO. 3229
W. S. 47

3 SHEETS

Scale: VERT. 1"=5' HORIZ. 1"=40' OCT. 1954

PREPARED IN THE OFFICES OF
KARL TUTTLE ENGINEERING CO.
By Rudell Tuttle R.C.E. Reg. C. E. No. 7668

FOR LEGEND SEE PLAN NO. S-a-64

NOTE:
Grades to which this improvement is to be constructed are shown on plans and profiles. Grade points for top of curbs, center line of streets, or center line of alleys are shown by circles on profiles. At all points between designated points the grade shall be established so as to conform to a straight line drawn between said designated points.
Elevations are in feet above U.S.G.S. datum or mean sea level.
This drawing and the data hereon are hereby made a part of the specifications.
Work shall be constructed according to specifications on file in the office of the County Engineer and shall be prosecuted only in the presence of the County Engineer.
Before work can be started, the contractor must obtain a permit to excavate in County streets from the L.A. County Road Dept., 108 W. 2nd St., and make a deposit with the County Engineer, 733 L.A. County Engineering Building, sufficient to cover the cost of construction inspection and record plans.
Approval of this plan by the County of Los Angeles does not constitute a representation as to the accuracy of the location of or the existence or non-existence of any underground utility, pipe, or structure within the limits of this project. This note applies to all sheets.
If work is to be done in a State Highway, a permit must be obtained from the State of California, Division of Highways, 120 South Spring Street.

COUNTY OF LOS ANGELES, CALIFORNIA

Approved, William J. Fox, County Engineer
By A. P. Collins
Sanitation Engineer
Checked By R. P. Fabro 11-24-54
Office of County Engineer, Reg. C. E. No. 7860

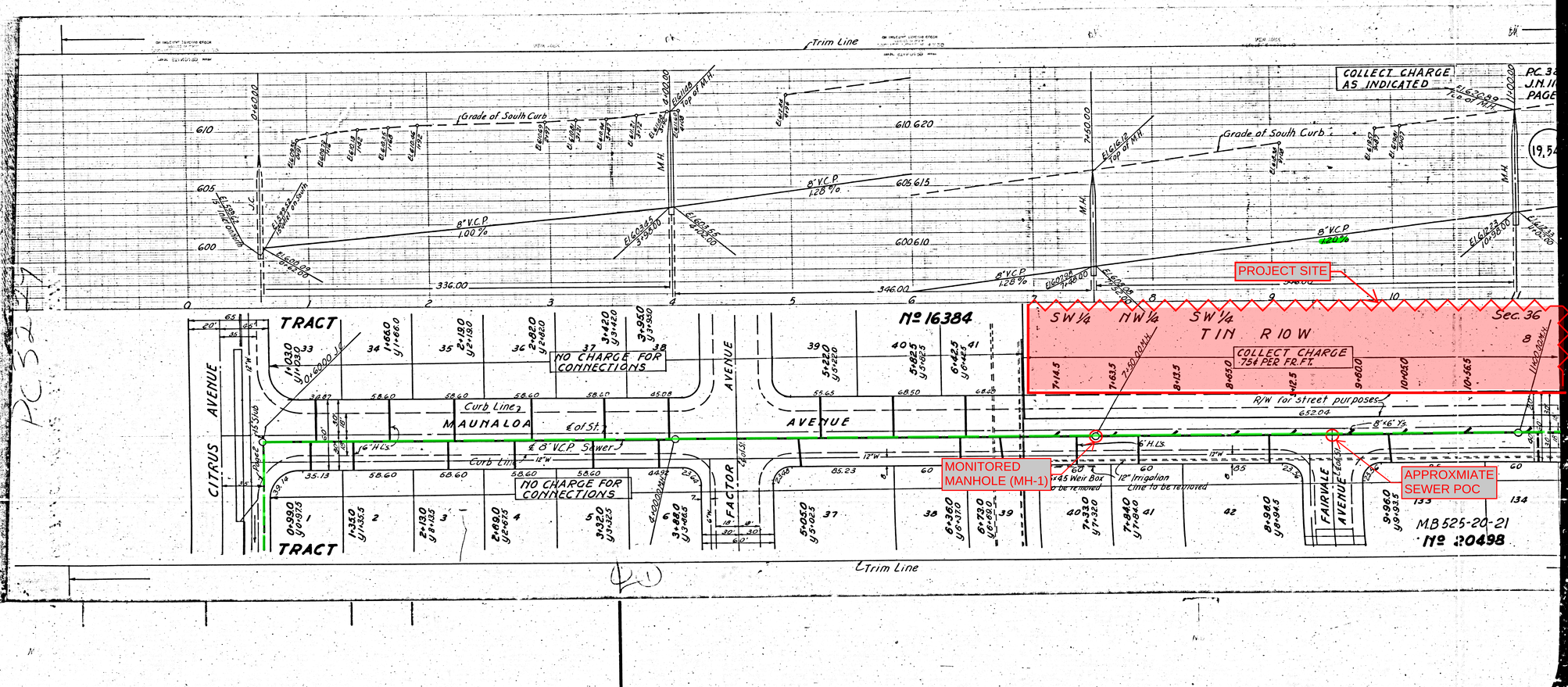
Approved, A. M. Rawn
CHIEF ENGR. CO. SAN. DIST. NO. 22
By G. Bothmer
Office Engineer

19,536

(13)

P.C. 3229
N. 1100.02
S.D. C.S.S.S.
TRACT Nº 20498
(1)
R8

L Trim Line
L Page Trim Line


Trim Line
Grade of South Curb
8" V.C.P 1.00%
8" V.C.P 1.28%
8" V.C.P 1.20%
COLLECT CHARGE AS INDICATED
PROJECT SITE
SW¼ NW¼ SW¼ T 1N R 10 W Sec. 36
COLLECT CHARGE .754 PER FR.FT.
R/W for Street purposes
652.04
MONITORED MANHOLE (MH-1)
APPROXMIATE SEWER POC
NO CHARGE FOR CONNECTIONS
CITRUS AVENUE
MAUNALOA
FACTOR AVENUE
FAIRVALE AVENUE
TRACT
Nº 16384
MB 525-20-21
Nº 20498
Trim Line

Trim Line

COLLECT CHARGES AS INDICATED

PG. 3729
J.N. 110.02
PAGE 13

COLLECT CHARGES AS INDICATED

19548

Grade of East Curb

Grade of West Curb

TRACT

№ 20498
MB 525-20-21

NO CHARGE FOR CONNECTIONS

CALERA AVENUE

GALANTO AVENUE

OAKBANK AVENUE

MAUNALOA AVENUE

Curb Line

8"V.C.P. Sewer

6"H.L.S.

Azusa Valley Water Co.

COLLECT CHARGE 75¢ PER FR. FT.

NE¼ SE¼ SW¼ Sec 36 TIN R10W

PROJECT SITE

PG 3729

L Page Trim Line

Trim Line

APPENDIX G

Sewer Flow and Depth Calculations

PROPOSED FLOW - Azusa Delaney Square

DESCRIPTION	PROPOSED BUILDING	AREA (SF)	NUMBER	Unit of Measure	GPD/Unit*	TOTAL FLOW (GPD)
2 BEDROOM DWELLING UNIT	2 Bedroom Townhome	-	17	1	250	4250
3 BEDROOM OR MORE DWELLING UNITS	3 Bedroom Town home	-	46	1	300	13800
3 BEDROOM OR MORE DWELLING UNITS	3 Bedroom Single-Family Cluster	-	48	1	300	14400
3 BEDROOM OR MORE DWELLING UNITS	4 Bedroom Single-Family Cluster	-	17	1	300	5100

TOTAL GPD=	37550
TOTAL CFS =	0.058
TOTAL PEAK CFS=	0.15
TOTAL PEAK GPD=	93875

*GPD TAKEN FROM LA COUNTY ESTIMATED AVERAGE DAILY SEWAGE FLOWS FOR VARIOUS OCCUPANIES

PEAK FACTOR = 2.5

Delaney Square Proposed Depth

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	0.010	ft/ft
Diameter	8.0	in
Discharge	0.15	cfs

Results		
Normal Depth	1.8	in
Flow Area	0.1	ft²
Wetted Perimeter	0.6	ft
Hydraulic Radius	1.0	in
Top Width	0.55	ft
Critical Depth	2.1	in
Percent Full	21.9	%
Critical Slope	0.005	ft/ft
Velocity	2.65	ft/s
Velocity Head	0.11	ft
Specific Energy	0.26	ft
Froude Number	1.462	
Maximum Discharge	1.54	cfs
Discharge Full	1.43	cfs
Slope Full	0.000	ft/ft
Flow Type	Supercritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description	N/A	
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	21.9	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.8	in
Critical Depth	2.1	in
Channel Slope	0.010	ft/ft
Critical Slope	0.005	ft/ft

Azusa Delaney Square Combined Depth

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.011	
Channel Slope	0.012	ft/ft
Diameter	8.0	in
Discharge	0.63	cfs

Results

Normal Depth	3.5	in
Flow Area	0.1	ft²
Wetted Perimeter	1.0	ft
Hydraulic Radius	1.8	in
Top Width	0.66	ft
Critical Depth	4.5	in
Percent Full	44.1	%
Critical Slope	0.005	ft/ft
Velocity	4.24	ft/s
Velocity Head	0.28	ft
Specific Energy	0.57	ft
Froude Number	1.579	
Maximum Discharge	1.68	cfs
Discharge Full	1.56	cfs
Slope Full	0.002	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.0	in
Profile Description	N/A	
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	44.1	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.5	in
Critical Depth	4.5	in
Channel Slope	0.012	ft/ft
Critical Slope	0.005	ft/ft

Appendix M-2

Proposed Flow – Azusa Delaney Square

Proposed Development						
Unit Type	Size/Use	Area (SF)	Number	Unit of Measure	Generation Factor (cfs/Unit)*	Estimated Flow (CFS)
PROPOSED DEVELOPMENT	RESIDENTIAL UNITS	-	128	Dwellings	0.001	0.128

*CFS TAKEN FROM LA COUNTY PUBLIC WORKS DEPARTMENT COORDIANTION BELOW

EXISTING FLOW - Azusa Delaney Square

DESCRIPTION	Zoning	AREA (SF)	NUMBER	Unit of Measure	GPD/Unit**	TOTAL FLOW (GPD)
ELEMENTARY OR JR. HIGH	Institutional/School	-	287	Student	10	2870

TOTAL GPD=	2870
TOTAL CFS =	0.004
TOTAL PEAK CFS=	0.011
TOTAL PEAK GPD=	7175

**GPD TAKEN FROM LA COUNTY ESTIMATED AVERAGE DAILY SEWAGE FLOWS FOR VARIOUS OCCUPANIES

PEAK FACTOR = 2.5

Water generation (gpd)	Water generation based on 30 day month June (gal)
82729	2481857

Sewer Summary Table	
Proposed Use - Residential Peak Genertation (cfs)	0.128
Existing Use - Elementary School Peak Generation (cfs)	0.011
Difference (increased generation)	0.117

Water Summary Table	
Proposed Use - Residential Peak Genertation (gal)	2481857
Existing Use - Elementary School Generation (gal)	215250
Difference (increased generation)	2266607

Appendix M-3

Delaney Square Project Will-Serve Letters

October 14, 2025

To whom it may concern:

Re: Delaney Square

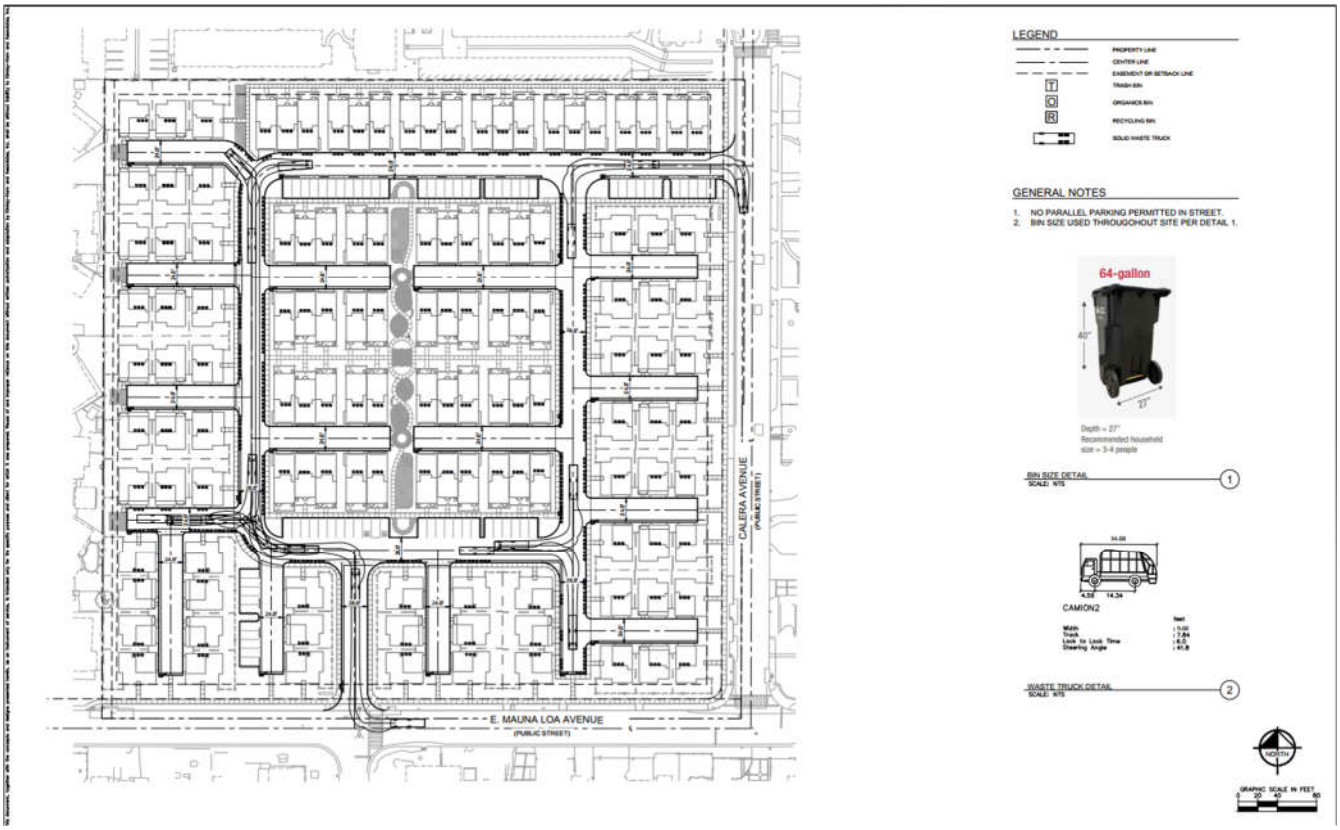
Thank you for contacting Athens Services regarding above referenced project. As background, Athens Services is a family-owned waste collection and recycling company proudly serving the City of Pomona.

Please let this letter serve as an official notice that Athens Services intends to serve as the waste hauler and will provide trash, recycle and organic services to address listed above.

If you have any questions or need further information, please contact us at 888-336-6100.

Sincerely,

Daniel Martinez
Athens Services
Municipal Account Manager


CALERA AVENUE
(PUBLIC STREET)
E. MAUNA LOA AVENUE
(PUBLIC STREET)
LEGEND
PROPERTY LINE
CENTER LINE
EASEMENT OR SETBACK LINE
TRASH BIN
ORGANICS BIN
RECYCLING BIN
SOLID WASTE TRUCK
GENERAL NOTES
1. NO PARALLEL PARKING PERMITTED IN STREET.
2. BIN SIZE USED THROUGOHOUT SITE PER DETAIL 1.
64-gallon
40"
27"
Depth = 27"
Recommended household size = 3-4 people
BIN SIZE DETAIL
SCALE: NTS
1
CAMION2
WASTE TRUCK DETAIL
SCALE: NTS
2
NORTH
GRAPHIC SCALE IN FEET
0 20 40 80

City of Azusa

AZUSA LIGHT & WATER

5/5/2025

Brenna Crump
25152 Springfield Court
Santa Clarita, CA 91355

Attention: Brenna Crump

Subject: 1035 E Mauna Loa Ave, Azusa, CA 91702
8628-004-900 – Proposed 153 New Dwelling Units

This is to advise you that the above-referenced project site is situated within the service boundaries of Azusa Light & Water (ALW). ALW is the incumbent water purveyor for this project site. The water produced by Azusa Light & Water currently meets all State and Federal Standards relating to domestic water quality.

Following a review of the information you submitted regarding your project water requirements, we have determined that your proposed project can be served by ALW with adequate water supply for normally anticipated domestic demand from a similar development compared to yours. Your development, of course, is subject to all the current and future rules and regulations of ALW. In addition, the water service from ALW is contingent upon project developer's satisfactory fulfillment of the following requirements which includes but not limited to:

1) Compliance to all the governing agencies' Conditions of Approval imposed on the proposed project.
2) Payment of the necessary fees to ALW which includes Water System Development Fee,inspection fees and any applicable water usage rates.
3) Design, furnish and install the required water facilities as per approved Water Standards of Azusa Light & Water including compliance with applicable water conservation requirements contained in the City of Azusa Municipal Code.
4) The attached Conditions of Approval.

In order to obtain a water service the service applicant shall determine the meter size(s) required for the proposed project and water improvement plans shall be submitted to ALW for review and approval. Please contact ALW Water Division for further details on specification and requirements for installation.

ALW looks forward to working with you in providing water service to this proposed project. If you have any questions or require additional information, please feel free to contact me at (626) 812-5209 or via email at flucarelli@azusaca.gov

Sincerely,

Fabian Lucarelli
Assistant Water Utility Engineer

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

March 10, 2025

Ref. DOC 7442449

VIA EMAIL brenna.crump@kimley-horn.com

Ms. Brenna Crump, Civil Analyst
Kimley-Horn
25152 Springfield Court, Suite 200
Santa Clarita, CA 91355

Dear Ms. Crump:

Will Serve Letter for 1035 East Mauna Loa Avenue

The Los Angeles County Sanitation Districts (Districts) received your will serve letter request for the subject project located in the City of Azusa on February 24, 2025. The proposed project is located within the jurisdictional boundary of District No. 22. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Joint Outfall H – Unit 8L Trunk Sewer, located in East Baseline Road at North Citrus Avenue. The Districts' 18-inch diameter trunk sewer has a capacity of 7.8 million gallons per day (mgd) and conveyed a peak flow of 0.3 mgd when last measured in 2021.

2. The wastewater generated by the proposed project will be treated at the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry, which has a capacity of 100 mgd and currently processes an average flow of 60.1 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the A.K. Warren Water Resource Facility (formerly known as the Joint Water Pollution Control Plant) in the City of Carson.

3. The expected average wastewater flow from the project, described in the application as 108 attached townhomes and 45 detached townhomes, is 32,760 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org, under Services, then Wastewater Program and Permits and select Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

4. The Districts are empowered by the California Health and Safety Code to charge a fee to connect facilities (directly or indirectly) to the Districts' Sewerage System or to increase the strength or quantity of wastewater discharged from connected facilities. This connection fee is used by the Districts for its capital facilities. Payment of a connection fee may be required before this project is permitted to discharge to the Districts' Sewerage System. For more information and a copy of the Connection Fee Information Sheet, go to https://www.lacsd.org/services/wastewater-sewage/wastewater-rates. In determining the impact to the Sewerage System and applicable connection fees, the Districts will determine the user category (e.g. Condominium, Single Family Home, etc.) that best represents the actual or anticipated use of the parcel(s) or facilities on the parcel(s) in the development. For more specific information regarding the connection fee application procedure and fees, please contact the Districts' Wastewater Fee Public Counter at connectionfee@lacsd.org or (562) 908-4288, extension 2727.

5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CAA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise the applicant that the Districts intend to provide this service up to the levels that are legally permitted and to inform the applicant of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions regarding this letter, please contact me at (562) 908-4288, extension 2708, or at shirlywang@lacsd.org.

Very truly yours,

Shirly Wang

Shirly Wang
Annexation and Will Serve Desk Coordinator
Property Management Section

SW:sw

cc: D. Hatch
A. Howard

Appendix M-4

Electric Division Conditions of Approval

ELECTRIC DIVISION
CONDITIONS OF APPROVAL

Case #: PPR-2024-01 **Project Address:** 1035 E. Mauna Loa Avenue, Azusa, CA 91702

Project Description: Preliminary Project Review (PPR-2024-01) request to review a proposal for 153 residential units; compromising of attached 3-story townhomes, attached 2-story townhomes, and single-family detached 2-story cluster homes.

The following requirements will apply:

__ 1. None

X 2. Prior to approval of proposed project, contact Electric Division as soon as possible for details on

☒ Specifications & requirements ☐ Meter spot ☒ Method of service

__ 3. Existing electric panel cannot be enclosed due to access requirements

__ 4. Electrical panel shall be ☐ relocated ☐ located ☐ to ☐ at _____

X 5. Incoming electric utility facilities shall be underground. Developer to provide the following:

☒ All conduits ☒ Pull boxes ☒ Transformer Pads ☒ Street Lights

X 6. Extensive electrical line building may be necessary. Applicant is directed to contact and make arrangement with the Electric Division as soon as possible

X **7. SPECIAL CONDITIONS FOR NEW OR UPGRADE OF ELECTRIC SERVICE ON COMMERCIAL, AND INDUSTRIAL PROJECTS**

Owner/Developer shall contact Consumer Service Division for information to set up new account, and to make change on upgrading account.

Owner/Developer shall submit to Azusa Light division two (2) separate sets of plans showing the followings:

* Site survey plan of building to include additions and remodeling foundation, elevations, sections and location of existing electric easements.

* Electric service desired, electrical load calculation and single line diagram. Transformer will not be ordered until this information is provided. Transformer procurement has long lead time, it could take up to 23 weeks for the delivery of transformers.

* Proposed Location of electric meter panel/main switchgear. Coordinate with Electric division for the best location which would satisfy all stake holders.

* Location of transformer pad and related substructures.

X 8. All existing electric service and facilities shall remain. Any relocation, modification, alteration, or upgrade of existing electric service and facilities shall be at the sole cost and expense of owner/applicant/developer.

ELECTRIC DIVISION
CONDITIONS OF APPROVAL

Additional Requirements :

9. There are existing overhead power lines residing within the proposed development. The developer is responsible for all cost associated with relocating this power line underground. These power lines run along the west, south and east property lines.

10. Applicant/Developer shall submit TOPO map of the proposed development site for Azusa Light & Water to assess impacted electric facilities.

11. Owner/Developer shall reserve space for utility pad mount transformers to be installed by the Owner/Developer. The transformer pad location shall be accessible for ALW maintenance and shall be open to the sky. Coordinate with Electric division for the best location which would satisfy all stake holders.

12. Developer/Applicant shall coordinate with the Azusa Electric Division for development of electric utility plan for the project. The developer is responsible for preparing CAD files based on conceptual plan prepared by Light and Water and submitting the CAD files to Azusa Light and Water for final approval.

13. Upon approval of electric utility plan, Electric Division will provide an estimate based on this plan to install cables, electric equipments, and transformers to serve the site. This estimate shall be paid by Owner/Developer in advance to Electric Division for material procurement and for generating a Work Order. No material will be ordered and no works will be rendered prior to receiving of this payment. This cost includes but not limits to cost of engineering, planning, inspecting, and installing of electric infrastructures.

14. Owner/Developer shall grant easement to Azusa Light & Water Department for all electric facilities installed on private property.

15. Contact Azusa Electric Department for any questions/concerns.