Appendix 6.19-1: Sewer Capacity Assessment

Kimley»Horn

TECHNICAL MEMORANDUM

To: Amanda Acuna and Lisa Kranitz, City of Gardena

From: Kiana Graham and Rita Garcia

Date: February 15, 2024

Subject: **1610 West Artesia Boulevard Project, Water Availability Report and Sewer Capacity Study Peer Review**

Kimley-Horn has conducted a follow-up third-party peer review of the Project's Water Availability Report and Sewer Capacity Study (Tait & Associates, Inc., February 2024) on behalf of the City of Gardena to verify that Kimley-Horn's third-party peer review recommendations have been incorporated. The revised February 2024 report addressed the third-party peer review comments and thus is in compliance with the recommendations. The analysis, as revised, meets the applicable provisions of CEQA and the State CEQA Guidelines and is adequate for inclusion in the Project SCEA.

Please do not hesitate to contact Rita Garcia at 714.939.1030 or rita.garcia@kimley-horn.com with any questions.

Sewer Capacity Study

For

1610 Artesia Boulevard

Gardena, CA

APN: 6106-013-049

February 14, 2024

Ryan Haskin, PE
Registered Civil Engineer No. C84850
Exp.: 3/31/2024

REGISTERED PROFESSIONAL ENGINEER
RYAN HASKIN
No.84850
Exp. 3/31/24
CIVIL
STATE OF CALIFORNIA

Prepared for:

The Picerne Group
5000 Birch St #600,
Newport Beach, CA 92660
(800) 745-1979

Prepared by:

Tait & Associates, Inc.
701 N. Parkcenter Drive
Santa Ana, CA 92705
(714) 560-8200

TAIT JOB # **SP8994**

Table of Contents

Section 1 Study Purpose

The City of Gardena has requested The Picerne Group to provide a proposed site-specific sewer capacity study to show the amount of proposed wastewater generated by the 1610 Artesia Boulevard Development. This report will provide information regarding the anticipated impact on existing sewer lines downstream of the property site.

Section 2 Project Description & Location

The project consists of the demolition of an existing car wash and auto center for redevelopment of the 3.43 acre property at 1610 West Artesia Boulevard in the City of Gardena. The proposed development consists of multi-family residential housing with 300 apartment units (55 studio, 151 one-bedroom, 94 two-bedroom) in a six-story, podium apartment building. Various apartment types (i.e., studios, and one- and two-bedroom units ranging from 515 SF to 1,413 SF are proposed on levels two through six, with various amenities (i.e., two pools, a clubhouse, courtyard, fitness center, spa, golf lounge, and business center/leasing office) on the podium level, and a lounge and deck on the roof.

Section 3 Existing Site Description

The site has been changed recently from City of Gardena Artesia Corridor Specific Plan(C-R) to Very High Density Multifamily Residential Zone (R-6). The R-6 very high density multifamily residential zone is intended as the highest density residential district for apartments and condominiums. The site was previously occupied by buildings and a paved parking lot that was utilized as a tire/automobile shop and car wash.

Section 4 Design Criteria

Unit Flow Coefficients for the proposed development were obtained from the LADPW "Estimated Average Daily Sewage Flow for Various Occupancies" (November 2010) as listed below:

- 150 gal/D.U. for Bachelor or Single dwelling unit
- 200 gal/D.U. for 1 bedroom dwelling unit
- 250 gal/D.U. for 2 bedroom dwelling unit

Unit flow coefficients for the existing condition were developed based LAPDW zoning flow calculations.

A peak Flow factor of 2.5 is used to the above numbers to obtain the peak flows. See Appendix D for a copy of the LADPW Coefficient unit tables.

Section 5 Existing Sewer System Layout and Flow Calculations

5.1 Existing Sewer System

Currently, the subject site connects to the Los Angeles Sanitation District (LACSD) sewer main trunk along Artesia Boulevard with an existing 6-inch lateral. The County's sewer main then flows East towards the Gardena Pump. This section summarizes the existing sewer layout and assumes existing sewer flows for the property in question (PIQ). As-Built Drawings for the system have also been provided in Appendix E. Existing records for the design of the 6-inch lateral are currently unavailable.

5.2 Existing Sewer Flows

The existing sewer flow in the public sewer main have been calculated based on LADPW zoning based flow calculation coefficients. Existing flow calculations are found in Appendix F. For Existing Sewer Improvements, reference Appendix E, Drawing 5-d-39 & 05-p-0166.

The existing peak flows from each sub-area have been summarized as follows:

Area:	Peak Flow (GPD)	Peak Flow (cfs)
PIQ	35,470	0.055

Section 6 Proposed Sewer System Layout & Flow Calculations

The proposed sewer flows are calculated based on the LADPW Estimated Average Daily Sewage Flows for Various Occupancies calculations. The total flow of the site is based on the sites acreage. See Exhibit B to reference the proposed buildings, and Appendix G for Peak Flow calculations.

6.1 Proposed Sewer System

The proposed project will re-use the existing 6-inch lateral. Records were not available for the existing lateral, therefore a field inspection will be required to verify the slope and depth at the point of connection.

6.2 Proposed Sewer Flows

Based on the previously noted generation rates for the PIQ, it has been calculated that the PIQ will produce a peak flow of 0.240 CFS or 154,875 GPD (see Appendix G for calculations).

Section 7 Results and Conclusion

7.1 Existing and Proposed Results

Existing flows generated by the existing buildings are estimated to contribute 0.055 cfs (35,470 GPD) to the Artesia Boulevard sewer system. The anticipated peak sewer flow rate from the proposed apartment complex is 0.240 cfs (154,875 GPD).

See Appendix G for Calculations of Proposed Peak Sewer Flow resulting from the proposed buildings dwelling units to the Artesia Sewer main.

See Appendix F for calculations of existing peak flows and Appendix G for calculations of proposed peak flows.

7.3 Conclusion

With the assumption that the existing 6-inch lateral is located at a depth that can be re-used and that it is constructed with a 2.0% slope, the proposed project flows of 0.240 will have a depth to diameter (d/D) ratio of 0.42 which is less than the requirement of 0.5 maximum. The existing 6-inch lateral is therefore sufficient for the proposed project with the following notes. Further inspection is required to determine the exact location and depth of the existing sewer lateral. The condition and slope of the pipe must be confirmed to feasibly handle the projects projected sewer flows.

A letter provided by the Los Angeles County Sanitation District is provided in Appendix E which states the trunk sewer in Artesia Boulevard has a capacity of 3.1 million gallons per day (mgd) and conveyed 2.6 mgd when last measured in 2017. The wastewater generated by the proposed project will be treated at the Joint Water Pollution Control Plant located in the City of Carson, which has a capacity of 400 mgd and currently processes an average flow of 243.1 mgd.

Based on the Sanitation Districts' statements, the downstream public system is expected to have sufficient capacity to accept the estimated peak flow increase of 119,405 GPD from the proposed development.

APPENDIX

Appendix A – Sewer Area Map

LOS ANGELES COUNTY SANITATION DISTRICTS

LACSD Underground Utilities

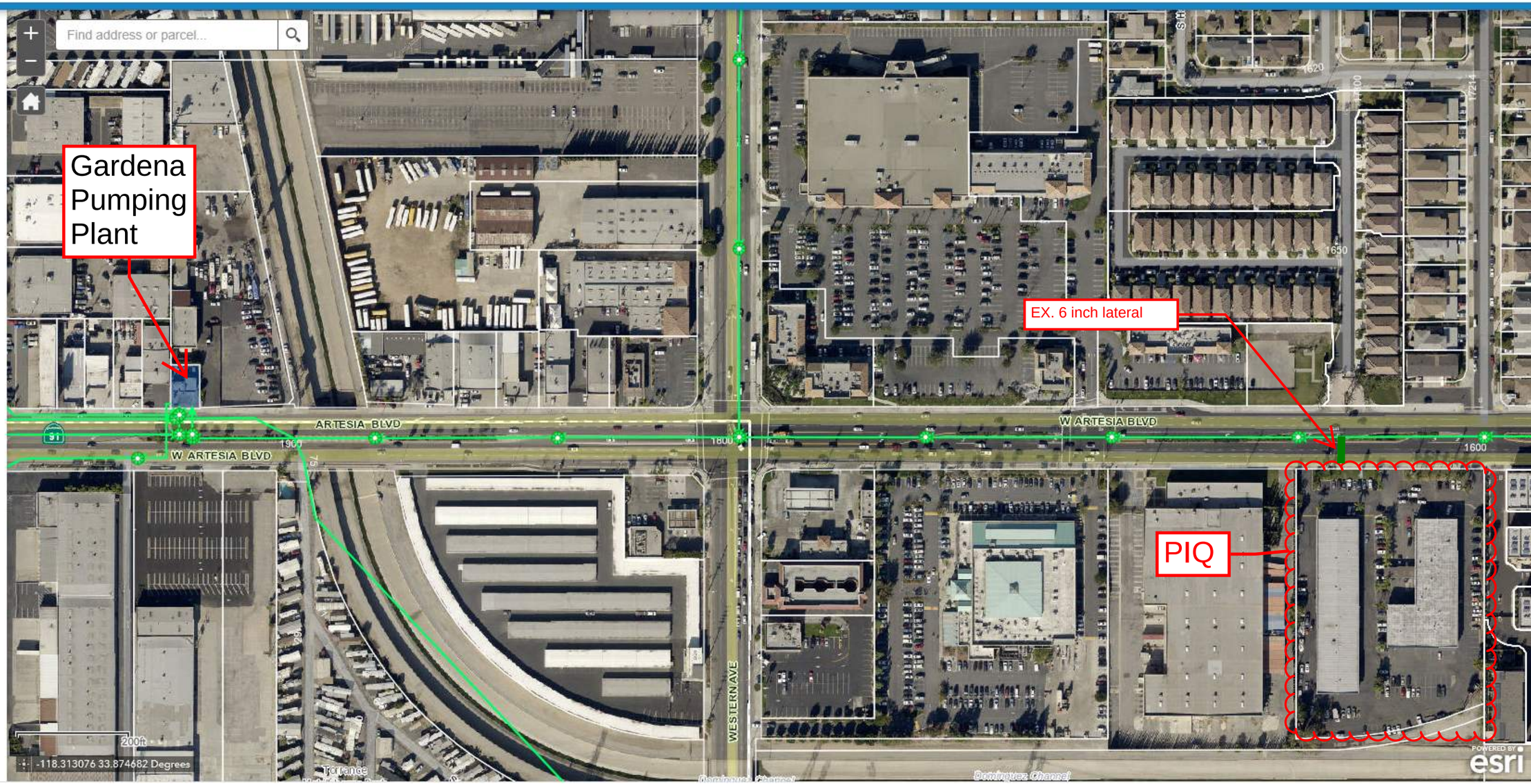
Sewer Lines

- In Service, Out of Service, or Emergency
- In Design or Under Construction
- Abandoned or Demolished

Sewer Structures

- Manhole
- Structure
- Outlet
- Clean Out

District Facilities



Appendix B – Proposed Site Plan

ARTESIA BLVD.

ARTESIA BLVD.

ARTESIA SQUARE

20'-0" FRONT SETBACK (BUILDING)

20'-0" FRONT SETBACK (GARAGE)

23'-0" TO CURB

23'-0" TO CURB

SALES/MAIL
3,123 SF

LOBBY

TRASH

VEHICLE ENTRANCE

GUEST PARKING

GATE

UTILITY

STORAGE

UTILITY

STORAGE

POOL VAULT

GATE

RAMP DN

VEHICLE ENTRANCE

POOL VAULT

TRASH

BOG SPA
594 SF

TRASH

ELEC.

BUILDING ABOVE

FIRE ACCESS ROAD

GATE

BASEMENT GARAGE BELOW

5'-0" SETBACK

5'-0" SETBACK

5'-0" SETBACK

28'-0"

26'-0"

1600 AT ARTESIA SQUARE (N.A.P.)

1600 AT ARTESIA SQUARE (N.A.P.)

1600 AT ARTESIA SQUARE (N.A.P.)

1600 AT ARTESIA SQUARE (N.A.P.)

1600 AT ARTESIA SQUARE (N.A.P.)

APOLLO EMBROIDERY (N.A.P.)

PIPE SD 4IN

PIPE SD 4IN END

N

0 30' 60'

SCALE: 1" = 30'

DRAWN: CAD1
DATE: 04/01/2020
CHECKED: PM
DATE: 07/04/2020
JOB NO: AB1234X

TAIT & ASSOCIATES
Since 1944

701 North Parkcenter Drive
Santa Ana, CA 92705
p: 714.560.8200
www.tait.com

ENGINEERING ENVIRONMENTAL BUILDING LAND
Orange County Sacramento Denver Dallas
San Luis Obispo Riverside Boise Atlanta

SITE PLAN

AVB COMMONS
THE PICERNE GROUP
1610 ARTESIA BOULEVARD, GARDENA, CA,

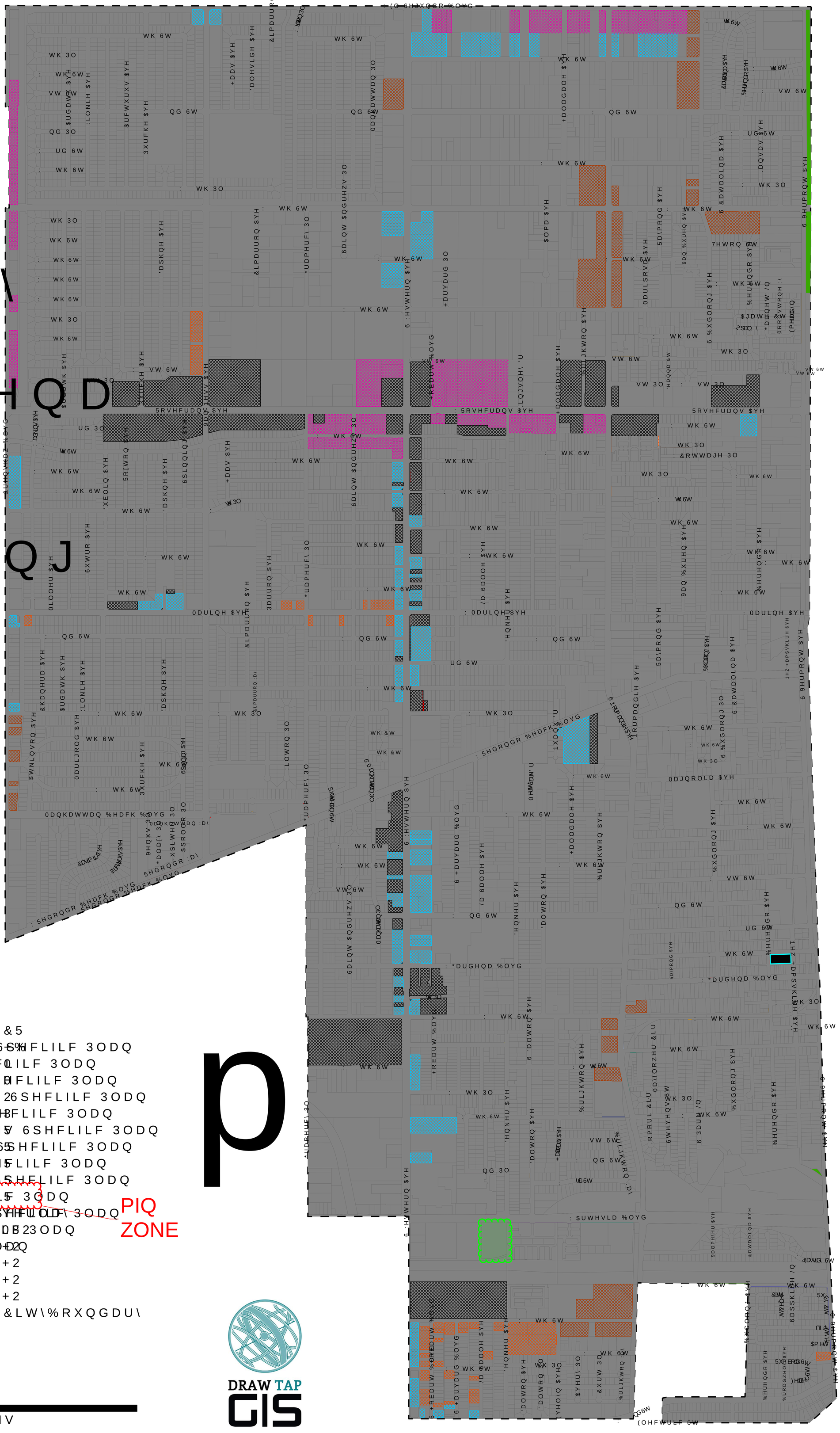
1
OF
1

12/20/2022 Exhibit XX

Jul 28, 2023 - 3:01pm by CSutherland K:\Drawings\SP\SP8994 - Gardena\ENG\Xref\SP8994_PR.dwg

Appendix C – Zoning Map

&LW\ RI *DUGHQD =RQLQJ



Appendix D – Unit Flow Coefficients

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

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 E – Los Angeles County Sanitation District Capacity Letter and Sewer Improvement References

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

May 3, 2023

Ref. DOC 6904716

Ms. Amanda Acuna, Senior Planner
Community Development Department
City of Gardena
1700 West 162nd Street
Gardena, CA 90247

Dear Ms. Acuna:

Comment Letter for 1610 Artesia Boulevard Apartments

The Los Angeles County Sanitation Districts (Districts) received the email and plans for the subject project forwarded by your office on April 21, 2023. The proposed project is located within the jurisdictional boundary of District No. 5. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge directly to the Districts' Gardena Pump Trunk Sewer, located in Artesia Boulevard at Denker Avenue. The Districts' 22.7–inch diameter lined trunk sewer has a capacity of 3.1 million gallons per day (mgd) and conveyed a peak flow of 2.6 mgd when last measured in 2017. A 6-inch diameter or smaller direct connection to a Districts' trunk sewer requires a Trunk Sewer Connection Permit issued by the Districts. An 8-inch diameter or larger direct connection to a Districts' trunk sewer requires submittal of Sewer Plans for review and approval by the Districts. For additional information, please contact the Districts' Engineering Counter at (562) 908-4288, extension 1205.

2. The wastewater generated by the proposed project will be treated at the Joint Water Pollution Control Plant located in the City of Carson, which has a capacity of 400 mgd and currently processes an average flow of 243.1 mgd.

3. The expected increase in average wastewater flow from the project, described in the plans as 300 residential apartments, is 42,810 gallons per day, after all structures on the project site are demolished. 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 www.lacsd.org, under Services, then Wastewater (Sewage) and select Rates & Fees. 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, the developer should contact the Districts' Wastewater Fee Public Counter at (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 developer that the Districts intend to provide this service up to the levels that are legally permitted and to inform the developer of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2708 or at dcurry@lacsd.org.

Very truly yours,

Donna J. Curry

Donna J. Curry
Customer Service Specialist
Facilities Planning Department

DC:sw

cc: A. Schmidt
A. Howard

COUNTY SANITATION DISTRICT No. 5

OF LOS ANGELES COUNTY, CALIFORNIA

OFFICE OF CHIEF ENGINEER

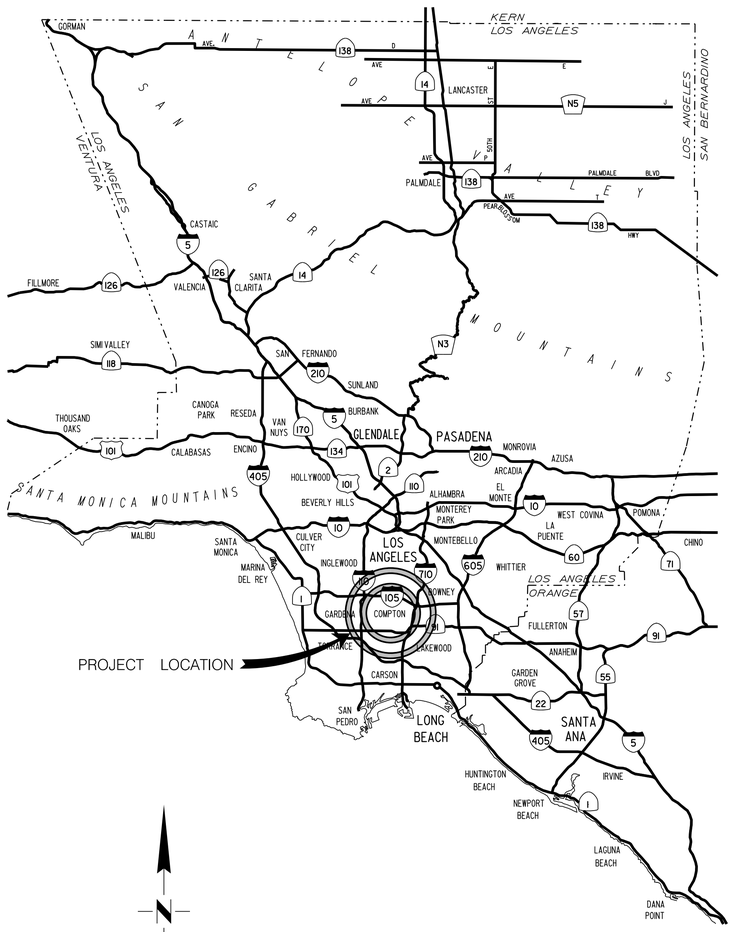
CONTRACT DRAWINGS

GARDENA PUMP TRUNK SEWER REHABILITATION

SUBMITTED _____ DATED SEPTEMBER 18, 2019
DEPARTMENTAL ENGINEER
C.E. No. 57955

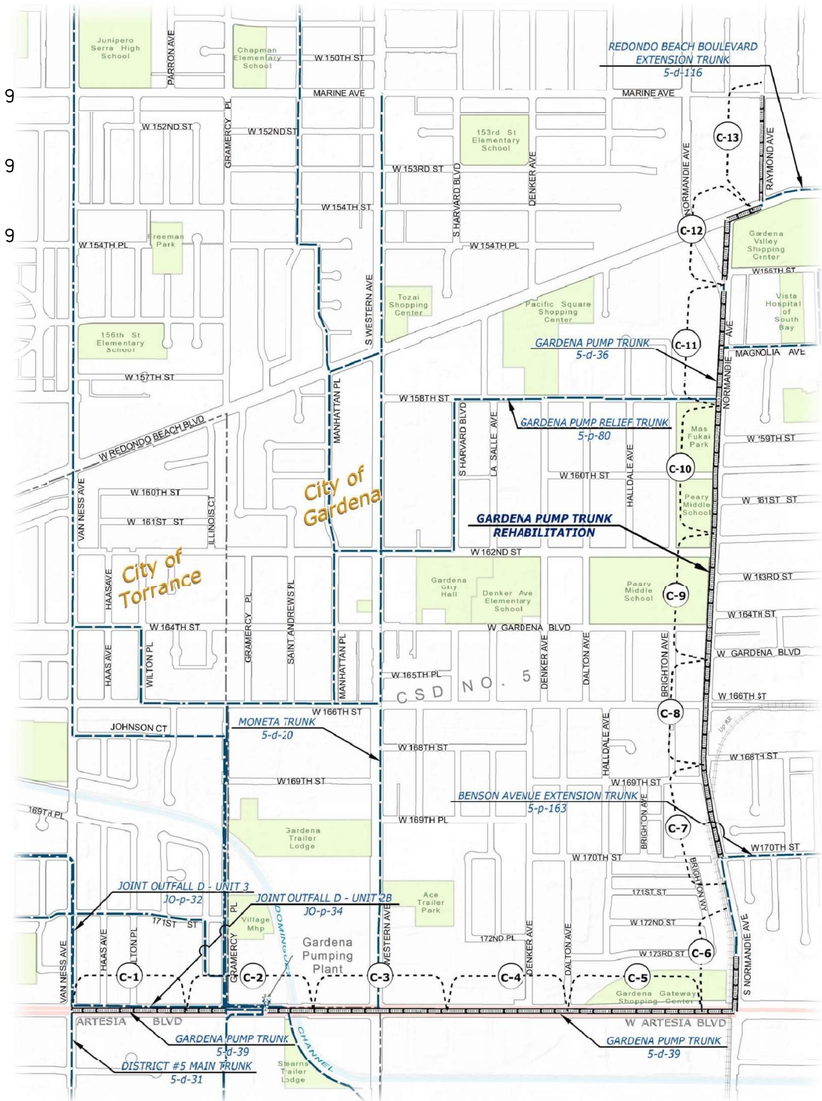
RECOMMENDED _____ DATED SEPTEMBER 18, 2019
ASST. CHIEF ENGINEER
C.E. No. 53958

APPROVED _____ DATED SEPTEMBER 18, 2019
CHIEF ENGINEER
M.E. No. 29320



GENERAL LOCATION

NOT TO SCALE



VICINITY MAP

NOT TO SCALE

No.	SHEET	REVISION	INITIAL	DATE
2	G-1, C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13	REVISED PER AS-BUILT		DEC 21
1	C-2	REVISED PER ADDENDUM NO 1		JAN 20

RECORD DRAWING

WARNING 1" IF THIS LINE IS NOT 1" LONG, THEN DWG IS NOT TO SCALE.

SHEET NO. G-1

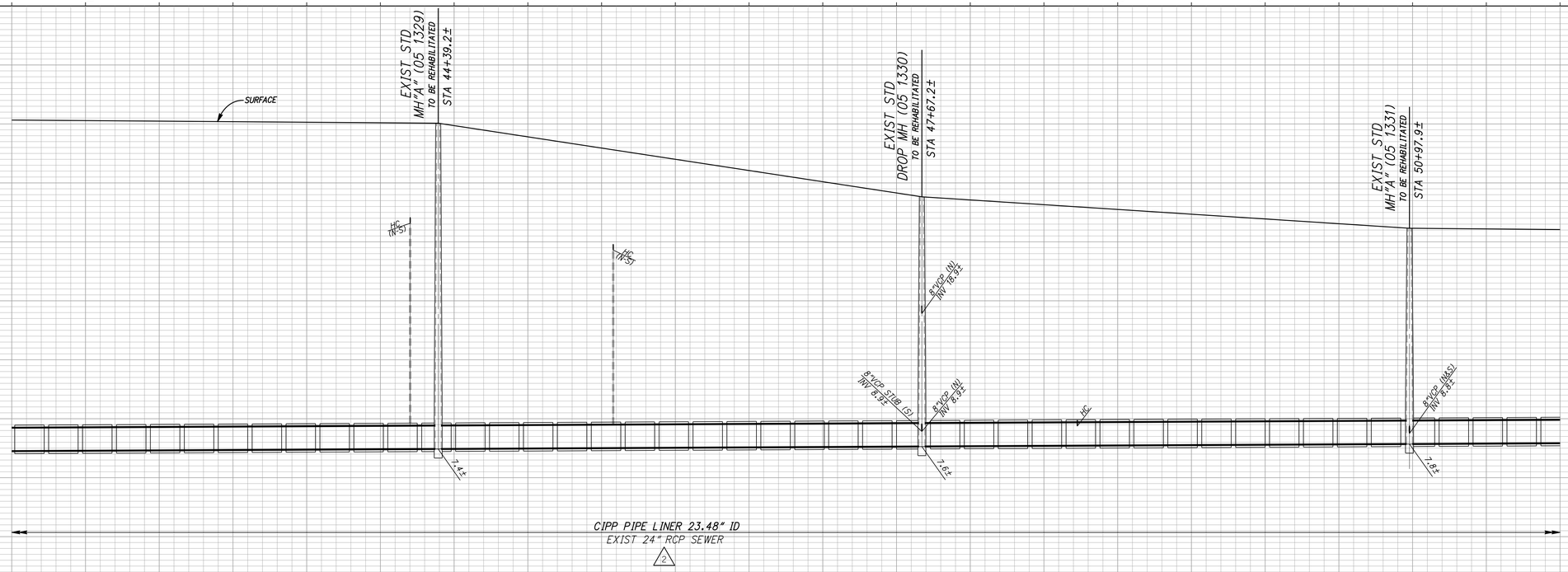
DWG. NO. 05-p-0166

SPECIAL PROVISIONS DOC NO. 4553996

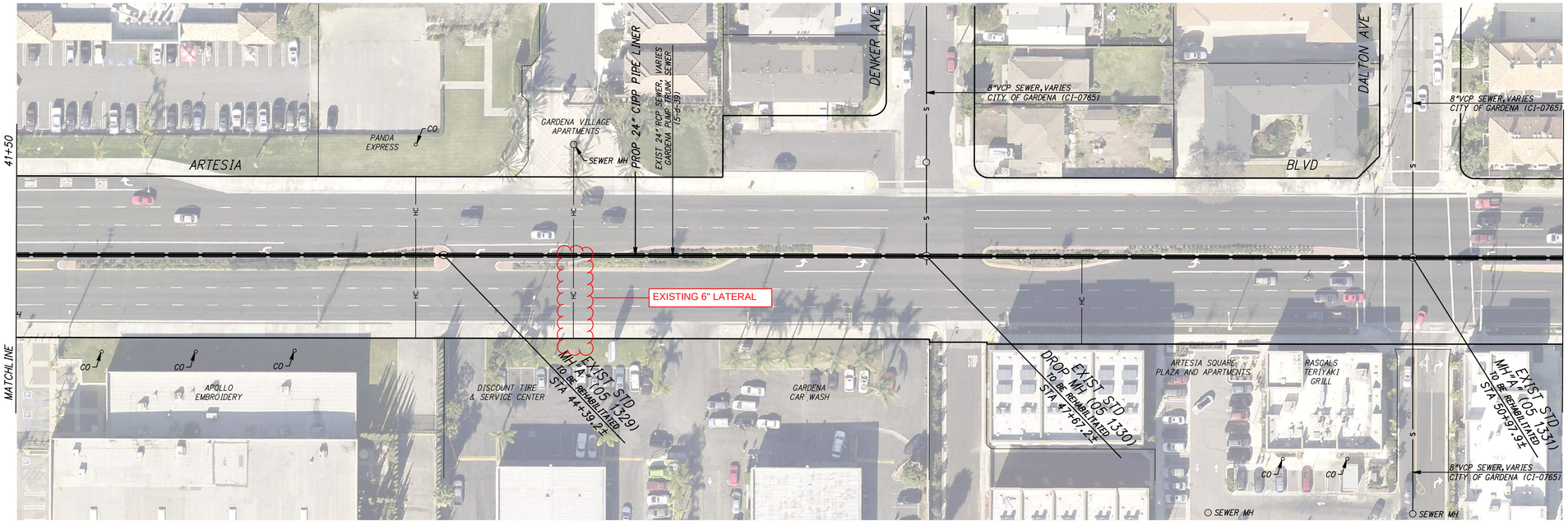
LACSD 03 10-15-2014

27-SEP-2019 10:08 mariarroquin IPLOT: \ja716\PDF-36-SD-ForSig-IPLOT × SDXR_ForSig.pen

pw:\\JA715.lacsd.org:PW_LACSD\Documents\LACSD\VWW\Dist-05\Sewer\Gravity\ProjectDwgs\05-p-0166\cs\G_001_05p0166.sht



SCALES
HORIZ: 1" = 40'
VERT: 1" = 5'



NOTE:

RIGHT OF WAY LINES NOT TO BE USED AS BOUNDARY DETERMINATION

HORIZONTAL DATUM:	NAD 83 ZONE 5 EPOCH 2010.00
VERTICAL DATUM:	NAVD 88 GARDENA QUAD 2005 ADJ
FIELD BOOK NO.	S-414

RECORD DRAWING

WARNING 1" IF THIS LINE IS NOT 1" LONG, THEN DWG IS NOT TO SCALE.

2

NO.	REVISIONS	INITIALS	DATE
2	REVISED PER AS-BUILT	JH | AH	DEC 21

SPECIAL PROVISIONS DOC NO. 4553996

COUNTY SANITATION DISTRICT NO.5
OF LOS ANGELES COUNTY, CALIFORNIA

DESIGNED	A. KUO	DATE SEP 2019
DRAWN	S. VILLANUEVA / M. SANCHEZ	DATE SEP 2019
CHECKED	J. HSU	DATE SEP 2019
REVIEWED	A. HOWARD	DATE SEP 2019

GARDENA PUMP TRUNK SEWER
REHABILITATION

PLAN AND PROFILE

SCALE: AS NOTED
SHEET NO. C-4
DWG. NO. 05-p-0166

Sta. 41+14.07 Standard Manhole

B.M. C-335
B.M. Elev. 37.79 N.& T.S. base of Power Pole-E. of Western Ave. 25' S. of E. Strawberry St.

Standard Manhole Sta. 44+41 44+39.13

Standard Junction Chamber Sta. 47+66.58 47+67.25

Standard Junction Chamber Sta. 50+39.31 50+39.98

B.M. C-336
B.M. Elev. 21.35 N.& T.S.E. Corner Bridge 180' E. of Mass. Ave. 20' S. of Strawberry St.

Standard Junction Chamber Sta. 54+28.57 54+29.23

24" Double Heavy Reinforced Concrete Pipe ~~Vitrified Clay Pipe~~ with Standard Concrete Bed ~~or Machine Made Cement Concrete Pipe with Standard Concrete Bed~~ From Sta. 24+16.33 To Sta. 48+50

Use 12" brick wall below 22' depth. Refer to Specifications

Use 12" brick wall below 22' depth.

Invert Elev. = 9.94

24" Extra Heavy Reinforced Concrete Pipe ~~Vitrified Clay Pipe~~ with Std. Conc. Bed ~~Machine Made Cement Concrete Pipe~~ with Std. Concrete Bed. From Sta. 48+50 to Sta. 54+28.57

4" Water

Surface of Ground

Bridge No. 8-281

8" Inlets from N. & S. Inv. Elev. = 7.63

8" Inlets from N. & S. Inv. Elev. = 7.74-5 N = 7.70

8" Inlets from N. & S. Inv. Elev. = 7.88-5

8" Inlets

3" Cement Cone Pipe

(REINFORCED CEMENT CONCRETE PIPE USED)

24" PIPE

0.064 % Grade

Invert Elev. = 6.15

Invert Elev. = 6.36

Invert Elev. = 6.57

Invert Elev. = 6.78

Invert Elev. = 6.97

42 43 44 45 46 47 48 49 50 51 52 53 54

SCALES
HORIZ: 1" = 40'
VERT: 1" = 5'

TRACT No 5753
M.B. 63 - 68

M.R. 15-21-22

Lot 82

Drop Standard Manhole Sta. 41+14.07

ARTESIA BLVD.

STRAWBERRY STREET

DENKER AVENUE

MASSACHUSETTS AVENUE

8" VCP CI 765 CITY OF GARDENA

5 6

174TH

Standard Junction Chamber Sta. 47+66.58 47+67.25

Standard Manhole Sta. 44+41 44+39.13

Standard Junction Chamber Sta. 50+39.31 50+39.98

Std. Junction Chamber Sta. 54+28.57 54+29.23

Lot 12

Wooden Bridge No. 8-281

± 24" Pipe

8" Inlets

Lot 83

Lot 90

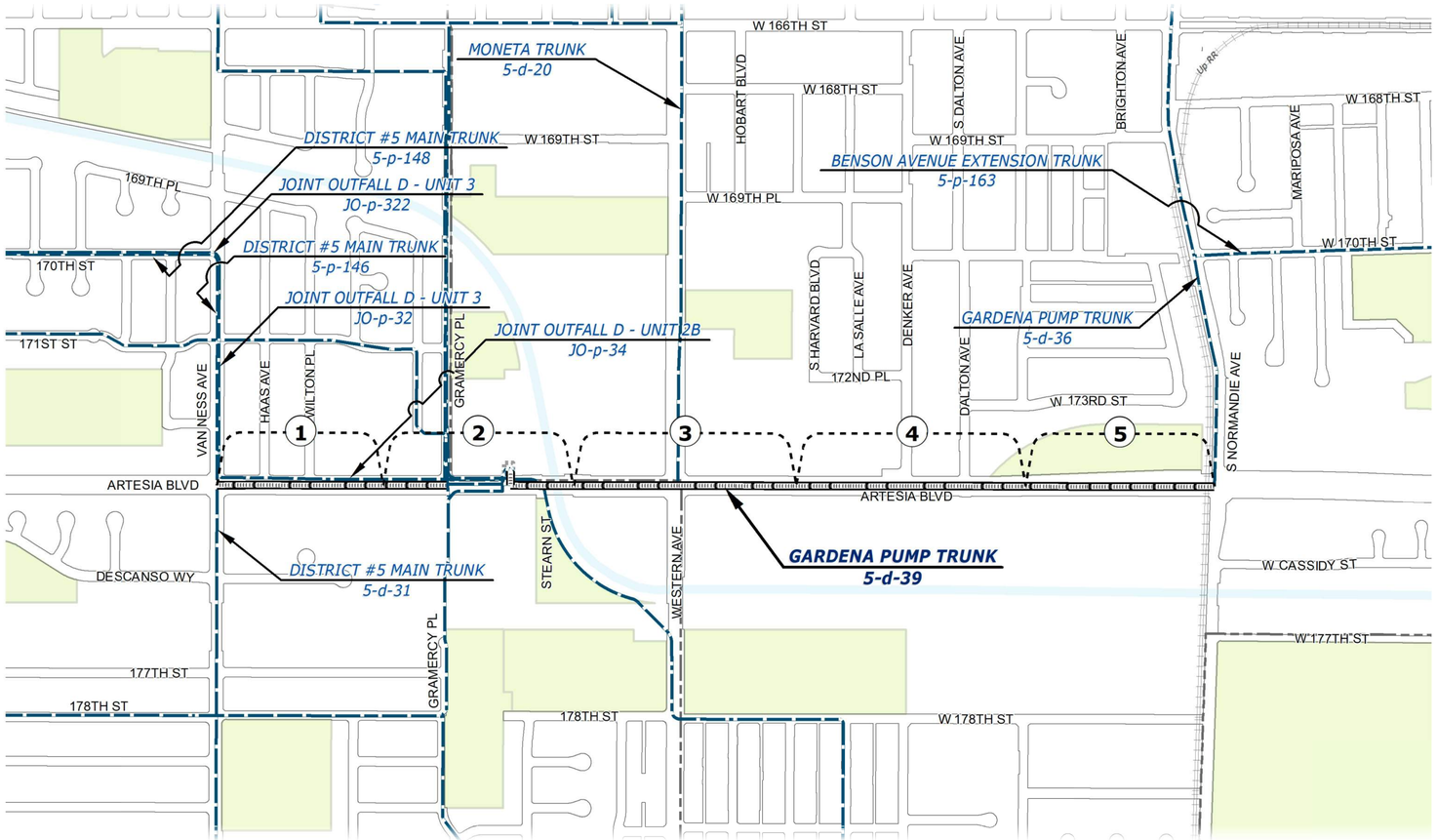
McDONALD

NO.	REVISIONS	INITIALS	DATE
2	REVISED SHEET	SV RG	AUG. 2018

GARDENA PUMP TRUNK SEWER
PLAN AND PROFILE

SHEET NO. 4 (2)
SCALE : AS NOTED
DWG. NO. 5 - d - 39

(2)



Filed No. 131
Campbell Reichert Co Jrs
Approved March 14, 1928
May 18 1928
Recorded Sept 12 1928

COUNTY SANITATION DISTRICT No. 5

LOS ANGELES COUNTY CAL.

OFFICE OF CHIEF ENGINEER

PLAN AND PROFILE

SHOWING PORTION OF

GARDENA PUMP TRUNK SEWER

FROM STA. 8+20.81 TO STA 65+28.08

FROM DIST. № 5 MAIN TRUNK TO NORMANDIE AVE.

A.K. WARREN - CHIEF ENGINEER

LOS ANGELES, CAL. FEB. 1928

SCALES

HORIZONTAL 1" = 40'

VERTICAL 1" = 4'

NOTE →

This drawing and the data hereon are hereby made a part of the specifications.

Elevations are in feet above U.S.G.S. or Mean Sea Level Datum

PLAN № 5-d-39

SUBMITTED A.K. Warren ASST CHIEF ENGINEER DATE Feb 8 1928

APPROVED A.K. Warren CHIEF ENGINEER DATE Feb 8 1928

REFERENCES			
F. Bs. 182-184-206 FINAL SURVEY FEB. NO. 275.	DRAWN	G. M. Smith	1-18-28
	DESIGNED	G. M. Smith	1-23-28
	TRACED	W. C. Hammond	2-7-28
	CHECKED	A.K. Warren	2-25-28

NO.	SHEETS	REVISIONS	INITIALS	DATE
2	1 TO 5	REVISED MH STATIONS, ADDED MH & SEWER & REVISED SHEETS	SV RG	MAY. 2019
1	2 & 5	ADDED CIPP LINER MANHOLES & SEWER	JJ RG	07/29/16

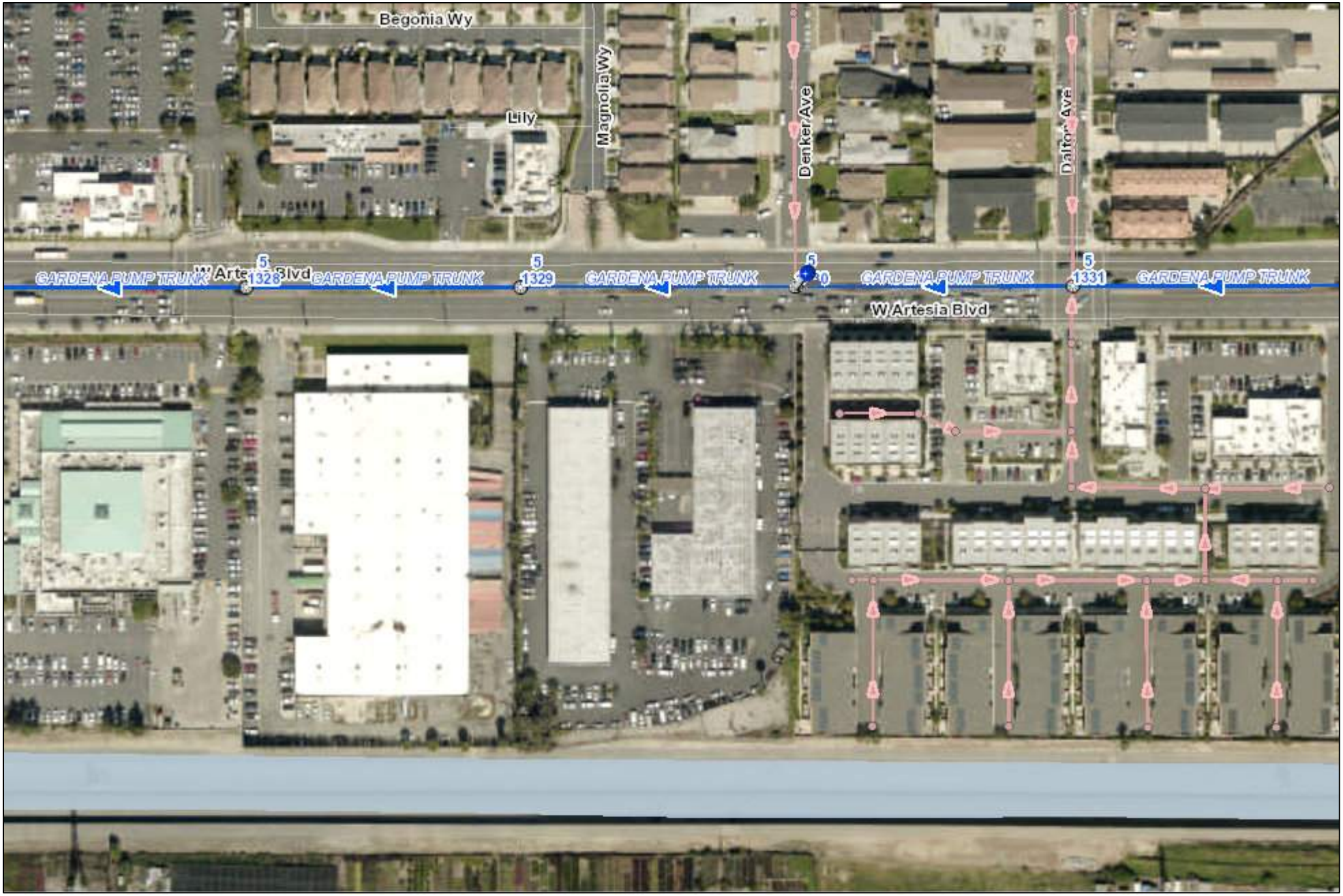
GARDENA PUMP TRUNK SEWER

COVER SHEET

SHEET NO. 0

SCALE : AS NOTED

DWG. NO. 5 - d - 39



0 100 200 400 Feet

Date: 9/27/2022

LOS ANGELES COUNTY SANITATION DISTRICTS
Converting Waste Into Resources

Appendix F – Existing Flow Calculations Based on LADPW Peak Flow Coefficients

EXISTING FLOW CALCULATIONS

Existing Area Discharges

Zoning Area	Area (acre)	Zoning Ordinance	Zoning coefficient (cfs/Acre)	Flows (cfs)	Flows (GPD)
PIQ	3.4	C-R	0.016	0.055	35470

Appendix G – Proposed Flow Calculations Based on LADPW Peak Flow Coefficients

PROPOSED FLOW CALCULATIONS
PIQ- 6" lateral

		# UNITS	Coefficinet (GPD/D.U.)	Avg. Daily Flow (GPD)	Peak Factor	Peak Flow (GPD)	Peak Flow (cfs)
0-STUDIO		55	150	8250	2.5	20625	0.032
1-BEDROOM		151	200	30200	2.5	75500	0.117
2-BEDROOM		94	250	23500	2.5	58750	0.091
TOTAL:		300	600	61950		154875	0.240
Flows from each unit are calculated based on each units room size for total site flow.							

Appendix H – Pipe Hydraulics Calculations

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 14 2024

1610 W Artesia Proposed Sewage flows in 6inch lateral @ 2% slope

Circular

Diameter (ft)	= 0.50
Invert Elev (ft)	= 100.00
Slope (%)	= 2.00
N-Value	= 0.015

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.24

Highlighted

Depth (ft)	= 0.21
Q (cfs)	= 0.240
Area (sqft)	= 0.08
Velocity (ft/s)	= 3.04
Wetted Perim (ft)	= 0.71
Crit Depth, Yc (ft)	= 0.25
Top Width (ft)	= 0.49
EGL (ft)	= 0.35