FIRE PROTECTION SERVICES QUESTIONNAIRE

COSTA MESA HIVE LIVE
ENVIRONMENTAL IMPACT REPORT

3333 Susan Street, Costa Mesa

Please respond to the following questions on your agency/company letterhead and provide maps to illustrate facility locations.

1. Please indicate the name and location of the fire station(s) that serve the project area. Also, indicate, the equipment, personnel and emergency medical services available at each station.

   The first due fire station will be Fire Station 1 – An engine, an ambulance, a reserve ambulance, METS (medicine intake room), a Battalion Chief, a Captain, an Engineer, and two firefighter paramedics.

   The second in will be Fire Station 2 – An engine with Strike Team capabilities, a reserve engine, a captain, an engineer, and two firefighter paramedics.

   The third in will be Fire Station 6 – Fire Truck, USAR (urban search and rescue), a captain, an engineer, and two firefighters.

2. What is the approximate response time to the project site from each station?
   - From Station 1 to 3333 Susan is approximately 2 miles.
   - From Station 2 to 3333 Susan is approximately 2.2 miles.
   - From Station 6 to 3333 Susan is approximately 2.5 miles.

   The average response time with the calls mentioned in question #6 is 7 minutes and 13 second to 3333 Susan St and 8 minutes and 25 seconds to 3335 Susan St.

   The average of the travel time is 7 minutes and 13 second to 3333 Susan St and 8 minutes and 25 seconds to 3335 Susan St. Total response time includes 1:30 minutes added for dispatch processing time and up to 2:00 minutes for crew turnout time (for structure fires when more protective clothing must be donned as compared to an EMS response). Thus, total response time from 9-1-1 call receipt to the development could be upwards of 10:43 – 11:55 minutes.

3. Are there any current plans for expansion of fire protection facilities, services, or staff or to construct a new facility that would serve the City?

   There is a plot of land on the Segerstrom Farmland for a proposal of either a 7th station or relocation of an existing station.

   The Costa Mesa Fire & Rescue Department (CMFR) indicated that, although there are no current plans to increase the number of personnel to service the project area, additional staffing, apparatus, and facilities need to be considered. As specified above, CMFR is currently conducting a comprehensive Citywide Standards of Coverage Assessment and deployment analysis that is independent of this project. The City is also concurrently conducting a Development Impact Fee Study to account for similar changes of use that result in net increases to call volume. It is CMFR's goal to maintain current response service levels to the community, and meet response performance objectives of the City Council. At the conclusion of the assessment and fee study, it

is anticipated that a development impact fee will be adopted to mitigate similar projects to The Hive.

4. Would the proposed project substantially increase response times or create a substantial increase in demand for fire protection staff, facilities, equipment, etc.?

   See answer 6 for now.

   The existing site averages two calls per year. It is anticipated that the addition of residential units and retail space will result in significant impacts to calls for service volume based on the call history at the site. There has been 10 Fire and EMS calls for service at the 3333 and 3335 Susan St. over the last five years.

5. Please indicate any development impact fees required for new developments.

   See excel spreadsheet – EIR Calls for Service.

6. How many calls does the existing structures generate per year? How many projected calls would come from the proposed project in a year?

   There were 6 calls for 3333 Susan, 4 calls for 3335 Susan and zero calls for 3331 and 333 Susan St.

   Last 5 years of Fire calls for service history to 3331-3337 Susan St:

Number	Alarm Time	Type	Aid	Location	Station	Shift
2007126	08/11/2020 11:21	321	N	3333 Susan St	S1	C
2008257	09/14/2020 06:02	743	N	3333 Susan St	S1	A
2202074	02/20/2022 22:37	321	N	3333 Susan St	S1	C
2309775	09/10/2023 20:07	321	N	3333 Susan St	S1	C
2311262	10/19/2024 12:58	321	N	3333 Susan St	S1	B
2404965	05/11/2024 04:13	321	N	3333 Susan St	S1	C
2004428	05/19/2020 08:07	743	N	3335 Susan St #B	S1	A
2303881	04/11/2023 04:33	520	N	3335 Susan St	S1	C
2304525	04/28/2023 15:56	735	N	3335 Susan St	S1	C
2309604	09/06/2023 10:19	651	N	3335 Susan St	S1	C

   Incidents 2007126, 2202074, 2311262, 2404965, and 2309775, with 321 call “Type” were medical aid transports.
   Incidents 2008257and 2004428 with 743 call “Type” was a false alarm due to a faulty smoke detector.
   Incident 2303881 with 520 call “Type” was a false alarm on the panel, no mutual aid or fire was observed.
   Incident 2304525 with 735 call “Type” was a false alarm due to panel malfunction.
   Incident 2309604 with 651 call “Type” was a call for smoke coming from the parking lot drains that was investigated and dissipated when ME82 arrived on scene. It was believed that the smoke was related to an OCFA training that was at a different location.

7. Do you anticipate that required fees and taxes provided by new developments associated with the proposed project will adequately mitigate the expected increase in fire and emergency medical service demand?

   The fees for the construction permits will only provide cost recovery for the inspection time. The calls for service increase will need to be accounted for through a development agreement. A fiscal impact model is needed to determine the accuracy for the expected increase in emergency medical service demands.

8. Do you anticipate that implementation of the proposed project would result in the need for physical additions to your agency (i.e., construction of new fire stations)?

   In the case of The Hive, the proposed mixed-use of residential and commercial/retail occupancies should generate fire or EMS calls in line with similar uses in the City of Costa Mesa and, as such, would impact the Department's response volume and deployment model.

9. Do you have any required or recommended mitigation measures for significant impacts?

   Preliminary fire access plan included proposed mitigation measures for hose pull deficiencies. No other alternate means of methods have been reviewed or approved at this time.

   Mitigation measures will be required to offset the anticipated increase in call volume.

580 Anton Blvd — 250 Units

Year	Calls for Service	Average Call per Unit	Fire Budget	Number of Calls	Cost per Call	Cost for Services
2021	22	0.088	$ 32,377,354.00	11249.00	$ 2,878.24	$ 63,321.34
2022	9	0.036	$ 33,480,396.00	12063.00	$ 2,775.46	$ 24,979.16
2023	33	0.132	$ 35,785,123.00	11815.00	$ 3,028.79	$ 99,949.98
*2024	44	0.176	$ 37,772,922.00	11709.00	$ 3,225.97	$ 141,942.83
* Calls for Service through 8/13/2024	Average per unit	**0.085333333**	**33880957.67**	**11709**	**2894.164027**	

The Hive 3333 Susan — 1050 Units

Year	Calls for Service	Average Call per Unit	Fire Budget	Number of Calls	Cost per Call	Cost for Services
2021	92.4	0.088	$ 32,377,354.00	11249.00	$ 2,878.24	$ 265,949.64
2022	37.8	0.036	$ 33,480,396.00	12063.00	$ 2,775.46	$ 104,912.46
2023	138.6	0.132	$ 35,785,123.00	11815.00	$ 3,028.79	$ 419,789.93
*2024	184.8	0.176	$ 37,772,922.00	11709.00	$ 3,225.97	$ 596,159.88
* Calls for Service through 8/13/2024	Average per unit	**0.085333333**	**33880957.67**	**11709**	**2894.164027**	$ 346,702.98

Existing Site Calls for Service

Year	Calls for Service	Fire Budget	Number of Calls	Cost per Call	Cost for Services
2021	2	$ 32,377,354.00	11249.00	$ 2,878.24	$ 5,756.49
2022	2	$ 33,480,396.00	12063.00	$ 2,775.46	$ 5,550.92
2023	2	$ 35,785,123.00	11815.00	$ 3,028.79	$ 6,057.57
*2024	2	$ 37,772,922.00	11709.00	$ 3,225.97	$ 6,451.95
* Calls for Service through 8/13/2024	Average per unit	**33880957.67**	**11709**	**2894.164027**	$ 5,954.23

POLICE PROTECTION SERVICES QUESTIONNAIRE

COSTA MESA HIVE LIVE
ENVIRONMENTAL IMPACT REPORT

3333 Susan Street, Costa Mesa

Please respond to the following questions on agency letterhead and provide a map if necessary. In your response, provide as much information as possible (necessary to evaluate potential impacts).

1. Please indicate the location of the police or sheriff station that serves the project area.
   The Costa Mesa Police Department (CMPD) at 99 Fair Drive, serves the project area.

2. What is the geographical area and total population which is served by the station?
   CMPD serves the City of Costa Mesa which is 16 square miles and serves a population of 112,780 residents. However the number of people who work, visit, and pass through our city is much greater.

3. How many law enforcement officers and patrol cars presently serve the project area vicinity? Does your agency have an established target staffing level (i.e. personnel/population)?
   CMPD is currently budgeted for 142 full-time sworn police officers. However, we are facing a staffing shortage and our current filled positions are only 119. We do not utilize a target ratio for staffing.

   CMPD has 39 patrol cars presently.

4. What is the City's target response time? Is the City currently meeting these times? What is the approximate response time to the project site?
   There is no target response time or actual response time to the project area. Response times are based on when the call is received, the assigned priority rating of the call, when the call can be dispatched to an available unit, and when the unit arrives after dispatch.

   The impact of this project will change the characteristics of the area, which is now an industrial park, to a mixed use residential and retail.

5. How many calls are generated from the existing structures per year? How many projected calls would result from the proposed project per year?
   The existing structures average nine calls per year (2023 & 2024).

   Based upon a similar development in the South Coast Metro area I would anticipate 500-600 calls for service per year.

   The location of comparison is The Enclave Apartment Homes, 400 Enclave Circle (Irvine Company). This property is all residential, unlike the proposed mixed use, but was used based on size and location.

6. Are there any plans for facility expansion or new facilities, please provide as much detail as possible? Where does your agency acquire funding for new facilities?
We are currently establishing a Capital Improvement Plan and funding for a Westside Substation. This would potentially involve a full demolition of the current building, design and construction. However, this location is the southwest corner of the city and would not serve this development. All funding is established through the general budget.

7. Please indicate any development impact fees required for new developments.
CMPD does not have development impact fees.

8. Do you anticipate any significant impacts associated with the proposed project on current service within the City, such as increasing service calls, increasing response times, or the need for additional personnel or patrol cars? Please provide generation factors if it is determined that additional personnel or patrol cars are required.
The project would impact police services based on the location and the change to the characteristics of the area with the proposed mixed use (residential, retail, etc.). As indicated, I would anticipate the number of calls for police services to increase from 9 to 600 per year, a 6,600% increase.

The area is currently industrial and the project would increase calls for service, traffic flow, PD community policing and crime prevention outreach for both residential and businesses. Additionally, it would require a shift in patrol strategies based on the new diverse use, which can ultimately affect patrol response times.

9. Do you have any required or recommended mitigation measures for significant impacts?

CMPD has established an Automated License Plate Reader program to assist in deterring crime and investigating it after the fact. This program has been very impactful and assisted in many investigations. It is also a force multiplier and uses technology to monitor 24/7. CMPD has deployed 46 cameras city wide and 10 additional cameras have been funded privately that we have access to. In an effort to prevent and investigate crime for this project, I recommend cameras that CMPD would be able have access (Flock Safety) to be funded and placed at all entrances to the property. Funding for these cameras is per camera/year. The development would be responsible for initial and future funding.

10. Do you anticipate that implementation of the proposed project would result in the need for physical additions to your agency (i.e., construction of new police
No

11. Please include any additional information you feel is pertinent to the environmental analysis of the proposed project. *None*

SCHOOL SERVICES QUESTIONNAIRE

COSTA MESA HIVELIVE
ENVIRONMENTAL IMPACT REPORT

3333 Susan Street, Costa Mesa

Please respond to the following questions on your agency/company letterhead and provide maps to illustrate facility locations.

1. Please indicate the name and location of schools which are available to serve the project site.

    a. Home Schools
        i. Primary:
            1. Killybroooke Elementary School
        ii. Middle & High School:
            1. Costa Mesa Middle & High School
    b. Other School serving this Area
        i. Primary
            1. Paularino Elementary School
            2. College Park Elementary School
            3. Davis Magnet Elementary School
        ii. High School
            1. Monte Vista High School
            2. Early College High School

2. What is the current enrollment and capacity of each school in the vicinity of the project, and what is the distance of the school from the project site?

Costa Mesa Middle & High School	Capacity: 2170	Enrollment: 1758
College Park Elementary	Capacity: 690	Enrollment: 452
Killybrooke Elementary	Capacity: 545	Enrollment: 463
Paularino Elementary	Capacity: 640	Enrollment: 377
Sonora Elementary	Capacity: 675	Enrollment: 366

3. What are the current student generation rates used to project enrollment based on residential (single- and multi-family units) and non-residential development?

Single Unit Attached E: .23 M: .05 H: .09

Multi Family E: .15 M: .05 H: .1

4. Does the District charge developer fees for residential and non-residential development. If so, what are these fees? Are there any other required or recommended mitigation measures for the project?

The developer fee rates are $1.84 per square foot of qualifying residential construction and $0.30 for qualifying commercial/industrial.

5. Does the District have any current plans for new school facilities that would serve the project?

    a. No.

6. Please include any additional information you feel is pertinent to the environmental analysis of the proposed project.

RECREATION QUESTIONNAIRE

COSTA MESA HIVE LIVE
ENVIRONMENTAL IMPACT REPORT

3333 Susan Street, Costa Mesa

Please respond to the following questions, on your agency letterhead, providing as much information as possible (necessary to evaluate potential impacts).

1. What is the current total acreage of parkland within the City?
   The city categorizes parks into three categories: Neighborhood Parks, Community Parks, and Special Use Parks.
   - Neighborhood Parks 82.93 acres
   - Community Parks 102.51 acres
   - Special Use Parks 230.61 acres

   Total 416.05 acres

   The golf course adds an additional 237.20 acres for grand total of 653.25 acres.

2. Does the City have an adopted parkland-to-population standard?

   Park Level of Service and Accessibility by Planning Area An estimate of population to park ratios has been conducted by "Planning Areas" to evaluate deficiencies in the City's allocation of parkland. Table OSR4, 2015 Park /Population Ratios, indicates these estimated ratios. Planning Area 2 exceeds the park-to-population standard of parkland but includes some areas that lacks park accessibility. Planning Area 3 is the area with the most deficient neighborhood parkland with a ratio of 0.62 acres of parkland, for every 1,000 persons.

Table OSR-4: 2015 Park /Population Ratios

Planning Area	Population[1]	Existing Park Land (2015)	Estimated Park/ Population Ratio
1	23,244	54.43	2.34/1,000
2	24,122	248.39	10.30/1,000
3	22,874	14.09	0.62/1,000
4	26,574	75.10	2.83/1,000
5	8,176	13.62	1.67/1,000
6	5,534	9.56	1.73/1,000
Total	**110,524**	**415.19**	**3.76/1,000**

Notes: 1) Population based on U.S. Census Bureau, American Community Survey, 5-Year Estimates for 2014 by Census Tract and by Table LU-2: Established Land Uses (2015).

3. Please indicate the location of the facilities which serve the project site. (Please include the distance from the site and size of the facility).

   The development site is on the far northeast side of the City. The closest community center is Balearic Community Center and is approximately 3.0 miles away. The Costa Mesa Golf Course is approximately 1.5 miles away. Wakeham park is approximately 1 mile away.

4. What are the generation factors for the proposed land use? N/A

5. Please indicate if there will be any required fees or parkland dedication to help mitigate potential impacts to park and recreation facilities.
   Parkland Impact Fees are required based on the number of units. Apartments are required to provide $5,000 per unit.

6. Do you anticipate that project implementation would result in the need for physical additions to your facilities (i.e., construction of new park and recreational facilities)?
   Perhaps at Wakeham Park. The replacement of outdated playground equipment and shade structures.

7. Do you have any required or recommended mitigation measures for significant impacts?

8. Please include any additional information you feel is pertinent to the environmental analysis of the proposed project.

LIBRARY SERVICES QUESTIONNAIRE

COSTA MESA HIVE LIVE
ENVIRONMENTAL IMPACT REPORT

3333 Susan Street, Costa Mesa

Please respond to the following questions on agency letterhead and provide a map if necessary. In your response, provide as much information as possible (necessary to evaluate potential impacts).

1. **Please list and describe existing library facilities serving the proposed project site/area (i.e., square footage of facility, number of volumes, number of employees and volunteers, etc.). Are these facilities currently adequate?**

The closest Library is Mesa Verde located 1.8 miles away from the proposed site:

- 2696 Mesa Verde Dr. Costs Mesa, CA 92626.
- Square Footage 6,458
- Number of volumes/Collection size - 39,250
- Circulation for 2023-2024 was 172,745
- Number of employees – 8.5 FTE
- Built in 1965 the building is not ideal, has ADA challenges, is split level and needs major improvements. City owned, OCPL operated.

The second closet Library is Donald Dungan located 6 miles away from the proposed site:

- 1855 Park Ave, Costa Mesa, Ca 92627.
- Square Footage 23,335
- Number of volumes/Collection size - 60,454
- Circulation 211,715
- Number of employees – 12.5 FTE
- Built in 2019 this building is state of the art and does not need additional improvements outside of routine maintenance. City owned, OCPL operated.

2. **What services/programs does the library system currently offer?**
   Programs and services are for all ages beginning with toddlers, children, tweens, teens, adults and seniors. Age-appropriate activities include but are not limited to book clubs, storytimes, author events, crafts, music and other specialty topics. Online resources are also available.

3. **Are there any planned additions to existing library resources or facilities?**
   No immediate plans for Mesa Verde are scheduled although OCPL is in the process of replacing some furniture.

   Donald Dungan has some planned maintenance in the works with the City of Costa Mesa.

4. **How are library service needs/standards determined (i.e., volumes/population)?**
   Services, staffing, resources and number of days open are based on a systemwide Library Advisory Board Resource Deployment Formula which is adjusted as needed.

5. **What are the current sources of revenue or funds for the library? Are there any new developments assessed fees and if so, what are the amounts?**
   OCPL's main source of funding is through a dedicated property tax. Additional funds come through grants and donations.

6. **Do you anticipate any significant impacts from the project on current services and capacity at the library? If so, please describe how this determination came to be in as much detail as possible.**
   The impact to the Mesa Verde Library could be significant. The location will bring a large number of new residents to the area. Estimating approximately 2,306 new residents (one person per studio; 2 persons per 1 BR unit; 3 persons per 2 BR unit). The library is 1.8 miles away, well within driving and walking distance. Local residents normally use their neighborhood libraries, and the library customizes its service to the needs of the local community. OCPL would expect a large influx of new users based on historical experience.

7. **Do you anticipate that the project implementation would result in the need for physical additions to the library?**
   For Donald Dungan no, for Mesa Verde – A study and the interest of the City would need to be determined as they own the building. There is room for expansion on the property but bringing the current building up to code and reimagining current spaces could be beneficial if developer fees or another source of revenue were available.

WASTEWATER SERVICES QUESTIONNAIRE

COSTA MESA HIVE LIVE
ENVIRONMENTAL IMPACT REPORT

3333 Susan Street, Costa Mesa

Please respond to the following questions on agency letterhead and provide a map if necessary. In your response, provide as much information as possible (necessary to evaluate potential impacts).

1. Please list and describe existing wastewater facilities serving the proposed project site/area (i.e., square footage of facility, number of volumes, etc.). Are these facilities currently adequate?

   The Current facilities are adequate. Currently the property is serviced by the 15" sewer main on Susan St. via two laterals. A 12" main runs through the west side of the property, the district maintains a 20' wide easement along the length of sewer main to access the two manholes located along that main.

2. Are there any planned additions to existing facilities?

   No.

3. How are wastewater service needs/standards determined (i.e., volumes/population)?

   Wastewater needs are based on gpd/acre by zoning. Capacity is determined based on D/d of the sewer main(s) impacted by the development. D/d must be less than 0.5. A flow study is conducted to determine current D/d then estimated flow generation from the project is added to the current plus any capacity already reserved for future projects to verify if capacity is available.

4. Do you anticipate any significant impacts from the project on current services and capacity? If so, please describe how this determination came to be in as much detail as possible.

   The project is not to exceed 656,250 gpd. This project is expected to utilize approximately 31% of the available capacity. The usage varies from segment to segment of sewer lateral with the minimum of 24% to a maximum of 50% available capacity utilized. This was determined based on a flow study conducted by FUSCOE engineering. The relevant pages from the flow study are attached.

5. Do you anticipate that the project implementation would result in the need for physical additions to the existing infrastructure (i.e., pipeline increases)?

   No.

HIVE LIVE

3333 SUSAN STREET, COSTA MESA, CA 92626

SEWER CAPACITY ANALYSIS

Prepared for:

LEGACY PARTNER

5141 CALIFORNIA AVENUE, SUITE 100

IRVINE, CA 92617

Prepared by:

SHELBY SHIRLOCK, P.E.

REGISTERED PROFESSIONAL ENGINEER
SHELBY L. SHIRLOCK
NO. C75912
EXP 06/30/26
CIVIL
STATE OF CALIFORNIA

11/05/2024

Date Issued: November, 2024

Project Number: [424-028-02]

FUSCOE ENGINEERING, INC.
600 Wilshire Blvd, Suite 1470
Los Angeles, California 90017

fuscoe.com

HIVE LIVE
3333 Susan St, Costa Mesa, CA 92626
Sewer Capacity Analysis Memorandum

Date: November, 2024

Attention: Mark Esquer, P.E, Costa Mesa Sanitary District

From: Shelby Shirlock, P.E. & Jason Castro

Subject: 3333 Susan Street Development Sewer Capacity Analysis

PROJECT DESCRIPTION AND ANALYSIS METHODOLOGY

The Hive Live residential apartment project proposes 3 apartment structures with 1,050 total residential units and retail space within 14.3 Ac site in the city of Costa Mesa, California. The project is bounded by South Coast Drive to the south, Susan Street to the east, Sunflower Avenue to the north, and railroad tracks to the west. There are 3 existing offices and commercial buildings which will be replaced by the proposed apartment project.

There are 4 existing 8-inch onsite sewer laterals and stubs that currently serve the existing site that the project could potentially reuse and connect to. The onsite sewer laterals connect to a 15" public sewer main along Susan Street that flows north towards Sunflower Avenue. The 15" sewer along Sunflower eventually connects to an 84-inch OCSD trunk sewer along Sunflower.

The 15" public sewer main in Susan Street also collects sewage from the tract housing development to the east at the manhole located at the intersection of Via Luca and Susan St. Per Costa Mesa Sanitary District (CMSD, the existing 15" sewer main will need to consider for the development of the existing 9.7-acre parking lot east of Susan Street.

For the estimated sewer generation, CMSD has allowed to use the LA County sewer generation peak factors per development types and has advised a 5,000 gpd/Ac generation rate for the existing 9.7-acre parking lot east of Susan.

From these sewer generation estimates, the peak flows (cfs) are then calculated into the existing sewer segments using Kutter's hydraulic formula, to compare the depths with the sewer capacities (d/D).

A 14-day field flow monitoring has been conducted on the sewer study limits to understand and compare the existing field flows with the estimated flows at 2 manhole locations (MH#103869 & MH#119797).

CALCULATION SUMMARY & CONCLUSIONS

(See Appendix 2 for reference)

ESTIMATED FLOWS AND PIPE CAPACITIES

SEGMENT	EXISTING		PROPOSED	
	FLOWS (cfs)	CAPACITY (d/D)	FLOWS (CFS)	CAPACITY (d/D)
8-inch Onsite to MH #103755	0.00	0.000	0.31	0.313
8-inch Onsite to MH #103781	0.21	0.263	0.34	0.325
8-inch Onsite to MH#103774	0.21	0.263	0.38	0.338
MH #119775to MH #103713 (15")	0.00	0.000	0.08	0.120
MH #103713 to MH #103755 (15")	0.00	0.000	0.08	0.120
MH #103755 to MH #103781 (15")	0.00	0.000	0.38	0.253
MH #103781 to MH #119801 (15")	0.21	0.193	0.72	0.347
MH #119801 to MH #103774 (15")	0.38	0.253	0.88	0.389
MH #103774 to MH #103773 (15")	0.59	0.320	1.26	0.473
MH #103773 to MH #103869 (15")	0.59	0.320	1.26	0.473

From these calculated estimates, the proposed flows to the existing sewer segments that the Hive Live apartment project will be tributary to, will convey less than the design capacities (d/D) per the Costa Mesa Sanitary District Sewer (CMSD) design requirements shown on Appendix 3. Based on this sewer capacity analysis, it is our conclusion that the existing CMSD sewer infrastructures downstream of development all the way to the connection at the existing 84-inch trunk sewer line could have capacity to accommodate the proposed development sewage generation.

CMSD has required the development to provide an actual flow monitoring at the manhole at the existing tract (TR16416-1325) terminus (MH #119797) and the manhole downstream of the development (MH#103869) to compare the actual flows with the estimates. The existing field measured flows on MH #119797 is determined to be 0.147 cfs (0.095 mgd), while the existing estimated flow at the same manhole is **0.167 cfs**. The existing field measured flows on MH #103869 is determined to be 0.213 cfs (0.138 mgd), while the estimated existing flow at the same manhole is **0.591 cfs**.

Since the flow monitoring results demonstrate lesser flows than estimated flows, it is our conclusion that the methodology used in the analysis generates more and is more conservative to apply in the study than the actual field monitored results. Even with this approach, the sewer reaches in the study appears to have capacity to handle the ultimate development flows.

There is about 640 linear feet of 15-inch CMSD pipe from MH#103774 to MH #103869 that are close to the capacity under the proposed conditions (0.473<0.5). These sewer segments in close capacity could potentially be subjected to be upsized as deemed by CMSD upon review of the estimated flows and the flow monitoring results.

ESTIMATED SEWAGE GENERATION

(See Appendix 1 for Unit counts)

(See Appendix 2 for Sewer Analysis Exhibit)

(See Appendix 3 for Building Summary & Sewage Generation Factors)
*-Per LA County Estimated Average Daily Sewage Flows for Various Occupancies (2018)
Peak Flows

2 bedroom dwelling units – 250 gal/D.U. (avg daily flow)

3 bedroom dwelling units – 300 gal/D.U. (avg daily flow)

Multiply the average daily flow by 2.5 to obtain peak flow

1. Existing Sewage Generation

Existing Sewage Generation Tributary to MH #103869 (SUNFLOWER)

Onsite (per C301/G02-00016)

Buildings "A" & "B"	= 95 gpm (0.212 cfs)
Building "C"	= 95 gpm (0.212cfs)
	= 190 gpm(0.424 cfs)

Offsite

(Tract 16416-1325 of Via Luca)
Existing SFR Buildings = 143 Units x 300 gpd/DU*x2.5
(Lateral East of Ex 15" VCP Public Sewer on Susan St) = 107,250 gpd(0.167cfs)

(Parcel 2/ PMB 287/7-10; APN # 140-041-59)
Existing Parking Lot = 9.7 Ac x 0 gpd = 0 gpd(0 cfs)

Existing Sewage Generation Tributary to MH #103869 = 0.591 cfs

2. Proposed Sewage Generation

Proposed Sewage Generation Tributary to MH#103869 (SUNFLOWER)

Onsite

Prop Building A	= 315 DU x 250 gpd/DU* x2.5	
	+ 3,700 sf x 100gpd/1,000sf x 2.5	= 197,800 gpd (0.306 cfs)
Prop Building B	= 346 DU x 250 gpd/DU* x2.5	= 216,250 gpd (0.335 cfs)
Prop Building C	= 389 DU x 250 gpd/DU* x2.5	= 243,125 gpd (0.376 cfs)
		= 657,175 gpd (1.017 cfs)

Offsite

(Tract 16416-1325 of Via Luca)

Existing SFR Buildings = 143 Units x 300 gpd/DU*x2.5
(Lateral East of Ex 15" VCP Public Sewer on Susan St) = 107,250 gpd (0.167cfs)

(Parcel 2/ PMB 287/7-10; APN # 140-041-59)

Commercial Zoned = 9.7 Ac x 5,000 gpd/Ac = 48,500 gpd(0.075 cfs)

Proposed Sewage Generation Tributary to MH #103869 =812,925gpd =(1.258cfs)

SEWER CAPACITY STUDY

(See Appendix 2 for Sewer Analysis Exhibit)

3. 3333 Susan Street - Onsite Sewer Capacity Study

Pipe Capacity per CMSD requirements

18" or smaller – flowing ½ full – d/D max = 0.5

21" or larger – flowing 3/4 full – d/D max = 0.75

Ex Onsite 8" Sewer Lateral to MH #103755
8" Sewer @ S=0.020
Design d/D = 0.50

Existing Lateral
Existing Flows = 0.000 cfs; d in 8" per flowmaster = 0.0 in
Existing (8") 0/8 = 0.000

Proposed Building A
Proposed Project Flows = 0.306 cfs; d in 8" per flowmaster = 2.5 in
Proposed (8") d/D = 2.5/8= 0.313 < 0.5 (ok)

Ex Onsite 8" Sewer to MH #103781
8" Sewer @ S=0.020
Design d/D = 0.50

Existing Building "C"
Existing Flows = 0.212 cfs; d in 8" per flowmaster = 2.1 in
Existing (8") d/D = 2.1/8 = 0.263

Proposed Building B
Proposed Project Flows = 0.335cfs; d in 8" per flowmaster = 2.6 in
Proposed (8") d/D = 2.6/8 = 0.325 < 0.5 (ok)

Ex Onsite 8" Sewer to MH #103774
8" Sewer @ S=0.020
Design d/D = 0.5

Existing Buildings: "A" & "B"
Existing Flows = 0.212 cfs; d in 8" per flowmaster = 2.1 in
Existing (8") d/D = 2.1/8 = 0.263

Proposed Building C
Proposed Project Flows = 0.376cfs; d in 8" per flowmaster = 2.7 in
Proposed (8") d/D = 2.7/8 = 0.338 < 0.5 (ok)

4. Offsite Sewer Capacity Study (CMSD – 15")

MH #119775 to MH #103713 (15")
15" Sewer segment @ S=0.0020

Existing Flows = 0.0 cfs
Existing (15") d/D = 0/15 = 0.0

Proposed Flows = 0.075cfs
Proposed (15") d/D = 1.8/15 = 0.120 < 0.5 (ok)

MH #103713 to MH #103755 (15")
15" Sewer segment @ S=0.0020

Existing Flows = 0.0cfs
Existing (15") d/D = 0/15 = 0.0

Proposed Project Flows = 0.075cfs
Proposed (15") d/D = 1.8/15 = 0.120 < 0.5 (ok)

MH #103755 to MH #103781
15" Sewer segment @ S=0.0020

Existing Flows = 0.0 cfs
Existing (15") d/D = 0/15 = 0.0

Proposed Project Flows = 0.381 cfs
Proposed (15") d/D = 3.8/15 = 0.253< 0.5 (ok)

MH #103781 to MH #119801
15" Sewer segment @ S=0.0020

Existing Flows = 0.212 cfs
Existing (15") d/D = 2.9/15 = 0.193

Proposed Project Flows = 0.716 cfs
Proposed (15") d/D = 5.2/15 = 0.347 < 0.5 (ok)

MH #119801 to MH #103774
15" Sewer segment @ S=0.0020

Existing Flows = 0.379 cfs
Existing (15") d/D = 3.8/15 = 0.253

Proposed Project Flows = 0.883 cfs
Proposed (15") d/D = 5.8/15 = 0.389 < 0.5 (ok)

Segments MH #103774 to MH #103773 and MH #103773 to MH#103869
15" Sewer segment @ S=0.0020

Existing Flows = 0.591 cfs
Existing (15") d/D = 4.8/15 = 0.320

Proposed Project Flows = 1.259 cfs
Proposed (15") d/D = 7.1/15 = 0.473 < 0.5 (ok)

FIELD MONITORING RESULTS COMPARISON WITH ESTIMATES

5. Actual Field Flow Monitoring Results (Per Appendix 5)

MH #119797

Existing maximum flow (monitored) = 0.147 cfs (0.095 mgd)
Calculated existing flow = 143 DU x 300 gpd x 2.5 = 107,250 gpd or 0.167 cfs (see Appendix 2)
Use conservative **0.167 cfs** in analysis

MH #103869

Existing maximum flow (monitored) = 0.213 cfs (0.138 mgd)
Calculated existing flow = 0.591 cfs (see Offsite Sewer Capacity Study above)
Use conservative **0.591 cfs** in analysis

Summary: Field Monitored flows are less than conservative estimates, therefore consider the more conservative flow values shown on the estimated sewer generation & sewer capacity study.

SEWER CAPACITY ANALYSIS

Supporting Documents

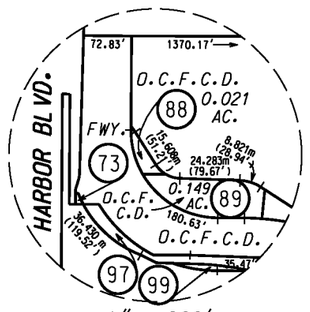
APPENDIX 1

SUPPORTING MAPS AND PLANS

- ASSESSOR MAP
- CMSD SEWER SYSTEM MAPS
- EXISTING SEWER IMPROVEMENT PLANS
- PROPOSED SITE PLAN & UNIT MIX

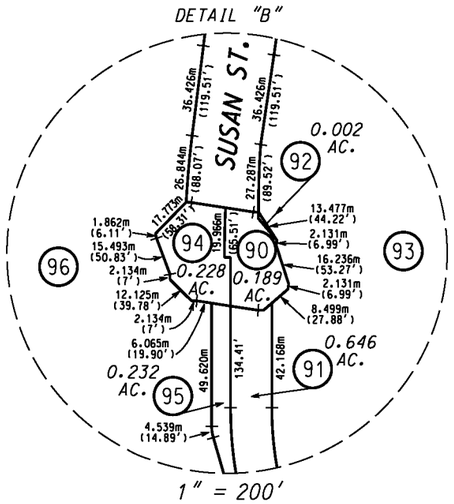
POR. SEC. 34, T 5 S, R 10 W

DETAIL "A"

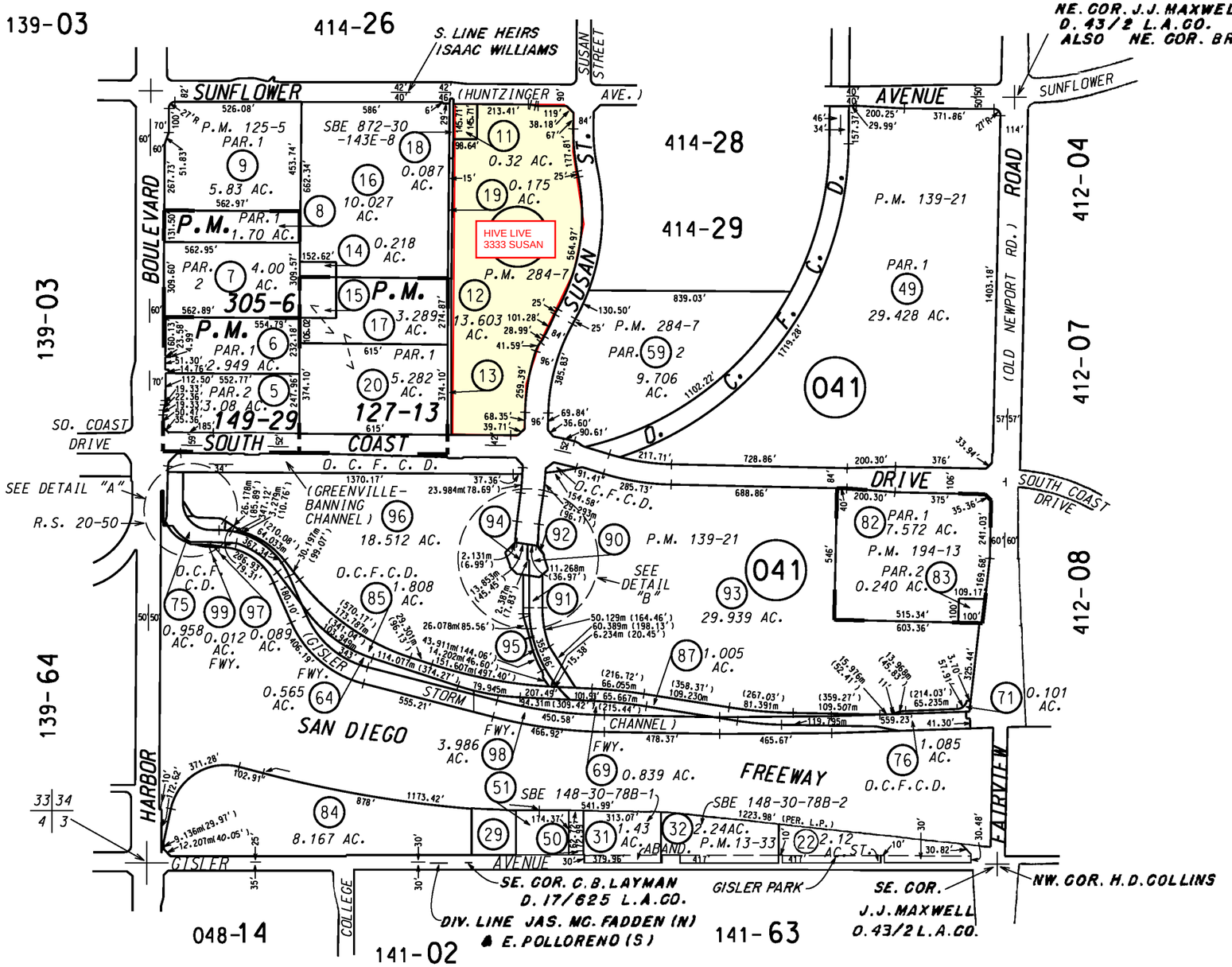


1" = 200'

DETAIL "B"



1" = 200'



1" = 500'

34|35
3|2

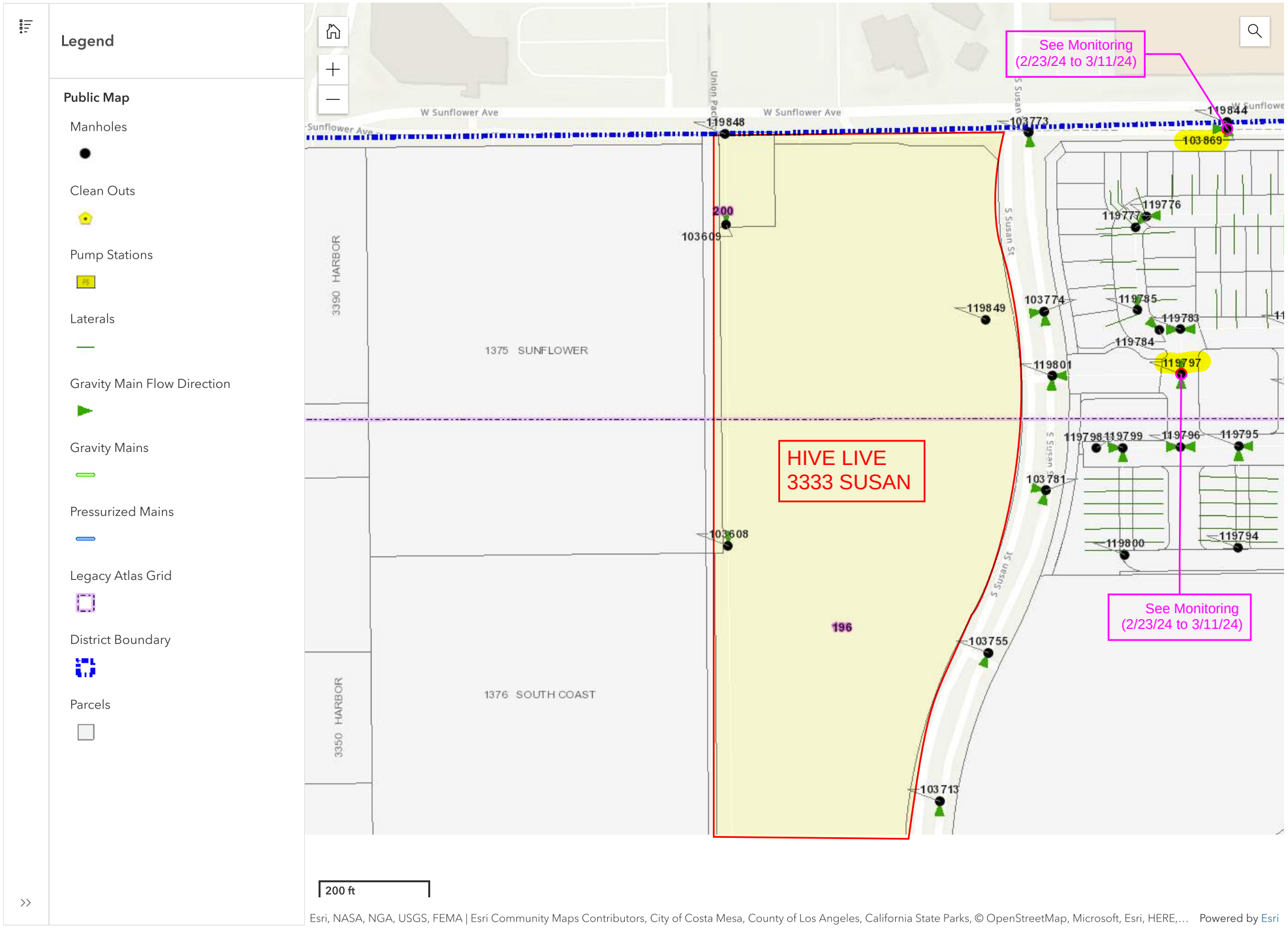
MARCH 1962

PARCEL MAP P.M. 125-5, 127-13, 139-21, 149-29
PARCEL MAP P.M. 194-13, 284-7, 305-6

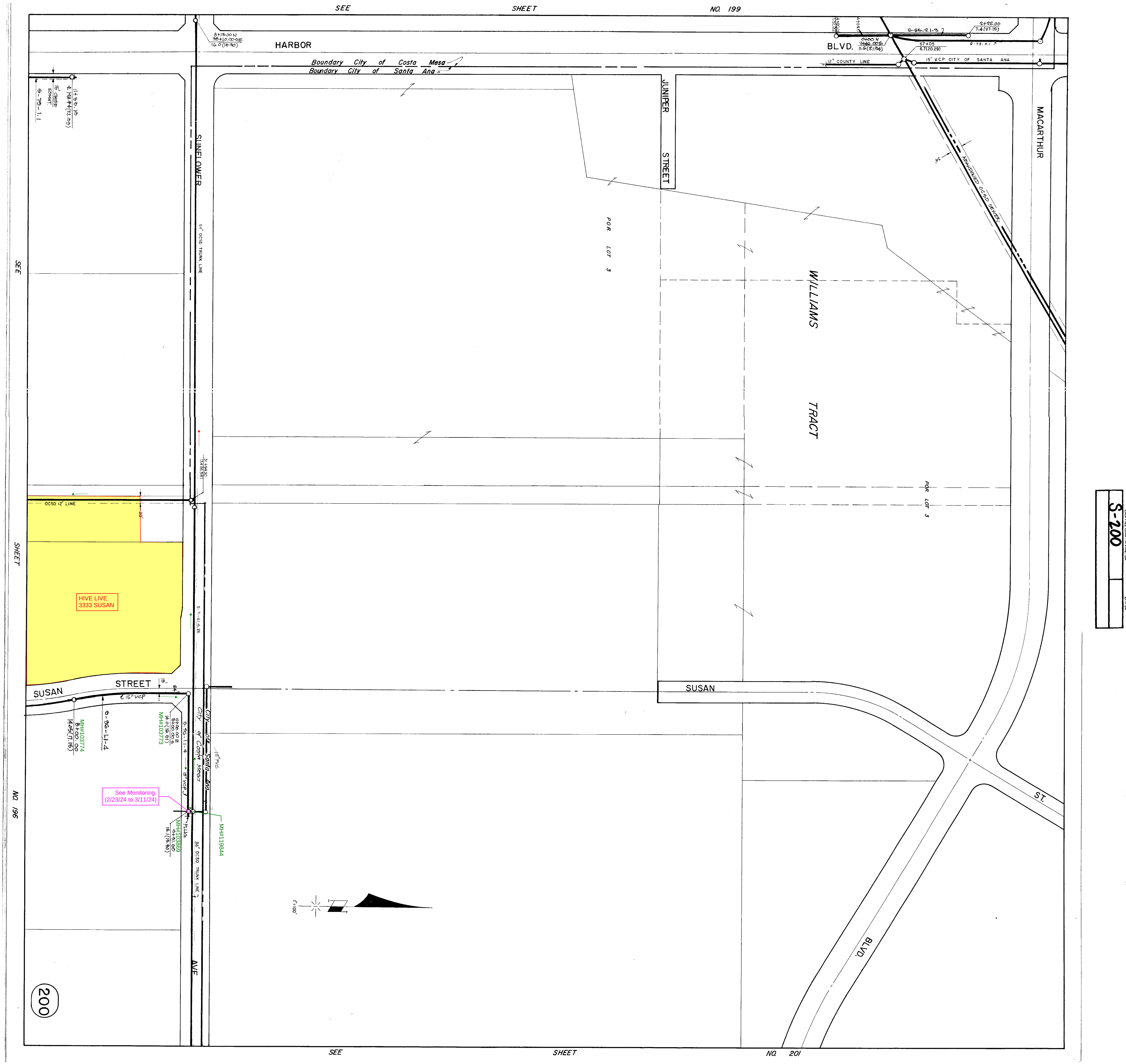
NOTE - ASSESSOR'S BLOCK & PARCEL NUMBERS SHOWN IN CIRCLES

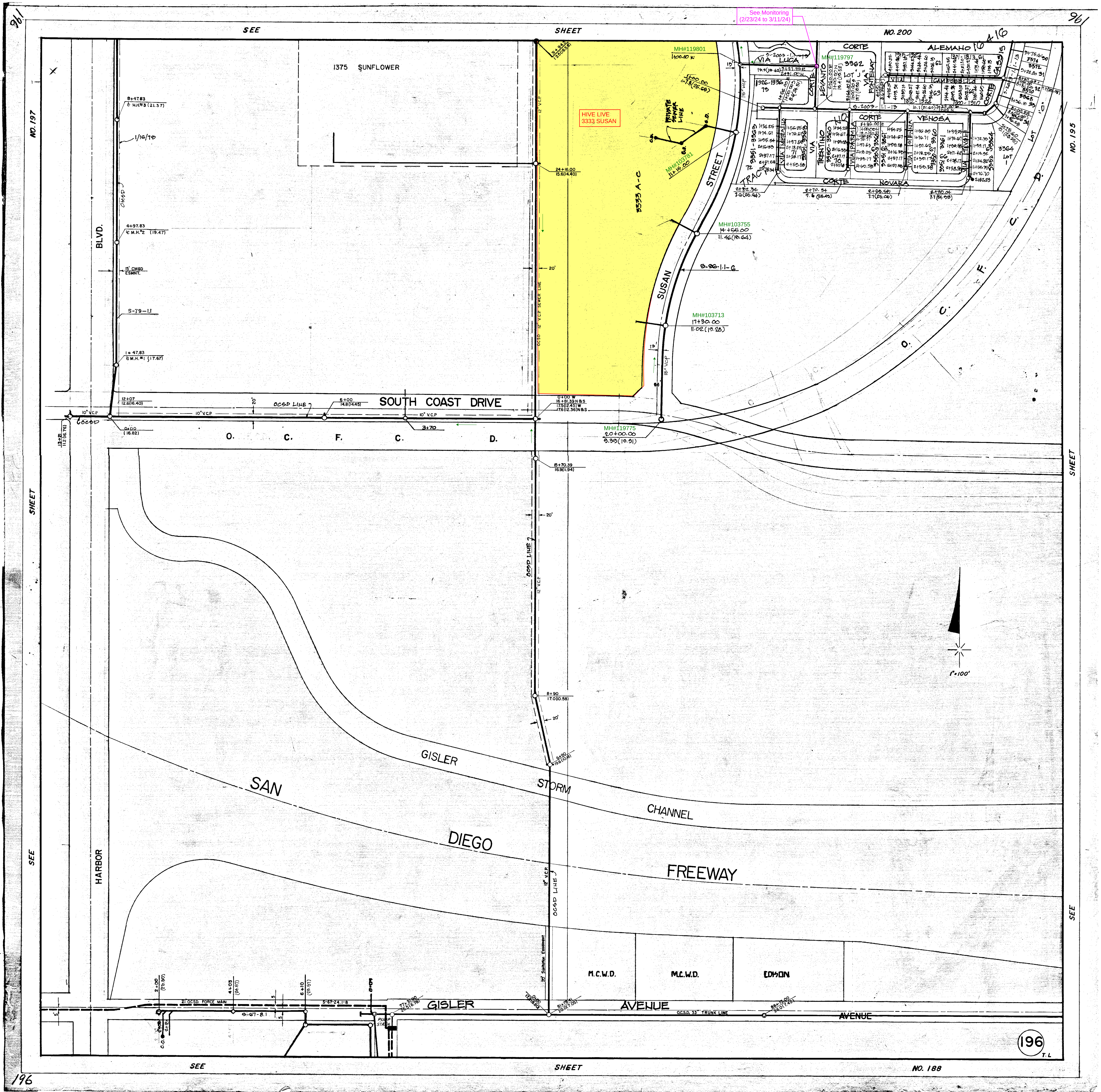
ASSESSOR'S MAP BOOK 140 PAGE 04 COUNTY OF ORANGE

Costa Mesa Sanitary District Sewer System

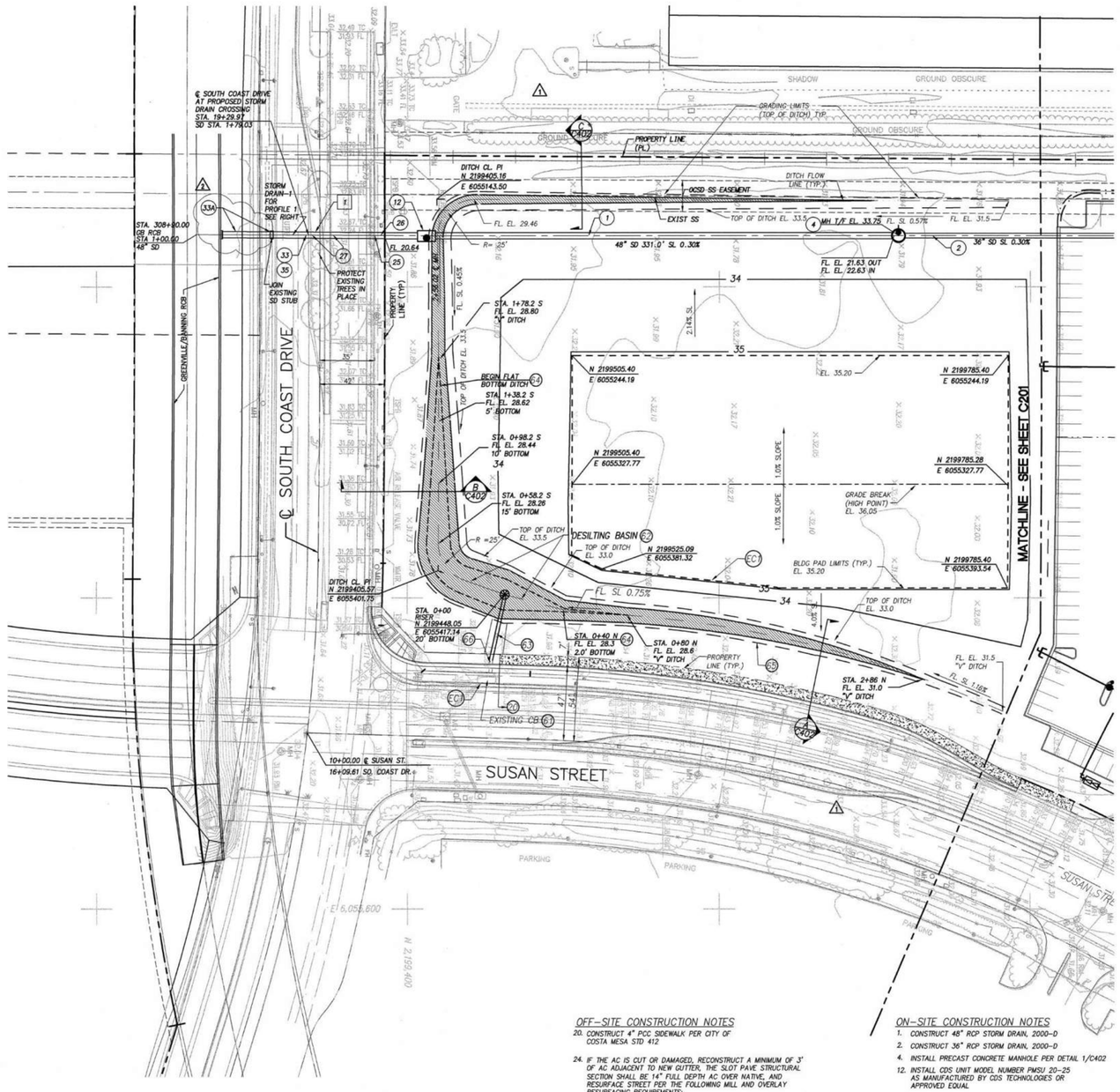


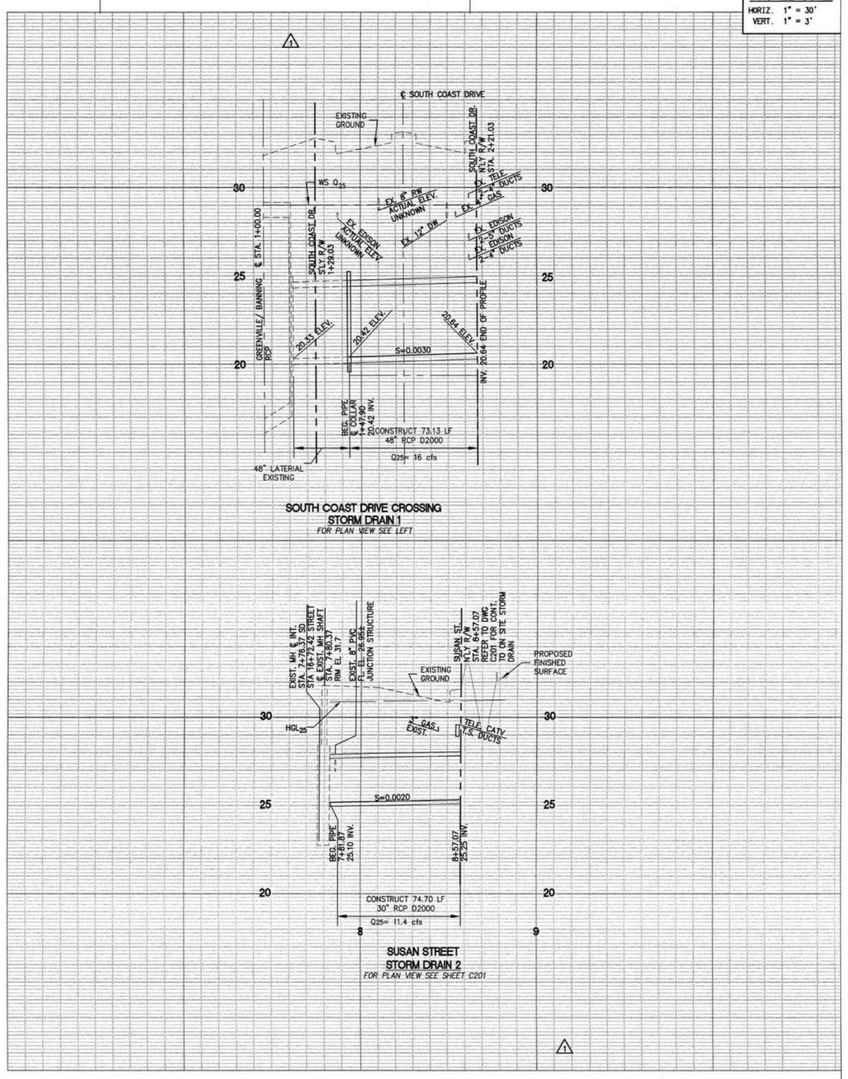
Costa Mesa Sanitary District Sewer System


SEE SHEET NO. 199
HARBOR BLVD.
Boundary City of Costa Mesa
Boundary City of Santa Ana
12" COUNTY LINE
15" V.C.P. CITY OF SANTA ANA
SUNFLOWER AVE
JUNIPER STREET
MACARTHUR BLVD.
ABANDONED OCSD SEWER
POR. LOT 3
WILLIAMS TRACT
OCSD 12" LINE
HIVE LIVE
3333 SUSAN
SUSAN STREET
SUSAN ST.
MH#103774
MH#103773
See Monitoring
(2/23/24 to 3/11/24)
MH#103869
MH#119844
24" OCSD TRUNK LINE
SEE SHEET NO 196
SEE SHEET NO. 201
S-200
200



SEE SHEET NO. 200
See Monitoring (2/23/24 to 3/11/24)
NO. 197
NO. 195
1375 SUNFLOWER
HIVE LIVE
3333 SUSAN
MH#119801
MH#119797
MH#103781
MH#103755
MH#103713
MH#119775
CORTE ALEMANO
VIA LUCA
CORTE LEVANTO
VIA FONTANA
CORTE CAMPOBELLO
CORTE VENOSA
CORTE NOVARA
VIA TRENTINO
VIA PARMA
PRIVATE SEWER LINE
3333 A-C
SUSAN STREET
HARBOR BLVD.
15' CMSD ESMNT.
S-79-1.1
OCSD LINE
SOUTH COAST DRIVE
O. C. F. C. D.
12" V.C.P.
OCSD LINE
GISLER STORM CHANNEL
SAN DIEGO FREEWAY
M.C.W.D.
M.C.W.D.
EDISON
GISLER AVENUE
AVENUE
O.C.S.D. 33" TRUNK LINE
21" OCSD FORCE MAIN
1"=100'
SEE SHEET NO. 188
196
S-196





HYDRAULIC DATA

LINE	STA TO STA	Q_{25}	S_o	n	D	d_n	V_n	d_c	V_c	H_f
LINE "1"	1+47.90 2+21.03	16.0	0.0030	0.013	48"	1.55	5.6	1.48	5.9	1.07

LINE DATA TABLE

	BEARING	LENGTH
1	N00°18'02"E	73.13

OFF-SITE CONSTRUCTION NOTES

20. CONSTRUCT 4" PCC SIDEWALK PER CITY OF COSTA MESA STD 412
24. IF THE AC IS CUT OR DAMAGED, RECONSTRUCT A MINIMUM OF 3' OF AC ADJACENT TO NEW GUTTER, THE SLOT PAVE STRUCTURAL SECTION SHALL BE 14" FULL DEPTH AC OVER NATIVE, AND RESURFACE STREET PER THE FOLLOWING MILL AND OVERLAY RESURFACING REQUIREMENTS:
    1. THE CONTRACTOR SHALL RESTORE THE ROADWAY SURFACE WITHIN THE WORK LIMITS BY MILLING AND OVERLAYING, MINIMUM OF2", THE ENTIRE LANE(S) WHERE THE TRENCH IS LOCATED.
       A. FOR TRENCHES PERPENDICULAR TO TRAFFIC LANES: MILL AND OVERLAY SHALL EXTEND 50' ON BOTH SIDES OF THE TRENCH AND WILL INCLUDE THE ENTIRE TRAVEL LANES.
       B. FOR TRENCHES PARALLEL TO TRAFFIC LANES AND FOR SMALL EXCAVATIONS: MILL AND OVERLAY THE ENTIRE WIDTH OF THE TRAFFIC LANE FOR THE FULL LENGTH OF THE TRENCH, BUT NOT LESS THAN 100'.
    2. RESTORATION OF THE ROADWAY SHALL BE CONTINUOUS AND NO JOINTS WILL BE ALLOWED. ALL ROADWAYS WITHIN THE WORK LIMITS WILL BE RESTORED IN ONE OPERATION. NO PIECE-MEAL MILLING AND OVERLAYING WORK WILL BE PERMITTED. THE CONTRACTOR SHALL NOT PROCEED WITH THE MILLING AND OVERLAYING OPERATIONS UNTIL DIRECTION IS GIVEN BY THE CITY ENGINEER.
    3. ANY EXISTING IMPROVEMENTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE CITY ENGINEER.
    4. ASPHALT RUBBER HOT MIX (ARHM) WET PROCESS SHALL CONFORM TO SUBSECTION 203-11 "ASPHAULT RUBBER HOT MIX GAP GRADED" (ARHM-GG) OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. THE GRADED AGGREGATE SHALL CONFORM TO SUBSECTION 203-11 CLASS ARHM-GG-C.
    6. ARHM SURFACE COURSE SHALL BE TYPE C AND SHALL BE PROVIDED FOR THE SURFACE-WEARING COURSE ONLY.
    7. CONTRACTOR SHALL SUBMIT THE ASPHAULT MIX DESIGN TO THE CITY ENGINEER FOR APPROVAL PRIOR TO START OF WORK.
25. REMOVE EXISTING AND CONSTRUCT TYPE (C-8) CURB AND GUTTER PER CITY OF COSTA MESA STD DWG NO. 312 OVER 6" CMB. CONTRACTOR SHALL RECONSTRUCT A MINIMUM OF 3' OF AC ADJACENT TO NEW GUTTER, THE NEW SLOT PAVE STRUCTURAL SECTION SHALL BE 10" AC OVER 13" CMB OVER 14" OVEREXCAVATION AND RECOMPACTION. EXTEND CURB AND GUTTER REMOVAL TO NEXT JOINT IF LESS THAN 8' AWAY.
26. REMOVE EXISTING PER CITY OF COSTA MESA STD. DWG. NO. 811 AND RECONSTRUCT COMMERCIAL SIDEWALK PER CITY OF COSTA MESA STD. DWG. NO. 412 OVER 4" CMB.
27. REMOVE EXISTING AND CONSTRUCT TYPE A-8 CURB PER CITY OF COSTA MESA STD 311.
33. CONSTRUCT 48" RCP STORM DRAIN (2000-D).
33A. CONSTRUCT STORM DRAIN ENTRY PER PFRD/ STANDARD PLAN 1314 PIPE BEDDING PER PFRD/ STD PLAN 1319. ALL CONCRETE SHALL BE 500-c-3250
35. TRENCH PER CITY OF COSTA MESA STD PLAN 813 WITH MODIFIED STRUCTURAL SECTION OF 10" AC OVER 13" CMB OVER 14" OVEREXCAVATION AND RECOMPACTION.

ON-SITE CONSTRUCTION NOTES

1. CONSTRUCT 48" RCP STORM DRAIN, 2000-D
2. CONSTRUCT 36" RCP STORM DRAIN, 2000-D
4. INSTALL PRECAST CONCRETE MANHOLE PER DETAIL 1/C402
12. INSTALL CDS UNIT MODEL NUMBER PMSU 20-25 AS MANUFACTURED BY CDS TECHNOLOGIES OR APPROVED EQUAL

DESILTING BASIN CONSTRUCTION NOTES

61. EXIST. CATCH BASIN W/ 18" STUB TO R/W LINE FLOW LINE EL. 23.51 EXTEND 18" SD CSP DRAIN PIPE 15' LF (MIN) FL. EL. 23.60 AT RISER
62. DESILTING BASIN NO. 1 (SEE CALCULATIONS) - SEE DETAIL AT LEFT REFER TO DWG C501 FOR RISER DETAIL
63. INSTALL 60' LF 18" CSP 28.8 FL. EL. IN
64. BEGIN FLAT BOTTOM DITCH
65. TOP OF BASIN/ DITCH TO EXIST. GRADE
66. REMOVE BRICK AND MORTAR BULK HEAD AND CONSTRUCT COLLAR PER AWPA STD. 360-2 AND JOIN EXISTING RCP. POINT OF CONNECTION AT RIGHT OF WAY LINE.

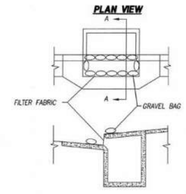
NOTES

1) NO WORK WITHIN PUBLIC RIGHT OF WAY IS APPROVED UNDER THIS PLAN. SEE SEPERATE STREET IMPROVEMENT PLAN FOR ALL STREET IMPROVEMENTS. ALL WORK WITHIN PUBLIC RIGHT OF WAY REQUIRES AN ENCROACHMENT PERMIT FROM THE PUBLIC SERVICES DEPT PRIOR TO START OF WORK
2) INSPECT ALL EROSION CONTROL FACILITIES ON A WEEKLY BASIS FOR WEAR AND CONFORMACE TO THIS PLAN.
3) AFTER 24 HOURS OF DETENSION, AND IF ADDITIONAL RAIN IS FORCAST WITHIN THE 72 HOURS, DRAIN "SETTLING ZONE" BY PUMPING. CONTACT PUBLIC SERVICES DEPARTMENT PRIOR TO PUMPING.
4) MAXIMUM DESIGN LIFE OF BASIN IS 18 MONTHES. AN UPDATED DESILTING PLAN MUST BE RESUBMITTED FOR THE REVIEW APPROVEL BY THE CITY, AND THE BASIN MUST BE REMODELED IN THE FIELD WITHIN 18 MONTHS OF INITAIL CONSTRUCTION.
5) DURING CONSTRUCTION THE ONSITE SUPERINTENDENT WILL INSPECT ALL EROSION CONTROL FACILITES FOR WEAR AND CONFORMANCE TO PLAN ON A WEEKLY BASIS OR AFTER A RAINY DAY.
6) THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE KEPT CLEAR OF DEBRIS DURING HAULING OF DIRT.
7) THE CONNECTION OF THE ON-SITE DESILTING BASIN, TO THE EXISTING OFF-SITE CATCH BASIN, IS ONLY TEMPORARY. THE FINAL STORM DRAIN DESIGN SHALL BE CONNECTED DIRECTLY INTO THE PUBLIC STORM DRAIN SYSTEM AND AS ALLOWED BY PLANNING ACTION PA -02-34
8) REFER TO DWG C501 FOR DETAILS OF DESILTING BASIN RISER AND OUTFALL PIPING.

SCALE: 1"=30'

30' 15' 0' 30' 60'
GRAPHIC SCALE: 1"=30'

PLAN VIEW



SECTION A-A

EXIST. CATCH BASIN PROTECTION DETAIL
NOT TO SCALE

DESILTING BASIN CALCULATIONS

CALCULATIONS IN COMPLIANCE WITH SWRCB ORDER NO. 99-08-DWQ NODES GENERAL PERMIT NO. CA 000002.

DESILTING BASIN

SEDIMENT YIELD = 3600 CF/AC
GRADED AREA = 3.0 AC.
REQUIRED STORAGE = 3.0 X 3600 = 10,800 CF
STORAGE PROVIDED = 11,400 CF
MAXIMUM STORAGE ELEV. = 30.8

PA- 02- 34

PRECISE GRADING CHECK NO. G 02- 00016

EMULEX
We network storage

Project:

EMULEX
3333 Susan Street
Costa Mesa, California

Prepared for:
Emulex
3535 Harbor Blvd.
Costa Mesa, CA 92626

HELLMUTH, OBATA + KASSABAUM, INC.
ARCHITECTURE, ENGINEERING, PLANNING, INTERIORS, GRAPHICS, CONSULTING
9530 Jefferson Boulevard, Culver City, CA 90232
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RBF CONSULTING
14725 Alton Parkway T 949.472.3483
Irvine, CA 92618 F 949.472.8122

Landscape
Melendrez Design Partners
The Odell Building
617 South Olive Street – #1110 T 213.873.4400
Los Angeles, CA 90014 F 213.873.4410

Structural Engineer
Brandow & Johnston Associates
20301 S.W. Birch Street, #100 T 949.476.8319
Newport Beach, CA 92660 F 949.955.0794

Mechanical & Plumbing Engineers
Tsuchiyama & Kaino
17877 Von Karman Avenue, Suite 100 T 949.756.0565
Irvine, CA 92614 F 949.756.0827

Electrical Engineer
FSA Engineering Consulting Engineers
3420 Irvine Avenue, Suite 200 T 949.852.9985
Newport Beach, CA 92660-3189 F 949.852.1657

Specifications
Bob Cloud, AIA/CSI T 310.314.7540
1048 Pine Street F 310.314.7540
Santa Monica, CA 90405

Key Plan

Professional seals

No.	Issue Description	Date
	SCHEMATIC DESIGN SUBMITTAL	6/20/02
	SCHEMATIC DESIGN REVISED	7/16/02
	PLANNING SUBMITTAL	7/18/02
	DESIGN DEVELOPMENT	8/30/02
	PLANCHECK SUBMITTAL	10/11/02
1	Plancheck Resubmittal/Bid Set	11/13/02
2	Plancheck Resubmittal #2	12/4/02

Drawn by: TJ Reviewed by: BK

Project No: 02-0193-00

Sheet Titles:

PRECISE GRADING PLAN (SOUTH)

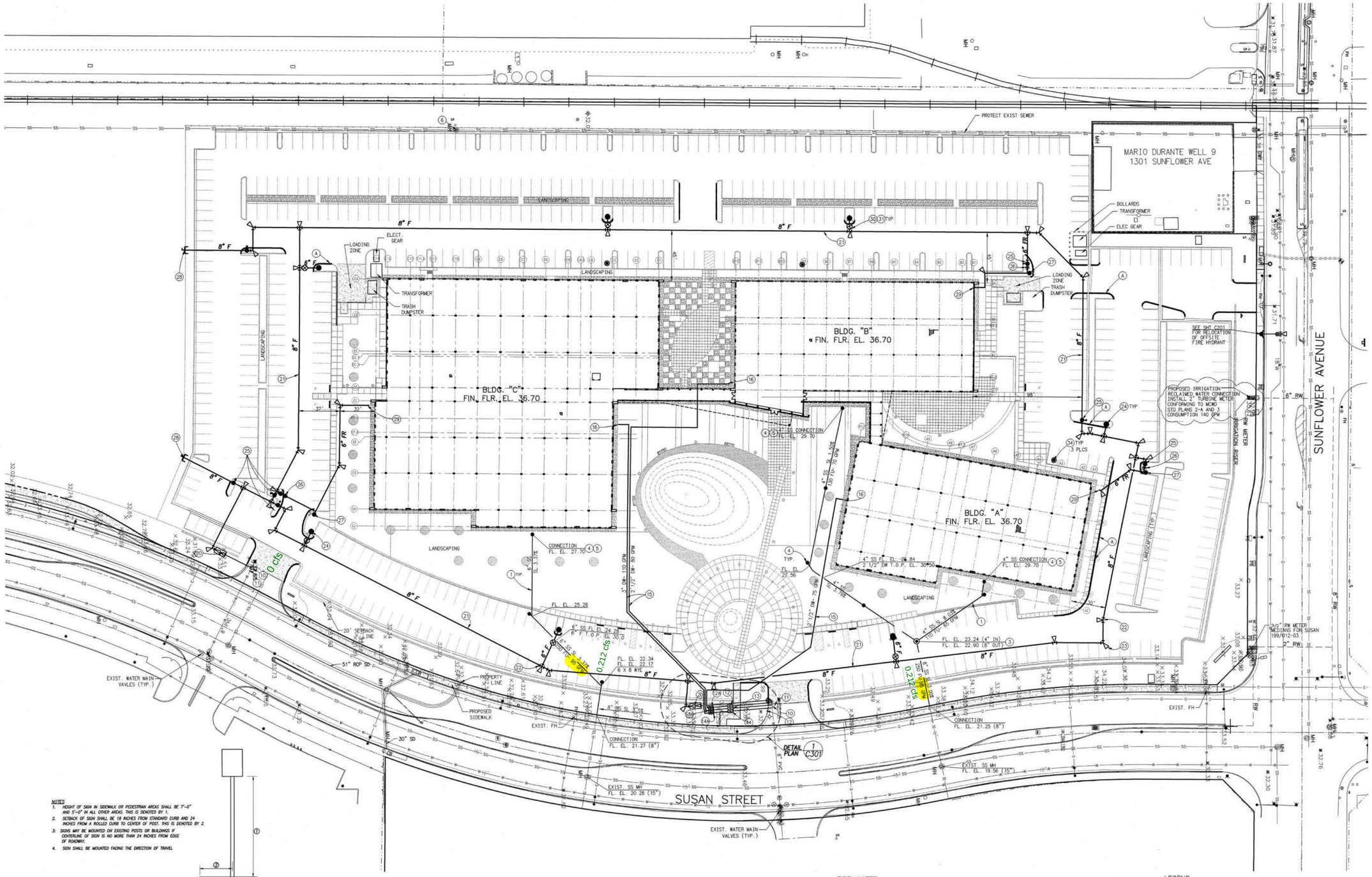
Original drawing is 36" x 48". Scale entities accordingly if reduced

PLANCHECK SUBMITTAL - SHELL PACKAGE

Sheet Number:

C202

H:\PDATA\10102308\CAD\LAND\DLV\GRADING\PRECISE\2308PC202.DWG 12/09/02 1:48 pm

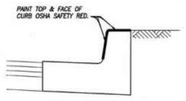


NOTES
1. HEIGHT OF SIGN IN SIDEWALK OR PEDESTRIAN AREAS SHALL BE 7'-0" AND 5'-0" IN ALL OTHER AREAS. THIS IS DENOTED BY 1.
2. SETBACK OF SIGN SHALL BE 18 INCHES FROM STANDARD CURB AND 24 INCHES FROM A ROLLED CURB TO CENTER OF POST. THIS IS DENOTED BY 2.
3. SIGNS MAY BE MOUNTED ON EXISTING POSTS OR BUILDINGS IF CENTERLINE OF SIGN IS NO MORE THAN 24 INCHES FROM EDGE OF ROADWAY.
4. SIGN SHALL BE MOUNTED FACING THE DIRECTION OF TRAVEL

FIRE LANE SIGN MOUNTING
N.T.S.

NOTES
THIS SIGN SHALL BE POSTED AT ALL ENTRANCES TO THE AREA IN QUESTION AND AT OTHER LOCATIONS AS REQUIRED BY THE FIRE DEPARTMENT. SIGNS SHALL MEET THE FOLLOWING CRITERIA.
1. THE SIGN SHALLBE APPROVED BY THE FIRE DEPARTMENT AND MUST BE A MINIMUM OF 12"X18".
2. LETTERING SHALL BE RED ON WHITE BACKGROUND, NO SMALLER THAN 1" IN HEIGHT.
3. THE WORDS FIRE LANE SHALL BE WHITE ON RED BACKGROUND SMALLER THAN 3" IN HEIGHT.
4. THE SIGN SHALL BE NO SMALLER THAN 18 INCHES WIDE BY 30 INCHES HIGH.
5. SIGNS SHALL BE OF DURABLE MATERIAL AND CONSTRUCTION.

FIRE LANE ENTRANCE SIGN
N.T.S.



STANDARD CURB

1. FIRE LANE ENTRANCE SIGN SHALL BE PROVIDED PER ATTACHMENT 7
2. CURBS SHALL BE PAINTED OSHA SAFETY RED.
3. "FIRE LANE – NO PARKING" SHALL BE PAINTED ON TOP OF THE CURB WITH THREE (3) INCH HIGH LETTERS SPACED THIRTY (30) FEET ON CENTER OR PORTION THEREOF.

RED CURBING DETAIL (A)
NO SCALE

CONSTRUCTION NOTES

SANITARY SEWER

1. SANITARY SEWER PIPE MATERIAL PVC SDR 35 CONFORMING TO ASTMD 3034
2. NOT USED
3. CONCRETE MANHOLE PER DETAIL 1/C402
4. SANITARY SEWER CLEANOUT PER DETAIL 2/C402
5. SANITARY SEWER BLDG. CONNECTION REFER TO PLUMBING DWG. P101 FOR LOCATION
6. EXIST. O.C. SANITATION DISTRICT MANHOLE ADJUST FRAME & COVER TO GRADE

DOMESTIC WATER

10. MAKE CONNECTION TO EXISTING 8" PVC WATER SUPPLY STUB PER MCWD STD NO. 6
11. SAW-CUT AND REMOVE PORTION OF EXISTING CONCRETE DRIVEWAY RESTORE DRIVEWAY IN COMPLIANCE WITH CITY OF COSTA MESA STD PLAN 514
12. INSTALL NEW 2" SERVICE & 1 1/2" METER (72 GPM) FOR DOMESTIC USE IN BLDG. "A" PER M.C.W.D. STANDARDS NO. 2, 3, & 23
13. INSTALL NEW 2" SERVICE & 1 1/2" METER (72 GPM) FOR DOMESTIC USE IN BLDG. "B" PER M.C.W.D. STANDARDS NO. 2, 3, & 23
14. INSTALL NEW 2" SERVICE & 2" METER (105 GPM) FOR DOMESTIC USE IN BLDG. "C" PER M.C.W.D. STANDARDS NO. 2, 3, & 23
15. WATER SUPPLY PIPING TO BUILDING PIPE INSTALLATION SHALL BE PER MCWD STANDARD SPECS AND DWG 18
16. CONNECTION REFER TO PLUMBING DRAWINGS FOR CONT.
17. FLUSHING, TESTING AND DESINFECTING SHALL BE PER MCWD STANDARD SPECIFICATIONS.

GENERAL NOTES

1. ALL THRUST BLOCKS SHALL CONFORM TO MCWD STD PLAN 11 AND 12
2. ALL ON-SITE PLUMBING SHALL COMPLY WITH 1998 CPC REQUIREMENTS

FIRE WATER

20. 8" DOUBLE CHECK DETECTOR ASSEMBLY MANUFACTURER SHALL CONFORM WITH ANSI/AWWA C510-97 AND AS APPROVED BY MCWD. INSTALLATION SHALL BE PER MCWD STANDARD DRAWING 17
21. FIRE MAIN PIPING MATERIAL SHALL BE PVC CONFORMING TO AWWA C900 OR C905 CLASS 150 (DR18). PIPE SHALL BE WHITE AND SHALL BE FURNISHED IN CAST IRON PIPE EQUIVALENT OUTSIDE DIAMETERS. PIPE INSTALLATION SHALL BE PER MCWD STANDARD SPECIFICATIONS AND DWG. 18
22. FITTINGS SHALL BE PREFABRICATED PVC OR CEMENT LINED DUCTILE IRON CLASS 53
23. PROVIDE CONCRETE THRUST BLOCKS AT ALL FITTINGS AS INDICATED ON PLAN. THRUST BLOCK SHALL BE PER MCWD STANDARD DRAWING 11 AND 12
24. FIRE HYDRANTS SHALL BE WET BARREL ASSEMBLY. FIRE HYDRANT TYPE AND INSTALLATION PER MCWD STANDARD DRAWING 4 AND 4A
25. POST INDICATOR VALVES (PIV) SHALL BE PROVIDED WITH TAMPER SWITCHES AND SHALL BE UL/FM APPROVED.
26. HORIZONTAL SWING CHECK VALVE SHALL HAVE ALL INTERNAL COMPONENTS AND SHALL SHALL CONFORM WITH ANSI/AWWA C508.
27. SIAMESE FIRE DEPARTMENT CONNECTION (FDC) SHALL BE UL/FM LISTED AND AS APPROVED BY COSTA MESA FIRE DEPARTMENT.
28. DEAD END CAP WITH 2" BLOW-OFF ASSEMBLY PER MCWD STANDARD DRAWING 9
29. FIRE RISER BUILDING CONNECTION REFER TO PLUMBING DRAWINGS FOR LOCATION
30. VALVES SHALL BE RESILIENT SEATED GATE VALVE WITH NON-RISING STEM UL/FM LISTED, 175 POUND (MIN.) WORKING PRESSURE.
31. VALVE BOXES SHALL CONFORM TO MCWD SPECIFICATIONS AND STANDARD DWG. 14.
32. FLUSHING AND PRESSURE TESTING SHALL BE PER MCWD STANDARDS OR PER NFPA 24 WHICH EVER IS MORE STRINGENT
33. REMOVE EXIST. FIRE HYDRANT 6" LATERAL AND 6" GATE VALVE BLIND FLANGE AND TRUST BLOCK TEE. INSTALL RELOCATED FIRE HYDRANT PER MCWD STD. DWG 4.

MISC

34. ELEVATOR EMERGENCY DRAIN HOLDING TANK REFER TO DWG P101 AND P501–

PIPE SIZE	SLOPE	FLOW Q	CAP. Qf	Q/Qf	d/D	Vf	V/Vf	V
8"	3.0%	0.21cfs	2.8 cfs	0.075	0.21	8.0 fps	0.59	4.72 fps
8"	3.5%	0.21 cfs	3.0 cfs	0.07	0.21	8.6 fps	0.58	4.99 fps
4"	1.5%	0.16 cfs	0.32 cfS	0.50	0.50	3.4 fps	1.0	3.4 fps

LEGEND

- WATER METER (WM)
- FIRE HYDRANT (FH)
- DDC (FIRE DEPARTMENT CONNECTION)
- POST INDICATOR VALVE (PIV)
- CHECK VALVE
- BACKFLOW DETECTOR CHECK VALVE
- FIRE HYDRANT VALVE
- SANITARY SEWER CLEANOUT
- MANHOLE
- THRUST BLOCK
- W SITE WATER SUPPLY
- DW DOMESTIC WATER
- F SITE FIRE WATER
- SS SITE SANITARY SEWER
- FR BUILDING FIRE RISER
- EL ELEVATION
- FL FLOW LINE
- T.O.P. TOP OF PIPE

SCALE: 1"=30'

30' 15' 0' 30' 60'
GRAPHIC SCALE: 1"=30'

MESA CONSOLIDATED WATER DISTRICT
MC - 1709

APPROVED BY: DATE:

COSTA MESA SANITARY DISTRICT
APP'D FOR CONNECTION TO EXISTING SEWER IN SUSAN STREET

DISTRICT ENGINEER DATE:

PA- 02- 34

PRECISE GRADING CHECK NO. G 02- 00016

EMULEX
We network storage

Project:

EMULEX
3333 Susan Street
Costa Mesa, California

Prepared for:

Emulex
3535 Harbor Blvd.
Costa Mesa, CA 92626

HELLMUTH, OBATA + KASSABAUM, INC.

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Specifications
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1045 Pine Street — F 310.314.7540
Santa Monica, CA 90405

Key Plan

Professional seals

No.	Issue Description	Date
	SCHEMATIC DESIGN SUBMITTAL	6/20/02
	SCHEMATIC DESIGN REVISED	7/16/02
	PLANNING SUBMITTAL	7/18/02
	DESIGN DEVELOPMENT	8/30/02
	PLANCHECK SUBMITTAL	10/11/02
1	Plancheck Resubmittal/Bld Set	11/13/02
2	Plancheck Resubmittal #2	12/4/02

Drawn by: TJ Reviewed by: BK

Project No: 02-0193-00

Sheet Titles:

SEWER AND WATER PLAN

Original drawing is 36" x 48". Scale entities accordingly if reduced

PLANCHECK SUBMITTAL - SHELL PACKAGE

Sheet Number:

C301

CONSTRUCTION NOTES AND ESTIMATED QUANTITIES

NOTE: QUANTITIES SHOWN HEREON ARE FOR PERMIT PURPOSES ONLY. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CALCULATIONS AND BID A COMPLETE JOB.

SEWER

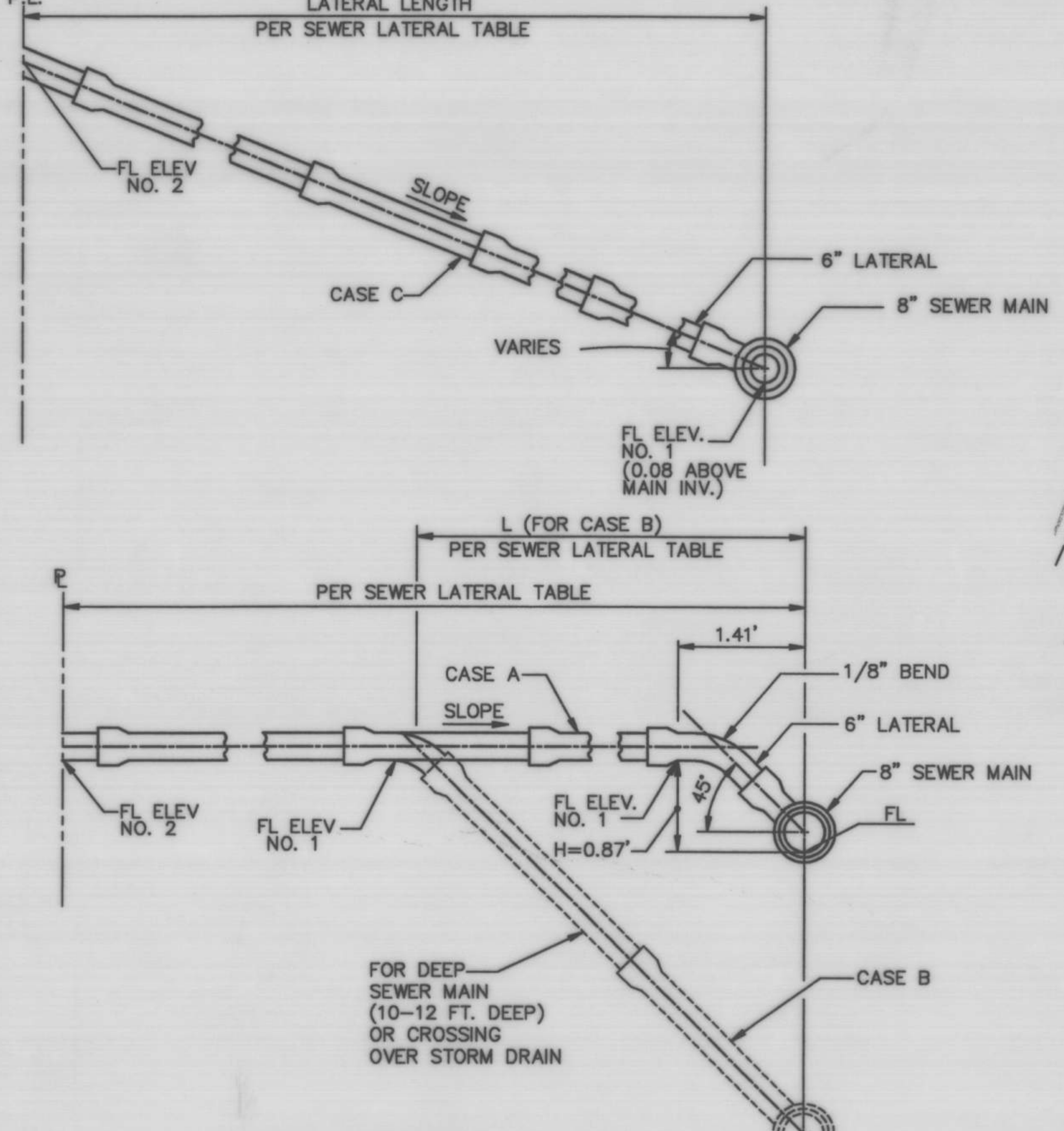
No.	Item	Quantity
(50)	INSTALL 8" VCP SEWER MAIN (TYP.) WITH BEDDING PER CMSD STD DWG S-112	3825 L.F.
(51)	CONSTRUCT 48" MANHOLE PER CMSD STD DWG S-100	17 EA.
(52)	CONSTRUCT 60" MANHOLE PER CMSD STD DWG S-100-A	8 EA.
(53)	INSTALL 6" VCP SEWER LATERAL PER CMSD STD DWG S-104-A	3046 L.F.
(54)	INSTALL CLEANOUT PER CMSD STD DWG S-107	9 EA.

WATER

No.	Item	Quantity
(60)	INSTALL 8" PVC CL 150 C900 AWWA WATER LINE (WHITE)	5042 L.F.
(61)	INSTALL 2" COPPER SERVICE ASSEMBLY AND MANIFOLD WITH 3/4" METERS AND BOXES PER MCWD STD DWGS. NO 1, 3 & 7 — METERS / MANIFOLDS	83 EA. / 26 EA.
(62)	INSTALL STANDARD FIRE HYDRANT PER MCWD STD DWG NO 4 (CLOW W/BREAK-OFF CHECK VALVE, MODEL LB400)	15 EA.
(63)	INSTALL 1" COPPER SERVICE ASSEMBLY PER MESA CONSOLIDATED WATER DISTRICT STD DWGS. NO 1,3 & 23 WITH 5/8" METER & BOX (FOR POOL AREA BATHROOM)	1 EA.
(64)	CONSTRUCT THRUST BLOCK PER MCWD STD DWG 12	42 EA.
(65)	INSTALL 8" FLG. D.I. TEE	9 EA.
(66)	INSTALL 8" PUSH-ON D.I. 45 DEGREE BEND	17 EA.
(67)	INSTALL 8" R.S. GATE VALVE (PUSH-ON x FLG.) PER MCWD STD DWG NO 14-A	29 EA.
(68)	CONSTRUCT 2" COPPER SERVICE ASSEMBLY & 2"METER PER MESA CONSOLIDATED WATER DISTRICT STD. DWGS. NO. 2, 3 & 23 (IRRIGATION) (70 GPM)	2 EA.
(69)	INSTALL 8" x 8" x 6" PUSH-ON x FLG. D.I. TEE	15 EA.
(70)	INSTALL 8" PUSH-ON D.I. 11¼ DEGREE BEND	1 EA.
(71)	INSTALL 6" PUSH-ON D.I. 45 DEGREE BEND	1 EA.
(72)	CONSTRUCT 2 " COPPER SERVICE ASSEMBLY WITH 2" METER PER MCWD STD. DWGS. NO. 2, 3 & 23 (IRRIGATION) (54 GPM)	1 EA.
(74)	INSTALL 8" PUSH-ON D.I. COUPLING	1 EA.
(76)	INSTALL 6" PVC CL 150 C900 AWWA WATER LINE (WHITE)	230 L.F.
(77)	INSTALL 6" FLG. x PUSH-ON R.S. G.V. PER MESA CONSOLIDATED WATER DISTRICT STD DWG 6.	15 EA.
(79)	PROTECT EXISTING FIRE HYDRANT IN PLACE	N/A
(84)	INSTALL 6" LATERAL PER MCWD STD DWG 6	45 L.F.
(86)	INSTALL 3" DOUBLE CHECK DETECTOR ASSEMBLY PER MCWD STD DWG 17.	1 EA.
(87)	INSTALL 1" COPPER SERVICE ASSEMBLY PER MESA CONSOLIDATED WATER DISTRICT STD DWG NO 1&3 WITH 1" METER & BOX (38 GPM)	60 EA.
(88)	INSTALL 3" PVC CL 150 C900 AWWA WATER LINE (WHITE)	2859 LF.
(89)	INSTALL 6"X 3" REDUCER.	1 EA.

OFFSITE WATER

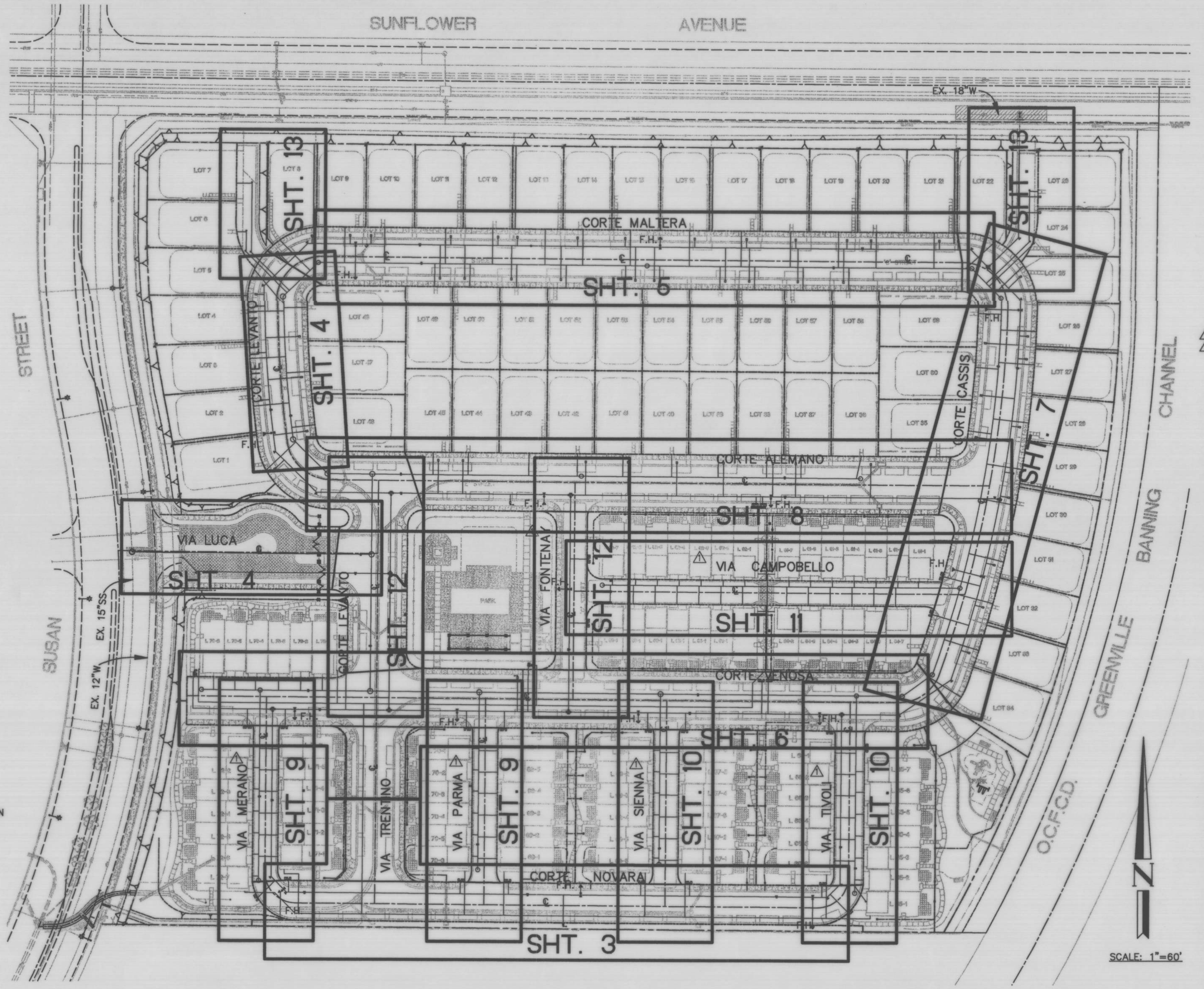
No.	Item	Quantity
(A)	INSTALL STD 8"TAPPING SLEEVE & 8"R.S. GATE VALVE (FLG X PUSH-ON) PER MCWD STD DWG 6	1 L.F.
(B)	CONSTRUCT THRUST BLOCK PER MCWD STD. 12	1 EA.
(C)	RELOCATE EXISTING 12" WATERLINE PER MCWD STD. 25	40 L.F.
(D)	CONSTRUCT 6" BLOWOFF ASSEMBLY PER MCWD STD. 28	1 EA.



SEWER LATERAL F.L. DETAIL

N.T.S.

SEE CMSD STD. DWG S-104-A AND TABLE ON THIS SHEET FOR COMPLETE DETAILS



=143 DU x 300 gpd (3 BR or more DU) x 2.5 (peak factor)
=107,250 gpd or 0.167 cfs

LOT NO.	SEWER LAT. SEWER STATION	CASE	SEWER LATERAL FLOWLINE SEE DETAIL ON THIS SHEET ELEV. 1	ELEV. 2	SLOPE	LAT. LENGTH	BEARING IF NOT RADIAL OR PERP.
UNIT 65	1+54.25	CASE C	21.86	27.50	.9400	6.00	
UNIT 66	1+74.67	CASE C	22.51	27.30	.7983	6.00	
UNIT 67	1+95.58	CASE C	23.18	27.20	.6700	6.00	
UNIT 68	2+16.33	CASE C	23.84	27.00	.5267	6.00	
UNIT 69	2+37.17	CASE C	24.51	26.90	.3983	6.00	
UNIT 70	2+57.58	CASE C	25.16	26.80	.2733	6.00	
UNIT 71	1+56.25	CASE A	25.86	27.40	.0928	18.00	
UNIT 72	1+76.67	CASE A	25.97	27.50	.0922	18.00	
UNIT 73	1+97.58	CASE A	26.08	27.40	.0796	18.00	
UNIT 74	2+18.25	CASE A	26.18	27.30	.0675	18.00	
UNIT 75	2+39.17	CASE A	26.29	27.20	.0549	18.00	
UNIT 76	2+59.58	CASE A	26.40	27.10	.0422	18.00	
UNIT 77	1+54.25	CASE C	25.06	27.40	.3900	6.00	
UNIT 78	1+74.67	CASE C	25.17	27.60	.4067	6.00	
UNIT 79	1+95.54	CASE C	25.28	27.40	.3533	6.00	
UNIT 80	2+16.33	CASE C	25.39	27.30	.3183	6.00	
UNIT 81	2+37.17	CASE C	25.49	27.30	.3017	6.00	
UNIT 82	2+57.58	CASE C	25.60	27.20	.2667	6.00	
UNIT 83	2+78.34	CASE C	25.71	27.10	.2333	6.00	

LOT NO.	SEWER LAT. SEWER STATION	CASE	SEWER LATERAL FLOWLINE SEE DETAIL ON THIS SHEET ELEV. 1	ELEV. 2	SLOPE	LAT. LENGTH	BEARING IF NOT RADIAL OR PERP.
UNIT 46	2+58.58	CASE A	25.32	26.20	.0473	20.00	
UNIT 47	1+56.25	CASE A	23.22	27.30	.2459	18.00	
UNIT 48	1+76.71	CASE A	23.74	27.10	.2025	18.00	
UNIT 49	1+97.62	CASE A	24.28	26.90	.1579	18.00	
UNIT 50	2+18.25	CASE A	24.80	26.70	.1145	18.00	
UNIT 51	2+39.17	CASE A	25.34	26.50	.0699	18.00	
UNIT 52	2+59.58	CASE A	25.86	26.30	.0265	18.00	
UNIT 53	1+54.25	CASE C	22.38	28.20	.9717	6.00	
UNIT 54	1+74.67	CASE C	22.90	28.00	.8500	6.00	
UNIT 55	1+95.58	CASE C	23.43	27.80	.7283	6.00	
UNIT 56	2+16.33	CASE C	23.96	27.60	.6067	6.00	
UNIT 57	2+37.17	CASE C	24.50	27.40	.4833	6.00	
UNIT 58	2+57.58	CASE C	25.02	27.10	.3467	6.00	
UNIT 59	1+56.25	CASE C	21.92	28.10	.3433	18.00	
UNIT 60	1+76.71	CASE C	22.58	27.90	.2956	18.00	
UNIT 61	1+97.63	CASE C	23.24	27.80	.2533	18.00	
UNIT 62	2+18.25	CASE C	23.90	27.60	.2056	18.00	
UNIT 63	2+39.17	CASE C	24.58	27.50	.1290	18.00	
UNIT 64	2+59.58	CASE C	25.23	27.40	.0832	18.00	

SEWER LATERAL DATA TABLE

TRACT 15882

LOT NO.	SEWER LAT. SEWER STATION	CASE	SEWER LATERAL FLOWLINE SEE DETAIL ON THIS SHEET ELEV. 1	ELEV. 2	SLOPE	LAT. LENGTH	BEARING IF NOT RADIAL OR PERP.
1	1+85.31	CASE C	19.90	26.20	.1605	39.26	
2	2+24.07	CASE C	20.23	26.80	.1932	34.00	
3	2+68.70	CASE C	20.41	27.30	.2026	34.00	
4	3+12.93	CASE C	20.59	27.20	.1944	34.00	
5	3+20.11	CASE C	20.62	25.80	.1209	42.84	N 39°47'40"W
6	3+32.55	CASE C	SEE SHEET 13				
7	3+35.55	CASE C	SEE SHEET 13				
8	3+62.99	CASE B	25.77	26.50	.0200	41.00	
9	3+98.76	CASE B	25.80	26.40	.0200	34.00	
10	4+36.49	CASE A	22.80	25.60	.0859	34.00	
11	4+94.63	CASE A	23.57	25.90	.0715	34.00	
12	5+39.49	CASE A	24.17	26.20	.0626	34.00	
13	5+89.04	CASE A	24.81	26.40	.0488	34.00	
14	6+24.62	CASE A	25.28	26.60	.0405	34.00	
15	6+70.05	CASE A	25.88	26.80	.0282	34.00	
16	7+26.37	CASE A	26.37	27.10	.0224	34.00	
17	7+75.31	CASE A	26.62	27.30	.0209	34.00	
18	8+21.89	CASE A	26.87	27.60	.0224	34.00	
19	8+67.73	CASE A	27.10	27.75	.0200	34.00	
20	9+03.74	CASE A	27.29	27.94	.0200	34.00	
21	9+58.58	CASE A	27.58	28.23	.0200	34.00	
22	9+88.57	CASE A	27.73	28.50	.0211	37.90	N 47°05'37"E
⚠1 23	11+90.75	CASE C	SEE SHEET 13				
⚠1 24	11+86.75	CASE C	SEE SHEET 13				
25	11+78.19	CASE A	27.74	28.46	.0200	37.44	
26	11+39.57	CASE A	27.35	28.20	.0261	34.00	
27	11+07.97	CASE A	27.19	28.00	.0249	34.00	
28	10+53.35	CASE A	26.90	27.70	.0245	34.00	
29	10+09.34	CASE A	26.67	27.40	.0224	34.00	
30	9+75.61	CASE A	26.50	27.30	.0245	34.00	
31	9+22.00	CASE A	26.22	27.00	.0239	34.00	
32	8+81.59	CASE A	25.93	26.90	.0298	34.00	
33	8+36.10	CASE A	25.69	26.70	.0310	34.00	
34	7+96.58	CASE A	25.26	26.50	.0359	35.64	N 58°19'14"W
35	10+38.76	CASE A	26.83	27.50	.0325	22.00	
36	5+59.85	CASE A	24.85	26.30	.0689	22.46	N 11°58'08"E
37	5+06.96	CASE A	24.64	26.80	.1049	22.00	
38	4+74.38	CASE A	24.51	27.20	.1306	22.00	
39	4+28.80	CASE A	24.53	27.30	.1442	22.00	
40	3+84.46	CASE A	24.15	27.90	.1821	22.00	
41	3+37.88	CASE A	23.97	28.25	.2079	22.00	
42	2+94.46	CASE A	23.67	27.85	.2030	22.00	
43	2+48.80	CASE A	22.84	27.40	.2215	22.00	
44	1+91.29	CASE A	21.80	26.80	.2428	22.00	
45	1+57.88	CASE A	21.19	26.50	.2579	22.00	
46	2+00.16	CASE A	20.93	26.40	.2657	22.00	
47	2+52.93	CASE A	21.14	27.10	.2095	22.00	
48	3+16.19	CASE A	21.39	26.90	.2676	22.00	
49	4+85.54	CASE A	23.45	25.90	.1190	22.00	
50	5+18.21	CASE A	23.88	26.00	.1034	22.00	
51	5+62.50	CASE A	24.47	26.20	.0840	22.00	
52	6+09.13	CASE A	25.08	26.50	.0678	22.00	
53	6+65.72	CASE A	25.83	26.80	.0449	22.00	
54	6+98.21	CASE A	26.22	26.90	.0330	22.00	
55	7+55.71	CASE A	26.52	27.20	.0330	22.00	
56	7+88.21	CASE A	26.69	27.40	.0345	22.00	
57	8+34.13	CASE A	26.93	27.60	.0325	22.00	
58	8+77.73	CASE A	27.16	27.80	.0311	22.00	
59	11+54.78	CASE A	27.43	28.20	.0374	22.00	
60	11+01.49	CASE A	27.15	28.00	.0413	22.00	
UNIT 1	1+11.42	CASE C	25.54	27.50	.1633	12.00	
UNIT 2	1+31.83	CASE C	25.13	27.40	.1892	12.00	
UNIT 3	1+51.50	CASE C	24.74	27.30	.2133	12.00	
UNIT 4	1+73.42	CASE C	23.82	27.20	.2817	12.00	
UNIT 5	1+94.33	CASE C	22.77	27.10	.3608	12.00	
UNIT 6	2+14.75	CASE C	21.74	27.00	.4383	12.00	
PARK	4+05.08	CASE C	20.27	28.70	.3832	22.00	
UNIT 7	4+30.02	CASE C	26.67	29.10	.4050	6.00	
UNIT 8	4+07.94	CASE C	26.58	29.00	.4033	6.00	
UNIT 9	3+87.10	CASE C	26.50	28.90	.4000	6.00	
UNIT 10	3+66.27	CASE C	26.41	28.80	.3983	6.00	
UNIT 11	3+45.44	CASE C	26.33	28.70	.3950	6.00	
UNIT 12	3+24.60	CASE C	26.25	28.50	.3750	6.00	
UNIT 13	3+04.19	CASE C	26.17	28.40	.3717	6.00	
UNIT 14	4+32.02	CASE A	27.47	29.20	.1043	18.00	
UNIT 15	4+09.94	CASE A	27.38	29.10	.1037	18.00	
UNIT 16	3+89.10	CASE A	27.30	28.90	.0964	18.00	
UNIT 17	3+68.27	CASE A	27.21	28.80	.0958	18.00	
UNIT 18	3.47.44	CASE A	27.13	28.70	.0946	18.00	
UNIT 19	3+26.60	CASE A	27.05	28.60	.0934	18.00	
UNIT 20	3+06.19	CASE A	26.97	28.50	.0922	18.00	
UNIT 21	2+62.35	CASE C	26.00	28.20	.3667	6.00	
UNIT 22	2+41.94	CASE C	25.92	28.00	.3467	6.00	
UNIT 23	2+21.10	CASE C	25.83	27.90	.3450	6.00	
UNIT 24	2+00.27	CASE C	25.75	27.80	.3417	6.00	
UNIT 25	1+79.44	CASE C	25.67	27.70	.3383	6.00	
UNIT 26	1+58.60	CASE C	25.59	27.60	.3367	6.00	
UNIT 27	1+39.19	CASE C	25.51	27.50	.3317	6.00	
UNIT 28	2+64.44	CASE A	26.80	28.30	.0904	18.00	
UNIT 29	2+43.94	CASE A	26.72	28.20	.0892	18.00	
UNIT 30	2+23.10	CASE A	26.63	28.00	.0826	18.00	
UNIT 31	2+02.27	CASE A	26.55	27.90	.0814	18.00	
UNIT 32	1+81.44	CASE A	26.47	27.80	.0802	18.00	
UNIT 33	1+60.69	CASE A	26.38	27.70	.0796	18.00	
UNIT 34	1+72.75	CASE C	23.08	26.40	.4150	8.00	
UNIT 35	1+93.17	CASE C	23.42	26.50	.3850	8.00	
UNIT 36	2+13.92	CASE C	23.77	26.60	.3538	8.00	
UNIT 37	2+34.82	CASE C	24.13	26.70	.3225	8.00	
UNIT 38	2+55.75	CASE C	24.48	26.80	.2900	8.00	
UNIT 39	2+76.70	CASE C	24.83	26.90	.2588	8.00	
UNIT 40	2+82.29	CASE A	25.72	27.00	.0775	17.92	N 36°00'36"W
UNIT 41	1+55.25	CASE A	23.57	25.70	.1146	20.00	
UNIT 42	1+75.67	CASE A	23.92	25.80	.1011	20.00	
UNIT 43	1+96.58	CASE A	24.27	25.90	.0877	20.00	
UNIT 44	2+17.42	CASE A	24.62	26.00	.0742	20.00	
UNIT 45	2+38.17	CASE A	24.97	26.10	.0608	20.00	

REVISIONS

NO.	DATE	DESCRIPTION	APP.
⚠1	4/3/03	REVISED STREET NAMES, REVISED CASE, SEWER LATERALS LOTS 23 & 24	

HUITT-ZOLLARS
Huitt-Zollars, Inc.
430 Exchange, Suite 200, Irvine, CA 92602 (714) 734-5100

PREPARED UNDER THE SUPERVISION OF
GREGORY R. COOKE — 39478 R.C.E. — 12-31-05 EXPIRES — 4/7/03 DATE

REGISTERED PROFESSIONAL ENGINEER — GREGORY R. COOKE — No. 39478 — Expiration 12-31-05 — CIVIL — STATE OF CALIFORNIA
P. E. SEAL

IMPROVEMENT PLAN ORIGINAL

SEWER & WATER

TR. 16416 - 1325 SUNFLOWER AVENUE

CITY OF COSTA MESA

2 SHEET OF 13

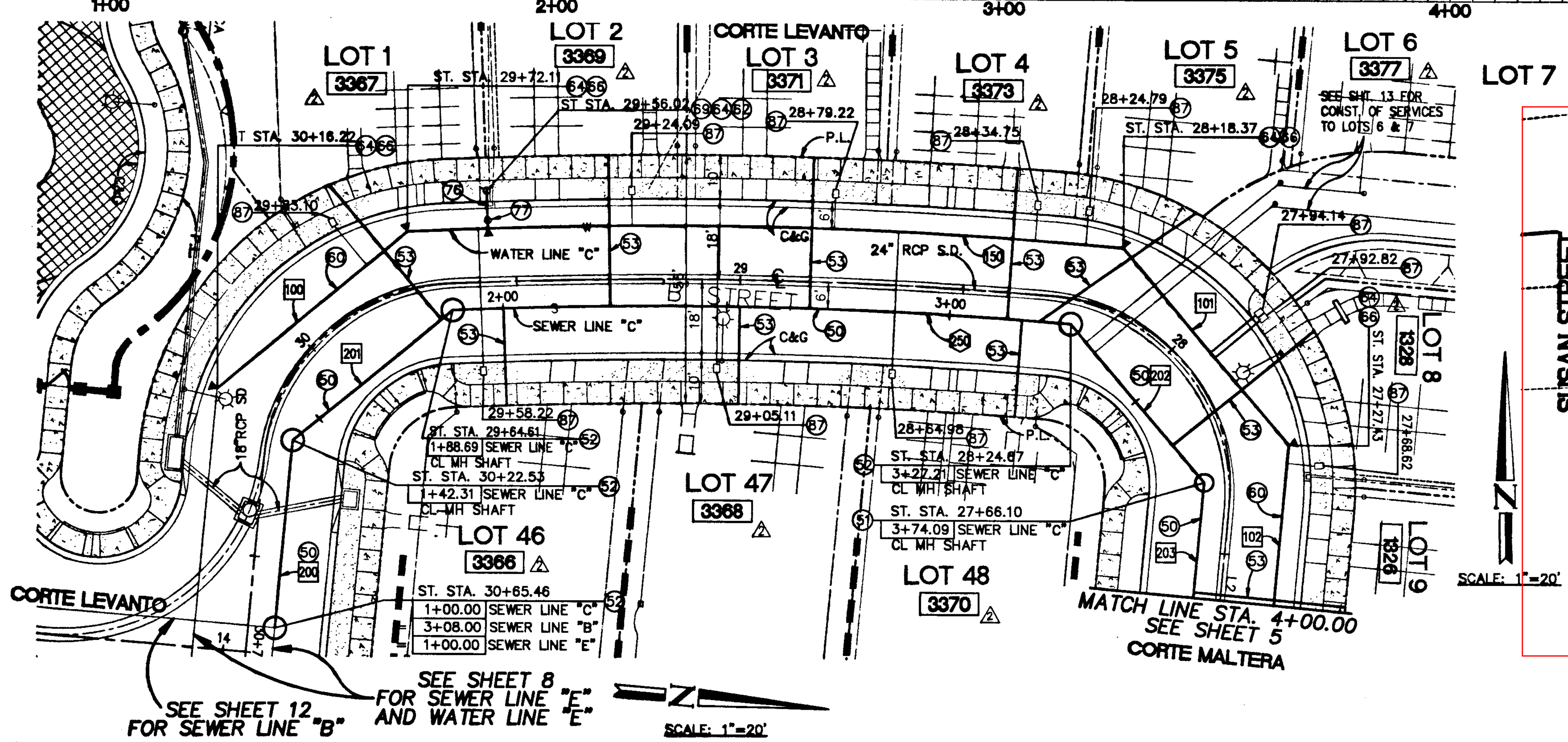
PLAN NUMBER

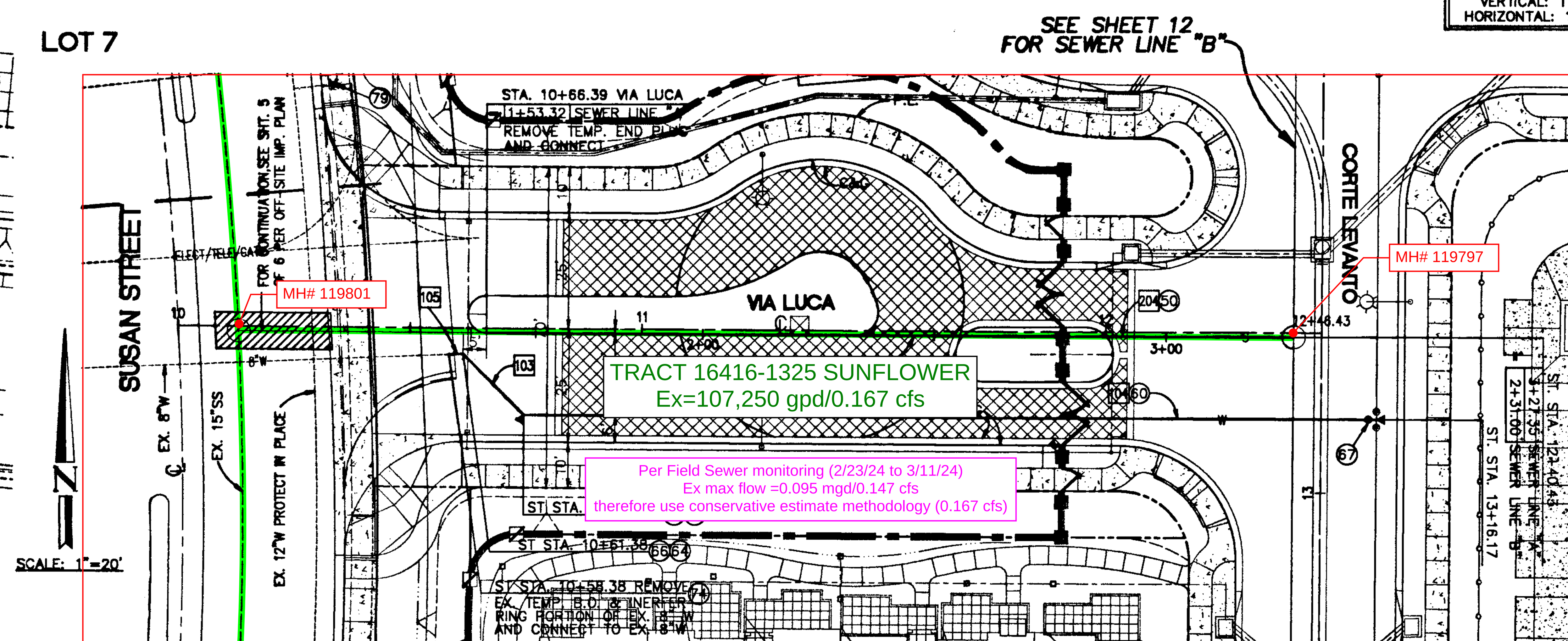
J.N. 10-0829-13

ORIGINAL

Rev 2

S-2003-1.2





WATER DATA

SEWER DATA

CURVE DATA				
⬡	DELTA	R	L	T
150	08°12'59"	1120.00'	160.61'	80.44'

WATER DATA — COURSE DATA

☐	BEARING	LENGTH
100	N44°40'34"W	55.19'
101	N45°19'26"E	57.88'
102	N89°40'34"W	629.74'
103	N44°40'34"W	18.80'
104	N89°40'34"W	183.76'
105	N89°40'34"W	3.00'

SEWER DATA — COURSE DATA

☐	BEARING	LENGTH
200	N89°40'34"W	623.30'
201	N44°40'34"W	46.39'
202	N45°19'26"E	46.88'
203	N89°40'34"W	620.32'
204	N89°40'34"W	227.35'

CURVE DATA				
⬡	DELTA	R	L	T
250	07°12'07"	1102.00'	138.52'	69.35'

CONSTRUCTION NOTES

SEWER

- (50) INSTALL 8" VCP SEWER MAIN WITH BEDDING PER CMSD STD DWG S-112
- (51) CONSTRUCT 48" MANHOLE PER CMSD STD DWG S-100
- (52) CONSTRUCT 60" MANHOLE PER CMSD STD DWG S-100-A
- (53) INSTALL 6" VCP SEWER LATERAL PER CMSD STD DWG S-104-A

WATER

- (60) INSTALL 8" PVC CL 150 C900 AWWA WATER LINE (WHITE)
- (62) INSTALL STANDARD FIRE HYDRANT PER MCWD STD DWG NO 4 (CLOW,
- (64) CONSTRUCT THRUST BLOCK PER MCWD STD DWG 12
- (66) INSTALL 8" PUSH-ON D.I. 45 DEGREE BEND
- (67) INSTALL 8" R.S. GATE VALVE (PUSH-ON x FLG) PER MCWD STD DWG NO 14-A
- (69) INSTALL 8"x 8"x 6" PUSH-ON x FLG. D.I. TEE
- (74) INSTALL 8" PUSH-ON D.I. COUPLING
- (76) INSTALL 6" PVC CL 150 C900 AWWA WATER LINE (WHITE)
- (77) INSTALL 6" FLG. x PUSH-ON R.S. G.V. PER MCWD STD NO 6.
- (79) PROTECT EXISTING FIRE HYDRANT IN PLACE
- (87) INSTALL 1" COPPER SERVICE ASSEMBLY PER MCWD STD DWG NO 1&3 WITH 1" METER & BOX (38 GPM)

REVISIONS

NO.	DATE	DESCRIPTION	APP.
2	6-17-03	REVISED ADDRESSES	

HUITT-ZOLLARS
Huitt-Zollars, Inc.
430 Exchange, Suite 200, Irvine, CA 92602 (714) 734-5100

PREPARED UNDER THE SUPERVISION OF
GREGORY R. COOKE 39478 R.C.E. 12-31-05 EXPIRES DATE

REGISTERED PROFESSIONAL ENGINEER GREGORY R. COOKE No. 39478 Expiration 12-31-05 CIVIL STATE OF CALIFORNIA
P.E. SEAL

IMPROVEMENT PLAN
SEWER & WATER
TR. 16416 - 1325 SUNFLOWER AVENUE
CITY OF COSTA MESA

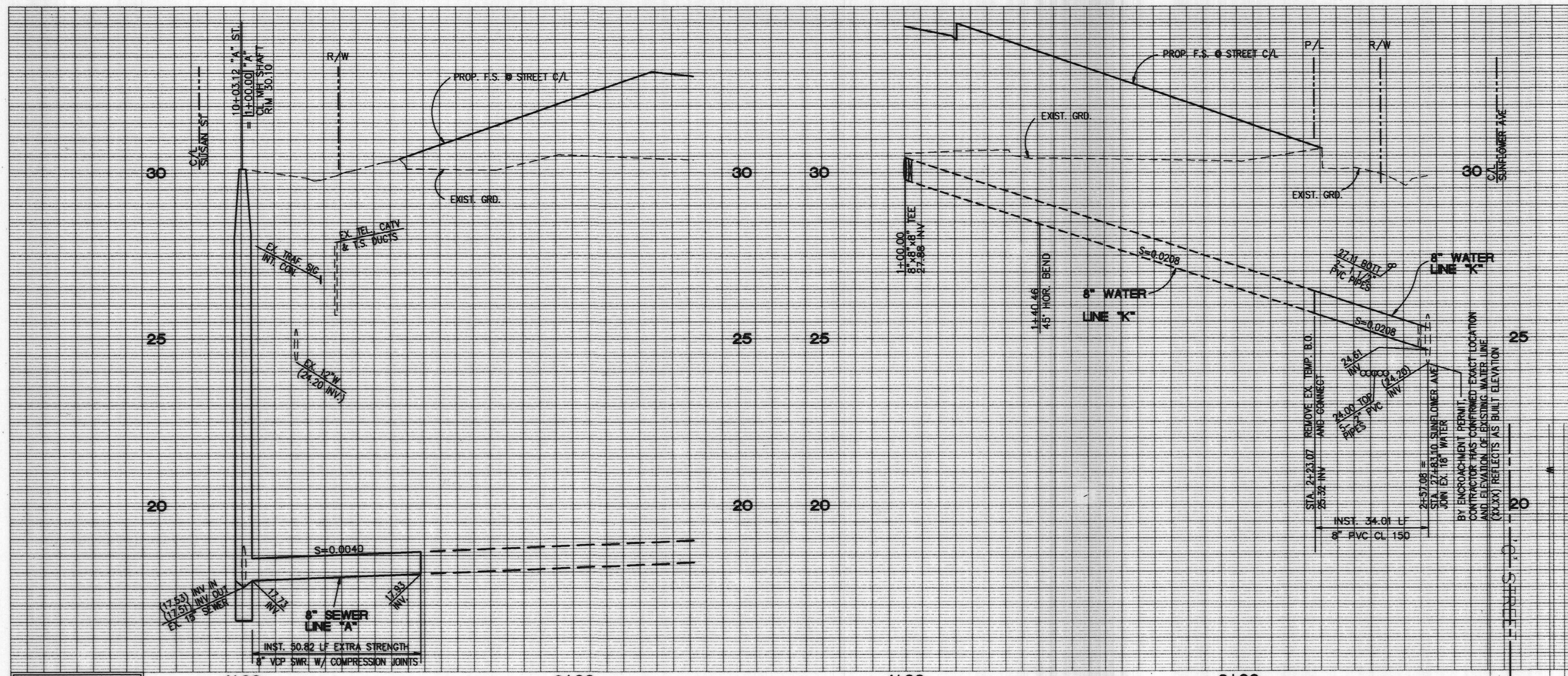
4 SHEET OF 13

PLAN NUMBER

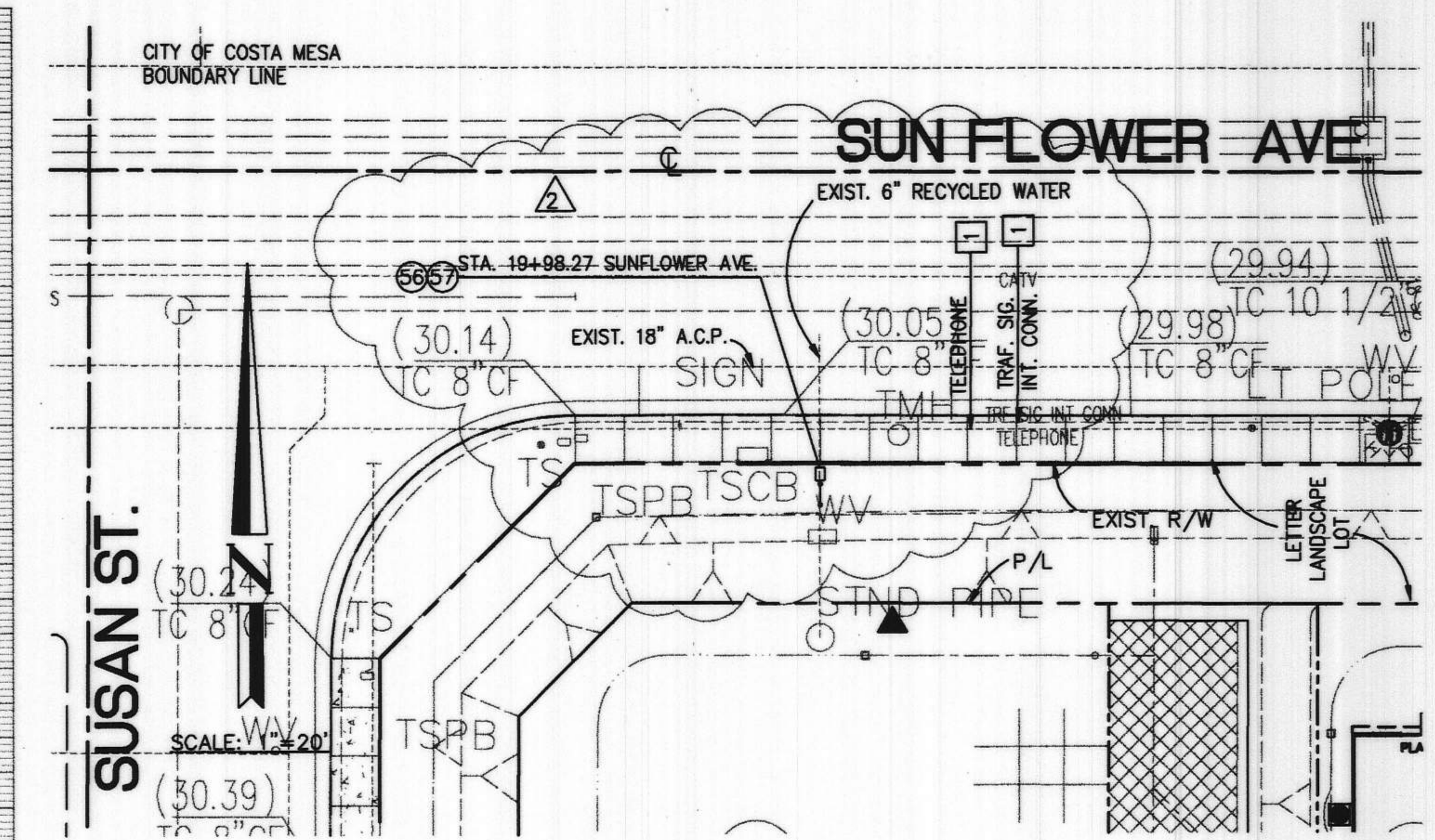
S-2003-1.4

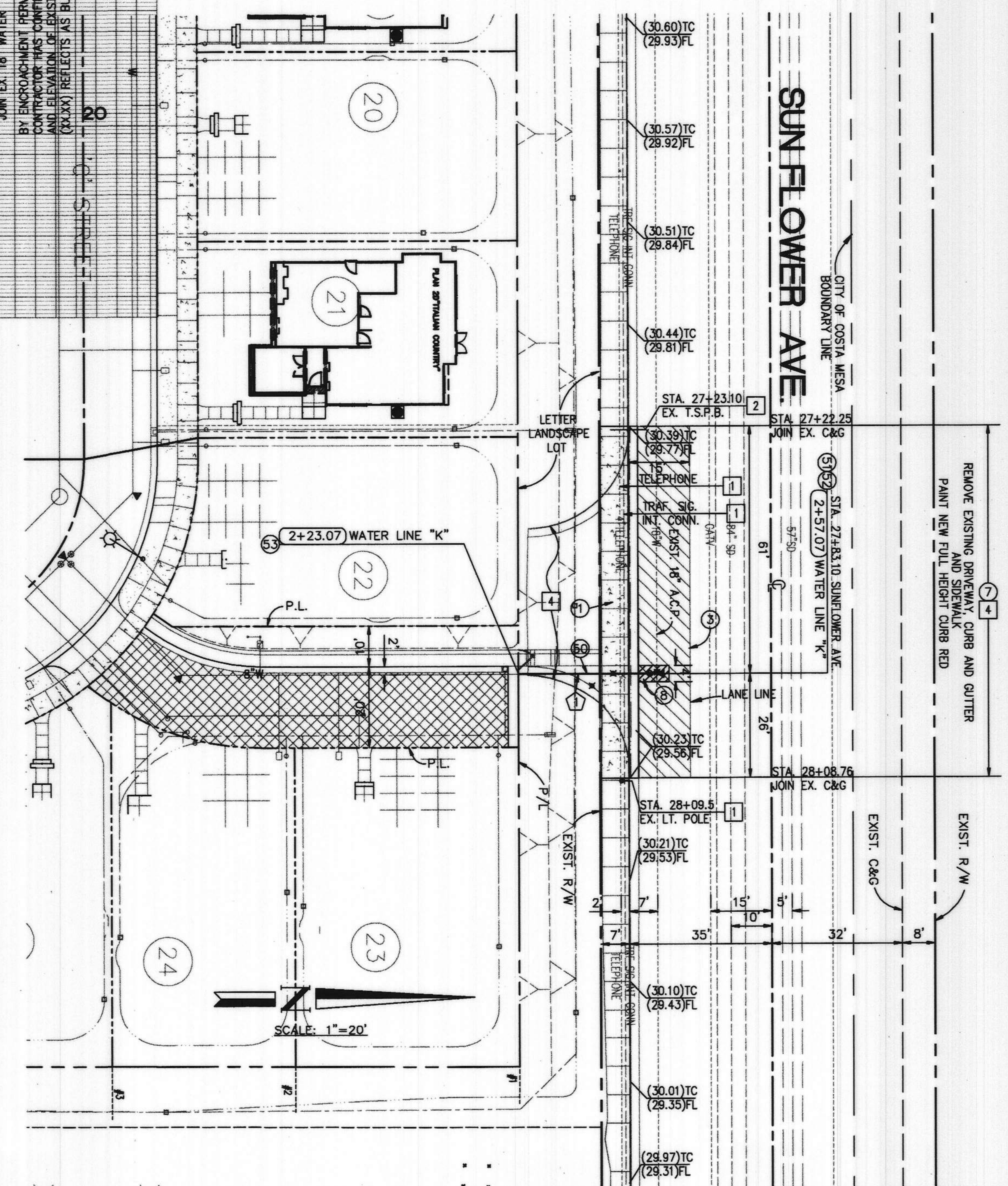
ORIGINAL

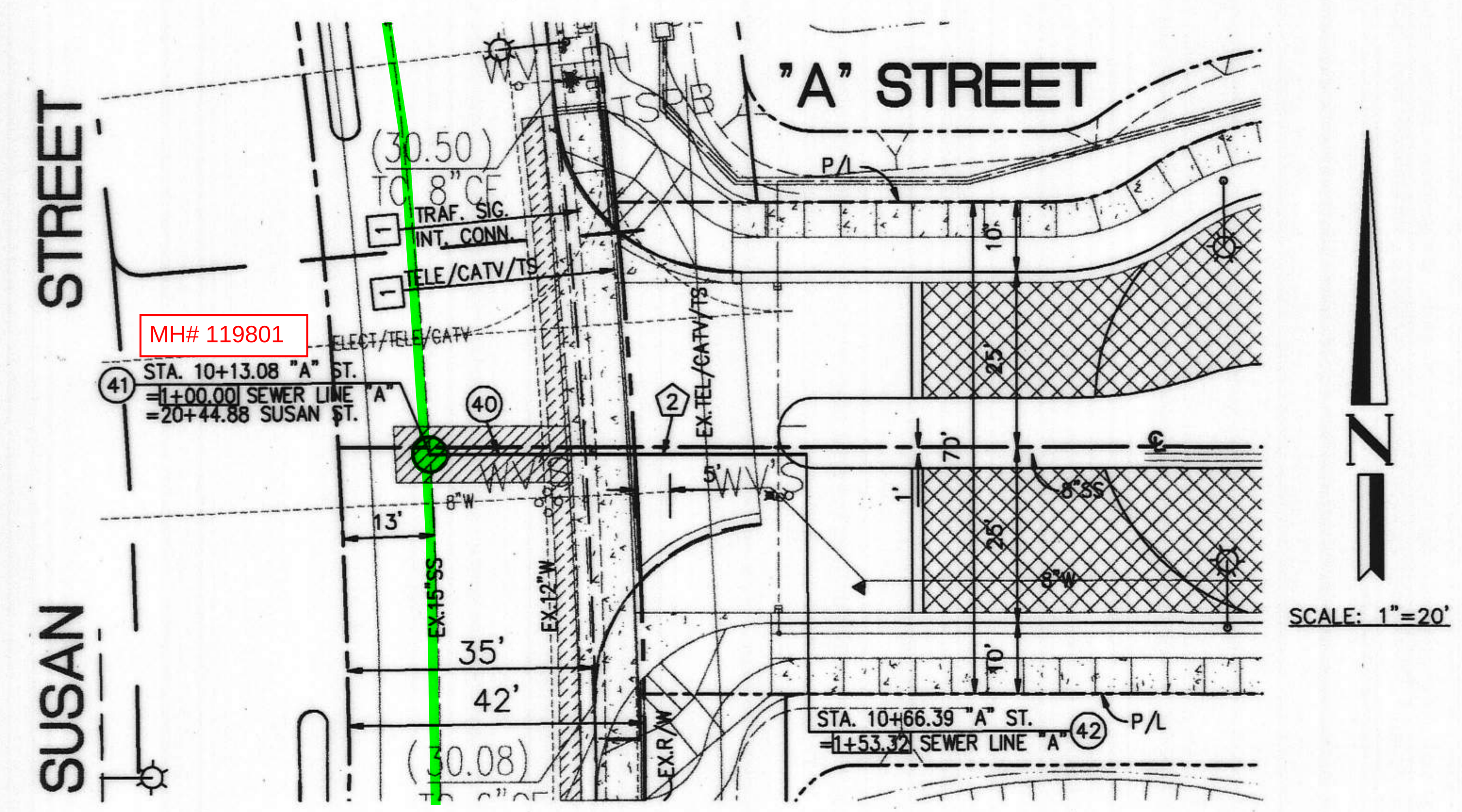
J.N. 10-0829-13



PROFILE SCALE
VERTICAL: 1"=2'
HORIZONTAL: 1"=20'







SCALE: 1"=20'

WATER DATA
COURSE DATA

	BEARING	LENGTH
1	N89°40'34"W	34.01'

SEWER DATA
COURSE DATA

	BEARING	LENGTH
2	N89°40'34"W	53.32'

CONSTRUCTION NOTES
STREET IMPROVEMENTS

(1)— CONSTRUCT COMMERCIAL SIDEWALK PER CITY OF COSTA MESA STD. DWG. 412 AND 413 OVER 4" CMB. WIDTH AS SHOWN ON PLAN.

(3)— RESURFACE STREET PER THE FOLLOWING MILL AND OVERLAY RESURFACING REQUIREMENTS.

1. THE CONTRACTOR SHALL RESTORE THE ROADWAY SURFACE WITHIN THE WORK LIMITS BY MILLING AND OVERLAYING, MINIMUM OF 2 INCHES, THE ENTIRE LANE(S) WHERE THE TRENCH IS LOCATED.
   - A. FOR TRENCHES PERPENDICULAR TO TRAFFIC LANES: MILL AND OVERLAY SHALL EXTEND 50 FEET ON BOTH SIDES OF THE TRENCH AND WILL INCLUDE THE ENTIRE TRAVEL LANES.
   - B. FOR TRENCHES PARALLEL TO TRAFFIC LANES AND FOR SMALL EXCAVATIONS: MILL AND OVERLAY THE ENTIRE WIDTH OF THE TRAFFIC LANE FOR THE FULL LENGTH OF THE TRENCH , BUT NOT LESS THAN 100'
2. RESTORATION OF THE ROADWAY SHALL BE CONTINUOUS AND NO JOINTS WILL BE ALLOWED. ALL ROADWAYS WITHIN THE WORK LIMITS WILL BE RESTORED IN ONE OPERATION. NO PIECE-MEAL MILLING AND OVERLAYING WORK WILL BE PERMITTED. THE CONTRACTOR SHALL NOT PROCEED WITH THE MILLING AND OVERLAYING OPERATIONS UNTIL DIRECTION IS GIVEN BY THE CITY ENGINEER.
3. ANY EXISTING IMPROVEMENTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE CITY ENGINEER.
4. ASPHALT RUBBER HOT MIX (ARHM) WET PROCESS SHALL CONFORM TO SUBSECTION 203-11 "ASPHALT RUBBER HOT MIX GAP GRADED" (ARHM-GG) OF THE STANDARDSPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. THE GRADED AGGREGATE SHALL CONFORM TO SUBSECTION 203-11 CLASS ARHM-GG-C.
6. AHRM SURFACE COURSE SHALL BE TYPE C AND SHALL BE PROVIDED FOR THE SURFACE-WEARING COURSE ONLY.
7. CONTRACTOR SHALL SUBMIT THE ASPHALT MIX DESIGN TO THE CITY ENGINEER FOR APPROVAL PRIOR TO START OF WORK.

(7)— REMOVE EXISTING AND CONSTRUCT TYPE (C-8) CURB AND GUTTER PER CITY OF COSTA MESA STD. DWG. NO. 312 OVER 6" CMB. CONTRACTOR SHALL RECONSTRUCT A MINIMUM OF 3' OF AC ADJACENT TO NEW GUTTER. THE NEW SLOT PAVE STRUCTURAL SECTION SHALL BE 14" FULL DEPTH AC OVER NATIVE. MINIMUM LENGTH IS 8 FEET. EXTEND TO NEXT JOINT OR CRACK IF LESS THAN 8 FEET AWAY. (ON SUNFLOWER AVE.)

(8)— TRENCH REMOVAL & RECONSTRUCTION PER CITY OF COSTA MESA STD. DWG No. 813. MODIFY AC SECTION TO 13" FULL DEPTH AC ON SUSAN STREET, 14" FULL DEPTH AC ON SUNFLOWER AVENUE. NO SLURRY BACKFILL ALLOWED.

SEWER IMPROVEMENTS

(40)— INSTALL EXTRA STRENGTH 8" VCP SEWER MAIN WITH COMPRESSION JOINTS, BEDDING PER CMSD STD DWG S-112

(41)— CONSTRUCT 60" MANHOLE PER CMSD STD DWG S-100-A

(42)— INSTALL TEMPORARY END PLUG

WATER IMPROVEMENTS

(50)— INSTALL 8" PVC CL 150 C900 AWWA WATER LINE (WHITE)

(51)— INSTALL STD 8" TAPPING SLEEVE & 8" R.S. GATE VALVE (FLG. x PUSH-ON) PER MCWD STD DWG No. 6

(52)— CONSTRUCT THRUST BLOCK PER MCWD STD DWG No. 12

(53)— INSTALL 2" STANDARD BLOW-OFF AND CHLORINATION ASSEMBLY PER MCWD STD DWG 9

△2 (56)— HOT TAP EXISTING 6" BLIND FLANGE AND INSTALL STANDARD 2" COPPER RECYCLED WATER SERVICE ASSEMBLY PER MCWD STD. NO. 2A.

△2 (57)— INSTALL 2" REDUCED PRESSURE PRINCIPLE ASSEMBLY PER MCWD STD DWG 16.

DIGALERT

IMPORTANT NOTICE

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIGALERT I.D. NUMBER CALL UNDERGROUND SERVICE ALERT
TOLL FREE 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

DISPOSITION NOTES

- [1] PROTECT IN PLACE
- [2] ADJUST TO FINISH GRADE
- [4] REMOVE.

REVISIONS

NO.	INITIAL	DESCRIPTION	APP.
2		ADDED 2" RECYCLED WATER METER & BACKFLOW PREVENTION DEVICE	

HUITT-ZOLLARS
Huitt-Zollars, Inc.
430 Exchange, Suite 200, Irvine, CA 92602 (714) 734-5100

PREPARED UNDER THE SUPERVISION OF
GREGORY R. COOKE — 39478 R.C.E. — 12-31-05 EXPIRES — DATE

REGISTERED PROFESSIONAL ENGINEER GREGORY R. COOKE No. 39478 Expiration 12-31-05 CIVIL STATE OF CALIFORNIA
P.E. SEAL

STREET IMPROVEMENT PLANS

SEWER PLAN AND PROFILE FOR LINE "A"
WATER PLAN AND PROFILE FOR LINE "M"
CITY OF COSTA MESA

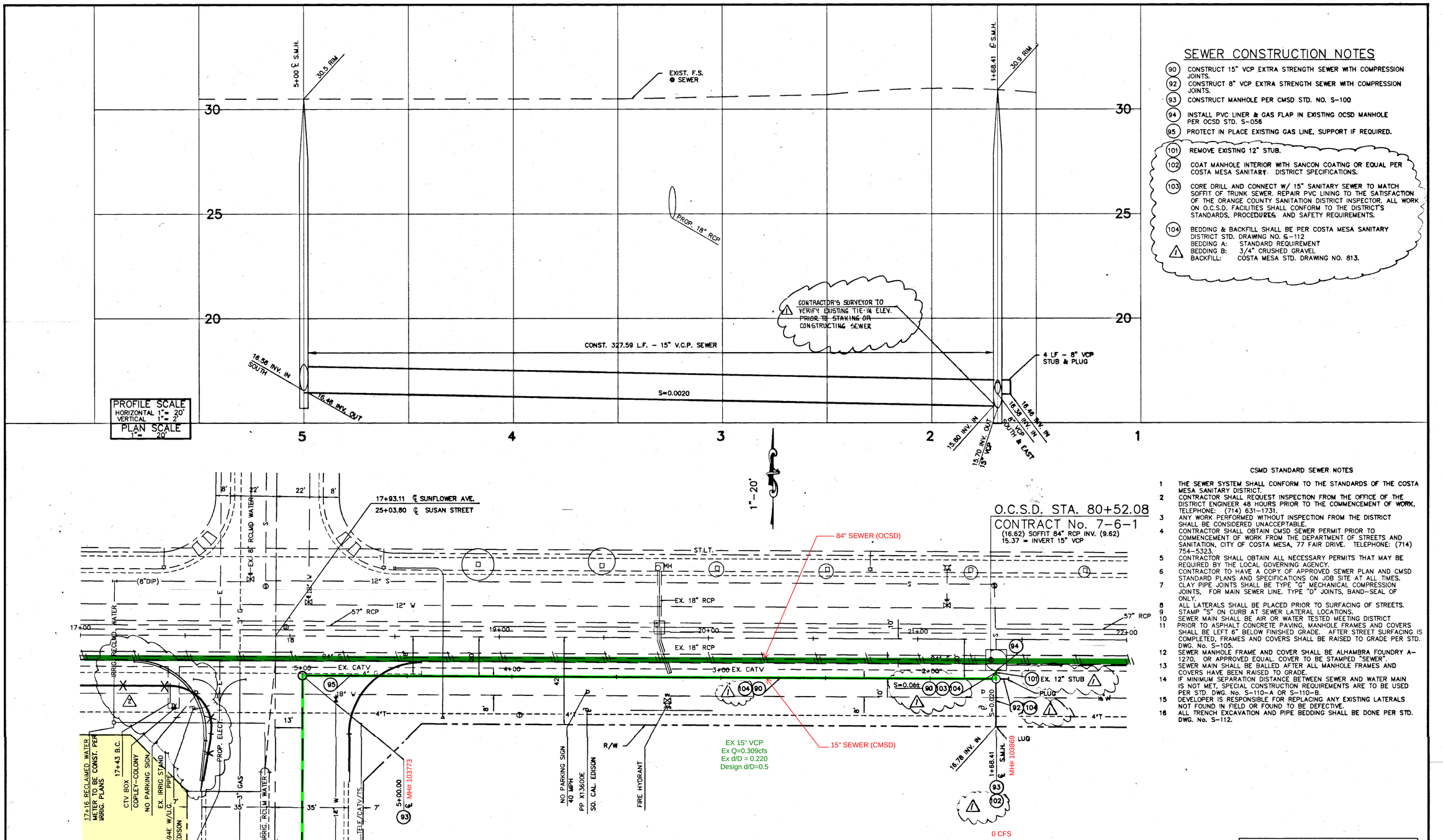
5 SHEET OF 8

PLAN NUMBER 2003-19.5

J.N. 10-0829-13

2003-19.5

EASI FILE CORP. IRVINE, CA
5-96-1.1
EFH24



SEWER CONSTRUCTION NOTES

(90) CONSTRUCT 15" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
(92) CONSTRUCT 8" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
(93) CONSTRUCT MANHOLE PER CMSD STD. NO. S-100
(94) INSTALL PVC LINER & GAS FLAP IN EXISTING OCSD MANHOLE PER OCSD STD. S-056
(95) PROTECT IN PLACE EXISTING GAS LINE, SUPPORT IF REQUIRED.
(101) REMOVE EXISTING 12" STUB.
(102) COAT MANHOLE INTERIOR WITH SANCON COATING OR EQUAL PER COSTA MESA SANITARY DISTRICT SPECIFICATIONS.
(103) CORE DRILL AND CONNECT W/ 15" SANITARY SEWER TO MATCH SOFFIT OF TRUNK SEWER. REPAIR PVC LINING TO THE SATISFACTION OF THE ORANGE COUNTY SANITATION DISTRICT INSPECTOR. ALL WORK ON O.C.S.D. FACILITIES SHALL CONFORM TO THE DISTRICT'S STANDARDS, PROCEDURES AND SAFETY REQUIREMENTS.
(104) BEDDING & BACKFILL SHALL BE PER COSTA MESA SANITARY DISTRICT STD. DRAWING NO. S-112
BEDDING A: STANDARD REQUIREMENT
BEDDING B: 3/4" CRUSHED GRAVEL
BACKFILL: COSTA MESA STD. DRAWING NO. 813.

CSMD STANDARD SEWER NOTES

1 THE SEWER SYSTEM SHALL CONFORM TO THE STANDARDS OF THE COSTA MESA SANITARY DISTRICT.
2 CONTRACTOR SHALL REQUEST INSPECTION FROM THE OFFICE OF THE DISTRICT ENGINEER 48 HOURS PRIOR TO THE COMMENCEMENT OF WORK, TELEPHONE: (714) 631-1731.
3 ANY WORK PERFORMED WITHOUT INSPECTION FROM THE DISTRICT SHALL BE CONSIDERED UNACCEPTABLE.
4 CONTRACTOR SHALL OBTAIN CMSD SEWER PERMIT PRIOR TO COMMENCEMENT OF WORK FROM THE DEPARTMENT OF STREETS AND SANITATION, CITY OF COSTA MESA, 77 FAIR DRIVE. TELEPHONE: (714) 754-5323.
5 CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS THAT MAY BE REQUIRED BY THE LOCAL GOVERNING AGENCY.
6 CONTRACTOR TO HAVE A COPY OF APPROVED SEWER PLAN AND CMSD STANDARD PLANS AND SPECIFICATIONS ON JOB SITE AT ALL TIMES.
7 CLAY PIPE JOINTS SHALL BE TYPE "C" MECHANICAL COMPRESSION JOINTS, FOR MAIN SEWER LINE. TYPE "D" JOINTS, BAND-SEAL OF ONLY.
8 ALL LATERALS SHALL BE PLACED PRIOR TO SURFACING OF STREETS.
9 STAMP "S" ON CURB AT SEWER LATERAL LOCATIONS.
10 SEWER MAIN SHALL BE AIR OR WATER TESTED MEETING DISTRICT
11 PRIOR TO ASPHALT CONCRETE PAVING, MANHOLE FRAMES AND COVERS SHALL BE LEFT 6" BELOW FINISHED GRADE. AFTER STREET SURFACING IS COMPLETED, FRAMES AND COVERS SHALL BE RAISED TO GRADE PER STD. DWG. No. S-105.
12 SEWER MANHOLE FRAME AND COVER SHALL BE ALHAMBRA FOUNDRY A-1270, OR APPROVED EQUAL. COVER TO BE STAMPED "SEWER".
13 SEWER MAIN SHALL BE BALLED AFTER ALL MANHOLE FRAMES AND COVERS HAVE BEEN RAISED TO GRADE.
14 IF MINIMUM SEPARATION DISTANCE BETWEEN SEWER AND WATER MAIN IS NOT MET, SPECIAL CONSTRUCTION REQUIREMENTS ARE TO BE USED PER STD. DWG. No. S-110-A OR S-110-B.
15 DEVELOPER IS RESPONSIBLE FOR REPLACING ANY EXISTING LATERALS NOT FOUND IN FIELD OR FOUND TO BE DEFECTIVE.
16 ALL TRENCH EXCAVATION AND PIPE BEDDING SHALL BE DONE PER STD. DWG. No. S-112.

AS-BUILT: 1/9/96
ISSUE DATE: 8/14/95

NORRIS-REPKE, INC.
Consulting Civil Engineers and Land Surveyors
600 N. TUSTIN AVENUE
SUITE 250
SANTA ANA CA. 92705-3736
TEL. (714) 973-2230
FAX. (714) 973-2263

REGISTERED PROFESSIONAL ENGINEER RANDALL G. BERRY No. C44642 Exp. 3/31/98 CIVIL STATE OF CALIFORNIA

Randall Berry 7/27/95
RANDALL G. BERRY, RCE 44642 DATE

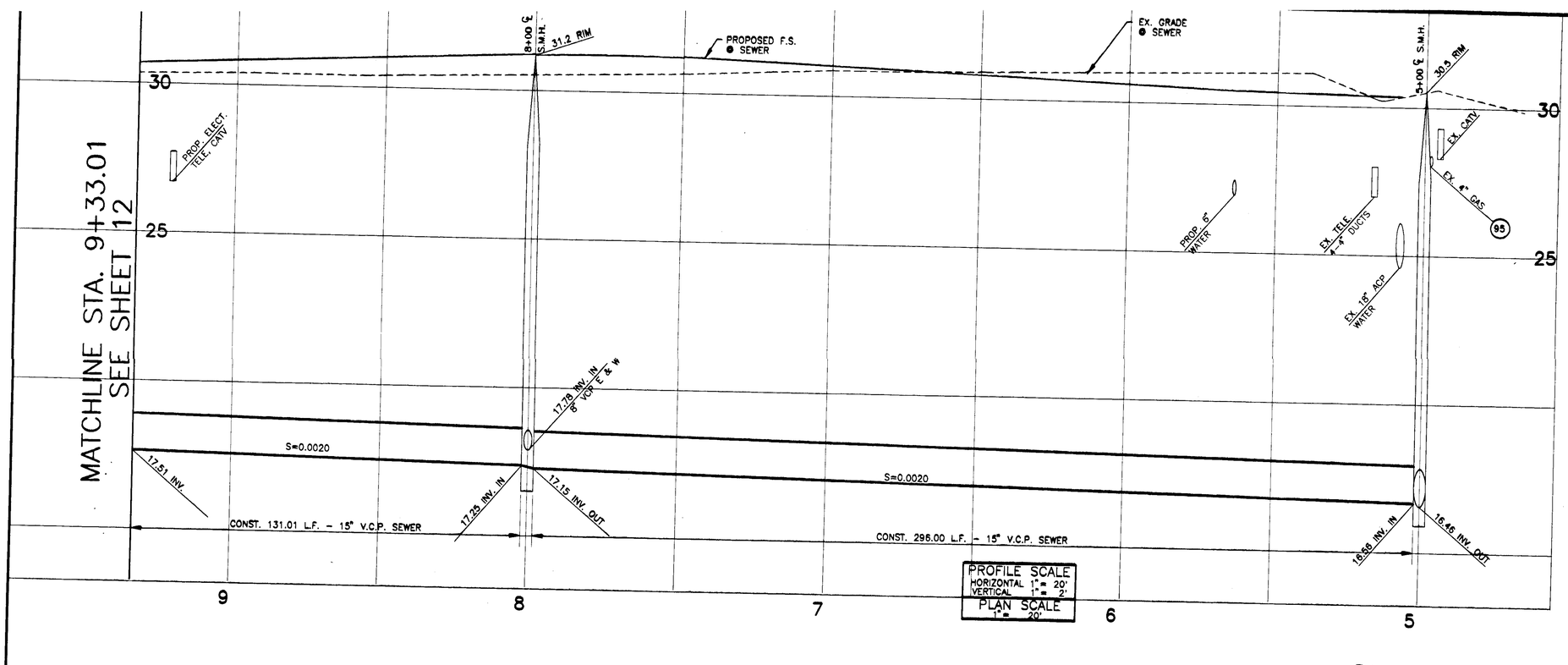
REVISIONS NO.	DATE	DESCRIPTION	APP
1	7-27-95	ADDITIONAL CONSTRUCTION ITEMS AND CONSTRUCTION NOTES.	
	7-31-95	REVISED PIPE CURVE DATA	
2	8-9-95	ELIMINATE RIGHT TURN POCKET INCREASE S.W. CORNER E.P. RADIUS TO 35' ℄ JOIN EX. E.P.	

PLAN AND PROFILE FOR THE SEWER IMPROVEMENTS ON
SUNFLOWER AVENUE
AT SUSAN STREET

CITY OF COSTA MESA
DEPARTMENT OF ENGINEERING SERVICES

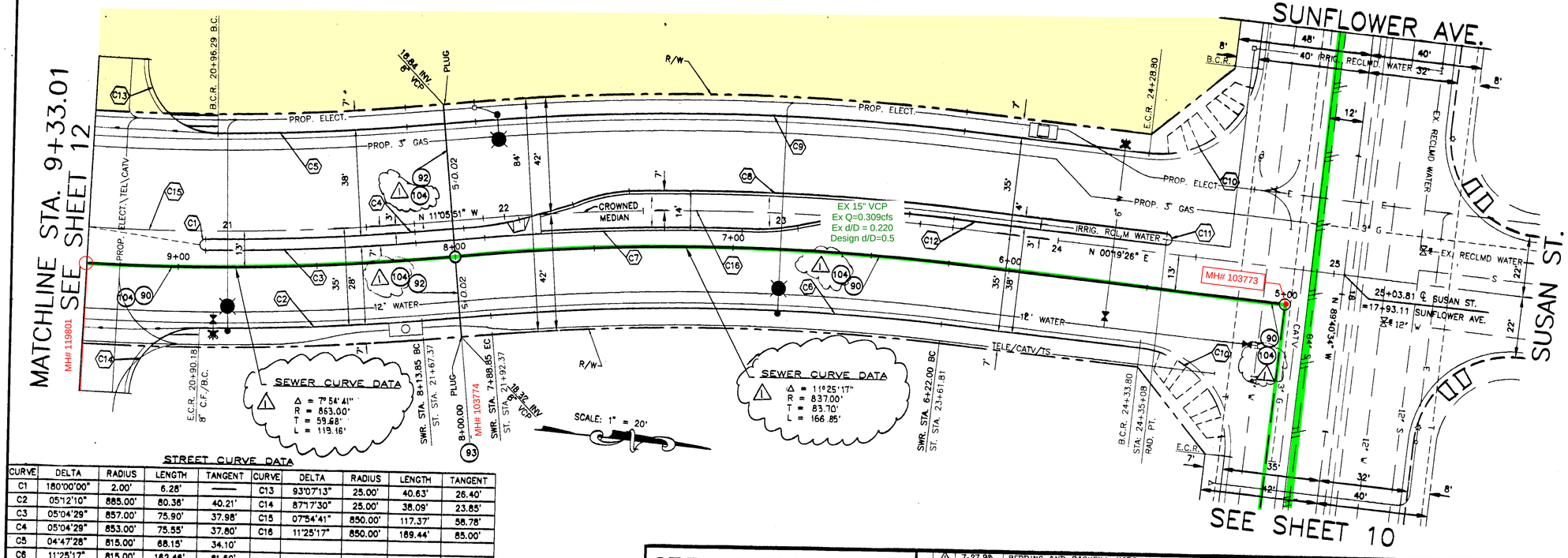
SHEET 10 OF 21 SHEETS
PLAN NUMBER

C:\P\5403-1\DWG\SHT7A.DWG JN 5403



SEWER CONSTRUCTION NOTES

(90) CONSTRUCT 15" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
(92) CONSTRUCT 8" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
(93) CONSTRUCT MANHOLE PER CMSD STD. NO. S-100
(95) PROTECT IN PLACE EXISTING GAS LINE, SUPPORT IF REQUIRED.
(104) BEDDING & BACKFILL SHALL BE PER COSTA MESA SANITARY DISTRICT STD. DRAWING NO. S-112
⚠ BEDDING A: STANDARD REQUIREMENT
BEDDING B: 3/4" CRUSHED GRAVEL
BACKFILL: COSTA MESA STD. DRAWING NO. 813.



STREET CURVE DATA

CURVE	DELTA	RADIUS	LENGTH	TANGENT	CURVE	DELTA	RADIUS	LENGTH	TANGENT
C1	180°00'00"	2.00'	6.28'	——	C13	93°07'13"	25.00'	40.63'	26.40'
C2	05°12'10"	885.00'	80.36'	40.21'	C14	87°17'30"	25.00'	38.09'	23.85'
C3	05°04'29"	857.00'	75.90'	37.98'	C15	07°54'41"	850.00'	117.37'	58.78'
C4	05°04'29"	853.00'	75.55'	37.80'	C16	11°25'17"	850.00'	169.44'	85.00'
C5	04°47'28"	815.00'	68.15'	34.10'					
C6	11°25'17"	815.00'	162.46'	81.50'					
C7	06°09'39"	843.00'	90.65'	45.37'					
C8	07°43'58"	857.00'	115.66'	57.92'					
C9	11°25'17"	885.00'	176.42'	88.50'					
C10	90°00'00"	35.00'	54.98'	35.00'					
C11	179°59'44"	2.00'	6.28'	——					
C12	01°12'58"	893.00'	18.19'	9.09'					

NORRIS-REPKE, INC.
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FAX. (714) 973-2263

REGISTERED PROFESSIONAL ENGINEER — RANDALL G. BERRY — No. C44842 — Exp. 3/31/98 — CIVIL — STATE OF CALIFORNIA

Randall Berry 7/27/95
RANDALL G. BERRY, RCE 44842 DATE

REVISIONS

NO.	DATE	DESCRIPTION	APP
⚠	7-27-95	BEDDING AND BACKFILL NOTE	
	7-31-95	REVISED PIPE CURVE DATA	

AS-BUILT: 1/9/96
ISSUE DATE: 8/14/95

PLAN AND PROFILE FOR THE SEWER IMPROVEMENTS ON

SUSAN STREET

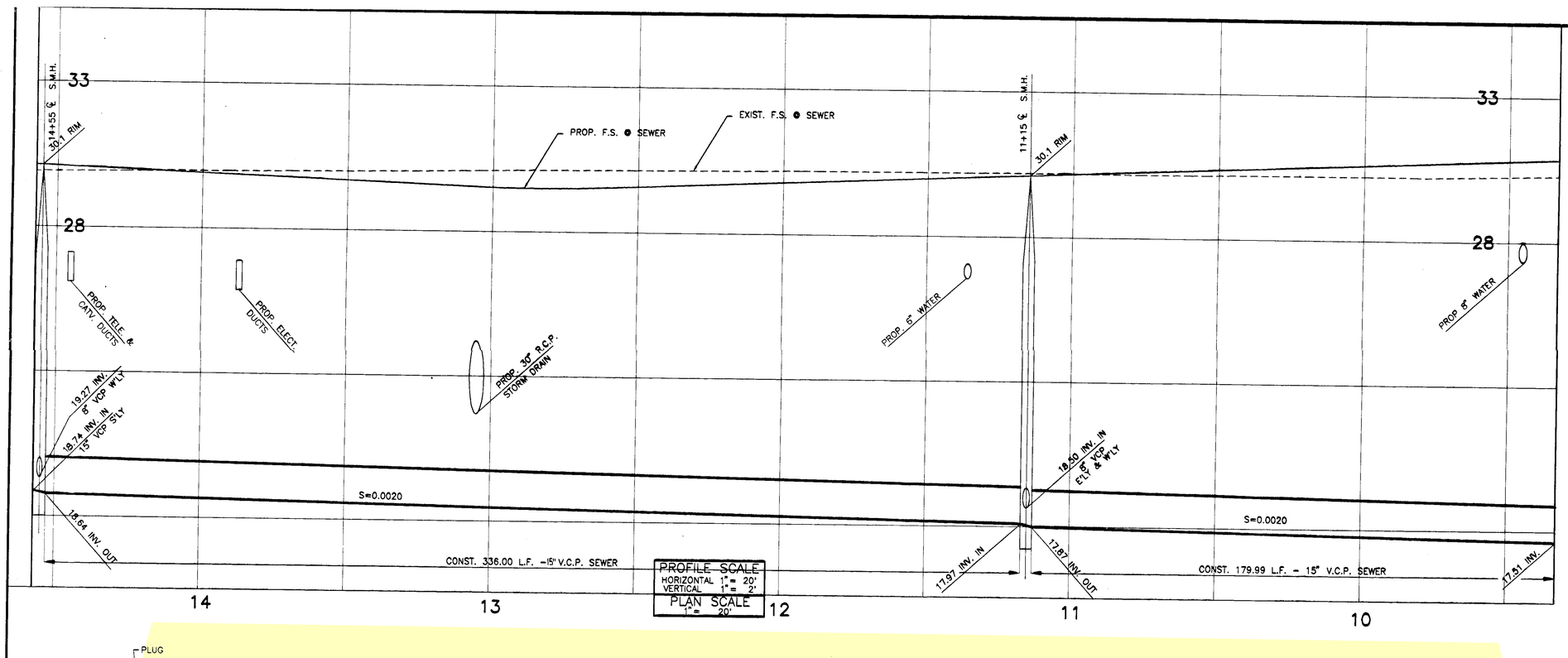
FROM STA. 20+90.00 TO SUNFLOWER AVE.

CITY OF COSTA MESA
DEPARTMENT OF ENGINEERING SERVICES

SHEET 11 OF 21 SHEETS
PLAN NUMBER

SUS-ST8.DWG

JN 5403



MATCHLINE 9+33.01 SEE SHEET 11

SEWER CONSTRUCTION NOTES

(90) CONSTRUCT 15" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
(92) CONSTRUCT 8" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
(93) CONSTRUCT MANHOLE PER CMSD STD. NO. S-100
(104) BEDDING & BACKFILL SHALL BE PER COSTA MESA SANITARY DISTRICT STD. DRAWING NO. S-112
⚠1 BEDDING A: STANDARD REQUIREMENT
BEDDING B: 3/4" CRUSHED GRAVEL
BACKFILL: COSTA MESA STD. DRAWING NO. 813.

STREET CURVE DATA

CURVE	DELTA	RADIUS	LENGTH	TANGENT
C1	90°47'10"	25.00'	39.61'	25.35'
C2	180°00'00"	2.00'	6.28'	——
C3	89°05'40"	25.00'	38.87'	24.61'
C4	28°54'31"	815.00'	411.21'	210.08'
C5	07°36'39"	853.00'	113.31'	56.74'
C6	18°48'52"	857.00'	281.41'	141.99'
C7	29°12'04"	885.00'	451.04'	230.53'
C8	17°28'21"	843.00'	257.07'	129.54'

STREET CURVE DATA

CURVE	DELTA	RADIUS	LENGTH	TANGENT
C9	06°16'08"	847.00'	92.67'	46.38'
C10	87°17'30"	25.00'	38.09'	23.85'
C11	93°07'13"	25.00'	40.63'	26.40'
C12	32°09'03"	850.00'	477.00'	245.00'
C13	01°01'38"	850.00'	15.24'	7.62'

NORRIS-REPKE, INC.
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FAX. (714) 973-2263

REGISTERED PROFESSIONAL ENGINEER — RANDALL G. BERRY — No. C44642 — Exp. 3/31/98 — CIVIL — STATE OF CALIFORNIA

Randall Berry 7/27/95
RANDALL G. BERRY, RCE 44642 DATE

REVISIONS

NO.	DATE	DESCRIPTION	APP.
⚠1	7-27-95	BEDDING AND BACKFILL NOTE	
	7-31-95	REVISED PIPE CURVE DATA	

AS-BUILT: 1/9/96
ISSUE DATE: 8/14/95

PLAN AND PROFILE FOR THE SEWER IMPROVEMENTS ON
SUSAN STREET
FROM STA. 15+92.79 TO STA. 20+60.00

CITY OF COSTA MESA
DEPARTMENT OF ENGINEERING SERVICES

SHEET 12 OF 21 SHEETS
PLAN NUMBER

SUS-ST5.DWG
JN 5403

SEWER CONSTRUCTION NOTES

- (90) CONSTRUCT 15" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
- (92) CONSTRUCT 8" VCP EXTRA STRENGTH SEWER WITH COMPRESSION JOINTS.
- (93) CONSTRUCT MANHOLE PER CMSD STD. NO. S-100
- (104) BEDDING & BACKFILL SHALL BE PER COSTA MESA SANITARY DISTRICT STD. DRAWING NO. S-112
  BEDDING A: STANDARD REQUIREMENT
  BEDDING B: 3/4" CRUSHED GRAVEL
  BACKFILL: COSTA MESA STD. DRAWING NO. 813.
- (105) CONSTUCT MANHOLE PER C.M.S.D. STD. NO. S-100-A
- (106) CONSTRUCT STANDARD DROP MANHOLE PER C.M.S.D. STD. NO. S-102.

STREET CURVE DATA

CURVE	DELTA	RADIUS	LENGTH	TANGENT
C1	81°37'59"	35.00'	49.87'	30.23'
C2	180°00'00"	2.00'	6.28'	—
C3	90°59'16"	35.00'	55.58'	35.61'
C4	23°12'41"	815.00'	330.17'	167.38'
C5	13°02'55"	843.00'	191.98'	96.41'
C6	01°08'31"	847.00'	16.88'	8.44'
C7	23°37'23"	885.00'	364.89'	185.07'
C8	18°10'26"	857.00'	271.84'	137.07'
C9	06°16'08"	853.00'	93.33'	46.71'

STREET CURVE DATA

C10	26°19'53"	850.00'	390.64'	198.83'
C11	93°07'13"	25.00'	40.63'	26.40'
C12	87°17'30"	25.00'	38.09'	23.85'

AS-BUILT: 1/9/96

ISSUE DATE: 8/14/95

NORRIS-REPKE, INC.
Consulting Civil Engineers and Land Surveyors
600 N. TUSTIN AVENUE
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TEL. (714) 973-2230
FAX. (714) 973-2263
Randall Berry 7/27/95
RANDALL G. BERRY, RCE 44642 DATE
REGISTERED PROFESSIONAL ENGINEER RANDALL G. BERRY No. C44642 Renew 3/31/98 CIVIL STATE OF CALIFORNIA

REVISIONS

NO.	DATE	DESCRIPTION	APP.
1	7-27-95	ADDITIONAL CONSTRUCTION ITEMS AND CONSTRUCTION NOTES	
	7-31-95	REVISED PIPE CURVE DATA	

PLAN AND PROFILE FOR THE SEWER IMPROVEMENTS ON

SUSAN STREET

FROM SOUTH COAST DRIVE TO STA. 15+32.79

CITY OF COSTA MESA

DEPARTMENT OF ENGINEERING SERVICES

SHEET 13 OF 21 SHEETS

PLAN NUMBER

SUS-SHT4.DWG

S-96-1.1-1.4


1450 D
STD. BEDDING DETAIL 1/22
2000 D
STD. BEDDING DETAIL 1/22
71+19
71+94
1450 D
STD. BEDDING DETAIL 1/22
APPROX. SURFACE AT ℄ OF ROAD
APPROX. INV. 36" S.D.
APPROX. INV. 45" S.D.
APPROX. INV. 51" S.D.
84" R.C.P. S=0.00040
84" R.C.P. S=0.00040
STA. 71+90
CONC. COLLAR DETAIL 6/22
71+98.29 INV. ELEV. 9.28
66+00 INV. ELEV. 9.04
78+00 INV. ELEV. 9.52
30
20
10
66+00
67+00
68+00
69+00
70+00
71+00
72+00
73+00
74+00
75+00
76+00
77+00
78+00
PROFILE SCALES
HORIZONTAL 1" = 40'
VERTICAL 1" = 4'
S.P. CO. RAILROAD
℄ PIPE CURVE DATA DELETED
EQUATION
END DEFL. RT.
MH. FRAME AND COVER SALVAGED. REMAINING PORTION FILLED WITH SAND.
12" STUB N/S
CUT AND PLUG DETAIL 3/19
P.T.&T. BURIED CABLE
CITY OF S.A. 51" R.C.P. 1300 D
HAROLD T. SEGERSTROM
TEMPORARY CONSTRUCTION EASEMENT
CITY OF S.A. 12" A.C.P. CLASS 150
BLOCK WALL
MATCH LINE STA. 66+00 SEE SHEET NO. 8
MATCH LINE STA. 78+00 SEE SHEET NO. 10
S.C.G. 6 5/8" STEEL PIPE
C.M.C.W.D. 12" A.C.P. CLASS 150
PROTECT IN PLACE
STA. 69+63.26 P.R.C. DELETED
STA. 69+00.00 B.C. DELETED
STA. 71+98.29 ℄ MH.
CONST. 84" I.D. MH.
CONST. 12" SEWER & 48" I.D. MH. SEE SHEET NO. 16
C.S.D. NO. 7 20' EASEMENT
FOR DETAIL AND CONSTRUCTION NOTES SEE SHEET NO. 16
TEMPORARY CONSTRUCTION EASEMENT
C.M.C.W.D. 18" A.C.P. CLASS 150
SEGERSTROM 3315 FAIRVIEW RD. COSTA MESA 546-0110
SEGERSTROM INDUSTRIAL DISTRICT 3315 N. FAIRVIEW RD. (546-0110) COSTA MESA, CALIF. 92626
HAROLD T. SEGERSTROM
HYDRAULIC DATA
d : 84" = 7.00'
D : 6.00'
n : 0.013
S : 0.00040
Q : 132 cfs
: 85.4 mgd
V : 3.79 fps
SUNFLOWER AVENUE
PLAN SCALE: 1" = 40'

"AS CONSTRUCTED"

COUNTY SANITATION DISTRICT NO. 7
OF
ORANGE COUNTY, CALIFORNIA

PLAN AND PROFILE
SUNFLOWER INTERCEPTOR
STA. 66 + 00 TO STA. 78 + 00

REACH 1 — 7-6-1

REV.	DATE	DESCRIPTION	APP.
△	3-30-71	REVISED FOR 84" FLARED BELL PIPE	CH

DESIGN P.D.D.
DRAWN H.E.V.
CHECKED C.H.
BOYLE ENGINEERING, 412 SO. LYON STREET, SANTA ANA, CALIF.
DATE JAN. '71
F.B. X-28
01-2919-06-00
D-1644
SHEET NO. 9 OF 26 SHEETS

1450D
1400D
1250D
CASING
STD. BEDDING DETAIL 1/22
APPROX. SURFACE AT ℄ OF ROAD
DOUBLE 10'×8' CULVERT
APPROX. INV. 51" S.D.
APPROX. INV. 57" S.D.
INV. ELEV. = 24.83
INV. ELEV. = 18.4 ±
INV. ELEV. = 18.47
CONST. CONC. SUPPORT WALL. DETAIL 1/23
84" R.C.P. S= 0.00040
CHANNEL CROSSING SEE SHEET NO. 17 FOR DETAILS
78+00 INV. ELEV. = 9.52
80+52.08 INV. ELEV. = 9.62
87+57.50 INV. ELEV. = 9.90
88+01.80 INV. ELEV. = 9.92
90+00 INV. ELEV. = 10.00
PROFILE SCALES
HORIZONTAL 1" = 40'
VERTICAL 1" = 4'
O. C. F. C. D.
GREENVILLE - BANNING CHANNEL
D03
HAROLD T. SEGERSTROM
NELLIE R. SEGERSTROM
SEGERSTROM INDUSTRIAL DISTRICT
S.P. 1740-7, 8-3-79 12" V.C.P.
N. DR. DST. 18" CONC.
STA. 81+28.29 O.C.S. MONUMENT
CITY OF S.A. 57" R.C.P. 1300 D
CITY OF S.A. 12" A.C.P. CLASS 150
TEMPORARY CONSTRUCTION EASEMENT
STA. 87+76.75 ℄ CULVERT
P.T. & T. BURIED CABLE
O.C.R.D. 18" R.C.P. 1000 D
CUT AND PLUG DETAIL 3/19
STA. 80+52.08 CONST. 84" I.D. MH.
C.M.C.W.D. 18" A.C.P. CLASS 150
STA. 87+57.50 ℄ MH. CONST. 84" I.D. MH. SEE SHT. NO. 17
STA. 88+01.80 ℄ MH. CONST. 84" I.D. MH. SEE SHT. NO. 17
PROTECT IN PLACE OR REMOVE AND RECONSTRUCT WITH 18" R.C.P.
S.P.# 7-2241 - STA 80+52.08 15" VCP, 9-28-95 Costa Mesa San. Dist.
HYDRAULIC DATA
d = 84" = 7.00'
D = 6.00'
n = 0.013
S = 0.00040
Q = 132 CFS = 85.4 mgd
V = 3.79 fps
FOR DETAIL AND CONSTRUCTION NOTES SEE SHEET NO. 17.
MATCH LINE STA. 78+00 SEE SHEET NO. 9
MATCH LINE STA. 90+00 SEE SHEET NO. 11
SUNFLOWER AVENUE

PLAN SCALE: 1" = 40'

"AS CONSTRUCTED"

REV.	DATE	DESCRIPTION	APP.
△	3-30-71	REVISED FOR 84" FLARED BELL PIPE	CH

COUNTY SANITATION DISTRICT NO. 7
OF
ORANGE COUNTY, CALIFORNIA

PLAN AND PROFILE
SUNFLOWER INTERCEPTOR
STA. 78+00 TO STA. 90+00

REACH I — 7-6-1

DESIGN P.D.D.	BOYLE ENGINEERING, 412 SO. LYON STREET, SANTA ANA, CALIF.		SHEET NO. 10
DRAWN O.J.F.			
CHECKED C.H.	DATE JAN. '71 / F.B. X-28	01-2919-06-00	D-1644

OF 26 SHEETS

HIVE LIVE

PROJECT INFORMATION	A 1,050-UNIT PROJECT CONSISTING OF THREE SEPARATE 5-STORY MULTIFAMILY RESIDENTIAL BUILDINGS WITH ONE BUIDLING CONTAINING A ROOF DECK AND A MIXED-USE COMPONENT, INCLUDING AN ART GALLERY, RETAIL, AND A PUBLIC PLAZA.	
PROJECT ADDRESS	3333 S SUSAN ST., COSTA MESA, CA 92626	
ZONING DISTRICT		
EXISTING	PDI - PLANNED DEVELOPMENT INDUSTRIAL	
PROPOSED	PLANNED DEVELOPMENT COMMERCIAL	
LAND USE		
EXISTING	INDUSTRIAL PARK	
PROPOSED	URBAN CENTRAL COMMERCIAL	
GROSS LOT AREA	620,804 SQ.FT.	14.3 AC
GROSS BUILDING AREA	1,874,917 SQ.FT.	
SITE COVERAGE	336,579 SQ.FT.	
FLOOR AREA RATIO (FAR)*	2.3	
TOTAL UNITS	1,050 DU	
DENSITY	73.7 DU/AC	

*EXCLUDES PARKING STRUCTURES

BUILDING A SUMMARY

TOTAL UNITS	315 UNITS
TOTAL ACRES	4.68 AC
RESIDENTIAL BUILDING DENSITY	67.3 DU/AC
RESIDENTIAL GFA	382,617 SF
NON-RESIDENTIAL GFA	3,692 SF
PARKING GFA	210,020 SF
FAR	1.89

BUILDING B SUMMARY

TOTAL UNITS	346 UNITS
TOTAL ACRES	4.44 AC
RESIDENTIAL BUILDING DENSITY	77.9 DU/AC
RESIDENTIAL GFA	388,293 SF
PARKING GFA	216,794 SF
FAR	2.01

BUILDING C SUMMARY

TOTAL UNITS	389 UNITS
TOTAL ACRES	5.13 AC
RESIDENTIAL BUILDING DENSITY	75.8 DU/AC
RESIDENTIAL GFA	441,005 SF
PARKING GFA	232,496 SF
FAR	1.97

BUILDING A UNIT SUMMARY

UNITS	AREA (SQ. FT.)	NO. OF UNITS	%
STUDIO	778	41	13%
J 1 BR	633	26	8%
1 BR	772	128	41%
J 2 BR	938	21	7%
2 BR	1,078	99	31%
TOTAL	**AVG. 868**	**315**	**100%**

BUILDING B UNIT SUMMARY

UNITS	AREA (SQ. FT.)	NO. OF UNITS	%
STUDIO	778	57	16%
J 1 BR	633	51	15%
1 BR	772	135	39%
J 2 BR	938	0	0%
2 BR	1,078	103	30%
TOTAL	**AVG. 844**	**346**	**100%**

BUILDING C UNIT SUMMARY

UNITS	AREA (SQ. FT.)	NO. OF UNITS	%
STUDIO	778	43	11%
J 1 BR	633	38	10%
1 BR	772	184	47%
J 2 BR	938	0	0%
2 BR	1,078	124	32%
TOTAL	**AVG. 857**	**389**	**100%**

RESIDENTIAL SUMMARY

UNITS	AREA (SQ. FT.)	NO. OF UNITS	%
STUDIO	778	141	13%
J 1 BR	633	115	11%
1 BR	772	447	43%
J 2 BR	938	21	2%
2 BR	1,078	326	31%
TOTAL	**AVG. 856**	**1,050**	**100%**

BUILDING A PARKING SUMMARY

UNITS	NO. OF UNITS	PARKING RATIO	TOTAL PARKING
STUDIO	41	1.65	68
J 1 BR	26	1.65	43
1 BR	128	1.65	211
J 2 BR	21	1.65	35
2 BR	99	1.65	163
USPS STALL	N/A	N/A	1
TOTAL	**315**	**RATIO: 1.65**	**521**

BUILDING B PARKING SUMMARY

UNITS	NO. OF UNITS	PARKING RATIO	TOTAL PARKING
STUDIO	57	1.65	94
J 1 BR	51	1.65	84
1 BR	135	1.65	223
J 2 BR	0	1.65	0
2 BR	103	1.65	170
USPS STALL	N/A	N/A	1
TOTAL	**346**	**RATIO: 1.65**	**572**

BUILDING C PARKING SUMMARY

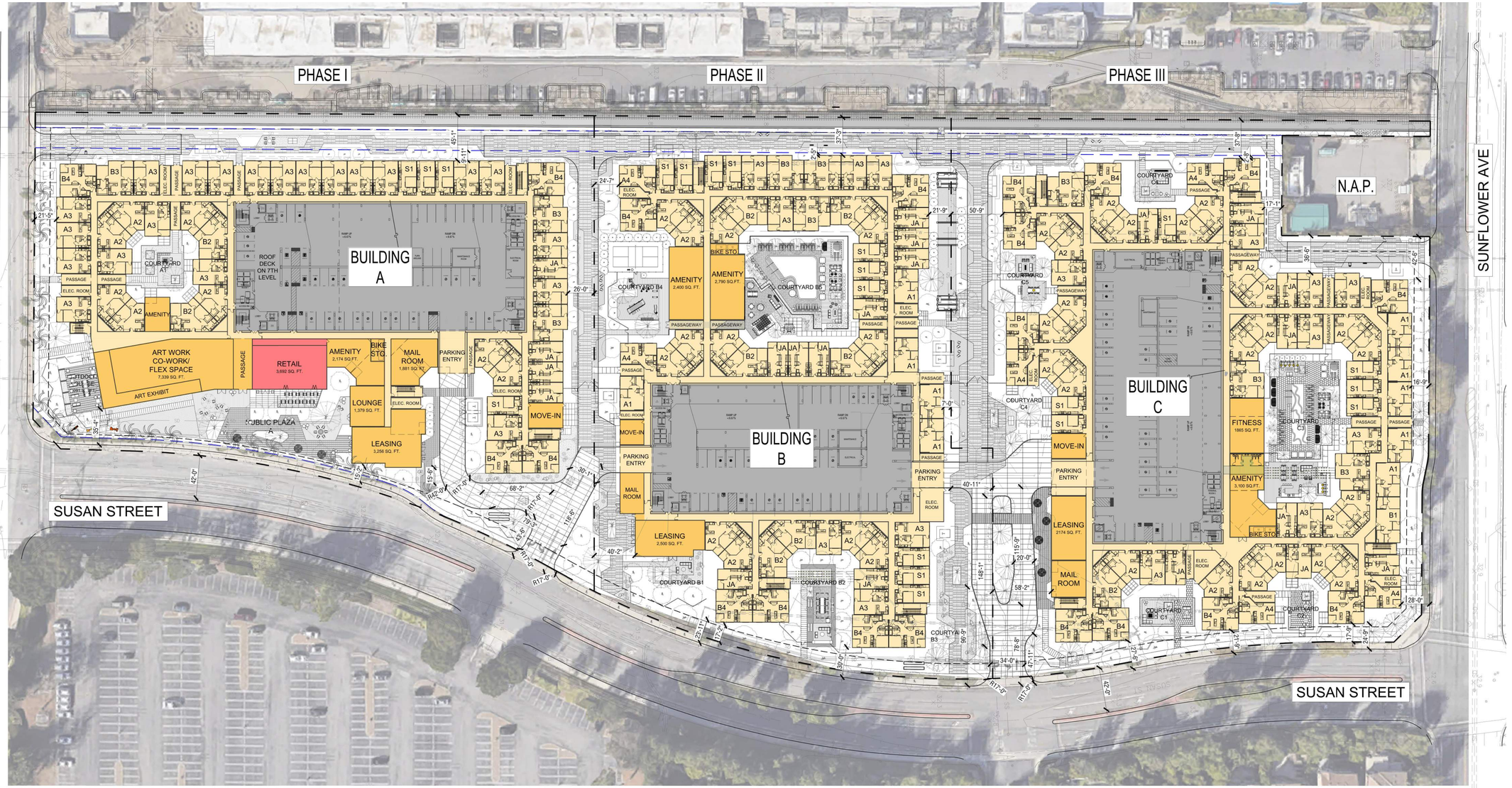
UNITS	NO. OF UNITS	PARKING RATIO	TOTAL PARKING
STUDIO	43	1.65	71
J 1 BR	38	1.65	63
1 BR	184	1.65	304
J 2 BR	0	1.65	0
2 BR	124	1.65	205
USPS STALL	N/A	N/A	1
TOTAL	**389**	**RATIO: 1.65**	**643**

RETAIL SUMMARY

RETAIL	**3,692 SF**
BLDG A RETAIL	3,692 SF

BUILDING A RETAIL SUMMARY

RETAIL AREA	3,692 SQ.FT.
PARKING PROVIDED (1 STALL PER 250 SQ.FT.)	15 STALLS



LEGEND

- RETAIL
- LEASING & AMENITIES
- RESIDENTIAL
- PARKING
- PROPERTY LINE
- EASEMENT
- SETBACK
- SITE CURB
- TRANSFORMERS

LEGACY PARTNERS® Invesco

HIVE LIVE
COSTA MESA, CA

CONCEPTUAL SITE PLAN

NORTH
0 50' 100' 150' 200'

AO

A-15

SCALE: 1" = 50'
JOB NO.: 2022-1238
DATE: 04-05-2024

APPENDIX 2

SEWER ANALYSIS EXHIBITS

(EXISTING AND PROPOSED)

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 3 OF PARCEL MAP 94-120, IN THE CITY OF COSTA MESA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP FILED IN THE BOOK 284, PAGES 7 TO 10 INCLUSIVE OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPTING AND RESERVING UNTO GRANTOR, ITS SUCCESSORS AND ASSIGNS, TOGETHER WITH THE RIGHT TO GRANT AND TRANSFER ALL OR A PORTION OF THE SAME, ANY AND ALL UNDERGROUND WATER, WATER RIGHTS, OIL, OIL RIGHTS, MINERALS, MINERAL RIGHTS, NATURAL GAS, NATURAL GAS RIGHTS AND OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN AND ALL RIGHTS THEREIN, GEOTHERMAL STEAM, AND ALL PRODUCTS DERIVED FROM ANY OF THE FOREGOING, THAT MAY BE WITHIN OR UNDER THE PROPERTY, TOGETHER WITH THE PERPETUAL RIGHT OF DRILLING, PUMPING, MINING, EXTRACTING, EXPLORING AND OPERATING THEREFOR AND STORING IN AND REMOVING THE SAME FROM THE PROPERTY OR ANY OTHER PROPERTY, INCLUDING THE RIGHT TO WHIPSTOCK OR DIRECTIONALLY DRILL, PUMP AND MINE FROM PROPERTY OTHER THAN THE PROPERTY, WATER, OIL OR GAS WELLS, TUNNELS AND SHAFTS INTO, THROUGH OR ACROSS THE SUBSURFACE OF THE PROPERTY, AND TO BOTTOM SUCH WHIPSTOCKED OR DIRECTIONALLY DRILLED WELLS, TUNNELS AND SHAFTS UNDER AND BENEATH OR BEYOND THE EXTERIOR LIMITS THEREOF, AND TO REDRILL, RETUNNEL, EQUIP, MAINTAIN, REPAIR, DEEPEN AND OPERATE ANY SUCH WELLS, TUNNELS OR SHAFTS; PROVIDED, HOWEVER, THAT IN NO EVENT SHALL GRANTOR OR ITS SUCCESSORS OR ASSIGNS HAVE THE RIGHT TO DRILL, PUMP, MINE OR EXCAVATE THROUGH THE SURFACE OR UPPER 200 FEET OF THE SUBSURFACE OF THE PROPERTY, AS RESERVED IN THE GRANT DEED RECORDED FEBRUARY 5, 2004 AS INSTRUMENT NO. 2004000089551 OF OFFICIAL RECORDS.

APN: 140-041-81

GENERAL NOTES

1.) THE BASIS OF THE MAP IS THE AMENDED PRELIMINARY REPORT PREPARED BY FIDELITY NATIONAL TITLE COMPANY. ORDER NO. 997-23059368-A-JV1, REPORT DATE: AUGUST 6, 2015, AMENDED: AUGUST 18, 2015.

TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF VESTED IN:
- EMULEX DESIGN & MANUFACTURING CORPORATION, A DELAWARE CORPORATION

THE ESTATE OF INTEREST IN THE LAND HEREIN DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:
- FEE

NO RESPONSIBILITY AS TO THE ACCURACY OF THE TITLE INFORMATION INCLUDED IN THIS REPORT IS ASSUMED BY THIS MAP.

2.) GEOGRAPHICALLY LOCATABLE ITEMS FROM SAID REPORT (SUCH AS EASEMENTS) WHICH AFFECT THE SUBJECT PROPERTY ARE SHOWN ON THIS MAP WITH A ⟨#⟩ AND ARE NUMERICALLY KEYED TO SAID REPORT.

AT THE DATE HEREOF EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID REPORT WOULD BE AS FOLLOWS:

ITEMS A THROUGH C REFER TO TAXES.

ITEM 1 REFERS TO WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT DISCLOSED BY THE PUBLIC RECORDS.

ITEM ⟨2⟩ REFERS TO AN EASEMENT FOR SEWER PURPOSES IN FAVOR OF COUNTY SANITATION DISTRICT NO. 7 OF ORANGE COUNTY, RECORDED NOVEMBER 10, 1966 IN BOOK 8101, PAGE 439 OF OFFICIAL RECORDS.

ITEM ⟨3⟩ REFERS TO AN EASEMENT FOR RAILROAD PURPOSES IN FAVOR OF SOUTHERN PACIFIC COMPANY, RECORDED OCTOBER 24, 1967 IN BOOK 8414, PAGE 129 OF OFFICIAL RECORDS.

ITEM ⟨4⟩ REFERS TO AN EASEMENT FOR RAILROAD PURPOSES IN FAVOR OF SOUTHERN PACIFIC TRANSPORTATION COMPANY, RECORDED OCTOBER 11, 1973 IN BOOK 10940, PAGE 559 OF OFFICIAL RECORDS.

ITEM ⟨5⟩ REFERS TO AN EASEMENT FOR PUBLIC UTILITY PURPOSES IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED AUGUST 2, 1999 AS INSTRUMENT NO. 19990561798 OF OFFICIAL RECORDS.

ITEM 6 REFERS A DEVELOPMENT AGREEMENT FOR HOME RANCH, DATED MARCH 20, 2002 BY AND BETWEEN CITY OF COSTA MESA AND C. J. SEGERSTROM & SONS, SEGERSTROM PROPERTIES LLC AND HENRY T. SEGERSTROM PROPERTIES LLC, FOR THE TERM AND UPON THE TERMS AND CONDITIONS AS THEREIN PROVIDED, RECORDED MARCH 20, 2002 AS INSTRUMENT NO. 20020229863, OFFICIAL RECORDS.

SAID MATTER WAS PARTIALLY ASSIGNED TO EMULEX CORPORATION, A CALIFORNIA CORPORATION, BY PARTIAL ASSIGNMENT AND ASSUMPTION OF DEVELOPMENT AGREEMENT, RECORDED FEBRUARY 05, 2004 AS INSTRUMENT NO. 2004000089554, OFFICIAL RECORDS.

ITEM 7 REFERS TO A DOCUMENT ENTITLED "AGREEMENT TO PROVIDE TEMPORARY SERVICE AND IRREVOCABLE CONSENT TO ANNEXATION" EXECUTED BY AND BETWEEN COSTA MESA SANITARY DISTRICT AND SEGERSTROM PROPERTIES, LLC, RECORDED APRIL 24, 2002 AS INSTRUMENT NO. 20020341461 OF OFFICIAL RECORDS.

ITEM ⟨8⟩ REFERS TO AN EASEMENT FOR STREET AND HIGHWAY PURPOSES IN FAVOR OF THE CITY OF COSTA MESA, RECORDED APRIL 3, 2003 AS INSTRUMENT NO. 2003000368842 OF OFFICIAL RECORDS.

ITEM 9 REFERS TO A DOCUMENT ENTITLED "HOLD HARMLESS AGREEMENT FOR PRIVATE STORM DRAIN LATERAL CONNECTION" EXECUTED BY THE CITY OF COSTA MESA AND C.J. SEGERSTROM & SONS, RECORDED MAY 16, 2003 AS INSTRUMENT NO. 2003000564591.

ITEM 10 REFERS TO A DOCUMENT ENTITLED "MAINTENANCE AND HOLD HARMLESS AGREEMENT FOR PRIVATE STORM DRAIN" EXECUTED BY THE CITY OF COSTA MESA AND C.J. SEGERSTROM & SONS, RECORDED MAY 16, 2003 AS INSTRUMENT NO. 2003000564592 OF OFFICIAL RECORDS.

ITEM ⟨11⟩ REFERS TO AN EASEMENT FOR PUBLIC UTILITY PURPOSES IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED SEPTEMBER 24, 2003 AS INSTRUMENT NO. 2003001171879 OF OFFICIAL RECORDS.

⟨11A⟩ REFERS TO THE ALTERNATE LOCATION OF THE ELECTRICAL EASEMENT IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED AS INSTRUMENT NO. 2003001171879 OF OFFICIAL RECORDS BASED UPON THE APPARENT INTENT OF THE LEGAL DESCRIPTION IN THE RECORDED DOCUMENT WHICH ALSO MORE CLOSELY AGREES WITH THE EXISTING ELECTRICAL FACILITIES.

ITEM ⟨12⟩ REFERS TO AN EASEMENT FOR PIPELINE PURPOSES IN FAVOR OF MESA CONSOLIDATED WATER DISTRICT, RECORDED DECEMBER 12, 2003 AS INSTRUMENT NO. 2003001476872 OF OFFICIAL RECORDS.

ITEM 13 MATTERS WHICH MAY BE DISCLOSED BY AN INSPECTION AND/OR BY A CORRECT ALTA/ACSM LAND TITLE SURVEY OF SAID LAND THAT IS SATISFACTORY TO THE COMPANY, AND/OR BY INQUIRY OF THE PARTIES IN POSSESSION THEREOF.

ITEM 14 REFERS TO RIGHTS OF PARTIES IN POSSESSION.

ITEM 15 REFERS TO A NOTE THAT THE TITLE COMPANY'S SEARCH DID NOT DISCLOSE ANY OPEN DEEDS OF TRUST OF RECORD.

3) THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN HEREON ARE OBTAINED FROM THE ALTA SURVEY DATED JANUARY 26, 2004.

4) THERE IS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS

5) THERE IS NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

6) PER EMAIL(RECEIVED ON 9/1/2015) FROM CRISTINA OQUENDO, CITY OF COSTA MESA ENGINEERING TECHNICIAN II, THERE ARE NO RIGHT-OF-WAY CHANGES ANTICIPATED BY PUBLIC SERVICES. AS OF THE DATE OF THIS SURVEY, THERE IS NO OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION. FOR MORE INFORMATION:
CONTACT: CRISTINA OQUENDO
(714) 754 - 5015
CRISTINA.OQUENDO@COSTAMESACA.GOV
CITY OF COSTA MESA
77 FAIR DRIVE, COSTA MESA, CA 92626

7) THE DIMENSIONS SHOWN HEREON RELATIVE TO EACH OBJECT OF CULTURE (I.E. MANHOLE, STREET LIGHT, ETC.) ARE BETWEEN THE PROPERTY LINE AND THE EDGE OF THAT OBJECT CLOSEST TO THE PROPERTY LINE. VARIOUS LANDSCAPE AND IRRIGATION FEATURES EXIST IN THE VICINITY OF THE NORTHERLY, EASTERLY, AND SOUTHERLY PROPERTY BOUNDARIES. SPECIFIC LOCATIONS FOR THESE INCIDENTAL FEATURES ARE OMITTED HEREON.

LAND AREA

THE SUBJECT PROPERTY CONTAINS: 14.152 ACRES +/- NET (14.252 ACRES +/- GROSS)

EXISTING CONDITIONS SEWER ANALYSIS EXHIBIT

LEGAL DESCRIPTION

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APN: 140-041-81

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ITEM ⟨5⟩ REFERS TO AN EASEMENT FOR PUBLIC UTILITY PURPOSES IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED AUGUST 2, 1999 AS INSTRUMENT NO. 19990561798 OF OFFICIAL RECORDS.

ITEM 6 REFERS A DEVELOPMENT AGREEMENT FOR HOME RANCH, DATED MARCH 20, 2002 BY AND BETWEEN CITY OF COSTA MESA AND C. J. SEGERSTROM & SONS, SEGERSTROM PROPERTIES LLC AND HENRY T. SEGERSTROM PROPERTIES LLC, FOR THE TERM AND UPON THE TERMS AND CONDITIONS AS THEREIN PROVIDED, RECORDED MARCH 20, 2002 AS INSTRUMENT NO. 20020229863, OFFICIAL RECORDS.

SAID MATTER WAS PARTIALLY ASSIGNED TO EMULEX CORPORATION, A CALIFORNIA CORPORATION, BY PARTIAL ASSIGNMENT AND ASSUMPTION OF DEVELOPMENT AGREEMENT, RECORDED FEBRUARY 05, 2004 AS INSTRUMENT NO. 2004000089554, OFFICIAL RECORDS.

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ITEM ⟨8⟩ REFERS TO AN EASEMENT FOR STREET AND HIGHWAY PURPOSES IN FAVOR OF THE CITY OF COSTA MESA, RECORDED APRIL 3, 2003 AS INSTRUMENT NO. 2003000368842 OF OFFICIAL RECORDS.

ITEM 9 REFERS TO A DOCUMENT ENTITLED "HOLD HARMLESS AGREEMENT FOR PRIVATE STORM DRAIN LATERAL CONNECTION" EXECUTED BY THE CITY OF COSTA MESA AND C.J. SEGERSTROM & SONS, RECORDED MAY 16, 2003 AS INSTRUMENT NO. 2003000564591.

ITEM 10 REFERS TO A DOCUMENT ENTITLED "MAINTENANCE AND HOLD HARMLESS AGREEMENT FOR PRIVATE STORM DRAIN" EXECUTED BY THE CITY OF COSTA MESA AND C.J. SEGERSTROM & SONS, RECORDED MAY 16, 2003 AS INSTRUMENT NO. 2003000564592 OF OFFICIAL RECORDS.

ITEM ⟨11⟩ REFERS TO AN EASEMENT FOR PUBLIC UTILITY PURPOSES IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED SEPTEMBER 24, 2003 AS INSTRUMENT NO. 2003001171879 OF OFFICIAL RECORDS.

⟨11A⟩ REFERS TO THE ALTERNATE LOCATION OF THE ELECTRICAL EASEMENT IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED AS INSTRUMENT NO. 2003001171879 OF OFFICIAL RECORDS BASED UPON THE APPARENT INTENT OF THE LEGAL DESCRIPTION IN THE RECORDED DOCUMENT WHICH ALSO MORE CLOSELY AGREES WITH THE EXISTING ELECTRICAL FACILITIES.

ITEM ⟨12⟩ REFERS TO AN EASEMENT FOR PIPELINE PURPOSES IN FAVOR OF MESA CONSOLIDATED WATER DISTRICT, RECORDED DECEMBER 12, 2003 AS INSTRUMENT NO. 2003001476872 OF OFFICIAL RECORDS.

ITEM 13 MATTERS WHICH MAY BE DISCLOSED BY AN INSPECTION AND/OR BY A CORRECT ALTA/ACSM LAND TITLE SURVEY OF SAID LAND THAT IS SATISFACTORY TO THE COMPANY, AND/OR BY INQUIRY OF THE PARTIES IN POSSESSION THEREOF.

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4) THERE IS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS

5) THERE IS NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

6) PER EMAIL(RECEIVED ON 9/1/2015) FROM CRISTINA OQUENDO, CITY OF COSTA MESA ENGINEERING TECHNICIAN II, THERE ARE NO RIGHT-OF-WAY CHANGES ANTICIPATED BY PUBLIC SERVICES. AS OF THE DATE OF THIS SURVEY, THERE IS NO OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION. FOR MORE INFORMATION:

CONTACT: CRISTINA OQUENDO
(714) 754 - 5015
CRISTINA.OQUENDO@COSTAMESACA.GOV
CITY OF COSTA MESA
77 FAIR DRIVE, COSTA MESA, CA 92626

7) THE DIMENSIONS SHOWN HEREON RELATIVE TO EACH OBJECT OF CULTURE (I.E. MANHOLE, STREET LIGHT, ETC.) ARE BETWEEN THE PROPERTY LINE AND THE EDGE OF THAT OBJECT CLOSEST TO THE PROPERTY LINE. VARIOUS LANDSCAPE AND IRRIGATION FEATURES EXIST IN THE VICINITY OF THE NORTHERLY, EASTERLY, AND SOUTHERLY PROPERTY BOUNDARIES. SPECIFIC LOCATIONS FOR THESE INCIDENTAL FEATURES ARE OMITTED HEREON.

LAND AREA

THE SUBJECT PROPERTY CONTAINS: 14.152 ACRES +/- NET (14.252 ACRES +/- GROSS)

PROPOSED CONDITIONS SEWER ANALYSIS EXHIBIT

APPENDIX 3

DESIGN CRITERIA

- CMSD SEWER DESIGN REQUIREMENTS
- LA COUNTY SEWER GENERATION FACTORS

STANDARD PLANS
AND SPECIFICATIONS
FOR
THE CONSTRUCTION OF
SANITARY SEWERS

COSTA MESA SANITARY DISTRICT
ORANGE COUNTY, CALIFORNIA

SECTION 2 - DESIGN REQUIREMENTS

2-1 Design Criteria

(a) Minimum Size - The minimum size for sewer mains shall be 8" and for laterals 6".

(b) Sewer Slope - Minimum pipeline slopes shall be:

Pipe Size (Mains)	Grade
8 inch	0.40%
10 inch	0.28%
12 inch	0.22%
15 inch	0.16%
18 inch	0.12%
6 inch (laterals)	2.0 %

(c) Pipe Capacity - Pipelines shall be designed to carry estimated peak flow as follows:

18" or smaller - flowing 1/2 full
21" or larger - flowing 3/4 full

(d) Manholes - Manhole construction is required at the following locations:

(1) at changes of slope
(2) at changes of direction
(3) at changes of pipe size
(4) at junction of laterals larger than 6 inches
(5) at intervals not exceeding 350 feet
(6) at termination of sewer mains
(7) at special locations as designated by the District Engineer

Elevation drop through manholes shall be 0.10 foot minimum.

2018 LOS ANGELES COUNTY

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

PER 1ST PLAN CHECK COMMENT, USE 5,000 GPD/AC FOR EX 9.7-ACRE PARKING LOT FOR AUTOMOBILE CLUB EAST OF SUSAN STREET

APPENDIX 4

HYDRAULIC CALCULATIONS (FLOWMASTER)

Prop lateral to MH 103755

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Diameter	8.0 in
Discharge	0.31 cfs

Results	
Normal Depth	2.5 in
Flow Area	0.1 ft²
Wetted Perimeter	0.8 ft
Hydraulic Radius	1.4 in
Top Width	0.61 ft
Critical Depth	3.1 in
Percent Full	30.7 %
Critical Slope	0.008 ft/ft
Velocity	3.36 ft/s
Velocity Head	0.18 ft
Specific Energy	0.38 ft
Froude Number	1.542
Maximum Discharge	1.71 cfs
Discharge Full	1.57 cfs
Slope Full	0.001 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	30.7 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.5 in
Critical Depth	3.1 in
Channel Slope	0.020 ft/ft
Critical Slope	0.008 ft/ft

Ex lateral to MH 103781

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Diameter	8.0 in
Discharge	0.21 cfs

Results	
Normal Depth	2.1 in
Flow Area	0.1 ft²
Wetted Perimeter	0.7 ft
Hydraulic Radius	1.2 in
Top Width	0.58 ft
Critical Depth	2.5 in
Percent Full	25.7 %
Critical Slope	0.008 ft/ft
Velocity	2.98 ft/s
Velocity Head	0.14 ft
Specific Energy	0.31 ft
Froude Number	1.507
Maximum Discharge	1.71 cfs
Discharge Full	1.57 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	25.7 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.1 in
Critical Depth	2.5 in
Channel Slope	0.020 ft/ft
Critical Slope	0.008 ft/ft

Prop lateral to MH 103781

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Diameter	8.0 in
Discharge	0.34 cfs

Results	
Normal Depth	2.6 in
Flow Area	0.1 ft²
Wetted Perimeter	0.8 ft
Hydraulic Radius	1.4 in
Top Width	0.62 ft
Critical Depth	3.2 in
Percent Full	32.1 %
Critical Slope	0.008 ft/ft
Velocity	3.46 ft/s
Velocity Head	0.19 ft
Specific Energy	0.40 ft
Froude Number	1.546
Maximum Discharge	1.71 cfs
Discharge Full	1.57 cfs
Slope Full	0.001 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	32.1 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.6 in
Critical Depth	3.2 in
Channel Slope	0.020 ft/ft
Critical Slope	0.008 ft/ft

Ex lateral to MH 103774

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Diameter	8.0 in
Discharge	0.21 cfs

Results	
Normal Depth	2.1 in
Flow Area	0.1 ft²
Wetted Perimeter	0.7 ft
Hydraulic Radius	1.2 in
Top Width	0.58 ft
Critical Depth	2.5 in
Percent Full	25.7 %
Critical Slope	0.008 ft/ft
Velocity	2.98 ft/s
Velocity Head	0.14 ft
Specific Energy	0.31 ft
Froude Number	1.507
Maximum Discharge	1.71 cfs
Discharge Full	1.57 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	25.7 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.1 in
Critical Depth	2.5 in
Channel Slope	0.020 ft/ft
Critical Slope	0.008 ft/ft

Prop lateral to MH 103774

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Diameter	8.0 in
Discharge	0.38 cfs

Results	
Normal Depth	2.7 in
Flow Area	0.1 ft²
Wetted Perimeter	0.8 ft
Hydraulic Radius	1.5 in
Top Width	0.63 ft
Critical Depth	3.4 in
Percent Full	34.0 %
Critical Slope	0.008 ft/ft
Velocity	3.59 ft/s
Velocity Head	0.20 ft
Specific Energy	0.43 ft
Froude Number	1.554
Maximum Discharge	1.71 cfs
Discharge Full	1.57 cfs
Slope Full	0.001 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	34.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.7 in
Critical Depth	3.4 in
Channel Slope	0.020 ft/ft
Critical Slope	0.008 ft/ft

Prop Segment MH119775-103713

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.08 cfs

Results	
Normal Depth	1.8 in
Flow Area	0.1 ft²
Wetted Perimeter	0.9 ft
Hydraulic Radius	1.1 in
Top Width	0.81 ft
Critical Depth	1.3 in
Percent Full	12.1 %
Critical Slope	0.010 ft/ft
Velocity	0.89 ft/s
Velocity Head	0.01 ft
Specific Energy	0.16 ft
Froude Number	0.488
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	1.8 in
Critical Depth	1.3 in
Channel Slope	0.002 ft/ft
Critical Slope	0.010 ft/ft

Prop Segment MH103713-103755

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.08 cfs

Results	
Normal Depth	1.8 in
Flow Area	0.1 ft²
Wetted Perimeter	0.9 ft
Hydraulic Radius	1.1 in
Top Width	0.81 ft
Critical Depth	1.3 in
Percent Full	12.1 %
Critical Slope	0.010 ft/ft
Velocity	0.89 ft/s
Velocity Head	0.01 ft
Specific Energy	0.16 ft
Froude Number	0.488
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	1.8 in
Critical Depth	1.3 in
Channel Slope	0.002 ft/ft
Critical Slope	0.010 ft/ft

Prop Segment MH103755-103781

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.38 cfs

Results	
Normal Depth	3.8 in
Flow Area	0.2 ft²
Wetted Perimeter	1.3 ft
Hydraulic Radius	2.2 in
Top Width	1.09 ft
Critical Depth	2.9 in
Percent Full	25.6 %
Critical Slope	0.007 ft/ft
Velocity	1.54 ft/s
Velocity Head	0.04 ft
Specific Energy	0.36 ft
Froude Number	0.568
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	3.8 in
Critical Depth	2.9 in
Channel Slope	0.002 ft/ft
Critical Slope	0.007 ft/ft

Ex Segment MH103781-119801

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.21 cfs

Results	
Normal Depth	2.9 in
Flow Area	0.2 ft²
Wetted Perimeter	1.1 ft
Hydraulic Radius	1.8 in
Top Width	0.99 ft
Critical Depth	2.1 in
Percent Full	19.4 %
Critical Slope	0.008 ft/ft
Velocity	1.27 ft/s
Velocity Head	0.03 ft
Specific Energy	0.27 ft
Froude Number	0.544
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	2.9 in
Critical Depth	2.1 in
Channel Slope	0.002 ft/ft
Critical Slope	0.008 ft/ft

Prop Segment MH103781-119801

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.72 cfs

Results	
Normal Depth	5.2 in
Flow Area	0.4 ft²
Wetted Perimeter	1.6 ft
Hydraulic Radius	2.9 in
Top Width	1.19 ft
Critical Depth	4.0 in
Percent Full	34.9 %
Critical Slope	0.006 ft/ft
Velocity	1.87 ft/s
Velocity Head	0.05 ft
Specific Energy	0.49 ft
Froude Number	0.584
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	5.2 in
Critical Depth	4.0 in
Channel Slope	0.002 ft/ft
Critical Slope	0.006 ft/ft

Ex Segment MH119801-103774

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.38 cfs

Results	
Normal Depth	3.8 in
Flow Area	0.2 ft²
Wetted Perimeter	1.3 ft
Hydraulic Radius	2.2 in
Top Width	1.09 ft
Critical Depth	2.9 in
Percent Full	25.5 %
Critical Slope	0.007 ft/ft
Velocity	1.53 ft/s
Velocity Head	0.04 ft
Specific Energy	0.36 ft
Froude Number	0.568
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	3.8 in
Critical Depth	2.9 in
Channel Slope	0.002 ft/ft
Critical Slope	0.007 ft/ft

Prop Segment MH119801-103774

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.88 cfs

Results	
Normal Depth	5.8 in
Flow Area	0.4 ft²
Wetted Perimeter	1.7 ft
Hydraulic Radius	3.1 in
Top Width	1.22 ft
Critical Depth	4.4 in
Percent Full	38.9 %
Critical Slope	0.006 ft/ft
Velocity	2.00 ft/s
Velocity Head	0.06 ft
Specific Energy	0.55 ft
Froude Number	0.584
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	5.8 in
Critical Depth	4.4 in
Channel Slope	0.002 ft/ft
Critical Slope	0.006 ft/ft

Ex Segment MH103774-103773-103869

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	0.59 cfs

Results	
Normal Depth	4.8 in
Flow Area	0.3 ft²
Wetted Perimeter	1.5 ft
Hydraulic Radius	2.7 in
Top Width	1.16 ft
Critical Depth	3.6 in
Percent Full	31.7 %
Critical Slope	0.006 ft/ft
Velocity	1.77 ft/s
Velocity Head	0.05 ft
Specific Energy	0.45 ft
Froude Number	0.581
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	4.8 in
Critical Depth	3.6 in
Channel Slope	0.002 ft/ft
Critical Slope	0.006 ft/ft

Prop Segment MH103774-103773-103869

Project Description	
Friction Method	Kutter Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.002 ft/ft
Diameter	15.0 in
Discharge	1.26 cfs

Results	
Normal Depth	7.1 in
Flow Area	0.6 ft²
Wetted Perimeter	1.9 ft
Hydraulic Radius	3.6 in
Top Width	1.25 ft
Critical Depth	5.3 in
Percent Full	47.1 %
Critical Slope	0.006 ft/ft
Velocity	2.21 ft/s
Velocity Head	0.08 ft
Specific Energy	0.67 ft
Froude Number	0.578
Maximum Discharge	3.04 cfs
Discharge Full	2.80 cfs
Slope Full	0.000 ft/ft
Flow Type	Subcritical

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	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	7.1 in
Critical Depth	5.3 in
Channel Slope	0.002 ft/ft
Critical Slope	0.006 ft/ft

APPENDIX 5

FIELD SEWER MONITORING RESULTS

Methods & Procedures & Equipment

Methods and Procedures

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

- Assessed permitting and traffic control at the sites in Costa Mesa, CA.
- Prepared the traffic control plan and obtained a City Encroachment Permit.
- Installed and removed traffic control in accord with approved traffic control plans per/site-specific California Temporary Traffic Control Handbook (CATTCH) requirements for the installation, calibration and removal of equipment.
- Validated the sites for suitability for sewer flow monitoring for the Hive Live Project.
  - The Sunflower manhole (MH) 103869 had pipes entering from the east, south and west with slow open channel hydraulics and some turbulence due to inflow from laterals. Monitoring began on the downstream line to obtain total flow.
  - The Via Luca MH 119797 had pipes entering from the north & south with slow to moderate open channel hydraulics and some turbulence due to inflow from lateral. Monitoring began on the downstream line to obtain total flow.
- Installed and calibrated the flow monitoring equipment at the sites per manufacturer recommendations on 02/23/2024.
  - Follow-up on the installations confirmed equipment was reading properly.
  - Collected 15-minute interval depth and velocity data points over the entire monitoring period.
- Removed the equipment on 03/11/2024 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) and depth versus diameter ratios (d/D).

MH	Pipe Size (in)	Avg Vel (fps)	Max Vel (fps)	Avg Lev (in)	Max Lev (in)	Avg Flow (gpm)	Max Flow (gpm)	Avg d/D	Max d/D
103869	15	0.86	1.33	2.69	3.16	57.20	95.91	0.18	0.21
119797	8	2.22	2.81	1.13	1.66	30.42	66.18	0.14	0.21

Equipment

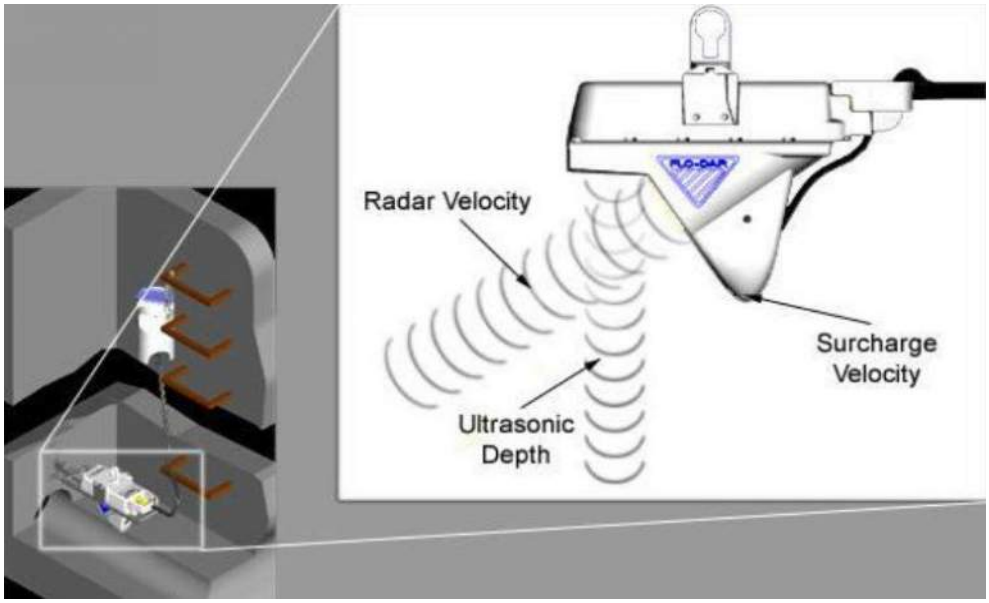


Figure above: Equipment installed for the Sewer Flow Monitoring Study

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.**

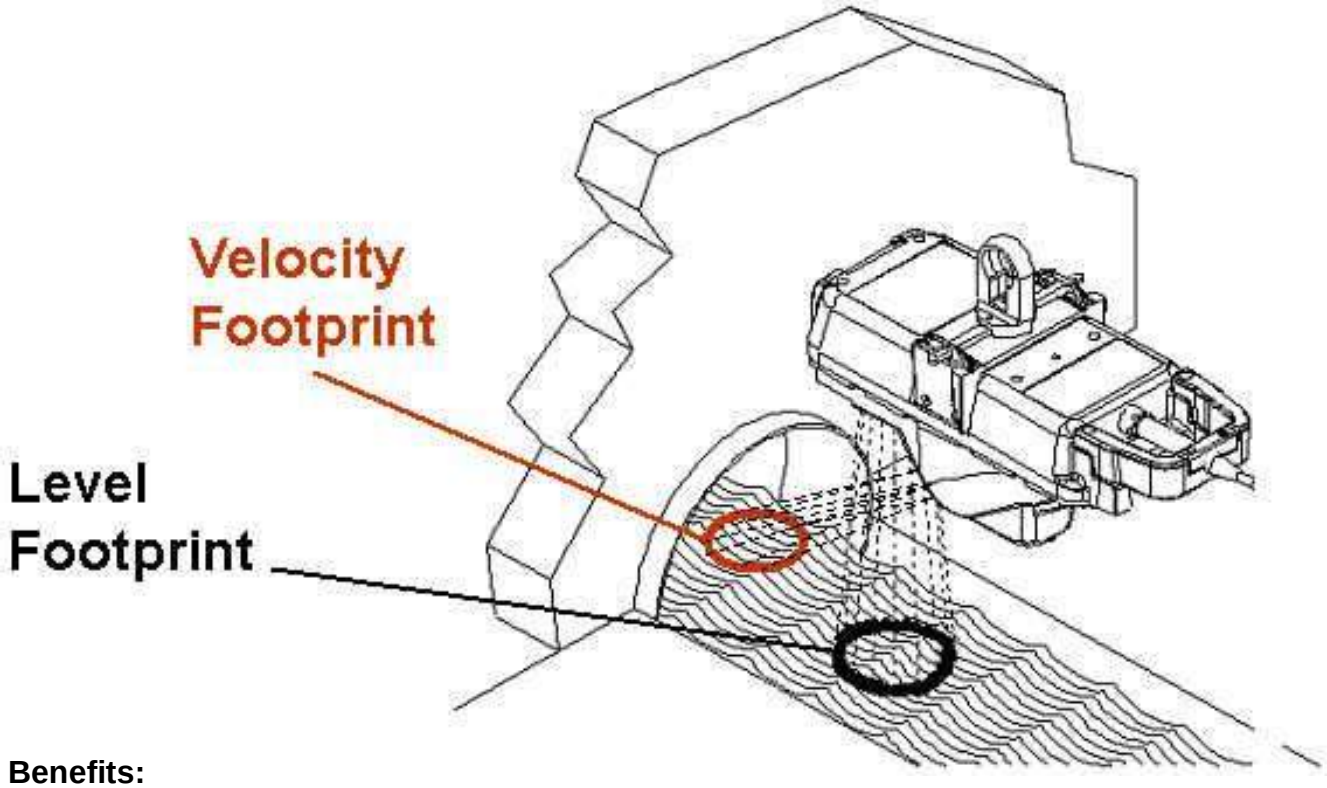
VELOCITY (Optional Surcharge Velocity Sensor)

- **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.

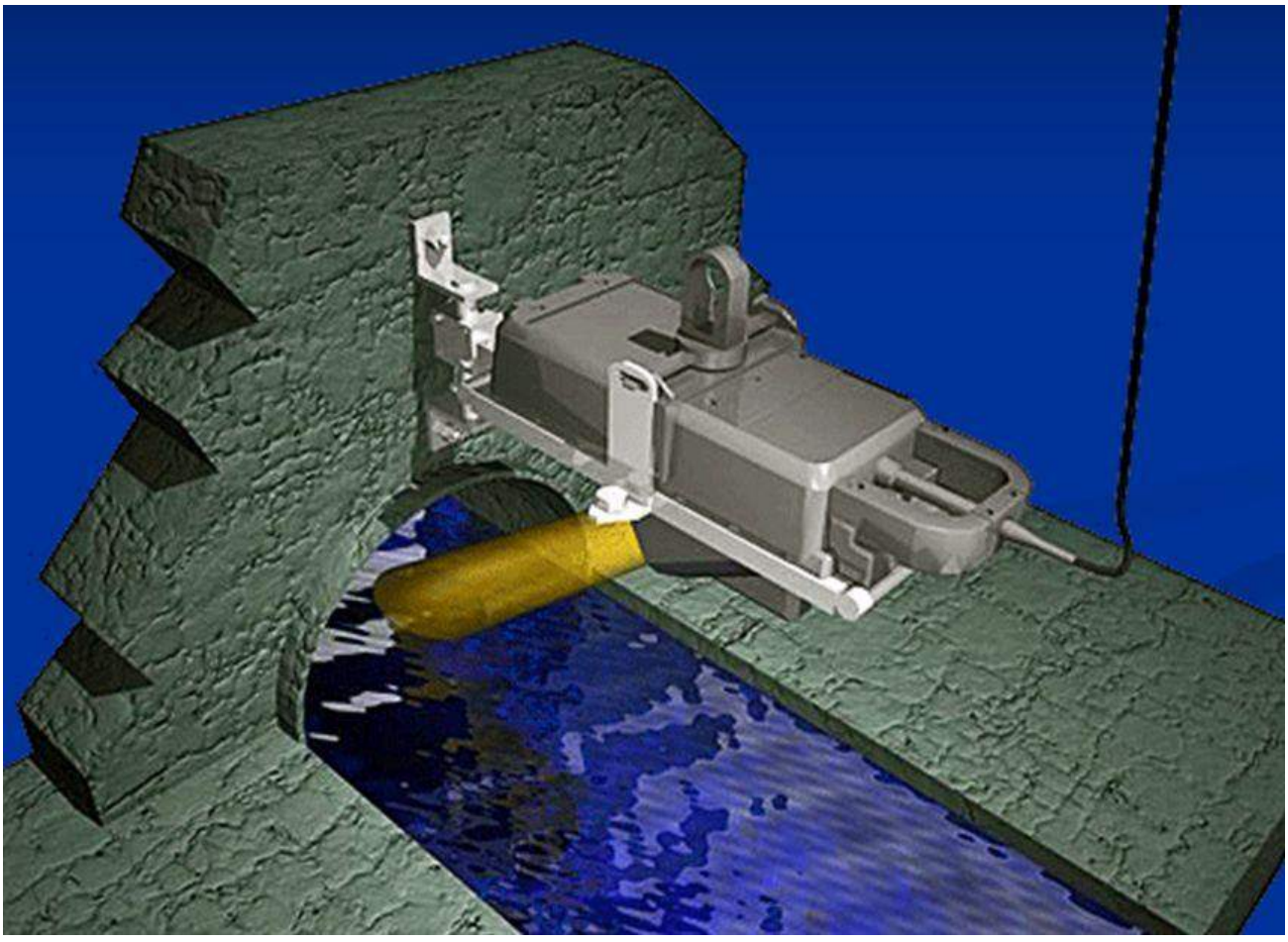


Figure above: US^3 utilizes exclusively Hach March-McBirney Flo-Dar® Meters

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 25 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 20 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 15 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)

Site Report 3/13/2024

Confidential Proprietary Information

Fuscoe

2024.02 Sunflower MH

MH at ~1313 W. Sunflower Ave
Costa Mesa, CA 92626
MH # 103869

Access:
MH in EB curb lane, NW of address

System Type:
Sanitary [X] Storm [ ]

Install Date: 2/23/2024

Map

Location

Flow Meter			
Meter Depth: 161.4"			
MH Coordinates: 33.695646, -117.912475			
Slow open channel hydraulics with some turbulence due to inflow from laterals & bend in trough.			
Avg Velocity	Avg Measured Level		Multiplier
0.9 fps	2.7"		1.0
Gas			
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
Pipes entering from east, south & west; monitored downstream line to get total flow.			
Traffic Safety			
Used arrowboard, cones & signs in accord w/approved TCP per site-specific CATTCH requirements.			
Land Use			
Residential	Commercial	Industrial	Trunk
X			

Manhole Depth	183"
Monitored Pipe Size	15"
Inner Pipe Size (In/Out)	15"/15"
Pipe Shape	Round
Pipe Condition	Fair
Manhole Material	Lined
Silt	None observed
Velocity Profile Data	Passed
Velocity Profile Taken	0.4 2-D
Sensor Offset	21.6"
Sensor Dist. to Crown	6.6"
Sensor Direction	Downstream
Flow Heading	North

Meter Site Document

2024.02 Sunflower MH

MH at ~1313 W. Sunflower Ave

Costa Mesa, CA 92626

Site

Manhole Before Install

Installation Process

Installed

Upstream

Downstream

Temporary Flow Study

Fuscoe

2024.02 Sunflower MH

Meter Start Date		From	2/23/2024
Meter Stop Date		To	3/11/2024
Velocity (fps)		Level (in)	Flow (mgd)
Average	0.864	2.686	0.082
Maximum	1.330	3.160	0.138
Minimum	0.520	2.220	0.043
Pipe Size		15.000	
Estimated Capacity (mgd)		Not Calculated	
Capacity Used		Not Calculated	
Sensor Type		Hach - Flodar	

Utility Systems, Science and Software

1300 Hill St
El Cajon, CA 92020

601 N. Parkcenter Dr, Suite 209
Santa Ana, CA 92705

Site Report 3/13/2024

Confidential Proprietary Information

Fuscoe

2024.02 Via Luca MH

MH at ~3366 Cte Levanto
Costa Mesa, CA 92626
MH # 119797

Access:
MH located south of address within intersection in gated community

System Type:
Sanitary [X] Storm [ ]

Install Date: 2/23/2024

Map

Sewer Map

Flow Meter			
Meter Depth: 145.3"			
MH Coordinates: 33.694411, -117.912664			
Slow to moderate open channel hydraulics with some turbulence due to inflow from lateral.			
Avg Velocity	Avg Measured Level		Multiplier
2.2 fps	1.1"		1.0
Gas			
O2	H2S	CO	LEL
20.9	0	0	0

Notes

Pipes entering from north & south; monitored downstream line to get total flow.

Traffic Safety

Used arrowboard, cones & signs in accord w/site-specific CATTCH requirements.

Land Use

Residential	Commercial	Industrial	Trunk
X			

Manhole Depth	161"
Monitored Pipe Size	8"
Inner Pipe Size (In/Out)	8"/8"
Pipe Shape	Round
Pipe Condition	Fair
Manhole Material	Concrete
Silt	None observed
Velocity Profile Data	Passed
Velocity Profile Taken	0.4 2-D
Sensor Offset	15.7"
Sensor Dist. to Crown	7.7"
Sensor Direction	Downstream
Flow Heading	West

Meter Site Document

2024.02 Via Luca MH

MH at ~3366 Cte Levanto

Costa Mesa, CA 92626

Site

Manhole Before Install

Installation Process

Installed

Upstream

Downstream

Temporary Flow Study

Fuscoe

2024.02 Via Luca MH

Meter Start Date		From	2/23/2024
Meter Stop Date		To	3/11/2024
Velocity (fps)		Level (in)	Flow (mgd)
Average	2.225	1.129	0.044
Maximum	2.810	1.660	0.095
Minimum	1.780	0.790	0.023
Pipe Size		8.000	
Estimated Capacity (mgd)		Not Calculated	
Capacity Used		Not Calculated	
Sensor Type		Hach - Flodar	

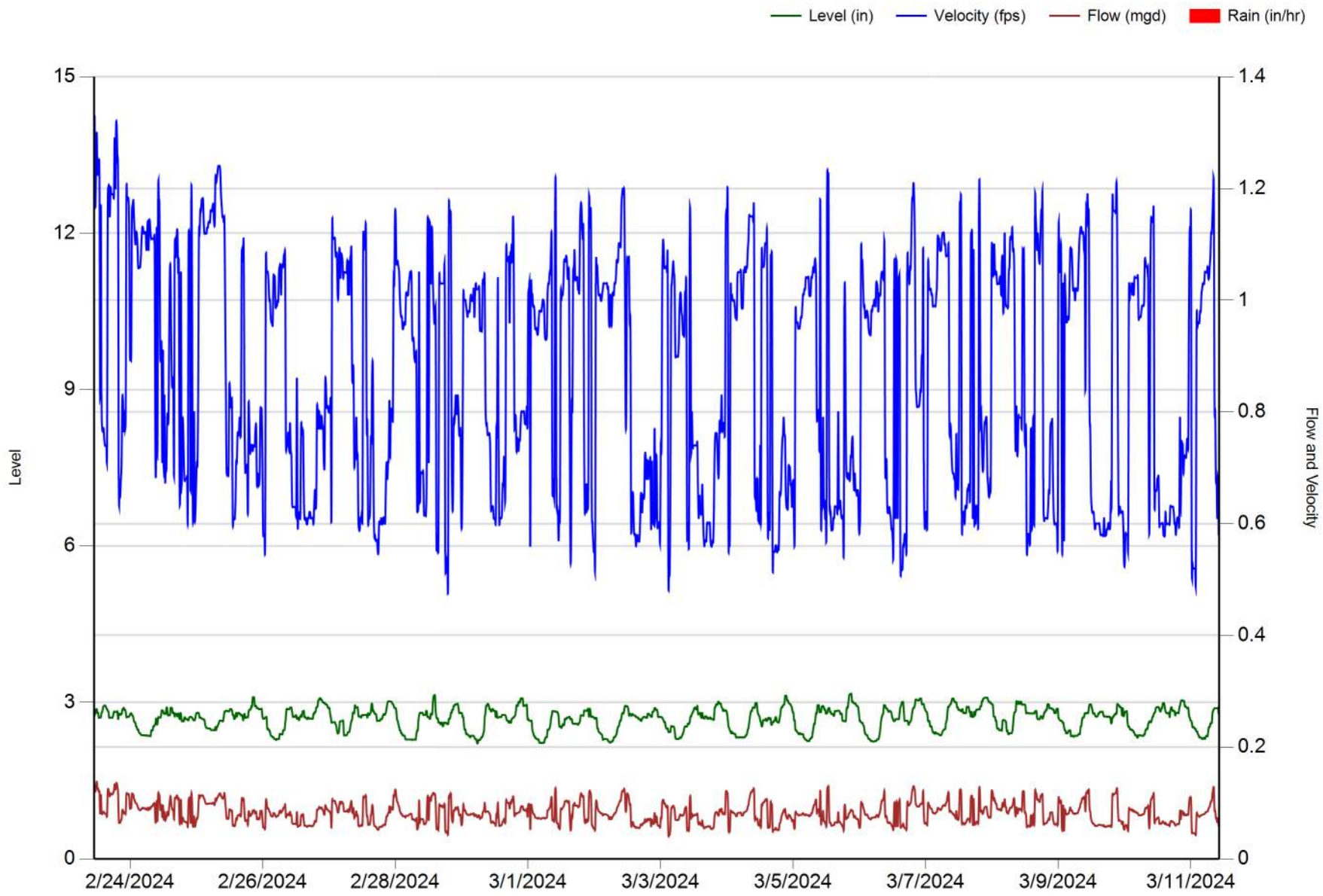
Utility Systems, Science and Software

1300 Hill St
El Cajon, CA 92020

601 N. Parkcenter Dr, Suite 209
Santa Ana, CA 92705

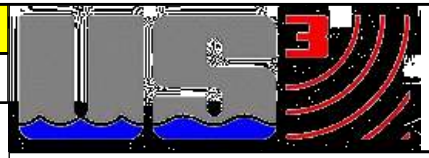
Report Date: 03/12/2024
Customer: Fuscoe
Group: Hive Live Project
Site: 2024.02 Sunflower MH

2024.02 Sunflower MH:
02/23/2024 thru 03/11/2024



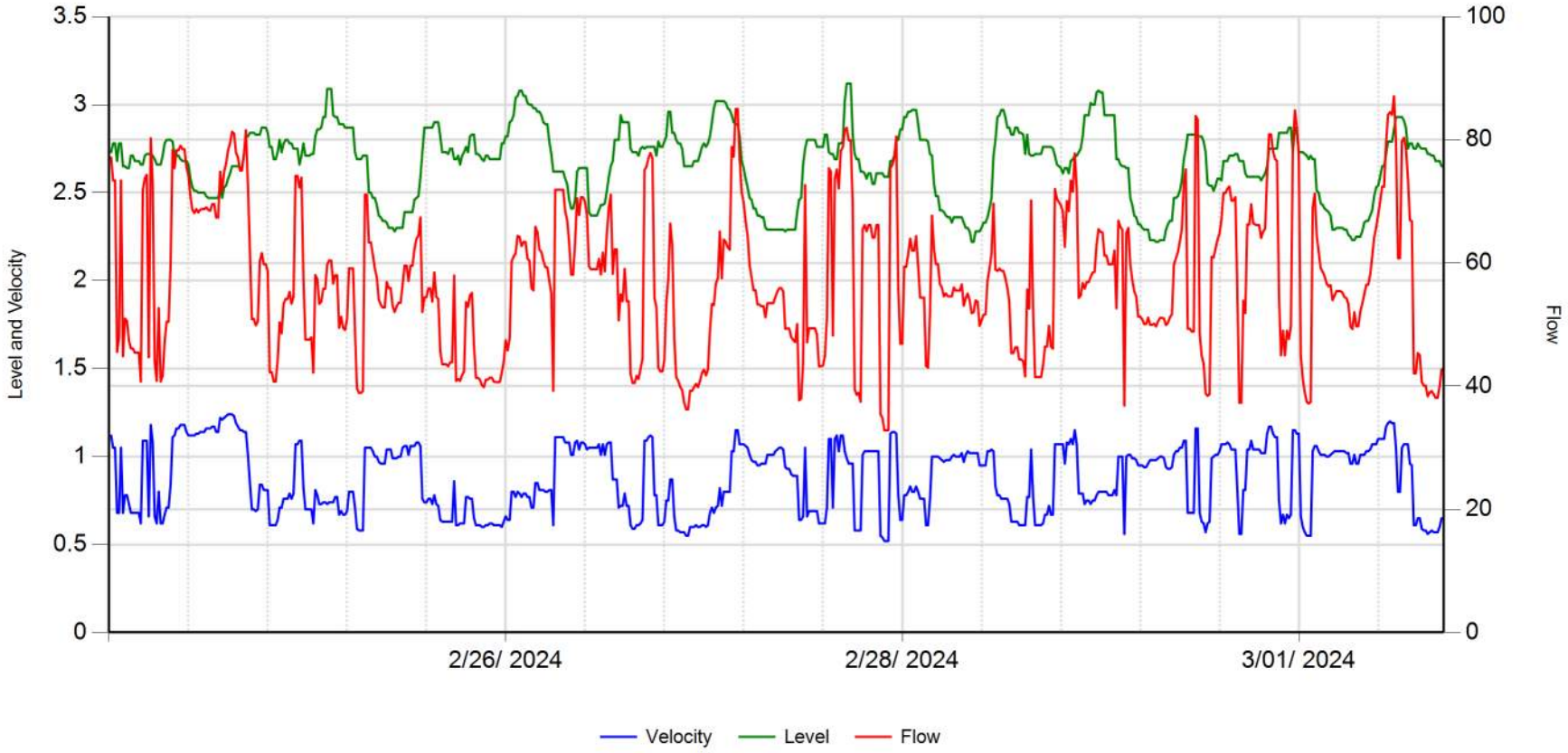
2024.02 Sunflower MH

	Velocity (fps)	Level (in)	Flow (gpm)		
Average	1.012	2.697	67.718	**RainFall**	Inches
Maximum	1.330	2.940	95.905		
Minimum	0.650	2.360	45.047		

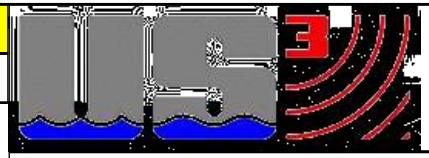


3/13/2024

2024.02 Sunflower MH



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	0.873	2.667	57.280	**RainFall**	Inches
Maximum	1.240	3.120	87.090		
Minimum	0.520	2.220	32.833		



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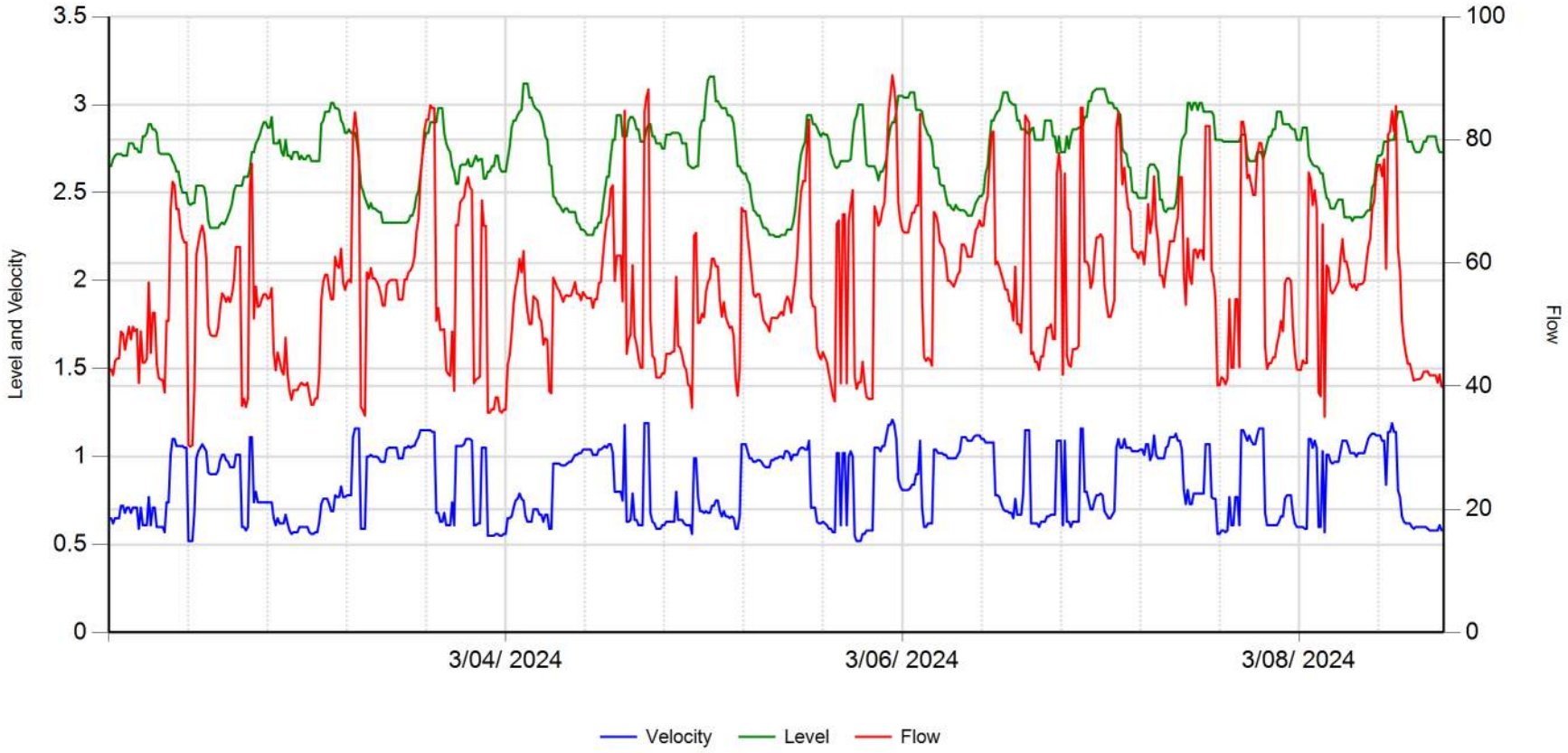
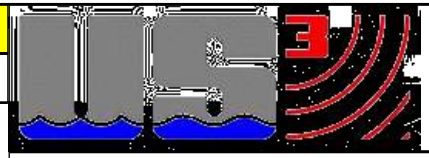
2024.02 Sunflower MH



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	0.840	2.705	56.087	**RainFall**	Inches
Maximum	1.210	3.160	90.512		
Minimum	0.520	2.250	30.186		



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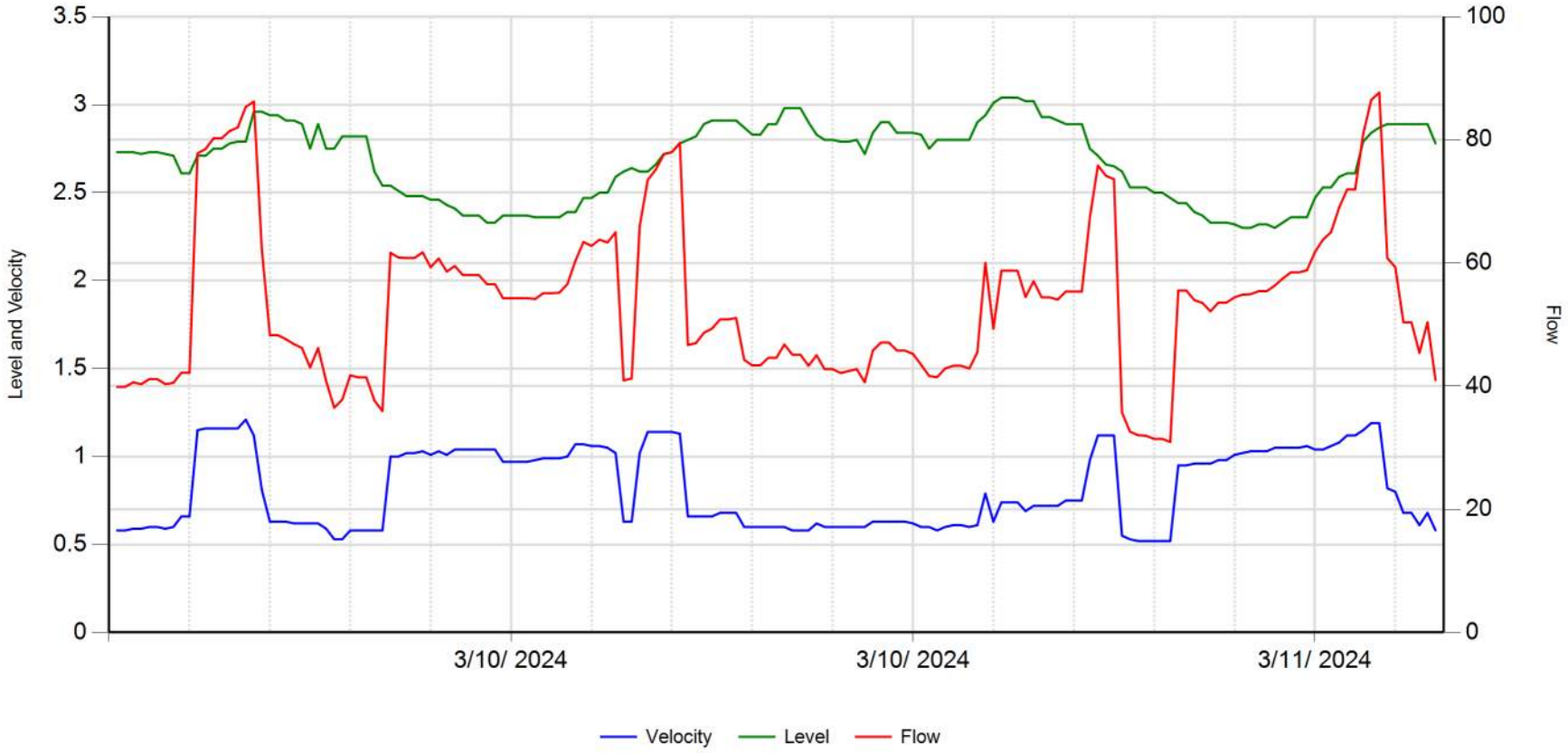
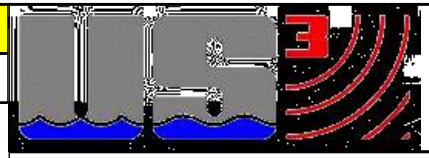


	Velocity (fps)	Level (in)	Flow (gpm)		
Average	0.817	2.681	53.725	**RainFall**	Inches
Maximum	1.210	3.040	87.698		
Minimum	0.520	2.300	30.937		



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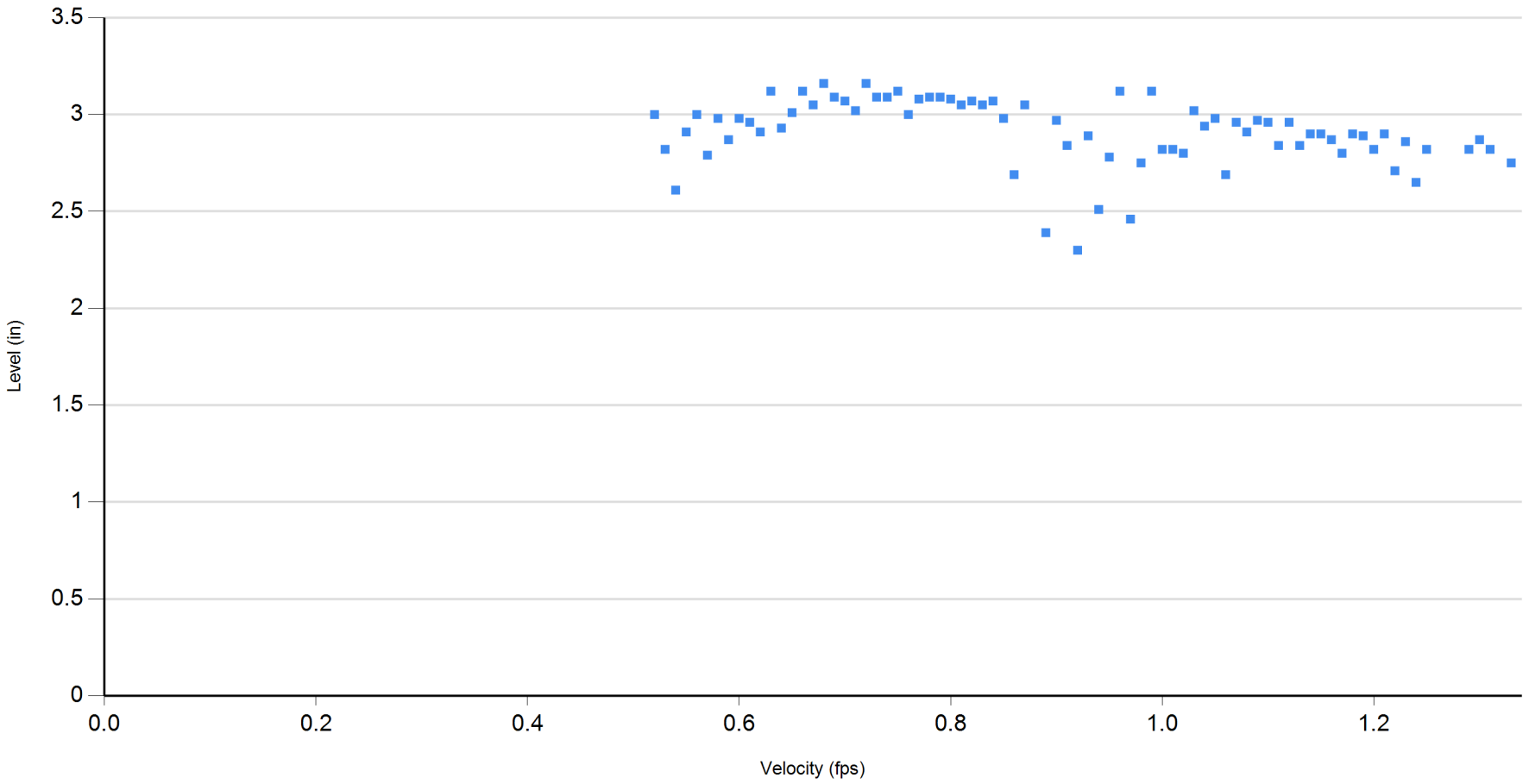
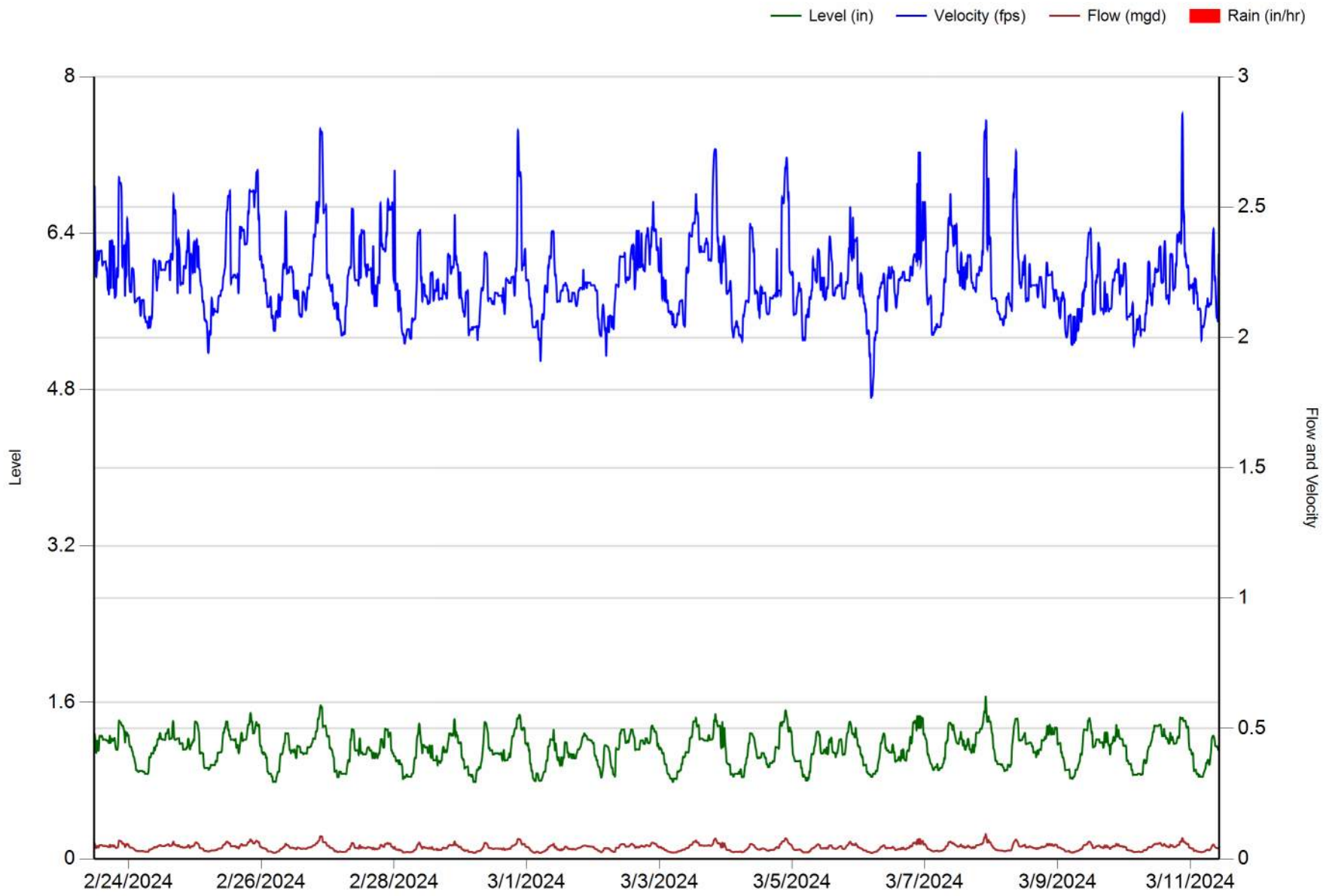


2/23/2024 thru 3/11/2024

3/13/2024 11:31:38 AM

Report Date: 03/13/2024
Customer: Fuscoe Group:
Hive Live Project Site:
2024.02 Via Luca MH

2024.02 Via Luca MH:
02/23/2024 thru 03/11/2024



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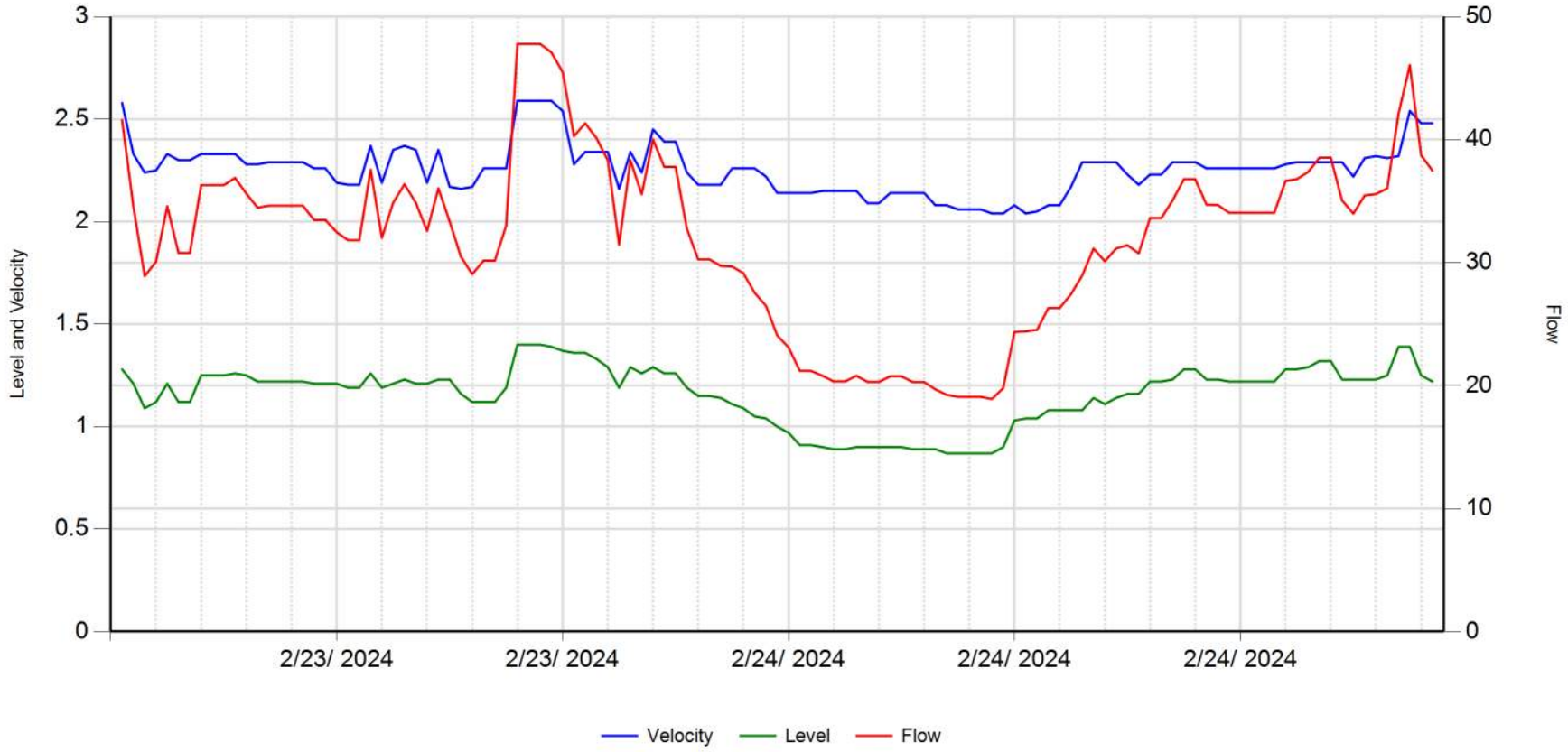
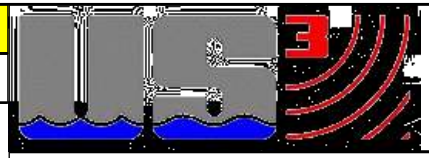


	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.257	1.158	31.989	**RainFall**	Inches
Maximum	2.590	1.400	47.786		
Minimum	2.040	0.870	18.911		



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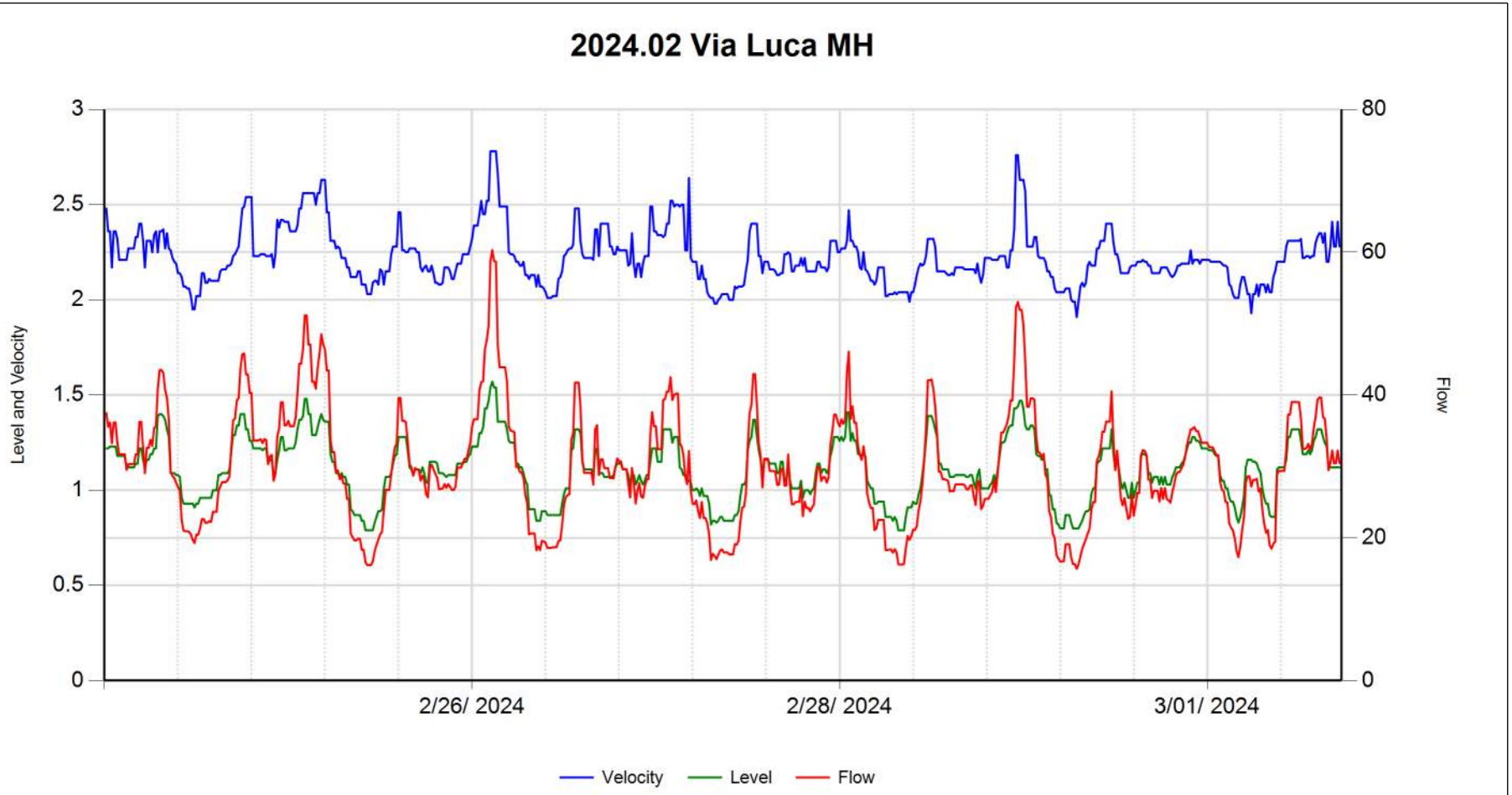
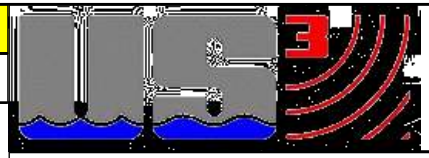


	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.224	1.112	29.833	**RainFall**	Inches
Maximum	2.780	1.570	60.292		
Minimum	1.910	0.790	15.670		



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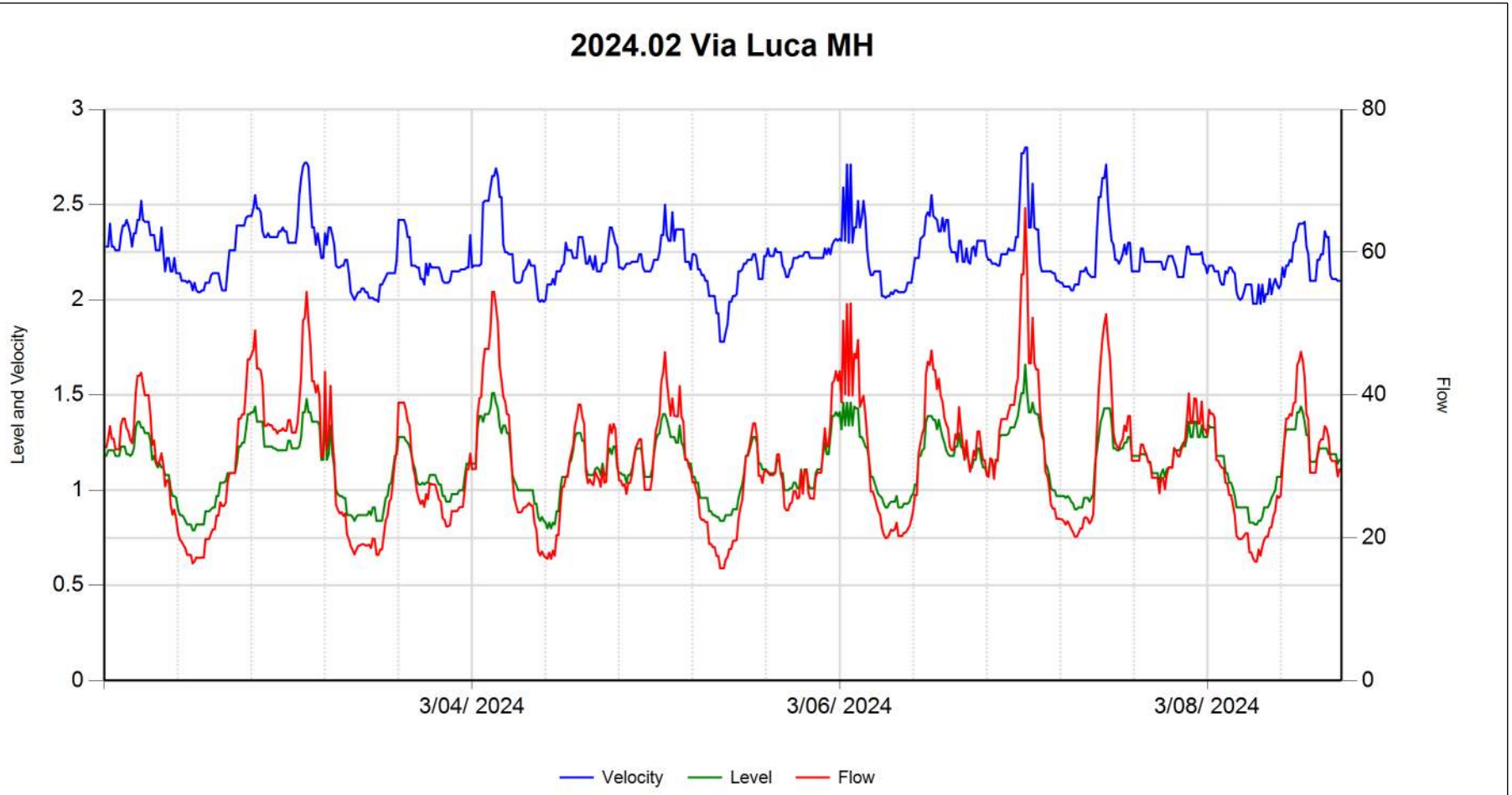
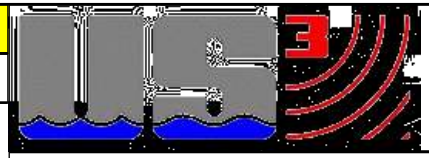


	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.225	1.133	30.765	**RainFall**	Inches
Maximum	2.800	1.660	66.179		
Minimum	1.780	0.790	15.731		



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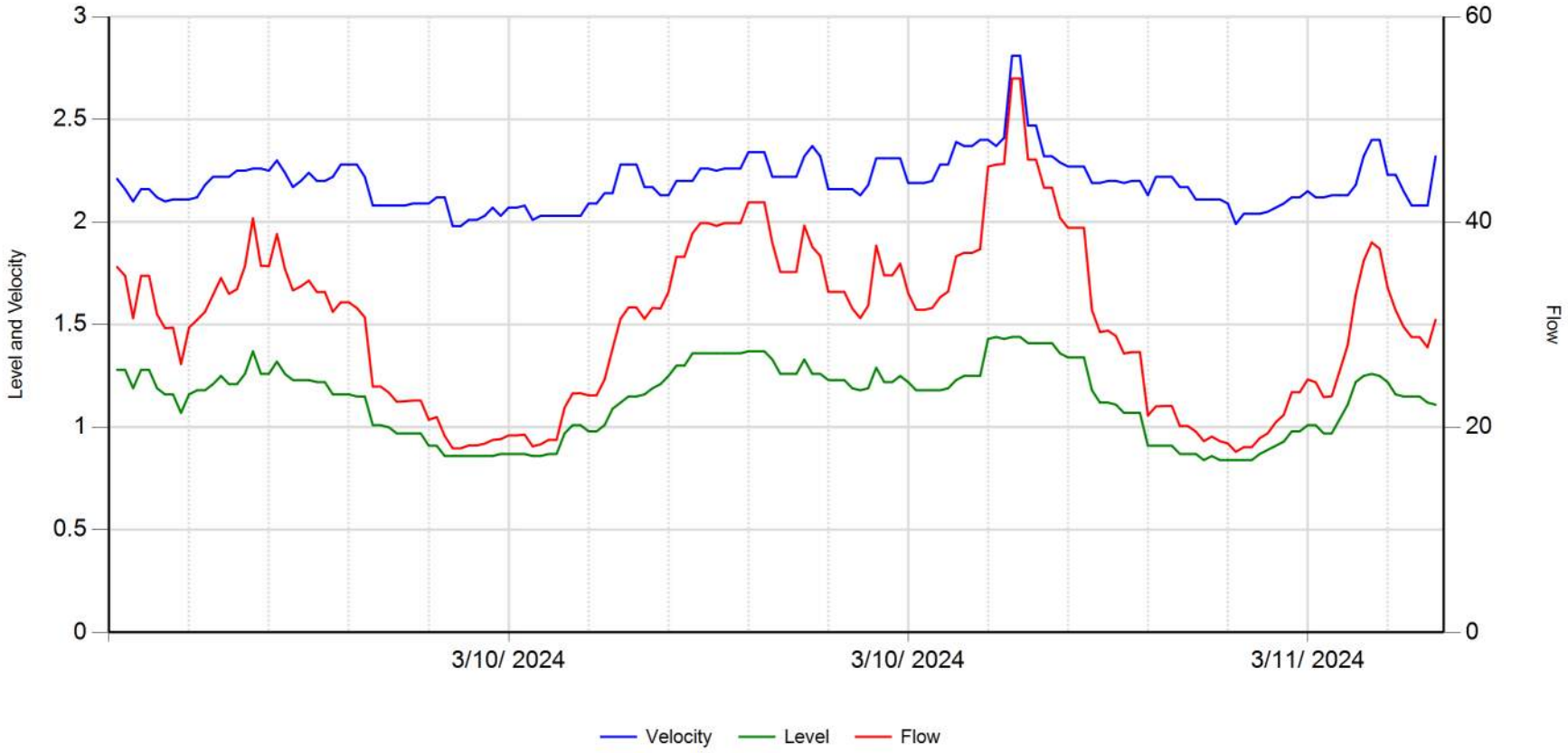
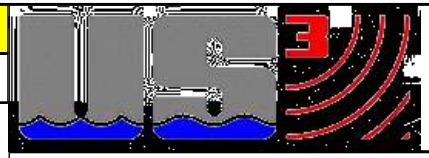


	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.194	1.134	30.310	**RainFall**	Inches
Maximum	2.810	1.440	53.980		
Minimum	1.980	0.840	17.605		



3/13/2024

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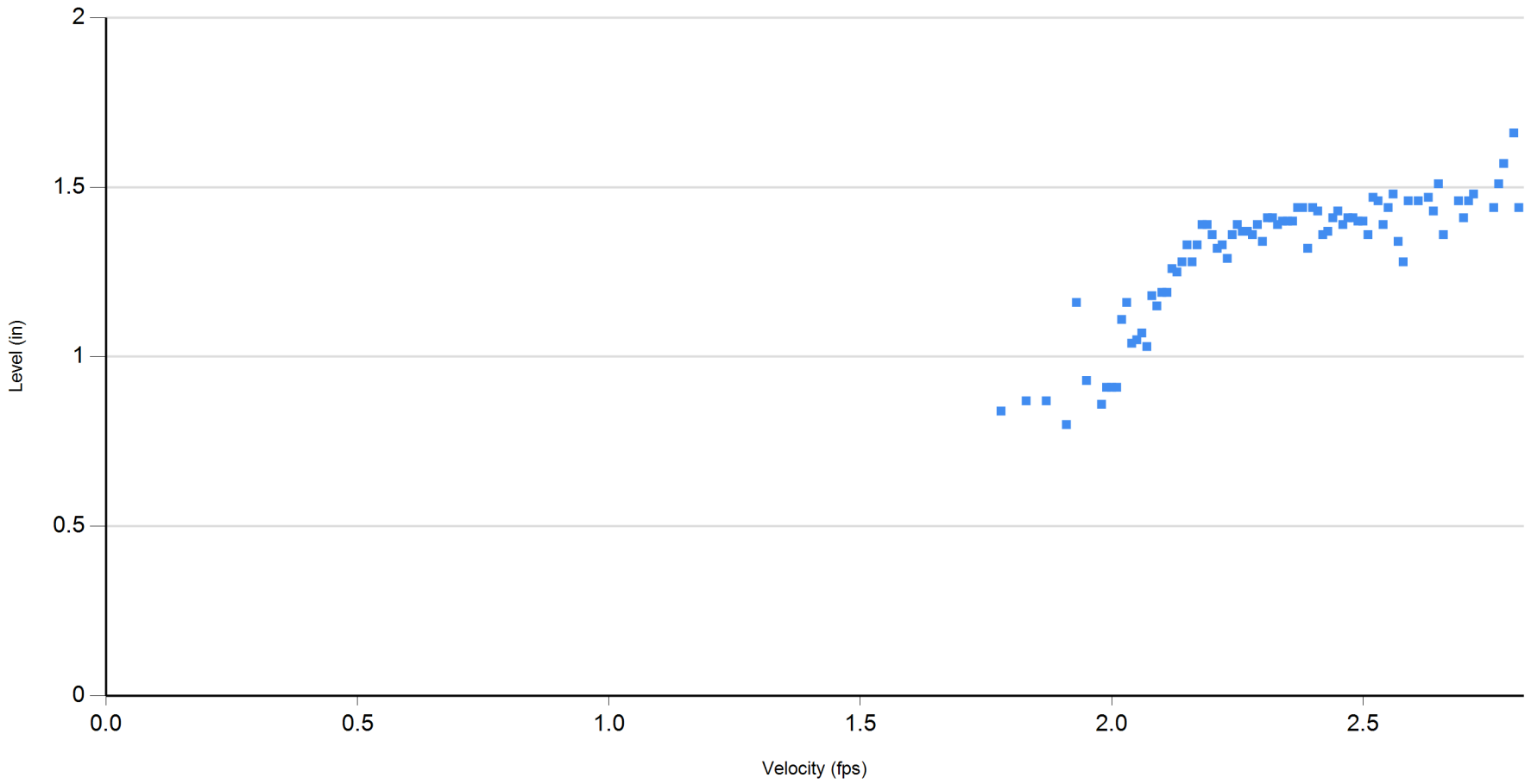

2/23/2024 thru 3/11/2024

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4. Offsite Sewer Capacity Study (CMSD – 15")

MH #119775 to MH #103713 (15")
15" Sewer segment @ S=0.0020

Existing Flows = 0.0 cfs
Existing (15") d/D = 0/15 = 0.0

Proposed Flows = 0.075cfs
Proposed (15") d/D = 1.8/15 = 0.120 < 0.5 (ok)

MH #103713 to MH #103755 (15")
15" Sewer segment @ S=0.0020

Existing Flows = 0.0cfs
Existing (15") d/D = 0/15 = 0.0

Proposed Project Flows = 0.075cfs
Proposed (15") d/D = 1.8/15 = 0.120 < 0.5 (ok)

MH #103755 to MH #103781
15" Sewer segment @ S=0.0020

Existing Flows = 0.0 cfs
Existing (15") d/D = 0/15 = 0.0

Proposed Project Flows = 0.380 cfs
Proposed (15") d/D = 3.8/15 = 0.253< 0.5 (ok)

MH #103781 to MH #119801
15" Sewer segment @ S=0.0020

Existing Flows = 0.212 cfs
Existing (15") d/D = 2.9/15 = 0.193

Proposed Project Flows = 0.715 cfs
Proposed (15") d/D = 5.2/15 = 0.347 < 0.5 (ok)

MH #119801 to MH #103774
15" Sewer segment @ S=0.0020

Existing Flows = 0.379 cfs
Existing (15") d/D = 3.8/15 = 0.253

Proposed Project Flows = 0.882 cfs
Proposed (15") d/D = 5.8/15 = 0.389 < 0.5 (ok)

Segments MH #103774 to MH #103773 and MH #103773 to MH#103869
15" Sewer segment @ S=0.0020

Existing Flows = 0.591 cfs
Existing (15") d/D = 4.8/15 = 0.320

Proposed Project Flows = 1.258 cfs
Proposed (15") d/D = 7.1/15 = 0.473 < 0.5 (ok)

FIELD MONITORING RESULTS COMPARISON WITH ESTIMATES

5. Actual Field Flow Monitoring Results (Per Appendix 5)

MH #119797

Existing maximum flow (monitored) = 0.147 cfs (0.095 mgd)
Calculated existing flow = 143 DU x 300 gpd x 2.5 = 107,250 gpd or 0.167 cfs (see Appendix 2)
Use conservative **0.167 cfs** in analysis

MH #103869

Existing maximum flow (monitored) = 0.213 cfs (0.138 mgd)
Calculated existing flow = 0.591 cfs (see Offsite Sewer Capacity Study above)
Use conservative **0.591 cfs** in analysis

Summary: Field Monitored flows are less than conservative estimates, therefore consider the more conservative flow values shown on the estimated sewer generation & sewer capacity study.

COSTA MESA SANITARY DISTRICT

May 15, 2024

Legacy Partner
5141 California Avenue, Suite 100
Irvine, CA 92617

Proposed Hive Live Development at 3333 Susan Street : CMSD Will Serve Sewer Letter

The Costa Mesa Sanitary District (District) is the local sewer agency that provides sanitary sewer service to the subject property. You have requested a Sewer Will Serve letter, from the District, for the proposed development mentioned above. The proposed development consists of 3 apartment structures with 1050 total residential units within the existing 13.8-acre site.

Your consultant, FUSCOE Engineering, conducted a flow analysis and estimates the sewage demand for the proposed development at 656,250 gallons per day (gpd), as provided in the Sewer Capacity Analysis Memorandum, dated April 2024. That Study was transmitted via a FUSCO Engineering email, dated May 8, 2024, from Youngsuk Lim to Mark Esquer, District Engineer. The estimated flows will be 30% from Building A, 33% from Building B, and 37% from Building C.

The District requested architectural drawings and plumbing plans but have been told the designs, plans, and layouts are not currently available because your company is still performing due-diligence before moving forward with design or building project. The District will provide this Sewer Will-Serve letter and accept flows from your proposed development, provided the following conditions and requirements are met:

1. Sewer flows from the proposed development do not exceed 656,250 gpd; and

2. The proposed development density does not exceed three (3) apartment buildings, comprising not more than 1050 total units; and

3. The Developer and/or property owner applies for a permit, submits the required building designs, grading plans, and sewer plans, pays the appropriate sewer fees, and is issued a sewer permit. The sewer permit fees will be based on the final development plans and fixture counts; and

4. Any public sewer and/or sewer connections designed, build, and conveyed to the District are minimum, an 8” SDR 26 PVC or clay pipe, meet District requirements, and connects to the existing public 15-inch sewer in Susan Street at two (2), possibly three (3), existing locations.; and

5. Should the Developer or property owner propose public mainline sewer on private property and desire to turn the mainline sewer over to the District for ownership, operations, and maintenance, the proposed public sewer must be built within a 20-foot easement that is conveyed to the District and accessible by the District vacuum trucks or other equipment.; and

6. Compliance with California Plumbing Code and District ordinance, regulations, and requirements.

7. Should commercial, or other development types be included in your proposed project, such as food service establishments, those developments must be included within the estimated project flows and the appropriate sewer permits acquired for those development types.

8. You must obtain a Sewer Will-Serve Letter from Adrian Siew, Engineer, OC Sanitation, at 714.593.7064.

This letter constitutes a CMSD “Will Serve” and commitment to provide sewer service for this project provided all conditions and requirements are met. This “Will Serve” letter will expire three (3) years from the date of this letter. If a sewer permit application hasn’t been submitted within the three-year period, a new sewer service request (aka Sewer Will Serve Letter Request with updated information) must be submitted to the District for consideration.

Sincerely,

Mark Esquer, P.E.
District Engineer

cc. Jason Castro/FUSCOE Engineering
Adrian Siew, OC San Planning Div. Engineer
Noelani Middenway, CMSD Clerk of the Board
District Legal Counsel
Mike Benesh, RBH & Associates
Permits

MesaWater DISTRICT®

Dedicated to Satisfying our Community's Water Needs

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1965 Placentia Avenue
Costa Mesa, CA 92627
tel 949.631.1200
fax 949.574.1036
info@MesaWater.org
MesaWater.org

August 13, 2024

Winnie Woo, Environmental Associate
Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

Subject: C0510-24-01: 3333 Susan Street (Costa Mesa Hive Live)
Water Services Questionnaire

Attn Ms. Woo:

Per the email from August 1, 2024, Michael Baker International (MBI) is supporting the City of Costa Mesa in preparing an environmental impact report for the Costa Mesa Hive Live Project (Development), located at 3333 Susan Street in the City of Costa Mesa. MBI has requested Mesa Water District to respond to the following questions on Mesa Water District letterhead and provide a map, if necessary. It was requested that in our response, provide as much information as possible (necessary to evaluate potential impacts).

1. Please list and describe existing water facilities serving the proposed project site/area (i.e., square footage of facility, number of volumes, etc.). Are these facilities currently adequate?

   Response: The water facilities serving the proposed project site/area will be those facilities listed in the 2020 Urban Water Management Plan, Section 3.2.2. Water Facilities. Due to security concerns the square footage of the facility, volume, location and other specific detail is not shared with the general public. The water supply characterization can be found in Section 6.0 of the 2020 Urban Water Management Plan.

2. Are there any planned additions to existing facilities?

   Response: A Water Supply Assessment (WSA) was prepared in July 2024 for the Costa Mesa Hive Live project. Based on the demand methodologies presented in Section 2 of the WSA, the projected Maximum Day Demand (MDD) provided for the proposed Development is approximately 366 AFY. Based on the supply vs demand Tables 20 through 26 in Section 5 of the WSA, Mesa Water can expect to meet future demands for all climate conditions through 2045, including the proposed Development. Based on the WSA conclusion, no planned additions to existing facilities to supply water to the Development are required. During the Plan Check process, Mesa Water District will determine any infrastructure upgrades that would be required.

3. How are water service needs/standards determined (i.e., volumes, population)?

   Response: In the WSA, Section 4 discusses Water Demand Projections with and without the Development and in Section 5 discusses Water Supply versus Demand Analysis with and without the Development. In both analyses population is utilized by sectors (single family residential, multi-family residential, Institutional/Governmental, Commercial, Industrial and Landscape Irrigation was utilized.

1965 Placentia Avenue
Costa Mesa, CA 92627
tel 949.631.1200
fax 949.574.1036
info@MesaWater.org
MesaWater.org

4. Do you anticipate any significant impacts from the project on current services and capacity? If so, please describe how this determination came to be in as much detail as possible.

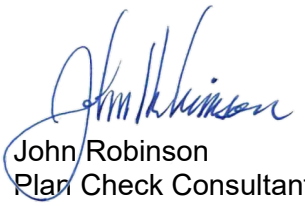
   Response: Based on the WSA, Mesa Water District does not anticipate any significant impacts from the Development on current services and capacities.

5. Do you anticipate that the project implementation would result in the need for physical additions to the existing infrastructure (i.e., pipeline increases)?

   Response: During the Plan Check process, Mesa Water District will determine the water services improvements required to supply domestic, irrigation and fire protection services to the Development, Mesa Water District does not anticipate that the Development implementation would result in the need for physical additions to the existing infrastructure, owned and operated by Mesa Water District. However this will be reviewed and confirmed during the Plan Check process.

Should you have any questions or comments please do not hesitate to contract me.

Regards,



John Robinson
Plan Check Consultant
johnr@mesawater.org
949.207.5460

Will Serve Letter Only

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

DATE: 10/9/2024

COMPANY: LEGACY PARTNERS

SUBJECT: Community Development/1,050 Units/W. Sunflower St., Costa Mesa CA

Your project is located in Southern California Edison (SCE) service territory. SCE will serve the above subject project's electrical requirements per the California Public Utilities Commission and Federal Energy Regulatory Commission tariffs.

SCE may need to conduct utility studies, where applicable, to assess whether additions or modifications to the existing electric infrastructure are required to serve this project. Where applicable, SCE has attached Appendix (B) which not only describes the study, and permitting, but includes a Project Information Sheet that will need to be completed by you and submitted to SCE if your project is at a point where SCE has to determine the required electrical utility work. This Will-Serve letter does not imply that either: (i) these studies have been completed, or (ii) that any required California Environmental Quality Act (CEQA) analysis of project-related electric utility impacts has been conducted.

I am the SCE Design Representative currently assigned to this project. SCE or Applicant will design and construct all required electrical infrastructure to serve this project provided you enter into the applicable contractual agreements with SCE identify scope of electrical utility work required, and supply the following information:

- Site plans as required
- Required contracts and agreements (fully executed)
- Applicable fees
- Local permits
- Required easement documents

Your project will be scheduled for construction once SCE has all the necessary information for your project and you have submitted or agreed to the applicable requirements as stated above, and paid any necessary fees.

If your project will not require SCE services, please notify us so that we can update our records.

SCE appreciates your business. If you have any questions, please feel free to call me at (951) 751-1970, RJ Popovits.

Sincerely,

RJ

SCE Design Representative

Enclosure: Appendix B, where applicable

Appendix B

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

DATE: 10/9/2024

COMPANY: LEGACY PARTNERS

SUBJECT: Community Development/1,050 Units/W. Sunflower St., Costa Mesa CA

As your Southern California Edison (SCE) Design Representative for this project, I am committed to providing you with excellent customer service. The following information is intended to help explain SCE's planning and permitting process for the electric infrastructure needed to serve your Project.

Depending on the scope of work necessary to serve your project (electric facility installation, removal, relocation, rearrangement and/or replacement), it may be necessary for you to submit an Advanced Engineering Fee. This Fee will be applied to certain expenses associated with preliminary design and engineering work required to estimate the cost for SCE to perform the electric work associated with your project. Please note: Depending on factors such as resource constraints, construction or relocation of SCE facilities requirements, the need for environmental review, and so forth, delays in meeting your projected completion date may occur. To help minimize the potential for delays it is imperative that you provide all requested information as early as possible.

If the project results in the need for SCE to perform work on SCE electrical facilities that operate at between 50 and 200 kilovolts (kV), please be advised these facilities are subject to the California Public Utilities Commission's (CPUC's) General Order 131-D (GO 131-D) Permit to Construct (PTC) requirements. For the CPUC PTC review, the CPUC acts as the lead agency under the California Environmental Quality Act (CEQA). Depending on the scope of SCE's work, certain exemptions to the PTC requirements may be available. If no exemptions are available, the PTC application preparation and environmental approval process could take a minimum of 24 - 48 months.

If you anticipate that your project will require work to be performed on SCE electrical facilities operated at between 50 kV and 200 kV, please inform me at your earliest possible convenience for further assistance to determine the potential G.O.131-D permitting requirements and/or permitting exemption(s).

In order for SCE to determine the required electrical utility work necessary to support your project, and to determine any permitting requirements and costs associated with constructing these facilities, project plans and a completed Customer Project Information Sheet will need to be submitted.

If you have any additional questions, please feel free to call me at (951) 751-1970.

Sincerely,

SCE Design Representative

1919 S State College Blvd
Anaheim, CA 92806

April 19, 2024

Moran Utility Services, Inc.
4168 Avenida De La Plata, Suite 103
Oceanside, CA 92056
Attn: Shannon Lloyd

Subject: Maps & Will Serve - Will Serve and Map Request for the area between Sunflower St and S Coast Dr just West of Susan St; Costa Mesa

Thank you for inquiring about the availability of natural gas service for your project. We are pleased to inform you that Southern California Gas Company (SoCalGas) has facilities in the area where the above named project is being proposed. The service would be in accordance with SoCalGas' policies and extension rules on file with the California Public Utilities Commission (CPUC) at the time contractual arrangements are made.

This letter should not be considered a contractual commitment to serve the proposed project, and is only provided for informational purposes only. The availability of natural gas service is based upon natural gas supply conditions and is subject to changes in law or regulation. As a public utility, SoCalGas is under the jurisdiction of the Commission and certain federal regulatory agencies, and gas service will be provided in accordance with the rules and regulations in effect at the time service is provided. Natural gas service is also subject to environmental regulations, which could affect the construction of a main or service line extension (for example, if hazardous wastes were encountered in the process of installing the line). Applicable regulations will be determined once a contract with SoCalGas is executed.

If you need assistance choosing the appropriate gas equipment for your project, or would like to discuss the most effective applications of energy efficiency techniques, please contact our area Service Center at 800-427-2200.

Thank you again for choosing clean, reliable, and safe natural gas, your best energy value.

Sincerely,

J. Sum

Jason Sum
Pipeline Planning Associate
SoCalGas - Anaheim HQ

Will Serve Letter

4/22/2024

Shannon Lloyd
Moran Utility Services Inc
4168 Avenida de la Plata, Suite 103
Oceanside, CA 92675

Project Name:	W. Sunflower Ave and Susan Street, Costa Mesa
LOCATION:	W. Sunflower Ave and Susan Street, Costa Mesa

Re: May Serve Letter by Charter Communications or an affiliate authorized to provide service ("Charter")

Thank you for your interest in receiving Charter service. The purpose of this letter is to confirm that the Property is within an area that Charter may lawfully serve. However, it is not a commitment to provide service to the Property. Prior to any determination as to whether service can or will be provided to the Property, Charter will conduct a survey of the Property and will need the following information from you:

- Exact site address and legal description
- Is this an existing building or new construction?
- Site plans, blue prints, plat maps or any similar data
- The location of any existing utilities or utility easements
- _____

Please forward this information to the construction manager listed below. Upon receipt, a Charter representative will be assigned to you to work through the process. Ultimately, a mutually acceptable service agreement for the Property will be required and your cooperation in the process is appreciated.

Construction Manager Contact:
Lilly, Larry
Construction Manager - Zone 8
7142 Chapman Ave
Garden Grove, CA 92841
714-591-4883
Larry.Lilly@charter.com

Sincerely,

Lawrence C Lilly

1452 Edinger Ave, 3rd Floor
Tustin, CA 92780

Apr 23, 2024

Moran Utility Services
Shannon Lloyd
27121 Calle Arroyo, Ste 2220
San Juan Capistrano, CA 92675

RE: Will Serve Letter; W. Sunflower Avenue and Susan Street, Costa Mesa, CA

Dear Ms. Lloyd,

This letter acknowledges that the project at W. Sunflower Avenue and Susan Street, Costa Mesa, CA is located in an area served by AT&T. Any service arrangements at this location will be subject to later discussions and agreements between the developer and AT&T. While AT&T has the capacity to serve the project, please be advised that this letter is not a commitment by AT&T to provide service to W. Sunflower Avenue and Susan Street, Costa Mesa, CA.

Please contact me at the phone number included in this letter with any questions.

Thank you for contacting AT&T.

Sincerely,

Ernest Estacio

Ernest Estacio
Manager (OSP) Planning and Engineering
714-325-2110
Ee9318@att.com

EE/rb