

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

CRENSHAW BLVD. INDUSTRIAL REDVELOPMENT
302 CRENSHAW BLVD.
TORRANCE, CALIFORNIA 90501

PREPARED FOR

LINK LOGISITCS REAL ESTATE
3333 MICHELSON DRIVE, SUITE 725
IRVINE, CA. 92612
PHONE: (949) 344-2209

JUNE 29th, 2023

JOB NO. 4182

PREPARED BY

THIENES ENGINEERING
14349 FIRESTONE BLVD.
LA MIRADA, CALIFORNIA 90638
PHONE: (714) 521-4811

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

CRENSHAW BLVD. INDUSTRIAL REDEVELOPMENT

PREPARED UNDER
THE SUPERVISION OF:

REINHARD STENZEL DATE:
R.C.E. 56155
EXP. 12/31/24

INTRODUCTION

A: PROJECT LOCATION

The project site is located on the east side of Crenshaw Blvd at 302 Crenshaw Blvd. in the City of Torrance. The site is surrounded by commercial developments to the south and east, with residential lots to the north. See following page for vicinity map.

B: STUDY PURPOSE

The purpose of this study is to determine the 50-year existing and proposed conditions hydrology for the project site.

C: PROJECT STAFF:

Thienes Engineering staff involved in this study include:

Reinhard Stenzel
Kristie Ferronato
Dane Dysthe



Thienes Engineering, Inc.
 CIVIL ENGINEERING • LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH.(714)521-4811 FAX(714)521-4173

"VICINITY MAP"
 FOR

SEC OF CRENSHAW BLVD. AND DEL AMO BLVD.
 TORRANCE, CA



DISCUSSION

Project Description

The proposed project site encompasses approximately 8.2 acres. Improvements consist of the construction of 2 warehouse type buildings. The west building (Building 1) is approximately 76,000 square feet, with the truck yard on the east side of the building. Auto parking is on the north, west and south portions of the site. The east building (Building 2) is approximately 60,800 square feet, with the truck yard on the west side of the building. Auto parking is located along the east portion of the site. Landscaping is located adjacent to Del Amo Blvd, Crenshaw Blvd, and 205th Street with smaller areas throughout the project site.

FEMA Flood Zone

The project site is located within FEMA Zone X (unshaded) per Map No. 06037C1930F, Effective September 26, 2008. Flood Zone X (unshaded) is described as “areas of minimal flood hazard”.

Existing Storm Drains

There is an existing city storm drain in 205th Street, and in a 10-ft city of Torrance easement that runs east/west just south of the north property line. There is also an existing storm drain in Del Amo Blvd. Storm drain plans prepared by the City of Torrance Engineering Department (as built plan MTD 1062) indicate that the storm drain in 205th Street is a 33” reinforced concrete pipe (RCP) with a design 50-year frequency, As-built plan MTD 1062 also indicates that the storm drain within the easement is 24” reinforced concrete pipe (RCP) also with a design 50-year frequency. Both the 33” and 24” pipes have hydraulic grade lines plotted at the center of pipe. Storm drain plans prepared by the City of Torrance Engineering Department (as-built plan SD-277A) indicate that the storm drain in Del Amo Ave is a 45” reinforced concrete pipe (RCP). No design flow rates are listed on as-built plan SD-277A.

There are multiple existing private storm drains within the project site. The existing storm drain at the northwest corner of the site conveys runoff northerly to the existing storm drain in Del Amo Blvd. The central and southeast portions of the existing site are tributary to two low points that drain to a storm drain that conveys flows southerly to the existing 33” storm drain in 205th Street. There are two existing catch basins that are adjacent to the 10-ft drainage easement. The north and east portions of the site that drain to these inlets are conveyed northerly to the existing 24” storm drain via the existing onsite laterals.

See Appendix “A” for reference storm drain plans.

Existing Condition Hydrology

The project site is currently developed as a commercial space with five buildings occupying the project site. Auto parking, hardscaping, and landscaping cover the remaining areas throughout the site.

The southwest portion of the site (subarea A1) drains in a south-westerly direction to an existing parkway drain that conveys flows to Crenshaw Blvd. These flows continue to drain to the north where they are captured by an existing public catch basin at the southeast corner of the Del Amo & Crenshaw intersection. The flows are then conveyed northerly to the existing 45" storm drain in Del Amo Blvd. The 50-year peak flow rate for this area is approximately 3.1 cfs. The northwest portion of the site (subarea B1) drains in a north-westerly direction to an existing catch basin located at the northwest corner of the parking area. Here the runoff is conveyed in an existing storm drain lateral to the 45" storm drain in Del Amo Blvd. The 50-year peak flow rates for this area are approximately 3.5 cfs. The combined 50-year peak flow rate that drains to the 45" storm drain in Del Amo is approximately 6.6 cfs.

The south portion of the site (subareas C1 and C2) surface drains onto 205th Street. These flows continue to travel easterly to the existing public catch basin in the north gutter of 205th Street. This basin drains to the existing 33" in 205th Street. The center and southeast portions of the existing project site (subareas D1 and D2) are tributary to catch basins that collect and convey runoff in a southerly direction connecting to the existing 33" storm drain in 205th Street. The combined 50-year peak flow rates for subareas C1, C2, D1, and D2 is approximately 10.8 cfs.

Runoff from the north and east portions of the site (subareas E1 and E2) are collected in existing catch basins that convey flows to the existing 24" city storm drain. The combined 50-year peak flow rate from subareas E1, and E2 is approximately 5.4 cfs.

See Appendix "B" for existing condition hydrology calculations, and Appendix "D" for hydrology maps.

Proposed Condition Hydrology

Runoff from the westerly portion of building 1, westerly parking area, and northerly parking area (subareas A1, A2, & A3) are intercepted by three proposed catch basins in the parking areas. A proposed storm drain conveys runoff northerly to connect to the existing storm drain lateral that drains to the 45" existing storm drain in Del Amo Blvd. Subareas D1 and E1 make up landscaping areas adjacent to Crenshaw Blvd and Del Amo Blvd. These areas surface drain to inlets that are tributary to the 45" storm drain in Del Amo Blvd. The 50-year peak flow rate for these combined subareas is approximately 6.0 cfs.

The easterly portion of building 1, north and south vehicle parking areas, and truck yard (subarea B1) are intercepted by a single catch basin in the truck yard of the west site. These flows are then conveyed northerly to the existing 24" city storm drain. The 50-year peak flow rate is approximately 6.3 cfs.

Runoff from the westerly portion of building 2, truck yard, and surrounding parking areas (subarea C1) are intercepted by a single catch basin in the truck yard of the east site. These flows are then conveyed in a northeasterly direction. Flows from the east portion of building 2 and the east auto parking area (subareas C2, and C3) are intercepted via catch basins in the east auto drive aisle. These are then confluence with the flow from subarea C1. The private storm drain continues southerly to connect to the existing 33" storm drain in 205th Street. Subarea F1 makes up the landscaping area adjacent to 205th street. This area surface drains to an inlet that is tributary to the 33" storm drain in 205th street. The combined 50-year peak flow rate for subareas C1, C2, and C3 is approximately 10.3 cfs.

Conclusion

The study has outlined the existing and proposed hydrology site conditions and has found that the proposed combined 50-year peak flow rate does not exceed the existing condition as shown in Table 1.

Table 1: Undetained HydroCalc peak flow rates

Outlet Location	Existing Condition	Proposed Condition
Del Amo Blvd 45" Storm Drain	6.6 cfs	6.0 cfs
205 th Street 33" Storm Drain	10.8 cfs	10.3 cfs
Drainage Easement 24" Storm Drain	5.4 cfs	6.3 cfs
Total	22.8 cfs	22.6 cfs

As the 50-year peak flow rates for the proposed condition are less than the existing condition 50-year peak flow rates for the Del Amo Blvd and 205th Street drains, detention of the 50-year storm event is not necessary. For the 24" public storm drain in the city easement, although the proposed flow exceeds that of existing by 0.9 cfs, it does not exceed the design 50-year peak flow rates listed on as-built plan MTD-1062 (8.0 cfs). Therefore, detention of the 50-year design storm event is not necessary as this flow does not have any adverse effect on downstream facilities. It also will not have any backwater effects as there are no existing developments upstream of the connection point.

See Appendix "B" for proposed condition hydrology calculations, and Appendix "D" for hydrology maps.

Methodology

Hydrology calculations and detention calculations were computed using HydroCalc 1.0.2 software. The project site is within soil type 010 per the Los Angeles County Hydrology Manual dated 2006. See Appendix "A" for reference materials.

APPENDIX

DESCRIPTION

A	REFERENCE MATERIAL
B	HYDROLOGY CALCULATIONS
C	DETENTION CALCULATIONS
D	HYDROLOGY MAPS

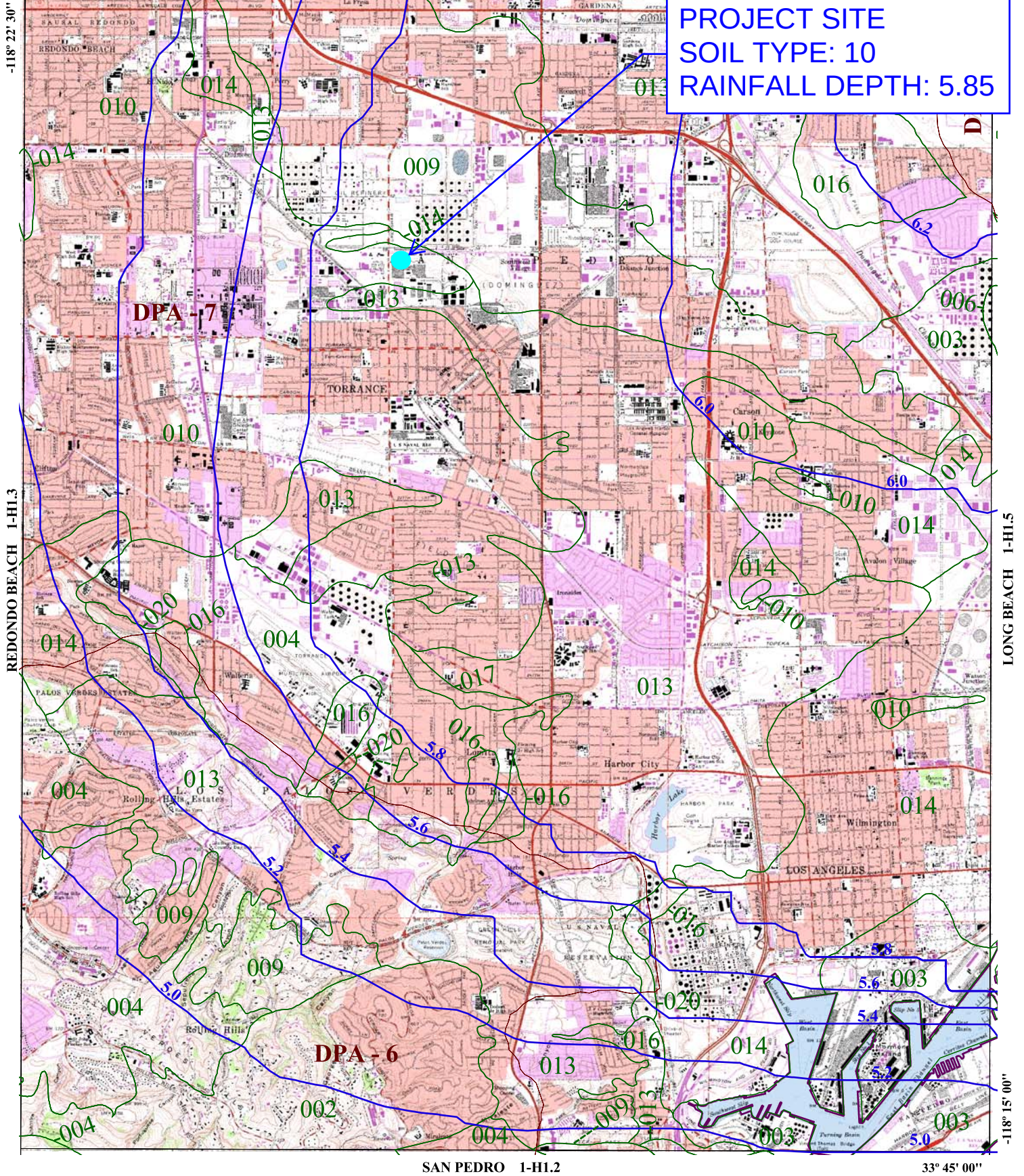
APPENDIX A

REFERENCE MATERIAL

33° 52' 30"

INGLEWOOD 1-H1.8

PROJECT SITE
SOIL TYPE: 10
RAINFALL DEPTH: 5.85



SAN PEDRO 1-H1.2

33° 45' 00"



016

SOIL
CLASSIFICATION
AREA

7.2

INCHES OF
RAINFALL

DPA - 6

DEBRIS
POTENTIAL
AREA

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

TORRANCE
50-YEAR 24-HOUR ISOHYET

1-H1.4



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later and from National Geospatial Intelligence Agency imagery produced at a scale of 1:4,000 from photography dated 2003 or later.

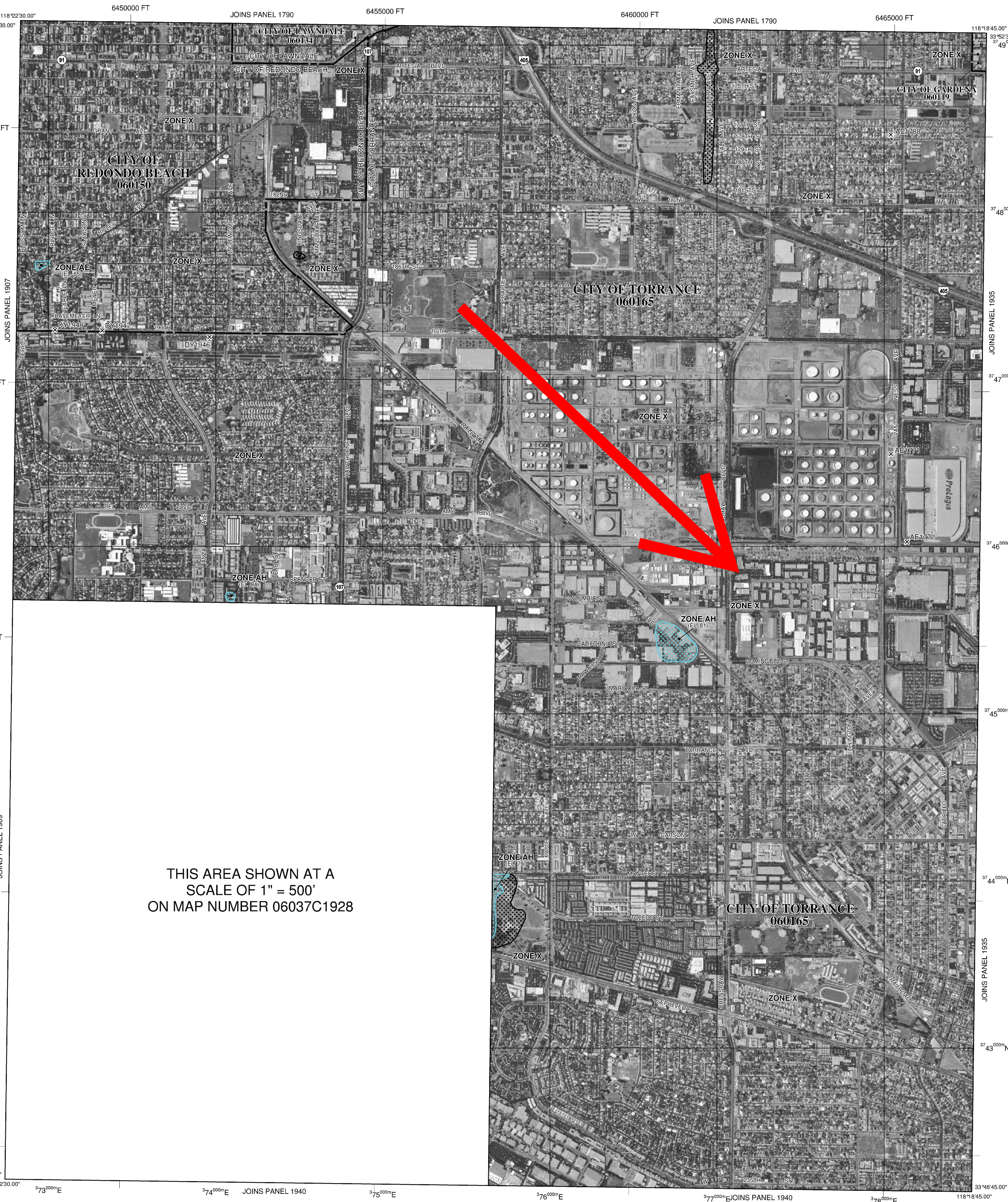
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.



THIS AREA SHOWN AT A
SCALE OF 1" = 500'
ON MAP NUMBER 06037C1928

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

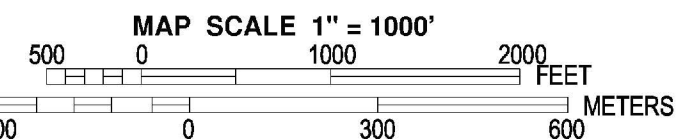
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 11
- 5000-foot grid ticks: California State Plane coordinate system, V zone (FIPSZONE 0405), Lambert Conformal Conic
- Bench mark (see explanation in Notes to Users section of the FIRM panel)
- River Mile
- MAP REPOSITORIES
Refer to Map Repositories list on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1930F

FIRM
FLOOD INSURANCE RATE MAP
LOS ANGELES COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 1930 OF 2350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GARDENA, CITY OF	060119	1930	F
LAWDALE, CITY OF	060134	1930	F
REDONDO BEACH, CITY OF	060150	1930	F
TORRANCE, CITY OF	060165	1930	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
06037C1930F

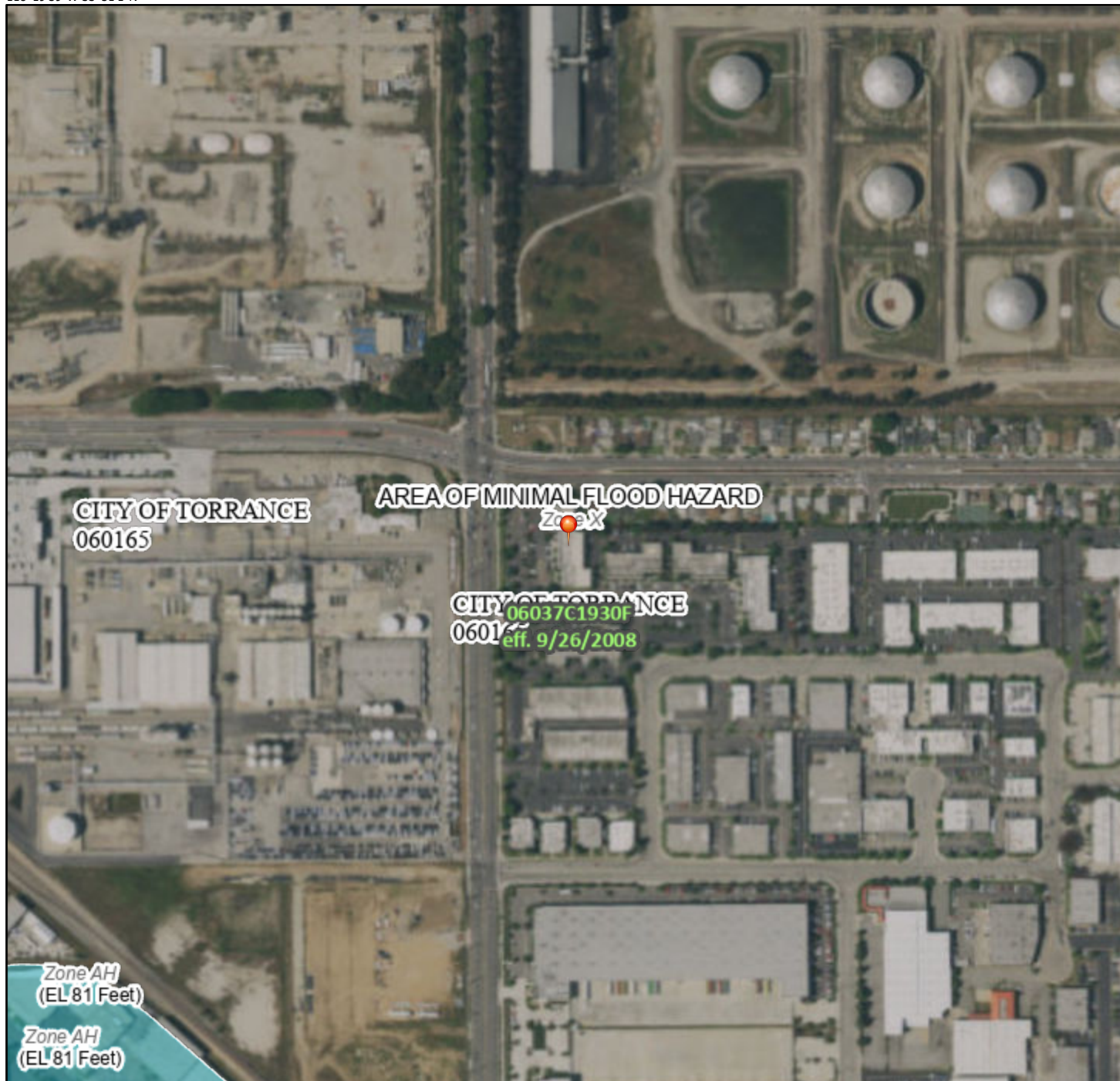
EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

National Flood Hazard Layer FIRMette



118°19'59"W 33°51'1"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



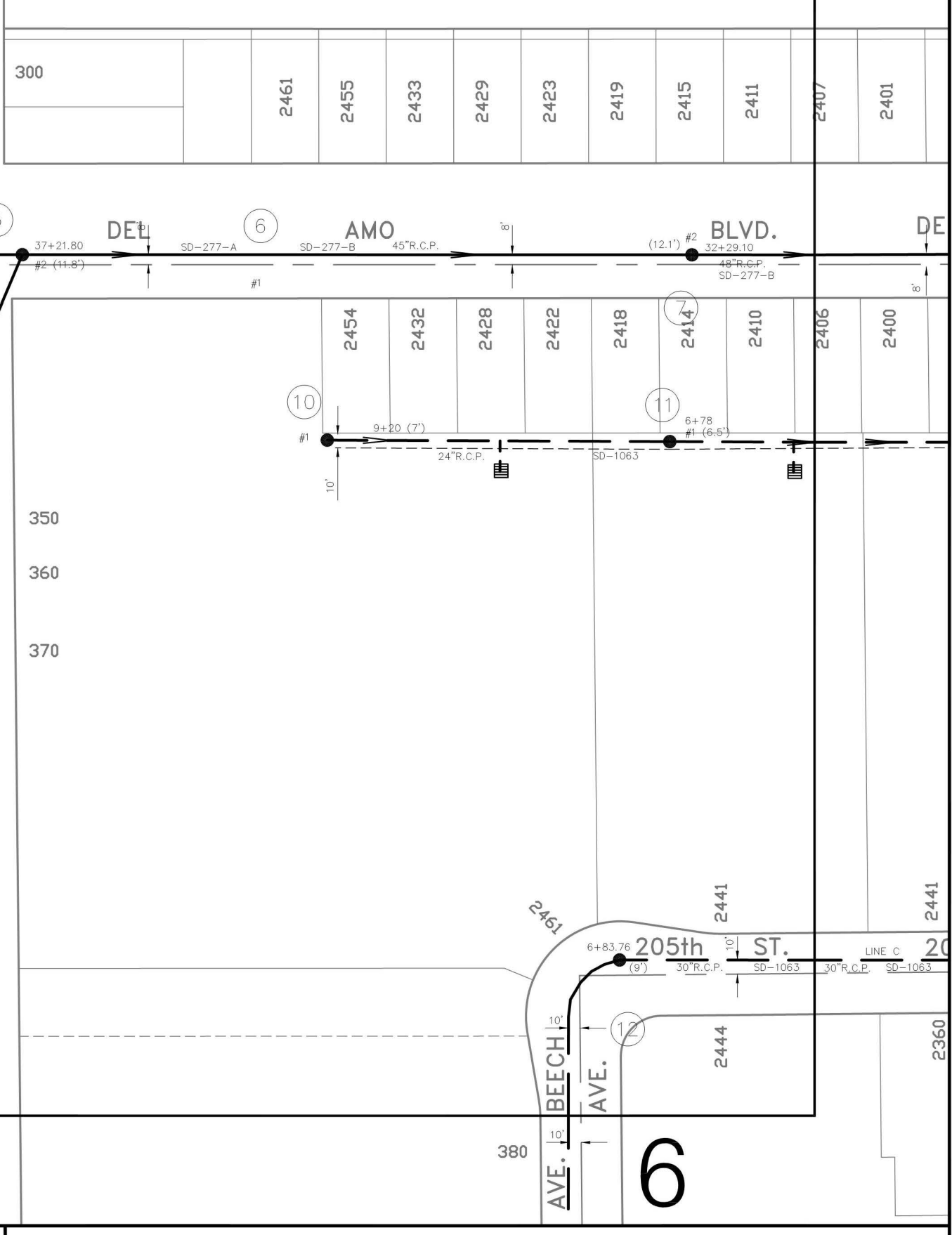
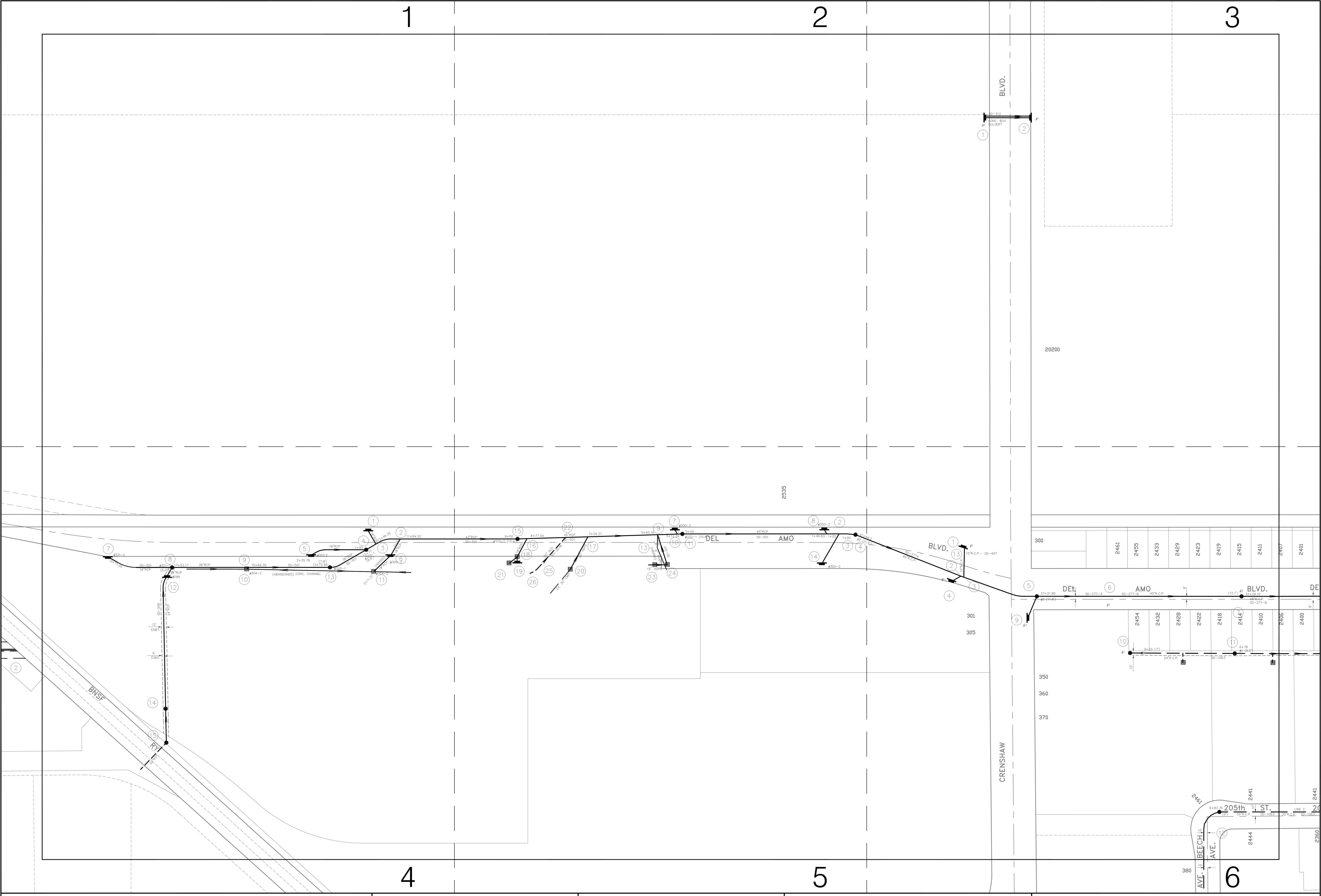
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/27/2023 at 4:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



CITY OF TORRANCE

STORM DRAINS
DRAWN PVT. ENGR. DATE 05-03-95
CHECKED N.A. REV 01-07-04

LEGEND
CATCH BASIN
FLOW
M.H.
STA
DEPTH
30' R.C.P. PIPE SIZE
L.A.C.F.C.D. S.D.
PRIVATE S.D.
TORR. S.D.

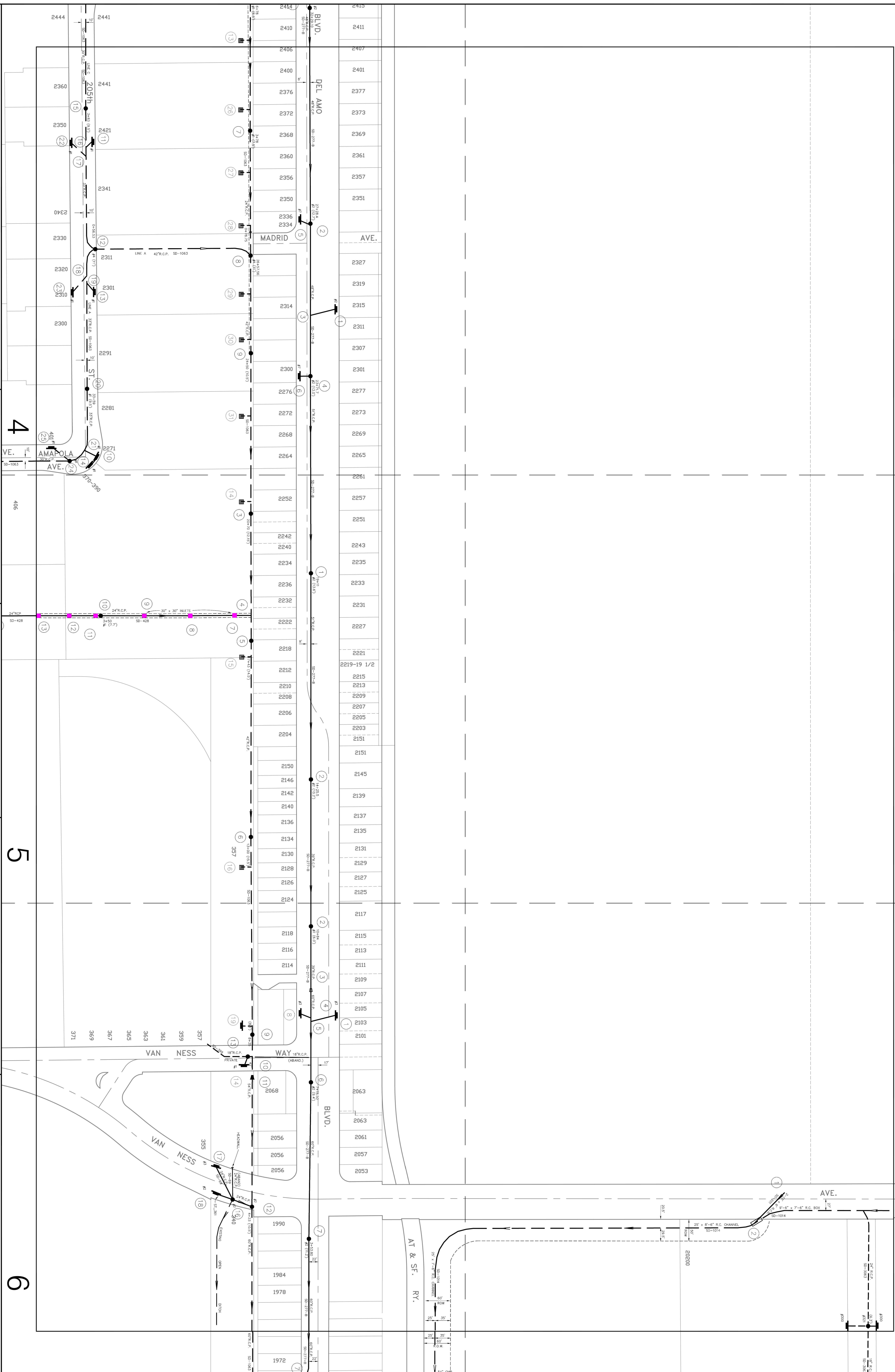
PlotMapSet-SD.dwg Jan 24, 2018

34	35	36
42	43	44
49	50	51

SHEET NO. 43

2

ω



CITY OF TORRANCE

STORM DRAINS

DRAWN PVT. ENGR. DATE 05-03-95
CHECKED N.A. REV. 01-07-04

LEGEND

L.A.C.F.C.D. S.D.

PRIVATE S.I. TOPP S.D.

PlotMapSet-SD.dwg Jun 23, 2016

35	36	37
43	44	45
50	51	52

SHEET NO. 44





001



✓ DETAIL OF J.S.
SHEET 11, DETAIL ©

CONSTRUCT INLET PER
DETAIL "A" SHEET II
NOT TO BE MAINTAINED
BY LAC.F.C.D.

Martin M Denn
MARTIN M. DENN R.C.E. 7081

PLAN NO. SD 413

APPENDIX B

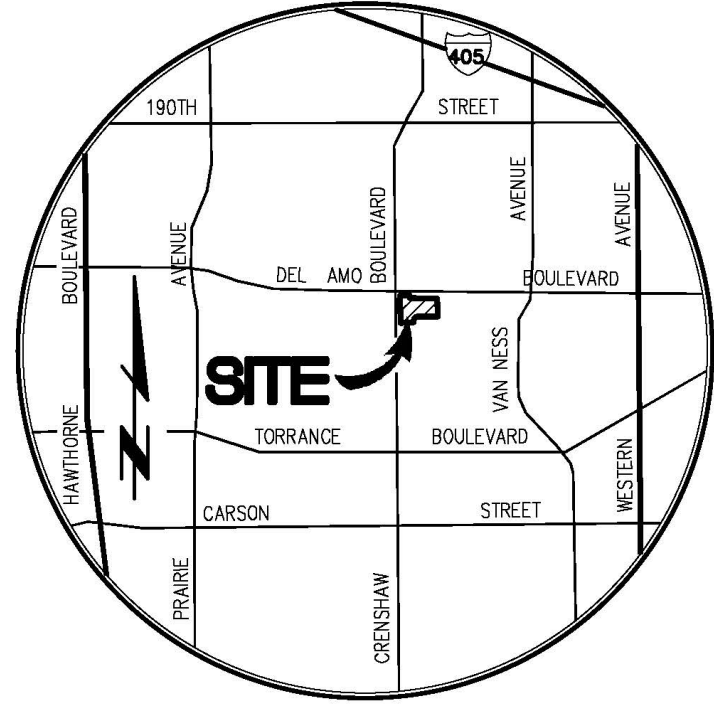
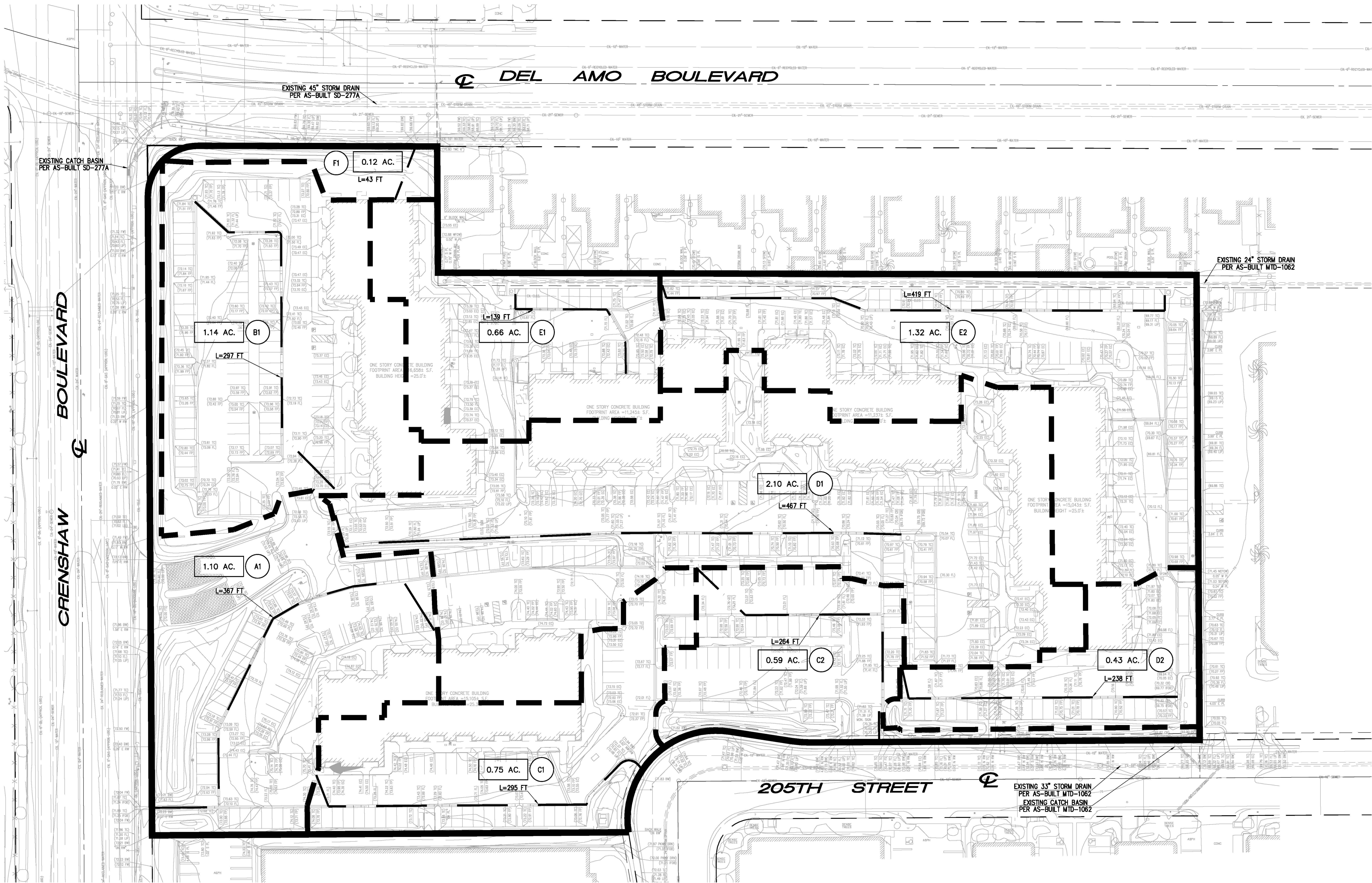
HYDROLOGY CALCULATIONS

EXISTING CONDITION

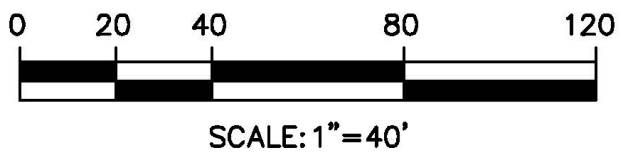
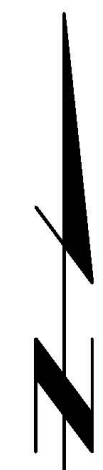
PROPOSED CONDITION

APPENDIX C

HYDROLOGY MAPS



VICINITY MAP
N.T.S.



SUBAREA DATA SUMMARY

SUBAREA	AREA (ACRES)	LENGTH (FEET)	SLOPE	IMPERVIOUS (%)	T _c (MINUTES)	Q50 (CFS)
A1	1.10	367	0.006	90	6.0	3.1
B1	1.14	297	0.007	90	5.0	3.5
C1	0.75	295	0.007	90	5.0	2.3
C2	0.59	264	0.006	90	5.0	1.8
D1	2.10	467	0.006	90	7.0	5.4
D2	0.43	238	0.007	90	5.0	1.3
E1	0.66	139	0.016	90	5.0	2.0
E2	1.32	419	0.006	90	7.0	3.4
F1	0.12	43	0.070	10	5.0	0.3

50-YEAR FREQUENCY
SOIL TYPE 10
ISOHYET 5.85
BURN FACTOR 0
BULKING FACTOR 0

LEGEND	
	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	FLOW PATH
	SUBAREA AREA
	SUBAREA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

EXISTING CONDITION
HYDROLOGY MAP

CRENSHAW BLVD. INDUSTRIAL REDEVELOPMENT
S/E CORNER OF CRENSHAW BLVD. AND DEL AMO BLVD.

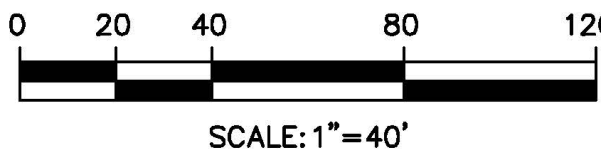
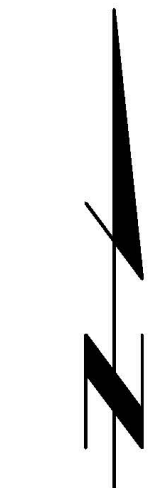
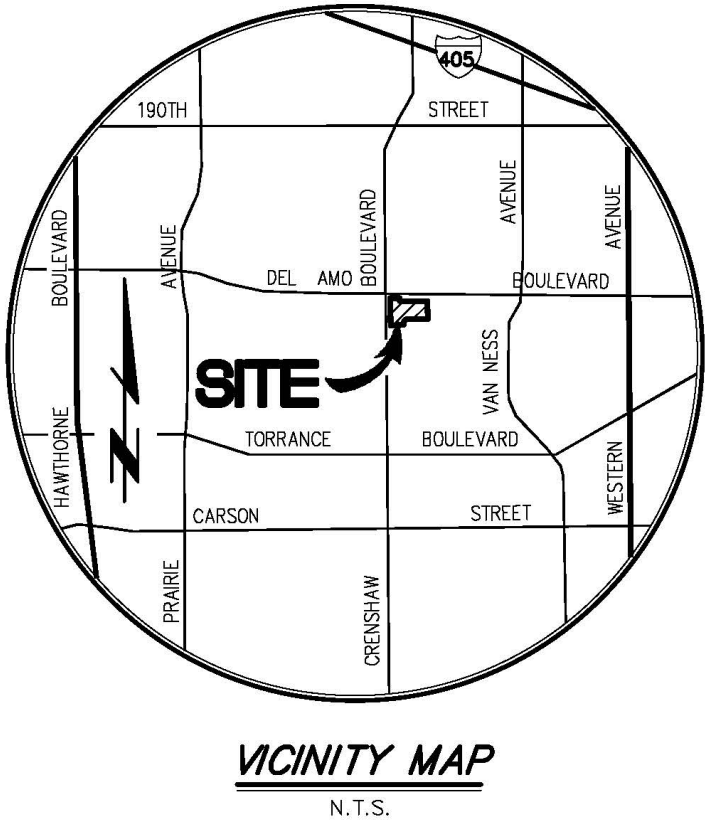
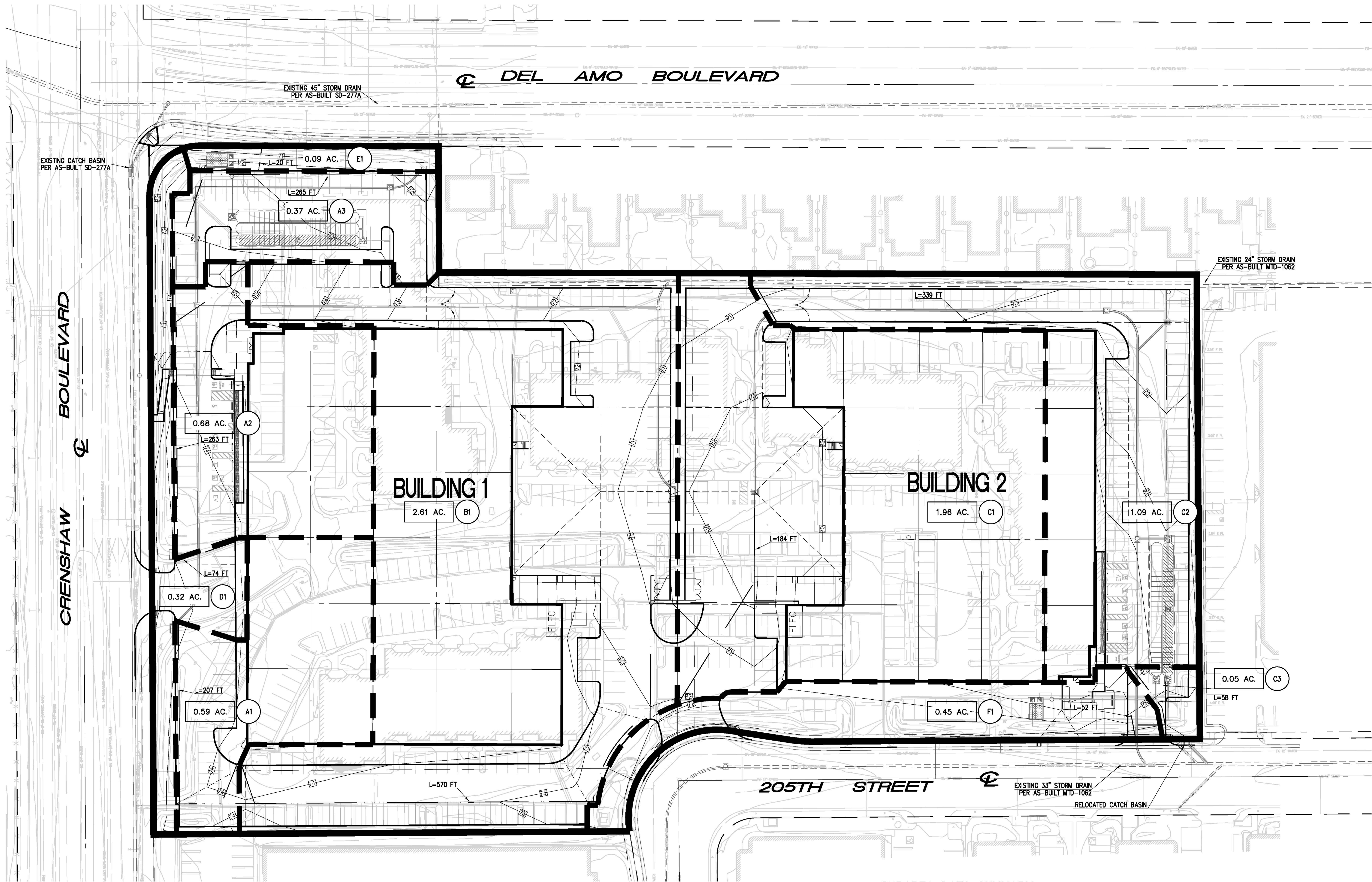
Designed by _____
Date _____
Checked by _____
Date _____
Designed by _____
Date _____
Checked by _____
Date _____

Approved by _____
Date _____
Public Works Director _____
R.C.E. XXXXX

Sheet 1 of 1 Sheets

4182/1 OF 1 SHEETS

PLOT DATE: 6/22/2023
O:\4100-4199\4182\4182HYD-EXIST.dwg



50-YEAR FREQUENCY
SOIL TYPE 10
ISOHYET 5.85
BURN FACTOR 0
BULKING FACTOR 0

SUBAREA DATA SUMMARY						
SUBAREA	AREA (ACRES)	LENGTH (FEET)	SLOPE	IMPERVIOUS (%)	Tc (MINUTES)	Q50 (CFS)
A1	0.59	207	0.007	90	5.0	1.8
A2	0.68	263	0.008	90	5.0	2.1
A3	0.37	265	0.010	90	5.0	1.1
B1	2.61	570	0.008	90	8.0	6.3
C1	1.96	184	0.014	90	5.0	6.0
C2	1.09	339	0.006	90	6.0	3.0
C3	0.05	58	0.051	90	5.0	0.2
D1	0.32	74	0.030	90	5.0	0.8
E1	0.09	20	0.130	10	5.0	0.2
F1	0.45	52	0.050	20	5.0	1.1

LEGEND	
	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	FLOW PATH
	SUBAREA AREA
	SUBAREA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

PROPOSED CONDITION
HYDROLOGY MAP

CRENSHAW BLVD. INDUSTRIAL REDEVELOPMENT
S/E CORNER OF CRENSHAW BLVD. AND DEL AMO BLVD.

Designed by _____
Date _____
Checked by _____
Date _____
Designed by _____
Date _____
Checked by _____
Date _____

Approved by _____
Date _____
Public Works Director _____
R.C.E. _____

Sheet 1 of 1 Sheets

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4182/ 1 OF 1 SHEETS

PLOT DATE: 6/29/2023
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