

# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 5 OF 12



### SAN DIEGO COUNTY, CALIFORNIA AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
CARLSBAD, CITY OF	060285	NATIONAL CITY, CITY OF	060293
CHULA VISTA, CITY OF	065021	OCEANSIDE, CITY OF	060294
CORONADO, CITY OF	060287	POWAY, CITY OF	060702
DEL MAR, CITY OF	060288	SAN DIEGO, CITY OF	060295
EL CAJON, CITY OF	060289	SAN DIEGO COUNTY, UNINCORPORATED AREAS	060284
ENCINITAS, CITY OF	060726	SAN MARCOS, CITY OF	060296
ESCONDIDO, CITY OF	060290	SANTEE, CITY OF	060703
IMPERIAL BEACH, CITY OF	060291	SOLANA BEACH, CITY OF	060725
LA MESA, CITY OF	060292	VISTA, CITY OF	060297
LEMON GROVE, CITY OF	060723		

**REVISED:**

**DECEMBER 20, 2019**

FLOOD INSURANCE STUDY NUMBER  
06073CV005E

Version Number 2.3.3.3



**FEMA**

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Exhibits

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Buena Creek	50-58 P
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Carmel Valley Creek	88-90 P
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Descanso Creek	112-114 P
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Exhibits

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Twin Oaks Valley Creek	551-557 P
Unnamed Tributary to San Dieguito River	558 P
Wabash Branch	559 P



Witch Creek

560-562 P

**Published Separately**

Flood Insurance Rate Map (FIRM)

**Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams  
[Not Applicable to this Flood Risk Project]**

#### **6.4 Coastal Flood Hazard Mapping**

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are shown in Table 24.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1% annual chance flood condition):

- The *primary frontal dune zone* is defined in 44 CFR Section 59.1 of the NFIP regulations. The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
- The *wave runup zone* occurs where the (eroded) ground profile is 3.0 feet or more below the 1-percent annual chance TWL.
- The *wave overtopping splash zone* is the area landward of the crest of an overtopped barrier, in cases where the potential 1-percent annual chance TWL.
- The *breaking wave height zone* occurs where 3-foot or greater wave heights could occur (this is the area where the wave crest profile is 2.1 feet or more above the total stillwater elevation).
- The *high-velocity flow zone* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared ( $hv^2$ ) is greater than or equal to  $200 \text{ ft}^3/\text{sec}^2$ . This zone may only be used on the Pacific Coast.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either “V” zones or “A” zones.

Table 27 indicates the coastal analyses used for floodplain mapping and the criteria used to determine the inland limit of the open-coast Zone VE and the SFHA boundary at each transect.

**Table 26: Summary of Coastal Transect Mapping Considerations**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
1		VE 14 VE 18	N/A	Runup	Overtopping
2		AE 20 VE 20	N/A	Runup	Runup
3		VE 22	N/A	Runup	Runup
4		VE 24	N/A	Runup	Runup
5		VE 17	N/A	Runup	Runup
6		VE 19	N/A	Runup	Runup
7		AE 15 VE 15	N/A	Runup	Runup
8		VE 17	N/A	Runup	Overtopping
9		AE 14 VE 14	N/A	Runup	Runup
10		AE 15 VE 15	N/A	Runup	Runup
11		VE 11	N/A	Runup	Overtopping
12		AE 16 VE 16	N/A	Runup	Runup
13		VE 17 VE 18	N/A	Runup	Overtopping
14		AE 14 VE 14	N/A	Runup	Runup
15		VE 16	N/A	Runup	Overtopping
16		VE 16	N/A	Runup	Overtopping
17		VE 16	N/A	Runup	Overtopping
18		VE 18	N/A	Runup	Overtopping
19		VE 15	N/A	Runup	Overtopping
20		VE 15	N/A	Runup	Overtopping
21		VE 17	N/A	Runup	Overtopping
22		VE 17	N/A	Runup	Overtopping

**Table 26: Summary of Coastal Transect Mapping Considerations, continued**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
23		AE 15 VE 15	N/A	Runup	Runup
24		VE 17	N/A	Runup	Runup
25		VE 16 VE 20	N/A	Runup	Overtopping
26		VE 17	N/A	Runup	Overtopping
27		VE 30	N/A	Runup	Runup
28		VE 22	N/A	Runup	Runup
29		VE 18 VE 21	N/A	Runup	Overtopping
30		VE 21	N/A	Runup	Runup
31		VE 17	N/A	Runup	Runup
32		VE 17	N/A	Runup	Overtopping
33		VE 17	N/A	Runup	Runup
34		VE 16	N/A	Runup	Runup
35		VE 15	N/A	Runup	Runup
36		VE 19	N/A	Runup	Runup
37		VE 20	N/A	Runup	Runup
38		VE 16	N/A	Runup	Runup
39		VE 16	N/A	Runup	Overtopping
40		VE 14	N/A	Runup	Overtopping
41		VE 16	N/A	Runup	Overtopping
42		VE 16	N/A	Runup	Runup
43		VE 15	N/A	Runup	Overtopping
44		VE 17	N/A	Runup	Runup
45		VE 23	N/A	Runup	Runup
46		VE 18	N/A	Runup	Overtopping
47		VE 16	N/A	Runup	Overtopping

**Table 26: Summary of Coastal Transect Mapping Considerations, continued**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
48		VE 17	N/A	Runup	Runup
49		VE 16	N/A	Runup	Runup
50		VE 18	N/A	Runup	Runup
51		VE 19	N/A	Runup	Runup
52		VE 19	N/A	Runup	Overtopping
53		VE 16	N/A	Runup	Runup
54		VE 16	N/A	Runup	Runup
55		VE 16	N/A	Runup	Runup
56		VE 13	N/A	Runup	Runup
57		VE 14	N/A	Runup	Runup
58		VE 15	N/A	Runup	Runup
59		VE 15	N/A	Runup	Overtopping
60		VE 10	N/A	Runup	Overtopping
61		VE 23	N/A	Runup	Runup
62		VE 10	N/A	Runup	Runup
63		VE 11	N/A	Runup	Runup
64		VE 17	N/A	Runup	Runup
65		VE 18	N/A	Runup	Runup
66		VE 23	N/A	Runup	Runup
67		VE 27	N/A	Runup	Runup
68		VE 17	N/A	Runup	Runup
69		VE 16	N/A	Runup	Runup
70		VE 17	N/A	Runup	Runup
71		VE 17	N/A	Runup	Runup
72		VE 18	N/A	Runup	Runup
73		VE 14 VE 18	N/A	Runup	Overtopping
74		VE 15 VE 20	N/A	Runup	Overtopping

**Table 26: Summary of Coastal Transect Mapping Considerations, continued**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
75		VE 15 VE 18	N/A	Runup	Overtopping
76		VE 18	N/A	Runup	Overtopping
77		VE 15	N/A	Runup	Overtopping
78		VE 18	N/A	Runup	Overtopping
79		VE 40	N/A	Runup	Runup
80		VE 22	N/A	Runup	Runup
81		VE 23	N/A	Runup	Runup
82		VE 11	N/A	Runup	Runup
83		VE 17	N/A	Runup	Overtopping
84		VE 15	N/A	Runup	Overtopping
85		VE 19	N/A	Runup	Overtopping
86		VE 21	N/A	Runup	Overtopping
87		VE 18	N/A	Runup	Runup
88	✓	VE 17	N/A	PFD	Runup
89		VE 15	N/A	Runup	Runup
90		VE 16	N/A	Runup	Overtopping
91		VE 15	N/A	Runup	Runup
92		VE 15	N/A	Runup	Overtopping
93	✓	VE 18	N/A	PFD	Overtopping
94		VE 17	N/A	Runup	Runup
95		VE 16	N/A	Runup	Overtopping
96		VE 19	N/A	Runup	Runup
97		VE 18	N/A	Runup	Overtopping
98		VE 18	N/A	Runup	Overtopping
99		VE 20	N/A	Runup	Overtopping
100		VE 20	N/A	Runup	Overtopping
101		VE 17 VE 20	N/A	Runup	Overtopping

**Table 26: Summary of Coastal Transect Mapping Considerations, continued**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
102	✓	VE 17	N/A	Runup	Overtopping
103		VE 15	N/A	Runup	Runup
104		VE 17	N/A	Runup	Overtopping
105		VE 12 VE 17	N/A	Runup	Overtopping
106		AE 9	N/A	Runup	Runup
107		AE 10	N/A	Runup	Runup
108		AE 9	N/A	Runup	Runup
109		VE 9	N/A	Runup	Runup
110		VE 11	N/A	Runup	Runup
111		AE 9	N/A	Runup	Runup
112		AE 9	N/A	Runup	Runup
113		VE 12	N/A	Runup	Overtopping
114		AE 10	N/A	Runup	Runup
115		AE 10	N/A	Runup	Runup
116		AE 11	N/A	Runup	Overtopping
117		AE 11	N/A	Runup	Overtopping
118		VE 10	N/A	Runup	Runup
119		AE 10	N/A	Runup	Overtopping
120		AE 9	N/A	Runup	Runup
121		AE 9	N/A	Runup	Runup
122		AE 10	N/A	Runup	Runup
123		VE 11	N/A	Runup	Runup
124		AE 11	N/A	Runup	Runup
125		VE 12	N/A	Runup	Overtopping
126		VE 12	N/A	Runup	Overtopping
127		AE 11	N/A	Runup	Runup
128		AE 8	N/A	Runup	Runup
129		AE 10	N/A	Runup	Runup

**Table 26: Summary of Coastal Transect Mapping Considerations, continued**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
130		AE 10	N/A	Runup	Runup
131		AE 8 AE 11	N/A	Runup	Runup
132		AE 9 AE 10	N/A	Runup	Runup
133		AE 9	N/A	Runup	Runup
134		AE 9	N/A	Runup	Runup
135		AE 9	N/A	Runup	Runup
136		AE 10	N/A	Runup	Overtopping
137		AE 9	N/A	Runup	Runup
138		VE 9	N/A	Runup	Runup
139		VE 9	N/A	Runup	Runup
140		AE 10	N/A	Runup	Runup
141		AE 8	N/A	Runup	Runup
142		AE 8	N/A	Runup	Runup
143		VE 10	N/A	Runup	Overtopping
144		AE 8	N/A	Runup	Runup
145		AE 8	N/A	Runup	Runup
146		VE 9	N/A	Runup	Runup
147		AE 9	N/A	Runup	Runup
148		VE 9	N/A	Runup	Runup
149		AE 9	N/A	Runup	Runup
150		AE 8	N/A	Runup	Runup
151		AE 8	N/A	Runup	Runup
152		VE 10	N/A	Runup	Runup
153		AE 8	N/A	Runup	Runup
154		AE 9	N/A	Runup	Runup
155		AE 8	N/A	Runup	Runup
156		AE 9	N/A	Runup	Runup



**Table 26: Summary of Coastal Transect Mapping Considerations, continued**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
157		AE 10	N/A	Runup	Runup
158		AE 9	N/A	Runup	Runup
159		VE 11	N/A	Runup	Runup
160		AE 8	N/A	Runup	Overtopping

## 6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 32, “Map Repositories”).

### 6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA. A LOMA cannot be issued for properties located on the PFD (primary frontal dune).

To obtain an application for a LOMA, visit [www.fema.gov/floodplain-management/letter-map-amendment-loma](http://www.fema.gov/floodplain-management/letter-map-amendment-loma) and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

For more information about how to apply for a LOMA, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

### 6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting [www.fema.gov/floodplain-management/letter-map-amendment-loma](http://www.fema.gov/floodplain-management/letter-map-amendment-loma) for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

### 6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit [www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/mt-2-application-forms-and-instructions](http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/mt-2-application-forms-and-instructions) and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the San Diego County FIRM are listed in Table 28.

**Table 27: Incorporated Letters of Map Change**

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
13-09-2315P	08-13-2013	Loma Alta Creek	06073C0753J
17-09-0571P	07-03-2018	Loma Alta Creek	06073C0753J

### 6.5.4 Physical Map Revisions

Physical Map Revisions (PMRs) are an official republication of a community’s NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community's chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit [www.fema.gov](http://www.fema.gov) and visit the "Flood Map Revision Processes" section.

### **6.5.5 Contracted Restudies**

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit [www.fema.gov](http://www.fema.gov) to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

### **6.5.6 Community Map History**

The current FIRM presents flooding information for the entire geographic area of San Diego County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBM) and/or Flood Boundary and Floodway Maps (FBFM) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 29, "Community Map History." A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or "pending" (for Preliminary FIS Reports) is shown. If the community is listed in Table 29 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first Flood Hazard Boundary Map (FHBM). This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.

- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as Physical Map Revisions (PMR) of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the San Diego County FIRMs in countywide format was 06/19/1997.

**Table 28: Community Map History**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Carlsbad, City of	05/31/1974	05/31/1974	N/A	05/31/1974	12/20/2019 05/16/2012 09/29/2006 06/19/1997 08/15/1983 06/14/1977
Chula Vista, City of	04/08/1977	04/08/1977	3/14/1978	08/15/1983	12/20/2019 04/05/2016 05/16/2012 06/19/1997 04/05/1988 08/05/1986
Coronado, City of	09/10/1976	09/10/1976	N/A	07/15/1988	12/20/2019 04/05/2016 05/16/2012 06/19/1997 04/15/1986
Del Mar, City of	02/22/1974	02/22/1974	10/17/1975	08/15/1983	12/20/2019 05/16/2012 06/19/1997 04/15/1986
El Cajon, City of	03/08/1974	03/08/1974	06/25/1976	09/15/1977	05/16/2012 09/29/2006 06/16/1999 06/19/1997 01/19/1982

**Table 28: Community Map History, continued**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Encinitas, City of	07/15/1988	N/A	N/A	07/15/1988	12/20/2019 04/05/2016 05/16/2012 09/29/2006 06/19/1997
Escondido, City of	10/26/1973	10/26/1973	N/A	09/15/1983	04/05/2016 05/16/2012 06/19/1997 07/04/1988 06/17/1986
Imperial Beach, City of	04/05/1974	04/05/1974	N/A	06/01/1978	12/20/2019 04/05/2016 05/16/2012 06/19/1997 09/30/1987 09/30/1983
La Mesa, City of	03/14/1978	N/A	N/A	03/14/1978	05/16/2012 07/02/2002 06/19/1997
Lemon Grove, City of	03/16/1988	N/A	N/A	03/16/1988	05/16/2012 07/02/2002 06/19/1997
National City, City of	03/22/1974	03/22/1974	7/18/1975	02/15/1979	12/20/2019 05/16/2012 06/19/1997 08/04/1988 12/18/1984 02/01/1983
Oceanside, City of	05/10/1974	05/10/1974	10/29/1976	09/05/1984	12/20/2019 05/16/2012 09/29/2006 01/19/2001 06/19/1997 06/18/1987
Poway, City of	11/30/1982	11/30/1982	N/A	08/19/1985	05/16/2012 06/19/1997

**Table 28: Community Map History, continued**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
San Diego, City of	02/28/1978	02/28/1978	N/A	08/15/1983	12/20/2019 04/05/2016 05/16/2012 07/02/2002 06/16/1999 06/19/1997 05/17/1993 09/27/1991 09/29/1989
San Diego County, Unincorporated Areas	07/19/1977	07/19/1977	10/20/1981	06/15/1984	12/20/2019 04/05/2016 05/16/2012 09/29/2006 07/02/2002 06/16/1999 06/19/1997 08/03/1989
San Marcos, City of	05/24/1974	05/24/1974	04/23/1976 12/13/1974	08/01/1978	05/16/2012 09/29/2006 06/16/1999 06/19/1997 09/02/1993 07/15/1988
Santee, City of	09/07/1982	09/07/1982	N/A	09/28/1984	05/16/2012 06/19/1997
Solana Beach, City of	06/03/1988	N/A	N/A	06/03/1988	12/20/2019 05/16/2012 06/19/1997
Vista, City of	06/14/1974	06/14/1974	04/01/1977	08/15/1983	05/16/2012 09/29/2006 06/16/1999 06/19/1997 06/17/1986

**SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION**

**7.1 Contracted Studies**

Table 30 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

**Table 29: Summary of Contracted Studies Included in this FIS Report**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Adobe Creek	06/19/1997	George S. Nolte and Associates	EMW-83-6-1163	February 1985	Escondido, City of
Agua Hedionda Creek	09/20/2006	SAAD Consultants	DACWo9-01-M-0085	June 2002	Vista, City of
Agua Hedionda Creek (At City of Carlsbad)	06/19/1997	Ensign & Buckley	EMW-90-C-3133	1995	Carlsbad, City of
Agua Hedionda Creek (At City of Vista)	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas; Vista, City of
Agua Hedionda Lagoon	06/19/1997	Dames & Moore	C-0542	December 1981	Carlsbad, City of
Alpine Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	August 1986	San Diego County, Unincorporated Areas
Alvarado Creek	07/02/2002	Department of Water Resources, State of California	EMF-96-CO-0097	March 2000	La Mesa, City of
Alvarado Creek	06/16/1999	Borcalli & Associates, Inc.	EMF-96-CO-0097	April 1998	San Diego, City of
Arroyo Drive Tributary	06/19/1997	City of San Diego	*	1979	San Diego, City of
Bailey Creek	*	*	*	*	San Diego County, Unincorporated Areas
Barrett Lake	*	*	*	*	San Diego County, Unincorporated Areas
Batiquitos Lagoon	*	*	*	*	Carlsbad, City of; Encinitas, City of
Beaver Hollow Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	May 1993	San Diego County, Unincorporated Areas
Bee Canyon	*	*	*	*	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Beeler Creek	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Borrego Palm Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Borrego Sink	*	*	*	*	San Diego County, Unincorporated Areas
Borrego Sink Wash	*	*	*	*	San Diego County, Unincorporated Areas
Box Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Broadway Creek	06/19/1997	USACE, Los Angeles District	IAA H-19-74, Project Order No. 13 and IAA H-16-75, Project Order No. 22	June 1976	El Cajon, City of; San Diego County, Unincorporated Areas
Buena Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	May 1993	San Diego County, Unincorporated Areas; Vista City of
Buena Vista Creek	06/19/1997	Dames & Moore	C-0542	December 1981	Carlsbad, City of; Oceanside, City of
Buena Vista Creek	06/19/1997	George S. Nolte and Associates	*	June 1986	Carlsbad, City of; Oceanside, City of
Buena Vista Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	January 1985	Vista, City of
Buena Vista Creek Tributary 1	*	*	*	*	Vista, City of
Buena Vista Creek Tributary 3	*	*	*	*	Vista, City of



**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Buena Vista Lagoon	06/19/1997	Dames & Moore	C-0542	December 1981	Carlsbad, City of; Oceanside, City of
Cadman Street Tributary	06/19/1997	City of San Diego	*	1979	San Diego, City of
Calavera Creek	06/19/1997	Ensign & Buckley	EMW-90-C-3133	1995	Carlsbad, City of
Campo Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	May 1993	San Diego County, Unincorporated Areas
Carmel Valley Creek	06/19/1997	Leedshill Herkenhoff, Inc.	*	December 1985	San Diego, City of
Carroll Canyon Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Carroll Canyon Creek	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
Carroll Canyon Creek	06/19/1997	Dames & Moore	H-4834	December 1981	San Diego, City of
Casa De Oro Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Casa De Oro Creek	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
Chicarita Creek	06/19/1997	George S. Nolte and Associates	EMW-83-6-1163	July 1985	San Diego, City of
Chocolate Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Chollas Reservoir Branch	06/19/1997	*	*	1979	San Diego, City of
Coleman Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
County Ditch Creek	06/19/1997	USACE, Los Angeles District	IAA-H-19-74, Project Order No. 13	June 1976	El Cajon, City of
Coyote Creek	*	*	*	*	San Diego County, Unincorporated Areas
Curlew Creek	06/19/1997	*	*	1979	San Diego, City of
Deer Springs Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Descanso Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Descanso Creek	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
Dry Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Dulzura Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	May 1993	San Diego County, Unincorporated Areas
El Vado Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Encanto Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Encinitas Creek	06/19/1997	Dames & Moore	C-0542	December 1981	Carlsbad, City of; Encinitas, City of
Escondido Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	Encinitas, City of; Escondido, City of; San Diego County, Unincorporated Areas
Escondido Creek (Above Lake Wohlford)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Escondido Creek (At Encinitas)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	Encinitas, City of; San Diego County, Unincorporated Areas
Escondido Creek (At Escondido)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	Escondido, City of; San Diego County, Unincorporated Areas
Escondido Creek (Left Reach)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Eucalyptus Hills (East Branch)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Eucalyptus Hills (West Branch)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Fire Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Florida Drive Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Forester Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Garrison Creek	06/19/1997	Gorge S. Nolte and Associates	EMW-83-C-1163	July 1985	Oceanside, City of
Gonzales Canyon Creek	06/19/1997	Gorge S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Gopher Canyon Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Green Valley Creek	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of; San Diego, City of

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Green Valley Creek Tributary	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Guejito Creek	*	*	*	*	San Diego County, Unincorporated Areas
Harbison Canyon Creek	06/19/1997	San Diego County Department of Public Works	*	May 1986	San Diego County, Unincorporated Areas
Hatfield Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Hellhole Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Henderson Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Home Avenue Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Jamacha Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Johnson Canyon Creek	*	*	*	*	Chula Vista, City of; San Diego County, Unincorporated Areas
Keys Canyon Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Keys Canyon Creek Tributary 1	*	*	*	*	San Diego County, Unincorporated Areas
Keys Canyon Creek Tributary 2	*	*	*	*	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Kit Carson Park Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	Escondido, City of; San Diego County, Unincorporated Areas
Kit Carson Park Creek	06/19/1997	Dames & Moore	H-4834	December 1981	Escondido, City of; San Diego, City of
Kit Carson Park Creek Tributary	06/19/1997	Dames & Moore	H-4834	December 1981	Escondido, City of; San Diego County, Unincorporated Areas
La Orillia Road Tributary	*	*	*	*	San Diego County, Unincorporated Areas
La Zanja Canyon	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Lake Hodges	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Las Chollas Creek	06/19/1997	City of San Diego	*	1979	San Diego, City of
Las Posas Creek (Lower)	06/19/1997	Nolte and Associates	*	December 1989	San Marcos, City of
Las Posas Creek (Upper)	06/19/1997	Nolte and Associates	*	December 1989	San Marcos, City of
Las Puleta Creek	06/19/1997	City of San Diego	*	September 1979	National City, City of; San Diego, City of
Lawson Valley Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Loma Alta Creek	01/19/2001	*	*	March 4, 1997	Oceanside, City of
Los Coches Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Los Coches Creek	06/19/1997	USACE, Los Angeles District	*	February 1987	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Los Pensaquitos Creek	06/19/1997	Rick Engineering	*	July 1985	San Diego, City of
Los Pensaquitos Creek	06/19/1997	Dames & Moore	H-4834	December 1981	San Diego, City of
Lusardi Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	May 1993	San Diego, City of; San Diego County, Unincorporated Areas
Lusardi Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Maple Street Canyon Tributary	06/19/1997	City of San Diego	*	1979	San Diego, City of
Mataqual Creek	*	*	*	*	San Diego County, Unincorporated Areas
McGonigle Canyon Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
McGonigle Canyon Creek Tributary A	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Mexican Canyon Creek	*	*	*	*	San Diego County, Unincorporated Areas
Miramar Reservoir	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Moosa Canyon Creek	*	*	*	*	San Diego County, Unincorporated Areas
Moosa Creek (North Branch)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Moosa Creek (South Branch)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Murphy Canyon Creek	06/19/1997	George S. Nolte and Associates	EMW-83-6-1163	July 1985	San Diego, City of
Murray Canyon Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego, City of
Murray Reservoir	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Nestor Creek	09/27/1991	USACE, Los Angeles District	EMW-89-E-2884, Project Order No. 8	December 1989	San Diego, City of
Nestor Creek	06/19/1997	City of San Diego	*	1979	San Diego, City of
North Tributary to Santa Maria Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Northern Split	06/19/1997	Nolte and Associates	*	December 1989	San Marcos, City of
Olive Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	May 1993	San Diego County, Unincorporated Areas; San Marcos, City of
Opato Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Otay River	12/20/2019	BakerAECOM	HSFEHQ-09-0368	2015	Imperial Beach, City of; San Diego, City of
Otay River	06/19/1997	USACE, Los Angeles District	EMW-89-E-2884, Project Order No. 8	December 1989	San Diego, City of
Otay River	06/19/1997	California Department of Water Resources	H-3947	December 1981	Chula Vista, City of; San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Pacific Ocean, San Diego Bay	12/20/2019	BakerAECOM	HSFEHQ-09-0368	2015	Carlsbad, City of; Chula Vista, City of; Coronado, City of; Del Mar, City of; Encinitas, City of; Imperial Beach, City of; National City, City of; Oceanside, City of; San Diego, City of; San Diego County, Unincorporated Areas; Solana Beach, City of
Pala Mesa Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Paradise Creek	06/19/1997	USACE, Los Angeles District	IAA-H-16-75, Project Order No. 22	September 1976	Chula Vista, City of; National City, City of
Paradise Creek North Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Paradise Creek North Branch Tributary	06/19/1997	City of San Diego	*	1979	San Diego, City of
Paradise Creek - Valley Road Branch	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	National City, City of; San Diego, City of
Pauma Creek	*	*	*	*	San Diego County, Unincorporated Areas
Pilgrim Creek	06/19/1997	Ensign & Buckley	EMW-90-C-3133	December 1991	Oceanside, City of
Pine Valley Creek	*	*	*	*	San Diego County, Unincorporated Areas
Poggi Canyon Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	Chula Vista, City of



**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Poggi Canyon Creek	06/19/1997	George S. Nolte and Associates	EMW-82-C-1163	1984	Chula Vista, City of; San Diego, City of
Pomerado Creek	06/19/1997	Ensign & Buckley, Consulting Engineers	EMW-90-C-9133	1995	Poway, City of
Potrero Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Poway Creek	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Radio Drive Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Rainbow Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Rainbow Creek (West Branch)	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Rainbow Creek (West Branch)	*	*	*	*	San Diego County, Unincorporated Areas
Rattlesnake Creek	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Rattlesnake Creek Split Flow at Heritage Hills	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Rattlesnake Creek Split Flow at Midland Road	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Reidy Creek	06/19/1997	NBS/Lowry Engineers & Planners	BADL	May 20, 1988	Escondido, City of

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Reidy Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	Escondido, City of; San Diego County, Unincorporated Areas
Rice Canyon Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	December 1984	Chula Vista, City of; San Diego County, Unincorporated Areas
Rincon Avenue Tributary	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	February 1985	Escondido, City of
Rios Canyon Creek	*	*	*	*	San Diego County, Unincorporated Areas
Rose Canyon Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego, City of
Samagutuma Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Samagutuma Creek	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
San Clemente Canyon Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego, City of
San Diego Bay	12/20/2019	BakerAECOM	HSFEHQ-09-0368	2015	Chula Vista, City of; Coronado, City of; National City, City of; San Diego, City of
San Diego River	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of; San Diego County, Unincorporated Areas; Santee, City of
San Diego River	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego, City of; San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
San Diego River	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego, City of; San Diego County, Unincorporated Areas
San Dieguito River	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	February 1985	Del Mar, City of; San Diego, City of
San Elijo Creek	*	*	*	*	Encinitas, City of; San Diego County, Unincorporated Areas
San Elijo Lagoon	*	*	*	*	Encinitas, City of
San Luis Rey River	01/19/2001	Graves Engineering	*	1990	Oceanside, City of
San Luis Rey River	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
San Luis Rey River (At Oceanside)	06/19/1997	Nolte and Associates	EMW83-6-1163	August 1986	Oceanside, City of
San Marcos Creek	06/19/1997	Nolte and Associates	*	December 1989	San Diego County, Unincorporated Areas; San Marcos, City of
San Marcos Creek	06/19/1997	USACE, Los Angeles District	IAA-H-15-72, Project Order No. 14	March 1975	Carlsbad, City of; San Marcos, City of
San Marcos Creek (Below Lake San Marcos)	06/19/1997	Nolte and Associates	*	December 1989	Carlsbad, City of; San Marcos, City of
San Marcos Creek Highway 78 Split Flow	06/19/1997	Nolte and Associates	*	December 1989	San Marcos, City of
San Vicente Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
San Vicente Creek	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
Santa Margarita River	*	*	*	*	San Diego County, Unincorporated Areas
Santa Maria Creek (San Pasqual Valley Area)	06/19/1997	Nolte and Associates	EMW-83-6-1163	August 1986	San Diego, City of; San Diego County, Unincorporated Areas
Santa Maria Creek (Santa Maria Valley Area)	06/19/1997	George S. Nolte and Associates	EMW-83-6-1163	July 1985	San Diego County, Unincorporated Areas
Santa Ysabel Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego, City of; San Diego County, Unincorporated Areas
Santa Ysabel Creek	06/19/1997	Nolte and Associates	EMW-83-61163	August 1986	San Diego County, Unincorporated Areas
Shaw Valley Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Sheperd Canyon	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Slaughterhouse Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Soledad Canyon	06/19/1997	California Department of Water Resources	C-0452	December 1981	San Diego, City of
Soledad Canyon	06/19/1997	Dames & Moore	H-4834	December 1981	San Diego, City of
South Branch Poway Creek	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
South Fork Alpine Creek	*	*	*	*	San Diego County, Unincorporated Areas
South Fork Moosa Canyon Creek	06/19/1997	Nolte and Associates	EMW-83-6-1163	August 1986	San Diego County, Unincorporated Areas
South Las Chollas Creek	05/17/1993	John B. Kennaly, P.E.	*	June 1991	San Diego, City of
South Las Chollas Creek	06/19/1997	City of San Diego	*	September 1979	San Diego, City of; San Diego County, Unincorporated Areas
South Tributary to Santa Maria Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Spring Valley Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Spring Valley Creek	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
Steele Canyon Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Stevenson Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Sweetwater River	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Sweetwater River (Above Reservoir)	06/19/1997	Nolte and Associates	EMW-83-6-1163	August 1986	San Diego County, Unincorporated Areas
Sweetwater River (At National City)	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	December 1984	Chula Vista, City of; National City, City of

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Sweetwater River (Descanso Area)	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego County, Unincorporated Areas
Sweetwater River (Descanso Area)	06/19/1997	Dames & Moore	C-0542	December 1981	San Diego County, Unincorporated Areas
Switzer Creek	06/19/1997	City of San Diego	*	1979	San Diego, City of
Sycamore Creek	06/19/1997	San Diego County Department of Public Works	C-0970	January 1983	Poway, City of
Tecate Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas
Tecolote Creek	06/19/1997	California Department of Water Resources	H-3947	December 1981	San Diego, City of
Telegraph Canyon Creek	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	December 1984	Chula Vista, City of
Tijuana River	06/19/1997	George S. Nolte and Associates	EMW-83-6-1163	July 1985	Imperial Beach, City of; San Diego, City of
Tributary of South Tributary to Santa Maria Creek	*	*	*	*	San Diego County, Unincorporated Areas
Tributary to Forester Creek	06/19/1997	USACE, Los Angeles District	IAA-H-19-74, Project Order No. 13	June 1976	El Cajon, City of
Tributary to Forester Creek (South Branch)	06/19/1997	USACE, Los Angeles District	IAA-H-19-74, Project Order No. 13	June 1976	El Cajon, City of
Tributary to Sweetwater River	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas

**Table 29: Summary of contracted Studies Included in this FIS Report, continued**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Tributary to Sweetwater River	*	*	*	*	San Diego County, Unincorporated Areas
Twin Oaks Valley Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas; San Marcos, City of
Unnamed Canyon	*	*	*	*	San Diego County, Unincorporated Areas
Unnamed Tributary to San Dieguito River	06/19/1997	George S. Nolte and Associates	EMW-83-C-1163	July 1985	San Diego, City of
Unnamed Tributary to San Marcos Creek	06/19/1997	USACE, Los Angeles District	IAA-H-15-72, Project Order No. 14	March 1975	Carlsbad, City of
Wabash Branch	06/19/1997	City of San Diego	*	1979	San Diego, City of
Wabash Tributary	06/19/1997	City of San Diego	*	1979	San Diego, City of
Witch Creek	06/19/1997	West Consultants, Inc.	EMW-92-C-3804	1993	San Diego County, Unincorporated Areas

\*Data not available

## 7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 31. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

**Table 30: Community Meetings**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Carlsbad, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Chula Vista, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Coronado, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Del Mar, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
El Cajon, City of	05/16/2012	01/04/2006	Initial CCO	FEMA, the community, and the study contractor
		06/25/2009	Final CCO	FEMA, the community, and the study contractor
Encinitas, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Escondido, City of	04/05/2016	11/07/2014	Final CCO	FEMA, the community, and the study contractor
		*	Initial CCO	FEMA, the community, and the study contractor
Imperial Beach, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
La Mesa, City of	05/16/2012	01/04/2006	Initial CCO	FEMA, the community, and the study contractor
		06/25/2009	Final CCO	FEMA, the community, and the study contractor

\*Data not available



**Table 30: Community Meetings, continued**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Lemon Grove, City of	05/16/2012	06/25/2009	Final CCO	FEMA, the community, and the study contractor
		01/04/2006	Initial CCO	FEMA, the community, and the study contractor
National City, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Oceanside, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Poway, City of	05/16/2012	06/25/2009	Final CCO	FEMA, the community, and the study contractor
		01/04/2006	Initial CCO	FEMA, the community, and the study contractor
San Diego, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
San Diego County, Unincorporated Areas	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
San Marcos, City of	05/16/2012	06/25/2009	Final CCO	FEMA, the community, and the study contractor
		01/04/2006	Initial CCO	FEMA, the community, and the study contractor
Santee, City of	05/16/2012	06/25/2009	Final CCO	FEMA, the community, and the study contractor
		01/04/2006	Initial CCO	FEMA, the community, and the study contractor
Solana Beach, City of	12/20/2019	04/13/2016	Final CCO	FEMA, BakerAECOM and the community
		01/09/2012	Initial CCO	FEMA, the community, and the study contractor
Vista, City of	05/16/2012	06/25/2009	Final CCO	FEMA, the community, and the study contractor
		01/04/2006	Initial CCO	FEMA, the community, and the study contractor

\*Data not available

## SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see [www.fema.gov](http://www.fema.gov).

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for San Diego County (FEMA 2016).

Table 32 is a list of the locations where FIRMs for San Diego County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

**Table 31: Map Repositories**

Community	Address	City	State	Zip Code
Carlsbad, City of	Building and Development Department 1635 Faraday Avenue	Carlsbad	CA	92008
Chula Vista, City of	City Hall 276 4 <sup>th</sup> Avenue	Chula Vista	CA	91910
Coronado, City of	City Hall 1825 Strand Way	Coronado	CA	92118
Del Mar, City of	City Hall 2010 Jimmy Durante Boulevard, Suite 120	Del Mar	CA	92014
El Cajon, City of	Public Works Department 200 Civic Center Way	El Cajon	CA	92020
Encinitas, City of	City Hall 505 South Vulcan Avenue	Encinitas	CA	92024
Escondido, City of	City Hall 201 North Broadway	Escondido	CA	92025
Imperial Beach, City of	City Hall 825 Imperial Beach Boulevard	Imperial Beach	CA	91932
La Mesa, City of	Department of Public Works Community Center 8130 Allison Avenue	La Mesa	CA	91942
Lemon Grove, City of	City Hall 3232 Main Street	Lemon Grove	CA	91945

**Table 31: Map Repositories, continued**

Community	Address	City	State	Zip Code
National City, City of	City Hall 1243 National City Boulevard	National City	CA	91950
Oceanside, City of	City Hall 300 North Coast Highway	Oceanside	CA	92054
Poway, City of	City Hall 13325 Civic Center Drive	Poway	CA	92064
San Diego, City of	Engineering Branch 525 B Street, Suite 750, MS 908A	San Diego	CA	92101
San Diego County, Unincorporated Areas	Department of Public Works 5510 Overland Avenue, Suite 410 MS 0326	San Diego	CA	92123
San Marcos, City of	City Hall One Civic Center Drive	San Marcos	CA	92069
Santee, City of	City Hall 10601 Magnolia Drive	Santee	CA	92071
Solana Beach, City of	City Hall 635 South Highway 101	Solana Beach	CA	92075
Vista, City of	Civic Center 200 Civic Center Drive	Vista	CA	92084

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 33.

Table 33 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the State NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of State and local GIS data in their state.

**Table 32: Additional Information**

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	<a href="http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library">www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library</a>
NFIP website	<a href="http://www.fema.gov/national-flood-insurance-program">www.fema.gov/national-flood-insurance-program</a>
NFHL Dataset	<a href="http://msc.fema.gov">msc.fema.gov</a>

**Table 32: Additional Information, continued**

FEMA Region IX	FEMA Region IX, 1111 Broadway, Suite 1200, Oakland, CA 94607 (510) 627-7181
Other Federal Agencies	
USGS website	<a href="http://www.usgs.gov">www.usgs.gov</a>
Hydraulic Engineering Center website	<a href="http://www.hec.usace.army.mil">www.hec.usace.army.mil</a>
State Agencies and Organizations	
State NFIP Coordinator	James Eto California Department of Water Resources 3464 El Camino Avenue, Suite 200 Sacramento, CA 95821 916-574-1409 <a href="mailto:jeto@water.ca.gov">jeto@water.ca.gov</a>
State GIS Coordinator	David Harris, Agency Information Coordinator California Resources Agency 1416 Ninth Street, Room 1311 Sacramento, CA 95814 Phone: 916-445-5088 <a href="mailto:david.harris@resources.ca.gov">david.harris@resources.ca.gov</a>

## SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 34 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

**Table 33: Bibliography and References**

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Abrams Aerial Surveys, Inc., August 1978	Abrams Aerial Surveys, Inc.	<i>Aerial Photographs California Coastline, Scale 1:4,800</i>			August 1978	
Aero Service Corporation, February 1973	Aero Service Corporation	<i>Aerial Photographs, Scale 1:6,000</i>			February 23, 1973	
American Aerial Surveys, Incorporated, 1958, 1959	American Aerial Surveys, Incorporated	<i>Photogram metric Topographic Maps, Scale 1:2,400, Contour Interval 5 feet: El Cajon</i>			1958, 1959	
Boyle Engineering Corporation, November 1980	Boyle Engineering Corporation	<i>Flood and Sediment Control Study for the San Pasqual Valley, Preliminary Report</i>			November 1980	
Boyle Engineering Corporation, 1978	Boyle Engineering Corporation	<i>Hydrologic Analysis, Community Development Block Grant Flood Plain Mapping Program, Area 11, Nestor Creek and Goat Canyon</i>		San Diego, California	1978	
California Department of Transportation, April 1975	California Department of Transportation	<i>Topographic Maps, Scale 1:600, Contour Interval 2 feet</i>		City of National City, California	April 1975	
California Department of Water Resources, February 1976	California Department of Water Resources	<i>Bulletin 182, Upper San Diego River flood Control Investigation</i>			February 1976	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
California Department of Water Resources, unpublished	California Department of Water Resources	<i>California Department of Water Resources, Flood Insurance Study Upper San Luis Rey River</i>		San Diego County, California	unpublished	
Cal-Atlas, 1997	Cal-Atlas Geospatial Clearinghouse	<i>Township and Range boundary lines</i>	Cal-Atlas Geospatial Clearinghouse		1997	
City of Oceanside 1990		<i>Topographic Mapping, City of Oceanside, Scale 1" = 400', Contour Interval 5 feet</i>			1990	
City of San Diego 1992	City of San Diego, Engineering and Development Department	<i>Topographic Mapping, Scale 1:2,400, Contour Interval 1 foot</i>			1992	
City of San Diego, 1976-1978	City of San Diego, California	<i>Topographic maps, Scale 1:2,400, contour Interval 5 feet; (Aerial Photography Flown November 1976; August 1 and 17, September 8, November 6, and April 21, 1977; and December 13, 1978)</i>			1976-1978	
Encinitas, 2011	City of Encinitas	<i>Encinitas Roads</i>	City of Encinitas	Encinitas, CA	March 3, 2011	
ESRI, 2004	ESRI	<i>Political Boundaries</i>	ESRI	Redlands, CA	2004	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Harl Pugh and Associates, October 1983	Harl Pugh and Associates	<i>Aerial Photographs, Scale 1:6,300 and 1:12,000</i>			October 1983	
Inland Aerial Surveys, November 1974	Inland Aerial Surveys	<i>Aerial Photographs, Scale 1:2,400</i>			November 7, 1974	
Leedshill-Herkenhoff, Inc., May 1985	Leedshill-Herkenhoff, Inc.	<i>San Dieguito River Flood Studies</i>			May 1985	
Mission Aerial Photos, 1979	Mission Aerial Photos	<i>Aerial Photographs – Los Pensaquitos Creek, Scale 1:1,200</i>			May through July 1979	
National City, March 1973		<i>Orthophoto-Topographic Maps, Scale 1:2,400, Contour Interval 5 feet</i>		City of National City, California	March 1973	
NGS, 2002	National Geodetic Survey	<i>Permanent Bench Mark Data Sheets</i>	National Geodetic Survey	Silver Spring, MD	2002	
NHD, 2011	National Hydrography Dataset	<i>NHD streamlines and waterbodies</i>	National Hydrography Dataset	Reston, VA	March 3, 2011	
OWI, 2009	Oceanweather Inc.	<i>California Pacific Coastal Studies (Southern Coastal Counties): High Resolution Deep Water Wave Climate Forcing Development 1960-2009</i>	Oceanweather Inc.		2009	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
San Diego 1985		<i>County of San Diego Hydrology Manual</i>		San Diego, California	1985	
SANDAG, 2011	San Diego Association of Governments (SANDAG)	<i>Structures</i>	San Diego Association of Governments (SANDAG)		March 3, 2011	
San Diego County, September 17, 1975	San Diego County	<i>Topographic Maps, Scale 1:2,400, Contour Interval 2 feet</i>			September 17, 1975	
San Diego County, 1962-1983		<i>Topographic Maps, Scale 1:2,400, Contour Interval 5ft: (Aerial Photography Flown in March 1962; September 1963; June 1965; June 29, 1971; May 21, 1972; June 12 and 14, 1972; march 16 and 24, 1973; April 3 and 4, 1973; June 8 and 19, 1973; July 1973; September 26, 1973; October and December 1973; April 30, 1974; October 3, 1974; December 1974; January 1975; February 24 and October 28, 1975; January 6, 1976; April 21, 1977; April 14, 1978; April 3, 1979; May 1981; April 19, 1982; and April 14, 1983)</i>			1962-1983	
San Diego Co, 2011	San Diego County	<i>Roads and Political Boundaries</i>	San Diego County		March 11, 2011	



**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
San Diego County, Department of Sanitation and Flood Control, 1977	San Diego County, Department of Sanitation and Flood Control	<i>Hydrology Report for Poway Creek Complex</i>			1977	
San Diego County, Flood Control Division, January and October 1983	San Diego County, Flood Control Division	<i>Hydrology Manual, October 1973, revised November 1975, and January and October 1983</i>			January and October 1983	
SanGIS, 2011	San Diego Geographic Information Source	<i>Structures</i>	San Diego Geographic Information Source		March 3, 2011	
San-Lo Aerial Surveyors, 1972-1978	San-Lo Aerial Surveyors	<i>Aerial Photographs, Scale 1:2,400</i>			1972-1978	
San-Lo Aerial Surveyors, April 1985	San-Lo Aerial Surveyors	<i>Topographic Maps for Carmel Valley Creek, JN 6367, Scale 1:2,400, Contour Interval: 5 feet</i>			April 23, 1985	
SIO, 2014	Scripps Institute of Oceanography	<i>California Open Pacific Coast: Southern California Shallow Water Wave Climates SHELF Model Hindcast. California Coastal Analysis and Mapping Project: Open Pacific Coast Phase II</i>	SIO		2014	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
State of California, May 1971	State of California, Department of Public Works, Division of Highways	<i>Basic Design Plan 1-15 from N. Friars Boulevard to Clairemont Mesa Boulevard; Scale 1:2,400, Contour Interval 2 feet, Cal Rans Nap No. 11-50-15</i>			May 1971	
State of California Department of Transportation, Topographic Maps, August 1969	State of California Department of Transportation, Division of Highways	<i>Topographic Maps, HO ASC No. 1731, Scale 1:1,200, Contour Interval: 4 feet</i>			August 20, 1969	
Teledyne Geotronics for San Diego County, 1973	Teledyne Geotronics for San Diego County, California	<i>County of San Diego Floodplain Maps – Poway Creek Complex, Scale 1:2,400, Contour Interval 5 feet</i>			1973	
U.S. Department of Agriculture, Soil Conservation Service, 1964	U.S. Department of Agriculture, Soil Conservation Service	<i>Technical Release 20, Computer Program for Project Formulation Hydrology</i>			1964	
USACE, 1964	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Report on Flood Control, Tijuana River Basin</i>		California	1964	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USACE, 1970	U.S. Department of the Army, Corps of Engineers	<i>Map Manuscript No. 4: San Diego River – Mission Valley, Scale 1,200, Contour Interval 2 feet</i>			December 1970	
USACE, 1971	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Hydrology for Flood Plain Information Studies, Escondido Creek</i>		San Diego County, California	November 1971	
USACE, 1972	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for Flood Plain Information Studies, Rose and San Clemente Canyon</i>		San Diego, California	1972	
USACE, April 1973	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for Flood Insurance Studies, Murphy, Murray, Alvarado, and Tecolote Canyons</i>		San Diego County, California	April 1973	
USACE, May 1973	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for Flood Insurance Studies, Sweetwater River and Tributaries</i>			May 1973	
USACE, January 1973	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Hydrology for Flood Insurance Studies, Escondido Creek</i>		San Diego, California	January 1973	

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USACE, June 1973 (a)	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Hydrology for Flood Insurance Studies, City of Escondido and Vicinity</i>		San Diego County, California	June 1973	
USACE, June 1973 (b)	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for Flood Insurance Studies, Spring Valley Creek</i>		San Diego County, California	June 1973	
USACE, 1974	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for Survey Report, Telegraph Canyon, Spring Valley, and Las Chollas Valley</i>		San Diego, California	1974	
USACE, December 1974	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Floodway Information Study, Otay River</i>		San Diego County, California	December 1974	
USACE, April 1975	U.S. Department of the Army, Corps of Engineers	<i>Alternative Proposal of Flood Control for Allied Purposes, Las Chollas Creek</i>		San Diego County, California	April 1975	
USACE, July 1975	U.S. Department of the Army, Corps of Engineers	<i>San Diego River Mission Valley Design Memorandum No. 1</i>			July 1975	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USACE, April 1976	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for flood Insurance Studies, Soledad Canyon and Tributaries</i>		San Diego County, California	February 1973, Revised April 1976	
USACE, January 1976 (a)	U.S. Department of the Army, Corps of Engineers	<i>Sweetwater River Flood Control Channel, General Design Memorandum No. 1</i>			January 1976	
USACE, January 1976 (b)	U.S. Department of the Army, Corps of Engineers	<i>Information Brochure on Alternative Proposals for Flood Control and Allied Purposes, Telegraph Canyon Creek</i>		California	January 1976	
USACE, 1978	U.S. Department of the Army, Corps of Engineers	<i>Hydrology for Flood Insurance Studies, Murray Canyon Creek</i>		San Diego County, California	July 1978	
USACE, 1979	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Topographic Maps, Scale 1:1,200, Contour Interval 2 feet</i>			1979	
USACE, 1980	U.S. Department of the Army, Corps of Engineers	<i>Revised Murphy Canyon Peak Discharge Table</i>			September 1980	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USACE, 1987	U.S. Department of the Army, Corps of Engineers, Los Angeles District	<i>Aerial Photo for Nestor Creek Area, Scale 1:1,200</i>		City of San Diego, California	1987	
USACE, 1990	U.S. Department of the Army, Corps of Engineers	<i>HEC-1 Flood Hydrograph Package</i>			September 1990	
US Census, 2014	U.S. Department of Commerce, U.S. Census Bureau	<i>Transportation Features</i>	U.S. Department of Commerce, U.S. Census Bureau	Washington, D.C.	August 9, 2014	
USDA, 2009	USDA-FSA Aerial Photography Field Office	<i>USDA - NAIP 2009 Imagery</i>	USDA-FSA Aerial Photography Field Office	Salt Lake City, Utah	July 16, 2009	
USDA, 2016	USDA-FSA Aerial Photography Field Office	<i>USDA - NAIP 2016 Imagery</i>	USDA-FSA Aerial Photography Field Office	Salt Lake City, Utah	September 30, 2016	
USDA, 2019	USDA	<i>Watershed Boundary Dataset</i>	USDA	Washington, D.C.	2013	

**Table 33: Bibliography and References, continued**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USGS, 1960- 1971	U.S. Department of the Interior, Geological Survey	<i>Flood Prone Area Maps, Scale 1:24,000, Contour Interval 20 feet: Escondido California (1971); Rancho Santa Fe, California (1971); San Marcos, California (1971); Encinitas, California (1971); San Luis Rey, California (1971); National City, California (1967); Barrett Lake, California (1960); Tecate, California (1960); Temecula, California (1968); Warners Ranch, California (1960)</i>			1960-1971	

<p>USGS, 1967-1988</p>	<p>U.S. Department of the Interior, Geological Survey</p>	<p><i>7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 20 feet: Del Mar, California (1967); Encinitas, California (1968), Photo revised (1975); Imperial Beach, California (1967), Photo revised (1975); La Jolla, California (1967), Photo revised (1975); National City, California (1967), Photo revised (1975); Oceanside, California (1968), Photo revised (1975); Point Loma, California (1967), Photo revised (1975); San Luis Rey, California (1968), Photo revised (1975); La Mesa, California (1967), Photo revised (1975); Otay Mesa, California, (1955), Photo revised (1971); Jamul Mountains, California (1955), Photo revised (1975); Escondido, California (1968), Photo revised (1975); Alpine, California (1955), Photo revised (1988); Descanso, California (1960), Photo revised (1988); Pala, California (1968), Photo revised (1988); Campo, California (1959); Pottero, California (1960); Temecula, California (1968), Photo revised (1975); El Cajon, California (1967), Photo revised (1975); San Vicente Reservoir, California (1955), Photo revised (1971); Dulzura, California (1972), Photo revised (1988)</i></p>			<p>1967-1988</p>	
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Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USGS 1987	U.S. Department of the Army Corps of Engineers, Los Angeles District	<i>Aerial Photo for Nestor Creek Area, City of San Diego, California, Scale 1:1,200</i>			1987	
USGS, 1989a	USGS	<i>USGS 7.5-Minute Series Topographic Map</i>	USGS	Reston, VA	1989	
USGS, 1989b	USGS	<i>Digital Orthophoto Quadrangle</i>	USGS	Eros Data Center, Sioux Falls, SD	1989	
VTN, Inc., December 1970	VTN, Inc.	<i>Map Manuscript No. 9 CA-2460, Scale 1:1,200, contour Interval 2 feet</i>			December 1970	
Western Aerial Surveys, 1973 and 1974	Western Aerial Surveys	<i>Aerial Photographs, Los Pensaquitos Creek, Scale 1:2,400</i>			March 1973 and January 1974	