FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 3 OF 7

RIVERSIDE COUNTY, CALIFORNIA

AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
BANNING, CITY OF	060246	LAKE ELSINORE, CITY OF	060636
BEAUMONT, CITY OF	060247	MENIFEE, CITY OF	060176
BLYTHE, CITY OF	060248	MORENO VALLEY, CITY OF	065074
CALIMESA, CITY OF	060740	MURRIETA, CITY OF	060751
CANYON LAKE, CITY OF	060753	NORCO, CITY OF	060256
CATHEDRAL CITY, CITY OF	060704	PALM DESERT, CITY OF	060629
COACHELLA, CITY OF	060249	PALM SPRINGS, CITY OF	060257
CORONA, CITY OF	060250	PERRIS, CITY OF	060258
DESERT HOT SPRINGS, CITY OF	060251	RANCHO MIRAGE, CITY OF	060259
EASTVALE, CITY OF	060155	RIVERSIDE, CITY OF	060260
HEMET, CITY OF	060253	RIVERSIDE COUNTY, UNINCORPORATED AREAS	060245
INDIAN WELLS, CITY OF	060254	SAN JACINTO, CITY OF	065056
INDIO, CITY OF	060255	TEMECULA, CITY OF	060742
JURUPA VALLEY, CITY OF	060286	WILDOMAR, CITY OF	060221
LA QUINTA, CITY OF	060709		

TRIBAL NATION**	TRIBAL NATION**	TRIBAL NATION**
AGUA CALIENTE BAND OF CAHUILLA INDIANS OF THE AGUA CALIENTE INDIANS	RAMONA BAND OF CAHUILLA	TWENTY-NINE PALMS BAND OF MISSION INDIANS
AUGUSTINE BAND OF CAHUILLA INDIANS	SANTA ROSA BAND OF CAHUILLA INDIANS	CAHUILLA BAND OF INDIANS
MORONGO BAND OF MISSION INDIANS	SOBOBA BAND OF LUISENO INDIANS	COLORADO RIVER INDIAN TRIBES
PECHANGA BAND OF LUISENO MISSION INDIANS	CABAZON BAND OF MISSION INDIANS	TORRES MARTINEZ DESERT CAHUILLA INDIANS

**Federally Recognized Tribal Nations

REVISED: September 12, 2024

FLOOD INSURANCE STUDY NUMBER

06065CV003F

Version Number 2.6.4.6

FEMA

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Published Separately

Flood Insurance Rate Map (FIRM)

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS Report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please visit the NGS website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for Riverside County are provided in Table 19.

Table 19: Countywide Vertical Datum Conversion

[Not applicable to this Flood Risk Project]

Table 20: Stream-Based Vertical Datum Conversion

[Not applicable to this Flood Risk Project]

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM Database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown

on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping*, www.fema.gov/flood-maps/guidance-partners/guidelines-standards.

Base map information shown on the FIRM was derived from the sources described in Table 21.

Table 21: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
2016 TIGER Line CA County Boundary Shapefiles	U.S. Census Bureau	2016	1:24,000	Spatial and attribute information for county and municipal boundaries
2021 TIGER Line Primary Roads	U.S. Census Bureau	2021	1:24,000	Spatial and attribute information for primary roads
National Agriculture Imagery Program Remote Sensing Imagery	U.S. Department of Agriculture Farm Service Agency	2014	1:24,000	Spatial and attribute information for aerial imagery, base index, and water lines for FIRMs effective prior to TBD
National Agriculture Imagery Program Remote Sensing Imagery	U.S. Department of Agriculture Farm Service Agency	2022	1:24,000	Spatial and attribute information for aerial imagery, base index, and water lines for FIRMs effective TBD
Political boundaries for Riverside County, CA	Riverside County Geographic Information Systems Portal	2014	1:24,000	Spatial and attribute information for county and municipal boundaries and FIRM Panels
Riverside County PLSS data, state and federal land boundaries	California Spatial Information Library	1993	1:24,000	Spatial and attribute data for federal land and public land survey system grids
Riverside County PLSS data, state and federal land boundaries	California Spatial Information Library	2015	1:24,000	Spatial and attribute data for federal land and public land survey system grids
Surface Water Features	NHD and NHC	2014	1:5,000	Streams, rivers, and lakes were derived from NHD data. Profile baseline for the Coachella Valley Stormwater Channel (Whitewater River) incorporated from reach line in HEC-RAS model provided by NHC

Table 21: Base Map Sources *(continued)*

Data Type	Data Provider	Data Date	Data Scale	Data Description
Transportation for Riverside County, CA	Riverside County Geographic Information Systems Portal	2014	1:24,000	Spatial and attribute information for roads and railroads
USGS Base layers	U.S. Geological Survey	1994	1:24,000	Various features in original studies digitized using Digital Orthophoto Quadrangles

6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 22.

In cases where the 1- and 0.2-percent annual chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

Table 22: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Coachella, City of	Coachella Valley Stormwater Channel (Whitewater River)	LiDAR	*	*	Airborne 1 2010
Corona, City of	Country Club Creek	*	*	*	2009 LOMR
Corona, City of	North Norco Channel	*	*	*	2013 LOMR
Corona, City of	Oak Street Channel	*	*	*	2021 LOMR
Corona, City of	South Norco Channel	*	*	*	2009 LOMR
Corona, City of	South Norco Channel, Tributary A	*	*	*	*
Corona, City of	Temescal Wash	*	*	*	2021 LOMR
Corona, City of	Wardlow Wash	*	*	*	2016 LOMR
Corona, City of	West Norco Channel	*	*	*	*
Eastvale, City of	Santa Ana River	LiDAR	*	*	2006-2010
Indio, City of	Coachella Valley Stormwater Channel (Whitewater River)	LiDAR	*	*	Airborne 1 2010
Jurupa Valley, City of	1001 Ranch Drain	*	*	*	*
Jurupa Valley, City of	1001 Ranch Drain West Tributary	*	*	*	2011 LOMR
Jurupa Valley, City of	Bly Channel	*	*	*	*
Jurupa Valley, City of	Day Creek	*	*	*	2013 LOMR
Jurupa Valley, City of	Highgrove Channel	*	*	*	*
Jurupa Valley, City of	Pyrite Channel	*	*	*	*
Jurupa Valley, City of	Santa Ana River	LiDAR	*	*	2006-2010

*Data not available

Table 22: Summary of Topographic Elevation Data used in Mapping *(continued)*

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Jurupa Valley, City of	Santa Ana River (Split Channel)	LiDAR	*	*	*
Jurupa Valley, City of	San Sevaine Channel	*	*	*	*
Jurupa Valley, City of	Sunnyslope Channel	LiDAR	*	*	*
La Quinta, City of	Dike 2	Topographic Maps	1:100	1 ft	PACE 2006
La Quinta, City of	Dike 2 and 4 (Without Levee)	LiDAR	1:740	2 ft	FEMA 2012
La Quinta, City of	Dike 4	Topographic Maps	1:740	2 ft	PACE 2002
Menifee, City of	San Jacinto River	LiDAR	1:100	2 ft	Webb 2011
Moreno Valley, City of	Perris Valley Storm Drain	Topographic Maps	1:1000	1 ft	Webb 2013
Murrieta, City of	Warm Springs Tributary C – Benton Creek	Digital Photogrammetry	*	*	RCFD 2002
Norco, City of	North Norco Channel Tributary B	Topographic Maps	1:2400	4 & 5 ft	RCFCD 1968, 1972
Norco, City of	North Norco Channel	*	*	*	2015 LOMR
Norco, City of	Santa Ana River	LiDAR	*	*	2006-2010
Norco, City of	South Norco Channel	*	*	*	2009 LOMR
Norco, City of	South Norco Channel, Tributary A	*	*	*	*
Norco, City of	West Norco Channel	*	*	*	*
Palm Springs, City of	Mission Creek	Topographic Maps	1:2400	4 ft	RCFCWCD 1980
Perris, City of	Perris Valley Storm Drain	LiDAR	1:100	2 ft	Webb 2013
Perris, City of	Perris Valley Storm Drain	Topographic Maps	1:1000	1 ft	Webb 2013
Perris, City of	San Jacinto River	LiDAR	1:100	2 ft	Webb 2011

*Data not available

Table 22: Summary of Topographic Elevation Data used in Mapping *(continued)*

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
San Jacinto, City of	San Jacinto River (Without Levee)	LiDAR	*	2 ft	RCFCWCD 2007
Temecula, City of	Temecula Creek	Topographic Maps	1:1200	1 ft	Musser1991
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:2400	2 ft	USACE 1978
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:2400	2 & 4 ft	RCFCWCD 1982
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:2400	4 & 5 ft	RCFCWCD 1973, 1974
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:4800	4 ft	USACE1971
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:24000	20 & 40 ft	USGS 1973
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:2400	4 ft	RCFCD1974
Riverside County, Unincorporated Areas	Various	Topographic Maps	1:12000	40 ft	RCFCD1974
Riverside County, Unincorporated Areas	Coachella Valley Stormwater Channel (Whitewater River)	LiDAR	*	*	Airborne 1 2010
Riverside County, Unincorporated Areas	Dike 2 and 4 (Without Levee)	LiDAR	*	2 ft	FEMA 2012
Riverside County, Unincorporated Areas	Dike 4	Topographic Maps	1:740	2 ft	PACE 2002
Riverside County, Unincorporated Areas	Perris Valley Storm Drain	LiDAR	1:100	2 ft	Webb 2013
Riverside County, UnincorporatedAreas	San Jacinto River	LiDAR	*	2 ft	Webb 2011
Riverside County, Unincorporated Areas	San Jacinto River	LiDAR	1:100	2 ft	Webb 2011
Riverside County, Unincorporated Areas	San Jacinto River (Without Levee)	LiDAR	*	2 ft	RCFCWCD 2007
Riverside County, Unincorporated Areas	County Club Creek	*	*	*	2009 LOMR
Riverside County, Unincorporated Areas	Country Club Creek North Tributary	*	*	*	2009 LOMR

*Data not available

Table 22: Summary of Topographic Elevation Data used in Mapping *(continued)*

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Riverside County, Unincorporated Areas	Santa Ana River	LiDAR	*	*	2006-2010
Riverside, City of	Box Springs Wash	*	*	*	*
Riverside, City of	Santa Ana River	LiDAR	*	*	2006-2010
Riverside, City of	Santa Ana River (Split Channel)	*	*	*	*
Riverside, City of	Spring Brook Wash	*	*	*	2010 LOMR
Riverside, City of	Tequesquite Arroyo	*	*	*	*
Riverside, City of	University Wash	*	*	*	*
Riverside County, Unincorporated Areas	Warm Springs Tributary C - Benton Creek	Digital Photogrammetry	1:200	4ft	RCFD2012

*Data not available

BFEs shown at cross sections on the FIRM represent the 1-percent-annual-chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding,and other areas with static base flood elevations.

Table 23: Floodway Data

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
1001 Ranch Drain								
A	660[1]	130	1,270	0.4	802.4	802.4	803.4	1.0
B	1,000[1]	140	1,040	0.5	802.4	802.4	803.4	1.0
C	1,940[1]	20	50	8.6	813.5	813.5	814.5	1.0
D	2,450[1]	30	61	7.0	845.6	845.6	846.6	1.0
E	3,320[1]	26	223	2.8	853.2	853.2	853.2	0.0
F	3,670[1]	32	50	7.1	856.6	856.6	856.6	0.0
G	4,050[1]	275	619	0.5	874.6	874.6	874.8	0.2
H	4,475[1]	47	95	3.2	875.0	875.0	875.1	0.1
I	4,780[1]	53	108	2.1	881.8	881.8	882.2	0.4
J	5,370[1]	10	27	8.4	902.1	902.1	903.1	1.0
K	5,750[1]	30	55	4.2	906.4	906.4	907.4	1.0
L	6,590[1]	70	420	0.6	931.8	931.8	932.8	1.0
M	7,570[1]	40	66	1.7	974.6	974.6	975.6	1.0
1001 Ranch Drain West Tributary								
A	365[2]	55	50	4.5	803.4	803.4	803.4	0.0
B	705[2]	29	41	5.0	817.7	817.7	817.8	0.1
C	1,060[2]	37	48	4.2	825.5	825.5	825.6	0.1
D	1,300[2]	224	897	0.2	844.0	844.0	844.0	0.0
E	1,500[2]	133	51	3.7	844.4	844.4	844.4	0.0

[1] Feet above Limit of Detailed Study

[2] Feet above confluence with 1001 Ranch Drain

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: 1001 RANCH DRAIN - 1001 RANCH DRAIN WEST TRIBUTARY

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Arenas Canyon Creek								
N[2]	950							
A	3,350	760[3,4]	423	6.9	518.2	517.3[5]	517.3[5]	0.0
B	4,400	760[3,4]	515	5.6	524.8	523.8[5]	523.8[5]	0.0
C	5,270	760[3,6]	962	3.0	525.8	525.2[5]	525.4[5]	0.2
D	6,100	760[3,4]	999	2.9	525.8	525.7[5]	526.2[5]	0.5
E	6,860	760[3,4]	1,538	1.9	525.9	525.9	526.5	0.6

[1]Feet above Mouth
[2]Shared with Palm Canyon Wash-See Palm Canyon Wash for Floodway and Base Flood Water Surface Elevation Data
[3]Width as regulated by Riverside County Flood Control District
[4]Width lies entirely Within Agua Caliente Indian Reservation
[5]Elevation computed without consideration of overflow from Palm Canyon Wash
[6]Width lies partially within Agua Caliente Indian Reservation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ARENAS CANYON CREEK

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bear Creek								
A	1,000	1,000	3,157	1.7	42.2	42.2	43.2	1.0
B	4,000	950	3,123	1.7	43.8	43.8	44.8	1.0
C	6,000	770	2,653	1.8	45.0	45.0	46.0	1.0
D	7,800	*860*	2,752	1.7	47.2	47.2	48.2	1.0
E	8,800	440	874	5.1	50.7	50.7	51.7	1.0
F	14,850	160	264	15.2	142.0	142.0	142.0	0.0
Bedford Canyon Wash								
A	700	127	663.5	6.6	805.6	805.6	806.4	0.8
B	3000	121	416.4	10.5	869.6	869.6	869.6	0.0
Bly Channel								
A	1,275	60	282	8.9	700.6	700.6	701.6	1.0
B	5,900	40	151	8.9	730.4	730.4	731.4	1.0
C	9,150	30	110	10.7	736.7	736.7	736.7	0.0
D	11,980	20	48	18.8	747.5	747.5	747.5	0.0
E	13,235	20	68	11.1	757.1	757.1	758.1	1.0

[1]Feet above Limit of Detailed Study

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Calimesa Channel								
A	0	40	230	5.2	2,362.8	2,362.8	2,363.8	1.0
B	380	20	110	11.2	2,375.7	2,375.7	2,375.8	0.1
C	580	80	1,120	1.1	2,388.3	2,388.3	2,388.3	0.0
D	820	30	280	4.3	2,388.3	2,388.3	2,388.3	0.0
E	1,000	80	480	2.5	2,396.1	2,396.1	2,396.1	0.0
F	1,500	30	100	7.0	2,396.5	2,396.5	2,396.9	0.4
G	2,700	40	83	8.5	2,420.0	2,420.0	2,420.0	0.0
H	2,960	15	33	19.1	2,432.4	2,432.4	2,432.4	0.0
I	4,300	10	22	24.1	2,453.0	2,453.0	2,453.0	0.0
J	5,600	10	111	32.0	2,483.3	2,483.3	2,483.3	0.0
K	6,150	40	150	2.4	2,500.7	2,500.7	2,501.7	1.0
L	6,850	30	67	5.2	2,522.7	2,522.7	2,523.7	1.0
M	7,000	40	220	1.6	2,529.2	2,529.2	2,530.2	1.0
N	7,770	50	130	2.8	2,548.2	2,548.2	2,549.2	1.0

[1]Feet above Limit of Detailed Study

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
RIVER MILES	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Colorado River								
107.0	107.0	199	*	*	244.7	244.7	244.7	0.0
108.0	108.0	290	*	*	245.8	245.8	245.8	0.0
109.0	109.0	196	*	*	246.9	246.9	246.9	0.0
110.0	110.0	0	*	*	248.1	248.1	248.1	0.0
111.0	111.0	315	*	*	249.3	249.3	249.3	0.0
112.0	112.0	255	*	*	250.5	250.5	250.5	0.0
113.0	113.0	328	*	*	251.9	251.9	251.9	0.0
114.0	114.0	334	*	*	253.4	253.4	253.4	0.0
115.0	115.0	249	*	*	254.9	254.9	254.9	0.0
116.0	116.0	220	*	*	256.2	256.2	256.2	0.0
117.0	117.0	202	*	*	257.5	257.5	257.5	0.0
118.0	118.0	0	*	*	258.8	258.8	258.8	0.0
119.0	119.0	510	*	*	260.2	260.2	260.2	0.0
120.0	120.0	685	*	*	261.2	261.2	261.2	0.0
121.0	121.0	410	*	*	262.7	262.7	262.7	0.0
122.0	122.0	295	*	*	263.8	263.8	263.8	0.0
123.0	123.0	99	*	*	265.4	265.4	265.4	0.0
124.0	124.0	644	*	*	266.9	266.9	266.9	0.0
125.0	125.0	473	*	*	268.5	268.5	268.5	0.0
126.0	126.0	382	*	*	270.3	270.3	270.3	0.0
127.0	127.0	496	*	*	272.1	272.1	272.1	0.0
128.0	128.0	338	*	*	273.8	273.8	273.8	0.0
129.0	129.0	509	*	*	275.4	275.4	275.4	0.0
130.0	130.0	530	*	*	277.0	277.0	277.0	0.0

[1]Miles above U.S.-Mexico Border [2]Width inside county (on west) *Data not available

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: COLORADO RIVER

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
RIVER MILES	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Colorado River, Continued								
131.0	131.0	441	*	*	278.7	278.7	278.7	0.0
132.0	132.0	521	*	*	280.4	280.4	280.4	0.0
133.0	133.0	204	*	*	281.8	281.8	281.8	0.0
134.0	134.0	468	*	*	282.2	282.2	282.2	0.0
135.0	135.0	435	*	*	288.1	288.1	288.1	0.0
136.0	136.0	563	*	*	290.5	290.5	290.5	0.0
137.0	137.0	519	*	*	292.2	292.2	292.2	0.0
138.0	138.0	850	*	*	294.5	294.5	294.5	0.0
139.0	139.0	554	*	*	296.0	296.0	296.0	0.0
140.0	140.0	530	*	*	297.0	297.0	297.0	0.0
141.0	141.0	595	*	*	298.0	298.0	298.0	0.0
142.0	142.0	436	*	*	299.3	299.3	299.3	0.0
143.0	143.0	414	*	*	300.4	300.4	300.4	0.0
144.0	144.0	502	*	*	302.9	302.9	302.9	0.0
145.0	145.0	775	*	*	304.3	304.3	304.3	0.0
146.0	146.0	304	*	*	305.6	305.6	305.6	0.0
147.0	147.0	470	*	*	306.8	306.8	306.8	0.0
148.0	148.0	232	*	*	308.3	308.3	308.3	0.0
149.0	149.0	597	*	*	309.8	309.8	309.8	0.0
150.0	150.0	415	*	*	311.1	311.1	311.1	0.0
151.0	151.0	405	*	*	312.3	312.3	312.3	0.0
152.0	152.0	658	*	*	313.6	313.6	313.6	0.0
153.0	153.0	563	*	*	315.2	315.2	315.2	0.0

[1]Miles above U.S.-Mexico Border
[2]Width inside county (on west)
*Data not available

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: COLORADO RIVER

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
RIVER MILES	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Colorado River, continued								
154.0	154.0	354	*	*	317.1	317.1	317.1	0.0
155.0	155.0	738	*	*	318.9	318.9	318.9	0.0
156.0	156.0	922	*	*	319.8	319.8	319.8	0.0
157.0	157.0	0	*	*	321.0	321.0	321.0	0.0
158.0	158.0	277	*	*	322.7	322.7	322.7	0.0
159.0	159.0	186	*	*	324.4	324.4	324.4	0.0
160.0	160.0	480	*	*	325.5	325.5	325.5	0.0
161.0	161.0	319	*	*	327.2	327.2	327.2	0.0
162.0	162.0	449	*	*	329.3	329.3	329.3	0.0
163.0	163.0	476	*	*	331.5	331.5	331.5	0.0
164.0	164.0	355	*	*	333.7	333.7	333.7	0.0
165.0	165.0	324	*	*	336.0	336.0	336.0	0.0

[1]Miles above U.S.-Mexico Border
[2]Width inside county (on west)
*Data not available

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Country Club Creek								
A	804[1]	100	2,210	0.4	596.5	596.5	597.5	1.0
B	2,025[1]	70	170	4.1	617.4	617.4	618.4	1.0
C	2,253[1]	80	360	1.9	625.6	625.6	626.6	1.0
D	2,433[1]	30	83	4.8	628.6	628.6	629.6	1.0
E	2,594[1]	100	700	0.6	634.0	634.0	635.0	1.0
F	2,945[1]	70	140	2.9	634.3	634.3	635.3	1.0
G	3,643[1]	30	71	5.2	648.8	648.8	649.8	1.0
H	5,120[1]	60	122	2.9	702.0	702.0	703.0	1.0
I	5,900[1]	30	78	4.5	740.5	740.5	741.5	1.0
Country Club Creek North Tributary								
A	178[2]	30	69	5.8	626.1	626.1	627.1	1.0
B	1,521[2]	20	46	8.7	652.4	652.4	653.4	1.0
C	3,160[2]	20	53	7.0	701.7	701.7	702.7	1.0
D	3,310[2]	110	760	0.5	711.4	711.4	712.4	1.0
E	3,860[2]	50	104	3.5	716.8	716.8	717.8	1.0
Day Creek								
A	600[3]	220	1,813	4.6	639.1	639.1	640.1	1.0
B	1,070[3]	300	1,713	4.8	640.5	640.5	641.5	1.0
C	1,600[3]	380	2,339	3.6	644.2	644.2	645.2	1.0
D	2,300[3]	430	1,207	8.3	649.0	649.0	650.0	1.0
E	2,800[3]	600	2,346	3.7	653.4	653.4	654.4	1.0

[1] Feet above Limit of Detailed Study [2] Feet above confluence with Country Club Creek
[3] Feet above point 120 Feet downstream of Lucretia Avenue

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: COUNTRY CLUB CREEK - COUNTRY CLUB CREEK NORTH TRIBUTARY - DAY CREEK

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
East Cathedral Channel								
A	2,250[1]	140	450	7.4	326.6	326.6	327.6	1.0
B	3,250[1]	160	475	6.8	362.4	362.4	363.4	1.0
C	4,250[1]	290	690	4.6	404.2	404.2	405.2	1.0
D	5,250[1]	830	953	3.4	447.9	447.9	448.9	1.0
E	6,250[1]	280	490	3.1	495.6	495.6	496.6	1.0
F	7,250[1]	140	310	5.0	548.4	548.4	549.4	1.0
G	8,250[1]	300	590	2.6	595.4	595.4	596.4	1.0
H	9,050[1]	130	284	5.4	629.2	629.2	630.2	1.0
I	10,250[1]	300	845	5.4	684.2	684.2	685.2	1.0
El Cerrito Channel								
A	1,723[2]	20	40	32.8	789.6	789.6	789.6	1.0
B	2,118[2]	20	40	32.8	803.6	803.6	803.6	1.0
C	2,679[2]	20	31	25.0	830.1	830.1	830.1	1.0
D	3,250[2]	20	40	19.6	847.6	847.6	847.6	1.0
E	3,709[2]	20	34	23.1	853.2	853.2	853.5	1.0
F	4,077[2]	20	33	22.5	864.1	864.1	864.4	1.0
G	4,347[2]	20	35	20.8	870.0	870.0	870.8	1.0
H	4,700[2]	20	29	25.4	879.8	879.8	880.0	1.0
I	5,127[2]	20	26	28.1	893.6	893.6	893.6	1.0
J	5,621[2]	10	24	26.8	912.1	912.1	912.2	1.0
K	6,736[2]	10	32	20.3	950.4	950.4	951.4	1.0

[1]Feet above confluence with the Whitewater River
[2]Feet above Temescal Wash

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Garden Air Golf Course Wash								
A	70[1]	700	10,410	0.2	2,349.5	2,349.5	2,350.5	1.0
B	1,070[1]	70	220	7.8	2,364.9	2,364.9	2,365.9	1.0
C	2,470[1]	60	240	7.3	2,396.0	2,396.0	2,397.0	1.0
D	4,470[1]	120	230	7.8	2,467.4	2,467.4	2,468.4	1.0
E	6,470[1]	90	220	4.1	2,530.9	2,530.9	2,531.9	1.0
F	8,570[1]	110	240	3.8	2,601.0	2,601.0	2,601.7	0.7
Gilman Home Channel								
A	850[2]	60	220	10.2	2,222.0	2,222.0	2,222.0	0.0
B	1,400[2]	130	270	8.8	2,231.0	2,231.0	2,231.0	0.0
C	2,150[2]	50	190	11.3	2,245.4	2,245.4	2,245.4	0.0
D	2,750[2]	40	170	12.3	2,258.8	2,258.8	2,258.8	0.0
E	3,200[2]	30	160	12.7	2,270.8	2,270.8	2,270.8	0.0
F	9,800[2]	7	40	27.8	2,468.8	2,468.8	2,468.8	0.0
G	10,500[2]	10	58	16.7	2,492.9	2,492.9	2,492.9	0.0
H	11,350[2]	40	110	9.2	2,531.7	2,531.7	2,531.7	0.0
I	12,200[2]	60	120	8.1	2,564.0	2,564.0	2,564.0	0.0
J	12,900[2]	40	110	9.9	2,597.6	2,597.6	2,597.6	0.0

[1]Feet above Limit of Detailed Study
[2]Feet above confluence with Smith Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: GARDEN AIR GOLF COURSE WASH - GILMAN HOME CHANNEL

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Highland Springs Channel								
A	11,100[1]	20	45	21.6	2,603.6	2,603.6	2,603.6	0.0
B	11,800[1]	20	45	21.6	2,614.4	2,614.4	2,614.4	0.0
C	12,500[1]	20	45	21.8	2,626.1	2,626.1	2,626.1	0.0
Lakeland Village Channel								
A	400[2]	90	210	5.5	1,283.9	1,283.9	1,284.9	1.0
B	980[2]	110	279	7.1	1,304.7	1,304.7	1,305.7	1.0
C	2,030[2]	120	294	6.6	1,339.6	1,339.6	1,340.6	1.0
Marshall Creek								
A	6,400[3]	180	430	6.3	2,578.6	2,578.6	2,578.6	0.0
B	7,300[3]	120	310	9.2	2,593.8	2,593.8	2,593.8	0.0
C	8,000[3]	270	990	2.9	2,611.1	2,611.1	2,611.1	0.0

[1]Feet above confluence with Smith Creek
[2]Feet above a point 460 feet downstream from Grand Avenue
[3]Feet above confluence with San Timoteo River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: HIGHLAND SPRINGS CHANNEL - LAKELAND VILLAGE CHANNEL - MARSHALL CREEK

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Montgomery Creek								
A	650[1]	350	420	6.2	2,229.1	2,229.1	2,229.1	0.0
B	1,400[1]	520	530	5.5	2,246.5	2,246.5	2,246.5	0.0
C	2,300[1]	490	480	5.5	2,266.8	2,266.8	2,266.8	0.0
D	3,100[1]	160	340	8.5	2,284.9	2,284.9	2,284.9	0.0
E	4,000[1]	80	250	10.2	2,303.0	2,303.0	2,303.0	0.0
F	4,750[1]	160	310	7.8	2,331.2	2,331.2	2,331.2	0.0
G	5,700[1]	90	250	10.6	2,355.8	2,355.8	2,355.8	0.0
H	6,650[1]	50	210	11.2	2,381.1	2,381.1	2,381.1	0.0
I	7,450[1]	40	180	11.8	2,402.6	2,402.6	2,402.6	0.0
J	9,150[1]	10	60	31.8	2,467.2	2,467.2	2,467.2	0.0
K	9,900[1]	10	60	32.9	2,489.7	2,489.7	2,489.7	0.0
L	10,600[1]	10	40	31.6	2,511.3	2,511.3	2,511.3	0.0
M	11,650[1]	15	40	34.3	2,550.0	2,550.0	2,550.0	0.0
N	12,700[1]	15	40	32.3	2,591.2	2,591.2	2,591.2	0.0
O	13,550[1]	15	40	28.4	2,625.4	2,625.4	2,625.4	0.0
P	14,350[1]	20	80	16.2	2,656.4	2,656.4	2,656.4	0.0
Mountain Avenue Wash								
A	2,290[2]	90	121	6.6	1,423.5	1,423.5	1423.9	0.4
B	3,050[2]	78	169	4.7	1,428.1	1,428.1	1428.8	0.7
C	3,735[2]	67	84	5.1	1,431.4	1,431.4	1431.9	0.5
D	4,130[2]	61	85	3.9	1,433.9	1,433.9	1434.5	0.6

[1]Feet above confluence with Smith Creek
[2]Feet above confluence with San Jacinto River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)											
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY			WITHOUT FLOODWAY			WITH FLOODWAY			INCREASE		
					LOB[2]	ROB[3]	CHANNEL[1]	LOB[2]	ROB[3]	CHANNEL[1]	LOB[2]	ROB[3]	CHANNEL[1]	LOB[2]	ROB[3]	CHANNEL[4]
Murrieta Creek																
A	500	205	3,954	7.8	—[5]	—[5]	991.2	—[5]	—[5]	991.2	—[5]	—[5]	992.1	—[5]	—[5]	0.9
B	2,000	240	2,913	10.6	—[5]	—[5]	994.4	—[5]	—[5]	994.4	—[5]	—[5]	994.8	—[5]	—[5]	0.4
C	4,000	230	3,081	10.0	—[5]	—[5]	998.2	—[5]	—[5]	998.2	—[5]	—[5]	999.2	—[5]	—[5]	1.0
D	6,000	215	2,784	11.1	—[5]	—[5]	1,001.8	—[5]	—[5]	1,001.8	—[5]	—[5]	1,002.8	—[5]	—[5]	1.0
E	7,200	190	2,586	11.9	—[5]	—[5]	1,004.8	—[5]	—[5]	1,004.8	—[5]	—[5]	1,005.7	—[5]	—[5]	0.9
F	8,000	160	2,666	11.6	—[5]	—[5]	1,007.4	—[5]	—[5]	1,007.4	—[5]	—[5]	1,007.4	—[5]	—[5]	0.0
G	9,980	360	5,126	6.0	—[5]	—[5]	1,009.8	—[5]	—[5]	1,009.8	—[5]	—[5]	1,010.6	—[5]	—[5]	0.8
H	12,000	467	4.451	6.9	1,012.8	1,012.8	1,012.8	1,012.8	1,012.8	—[6]	1,012.8	1,012.8	—[6]	0.0	0.0	—[6]
I	14,400	533	4,268	7.2	1,016.1	1,016.1	1,016.1	1,016.1	1,016.1	—[6]	1,016.1	1,016.1	—[6]	0.0	0.0	—[6]
J	16,140	465	2,661	10.8	1,018.7	1,018.6	1,018.7	1,018.7	1,018.6	—[6]	1,018.7	1,018.6	—[6]	0.0	0.0	—[6]
K	17,740	290	2,750	10.0	1,022.4	1,022.3	1,022.0	1,022.4	1,022.3	—[6]	1,022.4	1,022.3	—[6]	0.0	0.0	—[6]
L	19,522	549	2,309	9.2	1,025.5	1,025.4	1,025.0	1,025.5	1,025.4	—[6]	1,025.6	1,025.5	—[6]	0.1	0.1	—[6]
M	20,567	700	2,779	8.8	1,027.7	1,026.7	1,027.0	1,027.7	1,026.7	—[6]	1,027.7	1,027.3	—[6]	0.0	0.6	—[6]
N	22,187	1,383	5,034	6.2	1,030.7	1,030.8	1,028.8	1,030.7	1,030.8	—[6]	—[6]	1,030.8	—[6]	?	0.0	—[6]
0	23,707	1,167	3,550	8.3	1,031.7	1,034.8	1,033.7	1,031.7	1,034.8	—[6]	—[6]	1,034.8	—[6]	?	0.0	—[6]
P	25,727	138	845	12.3	1,036.6	1,037.4	1,037.7	1,036.6	1,037.4	—[6]	—[6]	1,037.4	—[6]	?	0.0	—[6]
Q	27,292	144	1,053	9.2	1,042.3	1,042.5	1,042.5	1,042.3	1,042.5	—[6]	—[6]	1,042.5	—[6]	?	0.0	—[6]
R	28,807	145	999	9.8	1,045.4	1,045.5	1,045.5	1,045.4	1,045.5	—[6]	—[6]	1,045.5	—[6]	?	0.0	—[6]
S	29,907	187	1,405	7.0	1,049.3	1,049.3	1,049.3	1,049.3	1,049.3	—[6]	—[6]	1,049.3	—[6]	?	0.0	—[6]
T	31,482	124	759	12.8	1,055.1	1,055.1	1,055.1	1,055.1	1,055.1	—[6]	—[6]	1,055.1	—[6]	?	0.0	—[6]
U	34,110	290	1,910	5.1	—[5]	—[5]	1,067.5	—[5]	—[5]	1,067.5	—[5]	—[5]	1,067.8	—[5]	—[5]	0.3
V	35,750	250	1,870	5.1	—[5]	—[5]	1,072.5	—[5]	—[5]	1,072.5	—[5]	—[5]	1,072.8	—[5]	—[5]	0.3

[1]Feet above confluence with Santa Margarita River
[2]Left (looking downstream) overbank elevation assuming left levee fails
[3]Right (looking downstream) overbank elevation assuming right levee fails
[4]Channel elevation assuming both levees hold
[5]Not applicable; there are no levees in this reach
[6]Not computed
[7]Left channel/right channel

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MURRIETA CREEK

Table 23: Floodway Data *(continued)*

LOCATION				FLOODWAY				1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)								
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY			WITHOUT FLOODWAY			WITH FLOODWAY			INCREASE		
					LOB[2]	ROB[3]	CHANNEL[1]	LOB[2]	ROB[3]	CHANNEL[1]	LOB[2]	ROB[3]	CHANNEL[1]	LOB[2]	ROB[3]	CHANNEL[4]
Murrieta Creek, continued																
W	37,670	180	1,120	8.7	—[5]	—[5]	1,082.8	—[5]	—[5]	1,082.8	—[5]	—[5]	1,083.8	—[5]	—[5]	1.0
X	39,180	290	1,880	5.2	—[5]	—[5]	1,090.5	—[5]	—[5]	1,090.5	—[5]	—[5]	1,091.5	—[5]	—[5]	1.0
Y	40,880	550/250[7]	1,980	6.1	—[5]	—[5]	1,095.5	—[5]	—[5]	1,095.5	—[5]	—[5]	1,096.2	—[5]	—[5]	0.7
Z	43,900	220	1,376	7.0	—[5]	—[5]	1,109.5	—[5]	—[5]	1,109.5	—[5]	—[5]	1,110.2	—[5]	—[5]	0.7
AA	45,245	265	1,925	5.0	—[5]	—[5]	1,115.9	—[5]	—[5]	1,115.9	—[5]	—[5]	1,116.4	—[5]	—[5]	0.5
AB	46,505	248	2,101	4.8	—[5]	—[5]	1,121.2	—[5]	—[5]	1,121.2	—[5]	—[5]	1,122.1	—[5]	—[5]	0.9
AC	48,367	285	1,779	5.5	—[5]	—[5]	1,131.3	—[5]	—[5]	1,131.3	—[5]	—[5]	1,132.3	—[5]	—[5]	1.0
AD	49,997	220	1,316	7.9	—[5]	—[5]	1,141.9	—[5]	—[5]	1,141.9	—[5]	—[5]	1,142.8	—[5]	—[5]	0.9
AE	51,667	540	2,333	4.2	—[5]	—[5]	1,150.5	—[5]	—[5]	1,150.5	—[5]	—[5]	1,151.5	—[5]	—[5]	1.0
AF	53,132	195	1,213	8.0	—[5]	—[5]	1,164.6	—[5]	—[5]	1,164.6	—[5]	—[5]	1,165.5	—[5]	—[5]	0.9
AG	53,747	210	1,412	6.9	—[5]	—[5]	1,168.5	—[5]	—[5]	1,168.5	—[5]	—[5]	1,169.0	—[5]	—[5]	0.5

[1]Feet above confluence with Santa Margarita River
[2]Left (looking downstream) overbank elevation assuming left levee fails
[3]Right (looking downstream) overbank elevation assuming right levee fails
[4]Channel elevation assuming both levees hold
[5]Not applicable; there are no levees in this reach
[6]Not computed
[7]Left channel/right channel

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MURRIETA CREEK

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Murrieta Creek, continued								
AH	55,037	311	1,912	6.0	1,174.6	1,174.6	1,175.2	0.6
AI	56,347	427	1,815	7.1	1,181.2	1,182.4	1,183.4	1.0
AJ	58,379	313	1,334	4.0	1,193.4	1,193.4	1,193.8	0.4
AK	59,899	457	1,214	4.4	1,199.6	1,199.6	1,199.8	0.2
AL	60,969	331	1,166	4.6	1,206.3	1,206.3	1,206.4	0.1
AM	62,099	347	811	6.6	1,209.0	1,209.0	1,209.9	0.9
AN	63,481	223	519	9.3	1,219.5	1,219.5	1,219.5	0.0

'Feet above confluence with Santa Margarita River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
North Cathedral Channel								
A	1,100	60	290	12.9	290.5	290.5	291.5	1.0
B	2,100	60	400	9.1	292.7	292.7	293.7	1.0
C	3,100	60	410	9.0	293.8	293.8	294.8	1.0
D	3,850	60	340	10.8	294.2	294.2	295.2	1.0
E	4,780	50	340	10.8	300.0	300.0	301.0	1.0
F	5,200	50	290	7.9	301.9	301.9	302.9	1.0

[1]Feet above confluence with the Whitewater River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: NORTH CATHEDRAL CHANNEL

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
North Norco Channel								
A	5,150	71	373	6.7	561.5	561.5	562.3	0.8
B	5,300	30	180	13.9	563.2	563.2	563.2	0.0
C	*	*	*	*	*	*	*	*
D	*	*	*	*	*	*	*	*
E	22,810	80	263	4.7	630.0	630.0	630.0	0.0
F	23,950	80	333	2.7	631.9	631.9	631.5	-0.4

[1]Feet above confluence with Temescal Wash
*Contained in channel

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Palm Canyon Wash								
A	1,970	367	2,375	10.6	326.8	326.8	326.8	0.0
B	3,135	430	3,418	7.4	334.7	334.7	334.7	0.0
C	4,330	415	2,724	9.3	339.9	339.9	339.9	0.0
D	5,230	432	2,032	12.4	343.9	343.9	343.9	0.0
E	6,200	409	2,634	9.6	349.2	349.2	349.2	0.0
F[2]	7,650	545	4,315	5.8	354.6	354.6	354.6	0.0
G[2]	8,850	860[3]	2,446	10.3	358.6	358.6	358.6	0.0
H	10,240	1,133[3]	2,660	8.7	368.9	368.9	368.9	0.0
I	11,740	314[4]	1,742	13.3	388.4	388.4	388.4	0.0
J	13,070	363	2,034	11.4	404.8	404.8	404.8	0.0
K	14,590	502	2,035	11.4	425.5	425.5	426.5	1.0
L	15,700	401	1,886	12.3	445.8	445.8	445.8	0.0
M	17,120	309	1,724	13.5	467.3	467.3	467.3	0.0
N[5]	18,780	677	2,252	10.3	489.2	489.2	489.2	0.0
O	20,900	468	2,006	11.7	519.2	519.2	519.2	0.0
P	22,000	478	2,048	11.5	529.4	529.4	529.4	0.0
Q	23,100	289	2,998	7.8	538.5	538.5	538.5	0.0
R	23,800	317	2,021	11.1	548.4	548.4	548.4	0.0

[1]Feet Above Mouth
[2]Shared with Tahquitz Creek
[3]Width lies partially within Agua Caliente Indian Reservation
[4]Width lies entirely within Agua Caliente Indian Reservation
[5]Shared with Arenas Canyon Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: PALM CANYON WASH

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pechanga Creek								
A	1,005	100	641	10.4	1,007.4	1,007.4	1,008.1	0.7
B	1,672	70	457	14.6	1,014.4	1,014.4	1,014.6	0.2
C	1,832	70	740	9.0	1,019.2	1,019.2	1,019.2	0.0
D	3,232	112	535	12.5	1,028.1	1,028.1	1,028.1	0.0
E	4,810	65	505	13.2	1,046.7	1,046.7	1,046.7	0.0
F	6,075	160	1,040	6.4	1,054.9	1,054.9	1,055.5	0.6
G	6,865	143	580	11.5	1,059.5	1,059.5	1,059.5	0.0
H	7,688	140	740	9.0	1,068.5	1,068.5	1,068.7	0.2
I	8,745	124	600	11.1	1,079.5	1,079.5	1,079.6	0.1

'Feet above confluence with Temecula Creek

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Perris Valley Storm Drain								
A	10,085	1,058	2,584	5.0	1,423.1	1,423.1	1,423.8	0.7
B	10,959	1,186	6,177	2.2	1,427.1	1,427.1	1,428.0	0.9
C	11,965	632	3,929	3.3	1,427.4	1,427.4	1,428.4	1.0
D	12,959	506	3,831	3.4	1,427.8	1,427.8	1,428.7	0.9
E	14,090	513	3,506	3.7	1,428.4	1,428.4	1,429.1	0.7
F	15,096	469	2,590	5.0	1,429.1	1,429.1	1,429.5	0.4
G	16,112	436	1,452	9.0	1,432.1	1,432.1	1,432.3	0.2
H	17,053	388	1,696	7.7	1,434.3	1,434.3	1,434.4	0.1
I	18,031	389	1,895	6.9	1,435.8	1,435.8	1,435.9	0.1
J	18,981	476	2,779	4.7	1,437.1	1,437.1	1,437.2	0.1
K	19,948	241	1,403	10.4	1,437.5	1,437.5	1,437.5	0.0
L	20,780	363	1,545	8.4	1,440.3	1,440.3	1,440.3	0.0
M	21,629	1,068	4,004	3.5	1,443.5	1,443.5	1,444.5	1.0
N	22,602	1,194	3,052	4.8	1,444.9	1,444.9	1,445.5	0.6
O	23,659	1,257	5,058	3.6	1,446.8	1,446.8	1,447.2	0.4
P – X[2]								

[1] Feet above confluence with San Jacinto River
[2] No floodway computed

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: PERRIS VALLEY STORM DRAIN

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pigeon Pass Channel								
A	400[1]	30	80	16.0	1,618.1	1,618.1	1,618.1	0.0
B	950[1]	30	90	14.8	1,622.0	1,622.0	1,622.1	0.1
C	1,380[1]	30	70	17.8	1,623.0	1,623.0	1,623.0	0.0
D	2,010[1]	30	80	17.5	1,628.1	1,628.1	1,628.1	0.0
E	2,270[1]	20	110	11.1	1,632.8	1,632.8	1,632.8	0.0
F	2,670[1]	180	500	2.6	1,635.7	1,635.7	1,636.7	1.0
G	3,300[1]	20	110	11.5	1,645.1	1,645.1	1,645.1	0.0
Pyrite Channel								
A	400[2]	165	335	3.4	776.0	776.0	777.0	1.0
B	1,730[2]	20	56	20.3	791.7	791.7	791.7	0.0
C	2,050[2]	20	53	20.6	796.7	796.7	796.7	0.0
D	2,475[2]	20	55	20.1	802.6	802.6	802.6	0.0
E	3,100[2]	20	51	21.6	811.3	811.3	811.3	0.0
F	3,775[2]	20	45	24.0	825.3	825.3	825.3	0.0
G	4,575[2]	20	53	20.0	841.2	841.2	841.2	0.0
Reche Canyon								
A	0[3]	60	188	9.5	1,332.0	1,332.0	1,333.0	1.0
B	1,000[3]	80	208	8.5	1,355.3	1,355.3	1,356.3	1.0
C	2,000[3]	60	196	8.7	1,379.0	1,379.0	1,380.0	1.0
D	3,000[3]	110	154	7.2	1,405.1	1,405.1	1,406.1	1.0
E	4,000[3]	70	206	8.0	1,431.1	1,431.1	1,432.1	1.0
F	5,500[3]	50	198	8.1	1,473.6	1,473.6	1,474.6	1.0
G	6,000[3]	90	188	8.9	1,484.6	1,484.6	1,485.6	1.0
H	6,800[3]	60	146	8.9	1,515.0	1,515.0	1,516.0	1.0
I	7,600[3]	60	150	8.3	1,535.9	1,535.9	1,536.9	1.0

[1]Feet above confluence with Sunnymead Storm Channel [2]Feet above Limit of Detailed Study [3]Feet above County Limits

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: PIGEON PASS CHANNEL - PYRITE CHANNEL - RECHE CANYON

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Salt Creek								
A	10,163[1]	692	3,774	3.5	1,408.8	1,408.8	1,408.9	0.1
B	14,763[1]	471	2,389	5.5	1,413.6	1,413.6	1,413.6	0.0
C	18,163[1]	449	2,264	5.8	1,418.1	1,418.1	1,418.1	0.0
D	75,500[1]	450	1,560	5.89	1,522.3	1,522.3	1,522.3	0.0
E	76,000[1]	250	1,574	5.79	1,523.2	1,523.2	1,523.2	0.0
F	77,000[1]	250	1,483	6.14	1,524.2	1,524.2	1,524.2	0.0
G	78,000[1]	250	1,434	6.35	1,525.3	1,525.3	1,525.3	0.0
H	79,500'	250	1,070	8.49	1,527.4	1,527.4	1,527.4	0.0
Salt Creek Tributary								
A	500[2]	230	670	4.20	1,589.7	1,589.7	1,590.0	0.3
B	1,450[2]	380	790	4.10	1,597.2	1,597.2	1,597.3	0.1

'Feet above stream gage at upper limits of Railroad Canyon Reservoir
[2]Feet above Corporate Limits

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Gorgonio River								
A[2]	82,100	1,680	1,660	7.6	2,401.8	2,401.8	2,401.8	0.0
B	83,200	900	1,250	9.6	2,434.2	2,434.2	2,434.2	0.0
C	84,200	400	1,100	11.0	2,459.7	2,459.7	2,459.7	0.0
D	85,100	360	1,170	10.3	2,494.2	2,494.2	2,494.2	0.0
E	86,150	290	1,100	11.0	2,547.3	2,547.3	2,547.3	0.0
F	87,250	190	950	12.7	2,597.5	2,597.5	2,597.5	0.0
G	88,400	630	1,350	9.3	2,654.9	2,654.9	2,654.9	0.0
H	89,550	690	1,430	8.4	2,707.8	2,707.8	2,707.8	0.0

[1]Feet above confluence with Whitewater River
[2]Cross Section "A" is not included on the effective FIRM

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SAN GORGONIO RIVER

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Jacinto River								
A	975	293	2,350	10.4	1,265.9	1,265.9	1,265.9	0.0
B	1,475	293	2,556	9.6	1,267.3	1,267.3	1,267.3	0.0
C	1,968	293	2,673	9.2	1,268.3	1,268.3	1,268.3	0.0
D	2,056	270	2,688	9.1	1,268.5	1,268.5	1,268.5	0.0
E	2,535	440	3,196	7.7	1,271.5	1,271.5	1,271.5	0.0
F	2,936	275	2,791	8.8	1,272.3	1,272.3	1,272.5	0.2
G	3,211	216	2,330	10.5	1,273.8	1,273.8	1,273.9	0.1
H	3,638	260	3,013	8.1	1,276.4	1,276.4	1,276.4	0.0
I	3,929	210	3,022	8.1	1,276.6	1,276.6	1,276.9	0.3
J	4,087	250	2,756	8.9	1,276.8	1,276.8	1,277.2	0.4
K	4,615	240	2,266	10.8	1,278.7	1,278.7	1,278.9	0.2
L	5,021	350	4,169	5.9	1,284.4	1,284.4	1,284.4	0.0
M	5,423	320	3,036	8.1	1,284.5	1,284.5	1,284.5	0.0
N	5,824	340	3,596	6.8	1,285.4	1,285.4	1,285.5	0.1
O	6,225	325	2,872	8.5	1,285.8	1,285.8	1,285.9	0.1
P	6,627	270	2,799	8.8	1,286.5	1,286.5	1,286.8	0.3
Q	6,966	252	2,149	11.4	1,286.7	1,286.7	1,286.7	0.0
R	7,542	231	2,060	11.9	1,289.7	1,289.7	1,289.7	0.0
S	8,070	258	2,723	9.0	1,292.3	1,292.3	1,292.7	0.4
T	8,598	271	2,548	9.6	1,293.9	1,293.9	1,294.3	0.4
U	9,126	292	2,554	9.6	1,295.9	1,295.9	1,296.1	0.2
V	9,654	354	3,347	7.3	1,297.8	1,297.8	1,298.3	0.5
W	10,182	183	1,861	13.2	1,298.5	1,298.5	1,298.6	0.1
X	10,710	395	3,413	7.2	1,301.9	1,301.9	1,302.5	0.6
Y	11,238	340	2,750	8.9	1,303.3	1,303.3	1,303.6	0.3
Z	11,766	277	2,039	12.0	1,305.4	1,305.4	1,305.5	0.1
AA	12,294	200	2,383	10.3	1,308.5	1,308.5	1,308.5	0.0
AB	12,822	294	3,005	8.2	1,310.0	1,310.0	1,310.5	0.5

[1] Feet above the crest of Lake Elsinore Weir

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SAN JACINTO RIVER

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Jacinto River (continued)								
AC	13,350[1]	165	2,027	12.1	1,310.9	1,310.9	1,311.2	0.3
AD	58,831[2]	271	2,616	9.4	1,415.6	1,415.6	1,415.8	0.2
AE	59,821[2]	473	4,021	6.1	1,417.5	1,417.5	1,418.1	0.6
AF	60,821[2]	427	3,985	6.2	1,418.3	1,418.3	1,419.1	0.8
AG	61,820[2]	1,204	10,895	2.3	1,419.2	1,419.2	1,420.1	0.9
AH	63,818[2]	1,410	11,034	2.3	1,419.5	1,419.5	1,420.3	0.8
AI	65,817[2]	1,504	12,393	2.0	1,419.8	1,419.8	1,420.6	0.8
AJ	66,817[2]	2,535	18,994	1.3	1,419.9	1,419.9	1,420.8	0.9
AK	67,317[2]	2,644	19,487	1.3	1,420.0	1,420.0	1,420.8	0.8
AL	68,817[2]	6,260	44,526	0.7	1,420.0	1,420.0	1,420.9	0.9
AM	70,817[2]	6,280	43,311	0.6	1,420.0	1,420.0	1,420.9	0.9
AN	72,317[2]	6,729	44,239	0.5	1,420.1	1,420.1	1,420.9	0.8
AO	73,782[2]	5,770	42,603	0.6	1,420.1	1,420.1	1,420.9	0.8
AP	73,997[2]	5,941	39,822	0.7	1,420.1	1,420.1	1,420.9	0.8
AQ	75,318[2]	6,422	42,319	0.6	1,420.1	1,420.1	1,421.0	0.9
AR	77,494[2]	5,994	41,480	0.6	1,420.1	1,420.1	1,421.0	0.9
AS	77,828[2]	5,753	47,345	0.7	1,420.2	1,420.2	1,421.0	0.8
AT	79,828[2]	7,400	51,973	0.5	1,420.3	1,420.3	1,421.1	0.8
AU	81,828[2]	7,986	41,501	0.6	1,420.3	1,420.3	1,421.1	0.8
AV	83,828[2]	5,818	33,667	0.7	1,420.4	1,420.4	1,421.2	0.8
AW	85,828[2]	5,402	28,453	0.9	1,420.5	1,420.5	1,421.2	0.7
AX	87,328[2]	3,913	14,717	1.8	1,420.6	1,420.6	1,421.3	0.7

[1]Feet above Lake Elsinore Levee

[2]Feet above confluence with Lake Elsinore

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Jacinto River (continued)								
AY	89,328	2,638	10,767	3.8	1,422.1	1,422.1	1,422.7	0.6
AZ	91,328	2,421	12,493	3.1	1,423.6	1,423.6	1,424.4	0.8
BA	91,720	2,685	19,143	2.3	1,423.9	1,423.9	1,424.7	0.8
BB	92,329	2,802	19,578	2.1	1,424.5	1,424.5	1,425.2	0.7
BC	93,829	2,595	16,962	2.0	1,424.8	1,424.8	1,425.5	0.7
BD	95,829	3,059	19,746	1.8	1,425.2	1,425.2	1,425.8	0.6
BE	97,829	3,433	21,296	1.6	1,425.5	1,425.5	1,426.1	0.6
BF	99,829	3,200	21,829	1.6	1,425.9	1,425.9	1,426.3	0.4
BG	101,829	3,593	20,114	1.7	1,426.1	1,426.1	1,426.6	0.5
BH	103,829	3,570	20,207	1.7	1,426.5	1,426.5	1,426.9	0.4
BI	105,829	2,785	15,388	2.3	1,427.0	1,427.0	1,427.3	0.3
BJ	107,829	2,782	17,071	2.1	1,427.5	1,427.5	1,427.9	0.4
BK	109,105	2,954	15,179	2.3	1,427.8	1,427.8	1,428.2	0.4
BL	109,233	3,010	28,994	2.3	1,431.4	1,431.4	1,432.0	0.6
BM	110,076	2,677	25,621	1.3	1,431.5	1,431.5	1,432.1	0.6
BN	112,783	4,062	38,655	0.8	1,431.6	1,431.6	1,432.2	0.6
BO	116,927	7,196	35,024	1.0	1,431.6	1,431.6	1,432.3	0.7
BP	119,985	9,681	36,771	0.9	1,431.7	1,431.7	1,432.4	0.7
BQ	122,771	10,213	40,351	0.8	1,431.8	1,431.8	1,432.6	0.8
BR	126,604	13,616	94,067	0.3	1,431.9	1,431.9	1,432.6	0.7
BS	132,446	8,654	65,304	0.5	1,431.9	1,431.9	1,432.6	0.7
BT	136,855	8,837	67,811	0.5	1,431.9	1,431.9	1,432.7	0.8

[1]Feet above confluence with Lake Elsinore

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Sevaine Channel								
A-J[2]								
K	12,578.26	220	285	28.0	739.3	739.3	739.3	0.0
L	14,988.52	100	390	21.0	767.4	767.4	767.4	0.0
M	17,200.94	120	611	12.8	780.2	780.2	780.2	0.0
N	18,292.93	100	740	10.6	796.9	796.9	797.9	1.0
0	20,294.18	130	840	9.3	815.4	815.4	816.4	1.0
P	23,090.20	150	1,020	7.7	851.3	851.3	852.3	1.0

[1]Stream distance 600 Feet downstream of Limonite Avenue
[2]Contained in channel

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	18,000	2,000	48,772	3.4	556.9	556.9	556.9	0.0
B	20,000	2,745	58,684	2.8	557.7	557.7	557.9	0.2
C	26,000	3,139	29,666	5.6	562.1	562.1	562.4	0.3
D	29,500	3,360	30,088	5.4	572.6	572.6	572.7	0.1
E	32,000	2,394	17,164	9.4	578.9	578.9	579.8	0.9
F	34,000	1,808	22,005	7.1	589.7	589.7	590.6	0.9
G	35,500	2,070	22,809	6.9	597.8	597.8	598.2	0.4
H	38,500	1,797	30,437	5.2	604.3	604.3	604.6	0.3
I	41,500	2,948	35,682	4.4	607.9	607.9	608.2	0.3
J	45,000	2,225	18,894	8.1	618.3	618.3	618.6	0.3
K	49,500	2,267	27,764	5.5	632.6	632.6	633.4	0.8
L	53,000	3,300	27,922	5.3	644.5	644.5	645.3	0.8
M	56,500	2,800	24,054	6.2	658.7	658.7	659.5	0.8
N	61,500	1,626	15,307	9.7	677.9	677.9	678.8	0.9
O	63,500	1,365	23,156	6.2	689.1	689.1	690.0	0.9
P	66,500	1,433	19,784	7.3	698.6	698.6	699.0	0.4
Q	68,500	882	11,539	12.5	708.9	708.9	708.9	0.0
R	70,500	1,185	23,403	6.2	717.1	717.1	717.5	0.4
S	74,000	1,435	26,535	5.3	725.6	725.6	725.7	0.1
T	76,000	1,084	24,660	5.7	734.4	734.4	734.4	0.0
U	81,000	4,317	24,224	5.8	740.1	740.1	740.5	0.4
V	84,500	1,139	16,176	7.9	756.6	756.6	757.4	0.8
W	90,000	1,036	11,382	12.3	777.2	777.2[2]	777.2	0.0
X	95,500	965	11,458	12.2	798.0	798.0[2]	798.0	0.0
Y	99,500	1,262	14,611	9.6	815.0	815.0[2]	815.0	0.0
Z	103,000	997	11,790	11.9	829.0	829.0[2]	829.5	0.5

[1] Stream distance in feet above Prado Dam

[2] Elevation riverward of levees

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SANTA ANA RIVER

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,250	1,176	1,735	7.3	740.1	740.1	740.7	0.6
B	3,250	678	2,647	4.8	745.5	745.5	746.4	0.9
C	4,750	476	2,826	4.5	752.0	752.0	752.9	0.9
D	5,750	481	2,667	4.8	755.6	755.6	756.5	0.9
E	7,250	510	2,914	4.4	762.1	762.1	762.6	0.5

[1] Stream distance in feet above confluence with Santa Ana River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Smith Creek								
A	10,200	420	1,520	10.8	2,061.2	2,061.2	2,061.2	0.0
B	11,200	330	1,840	10.0	2,077.1	2,077.1	2,077.1	0.0
C	12,000	480	1,530	10.6	2,086.9	2,086.9	2,086.9	0.0
D	12,850	500	1,670	10.2	2,100.2	2,100.2	2,100.4	0.2
E	13,700	590	1,800	9.7	2,110.4	2,110.4	2,110.5	0.1
F	14,800	260	990	14.1	2,123.8	2,123.8	2,124.0	0.2
G	15,750	270	1,130	12.6	2,134.4	2,134.4	2,135.1	0.7
H	16,750	330	1,420	11.1	2,144.6	2,144.6	2,144.6	0.0
I	17,800	280	1,190	11.8	2,153.8	2,153.8	2,153.8	0.0
J	18,800	250	1,170	12.3	2,165.2	2,165.2	2,165.2	0.0
K	19,800	90	820	17.1	2,177.4	2,177.4	2,177.4	0.0
L	21,300	310	1,300	10.9	2,189.9	2,189.9	2,189.9	0.0
M	22,400	230	2,730	4.9	2,207.8	2,207.8	2,207.8	0.0
N	23,500	400	1,300	10.1	2,212.4	2,212.4	2,212.4	0.0
O	24,750	230	930	11.4	2,224.3	2,224.3	2,224.3	0.0
P	25,650	390	1,190	9.1	2,231.6	2,231.6	2,231.6	0.0
Q	26,450	390	1,170	9.3	2,239.6	2,239.6	2,239.6	0.0
R	27,550	870	1,460	6.9	2,248.6	2,248.6	2,248.6	0.0
S	28,550	670	1,280	7.9	2,260.4	2,260.4	2,260.4	0.0

[1]Feet above confluence with San Gorgonio River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Smith Creek West Tributary								
A	44,700	260	730	9.5	2,512.0	2,512.0	2,512.0	0.0
B	48,650	70	520	10.7	2,526.0	2,526.0	2,526.0	0.0
C	49,650	80	370	14.1	2,542.5	2,542.5	2,542.5	0.0
D	50,900	100	430	11.8	2,560.1	2,560.1	2,560.1	0.0
E	51,450	220	600	9.5	2,578.3	2,578.3	2,578.3	0.0
F	52,400	610	1,210	4.5	2,590.7	2,590.7	2,590.7	0.0

[1]Feet above confluence with San Gorgonio River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
South Norco Channel								
A	400[1]	77[2]	55[2]	3.1	566.4	566.4	566.4	0.0
B[3]								
C[3]								
D	2,870[1]	100	173	7.5	571.9	571.9	572.2	0.3
E	3,800[1]	64	279	4.7	581.5	580.7	579.7	1.0
F	4,810[1]	90	299	4.2	586.0	586.0	586.1	0.1
G	5,730[1]	120	259	4.9	595.3	595.3	595.3	0.0
H	7,200[1]	120	241	7.5	607.3	607.3	607.5	0.2
I	12,600[1]	60	63	5.1	644.8	644.8	644.8	0.0
J	13,730[1]	60	58	5.5	651.2	651.2	651.2	0.0
K	14,800[1]	60	59	5.5	656.5	656.5	656.5	0.0
L	16,000[1]	60	60	5.3	660.7	660.7	661.1	0.4
South Norco Channel Tributary A								
A	3,600[4]	104	663	0.9	601.2	601.2	602.2	1.0
B	4,615[4]	70	89	6.5	602.3	602.3	602.3	0.0
C	5,439[4]	68	107	5.4	610.8	610.8	610.8	0.0
D	6,983[4]	40	137	4.1	625.0	625.0	623.9	0.7

[1]Feet above confluence with Temescal Wash
[2]Width excluding influence from Temescal Wash
[3]Data not available
[4]Feet above confluence with South Norco Channel

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
South Norco Channel Tributary B								
E	4,055[1]	80	138	4.4	707.1	707.1	707.2	0.1
Spring Brook Wash								
AD	15,435[2]	38	85	3.3	862.4	862.4	863.4	1.0
AE	16,234[2]	24	56	5.0	874.4	874.4	875.4	1.0

[1]Feet above confluence with South Norco Channel
[2]Feet above Dexter Drive

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: SOUTH NORCO CHANNEL TRIBUTARY B - SPRING BROOK WASH

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sun City Channel A-A								
A	2,990[1]	95	537	5.0	1,412.7	1,412.7	1,413.4	0.7
B	4,900[1]	200	1,021	2.2	1,416.0	1,416.0	1,417.0	1.0
C	6,200[1]	120	1,698	3.2	1,416.1	1,416.1	1,417.1	1.0
D	8,100[1]	300	1,626	1.4	1,419.1	1,419.1	1,420.1	1.0
E	9,100[1]	250	1,071	1.1	1,419.3	1,419.3	1,420.3	1.0
F	10,100[1]	40	199	6.0	1,419.3	1,419.3	1,420.3	1.0
Sun City Channel H-H								
A	3,050[2]	20	72	7.0	1,433.0	1,433.0	1,434.0	1.0
B	3,530[2]	30	100	5.0	1,436.4	1,436.4	1,437.4	1.0
C	3,900[2]	20	79	6.3	1,440.4	1,440.4	1,441.4	1.0
D	4,500[2]	10	46	10.9	1,445.1	1,445.1	1,446.1	1.0

[1]Feet above confluence with Salt Creek
[2]Feet above confluence with Sun City Channel A-A

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sunnymead Storm Channel								
A	195	27	95	22.4	1,570.6	1,570.6	1,570.6	0.0
B	1,258	27	100	21.2	1,580.2	1,580.2	1,580.2	0.0
C	1,400	27	118	17.9	1,583.3	1,583.3	1,583.3	0.0
D	1,872	27	104	20.0	1,585.1	1,585.1	1,585.1	0.0
E	3,040	30	110	17.8	1,591.3	1,591.3	1,591.3	0.0
F	3,530	30	110	18.1	1,593.9	1,593.9	1,593.9	0.0
G	4,330	30	180	10.4	1,601.0	1,601.0	1,602.0	1.0
H	4,770	40	140	13.6	1,604.0	1,604.0	1,604.0	0.0
I	5,270	40	130	14.2	1,607.1	1,607.1	1,607.1	0.0
J	6,250	30	80	17.7	1,611.2	1,611.2	1,611.2	0.0
K	6,640	20	40	19.4	1,616.1	1,616.1	1,616.1	0.0
L	7,030	20	40	19.8	1,620.7	1,620.7	1,620.7	0.0
M	7,900	20	30	25.5	1,633.1	1,633.1	1,633.1	0.0
N	8,720	20	40	21.7	1,653.9	1,653.9	1,654.1	0.2
O	9,630	30	50	4.1	1,682.8	1,682.8	1,683.1	0.3

[1]Feet above Limit of Detailed Study

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Sunnyslope Channel								
A	2,450[1]	30	68	26.4	762.5	762.5	762.5	0.0
B	2,850[1]	30	64	28.1	768.4	768.4	768.4	0.0
C	3,130[1]	30	82	21.8	783.8	783.8	783.8	0.0
D	3,930[1]	30	79	22.7	791.5	791.5	791.5	0.0
E	4,170[1]	30	94	18.0	796.9	796.9	796.9	0.0
F	4,750[1]	30	82	20.7	799.9	799.9	799.9	0.0
G	6,000[1]	30	124	12.6	814.1	814.1	814.1	0.0
H	8,000'	30	57	23.5	819.2	819.2	819.2	0.0
I	8,500[1]	30	60	22.2	826.2	826.2	826.2	0.0
J	8,890[1]	30	64	20.9	832.1	832.1	832.1	0.0
K	9,180[1]	30	56	23.8	839.5	839.5	839.5	0.0
L	9,660[1]	30	66	20.3	847.6	847.6	848.0	0.4
M	9,900[1]	30	77	17.4	850.7	850.7	851.7	1.0
Tahquitz Creek								
F[3]	500[2]							
G[3]	1,850[2]							
A	4,000[2]	515	1,260	5.3	367.8	367.8	367.8	0.0
B	5,420[2]	560	1,243	5.4	374.9	374.9	375.6	0.7
C	7,000[2]	600[4]	1,419	5.6	382.7	382.7	382.9	0.2
D	8,600[2]	850	1,506	5.3	390.0	390.0	390.0	0.0
E	10,560[2]	220[5]	828	9.7	398.6	398.6	399.4	0.8

[1]Feet above confluence with Rubidoux Creek
[2]Feet above mouth
[3]Shared with Palm Canyon Wash-See Palm Canyon Wash for Floodway and Base Flood Water Surface Elevation
[4]Width lies partially within Agua Caliente Indian Reservation
[5]Width lies entirely within Agua Caliente Indian Reservation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCES: SUNNYSLOPE CHANNEL - TAHQUITZ CREEK

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Temecula Creek								
A	0	240	4,380	8.2	990.3	990.3	991.3	1.0
B	700	220	4,050	8.9	990.6	990.6	991.6	1.0
C	1,450	1,070	12,660	2.8	992.2	992.2	993.2	1.0
D	2,275	800	3,249	11.1	993.0	993.0	993.0	0.0
E	3,075	766	5,678	6.3	998.0	998.0	998.1	0.1
F	3,855	350	4,462	8.1	1,002.5	1,002.5	1,002.5	0.0
G	4,716	675	6,111	5.9	1,010.2	1,010.2	1,010.4	0.2
H	5,981	625	7,491	4.8	1,015.5	1,015.5	1,016.3	0.8
I	6,501	700	5,470	6.6	1,016.3	1,016.3	1,016.9	0.6
J	7,121	800	3,140	11.5	1,020.4	1,020.4	1,020.7	0.3
K	8,371	825	4,712	7.6	1,027.8	1,027.8	1,028.5	0.7

[1]Feet above confluence with Murrieta Creek

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	9,160	1,160	4,529	2.8	556.5	551.4[2]	551.4	0.0
B	10,010	533	1,766	7.2	556.5	552.7[2]	552.7	0.0
C	10,945	499	1,325	9.6	556.5	555.8[2]	555.8	0.0
D	12,160	470	3,041	4.2	561.2	561.2	561.2	0.0
E	12,950	191	1,056	10.9	564.1	564.1	564.1	0.0
F	13,750	176	1,359	10.7	568.5	568.5	568.5	0.0
G	14,710	141	1,434	8.0	571.2	571.2	571.2	0.0
H	16,035	118	721	16.0	574.8	574.8	574.8	0.0
I	17,195	113	564	20.4	579.5	579.5	579.5	0.0
J	17,950	115	597	19.3	583.9	583.9	583.9	0.0
K	19,160	115	598	19.2	590.1	590.1	590.1	0.0
L	20,070	115	599	19.2	594.1	594.1	594.1	0.0
M	21,160	119	785	14.7	601.4	601.4	601.4	0.0
N	30,968	110	1,267	19.3	655.3	655.3	655.3	0.0
O	32,682	362	6,106	4.0	662.8	662.8	663.0	0.2
P	33,705	280	3,347	7.3	663.9	663.9	664.1	0.2
Q	34,879	269	2,468	9.9	671.2	671.2	671.2	0.0
R	35,783	618	5,110	4.8	688.9	688.9	689.0	0.1
S	36,538	600	7,078	3.5	689.4	689.4	690.2	0.8
T	38,166	541	4,245	5.7	698.6	698.6	698.6	0.0
U	40,116	279	1,725	14.1	707.8	707.8	707.8	0.0
V	41,116	470	3,725	6.6	717.4	717.4	717.5	0.1
W	43,051	425	2,948	8.3	737.0	737.0	737.0	0.0
X	45,016	371	3,445	7.1	749.5	749.5	749.5	0.0
Y	46,166	599	4,652	5.2	756.1	756.1	756.1	0.0
Z	47,916	580	3,816	6.4	767.1	767.1	767.1	0.0

[1]Feet above confluence with Santa Ana River
[2]Elevation computed without consideration of backwater effects from Santa Ana River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: TEMESCAL WASH

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Temescal Wash								
AA	49,916	231	2,345	10.4	786.3	786.3	787.0	0.7
AB	50,376	185	2,612	8.7	792.4	792.4	793.0	0.6
AC	51,226	274	4,004	6.1	797.5	797.5	798.4	0.9
AD	52,626	260	2,297	10.6	805.2	805.2	805.2	0.0
AE	53,676	200	2,073	11.8	812.1	812.1	812.4	0.3
AF	54,676	110	1,318	18.5	817.7	817.7	818.3	0.6
AG	55,576	194	1,699	14.4	831.7	831.7	832.3	0.6
AH	56,276	159	2,084	11.7	837.6	837.6	838.2	0.6
AI	57,550	111	1,345	18.1	844.9	844.9	845.1	0.2
AJ	58,573	160	1,994	9.7	851.4	851.4	851.8	0.4
AK	59,723	190	1,680	11.6	859.5	859.5	859.8	0.3
AL	61,013	790	3,031	6.4	872.8	872.8	873.0	0.2
AM	62,073	480	2,424	8.0	879.1	879.1	879.1	0.0
AN	63,173	269	2,260	8.6	884.7	884.7	884.8	0.1
AO	64,323	537	5,331	3.6	887.1	887.1	887.4	0.3
AP	65,323	286	1,476	13.1	891.0	891.0	891.0	0.0
AQ	66,473	743	2,731	7.1	902.2	902.2	902.4	0.2
AR	67,548	465	2,564	7.6	910.0	910.0	910.0	0.0
AS	68,448	315	1,986	9.8	916.8	916.8	916.8	0.0
AT	70,193	379	3,000	5.3	932.0	932.0	932.0	0.0
AU	71,893	290	1,305	12.2	937.2	937.2	937.2	0.0
AV	72,643	554	2,406	6.6	945.6	945.6	945.6	0.0
AW	74,155	243	1,736	9.0	959.0	959.0	959.6	0.6
AX	75,605	386	3,130	5.1	969.1	969.1	969.3	0.2
AY	76,855	689	3,643	4.4	971.3	971.3	972.1	0.8
AZ	78,955	410	1,861	8.5	987.7	987.7	987.7	0.0

[1] Feet above confluence with Santa Ana River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Temescal Wash, continued								
BA	79,955	291	1,312	12.1	995.4	995.4	995.4	0.0
BB	80,955	390	2,108	7.5	1,004.3	1,004.3	1,004.3	0.0
BC	83,505	527	1,396	9.0	1,026.4	1,026.4	1,026.4	0.0
BD	84,655	464	2,681	4.7	1,039.2	1,039.2	1,040.0	0.8
BE	85,655	334	1,366	9.2	1,048.2	1,048.2	1,048.7	0.5
BF	86,895	415	2,550	4.9	1,061.9	1,061.9	1,061.9	0.0
BG	88,145	549	1,426	8.8	1,075.0	1,075.0	1,075.1	0.1
BH	89,095	302	1,805	6.9	1,093.5	1,093.5	1,093.5	0.0
BI	90,395	535	1,339	7.8	1,112.0	1,112.0	1,112.0	0.0
BJ	91,045	218	3,488	3.0	1,156.7	1,156.7	1,156.7	0.0
BK	91,945	904	17,276	0.6	1,156.9	1,156.9	1,156.9	0.0
BL	93,145	1,331	25,244	0.4	1,156.9	1,156.9	1,156.9	0.0
BM	94,945	665	4,808	2.2	1,156.9	1,156.9	1,155.9	-1.0
BN	95,795	612	3,599	2.9	1,157.6	1,157.6	1,157.7	0.1
BO	96,645	383	1,119	9.3	1,159.9	1,159.9	1,159.9	0.0
BP	100,145	541	2,188	4.8	1,172.8	1,172.8	1,172.9	0.1
BQ	101,245	492	2,379	4.4	1,175.5	1,175.5	1,175.8	0.3
BR	102,297	399	1,899	5.5	1,179.4	1,179.4	1,179.5	0.1
BS	104,686	769	2,645	3.9	1,191.2	1,191.2	1,191.4	0.2
BT	105,986	317	1,179	8.8	1,200.3	1,200.3	1,200.3	0.0
BU	106,936	423	2,176	4.8	1,205.6	1,205.6	1,206.3	0.7
BV	108,500	534	3,780	2.8	1,216.0	1,216.0	1,216.2	0.2
BW	109,400	590	3,402	3.1	1,217.2	1,217.2	1,217.5	0.3
BX	111,034	148	923	9.0	1,228.0	1,228.0	1,228.0	0.0
BY	112,034	96	952	8.7	1,230.8	1,230.8	1,231.7	0.9
BZ	113,184	257	2,343	3.5	1,233.5	1,233.5	1,233.9	0.4

[1]Feet confluence with Santa Ana River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Temescal Wash, continued								
CA	115,920	283	853	9.7	1,236.8	1,236.8	1,236.8	0.0
CB	116,870	286	1,144	7.3	1245.9	1245.9	1245.9	0.0
CC	117,870	234	1,710	4.9	1249.5	1249.5	1249.9	0.4
CD	118,820	280	1,619	4.3	1251.6	1251.6	1252.3	0.7
CE	119,770	321	3,237	2.2	1252.6	1252.6	1253.3	0.7
CF	120,770	249	1,832	3.8	1253.2	1253.2	1253.9	0.7
CG	121,970	228	1,715	4.1	1255.7	1255.7	1256.0	0.3
CH	122,970	225	2,184	3.2	1257.0	1257.0	1257.3	0.3
CI	124,045	188	1,970	3.6	1257.8	1257.8	1258.3	0.5
CJ	124,995	189	1,390	4.2	1258.7	1258.7	1259.3	0.6
CK	125,867	261	2,579	2.2	1259.7	1259.7	1260.4	0.7
CL	126,886	931	7,677	0.7	1260.6	1260.6	1261.5	0.9
CM	129,486	1,114	13,262	0.3	1260.6	1260.6	1261.5	0.9
CN	132,104	1,393	6,850	1.7	1261.2	1261.2	1261.9	0.7
CO	135,660	189	965	2.9	1262.6	1262.6	1263.0	0.4

[1]Feet above confluence with Santa Ana River

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Wardlow Wash								
A	22[1]	24	147	13.6	532.3	532.3	532.3	0.0
B	188[1]	24	266	9.1	537.3	537.3	537.3	0.0
C	668[1]	62	203	9.2	542.4	542.4	542.4	0.0
D	1,868[1]	48	193	9.6	566.0	566.0	566.0	0.0
E	2,468[1]	48	200	9.2	580.2	580.2	580.2	0.0
F	2,868[1]	37	156	11.8	588.5	588.5	588.5	0.0
G	3,168[1]	57	181	10.1	596.5	596.5	596.5	0.0
H	4,468[1]	38	216	8.2	634.0	634.0	634.1	0.1
I	4,668[1]	52	223	8.0	643.9	643.9	643.9	0.0
J	4,968[1]	76	281	6.1	648.0	648.0	648.0	0.0
Warm Spring Creek								
A	7,777[2]	255	1,468	6.5	1066.3	1066.3	1066.3	0.0
B	8,500[2]	175	1,285	7.5	1068.5	1068.5	1068.5	0.0

[1]Feet above Limit of Detailed Study

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Cathedral Channel								
A	730[1]	160	332	4.5	304.2	304.2	305.2	1.0
B	2,010[1]	150	320	4.7	339.3	339.3	340.3	1.0
C	2,900[1]	150	320	4.7	377.3	377.3	378.3	1.0
D	3,800[1]	280	488	3.1	411.7	411.7	412.7	1.0
E	4,620[1]	150	302	5.0	444.2	444.2	445.2	1.0
F	6,120[1]	330	238	1.9	512.1	512.1	513.1	1.0
G	7,020[1]	180	228	2.0	571.3	571.3	572.3	1.0
H	8,020[1]	70	137	3.3	632.0	632.0	633.0	1.0
I	9,020[1]	110	171	2.6	689.6	689.6	690.6	1.0
J	9,775[1]	250	453	2.9	739.9	739.9	740.9	1.0
West Norco Channel								
A	1,170[2]	70	454	1.2	576.0	576.0	576.0	0.0
B	2,270[2]	120	368	1.0	576.1	576.1	576.1	0.0
C	3,010[2]	40	62	5.6	582.1	582.1	582.3	0.2
West Pershing Channel								
A	19,250[3]	20	30	21.8	2,565.2	2,565.2	2,565.2	0.0
B	20,150[3]	20	40	18.8	2,584.3	2,584.3	2,584.3	0.0

[1]Feet above confluence with North Cathedral Channel
[2]Feet above confluence with North Norco Channel
[3]Feet above confluence with Smith Creek

Table 23: Floodway Data *(continued)*

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Whitewater River								
A	190,742	442	3,311	14.2	309.4[4]	309.4	309.4	0.0
B	192,077	501	3,949	11.9	317.1[4]	317.1	317.1	0.0
C	192,662	690	5,179	9.1	319.8	319.8	319.8	0.0
D	193,650	710	-[3]	-[3]	323.6[4]	323.6	323.6	0.0
E	194,850	600[2]	3,597	13.1	331.0	331.0	331.0	0.0
F	195,990	750	5,511	8.5	337.7[4]	337.7	337.7	0.0
G	197,110	850	5,032	9.3	342.6[4]	342.6	342.6	0.0
H	198,230	930	4,810	9.8	348.6[4]	348.6	348.6	0.0
I	199,330	970	4,816	9.8	356.0	356.0	356.0	0.0
J	200,430	980	5,309	8.9	363.1	363.1	363.1	0.0
K	201,870	1,100	5,244	9.0	371.5[4]	371.5	371.5	0.0
L	202,970	1,190	5,163	9.1	379.2[4]	379.2	379.2	0.0
M	204,120	1,310	7,069	6.6	386.2[4]	386.2	386.2	0.0
N	205,220	1,405	6,548	7.2	391.5[4]	391.5	391.5	0.0
O	206,300	1,460[2]	4,222	11.1	400.5	400.5	400.5	0.0
P	207,320	1,585[2]	4,785	9.8	407.9	407.9	407.9	0.0
Q	208,340	1,640[2]	5,015	9.4	414.2	414.2	414.2	0.0
R	209,370	1,710	5,582	8.4	422.0[4]	422.0	422.0	0.0
S	210,430	1,710	5,688	8.3	429.8[4]	429.8	429.8	0.0
T	211,470	1,760	6,560	7.2	438.7[4]	438.7	438.7	0.0
U	212,525	1,780	6,223	7.7	446.2	446.2	446.2	0.0

[1]Feet above mouth
[2]Lies entirely outside of City Limits
[3]Data not available
[4]Channel elevation assuming both levees hold

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: WHITEWATER RIVER

Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams

[Not Applicable to this Flood Risk Project]

6.4 Coastal Flood Hazard Mapping

This section is not applicable to this Flood Risk Project.

Table 25: Summary of Coastal Transect Mapping Considerations

[Not Applicable to this Flood Risk Project]

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 30, "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.

To obtain an application for a LOMA, visit www.fema.gov/flood-maps/change-your-flood-zone 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 determinethe 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 accessedat www.fema.gov/flood-maps/tutorials.

For more information about how to apply for a LOMA, call the FEMA Mapping and Insurance 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/flood-maps/change-your-flood-zone for the "MT-1 Application Forms and Instructions for Conditional and Final Letters

Mapping and Insurance 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/flood-maps/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/flood-maps/change-your-flood-zone 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 Mapping and Insurance 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 Riverside County FIRM are listed in Table 26. Please note that this table only includes LOMCs that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

Table 26: Incorporated Letters of Map Change

Communities Affected	Flooding Source(s)	Effective Date	Case Number
Riverside, City of	University Wash	December 6, 2023	22-09-1386P
Jurupa Valley, City of	1001 Ranch Drain West Tributary	July 11, 2023	23-09-0790P
Corona, City of; Riverside County	Temescal Wash, Oak Street Channel	April 7, 2021	21-09-0615P[2]
Riverside, City of; Riverside County	Spring Brook Wash	October 22, 2018	18-09-0497P[2]
Corona, City of	Temescal Wash	February 2, 2018	17-09-1498P[2]
Riverside, City of; Riverside County	Spring Brook Wash	March 20, 2017	16-09-2070P[1]
Corona, City of; Riverside County	Wardlow Wash	March 31, 2016	15-09-1832P[2]
Norco, City of	North Norco Channel	July 3, 2015	15-09-0162P[1]
Riverside County	Day Creek Line J	October 20, 2014	14-09-1024P[1]
Riverside County	Day Creek	November 28, 2013	13-09-2159P[3]
Corona and Norco, Cities of	North Norco Channel	May 3, 2013	12-09-1650P[1]

Table 26: Incorporated Letters of Map Change *(continued)*

Communities Affected	Flooding Source(s)	Effective Date	Case Number
Riverside County	1001 Ranch Drain West Tributary	July 25, 2011	10-09-2063P[1]
Riverside, City of	Spring Brook Wash	February 26, 2010	09-09-1506P[1]
Corona, City of	South Norco Channel	January 27, 2009	09-09-0531P[1]
Corona, City of	Oak Street Channel	January 23, 2009	09-09-0556P[2]

[1] Incorporated into this revision
[2] LOMR partially incorporated – only for panels impacted by this PMR
[3] LOMR partially superseded – only for panels impacted by this PMR

6.5.4 Physical Map Revisions

A Physical Map Revisions (PMR) is 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 and visit the Floods & Maps "Change Your Flood Zone Designation" 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 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 Riverside County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) 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 27, “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 27 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. This is the first effective date that is shown on the FIRM panel.

- *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 Riverside County FIRMs in countywide format was 08/28/2008.

Table 27: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Agua Caliente Band of Chuilla Indian Reservation	06/21/1974[1]	06/21/1974[1]	--	03/02/1983[1]	05/01/1985[1] 04/19/2017 08/28/2008
Banning, City of	03/15/1974	03/15/1974	02/25/1977	10/17/1978	06/17/1991 08/28/2008
Beaumont, City of	04/05/1974	04/05/1974	01/02/1976	10/17/1978	08/18/2014 08/28/2008
Blythe, City of[2]	08/28/2008	--	--	08/28/2008	--
Calimesa, City of[3]	04/15/1980	--	--	04/15/1980	08/28/2008
Canyon Lake, City of[3]	04/15/1980	--	--	04/15/1980	04/19/2017 08/18/2014 08/28/2008 11/20/1996
Cathedral City, City of	05/01/1985	--	--	05/01/1985	08/28/2008 07/07/1999 06/18/1996 09/27/1991
Coachella, City of	09/30/1980	--	--	09/30/1980	03/06/2018 08/28/2008 04/26/1983
Colorado River Indian Tribes	05/04/1987	--	--	08/28/2008	--
Corona, City of	05/24/1974	05/24/1974	04/01/1977	05/15/1978	09/12/2024 08/28/2008 06/18/1996 09/30/1988 04/06/1982 01/19/1979
Desert Hot Springs, City of	05/24/1974	05/24/1974	10/22/1976	04/02/1979	08/28/2008 09/30/1988
Eastvale, City of[3]	04/15/1980	--	--	04/15/1980	09/12/2024 08/18/2014 08/28/2008
Hemet, City of	05/24/1974	05/24/1974	--	09/29/1978	04/19/2017 08/28/2008 08/19/1997 09/28/1990 08/04/1988

Table 27: Community Map History *(continued)*

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Indian Wells, City of	06/28/1974	06/28/1974	07/30/1976 12/05/1975	09/14/1979	04/19/2017 08/28/2008 01/19/1982
Indio, City of	05/31/1974	05/31/1974	08/08/1975	09/14/1979	03/06/2018 08/28/2008 05/01/1985 06/15/1982
Jurupa Valley, City of[2]	08/28/2008	--	--	08/28/2008	09/12/2024
Lake Elsinore, City of	06/28/1974	06/28/1974	09/17/1976	09/17/1980	04/19/2017 08/28/2008 04/18/2003 06/18/1996 08/02/1990 11/19/1987
La Quinta, City of	06/19/1985	--	--	06/19/1985	03/06/2018 04/19/2017 08/28/2008 08/19/1991
Menifee, City of[3]	04/15/1980	--	--	04/15/1980	09/12/2024 04/19/2017 08/18/2014
Moreno Valley, City of	06/18/1987	--	--	06/18/1987	08/18/2014 08/28/2008 05/17/1993
Murrieta, City of[3]	04/15/1980	--	--	04/15/1980	09/12/2024 08/28/2008 11/20/1996
Norco, City of	05/17/1974	05/17/1974	01/21/1977	02/15/1979	09/12/2024 08/28/2008
Palm Desert, City of	06/14/1977	06/14/1977	--	04/15/1980	04/19/2017 08/28/2008 06/18/1996 09/04/1986
Palm Springs, City of	06/21/1974	06/21/1974	08/30/1977	03/02/1983	04/19/2017 08/28/2008 07/07/1999 06/18/1996
Perris, City of	09/06/1974	09/06/1974	07/09/1976	04/16/1979	08/18/2014 08/28/2008 07/02/1992 05/04/1989
Rancho Mirage, City of	09/14/1979	--	--	09/14/1979	04/19/2017 08/28/2008 06/02/1992 06/18/1996

Table 27: Community Map History *(continued)*

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Riverside, City of	07/19/1974	07/19/1974	--	01/06/1983	09/12/2024 08/28/2008 08/02/1996
Riverside County (Unincorporated Areas)	04/15/1980	--	--	04/15/1980	09/12/2024 03/22/2022 03/06/2018 04/19/2017 08/18/2014 08/28/2008 11/20/1996 09/30/1988 03/22/1983
San Jacinto, City of	09/28/1973	09/28/1973	--	09/28/1973	04/19/2017 08/28/2008 05/17/1990 05/12/1981 11/25/1977 12/12/1975
Temecula, City of	09/02/1993	--	--	09/02/1993	08/28/2008 11/20/1996
Wildomar, City of[3]	04/15/1980	--	--	04/15/1980	08/28/2008

[1] Community within City of Palm Springs geographic area; Palm Springs initial identification dates apply.The 1985 revision specifically identifies the community.
[2] This community does not have map history prior to the first countywide mapping.
[3] Identification dates of the unincorporated County apply.

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are includedin this FIS Report.

Table 28: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
1001 Ranch Drain	09/12/2024	*	*	*	Jurupa Valley, City of
1001 Ranch Drain	09/12/2024	STARR II	HSFE60-15-D-0005	March 2016	Jurupa Valley, City of
1001 Ranch Drain West Tributary	09/12/2024	*	*	N/A	Jurupa Valley, City of

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
All Significant Flooding Sources Affecting the City of Norco	2/15/1979	Toups Corporation	H-3692	June 1977	Norco, City of
All Significant Flooding Sources Affecting the City of Banning	10/17/1978	Toups Corporation	H-3692	August 1977	Banning, City of
All Significant Flooding Sources Affecting the City of Hemet	9/29/1978	Toups Corporation	H-3692	July 1977	Hemet, City of
All Significant Flooding Sources Affecting the City of Indian Wells	1/19/1982	Toups Corporation	H-3692	February 1978	Indian Wells, City of
All Significant Flooding Sources Affecting the City of Indio	9/14/1979	Toups Corporation	H-3692	January 1978	Indio, City of
All Significant Flooding Sources Affecting the City of Lake Elsinore	9/17/1980	Toups Corporation	H-3692	November 1977	Lake Elsinore, City of
All Significant Flooding Sources Affecting the City of Rancho Mirage	9/14/1979	Toups Corporation	H-3692	January 1978	Rancho Mirage, City of
All Significant Flooding Sources Affecting the City of Riverside	1/6/1983	Cornell, Howland, Hayes & Merryfield, Clair A. Hill & Associates	H-1790	July 1973	Riverside, City of
All Significant Flooding Sources Except West Cathedral Channel	*	Toups Corporation	H-4032	August 1979	Palm Springs, City of
Alamo Canyon	3/22/2022	Strategic Alliance for Risk Reduction II (STARR II)	HSFE60-15-D-005	January 2018	Riverside County, Unincorporated Areas
Barton Canyon	3/22/2022	Strategic Alliance for Risk Reduction II (STARR II)	HSFE60-15-D-005	January 2018	Riverside County, Unincorporated Areas

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Bly Channel	09/12/2024	*	*	*	Jurupa Valley, City of
Box Springs Wash	09/12/2024	*	*	*	Riverside, City of
Coachella Valley StormwaterChannel (WhitewaterRiver)	3/6/2018	Northwest Hydraulic Consultants	Private Contract	March 2014	Coachella, City of
Coachella Valley Stormwater Channel (Whitewater River)	3/6/2018	Northwest Hydraulic Consultants	Private Contract	March 2014	Indio, City of
Coachella Valley Stormwater Channel (Whitewater River)	3/6/2018	Northwest Hydraulic Consultants	Private Contract	March 2014	La Quinta, City of
Coachella Valley StormwaterChannel (Whitewater River)	3/6/2018	Northwest Hydraulic Consultants	Private Contract	March 2014	Riverside County, Unincorporated Areas
Country Club Creek	09/12/2024	*	*	*	Corona, City of, Riverside County, Unincorporated Areas
Country Club Creek North Tributary	09/12/2024	*	*	*	Riverside County, Unincorporated Areas
Day Creek	09/12/2024	*	*	*	Jurupa Valley, City of
Day Creek Line J	09/12/2024	*	*	2014	Riverside County, Unincorporated Areas
Dike 2	8/18/2014	Pacific Advanced Civil Engineering (PACE) Inc.	Private Contract	September 2006	La Quinta, City of
Dike 4	8/18/2014	PACE Inc.	Private Contract	June 2002	La Quinta, City of
Dike 4	8/18/2014	PACE Inc.	Private Contract	June 2002	Riverside County, Unincorporated Areas
Highgrove Channel	09/12/2024	STARR II	HSFE60-15-D-0005	March 2020	Jurupa Valley, City of; Riverside County, Unincorporated Areas

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
La Quinta Evacuation Channel	*	Coachella Valley Water District	*	March 1984	Indio, City of
Lake Elsinore	*	USACE, Los Angeles District	*	1983	Riverside County, Unincorporated Areas
Martinez Canyon	3/22/2022	Strategic Alliance for Risk Reduction II (STARR II)	HSFE60-15-D-005	January 2018	Riverside County, Unincorporated Areas
North Norco Channel	09/12/2024	*	*	*	Corona, City of, Norco, City of
North Norco Channel	09/12/2024	*	*	*	Norco, City of
Oak Street Channel	09/12/2024	*	*	*	Corona, City of
Perris Valley Storm Drain	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Moreno Valley, City of
Perris Valley Storm Drain	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Perris, City of
Pyrite Channel	09/12/2024	STARR II	HSFE60-15-D-0005	March 2016	Jurupa Valley, City of
San Jacinto River	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Beaumont, City of
San Jacinto River	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Canyon Lake, City of
San Jacinto River	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Menifee, City of
San Jacinto River	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Moreno Valley, City of
San Jacinto River	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	Riverside County, Unincorporated Areas

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
San Jacinto River	8/18/2014	Albert A. Webb Associates	Private Contract	May 2011	San Jacinto, City of
San Seavine Channel	09/12/2024	*	*	*	Jurupa Valley, City of
Santa Ana River	09/12/2024	LOMR Case 18-09-2150P	HSFE60-15-D-0005	2016	Eastvale, City of, Jurupa Valley, City of, Norco, City of, Riverside County, Unincorporated Areas, Riverside, City of
Santa Ana River	9/17/1980	*	*	September 1980	Corona, City of, Riverside County, Unincorporated Areas
Santa Ana River (Split Channel)	09/12/2024	LOMR Case 18-09-2150P	HSFE60-15-D-0005	2016	Jurupa Valley, City of; Riverside, City of; Riverside, Unincorporated Areas
Sheep Canyon 1	3/22/2022	Strategic Alliance for Risk Reduction II (STARR II)	HSFE60-15-D-005	January 2018	Riverside County, Unincorporated Areas
South Norco Channel	09/12/2024	*	*	*	Corona, City of
South Norco Channel	09/12/2024	*	*	*	Corona, City of, Norco, City of
South Norco Channel, Tributary A	09/12/2024	*	*	*	Corona, City of, Norco, City of
Spring Brook Wash	09/12/2024	*	*	*	Riverside, City of
Sunnyslope Channel	09/12/2024	*	*	*	Jurupa Valley, City of

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Temecula Creek, Upstream of Pala Road	9/2/1993	McCutchan Company	*	*	Temecula, City of
Temescal Wash	09/12/2024	*	*	*	Corona, City of
Tequesquite Arroyo	09/12/2024	*	*	*	Riverside, City of
University Wash	09/12/2024	*	*	*	Riverside, City of
Unnamed Canyon South of Barton Canyon	3/22/2022	Strategic Alliance for Risk Reduction II (STARR II)	HSFE60-15-D-005	January 2018	Riverside County, Unincorporated Areas
Unnamed Tributary Southof Sheep Canyon	3/22/2022	Strategic Alliance for Risk Reduction II (STARR II)	HSFE60-15-D-005	January 2018	Riverside County, Unincorporated Areas
Various Flooding Sources	5/1/1985	Toups Corporation	*	*	Agua Caliente Band of Cahuilla Indian Reservation
Various Flooding Sources	*	Toups Corporation	H-3692	November 1975	Agua Caliente Band of Cahuilla Indian Reservation
Various Flooding Sources	4/15/1980	Toups Corporation	H-3692	*	Cathedral City, City of
Various Flooding Sources	5/15/1978	Toups Corporation	H-3692	April 1977	Corona, City of
Various Flooding Sources	4/2/1979	Toups Corporation	H-3692	September 1977	Desert Hot Springs, City of
Various Flooding Sources	4/2/1979	Riverside County Flood Control and Water Conservation District	*	April 1985	Desert Hot Springs, City of

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Various Flooding Sources	4/2/1979	Anderson-Nichols & Co., Inc.	EMW-83-C-1164, Amendment No. M119-2	May 1985	Desert Hot Springs, City of
Various Flooding Sources	4/15/1980	Toups Corporation	*	*	La Quinta, City of
Various Flooding Sources	*	Bechtel Civil, Inc.	*	1990	La Quinta, City of
Various Flooding Sources	4/15/1980, Revised 5/1/84	Toups Corporation	H-3692	November 1975	Moreno Valley, City of
Various Flooding Sources	11/20/1996	Schaaf & Wheeler, Consulting Civil Engineers	EMW-90-C-3110	April 1994	Murrieta, City of
Various Flooding Sources	4/15/1980	Toups Corporation	H-3692	January 1978	Palm Desert, City of
Various Flooding Sources	4/16/1979	Toups Corporation	H-3692	September 1977	Perris, City of
Various Flooding Sources	4/16/1979	Toups Corporation	H-3692	September 1977	Perris, City of
Various Flooding Sources	*	Bechtel Corporation	*	1991	Rancho Mirage, City of
Various Flooding Sources	4/15/1980	Anderson-Nichols & Co., Inc.	EMW-83-C-1164	*	Riverside County, Unincorporated Areas
Various Flooding Sources	*	Dames & Moore	*	1976 & 1977	Riverside, City of
Various Flooding Sources	9/28/1973	USACE, Los Angeles District	Inter-Agency Agreement No. IAA-H-15-72, Project Order No. 14	May 1973	San Jacinto, City of
Various Flooding Sources	*	Anderson-Nichols & Co., Inc.	EMW-83-C-1164	*	San Jacinto, City of
Various Flooding Sources	4/15/1980	Anderson-Nichols & Co., Inc.	EMW-83-C-1164	*	Temecula, City of
Various Flooding Sources	4/15/1980	Anderson-Nichols & Co., Inc..	EMW-83 -C - 1164	*	Agua Caliente Band of Cahuilla Indian Reservation
Wardlow Wash	09/12/2024	*	*	*	Corona, City of

*Data not available

Table 28: Summary of Contracted Studies Included in this FIS Report *(continued)*

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Warm Springs Tributary C - Benton Creek	09/12/2024	STARR II	HSFE60-15-D-005	March 2020	Murrieta, City of; Riverside County, Unincorporated Areas
West Norco Channel	09/12/2024	*	*	*	Corona, City of; Norco, City of
Whitewater River	*	Coachella Valley Water District	*	March 1984	Indio, City of

*Data not available

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and any previous Flood Risk Projects are shown in Table 29. 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 29: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Agua Caliente Band of Cahulla Indian Reservation	04/19/2017	*	Final CCO Meeting	*
Banning, City of	08/28/2008	10/19/2007	Final CCO Meeting	*
Beaumont, City of	08/18/2014	*	Final CCO Meeting	*
Blythe, City of	08/28/2008	10/19/2007	Final CCO Meeting	*
Calimesa, City of	08/28/2008	10/19/2007	Final CCO Meeting	*
Canyon Lake, City of	04/19/2017	*	Final CCO Meeting	*
Cathedral, City of	08/28/2008	10/19/2007	Final CCO Meeting	*
Coachella, City of	03/06/2018	*	Final CCO Meeting	*
Colorado River Indian Tribes	08/28/2008	10/19/2007	Final CCO Meeting	*
Corona, City of	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources

*Data Not Available

[1]Dates for this community were taken from Riverside County, Unincorporated Areas

Table 29: Community Meetings *(continued)*

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Desert Hot Springs,City of	08/28/2008	10/19/2007	Final CCO Meeting	*
Eastvale, City of[1]	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources
Hemet, City of	04/19/2017	*	Final CCO Meeting	*
Indian Wells, City of	04/19/2017	*	Final CCO Meeting	*
Indio, City of	03/06/2018	*	Final CCO Meeting	*
Jurupa Valley, City of[1]	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources
Lake Elsinore, City of	04/19/2017	*	Final CCO Meeting	*
La Quinta, City of	03/06/2018	10/19/2007	Final CCO Meeting	*
Menifee, City of	04/19/2017	*	Final CCO Meeting	*
Moreno Valley, City of	08/18/2014	*	Final CCO Meeting	*
Murrieta, City of	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources

*Data Not Available

[1]Dates for this community were taken from Riverside County, Unincorporated Areas

Table 29: Community Meetings *(continued)*

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Norco, City of	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources
Palm Desert, City of	04/19/2017	*	Final CCO Meeting	*
Palm Springs, City of	04/19/2017	*	Final CCO Meeting	*
Perris, City of	08/18/2014	*	Final CCO Meeting	*
Rancho Mirage, City of	04/19/2017	*	Final CCO Meeting	*
Riverside, City of	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources
Riverside County, Unincorporated Areas	09/12/2024	07/28/2022	Final CCO Meeting	FEMA, the community, STARR II and the California State Department of Water Resources
San Jacinto, City of	04/19/2017	*	Final CCO Meeting	*
Temecula, City of	08/28/2008	10/19/2007	Final CCO Meeting	*
Wildomar, City of[1]	08/28/2008	10/19/2007	Final CCO Meeting	*

*Data Not Available

[1]Dates for this community were taken from Riverside County, Unincorporated Areas

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 http://www.fema.gov.

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for Riverside County.

Table 30 is a list of the locations where FIRMs for Riverside 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 30: Map Repositories

Community	Address	City	State	Zip Code
Agua Caliente Band of Cahuilla Indian Reservation	Tribal Administrative Office 5401 Dinah Shore Drive	Palm Springs	CA	92264
Banning, City of	Public Works Department 99 East Ramsey Street	Banning	CA	92220
Beaumont, City of	Civic and Community Center 550 East 6th Street	Beaumont	CA	92223
Blythe, City of	Building and Safety 235 North Broadway	Blythe	CA	92225
Calimesa, City of	Planning Department 908 Park Avenue	Calimesa	CA	92320
Canyon Lake, City of	City Hall 31516 Railroad Canyon Road	Canyon Lake	CA	92587
Cathedral City, City of	City Hall 68-700 Avenida LaloGuerrero	Cathedral City	CA	92234
Coachella, City of	Community Development Department 1515 Sixth Street	Coachella	CA	92236
Colorado River Indian Tribes	Water Resources Department 26600 Mohave Road	Parker	AZ	85344
Corona, City of	City Hall 400 South Vicentia Avenue	Corona	CA	92882
Desert Hot Springs, City of	Planning Department 65-950 Pierson Boulevard	Desert Hot Springs	CA	92240
Eastvale, City of	City Hall Public Works Department 12363 Limonite Avenue, Suite 910	Eastvale	CA	91752
Hemet, City of	Engineering Department 510 East Florida Avenue	Hemet	CA	92543
Indio, City of	Engineering Services Division 100 Civic Center Mall	Indio	CA	92201

Table 30: Map Repositories *(continued)*

Community	Address	City	State	Zip Code
Indian Wells, City of	Public Works 44-950 Eldorado Drive	Indian Wells	CA	92210
Jurupa Valley, City of	City Hall 8930 Limonite Avenue	Jurupa Valley	CA	92509
Lake Elsinore, City of	Engineering Division 130 South Main Street	Lake Elsinore	CA	92530
La Quinta, City of	City Hall - Community Development Department 78-495 Calle Tampico	La Quinta	CA	92253
Menifee, City of	Public Works\Engineering 29714 Haun Road	Menifee	CA	92586
Moreno Valley, City of	Public Works Department 14177 Frederick Street	Moreno Valley	CA	92552
Murrieta, City of	Public Works and Engineering 1 Town Square	Murrieta	CA	92562
Norco, City of	City Hall 2870 Clark Avenue	Norco	CA	92860
Palm Desert, City of	Department of Public Works 73-510 Fred Waring Drive	Palm Desert	CA	92260
Palm Springs, City of	Public Works and Engineering Department 3200 East Tahquitz Canyon Way	Palm Springs	CA	92262
Perris, City of	Engineering Department 120 North Perris Boulevard	Perris	CA	92570
Rancho Mirage, City of	City Hall 69825 Highway 111	Rancho Mirage	CA	92270
Riverside, City of	Public Works 3900 Main Street, 4th Floor	Riverside	CA	92522
Riverside County (Unincorporated Areas)	Riverside County Flood Control and Water Conservation District 1995 Market Street	Riverside	CA	92501
San Jacinto, City of	166 East Main Street Suite #2	San Jacinto	CA	92583
Temecula, City of	Temecula City Hall - Public Works Department 41000 Main Street	Temecula	CA	92590
Wildomar, City of	City Hall 23873 Clinton Keith Road Suite 201	Wildomar	CA	92595

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 datacan be viewed or ordered from the website shown in Table 31.

Table 31 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 31: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	www.fema.gov/flood-maps/products-tools/know-your-risk/engineers-surveyors-architects
NFIP website	www.fema.gov/flood-insurance
NFHL Dataset	msc.fema.gov
FEMA Region IX	Federal Emergency Management Agency, 1111 Broadway, Suite 1200, Oakland, CA 94607-4052 (510-627-7006)
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Kelly Soule, P.E., MBA California Dept. of Water Resources 3464 El Camino Avenue, Suite 200 Sacramento, CA 95821 916-574-2314 kelly.soule@water.ca.gov
State GIS Coordinator	David Harris Agency Information Officer California Resources Agency 1416 Ninth Street, Room 1311 Sacramento, CA 95814 (916) 445-5088 david.harris@resources.ca.gov

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 32 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 32: 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
Aelytek 1990	Aelytek, Inc	*Topographic Maps, Scale 1:12,000, Contour Interval 4 feet*	*	Riverside, California	July 1990	
Airborne 1 2010	ASCE Journal of the Hydraulics Division, Vol 105, No V	*Light Detection and Ranging LiDAR Digital Data for the Coachella Valley Stormwater Channel Project*	*	*	January 2010	
ASCE 1979	Airborne 1	*Flood Frequency Estimates on Alluvial Fans*	D. R. Dawdy	*	November 1979	
Betchel 1990	Bechtel Civil, Inc	*La Quinta Storm Water Project, Coachella Valley Water District, Design Report*	*	*	January 1990	
Butterfield 1987	Butterfield Engineering and Surveys Co and Robert J Lung and Associates	*Topographic Maps. Scale 1:2,400, Contour Interval 20 feet with 4 foot subdivisions*	*	Lake Elsinore, California	November 1987	
CADWR 1975	California Department of Water Resources	*Bulletin 183 2, Riverside County Flood Hazard Investigation: Murrieta Creek*	*	*	May 1975	
CDWR 1978	California Department of Water Resources	*Water Conditions and Flood Events in California Water Year 1976 and 1977, Bulletin 202 77*	*	*	September 1978	
CENSUS 2016	U.S. Census Bureau	*2016 TIGER Line CA County Boundary Shapefiles*	U.S. Census Bureau	Washington, D.C.	September 2016	
CENSUS 2021	U.S. Census Bureau	*2021 TIGER Line Primary Roads*	U.S. Census Bureau	Washington, D.C.	September 2021	https://www2.census.gov/geo/tiger/TIGER2021/PRIMARYROADS/
Cooper 1989	Cooper Aerial of Phoenix	*Topographic Maps, Scale 1:2,400, Contour Interval 2 feet*	*	Cathedral City, California	May 1989	
CSIL 1993	California Spatial Information Library	*Riverside County PLSS data, state and federal land boundaries*	California Spatial Information Library	California	November 1993	

*Data Not Available

Table 32: 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
CSIL 2015	California Spatial Information Library	*Riverside County PLSS data, state and federal land boundaries*	California Spatial Information Library	California	January 2015	
CVCWD 1964	Coachella Valley County Water District	*Engineering Report on Preliminary Design and Cost Estimate for Flood Control Works for the Edom Area*	Bechtel Corporation	San Francisco, California	August 1964	
CVCWD 1967	Coachella Valley County Water District	*Whitewater River Basin*	*	*	April 1967	
Dames 1982	Dames and Moore for the Federal Emergency Management Agency	*Computer Program for Determining Flood Depths and Velocities on Alluvial Fans*	D. S. Hardy	*	December 1982	
Exponent 2001	Exponent Engineering	*Martinez Canyon Approximate Floodplain Determination*	*	*	September 2001	
FBLA 1974	F. Beach Leighton and Associates	*Geotechnical Studies of Retreating Bluff Area, City of Norco*	*	*	February 1974	
FEMA 1980	Federal Emergency Management Agency	*Flood Insurance Study, Riverside County, California Unincorporated Areas*	*	Washington, D.C.	April 1980	FEMA Flood Map Service Center msc.fema.gov
FEMA 1982	Federal Emergency Management Agency	*Flood Insurance Study, City of Palm Springs, California*	*	Washington, D.C.	September 1982	FEMA Flood Map Service Center msc.fema.gov
FEMA 1983	Federal Emergency Management Agency	*Flood Insurance Study, City of Riverside, California*	*	Washington, D.C.	January 1983	FEMA Flood Map Service Center msc.fema.gov
FEMA 1985	Federal Emergency Management Agency	*Flood Insurance Study, City of Indio, California*	*	Washington, D.C.	May 1985	FEMA Flood Map Service Center msc.fema.gov
FEMA 1990	Federal Emergency Management Agency	*Flood Insurance Study, City of Lake Elsinore, California*	*	Washington, D.C.	August 1990	FEMA Flood Map Service Center msc.fema.gov
FEMA 1991	Federal Emergency Management Agency	*Publication 37, Flood Insurance Study Guidelines and Specifications for Study Contractors*	*	Washington, D.C.	March 1991	FEMA Flood Map Service Center msc.fema.gov
FEMA 2008	Federal Emergency Management Agency	*Flood Insurance Study*	Federal Emergency Management Agency	Washington, D.C.	August 2008	FEMA Flood Map Service Center msc.fema.gov

*Data Not Available

Table 32: 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
FEMA 2008a	Federal Emergency Management Agency	*Riverside County, CA Digital Flood Insurance Rate Map*	Federal Emergency Management Agency	Washington, D.C.	August 2008	FEMA Flood Map Service Center msc.fema.gov
FEMA 2008b	Federal Emergency Management Agency	*LOMR Case 08-09-1068P*	Federal Emergency Management Agency	Washington, D.C.	August 2008	FEMA Flood Map Service Center msc.fema.gov
FEMA 2008c	Federal Emergency Management Agency	*LOMR Case 08-09-1816P*	Federal Emergency Management Agency	Washington, D.C.	October 2008	FEMA Flood Map Service Center msc.fema.gov
FEMA 2008d	Federal Emergency Management Agency	*LOMR Case 08-09-1363P*	Federal Emergency Management Agency	Washington, D.C.	November 2008	FEMA Flood Map Service Center msc.fema.gov
FEMA 2008e	Federal Emergency Management Agency	*LOMR Case 08-09-0931P*	Federal Emergency Management Agency	Washington, D.C.	October 2008	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009	Federal Emergency Management Agency	*LOMR Case 09-09-2400P*	Federal Emergency Management Agency	Washington, D.C.	October 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009a	Federal Emergency Management Agency	*LOMR Case 09-09-0556P*	Federal Emergency Management Agency	Washington, D.C.	January 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009b	Federal Emergency Management Agency	*LOMR Case 09-09-2964P*	Federal Emergency Management Agency	Washington, D.C.	November 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009c	Federal Emergency Management Agency	*LOMR Case 08-09-0430P*	Federal Emergency Management Agency	Washington, D.C.	December 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009d	Federal Emergency Management Agency	*LOMR Case 09-09-1609P*	Federal Emergency Management Agency	Washington, D.C.	May 2009	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2009e	Federal Emergency Management Agency	*LOMR Case 09-09-0818P*	Federal Emergency Management Agency	Washington, D.C.	April 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009f	Federal Emergency Management Agency	*LOMR Case 09-09-0556P*	Federal Emergency Management Agency	Washington, D.C.	January 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009g	Federal Emergency Management Agency	*LOMR Case 09-09-0531P*	Federal Emergency Management Agency	Washington, D.C.	January 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2009h	Federal Emergency Management Agency	*LOMR Case 09-09-0294P*	Federal Emergency Management Agency	Washington, D.C.	January 2009	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010	Federal Emergency Management Agency	*LOMR Case 10-09-3061P*	Federal Emergency Management Agency	Washington, D.C.	July 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010a	Federal Emergency Management Agency	*LOMR Case 09-09-1506P*	Federal Emergency Management Agency	Washington, D.C.	February 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010b	Federal Emergency Management Agency	*LOMR Case 10-09-0680P*	Federal Emergency Management Agency	Washington, D.C.	August 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010c	Federal Emergency Management Agency	*LOMR Case 10-09-1598P*	Federal Emergency Management Agency	Washington, D.C.	April 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010d	Federal Emergency Management Agency	*LOMR Case 10-09-2521P*	Federal Emergency Management Agency	Washington, D.C.	December 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010e	Federal Emergency Management Agency	*LOMR Case 10-09-0488P*	Federal Emergency Management Agency	Washington, D.C.	January 2010	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2010f	Federal Emergency Management Agency	*LOMR Case 10-09-2674P*	Federal Emergency Management Agency	Washington, D.C.	August 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010g	Federal Emergency Management Agency	*LOMR Case 09-09-2890P*	Federal Emergency Management Agency	Washington, D.C.	June 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2010h	Federal Emergency Management Agency	*LOMR Case 09-09-0491P*	Federal Emergency Management Agency	Washington, D.C.	March 2010	FEMA Flood Map Service Center msc.fema.gov
FEMA 2011	Federal Emergency Management Agency	*LOMR Case 10-09-2063P*	Federal Emergency Management Agency	Washington, D.C.	July 2011	FEMA Flood Map Service Center msc.fema.gov
FEMA 2011a	Federal Emergency Management Agency	*LOMR Case 11-09-1779P*	Federal Emergency Management Agency	Washington, D.C.	June 2011	FEMA Flood Map Service Center msc.fema.gov
FEMA 2011b	Federal Emergency Management Agency	*LOMR Case 11-09-1520P*	Federal Emergency Management Agency	Washington, D.C.	March 2011	FEMA Flood Map Service Center msc.fema.gov
FEMA 2012	Federal Emergency Management Agency	*LOMR Case 12-09-1186P*	Federal Emergency Management Agency	Washington, D.C.	August 2012	FEMA Flood Map Service Center msc.fema.gov
FEMA 2012	Federal Emergency Management Agency	*Light Detection and Ranging LiDAR Digital Data*	*	Washington, D.C.	January 2012	FEMA Flood Map Service Center msc.fema.gov
FEMA 2013	Federal Emergency Management Agency	*LOMR Case 12-09-0582P*	Federal Emergency Management Agency	Washington, D.C.	January 2013	FEMA Flood Map Service Center msc.fema.gov
FEMA 2013	Federal Emergency Management Agency	*Operating Guidance 12-13, Non-Accredited Levee Analysis and Mapping Guidance*	*	Washington, D.C.	January 2013	FEMA Flood Map Service Center msc.fema.gov
FEMA 2013a	Federal Emergency Management Agency	*LOMR Case 12-09-2411P*	Federal Emergency Management Agency	Washington, D.C.	February 2013	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2013b	Federal Emergency Management Agency	*LOMR Case 13-09-2159P*	Federal Emergency Management Agency	Washington, D.C.	November 2013	FEMA Flood Map Service Center msc.fema.gov
FEMA 2013c	Federal Emergency Management Agency	*LOMR Case 12-09-2546P*	Federal Emergency Management Agency	Washington, D.C.	September 2013	FEMA Flood Map Service Center msc.fema.gov
FEMA 2013d	Federal Emergency Management Agency	*LOMR Case 12-09-1650P*	Federal Emergency Management Agency	Washington, D.C.	May 2013	FEMA Flood Map Service Center msc.fema.gov
FEMA 2013e	Federal Emergency Management Agency	*LOMR Case 12-09-0685P*	Federal Emergency Management Agency	Washington, D.C.	May 2013	FEMA Flood Map Service Center msc.fema.gov
FEMA 2014	Federal Emergency Management Agency	*LOMR Case 13-09-3081P*	Federal Emergency Management Agency	Washington, D.C.	May 2014	FEMA Flood Map Service Center msc.fema.gov
FEMA 2014a	Federal Emergency Management Agency	*LOMR Case 14-09-1559P*	Federal Emergency Management Agency	Washington, D.C.	March 2014	FEMA Flood Map Service Center msc.fema.gov
FEMA 2014b	Federal Emergency Management Agency	*LOMR Case 13-09-3138P*	Federal Emergency Management Agency	Washington, D.C.	August 2014	FEMA Flood Map Service Center msc.fema.gov
FEMA 2014c	Federal Emergency Management Agency	*LOMR Case 14-09-1024P*	Federal Emergency Management Agency	Washington, D.C.	October 2014	FEMA Flood Map Service Center msc.fema.gov
FEMA 2014d	Federal Emergency Management Agency	*LOMR Case 12-09-2519P*	Federal Emergency Management Agency	Washington, D.C.	April 2014	FEMA Flood Map Service Center msc.fema.gov
FEMA 2015	Federal Emergency Management Agency	*LOMR Case 14-09-3245P*	Federal Emergency Management Agency	Washington, D.C.	March 2015	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2015a	Federal Emergency Management Agency	*LOMR Case 14-09-2663P*	Federal Emergency Management Agency	Washington, D.C.	May 2015	FEMA Flood Map Service Center msc.fema.gov
FEMA 2015b	Federal Emergency Management Agency	*LOMR Case 14-09-2404P*	Federal Emergency Management Agency	Washington, D.C.	March 2015	FEMA Flood Map Service Center msc.fema.gov
FEMA 2015c	Federal Emergency Management Agency	*LOMR Case 14-09-3381P*	Federal Emergency Management Agency	Washington, D.C.	February 2015	FEMA Flood Map Service Center msc.fema.gov
FEMA 2015d	Federal Emergency Management Agency	*LOMR Case 15-09-0162P*	Federal Emergency Management Agency	Washington, D.C.	July 2015	FEMA Flood Map Service Center msc.fema.gov
FEMA 2015e	Federal Emergency Management Agency	*LOMR Case 15-09-1205P*	Federal Emergency Management Agency	Washington, D.C.	August 2015	FEMA Flood Map Service Center msc.fema.gov
FEMA 2016	Federal Emergency Management Agency	*LOMR Case 15-09-2570P*	Federal Emergency Management Agency	Washington, D.C.	February 2016	FEMA Flood Map Service Center msc.fema.gov
FEMA 2016a	Federal Emergency Management Agency	*LOMR Case 15-09-1832P*	Federal Emergency Management Agency	Washington, D.C.	March 2016	FEMA Flood Map Service Center msc.fema.gov
FEMA 2016b	Federal Emergency Management Agency	*LOMR Case 15-09-1728P*	Federal Emergency Management Agency	Washington, D.C.	May 2016	FEMA Flood Map Service Center msc.fema.gov
FEMA 2016c	Federal Emergency Management Agency	*LOMR Case 16-09-1601P*	Federal Emergency Management Agency	Washington, D.C.	October 2016	FEMA Flood Map Service Center msc.fema.gov
FEMA 2016d	Federal Emergency Management Agency	*LOMR Case 16-09-0597P*	Federal Emergency Management Agency	Washington, D.C.	December 2016	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2017	Federal Emergency Management Agency	*LOMR Case 16-09-2170P*	Federal Emergency Management Agency	Washington, D.C.	March 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017a	Federal Emergency Management Agency	*LOMR Case 16-09-2070P*	Federal Emergency Management Agency	Washington, D.C.	March 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017b	Federal Emergency Management Agency	*LOMR Case 16-09-1612P*	Federal Emergency Management Agency	Washington, D.C.	June 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017c	Federal Emergency Management Agency	*LOMR Case 17-09-0232P*	Federal Emergency Management Agency	Washington, D.C.	September 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017d	Federal Emergency Management Agency	*LOMR Case 17-09-0430P*	Federal Emergency Management Agency	Washington, D.C.	September 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017e	Federal Emergency Management Agency	*LOMR Case 16-09-1551P*	Federal Emergency Management Agency	Washington, D.C.	October 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017f	Federal Emergency Management Agency	*LOMR Case 17-09-1375P*	Federal Emergency Management Agency	Washington, D.C.	November 2017	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018	Federal Emergency Management Agency	*Flood Insurance Rate Map - Riverside County, California*	Federal Emergency Management Agency	Washington, D.C.	March 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018a	Federal Emergency Management Agency	*LOMR Case 17-09-0805P*	Federal Emergency Management Agency	Washington, D.C.	January 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018b	Federal Emergency Management Agency	*LOMR Case 17-09-1498P*	Federal Emergency Management Agency	Washington, D.C.	February 2018	FEMA Flood Map Service Center msc.fema.gov

*Data Not Available

Table 32: 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
FEMA 2018c	Federal Emergency Management Agency	*LOMR Case 17-09-1800P*	Federal Emergency Management Agency	Washington, D.C.	March 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018e	Federal Emergency Management Agency	*LOMR Case 17-09-1814P*	Federal Emergency Management Agency	Washington, D.C.	March 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018f	Federal Emergency Management Agency	*LOMR Case 16-09-1555P*	Federal Emergency Management Agency	Washington, D.C.	March 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018g	Federal Emergency Management Agency	*LOMR Case 17-09-1273P*	Federal Emergency Management Agency	Washington, D.C.	April 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018h	Federal Emergency Management Agency	*LOMR Case 17-09-2752P*	Federal Emergency Management Agency	Washington, D.C.	June 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018i	Federal Emergency Management Agency	*LOMR Case 18-09-0771X*	Federal Emergency Management Agency	Washington, D.C.	July 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018j	Federal Emergency Management Agency	*LOMR Case 18-09-0176P*	Federal Emergency Management Agency	Washington, D.C.	August 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018k	Federal Emergency Management Agency	*LOMR Case 18-09-0497P*	Federal Emergency Management Agency	Washington, D.C.	October 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2018l	Federal Emergency Management Agency	*LOMR Case 18-09-0328P*	Federal Emergency Management Agency	Washington, D.C.	June 2018	FEMA Flood Map Service Center msc.fema.gov
FEMA 2019	Federal Emergency Management Agency	*LOMR Case 18-09-0229P*	Federal Emergency Management Agency	Washington, D.C.	January 2019	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2019a	Federal Emergency Management Agency	*LOMR Case 18-09-1163P*	Federal Emergency Management Agency	Washington, D.C.	February 2019	FEMA Flood Map Service Center msc.fema.gov
FEMA 2019b	Federal Emergency Management Agency	*LOMR Case 18-09-1668P*	Federal Emergency Management Agency	Washington, D.C.	June 2019	FEMA Flood Map Service Center msc.fema.gov
FEMA 2019c	Federal Emergency Management Agency	*LOMR Case 18-09-2125P*	Federal Emergency Management Agency	Washington, D.C.	July 2019	FEMA Flood Map Service Center msc.fema.gov
FEMA 2019d	Federal Emergency Management Agency	*LOMR Case 18-09-1802P*	Federal Emergency Management Agency	Washington, D.C.	November 2019	FEMA Flood Map Service Center msc.fema.gov
FEMA 2019e	Federal Emergency Management Agency	*LOMR Case 19-09-0548P*	Federal Emergency Management Agency	Washington, D.C.	December 2019	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020	Federal Emergency Management Agency	*LOMR Case 19-09-0367P*	Federal Emergency Management Agency	Washington, D.C.	January 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020a	Federal Emergency Management Agency	*LOMR Case 19-09-1172P*	Federal Emergency Management Agency	Washington, D.C.	January 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020b	Federal Emergency Management Agency	*LOMR Case 19-09-1886P*	Federal Emergency Management Agency	Washington, D.C.	April 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020c	Federal Emergency Management Agency	*LOMR Case 20-09-0830P*	Federal Emergency Management Agency	Washington, D.C.	March 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020d	Federal Emergency Management Agency	*LOMR Case 19-09-0463P*	Federal Emergency Management Agency	Washington, D.C.	June 2020	FEMA Flood Map Service Center msc.fema.gov

Table 32: 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
FEMA 2020e	Federal Emergency Management Agency	*LOMR Case 19-09-1450P*	Federal Emergency Management Agency	Washington, D.C.	June 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020f	Federal Emergency Management Agency	*LOMR Case 19-09-2247P*	Federal Emergency Management Agency	Washington, D.C.	September 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2020g	Federal Emergency Management Agency	*LOMR Case 20-09-0154P*	Federal Emergency Management Agency	Washington, D.C.	September 2020	FEMA Flood Map Service Center msc.fema.gov
FEMA 2021	Federal Emergency Management Agency	*LOMR Case 18-09-2446P*	Federal Emergency Management Agency	Washington, D.C.	April 2021	FEMA Flood Map Service Center msc.fema.gov
FEMA 2021a	Federal Emergency Management Agency	*LOMR Case 21-09-0615P*	Federal Emergency Management Agency	Washington, D.C.	April 2021	FEMA Flood Map Service Center msc.fema.gov
FEMA 2021b	Federal Emergency Management Agency	*Warm Springs PMR*	STARR II	Washington, D.C.	September 9999	FEMA Flood Map Service Center msc.fema.gov
FEMA 2021c	Federal Emergency Management Agency	*LOMR Case 20-09-2180P*	Federal Emergency Management Agency	Washington, D.C.	May 2021	FEMA Flood Map Service Center msc.fema.gov
FEMA 2021d	Federal Emergency Management Agency	*LOMR Case 20-09-0482P*	Federal Emergency Management Agency	Washington, D.C.	September 2021	FEMA Flood Map Service Center msc.fema.gov
FEMA 2021e	Federal Emergency Management Agency	*LOMR Case 21-09-0016P*	Federal Emergency Management Agency	Washington, D.C.	November 2021	FEMA Flood Map Service Center msc.fema.gov
FEMA 2022a	Federal Emergency Management Agency	*Oasis Drainage PMR*	STARR II	Washington, D.C.	March 2022	FEMA Flood Map Service Center msc.fema.gov
FEMA FIA 1984	Federal Emergency Management Agency, Federal Insurance Administration	*Flood Insurance Study, Riverside County, California Unincorporated Areas*	*	Washington, D.C.	May 1984	

*Data Not Available

Table 32: 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
FEMA1990	Bureau of Reclamation	*Colorado River Work Maps*	Bureau of Reclamation	Washington, D.C.	January 1990	
FLOED 2007	FLO 2D Software, Inc	*FLO-2D Version 2007.06*	*	Nutrioso, Arizona	January 2007	
HUD 1974	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Hazard Boundary Map, City of Hemet, California, Scale 1:12,000*	*	Washington, D.C.	January 1974	
HUD 1978	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Insurance Study, City of Corona, California*	*	Washington, D.C.	January 1978	
HUD 1979	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Alluvial Fan Special Flood Hazard Zone Mapping*	*	Washington, D.C.	July 1979	
HUD 1980	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Insurance Study, City of Lake Elsinore, California*	*	*	January 1980	
HUD May 1974	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Hazard Boundary Map, City of Corona, California, Scale 1:12,000*	*	*	May 1974	
Inland 2009	Inland Aerial Surveys, Inc	*San Jacinto Watershed Contours and Spot Elevations Derived from LiDAR Surface*	*	Riverside County, California	August 2015	
JMT 1992	John M. Tettemer and Associates	*Whitewater River Levee HEC-2 X-Sections Existing and Proposed Levee Plan*	*	*	October 1992	
JMT 1994	John M. Tettemer and Associates	*Application/Certification Forms to Obtain a Conditional Letter of Map Revision for the City of Palm Springs Whitewater River Levee Improvements, Volumes I and II*	*	*	July 1994	
JMT 1995	John M. Tettemer and Associates	*Whitewater River Levee Improvements Stage 2*	*	*	November 1995	

*Data Not Available

Table 32: 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
Ken O'Brien 1978	Ken O'Brien and Associates, Consulting Engineers	*Feasibility for Flood Control and Allied Purposes, Whitewater River Basin, California*	*	*	September 1978	
McGraw Hill 1976	McGraw Hill	*Handbook of Hydraulics*	Horace W. King	New York, New York	January 1976	
Musser 1991	Musser Engineering Consultants, Inc.	*Floodplain Map*	*	Washington, D.C.	March 1991	
NHC 2015	Northwest Hydraulic Consultants NHC	*Haystack Dike Deep Canyon Stormwater Channel Facility, Hydrologic and Hydraulic Studies for Certification*	*	*	June 2015	
NHD and NHC 2014	NHD and NHC	*Surface Water Features*	NHD and NHC	Washington, D.C.	January 2014	
Nolte 1905	Nolte and Associates	*Cross Sections, prepared from aerial photographs, Date Palm Road to Cook Road*	*	*	June 1905	
NHC 2015	Northwest Hydraulic Consultants(NHC)	Haystack Dike – DeepCanyon Stormwater Channel Facility, Hydrologic and Hydraulic Studies for Certification	*	*	June 14, 2015	
PACE 2002	Pacific Advanced Civil Engineering PACE	*Technical Memorandum for West Dike System, Dike No 4 Storage Analysis*	*	Washington, D.C.	January 2002	
PACE 2006	Pacific Advanced Civil Engineering PACE	*West Dike System Dike No 2 Storage Analysis*	*	*	January 2006	
Philip 1975	Philip Abrams, Consulting Engineers	*Study of Benefit Assessments Resulting from Whitewater and Cabazon Dams*	*	*	December 1975	
PRC Toups 1980	PRC Toups	*Cabazon Flood Study, prepared for the Riverside County Flood Control and Water Conservation District*	*	*	June 1980	
Quinton Budlong 1969	Quinton Budlong	*Area Development Study, University of California, Riverside*	*	Los Angeles, California	January 1969	
RCDPW 1957	Riverside County Department of Public Works	*Proposed Storm Drain, North of Massachusetts Avenue and West of Duhahart Street*	*	Riverside, California	January 1957	

*Data Not Available

Table 32: 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
RCDPW 1959	Riverside County Department of Public Works	*Storm Drain Details, As Built Plans, Clover Leaf Junction*	*	Riverside, California	January 1959	
RCDPW 1965	Riverside County Department of Public Works	*Chicago Avenue Extension No 2*	*	Riverside, California	January 1965	
RCDPW 1966	Riverside County Department of Public Works	*Springbrook Storm Drain, Springbrook Estates, D-39*	*	Riverside, California	January 1966	
RCDPW 1974	Riverside County Department of Public Works	*Street Lighting Plans, Parcel Map No 156*	*	Riverside, California	January 1974	
RCDPW DOH 1959	Riverside County Department of Public Works, Division of Highways	*Plans for Construction on Stage Highway, Riverside County*	*	Riverside, California	January 1959	
RCDPW 1967	Riverside County Department of Public Works	*Main St, R-966A*	*	Riverside, California	January 1967	
RCFCD	Riverside County Flood Control District	*Topographic Maps, Scale 1:2,400, Contour Interval 4 feet*	*	Lake Elsinore, California	*	
RCFCD 1959	Riverside County Flood Control District	*Topographic Maps, Palm Springs, California, Scale 1:2,400, Contour Interval 4 feet*	*	Riverside County, California	January 1959	
RCFCD 1968, 1972	Riverside County Flood Control and Water Conservation District	*Topographic Maps, Scale 1:2,400, Contour Intervals 4 and 5 feet*	*	Riverside County, California	May 1968	
RCFCD 1972	Riverside County Flood Control District	*Topographic Maps, Scale 1:2,400, Contour Intervals 4 and 5 feet*	*	Banning and Beaumont, California	December 1972	
RCFCD 1972a	Riverside County Flood Control District	*Topographic Maps, Scale 1:3,400, Contour Interval 4 feet*	*	Riverside County, California	December 1972	
RCFCD 1974	Riverside County Flood Control District	*Flood Zone Boundary Maps*	*	Riverside County, California	January 1974	
RCFCD 1974	Riverside County Flood Control and Water Conservation District	*Orthophoto Flood Zone Boundary Maps, Scale 1:2,400, Contour Interval 4 feet*	*	Riverside County, California	January 1974	
RCFCD 1974a	Riverside County Flood Control District	*Box Springs Drain, Stage I*	*	Riverside County, California	January 1974	

*Data Not Available

Table 32: 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
RCFCD 1975	Riverside County Flood Control District	*Box Springs Drain, Stage III*	*	Riverside County, California	January 1975	
RCFCD 1976	Riverside County Flood Control District	*University Wash Channel, Stage I*	*	Riverside County, California	January 1976	
RCFCD 1976a	Riverside County Flood Control District	*Box Springs Drain, Evans Park Lateral*	*	Riverside, California	January 1976	
RCFCD 1979	Riverside County Flood Control District	*University Wash Spruce Street Storm Drain, Stage II*	*	Riverside, California	January 1979	
RCFCDa	Riverside County Flood Control District	*Box Springs Master Drainage Plan*	*	Riverside, California	*	
RCFCWCD 1966	Riverside County Flood Control and Water Conservation District	*Topographic Maps, Scale 1:2,400, Contour Interval 4 feet*	*	Riverside County, California	January 1966	
RCFCWCD 1973, 1974	Riverside County Flood Control and Water Conservation District	*Topographic Maps, Scale 1:2,400, Contour Intervals 4 and 5 feet*	*	Riverside County, California	January 1973	
RCFCWCD 1978	Riverside County Flood Control and Water Conservation District	*Hydrology Manual*	*	Riverside County, California	April 1978	
RCFCWCD 1980	Riverside County Flood Control and Water Conservation District	*Topographic Maps, Scale 1:2,400, Contour Interval 4 feet*	*	Riverside County, California	June 1980	
RCFCWCD 1982	Riverside County Flood Control and Water Conservation District	*Topographic Maps, Scale 1:2,400, Contour Intervals 2 and 4 feet*	*	Riverside County, California	October 1982	
RCFCWCD 1986	Riverside County Flood Control and Water Conservation District	*Kitching Street Channel Project No 4-0-280, as- built plans*	*	Riverside County, California	June 1986	
RCFCWCD 2007	Riverside County Flood Control and Water Conservation District	*Light Detection and Ranging LiDAR Digital Data*	*	Riverside County, California	January 2007	
RCFCWCD	Riverside County Flood Control and Water Conservation District	*Hydraulic Analysis, Seven Hills Area of Salt Creek Floodplain*	*	*	*	
RCFCWCD	Riverside County Flood Control and Water Conservation District	*Information Correspondence*	*	*	*	

*Data Not Available

Table 32: 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
RCFCWCD 1964	Riverside County Flood Control and Water Conservation District	*Topography Maps, Scale 1:4,800, Contour Interval 4 feet*	*	Riverside County, California	June 1964	
RCFCWCD 1968	Riverside County Flood Control and Water Conservation District	*1,000-foot Grid Topographic Maps, Scale 1:2,400, Contour Interval 4 feet Interval 4 feet 1,000-foot Grid Topographic Maps, Scale 1:2,400, Contour Interval 4 feet*	*	Riverside County, California	January 1968	
RCFCWCD 1970	Riverside County Flood Control and Water Conservation District	*Report on 1969 Storms in Riverside County*	*	Riverside County, California	October 1970	
RCFCWCD 1974	Riverside County Flood Control and Water Conservation District	*Flood Zone Boundary Maps*	*	Riverside County, California	January 1974	
RCFCWCD 1975	Riverside County Flood Control and Water Conservation District	*Report on San Jacinto River Hydrology*	*	Riverside County, California	March 1975	
RCFCWCD 1975a	Riverside County Flood Control and Water Conservation District	*Master Drainage Plan for the City of Banning*	*	Riverside County, California	June 1975	
RCFCWCD 1982	Riverside County Flood Control and Water Conservation District	*Hydrologic Data for 1976-77, 1977-78, 1978-79 Seasons*	*	Riverside County, California	March 1982	
RCFCWCD 1989	Riverside County Flood Control and Water Conservation District	*Mission Creek Flow Conditions Near the I-10 Embankment*	James D. Schall, Ph.D., P.E.	Riverside County, California	January 1989	
RCFCWCDa	Riverside County Flood Control and Water Conservation District	*Topographic Maps, Scale 1:2,400, Contour Interval 4 feet*	*	City of Desert Hot Springs, California	*	
RCFD2012	Riverside County Flood District	*Riverside County Flood District Digital Photogrammetry*	Riverside County Flood District	Riverside County, California	January 2012	
RCGIS 2014	Riverside County Geographic Information Systems Portal	*Political boundaries for Riverside County, CA*	Riverside County Geographic Information Systems Portal	Riverside, CA	October 2014	

*Data Not Available

Table 32: 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
RCGIS 2014a	Riverside County Geographic Information Systems Portal	*Transportation for Riverside County, CA*	Riverside County Geographic Information Systems Portal	Riverside, CA	October 2014	
Simons and Assoc. 1986	Simons and Associates, Inc.	*Desert Hot Springs Area Flood Insurance Study*	*	*	December 1986	
Tetra Tech 2012	Tetra Tech	*San Jacinto River Levee System: County of Riverside, California, Levee Certification Report*	*	*	April 2015	
Toups Corp. 1976	Toups Corporation	*Topographic Maps, Scale 1:4,800, Contour Interval 4 feet*	*	Rancho Mirage, California	October 1976	
Toups Corp. 1978	Toups Corporation	*Topographic Maps, Scale 1:2,400, Contour Interval 4 feet*	*	Palm Springs, California	January 1978	
URA 1972	Urbanonics Research Associates	*Riverside County Population Projection 19701990*	*	*	January 1972	
USACE 1962	U.S. Army Corps of Engineers	*Statistical Methods in Hydrology*	Leo R. Beard	*	January 1962	
USACE 1969	U.S. Army Corps of Engineers	*Floodplain Information, Salt Creek (Hemet to Railroad Canyon Reservoir*	*	*	June 1969	
USACE 1970	U.S. Army Corps of Engineers	*Floodplain Information, San Jacinto River (San Jacinto River to Railroad Canyon*	*	*	May 1970	
USACE 1971	U.S. Army Corps of Engineers, Los Angeles District	*Floodplain Information, Salt Creek, Hemet to Railroad Canyon Reservoir, Riverside County, California*	*	Los Angeles, California	June 1971	
USACE 1973	U.S. Army Corps of Engineers, Los Angeles District, California	*Hydrology for Flood Insurance Studies, Bautista Wash and the City of San Jacinto, Riverside County, California*	*	*	January 1973	
USACE 1973	U.S. Army Corps of Engineers, Los Angeles District	*Flood Insurance Study, San Jacinto, California*	*	*	*	

*Data Not Available

Table 32: 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
USACE 1973	U.S. Army Corps of Engineers	*Floodplain Information, San Gorgonio River and Smith Creek*	*	Los Angeles, California	June 1973	
USACE 1973	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-2 Water-Surface Profiles, Generalized Computer Program, User's Manual*	*	Davis, California	October 1973	
USACE 1973a	U.S. Army Corps of Engineers, Hydrologic Engineering Center.	*HEC-1 Flood Hydrograph Package, Users Manual, Generalized Computer Program*	*	Davis, California	January 1973	
USACE 1974	U.S. Army Corps of Engineers, Los Angeles District	*Floodplain Information, San Gorgonio River and Tributaries, Riverside County, California*	*	Los Angeles, California	October 1974	
USACE 1974a	U.S. Army Corps of Engineers	*Floodway Determination Using Computer Program HEC-2*	*	*	May 1974	
USACE 1974b	U.S. Army Corps of Engineers	*Information Brochure, Flood Control and Recreation Development, Santa Ana River Basin and Orange County Main Stem Santa Ana River*	*	*	August 1974	
USACE 1975	U.S. Army Corps of Engineers	*Information Pamphlet, Recommended Plan of Improvement for Flood Control and Allied Purposes (All-River Plan), Santa Ana River, Santiago Creek, and Oak Street Drain*	*	*	November 1975	
USACE 1975	U.S. Army Corps of Engineers, Los Angeles District	*Review Report on the Santa Ana River Main Stem (Including Santiago Creek and Oak Street Drain*	*	Los Angeles, California	December 1975	
USACE 1976	U.S. Army Corps of Engineers	*HEC-2 Water-Surface Profiles, Generalized Computer Program, User's Manual Supplement*	*	*	November 1976	
USACE 1977	U.S. Army Corps of Engineers, Los Angeles District, California	*Hydrology for Review Report for Flood Control and Related Purposes, Mission Zanja, San Timoteo, Temescal, and Wilson Creeks, Santa Ana River Basin and Orange County, California*	*	Los Angeles, California	January 1977	

*Data Not Available

Table 32: 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
USACE 1977a	U.S. Army Corps of Engineers	*Flood Damage Report; San Bernardino, Riverside, and Imperial Counties, California, Floods of September 1976*	*	*	September 1977	
USACE 1978	U.S. Army Corps of Engineers, Los Angeles District	*Report on Floods of February and March of 1978 in Southern California*	*	Los Angeles, California	November 1978	
USACE 1980	U.S. Army Corps of Engineers, Los Angeles District	*Whitewater River Basin, Feasibility Report for Flood Control and Allied Purposes, San Bernardino and Riverside Counties, California, Appendix 1, Hydrology*	*	Los Angeles, California	May 1980	
USACE 1983	U.S. Army Corps of Engineers, Los Angeles District, California	*Whitewater River Basin, Feasibility Report for Flood Control, Palm Desert and La Quinta, Riverside County, California, Stage III, Appendix A, Hydrology*	*	Los Angeles, California	June 1983	
USACE 1983a	U.S. Army Corps of Engineers, Los Angeles District	*West Magnesia Canyon Channel, Rancho Mirage, California, Final Detailed Project Report for Flood Control and Environmental Statement*	*	Los Angeles, California	December 1983	
USACE 1983b	U.S. Army Corps of Engineers, Los Angeles District	*Review Report for Flood Control and Allied Purposes, 4th Interim Report, Lake Elsinore Basin, Stage II, Hydrology*	*	Los Angeles, California	December 1983	
USACE 1998	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-RAS, River Analysis System, Version 2.2*	*	Davis, California	*	
USACE 1999	U.S. Army Corps of Engineers, Hydrologic Engineering Center.	*HEC-5, Reservoir System Operations for Flood Control, Version 8.0*	*	Davis, California	May 1999	
USACE 2015	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-RAS, River Analysis System, Version 4.1*	*	Davis, California	January 2015	
USACE 2015(a)	U.S. Army Corps of Engineers, Hydrologic Engineering Center	HEC-RAS, RiverAnalysis System,Version 3.1	*	Davis, California	January 2015	

*Data Not Available

Table 32: 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
USDA FSA 2014	U.S. Department of Agriculture Farm Service Agency	*National Agriculture Imagery Program Remote Sensing Imagery*	U.S. Department of Agriculture Farm Service Agency	Salt Lake City, UT	September 2014	
USDA FSA 2020	U.S. Department of Agriculture Farm Service Agency	*National Agriculture Imagery Program Remote Sensing Imagery*	U.S. Department of Agriculture Farm Service Agency	Salt Lake City, UT	2020	
USDC BPR 1965	U.S. Department of Commerce, Bureau of Public Roads	*Hydraulic Engineering Circular No 5, Hydraulic Charts for the Selection of Highway Culverts*	*	Washington, D.C.	December 1965	
USDI	U.S. Department of the Interior	*Geological Survey Water Resources Investigations 77-21, Magnitude and Frequency of Floods in California*	A. O. Waananen and J. R. Crippen	*	*	
USDI-USGS	U.S. Department of the Interior, Geological Survey	*Map of Flood-Prone Areas, Scale 1:24,000*	E. Butter, J. K. Reid, and V. K. Berwick	*	*	
USDI-USGS 1954	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 40 feet*	*	*	January 1953	
USDI-USGS 1963	U.S. Department of the Interior, Geological Survey	*5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 40 feet*	*	*	January 1963	
USDI-USGS 1966	U.S. Department of the Interior, Geological Survey	*Water Resources Data for California, Part 1, Surface Water Records, Volume I*	J. R. Crippen and R. M. Beall	*	January 1966	
USDI-USGS 1967	U.S. Department of the Interior, Geological Survey	*Magnitude and Frequency of Floods in the United States, Part 10, The Great Basin*	*	*	January 1967	
USDI-USGS 1967a	U.S. Department of the Interior, Geological Survey	*5-Minute Series Topographic Maps, Contour Interval 4 feet*	*	*	January 1967	
USDI-USGS 1973a	U.S. Department of the Interior, Geological Survey	*Magnitude and Frequency of Floods from Small Drainage Areas in California*	*	Menlo Park, California	January 1973	
USDI-USGS 1973b	U.S. Department of the Interior, Geological Survey	*Floods from Small Drainage Areas in California: A Compilation of Peak Data, October 1958 to September 1973*	*	*	January 1973	
USDI USGS 1973	U.S. Department of the Interior, Geological Survey	*Open-File Report, A Proposed Streamflow Data Program for California*	T. J. Durbin	*	January 1973	

*Data Not Available

Table 32: 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
USDI USGS 1980	U.S. Department of the Interior, Geological Survey	*Open-File Report 80- 1005, Floods of January and February 1980 in California*	Wahl, K. L., J. R. Crippen, and J. M. Knott	Menlo Park, California	August 1980	
USDOHUD FIA 1976	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Hazard Boundary Map, City of Beaumont, California, Scale 1:12,000*	*	Washington, D.C.	January 1976	
USDOHUD FIA 1978	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Insurance Study, City of Banning, California*	*	Washington, D.C.	January 1978	
USDOHUD FIA 1978a	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Insurance Study, City of Hemet, California*	*	Washington, D.C.	January 1978	
USDOHUD FIA 1978b	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Insurance Study, City of Beaumont, California*	*	Washington, D.C.	January 1978	
USDOHUD FIA 1978c	U.S. Department of Housing and Urban Development, Federal Insurance Administration	*Flood Insurance Study, City of Desert Hot Springs, California*	*	*	*	
USDOT FHA 1985	U.S. Department of Transportation, Federal Highway Administration	*Report No FWHA-IP- 85-15, Hydraulic Design of Highway Culverts*	*	*	September 1985	
USGS 1970	U.S. Department of the Interior, Geological Survey	*Water-Supply Paper 1685, Magnitude and Frequency of Floods in the United States, Part 2, Pacific Slope Basins in California, Volume 1*	A. O. Waanen	*	August 1970	
USGS 1973	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Intervals 20 and 40 feet*	*	*	January 1973	
USGS 1974	U.S. Department of the Interior, Geological Survey	*Digital Simulation of the Effects of Urbanization on Runoff in the Upper Santa Ana Valley, California*	*	*	February 1974	
USGS 1974	U.S. Department of the Interior, Geological Survey	*Flood-Prone Area Map*	*	Sunnymead, California	January 1974	

*Data Not Available

Table 32: 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
USGS 1977	Journal Research, US Geological Survey, Vol 5, No 6	*A Method for Adjusting Values of Mannings Roughness Coefficient for Flooded Urban Areas*	H. R. Heil and L. Kans	*	September 1977	
USGS 1977	U.S. Department of the Interior, Geological Survey	*Water Resources Investigation 77-21, Magnitude and Frequency of Floods in California*	*	*	June 1977	
USGS 1993	U.S. Geological Survey	*Methods for Estimating the Magnitude and Frequency of Floods in the Southwestern United States, USGS Open File Report 93 419*	B. E. Thomas, et al.	*	January 1993	
USGS 1994	U.S. Geological Survey	*USGS Base layers*	U.S. Geological Survey	Washington, D.C.	January 1994	
USWRC 1985	U.S. Water Resources Council	*Guidelines for Determining Flood Flow Frequencies, Bulletin 17*	*	*	January 1976	
Ven Te Chow 1959	Ven Te Chow	*Open Channel Hydraulics*	McGraw Hill	New York, New York	January 1959	
Ven Te Chow 1959a	Chow, Ven Te	*Computation of n values Using Cowans Method, Chapter 5, Open Channel Hydraulics*	McGraw Hill	New York, New York	January 1959	
Webb 1975	Albert A. Webb Associates	*Grading Plan, Northeast Corner Chicago and Central Avenue*	*	Riverside, California	January 1975	
Webb 2011	Albert A. Webb Associates	*Application for a Letter of Map Revision LOMR*	*	Riverside, California	January 2011	
Webb 2013	Albert A. Webb Associates	*Application for a Letter of Map Revision LOMR*	*	Riverside, California	January 2013	

*Data Not Available