FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 9

LOS ANGELES COUNTY, CALIFORNIA

AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
AGOURA HILLS, CITY OF	065072	COMMERCE, CITY OF	060110
ALHAMBRA, CITY OF*	060095	COMPTON, CITY OF	060111
ARCADIA, CITY OF*	065014	COVINA, CITY OF*	065024
ARTESIA, CITY OF*	060097	CUDAHY, CITY OF	060657
AVALON, CITY OF	060098	CULVER CITY, CITY OF	060114
AZUSA, CITY OF	065015	DIAMOND BAR, CITY OF	060741
BALDWIN PARK, CITY OF*	060100	DOWNEY, CITY OF	060645
BELL, CITY OF*	060101	DUARTE, CITY OF*	065026
BELL GARDENS, CITY OF	060656	EL MONTE, CITY OF*	060658
BELLFLOWER, CITY OF	060102	EL SEGUNDO, CITY OF	060118
BEVERLY HILLS, CITY OF*	060655	GARDENA, CITY OF	060119
BRADBURY, CITY OF*	065017	GLENDALE, CITY OF	065030
BURBANK, CITY OF	065018	GLENDORA, CITY OF*	065031
CALABASAS, CITY OF	060749	HAWAIIAN GARDENS, CITY OF*	065032
CARSON, CITY OF	060107	HAWTHORNE, CITY OF*	060123
CERRITOS, CITY OF	060108	HERMOSA BEACH, CITY OF	060124
CLAREMONT, CITY OF*	060109	HIDDEN HILLS, CITY OF	060125

*No Special Flood Hazard Areas Identified

REVISED: June 2, 2021

FLOOD INSURANCE STUDY NUMBER

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Version Number 2.3.3.2

FEMA

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
HUNTINGTON PARK, CITY OF*	060126	PICO RIVERA, CITY OF	060148
INDUSTRY, CITY OF*	065035	POMONA, CITY OF*	060149
INGLEWOOD, CITY OF*	065036	RANCHO PALOS VERDES, CITY OF	060464
IRWINDALE, CITY OF*	060129	REDONDO BEACH, CITY OF	060150
LA CANADA FLINTRIDGE, CITY OF*	060669	ROLLING HILLS, CITY OF*	060151
LA HABRA HEIGHTS, CITY OF*	060701	ROLLING HILLS ESTATES, CITY OF*	065054
LA MIRADA, CITY OF	060131	ROSEMEAD, CITY OF*	060153
LA PUENTE*, CITY OF	065039	SAN DIMAS, CITY OF	060154
LA VERNE, CITY OF	060133	SAN FERNANDO, CITY OF	060628
LAKEWOOD, CITY OF	060130	SAN GABRIEL, CITY OF*	065055
LANCASTER, CITY OF	060672	SAN MARINO, CITY OF*	065057
LAWNDALE, CITY OF*	060134	SANTA CLARITA, CITY OF	060729
LOMITA, CITY OF*	060135	SANTA FE SPRINGS, CITY OF	060158
LONG BEACH, CITY OF	060136	SANTA MONICA, CITY OF	060159
LOS ANGELES, CITY OF	060137	SIERRA MADRE, CITY OF*	065059
LOS ANGELES COUNTY UNINCORPORATED AREAS	065043	SIGNAL HILL, CITY OF*	060161
LYNWOOD, CITY OF	060635	SOUTH EL MONTE, CITY OF*	060162
MALIBU, CITY OF	060745	SOUTH GATE, CITY OF	060163
MANHATTAN BEACH, CITY OF	060138	SOUTH PASADENA, CITY OF*	065061
MAYWOOD, CITY OF*	060651	TEMPLE CITY, CITY OF*	060653
MONROVIA, CITY OF*	065046	TORRANCE, CITY OF	060165
MONTEBELLO, CITY OF	060141	VERNON, CITY OF*	060166
MONTEREY PARK, CITY OF*	065047	WALNUT, CITY OF*	065069
NORWALK, CITY OF	060652	WEST COVINA, CITY OF	060666
PALMDALE, CITY OF	060144	WEST HOLLYWOOD, CITY OF*	060720
PALOS VERDES ESTATES, CITY OF	060145	WESTLAKE VILLAGE, CITY OF	060744
PARAMOUNT, CITY OF	065049	WHITTIER, CITY OF	060169
PASADENA, CITY OF*	065050		

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Flood Insurance Rate Map (FIRM)

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2% annual chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 27, "Incorporated Letters of Map Change", which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, "FIRM Revisions."

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 13. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 10. Frequency Discharge-Drainage Area Curves used to develop the hydrologic models may also be shown in Figure 7 for selected flooding sources. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 11. (Coastal stillwater elevations are discussed in Section 5.3 and shown in Table 17.) Stream gage information is provided in Table 12.

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Table 10: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Acton Canyon	At confluence with Santa Clara River	20.9	900	*	2,750	4,080	*	9,050
Acton Canyon	Upstream of confluence with Escondido Canyon Creek	7.5	370	*	1,130	1,670	*	3,700
Agua Dulce Canyon Creek	At confluence with Santa Clara River	29.5	670	*	2,030	3,010	*	6,680
Agua Dulce Canyon Creek	At Sierra Highway	15.6	390	*	1,190	1,770	*	3,930
Agua Dulce Canyon Creek	At Agua Dulce Canyon Road	*	650	*	1,970	2,920	*	6,480
Aliso Canyon Creek	Approximately 0.9 miles upstream of Aliso Canyon Road	*	930	*	2,840	4,210	*	9,340
Aliso Canyon Creek	At Aliso Canyon Road	*	940	*	2,880	4,270	*	9,470
Aliso Canyon Creek	At confluence with Santa Clara River	*	1,030	*	3,160	4,680	*	10,380
Amargosa Creek	East of Antelope Valley Freeway north of Avenue H	206	3,000	*	9,000	13,000	*	30,000
Amargosa Creek	West of Antelope Valley Freeway north of Avenue H	147	2,000	*	5,600	8,400	*	18,000
Amargosa Creek	Approximately midway between 20th Street West and 10th Street West	32.7	1,800	*	3,300	5,000	*	10,100

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Amargosa Creek	At 10th Street West	32.0	*	*	*	2,364	*	*
Amargosa Creek	At 25th Street West Bridge	30.0	*	*	*	2,341	*	*
Amargosa Creek	At Elizabeth Lake Ford Crossing	28.6	*	*	*	2,288	*	*
Amargosa Creek	At Vineyard Ranch	26.5	*	*	*	2,063	*	*
Amargosa Creek	At Outlet of Ritter Ranch Detention Pond	23.8	*	*	*	1,856	*	*
Amargosa Creek	At 90th Street West	6.9	580	*	2,000	3,100	*	4,500
Amargosa Creek Tributary	Intersection of Avenue I and Spearman Avenue	7.2	310	*	900	1,220	*	2,400
Amargosa Creek Tributary	Intersection of Avenue L and 3rd Street East	2.4	150	*	420	560	*	1,000
Amargosa Creek Tributary	Avenue M and Valleyline Drive	1.8	120	*	340	460	*	850
Anaverde Creek	Acton Canyon Road, Escondido Canyon Road, and Crown Valley Road	20.3	*	*	*	3,421	*	6,052
Anaverde Creek	West of Sierra Highway at Avenue P-8	19.0	700	*	2,100	3,100	*	6,600
Anaverde Creek	At Antelope Freeway	16.4	*	*	*	3,730	*	*
Anaverde Creek	East of Antelope Valley Freeway	16.0	700	*	2,100	3,000	*	6,400
Anaverde Creek	1.85 Miles downstream of California Aqueduct	15.7	*	*	*	3,630	*	*
Anaverde Creek	1.47 miles downstream of California Aqueduct	12.8	*	*	*	3,200	*	*

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Anaverde Creek	0.75 miles downstream of California Aqueduct	11.8	*	*	*	3,050	*	*
Anaverde Creek	At California Aqueduct	8.3	*	*	*	2,440	*	*
Anaverde Creek	3,000 feet east of 165th Street East and 4,000 feet south of Pearblossom Highway	7.3	500	*	1,700	2,300	*	4,700
Anaverde Creek	West of 136th Street East at Avenue W-8	2.4	440	*	1,500	1,900	*	3,900
Anaverde Creek	165th Street East approximately 4,000 feet south of Pearblossom Highway	1.0	370	*	1,300	1,600	*	3,100
Anaverde Creek Tributary	Division Street between Avenue P and Avenue P-8	1.4	300	*	1,100	1,600	*	3,000
Avalon Canyon	At Cross Section A	3.7	859	*	1,895	2,419	*	3,785
Avalon Canyon	At Cross Section G	1.8	440	*	971	1,239	*	1,938
Ballona Creek Channel	At intersection of Adams Boulevard and Genesee Avenue	16.7	2,100	*	4,700	6,000	*	9,400
Bel Air Estates Shallow Flooding	Beverly Glen Boulevard north of Sunset Boulevard	1.2	700	*	1,000	1,200	*	1,600
Bel Air Estates Shallow Flooding	Stone Canyon Road south of Bellagio Road	1.0	630	*	940	1,100	*	1,400
Bel Air Estates Shallow Flooding	Stone Canyon Road south of Somma Way	0.7	480	*	710	800	*	1,100
Big Rock Wash	At mouth, southwest	23.0	*	*	*	15,000	*	*
Big Tujunga Canyon	Upstream of Wheatland Avenue	43.3	9,300	*	26,800	38,900	*	66,000

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Big Tujunga Canyon	Approximately 1,200 feet upstream of Foothill Boulevard and Tujuna Valley Street	34.6	8,100	*	24,700	36,500	*	62,600
Bouquet Canyon Creek	At confluence with Santa Clara River	72.2	3,470	*	10,600	15,700	*	34,820
Bouquet Canyon Creek	Approximately 700 feet downstream of Bouquet Canyon Road	60.6	2,750	*	8,400	12,440	*	27,590
Bouquet Canyon Creek	Upstream of confluence with Haskell Canyon	50.9	2,060	*	6,300	9,340	*	20,720
Bouquet Canyon Creek	Approximately 1,000 feet downstream of Benz Road	46.3	1,880	*	5,740	8,510	*	18,880
Bouquet Canyon Creek	Approximately 500 feet upstream of Bouquet Canyon Road	45.2	1,820	*	5,570	8,250	*	18,300
Bouquet Canyon Creek	Upstream of confluence of Vasquez Canyon	35.4	1,700	*	5,180	7,680	*	17,030
Bouquet Canyon Creek	Upstream of confluence of Texas Canyon Creek	24.4	920	*	4,180	9,270	*	9,270
Bouquet Canyon Creek	Approximately 1.7 miles upstream of confluence of Texas Canyon Creek	*	860	*	3,870	8,580	*	8,580
Brentwood Shallow Flooding	Northeast of Sunset Boulevard and Barrington Avenue	0.2	230	*	340	390	*	520
Brentwood Shallow Flooding	North of San Vicente Boulevard, west of Westgate Avenue	0.2	60	*	140	180	*	280

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Castaic Creek	At Santa Clara River Confluence (Pump Capacity)	203	17,950	*	33,490	41,260	*	58,270
Castaic Creek	At confluence with Santa Clara River	*	3,220	6,330	9,830	14,560	*	32,290
Castaic Creek	At Golden State Freeway	*	3,200	6,300	9,770	14,480	*	32,120
Castaic Creek	Approximately 0.9 miles upstream of Golden State Freeway	*	3,120	6,150	9,540	14,130	*	31,340
Castaic Creek	At Castaic Road	*	2,610	5,150	7,990	11,830	*	26,240
Castaic Creek	Approximately 2,100 feet upstream of Confluence with Charlie Canyon	16.8	*	*	*	11,805	*	22,326
Century City Shallow Flooding	Northwest of Santa Monica Boulevard and Avenue of the Stars	0.5	400	*	590	700	*	900
Chatsworth Shallow Flooding	Vicinity of Variel Avenue and Chatsworth Street	13.4	2,100	*	4,700	6,000	*	9,300
Chatsworth Shallow Flooding	Vicinity of Santa Susana Pass Road and Santa Susana Avenue	1.5	450	*	990	1,300	*	2,000
Chatsworth Shallow Flooding	Vicinity of Chatsworth Street and Corbin Avenue	0.9	220	*	480	610	*	960
Chatsworth Shallow Flooding	Vicinity of Canoga Avenue and Devonshire Street	0.8	230	*	510	650	*	1,000
Chatsworth Shallow Flooding	Vicinity of Valley Circle Boulevard and Lassen Street	0.8	220	*	480	600	*	950

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Chatsworth Shallow Flooding	Vicinity of Farrolone Avenue and Lassen Street	0.4	100	*	220	280	*	440
Chatsworth Shallow Flooding	Vicinity of Topanga Canyon Boulevard and Lassen Street	0.3	50	*	120	150	*	230
Chatsworth Shallow Flooding	Vicinity of Topanga Canyon Boulevard and Santa Susana Place	0.1	20	*	50	60	*	100
Cheseboro Creek	1,100 feet upstream of Driver Avenue	7.6	2,169	*	4,779	6,088	*	9,551
Cold Creek	At the intersection of Crater Camp Drive and Piuma Road	8.1	2,280	*	5,019	6,406	*	10,023
Cold Creek	Approximately 250 feet upstream of Malibu Meadows Road	7.8	2,280	*	5,041	6,432	*	10,066
Cold Creek	Approximately 300 feet downstream of Cam Colibri	5.7	1,734	*	3,826	4,881	*	7,640
Dark Canyon	Cross Section A	1.2	753	*	1,600	2,118	*	3,314
Dowd Canyon	At Calle Corona Extended	3.9	*	*	*	2,982	*	5,963
Dry Canyon	Approximately 2,000 feet upstream of San Francisquito Road	5.5	*	*	*	5,235	*	10,470
Dry Canyon	Cross Section C	1.1	527	*	1,104	1,484	*	2,323
Dry Canyon	Cross Section M	0.8	490	*	1,083	1,382	*	2,162
Dry Canyon	Cross Section T	0.4	242	*	534	681	*	1,065
Elsmere Canyon Creek	Approximately 358 feet east to Sierra Hwy	2.2	1,096	1,383	1,604	1,822	*	2,320
Elsmere Canyon Creek	Approximately 78 feet north to Wager Road	2.1	1,096	1,383	1,596	1,809	*	2,297

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Elsmere Canyon Creek	Approximately 300 feet east to Elsmere Canyon Road	2.0	1,048	1,317	1,517	1,717	*	2,176
Elsmere Canyon Creek	Approximately 557 feet east to Elm Shore Canyon Mtwy	1.7	905	1,132	1,301	1,470	*	1,857
Elizabeth Canyon	Approximately 2,300 feet downstream of Elizabeth Lake Pine Canyon Road	7.7	*	*	*	3,455	*	7,176
Escondido Canyon	At confluence with Acton Canyon Creek	13.0	530	*	1,610	2,390	*	5,300
Garapito Canyon	Cross Section A	2.9	996	*	2,171	2,807	*	4,392
Garapito Canyon	Cross Section E	2.0	675	*	1,470	1,910	*	2,974
Gorman Creek	Approximately 250 feet north of Interstate Highway 5 overcrossing Gorman Road	3.8	*	*	*	1,713	*	3,221
Granada Hills	Superior Street, west of Paso Robles Avenue	0.5	90	*	200	260	*	400
Granada Hills	Vicinity of Balboa Boulevard and Citronia Street	0.5	90	*	200	260	*	400
Hacienda Creek	Cross Section A	1.5	626	*	1,381	1,762	*	2,758
Hancock Park Shallow Flooding	Vicinity of Highland Avenue and St. Elmo Drive	20.2	3,600	*	7,700	9,300	*	13,700
Hancock Park Shallow Flooding	Vicinity of San Vicente and Pico Boulevards	18.9	3,500	*	7,400	9,000	*	13,100

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Hancock Park Shallow Flooding	Vicinity of West Boulevard and Dockweiler Street	18.8	3,600	*	7,600	9,300	*	13,600
Hancock Park Shallow Flooding	Vicinity of Bronson Avenue and Country Club Drive	18.1	3,700	*	7,900	9,600	*	14,000
Hancock Park Shallow Flooding	Sixth Street, vicinity of Alexandria Avenue	8.1	2,100	*	4,600	5,900	*	9,200
Hancock Park Shallow Flooding	Chesapeake Avenue, vicinity of Exposition Boulevard	8.0	1,100	*	2,400	3,000	*	3,700
Hancock Park Shallow Flooding	Vicinity of Western Avenue and 11th Street	3.5	670	*	1,300	1,600	*	2,500
Hancock Park Shallow Flooding	Victoria Avenue, vicinity of Jefferson Boulevard	1.2	320	*	1,100	1,400	*	2,600
Hancock Park Shallow Flooding	Arlington Avenue, vicinity of 37th Place	0.7	440	*	990	1,400	*	2,500
Hancock Park Shallow Flooding	Olympic Boulevard at Hudson Avenue	0.6	130	*	290	370	*	570
Hancock Park Shallow Flooding	Harcourt Avenue, vicinity of Westhaven Street	0.5	160	*	350	450	*	700
Hancock Park Shallow Flooding	Lucerne Boulevard at Francis Avenue	0.3	70	*	160	200	*	320
Harbor Area Shallow Flooding	North of Carson Street between Vermont and Berendo Avenues	0.4	74	*	164	209	*	327
Harbor District Shallow Flooding	Harbor Lake, southeast of Vermont Avenue and Pacific Coast Highway	19.0	3,200	*	7,000	8,900	*	14,000

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Harbor District Shallow Flooding	Denker Avenue, vicinity of 204th Street	0.3	60	*	130	170	*	260
Haskell Canyon	At confluence with Bouquet Canyon Creek	9.8	730	*	2,240	3,320	*	7,360
Hasley Canyon Creek	Approximately 1,150 feet downstream of Halsey Canyon Road	7.3	*	*	*	5,544	*	10,163
Hasley Canyon Creek	Approximately 550 feet downstream ofRomero Canyon Road	5.9	*	*	*	4,523	*	8,292
Hasley Canyon Creek	Approximately 600 feet downstream of Romero Canyon Road	*	220	*	680	1,006	*	2,230
Hasley Canyon Creek	Approximately 0.2 miles downstream of Hasley Canyon Road	*	330	*	1,010	1,503	*	3,330
Hasley Canyon Creek	At confluence with Castaic Creek	*	360	*	1,110	1,640	*	3,640
Hollywood Shallow Flooding	Third Street at Kenmore Avenue	3.4	800	*	1,800	2,300	*	3,500
Hollywood Shallow Flooding	South of Hollywood Freeway, vicinity of Kenmore Avenue	3.2	830	*	1,800	2,300	*	3,700
Hollywood Shallow Flooding	Santa Monica Boulevard, vicinity of Mariposa Avenue	2.8	940	*	2,100	2,700	*	4,200
Hollywood Shallow Flooding	Madison Avenue at Monroe Street	0.5	160	*	350	440	*	690
Hyde Park Shallow Flooding	South of Southwest Drive, vicinity of Van Ness Avenue	4.2	730	*	1,600	2,100	*	3,200
Hyde Park Shallow Flooding	Wilton Place, vicinity of Gage Avenue	3.3	770	*	1,600	1,900	*	3,000

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Hyde Park Shallow Flooding	Halldale Avenue, vicinity of 65th Street	1.2	300	*	660	850	*	1,300
Industry Area Shallow Flooding	Vicinity of Brea Canyon Road and Lycoming Street	3.9	952	*	2,102	2,682	*	4,197
Iron Canyon	At confluence with Sand Canyon Creek	2.7	210	*	640	950	*	2,110
Iron Canyon	At North Iron Canyon Road	*	160	*	500	740	*	1,640
Kagel Canyon Area	Cross Section A	2.0	490	*	1,081	1,380	*	2,159
Kagel Canyon	Approximately 650 feet upstream of Osborne Avenue	2.0	490	*	1,100	1,400	*	12,200
Kentucky Springs Canyon Creek	At confluence with Soledad Canyon	*	220	*	670	990	*	2,200
La Mirada Area	Mystic Street, vicinity of Parkinson Avenue	0.3	81	*	179	228	*	357
La Mirada Creek	Approximately 1,100 feet downstream of La Mirada Boulevard	5.0	610	*	1,350	1,720	*	2,690
La Mirada Creek	At Ocaso Avenue	4.6	610	*	1,340	1,700	*	2,670
Ladera Heights Area Shallow Flooding	Vicinity of La Cienega Boulevard and Slauson Avenue	0.5	138	*	305	389	*	609
Las Flores Canyon	Cross Section F	4.1	1,758	*	3,882	4,954	*	7,752
Las Virgenes Creek	Approximately 1,500 feet downstream of the confluence of Stokes Canyon	24.3	9,230	11,913	13,678	15,521	*	18,704
Las Virgenes Creek	Downstream of the confluence of Stokes Canyon	24.3	9,228	11,909	13,673	15,515	*	18,811

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Las Virgenes Creek	Upstream of the confluence of Stokes Canyon	19.7	9,193	12,066	13,766	15,646	*	19,340
Las Virgenes Creek	At Mulholland Highway	19.1	6,873	9,014	10,346	11,929	*	14,853
Las Virgenes Creek	Upstream of the confluence of Liberty Canyon	16.6	6,871	9,025	10,348	11,935	*	15,210
Las Virgenes Creek	Approximately 1,500 feet upstream of the confluence of Liberty Canyon	16.5	5,862	7,440	8,799	10,069	*	12,755
Las Virgenes Creek	Approximately 4,000 feet upstream of the confluence of Liberty Canyon	16.2	5,783	7,350	8,676	9,913	*	12,554
Las Virgenes Creek	Approximately 1,800 feet downstream of Lost Hills Road	15.0	5,414	6,923	8,112	9,246	*	11,714
Las Virgenes Creek	At Lost Hills Road	15.0	5,420	6,932	8,133	9,281	*	11,764
Las Virgenes Creek	At Meadow Creek Lane	14.9	5,414	6,923	8,124	9,269	*	11,751
Las Virgenes Creek	Approximately 1,600 feet upstream of Meadow Creek Lane	13.3	4,860	6,190	7,211	8,197	*	10,356
Las Virgenes Creek	Just downstream of Agola Road	12.7	4,783	6,091	7,040	8,005	*	10,076
Las Virgenes Creek	Just downstream of US Highway 101	10.4	3,830	4,875	5,644	6,419	*	8,137
Las Virgenes Creek	Just downstream of Las Virgenes Road	10.2	3,787	4,818	5,577	6,340	*	8,044
Liberty Canyon	Cross Section E	1.4	938	*	2,072	2,645	*	4,140
Lindero Canyon	Cross Section C	6.7	1,725	*	3,809	4,860	*	7,604

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Lindero Canyon	Approximately 700 feet downstream of Thousand Oaks Boulevard	4.1	1,369	*	3,024	3,858	*	6,037
Lindero Canyon	Cross Section H	3.8	1,343	*	2,965	3,783	*	5,920
Lindero Canyon	At Reyes Adobe Road	3.4	1,290	*	2,847	3,632	*	5,685
Lindero Canyon	Cross Section N	3.1	1,258	*	2,776	3,542	*	5,545
Lion Canyon	At confluence with Santa Clara River	*	50	*	140	210	*	470
Little Rock Wash	At Little Rock Reservoir	48.0	*	*	*	20,000	*	*
Little Tujunga Wash	Approximately 1,600 feet Upstream of Foothill Boulevard	20.3	2,700	*	6,000	7,700	*	12,200
Little Tujunga Wash	Approximately 3,000 feet upstream of the City of Los Angeles Corporate Limits	17.9	2,273	*	5,019	6,405	*	10,022
Lobo Canyon	Cross Section B	3.8	1,572	*	3,473	4,429	*	6,932
Lobo Canyon	Cross Section C	2.5	1,625	*	3,588	4,579	*	7,166
Lockheed Drain Channel	Approximately 100 feet downstream of Burbank Boulevard	3.7	*	*	*	2,910	*	*
Lockheed Drain Channel	Approximately 300 feet downstream of Victory Place	2.5	*	*	*	2,410	*	*
Lockheed Drain Channel	Approximately 100 feet downstream of Naomi Street	1.9	*	*	*	2,026	*	*
Lockheed Drain Channel	At Ontario Street	1.8	*	*	*	2,054	*	*
Lockheed Drain Channel	Approximately 300 feet upstream of Lima Street	1.4	*	*	*	1,635	*	*

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Lockheed Drain Channel	Approximately 150 feet downstream of Hollywood Way	0.9	*	*	*	965	*	*
Lockheed Drain Channel	Approximately 450 feet upstream of Clybourn Avenue	0.4	278	*	*	448	*	*
Long Canyon	Approximately 1.4 miles upstream of confluence with Santa Clara River	*	60	*	180	260	*	580
Long Canyon	At confluence with Santa Clara River	*	40	*	110	170	*	380
Lopez Canyon Channel	Cross Section A	1.8	682	*	1,506	1,922	*	3,007
Los Angeles River	At Compton Creek	808	92,900	*	133,000	142,000	*	143,000
Los Angeles River	At Imperial Highway	752	89,400	*	126,000	140,000	*	156,000
Malibu Creek	Cross Section A	110	14,183	*	31,648	40,544	*	63,934
Malibu Lake	Malibu Lake	64.6	11,859	*	26,556	34,043	*	53,712
Medea Creek	Cross Section B	24.6	5,794	*	12,788	16,319	*	25,537
Medea Creek	Cross Section H	23.0	6,174	*	13,628	17,389	*	25,537
Medea Creek	Cross Section K	22.2	6,363	*	14,074	17,925	*	28,049
Medea Creek	Cross Section P	6.3	2,558	*	5,647	7,204	*	11,272
Medea Creek	Downstream of Ventura Highway	6.3	2,560	*	2,645	7,200	*	11,270
Medea Creek	Approximately 950 feet upstream of Canwood Street	[1]	*	*	*	6,720	*	*
Medea Creek	Approximately 1,100 feet upstream of Kanan Road	[1]	*	*	*	5,960	*	*
Medea Creek	At Thousand Oaks Boulevard	[1]	*	*	*	5,946	*	*
Medea Creek	Approximately 1,700 feet downstream of Laro Drive	4.1	*	*	*	5,320	*	*

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Medea Creek	Just upstream of Fountainwood Street	3.4	*	*	*	4,700	*	*
Mill Creek	Cross Section B	14.8	2,274	*	5,019	6,405	*	10,024
Mint Canyon Creek	At confluence with Santa Clara River	29.4	1,786	*	4,489	5,856	*	8,367
Mint Canyon Creek	Approximately 2,700 feet downstream of Fitch Avenue	[1]	1,787	*	4,471	5,814	*	8,253
Mint Canyon Creek	Approximately 600 feet upstream of Vasquez Canyon Road	[1]	1,769	*	4,134	5,283	*	7,359
Mint Canyon Creek	Approximately 1,300 feet downstream of Sierra Highway crossing 4	[1]	1,717	*	3,958	4,994	*	6,897
Mint Canyon Creek	Upstream of Sierra Highway crossing 5	[1]	1,222	*	2,767	3,433	*	4,656
Mint Canyon Creek	Upstream of confluence of Spade Spring Canyon Creek	[1]	685	*	1,494	1,834	*	2,461
Newhall Creek	Confluence with South Fork Santa Clara River	17.2	3,610	*	6,890	8,240	*	10,990
Newhall Creek	Upstream of confluence of Placerita Creek	7.3	2,430	*	4,020	4,640	*	6,020
Newhall Creek	Upstream of confluence with Railroad Canyon Creek Left Overbank	6.2	2,007	*	3,290	3,792	*	4,894
Newhall Creek	Upstream of confluence with Railroad Canyon Creek	5.2	1,920	*	3,150	3,630	*	4,680

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Newhall Creek	Intersection of Sierra Hwy and Newhall Ave	3.1	1,096	1,383	1,604	1,822	*	2,320
Newhall Creek	Intersection of Molokai Road with Newhall Creek	5.2	1,398	1,789	2,086	2,380	*	3,051
Newhall Creek Left Overbank 2	At the intersection of Walnut St and 16th Street	*	*	*	*	815	*	2,356
Newhall Creek Left Overbank 2	At the intersection of Walnut St and 8th Street	*	*	*	*	697	*	1,687
Newhall Creek Left Overbank 2	At the intersection of Market St and Real Road Avenue	*	*	*	*	488	*	1,159
Oak Springs Canyon	Approximately 100 feet upstream of Union Pacific Railroad (former Southern Pacific Railroad)	5.7	*	*	*	2,703	*	4,054
Oak Springs Canyon	At confluence with Santa Clara River	*	250	*	770	1,140	*	2,530
Oak Springs Canyon	At intersection of Sixth Street and Quincy Avenue	1.0	271	*	598	763	*	1,194
Old Topanga Canyon	Approximately 300 feet downstream of Zuniga Road	1.7	567	*	1,253	1,597	*	2,499
Old Topanga Canyon	Approximately 450 feet downstream of the intersection of Oak Drive and Sycamore Drive	0.8	251	*	554	706	*	1,104
Overland Flow	Marquardt Avenue, 1400 feet north of	2.1	411	*	907	1,158	*	1,812

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Overland Flow	North of Florence Avenue and east of Pioneer Boulevard	1.3	270	*	596	760	*	1,190
Overland Flow	North of Lakeland Road, 1,000 feet east of Bloomfield Avenue	0.4	68	*	151	192	*	301
Palo Comado Creek	Cross Section E	4.1	1,159	*	2,562	3,268	*	5,113
Palo Comado Creek	At Fairview Place	3.5	1,074	*	2,374	3,028	*	4,738
Palo Comado Creek	Cross Section K	3.2	1,032	*	2,279	2,908	*	4,551
Park La Brea Shallow Flooding	Vicinity of Orange Drive and Pickford Street	24.7	4,400	*	9,500	11,800	*	17,700
Park La Brea Shallow Flooding	Venice Boulevard, vicinity of Fairfax Avenue	18.4	3,400	*	7,500	9,500	*	14,900
Park La Brea Shallow Flooding	Vicinity of Whitworth Drive and La Cienega Boulevard	17.1	3,400	*	7,600	9,700	*	15,200
Park La Brea Shallow Flooding	Fairfax Avenue, vicinity of La Cienga Boulevard	16.7	2,100	*	4,700	6,000	*	9,600
Park La Brea Shallow Flooding	Houser Boulevard, vicinity of La Cienega Boulevard	14.8	1,900	*	4,300	5,500	*	8,800
Park La Brea Shallow Flooding	Redondo Boulevard, vicinity of Roseland Street	14.5	2,000	*	4,400	5,700	*	9,100
Park La Brea Shallow Flooding	Wilshire Boulevard, vicinity of Crescent Heights Avenue	6.6	1,500	*	3,300	4,200	*	6,600
Park La Brea Shallow Flooding	Redondo Boulevard, vicinity of Santa Monica Freeway	1.2	300	*	670	860	*	1,300
Pico Canyon (South Fork Santa Clara River Trib)	At Tournament Road	*	420	*	1,290	1,910	*	4,240

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Pico Canyon	At Golden State Freeway	*	390	*	1,190	1,770	*	3,930
Pico Canyon	At Stevenson Ranch Parkway	*	230	*	700	1,040	*	2,310
Pine Canyon	Approximately 1,200 feet upstream of Lake Hughes Road	6.4	*	*	*	2,969	*	6,166
Placerita Creek	At confluence with Newhall Creek	*	2,061	*	3,494	4,106	*	5,508
Placerita Creek	Approximately 0.2 miles upstream of Los Angeles Aqueduct	*	1,870	*	3,156	3,694	*	4,961
Placerita Creek	Approximately 0.8 miles upstream of Antelope Valley Freeway	*	1,601	*	2,706	3,179	*	4,279
Placerita Creek	At Placerita Canyon Road	*	1,464	*	2,457	2,880	*	3,868
Plum Canyon	Approximately 2,350 feet upstream of Bouquet Canyon Road	3.4	*	*	*	1,942	*	3,453
Plum Canyon	At confluence with Bouquet Canyon	*	240	*	730	1,080	*	2,400
Ponding	At Intersection of Mines Avenue and Taylor Avenue	0.5	120	*	250	330	*	510
Portal Ridge Wash	Intersection of Avenue H and Antelope Valley	147	1,600	*	5,000	7,200	*	16,000
Porter Ranch	Mayerling Street, northwest of Shoshone Avenue	0.2	40	*	100	120	*	190
Porter Ranch	Vicinity of Sesnon Boulevard	0.1	30	*	60	70	*	120
Potrero Canyon	At confluence with Santa Clara River	*	430	*	1,300	1,930	*	4,280

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Potrero Canyon	Approximately 1.25 miles upstream of confluence with Santa Clara River	*	360	*	1,090	1,620	*	3,590
Potrero Canyon	Approximately 0.8 miles downstream of Pico Canyon Road	*	80	*	260	380	*	840
Quigley Canyon Creek	At confluence with Placerita Creek	*	340	*	919	1,162	*	1,789
Quigley Canyon Creek	At Meadview Avenue	*	340	*	781	994	*	1,542
Quigley Canyon Creek	Approximately 350 feet upstream of Meadview Avenue	*	340	*	723	920	*	1,429
Quigley Canyon Creek	120 feet downstream of Quigley Canyon Road	*	340	*	675	847	*	1,253
Quigley Canyon Creek	120 feet upstream of Quigley Canyon Road	*	340	*	643	786	*	1,122
Quigley Canyon Creek	180 feet downstream of Fino Mountainway	*	298	*	570	695	*	993
Quigley Canyon Creek	At Fino Mountainway	*	191	*	378	467	*	675
Quigley Canyon Creek	Approximately 0.4 miles downstream of Los Angeles Aqueduct	*	165	*	329	405	*	587
Railroad Canyon	At confluence with Newhall Creek	1.4	540	*	870	1,010	*	1,330
Ramirez Canyon	Cross Section B	3.3	1,066	*	2,352	3,000	*	4,696
Ramirez Canyon	Cross Section I	2.8	1,150	*	2,540	3,240	*	5,070
Rio Hondo	At Stewart and Gray	132	35,600	*	41,000	39,300	*	40,200
Rio Hondo	At Beverly Boulevard	113	33,800	*	37,50	38,000	*	38,400

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Rio Hondo	At outflow from Whittier Narrows Dam	110	33,500	*	36,500	36,500	*	36,500
Rustic Canyon	Approximately 1,030 feet downstream (south) of Sunset Boulevard	5.7	700	*	1,500	2,000	*	3,100
San Fernando Pacoima Wash	Approximately 150 feet downstream of Shablow Avenue	31.1	1,900	*	5,600	8,100	*	12,100
San Francisquito Canyon Creek	At confluence with Santa Clara River	49.1	3,170	*	9,690	14,360	*	31,850
San Gabriel River	Whittier Narrows Flood Control Basin at Siphon Road	524	*	*	*	90,000	*	*
San Martinez Chiquito Canyon	Approximately 1,000 feet upstream of Chiquito Canyon Road (Lower Crossing)	4.7	*	*	*	4,659	*	8,607
San Martinez Chiquito Canyon	Approximately 400 feet upstream of Chiquito Canyon Road (Upper Crossing)	3.1	*	*	*	3,112	*	5,705
San Martinez Chiquito Canyon	Approximately 250 feet downstream ofVerdale Street	1.1	*	*	*	1,205	*	2,208
San Martinez Chiquito Canyon	At confluence with Santa Clara River	*	200	*	610	901	*	2,000

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
San Martinez Chiquito Canyon	Approximately 0.2 miles upstream of Chiquito Canyon Road	*	190	*	570	838	*	1,860
San Martinez Chiquito Canyon	At Chiquito Canyon Road	*	150	*	460	681	*	1,510
San Martinez Chiquito Canyon	At Kenningston Road	*	110	*	330	491	*	1,090
San Martinez Grande Canyon Creek	At confluence with Santa Clara River	*	200	*	600	895	*	1,990
Sand Canyon Creek	At confluence with Santa Clara River	12.7	1,210	*	3,700	5,480	*	12,150
Sand Canyon Creek	At Alamo Canyon Road	*	1,100	*	3,350	4,965	*	11,010
Sand Canyon Creek	Approximately 700 feet downstream of Valley Ranch Road	[1]	1,244	*	2,795	3,477	*	4,796
Sand Canyon Creek	Upstream of confluence of Iron Canyon	7.5	650	*	1,980	2,930	*	6,500
Sand Canyon Creek	Approximately 2,700 feet downstream of Placerita CanyonRoad	[1]	917	*	1,912	2,345	*	3,178
Sand Canyon Creek	At Placerita Canyon Road	[1]	848	*	1,756	2,156	*	2,919
Sand Canyon Creek	700 feet above 25975 Sand Canyon Road	[1]	644	*	1,295	1,591	*	2,152
Santa Clara River	At Los Angeles County/Ventura County Line	639	15,700	*	45,900	66,600	*	140,000
Santa Clara River	Upstream of confluence of Castaic Creek	420	13,270	*	35,910	50,380	*	78,320

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Santa Clara River	Approximately 8,000 feet upstream of confluence of Castaic Creek	418	13,250	*	35,860	50,270	*	78,040
Santa Clara River	Approximately 650 feet downstream of The Old Road	412	13,120	*	35,690	49,990	*	77,430
Santa Clara River	Upstream of confluence of San Francisquito Canyon Creek	357	9,790	*	28,790	41,560	*	65,810
Santa Clara River	Upstream of confluence of South Fork Santa Clara River	312	7,460	*	23,120	33,890	*	53,570
Santa Clara River	Upstream of confluence of Bouquet Canyon Creek	239	5,400	*	17,620	26,210	*	41,080
Santa Clara River	Approximately 4,600 feet downstream of Soledad Canyon Road	233	5,290	*	17,390	25,910	*	40,550
Santa Clara River	Upstream of confluence of Mint Canyon Creek	195	4,140	*	14,320	21,690	*	33,990
Santa Clara River	At Sand Canyon Road	179	3,840	*	12,810	19,500	*	30,490
Santa Clara River	Approximately 4,800 feet downstream of Lang Station Road	171	3,770	*	12,370	18,730	*	29,130
Santa Clara River	Approximately 1,600 feet upstream of Bootlegger Canyon	85.0	2,260	*	6,450	9,600	*	14,690
Santa Clara River	Approximately 500 feet upstream of confluence of Arraste	76.3	1,550	*	4,780	7,440	*	11,760

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Santa Clara River	Upstream of confluence of Acton Canyon Creek	49.9	1,370	*	3,480	5,210	*	8,080
Santa Fe Springs Area Shallow Flooding	Vicinity of Rivera Road and Vicki Drive	0.4	80	*	176	225	*	352
Santa Maria Canyon	Approximately 100 feet downstream of Topanga Canyon Boulevard	3.1	1,070	*	2,333	3,016	*	4,719
Savage Creek	At Intersection of York Avenue and Mar Vista Street	0.9	260	*	570	730	*	1,150
Sepulveda Shallow Flooding	Haskell Avenue north of Union Pacific Railroad (former Southern Pacific Railroad)	1.0	230	*	500	640	*	1,000
Sepulveda Shallow Flooding	Roscoe Boulevard at Haskell Avenue	0.8	160	*	360	460	*	720
Shallow Flooding	At intersection of Vincent Street and South Irena Avenue	[1]	68	*	149	190	*	298
Shallow Flooding	At Gould Avenue between Ford and Goodman Avenues	[1]	66	*	146	186	*	291
Shallow Flooding	At intersection of Ripley Avenue and Rindge Lane	[1]	61	*	135	172	*	270
Shallow Flooding	At intersection of Camino Real and South Juanita	10.0	50	*	111	141	*	221
Shallow Flooding	At intersection of Avenue H and Massena Avenue	5[2]	154	*	340	434	*	679

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Sherman Oaks Shallow Flooding	Magnolia Boulevard at Haskell Avenue	1.2	360	*	800	1,000	*	1,600
Silver Lake Shallow Flooding	Myra Avenue, vicinity of Del Mar Avenue	1.8	490	*	1,110	1,400	*	2,200
Silver Lake Shallow Flooding	Silver Lake Boulevard east of Virgil Avenue	1.3	420	*	900	1,100	*	1,800
Silver Lake Shallow Flooding	Between Hyperion Avenue and Griffith Park Boulevard, north of Fountain Avenue	0.9	290	*	650	830	*	1,300
Silver Lake Shallow Flooding	Griffith Park Boulevard at Tracy Street	0.6	220	*	490	620	*	970
Soledad Canyon	At confluence with Aliso Canyon	*	710	*	2,170	3,210	*	7,120
Soledad Canyon	Upstream of confluence of Kentucky Springs Canyon Creek	*	490	*	1,500	2,220	*	4,920
Soledad Canyon	At Angeles Forest Highway	*	250	*	780	1,150	*	2,550
South Fork Santa Clara River	Confluence with Santa Clara River	45.3	2,400	*	7,320	10,840	*	24,040
South Fork Santa Clara River	Upstream of confluence with Newhall Creek	23.4	1,860	*	5,680	8,420	*	18,680
South Fork Santa Clara River	Upstream of confluence with South Fork Santa	14.1	1,190	*	3,650	5,400	*	11,980
South Fork Santa Clara River Tributary	Confluence with South Fork Santa Clara River	[1]	1,240	*	2,090	2,470	*	3,290

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Spade Spring Canyon Creek	At confluence with Mint Canyon Creek	[1]	471	*	1,099	1,364	*	1,839
Spade Spring Canyon Creek	At boundary of Angeles National Forest	[1]	428	*	911	1,118	*	1,491
Stokes Canyon	Cross Section C	2.9	1,089	*	2,403	3,067	*	4,799
Stokes Canyon	Cross Section B	2.4	934	*	2,062	2,631	*	4,117
Surface Runoff	At Intersection of Garfield Avenue and Beverly Boulevard	2.9	820	*	1,810	2,310	*	3,610
Surface Runoff	Laurel Canyon Boulevard at Hollywood Boulevard	1.9	600	*	800	1,160	*	2,100
Surface Runoff	Happy Lane	1.7	640	*	1,400	1,800	*	2,800
Surface Runoff	Vicinity of Rosewood Avenue and Huntley Drive West Los Angeles and Central Districts	1.1	670	*	1,479	1,888	*	3,329
Sylmar	East Side of Golden State Freeway south of Sierra Highway	0.2	50	*	120	150	*	240
Texas Canyon Creek	At confluence with Bouquet Canyon Creek	*	780	1,530	2,380	3,520	*	7,810
Tick Canyon	At confluence with Santa Clara River	*	380	*	1,150	1,710	*	3,790
Tick Canyon	Approximately 1000 feet upstream of Grandifloras Road	*	320	*	970	1,430	*	3,170
Topanga Canyon	Cross Section H	19.6	4,095	*	9,040	11,537	*	18,054

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Topanga Canyon	Approximately 750 feet upstream of the Intersection of Walnut Trl and Topanga Canyon Boulevard	15.0	5,404	*	11,930	15,223	*	23,882
Topanga Canyon	At the confluence of Old Topanga Canyon	14.5	5,208	*	11,499	14,672	*	22,960
Topanga Canyon	Approximately 1600 feet upstream of Circle Trl	7.3	2,560	*	5,656	7,215	*	11,289
Topanga Canyon	Approximately 200 feet downstream of Hillside Dr	7.0	2,364	*	5,222	6,601	*	10,422
Topanga Canyon	At the confluence with Santa Maria Canyon	5.5	1,862	*	4,113	5,247	*	8,210
Topanga Canyon	Approximately 100 feet upstream of Liberty Ln	0.3	259	*	572	729	*	1,141
Towsley Canyon Creek	At confluence with South Fork Santa Clara River	*	630	1,230	1,910	2,830	*	6,280
Trancas Creek	Upstream of Pacific Coast Highway (Cross Section A)	8.6	2,499	*	5,518	7,040	*	11,106
Triunfo Creek	Approximately 1,200 feet upstream of Crags Drive	39.2	10,167	14,221	17,118	20,021	*	26,901
Triunfo Creek	Approximately 320 feet downstream of Kanan Road	38.1	9,942	13,861	16,647	19,443	*	26,105
Triunfo Creek	Approximately 1,340 upstream of Kanan Road	36.8	9,675	13,464	16,163	18,870	*	25,364
Triunfo Creek	Approximately 4,940 feet upstream of Kanan Road	36.5	9,608	13,366	16,041	18,725	*	25,168

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Triunfo Creek	Approximately 7,520 feet upstream of Kanan Road	30.1	8,135	11,278	13,520	15,781	*	21,252
Triunfo Creek	Approximately 11,000 feet upstream of Kanan Road	29.5	7,995	11,074	13,627	15,480	*	20,846
Triunfo Creek	Approximately 2,300 feet downstream of Westlake Dam	29.0	7,874	10,900	13,052	15,226	*	20,505
Triunfo Creek	At Westlake Dam	28.5	7,766	10,748	12,872	15,011	*	20,227
Turnbull Canyon	At intersection of Painter Avenue and Camilla Street	1.0	250	*	540	690	*	1,080
Turnbull Canyon Shallow Flooding	Vicinity of Broadway and Alta Drive	1.0	250	*	540	690	*	1,080
Unknown	At the Intersection of Chestnut and Lake Streets	1.3	*	*	*	670	*	*
Unknown	At the Intersection of Alameda Avenue and Main Street	1.2	*	*	*	750	*	*
Unknown	3,500 feet Northeast of the Intersection of Via Montana and Country	0.7	*	*	*	600	*	*
Unnamed Canyon	Serra Retreat Area (Cross Section C)	0.4	281	*	619	791	*	1,237
Unnamed Stream Main Reach	At Pacific Ocean	1.2	353	*	724	917	*	1,400

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Unnamed Stream Main Reach	Downstream of confluence with Tributary 2	1.1	338	*	692	876	*	1,282
Unnamed Stream Main Reach	Upstream of confluence with Tributary 2	0.7	229	*	462	580	*	865
Unnamed Stream Main Reach	Upstream of confluence with Tributary 1	0.4	146	*	290	361	*	523
Unnamed Stream Tributary 1	At confluence with Main Reach	0.2	97	*	191	236	*	381
Unnamed Stream Tributary 2	At confluence with Main Reach	0.4	164	*	331	413	*	600
Unnamed Stream Tributary 2	At Via Zurita	0.4	144	*	290	361	*	525
Van Nuys	Victory Boulevard, vicinity of Hayvenhurst Avenue	0.7	90	*	200	250	*	390
Vasquez Canyon	Approximately 1,373 feet upstream of Vasquez Canyon Road	4.2	*	*	*	2,851	*	5,009
Vasquez Canyon	At confluence with Bouquet Canyon Creek	*	310	*	960	1,420	*	3,150
Vasquez Canyon	At Lost Creek Road	*	250	*	760	1,120	*	2,480
Violin Canyon	Approximately 2,000 feet downstream of Interstate Highway 5	10.5	*	*	*	9,421	*	17,818
Weldon Canyon	Approximately 1,570 feet downstream of Sierra Highway and San Fernando Road	1.5	410	*	900	1,150	*	1,800
West Hollywood Shallow Flooding	Third Street, vicinity of Fairfax Avenue	6.1	1,500	*	3,200	4,100	*	6,800
West Hollywood Shallow Flooding	Fifth Street, vicinity of Orlando Avenue	5.7	1,600	*	3,600	4,500	*	7,100

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
West Hollywood Shallow Flooding	Third Street, vicinity of La Cienga Boulevard	5.1	1,600	*	3,500	4,500	*	7,200
West Hollywood Shallow Flooding	Beverly Boulevard, vicinity of Spaulding Avenue	4.0	730	*	1,600	2,100	*	2,900
West Hollywood Shallow Flooding	Genesse Avenue north of Hollywood Boulevard	1.0	370	*	820	1,000	*	1,600
West Hollywood Shallow Flooding	Vicinity of Pan Pacific Auditorium	4.0	730	*	1,600	3,600	*	4,500
West Hollywood Shallow Flooding	Vicinity of Rosemead Avenue and Huntley Drive	1.1	670	*	1,479	1,888	*	3,329
West Los Angeles Shallow Flooding	Between Westwood Boulevard and Overland Avenue, vicinity of Exposition Boulevard	4.0	190	*	1,200	1,500	*	2,700
West Los Angeles Shallow Flooding	Manning Avenue, vicinity of Tennessee Avenue	3.4	530	*	1,300	1,700	*	2,600
West Los Angeles Shallow Flooding	Balsam Avenue, vicinity of Olympic Boulevard	1.2	290	*	550	660	*	940
West Los Angeles Shallow Flooding	Roundtree Road, vicinity of Manning Avenue	0.7	500	*	740	840	*	1,100
Westchester Shallow Flooding	Arizona Avenue north of Arizona Circle	1.7	340	*	740	950	*	1,500
Westchester Shallow Flooding	Sepulveda Boulevard south of San Diego Freeway	1.4	310	*	690	880	*	1,400
Westlake Shallow Flooding	Vicinity of Wilshire Boulevard west of Hoover Street	1.4	360	*	790	1,000	*	1,600
Whitney Canyon Creek	At Sierre Highway	2.1	653	835	972	1,109	*	1,419

Table 10: Summary of Discharges, continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Whitney Canyon Creek	Intersect of Newhall Ave and Antelope Valley Fwy	2.0	646	827	962	1,098	*	1,404
Whitney Canyon Creek	Whitney Canyon Raod	2.0	645	823	957	1,091	*	1,396
Whitney Canyon Creek	0.38 miles east from Antelope Valley Fwy	1.9	630	802	931	1,060	*	1,357
Whitney Canyon Creek	0.53 miles east from Antelope Valley Fwy	1.8	629	800	928	1,055	*	1,346
Whittier Area Shallow Flooding	Vicinity of Turnbull Canyon Road	1.0	246	*	543	692	*	1,084
Whittier Narrows Flood Control Basin	Whittier Narrows Flood Control Basin	524	*	*	*	90,000	*	*
Wildwood Canyon	Approximately 600 feet upstream of intersection of Valley Street and Maple Street	0.2	*	*	*	172	*	279
Winsor Hills Area	Vicinity of La Brea and Slauson Avenues	0.3	67	*	147	188	*	294
Woodland Hills	Vicinity of Mulholland Drive and Ventura Freeway	2.3	490	*	1,100	1,400	*	2,200
Woodland Hills	Vicinity of Saltillo Street and Canoga Avenue	0.3	100	*	250	300	*	500
Zuma Canyon	Cross Section A	8.9	2,024	*	4,469	5,705	*	8,925
Zuma Canyon	Cross Section W	8.4	2,079	*	4,590	5,858	*	9,167

[1] Data not available

[2] Pump capacity

* Not Calculated for this Flood Risk Project

Figure 7: Frequency Discharge-Drainage Area Curves

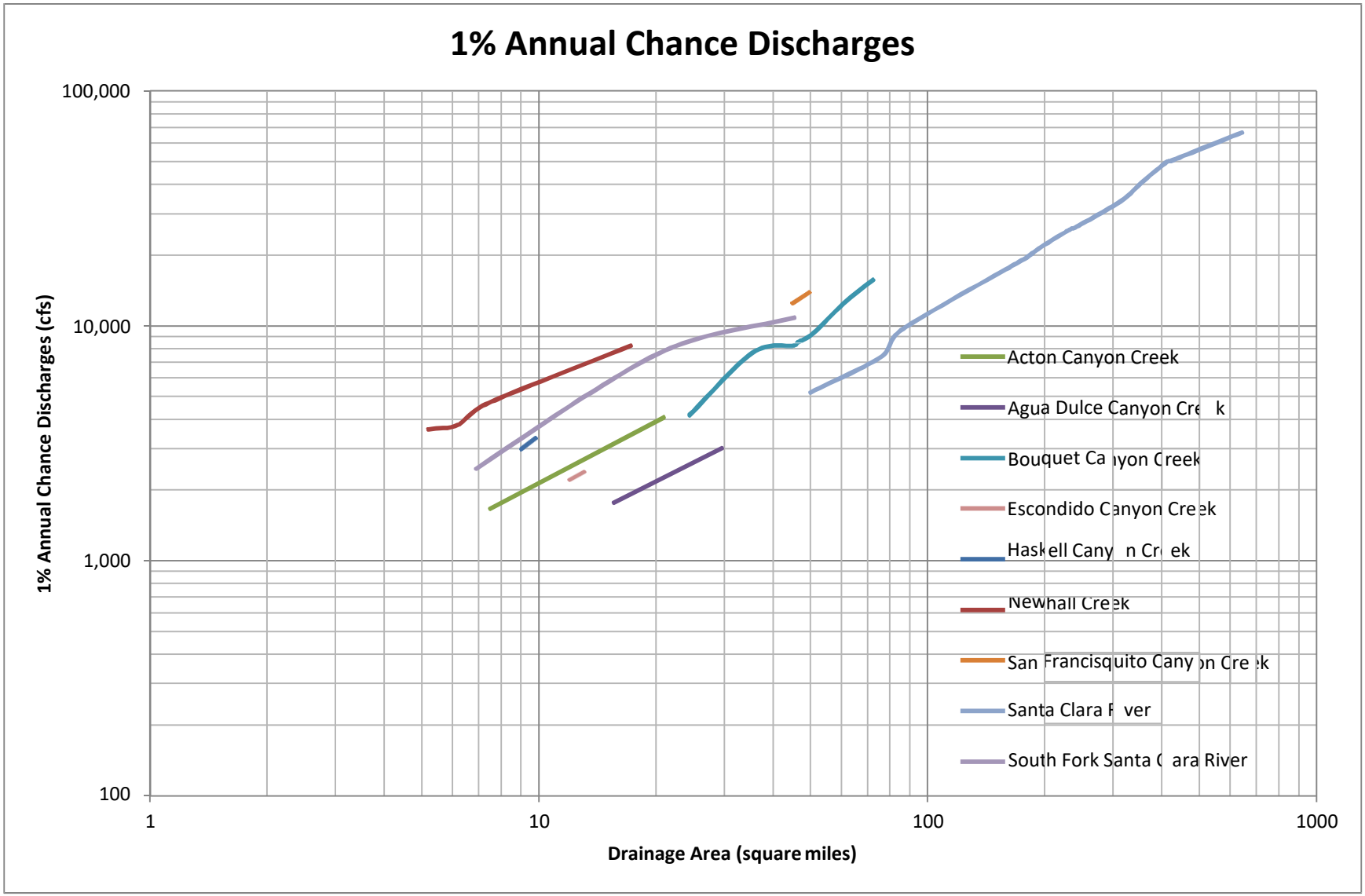


Table 11: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Los Angeles River	Unknown	7.3	*	7.8	9.9	15.6
Los Cerritos Channel	Unknown	6.9	*	7.5	8.7	12.2
Ponding	600 feet east of Bloomfield Avenue and North of Lakeland Road	139.8	*	142.8	143.8	143.8
Ponding	1,000 feet east of Bloomfield Avenue North of Lakeland Road	116.8	*	148.3	148.8	149.8
Ponding	At Marquart Avenue; 1,400 feet north of Rosecrans Avenue	83.8	*	85.8	86.8	88.8
Savage Creek	Intersection of York Avenue and Mar Vista Street	382.8	*	382.8	382.8	382.8
San Gabriel River	At Whittier Narrows Flood Control Basin	213.8	*	222.8	222.8	231.8
Shallow Flooding	Intersection of Ripley Avenue and Rindge Lane	*	*	62.9	64.9	68.9
Shallow Flooding	At Gould Avenue between Ford and Goodman Avenues	83.4	*	91.4	95.9	105.9

Table 11: Summary of Non-Coastal Stillwater Elevations, continued

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Shallow Flooding	Intersection of Vincent Street and South Irena Avenue	81.9	*	82.9	83.6	84.9
Shallow Flooding	Intersection of Camino Real and South Juanita Avenue	120.5	*	121.9	122.9	124.3
Surface Runoff – Deep Ponding Area	Southwest of the intersection of Carson Street and Madrona Avenue	60.1	*	66.1	68.8	74.8
Surface Runoff – Ponding Area	Intersection of Anza Avenue and Spencer Street	82.6	*	83.4	83.8	84.9
Surface Runoff – Ponding Area	Northeast of Sepulveda Boulevard and Madrone Avenue	77.3	*	78.4	78.8	79.5
Surface Runoff – Ponding Area	Intersection of California Street and Alaska Avenue	78.7	*	80.1	80.8	81.6
Surface Runoff – Ponding Area	Intersection of Mines Avenue and Taylor Avenue	186.7	*	188.8	188.8	188.8
Turnbull Canyon	Intersection of Painter Avenue and Camilla Street	411.8	*	419.8	420.8	421.8

Table 11: Summary of Non-Coastal Stillwater Elevations, continued

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Westlake Lake	City of Westlake Village	875.5	976.2	876.6	877.1	878.1

*Not calculated for this Flood Risk Project

Table 12: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Aliso Creek	F152B-R	Los Angeles County Flood Control District (LACFCD)	At Nordhoff Street	189	*	*
Ballona Creek	F38C-R	LACFCD	Ballona Creek above Sawtelle Boulevard	88.6	02/27/1928	09/18/2014
Big Rock Creek	10263500	USGS	Big Rock Creek near Valyermo, CA	22.9	02/01/1923	09/18/2014
Big Tujunga Creek	11095500	USGS	Big Tujunga Creek near Sunland, CA	106	11/01/1916	09/30/1977
Burbank Western Flood Control Channel	*	LACFCD	At Tujunga Avenue	401	01/01/1950	*
Compton Creek	F37B-R	LACFCD	Compton Creek near Greenleaf Boulevard	22.6	01/22/1928	09/18/2014
Coyote Creek	3208	LACFCD	Centralia Street	110	34 years	*
Dominguez Channel	*	*	*	33	*	*
Little Rock Creek	L1-R	LACFCD	Little Rock Creek above Little Rock Dam	49.2	10/01/1930	09/18/2014
Los Angeles River	F300-R	LACFCD	At Tujunga Avenue	401	05/08/1950	09/18/2014
Los Angeles River	F57-R	LACFCD	Los Angeles River above Arroyo Seco	511	12/05/1929	09/18/2014

Table 12: Stream Gage Information used to Determine Discharges, continued

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Los Angeles River Flood Control Channel	*	LACFCD	*	*	*	*
Malibu Creek	F130-R	LACFCD	Malibu Creek below Cold Creek	105	01/17/1931	09/18/2014
San Gabriel River	F262-R	LACFCD	San Gabriel River above Florence Avenue	215.8	08/06/1968	09/18/2014
Sawtelle-Westwood Storm Drain Channel	F301-R	LACFCD	At Culver Boulevard	23	01/01/1951	*
Topanga Creek	F548-R	LACFCD	*	*	*	*
Zuma Creek	F53-R	LACFCD	*	*	*	*

* Data not available

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the 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. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 24, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 13. Roughness coefficients are provided in Table 14. Roughness coefficients are values

representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 13: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Acton Canyon	Confluence with Santa Clara River	0.6 miles upstream of Alisto Street	HEC-1	HEC-RAS 3.1.3	03/13/2014	AE w/ Floodway	
Agua Amarge Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Agua Dulce Canyon Creek	Confluence with Santa Clara River	Approximately 0.5 miles upstream of Schaefer Rd	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Agua Dulce Canyon Creek	Approximately 0.5 miles upstream of Schaefer Rd	Approximately 3400 feet upstream of Schaefer Rd	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	A	
Agua Dulce Canyon Creek	Approximately 3400 feet upstream of Schaefer Rd	Approximately 1000 feet upstream of Anthony Rd	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	
Agua Dulce Canyon Creek	Approximately 1000 feet upstream of Anthony Rd	Approximately 250 feet upsrteam of Hierba Rd	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Agua Dulce Canyon Creek Lateral	Confluence with Agua Dulce Canyon Creek	Approximately 900 feet upstream of confluence with Agua Dulce Canyon Creek	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	8/01/2008	AE	
Alamitos Bay	—	—	Regional Regression Equations	HEC-2	—	A	
Aliso Canyon Creek	Confluence with Santa Clara River	Approximately 2.1 miles upstream of W Avenue Y8	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Amargosa Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	11/01/1985	A, AH, AO	
Amargosa Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	11/01/1985	AE	
Amargosa Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	11/01/1985	A, AO	
Amargosa Creek Tributary	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	A	
Anaverde Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	11/01/1985	AE w/ Floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Anaverde Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	11/01/1985	A	
Arrastre Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Arroyo Calabasas	—	—	Regional Regression Equations	HEC-2	—	AE	
Arroyo San Miguel	—	—	Regional Regression Equations	HEC-2	08/01/1978	A	
Arroyo Sequit	—	—	Regional Regression Equations	HEC-2	—	A	
Avalon Bay	—	—	Regional Regression Equations	HEC-2	—	AE	
Avalon Canyon	At confluence with Pacific Ocean	0.9 miles upstream of confluence with Pacific Ocean	Regional Regression Equations	HEC-2	—	AE	
Back Channel	—	—	Regional Regression Equations	HEC-2	—	AE	
Ballona Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	AE	
Ballona Creek Watershed	—	—	—	—	—	2016	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Bar Creek	—	—	Regional Regression Equations	HEC-2	—	A, AO	
Bee Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Bee Canyon (2)	—	—	Regional Regression Equations	HEC-2	—	A	
Bee Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Big Rock Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	A	
Big Rock Creek South Fork	—	—	Regional Regression Equations	HEC-2	—	A	
Big Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A	
Big Rock Wash (Profile Base Line)	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	Regional Regression Equations	HEC-2	11/01/1985	AE	
Big Tujunga Wash	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	A, AO	
Boulder Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Bouquet Canyon Creek	Confluence with Santa Clara River	0.4 miles upstream of Texas Canyon Road	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
Bouquet Canyon Creek	0.4 miles upstream of Texas Canyon Road	Approximately 900 feet upstream of Sierra Pellona Mtwy	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	
Bouquet Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Broad Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Browns Creek	—	—	Regional Regression Equations	HEC-2	—	AO	
California Aqueduct	—	—	Regional Regression Equations	HEC-2	—	A	
Canada De Los Alamos Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Carlos Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Carr Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Castaic Creek	Confluence with Santa Clara River	Approximately 0.6 miles above Tapia Canyon Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Castaic Lagoon	—	—	Regional Regression Equations	HEC-2	—	A	
Castaic Lake	—	—	Regional Regression Equations	HEC-2	—	A	
Channel No. 2	—	—	Regional Regression Equations	HEC-2	—	AE	
Channel No. 3	—	—	Regional Regression Equations	HEC-2	—	AE	
Charlie Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Chatsworth Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Cherry Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Cheseboro Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Cold Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Cold Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Colorado Lagoon	—	—	Regional Regression Equations	HEC-2	—	AE	
Compton Creek	Confluence with Los Angeles River	Approximately 400 feet upstream of Artesia Boulevard	Regional Regression Equations	HEC-2	—	A	
Consolidated Channel	—	—	Regional Regression Equations	HEC-2	—	AE	
Coyote Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A, AO	
Coyote Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	A	
Cruthers Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Dark Canyon	—	—	Regional Regression Equations	HEC-2	2016	AE	
Dark Canyon West Branch	—	—	Regional Regression Equations	HEC-2	—	A	
Dewitt Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Dominguez Channel	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Dominguez Channel	At the upstream face of Henry Ford Avenue	At the downstream face of Victoria Avenue	Regional Regression Equations	HEC-2	—	A	
Dorr Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Dowd Canyon	—	—	Regional Regression Equations	HEC-2	—	A, AO	
Dry Canyon	—	—	Regional Regression Equations	HEC-2	1979	A, AO	Located in Los Angeles County, and in the City of Santa Clara
Dry Canyon	—	—	Regional Regression Equations	HEC-2	1979	AE	Located in Los Angeles County and the City of Calabasas
East Basin	—	—	Regional Regression Equations	HEC-2	—	AE	
Elizabeth Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A, AO	
Elizabeth Lake	—	—	Regional Regression Equations	HEC-2	—	A	
Elizabeth Lake Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Eller Slough	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Elsmere Canyon Creek	Confluence with Newhall Creek	Approximately 1.3 miles upstream of State Route 14	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Encino Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Entrance Channel (Marina Del Ray)	—	—	Regional Regression Equations	HEC-2	—	AE	
Escondido Canyon	Confluence with Acton Canton Creek	1.7 miles upstream of confluence with Acton Canton Creek	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
Fenner Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Fish Harbor	—	—	Regional Regression Equations	HEC-2	—	AE	
Flood Control Channel to Aliso Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Flowline No. 1	—	—	Regional Regression Equations	HEC-2	10/01/1978	AE	
Garapito Creek	—	—	Regional Regression Equations	HEC-2	—	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Gavin Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Gorman Creek	—	—	Regional Regression Equations	HEC-2	—	A, AH, AO	
Gorman Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A, AO	
Graham Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Grandview Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Grandview Canyon Creek (2)	—	—	Regional Regression Equations	HEC-2	—	A	
Harbor Lake	—	—	Regional Regression Equations	HEC-2	—	AE	
Haskell Canyon	Confluence with Bouquet Canyon Creek	0.4 miles upstream of Copper Hill Drive	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
Hasley Canyon Creek	Confluence with Castic Creek	0.3 miles upstream of Burlwood Drive	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Holcomb Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Holmes Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Hughes Lake	—	—	Regional Regression Equations	HEC-2	—	A	
Iron Canyon	Confluence with Sand Canyon Creek	0.8 miles upstream of North Iron Canyon Road	HEC-1	HEC-RAS 4.1	02/01/2010	AE	
Jesus Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Kagel Canyon	—	—	Regional Regression Equations	HEC-2	—	AE w/ Floodway	
Kagel Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Kentucky Springs Canyon Creek	Confluence with Soledad Canyon	Approximatley 600 feet upstream of Ghost Mine Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Lake Lindero	—	—	Regional Regression Equations	HEC-2	—	A	
La Mirada Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Lake Palmdale	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Lake Street Overflow	—	—	Regional Regression Equations	HEC-2	—	AE	
Las Flores Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Las Flores Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Las Virgenes Creek	At confluence with Malibu Creek	Immediately downstream of Las Virgenes Road	HEC-HMS 3.5	HEC-RAS 4.1	08/01/2010	AE	
Leaming Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Lemontaine Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Liberty Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Limekiln Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Lindero Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Lindero Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Lion Canyon	At confluence with Santa Clara River	0.9 miles upstream of Seasoned Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Little Rock Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	A	
Little Rock Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Little Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A	
Little Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A	
Little Rock Wash - Profile A	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	Regional Regression Equations	HEC-2	11/01/1985	AE	
Little Rock Wash - Profile A	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	Regional Regression Equations	HEC-2	11/01/1985	AE	
Little Rock Wash - Profile A	—	—	Regional Regression Equations	HEC-2	—	A	
Little Rock Wash - Profile A	—	—	Regional Regression Equations	HEC-2	11/01/1985	AE	
Little Rock Wash - Profile A	—	—	Regional Regression Equations	HEC-2	11/01/1985	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Little Rock Wash - Profile B	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	Regional Regression Equations	HEC-2	11/01/1985	AE	
Little Rock Wash - Profile C	—	—	Regional Regression Equations	HEC-2	11/01/1985	AE	
Little Tujunga Wash	—	—	Regional Regression Equations	HEC-2	—	A, AO	
Lobo Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Lockheed Drain Channel	—	—	Regional Regression Equations	HEC-2	—	AE, AO	
Lockheed Storm Drain	—	—	Regional Regression Equations	HEC-2	—	AE	
Long Canyon	At confluence with Santa Clara River	2.4 miles upstream of Confluence with Santa Clara River	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Lopez Canyon Channel	—	—	Regional Regression Equations	HEC-2	—	A	
Lopez Canyon Channel	—	—	Regional Regression Equations	HEC-2	—	AE	
Los Angeles County Flood Control Channel	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Los Angeles County Flood Control Channel to Aliso Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Los Angeles County Storm Drain	—	—	Regional Regression Equations	HEC-2	—	A	
Los Angeles Harbor	—	—	Regional Regression Equations	HEC-2	—	AE	
Los Angeles Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Los Angeles River	—	—	Regional Regression Equations	HEC-2	05/01/1991	A	
Los Angeles River Flood Control Channel	—	—	Regional Regression Equations	HEC-2	—	A	
Los Angeles River Flood Control Channel	—	—	Regional Regression Equations	HEC-2	—	A	
Los Cerritos Channel	—	—	Regional Regression Equations	HEC-2	—	AE	
Lyon Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Main Channel	—	—	Regional Regression Equations	HEC-2	—	AE	
Malaga Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Malibu Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Malibu Creek	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	AE	
Malibu Lake	—	—	Regional Regression Equations	HEC-2	—	A	
Marina Del Ray	—	—	Regional Regression Equations	HEC-2	—	AE	
Marine Stadium	—	—	Regional Regression Equations	HEC-2	—	AE	
Medea Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Middle Harbor	—	—	Regional Regression Equations	HEC-2	—	AE	
Mill Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Milton B. Arthur Lakes	—	—	Regional Regression Equations	HEC-2	—	A	
Mint Canyon Creek	Confluence with Santa Clara River Trail	Immediately downstream of Adon Avenue	HEC-1	HEC-RAS 4.1	02/01/2010	AE	
Mint Canyon Creek	Immediately downstream of Adon Avenue	0.9 miles upstream of Rocking Horse Road	HEC-1	HEC-RAS 4.1	02/01/2010	AE w/ Floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Mint Canyon Creek Overflow	Confluence with Santa Clara River Trail	Immediately downstream of Adon Avenue	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE,AO	
Mint Canyon Spring	—	—	Regional Regression Equations	HEC-2	—	A	
Montebello Municipal Golf Course Pond	—	—	Regional Regression Equations	HEC-2	—	A	
Muscal Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Myrick Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Newhall Creek	Confluence with South Fork Santa Clara River	Approximately 0.3 miles upstream of Molokai Road	HEC-1	HEC-RAS 4.1	3/13/2014	AE w/ Floodway	
Newhall Creek Left Overbank 2	Confluence with Newhall Creek	Immediately below 5th Street	HEC-1	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	
Newhall Creek Left Overbank 3	Confluence with Newhall Creek Left Overbank 2	Immediately below 12th Street	HEC-1	HEC-RAS 4.1	7/21/2015	AE	
Newhall Creek Right Overbank 1	Confluence with Newhall Creek	Approximately 175 feet upstream of Molokai Road	HEC-1	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Oak Springs Canyon	Confluence with Santa Clara River	Approximately 0.3 miles upstream of Oak Spring Canyon Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE, AO	
Oak Springs Canyon Overflow	Confluence with Oak Springs Canyon Creek	Divergence from Oak Springs Canyon	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Oakgrove Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Old Topanga Canyon	—	—	Regional Regression Equations	HEC-2	2016	A	
Old Topanga Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Oro Fino Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Oso Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Pacific Terrace Harbor	—	—	Regional Regression Equations	HEC-2	—	AE	
Pacoima Channel	—	—	Regional Regression Equations	HEC-2	—	A	
Pacoima Wash	—	—	Regional Regression Equations	HEC-2	—	A, AO	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Palmdale Ditch	—	—	Regional Regression Equations	HEC-2	—	A	
Palo Comando Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Palomas Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Pico Canyon	Confluence with South Fork Santa Clara River Tributary	Approximately 800 feet upstream of Stevenson Ranch Parkway	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Pine Canyon Creek	—	—	Regional Regression Equations	HEC-2	11/1/1985	A	
Piru Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Placerita Creek	Confluence with Newhall Creek	Approximately 1400 feet upstream of Placerita Canyon Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	
Placerita Creek Overflow	Confluence with Newhall Creek	Approximately 1.6 miles upstream of confluence with Newhall Creek	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Plum Canyon Creek	Confluence with Bouquet Canyon Creek	Approximately 0.3 miles upstream of Rodgers Drive	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Plum Canyon Creek	Just downstream of Plum Canyon Road	Approximately 1.1 miles upstream of Plum Canyon Road	N/A	HEC-RAS 3.1.3	06/13/2019	A	Revised hydraulics from LOMR 18-09-1767P were incorporated for this reach.
Portal Ridge Wash	—	—	Regional Regression Equations	HEC-2	—	AH	
Potrero Canyon	Confluence with Santa Clara River	Approximately 3.7 miles upstream of Potrero Canyon Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Potrero Canyon Overflow	Confluence with Potrero Canyon	0.5 miles upstream of confluence with Potrero Canyon	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Potrero Valley Creek (Westlake Lake)	—	—	Regional Regression Equations	HEC-2	—	A	
Puzzle Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Pyramid Lake	—	—	Regional Regression Equations	HEC-2	—	A	
Quail Lake	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Quigley Canyon Creek	Confluence with Placertia Creek	1.3 miles upstream of Meadview Avenue	Regional Regression Equations	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	
Railroad Canyon	Confluence with Newhall Creek	0.4 miles upstream of confluence with Newhall Creek	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
Railroad Canyon	0.4 miles upstream of confluence with Newhall Creek	1.3 miles upstream of confluence with Newhall Creek	HEC-1	HEC-RAS 4.1	03/13/2014	A	
Railroad Canyon Creek Left Overbank	Confluence with Newhall Creek	0.5 miles upstream of confluence with Newhall Creek	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
Ramirez Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Reservoir near UCLA	—	—	Regional Regression Equations	HEC-2	—	A	
Rice Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Rio Hondo Channel	—	—	Regional Regression Equations	HEC-2	05/01/1991	A	
Rio Hondo Channel Tributary	—	—	Regional Regression Equations	HEC-2	05/01/1991	AE	
Roberts Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Rock Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Romero Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Rustic Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Rustic Canyon	—	—	Regional Regression Equations	HEC-2	—	AE w/ Floodway	
Rustic Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Salt Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
San Dimas Wash	—	—	Regional Regression Equations	HEC-2	—	AE	
San Francisquito Canyon Creek	Confluence with Santa Clara River	Approximately 1200 feet downstream of North Quail Trail	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
San Francisquito Canyon Creek	Approximately 1200 feet downstream of North Quail Trail	Approximately 400 feet upstream of San Francisquito Canyon Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
San Gabriel River	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
San Martinez Chiquito Canyon	Confluence with Santa Clara River	Approximately 2000 feet upstream of San Martinez Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
San Martinez Grande Canyon Creek	Confluence with Santa Clara River	1.8 miles above State Route 126	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
San Pedro Bay	—	—	Regional Regression Equations	HEC-2	—	AE	
Sand Canyon Creek	Confluence with Santa Clara River	0.4 miles upstream of Coyote Canyon Creek	HEC-1	HEC-RAS 4.1	02/01/2010	AE	
Santa Clara River	At Los Angeles—Ventura County Boundary	Approximately 1.4 miles upstream of Lang Station Road	HEC-1	HEC-RAS 4.1	7/21/2015	AE w/ Floodway	
Santa Clara River	Approximately 12 miles upstream of Lang Station Road	Confluence of Aliso Canyon Creek	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Santa Clara River Overflow	Confluence with Santa Clara River	Approximately 1700 feet upstream of the confluence of Santa Clara River	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Santa Maria Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Santa Maria Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Santa Susana Pass Wash	—	—	Regional Regression Equations	HEC-2	—	A	
Santa Ynez Canyon Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Savage Creek	—	—	Regional Regression Equations	HEC-2	08/01/1978	AE	
Sierra Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Sloan Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Soledad Canyon	Confluence with Santa Clara River	Approximately 1.0 mile upstream of East Soledad Pass Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
South Fork Santa Clara River	Confluence with Santa Clara River	approximately 1,600 feet upstream of Lyons Avenue	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
South Fork Santa Clara River Tributary	Confluence with South Fork Santa Clara River	Approximately 200 feet above Tournament Road	HEC-1	HEC-RAS 4.1	03/13/2014	AE w/ Floodway	
South Portal Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Spade Spring Canyon Creek	Confluence with Mint Canyon Creek	2.8 miles upstream of confluence with Mint Canyon Creek	HEC-1	HEC-RAS 4.1	02/01/2010	AE w/ Floodway	
Stokes Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Stokes Canyon	—	—	Regional Regression Equations	HEC-2	—	AE	
Sullivan Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Sunshine Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Tacobi Creek	—	—	Regional Regression Equations	HEC-2	08/01/1978	A	
Tapia Canyon	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Texas Canyon Creek	Confluence with Bouquet Canyon Creek	0.9 miles above confluence with Bouquet Canyon Creek	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Tick Canyon	Confluence with Santa Clara River	0.2 miles above Tick Canyon Road	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Tonner Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Topanga Canyon	—	—	*	*	2016	AE	
Topanga Canyon Creek	—	—	*	*	7/21/2015	A	
Towsley Canyon Creek	Approximately 400 feet upstream of confluence of Gavin Canyon Creek	Approximately 1100 feet upstream of The Old Road	Regional Regression Equations	HEC-RAS 4.1	2015	AE	
Trancas Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
Tributary to Unnamed Canyon	Approximately 1,200 feet downstream of Access Road	Approximately 1,650 feet upstream of Access Road	Regional Regression Equations	HEC-RAS 4.1.0	10/5/2017	A	Revised hydraulic and hydrologic analyses were incorporated from LOMR 20-09-0137P
Triunfo Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Triunfo Creek	Approximately 200 feet downstream of Crags Drive	At Westlake Dam	HEC-HMS 4.0	HEC-RAS 4.0	09/25/2015	AE	
Turnbull Canyon	—	—	Regional Regression Equations	HEC-2	08/01/1978	AE, AO	
Unnamed Canyon (Serra Retreat Area)	—	—	Regional Regression Equations	HEC-2	—	AE	
Unnamed Stream Main Reach	Approx 340 feet upstream of Pacific Ocean	Approx 230 feet upstream of Via Coronel	1993 Regional Regression Equations	HEC-RAS 3.1.3	02/01/2012	AE w/ Floodway	
Unnamed Stream Tributary 1	Confluence with Unnamed Stream Main Reach	Approx 140 feet upstream of Via Landeta	1993 Regional Regression Equations	HEC-RAS 3.1.3	02/01/2012	AE w/ Floodway	
Unnamed Stream Tributary 2	Confluence with Unnamed Stream Main Reach	Approx 180 feet upstream of Via Zurita	1993 Regional Regression Equations	HEC-RAS 3.1.3	02/01/2012	AE w/ Floodway	
Upper Los Angeles River Left Overbank	—	—	Regional Regression Equations	HEC-2	—	AE	
Vasquez Canyon	Confluence with Bouquet Canyon Creek	Approximately 2 miles upstream of confluence with Bouquet Canyon Creek	US EPA Hydrologic Simulation Program – FORTRAN (HSPF)	HEC-RAS 4.1	7/21/2015	AE	
Villa Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Vine Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Violin Canyon Creek	Confluence with Castaic Creek	At I-5 (Golden State Freeway)	Regional Regression Equations	HEC-2	—	AE, AO	
Violin Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Wayside Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Weldon Canyon	—	—	Regional Regression Equations	HEC-2	—	AE w/ Floodway	
West Basin	—	—	Regional Regression Equations	HEC-2	—	AE	
West Channel	—	—	Regional Regression Equations	HEC-2	—	AE	
Westlake Reservoir	—	—	Regional Regression Equations	HEC-2	—	A	
Whitney Canyon Creek	Confluence with Newhall Creek	1 mile upstream of confluence with Newhall Creek	HEC-HMS 3.5	HEC-RAS 4.1	7/21/2015	AE	
Wildwood Canyon Creek	—	—	Regional Regression Equations	HEC-2	1984	A, AO	
Wiley Canyon Creek	—	—	Regional Regression Equations	HEC-2	1984	A	
Willow Springs Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
Young Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
Zuma Canyon	—	—	Regional Regression Equations	HEC-2	—	A	
Zuma Canyon	—	—	Log-Pearson Type III Frequency Analysis	HEC-2	—	AE	
UNKNOWN 1 near W. 3rd Street	—	—	Regional Regression Equations	HEC-2	12/01/1980, 11/01/1985	AO	
UNKNOWN 2 near W. 3rd Street	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3 near W. 3rd Street	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near 4th Street	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Aberdeen Avenue	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Alameda Street	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 near Alameda Street	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Alaska Avenue	—	—	Regional Regression Equations	HEC-2	08/01/1978	AH	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 near Amsler Street	—	—	Regional Regression Equations	HEC-2	08/01/1978	AH	
UNKNOWN 1 to Anaverde Creek	—	—	Regional Regression Equations	HEC-2	11/01/1985	A	
UNKNOWN 1 near Anza Avenue	—	—	Regional Regression Equations	HEC-2	08/01/1978	AH	
UNKNOWN 1 to Arroyo Calabasas	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to Arroyo Calabasas	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Baile Avenue	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 2 near Baile Avenue	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 1 near S. Beverley Glen Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 to Big Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A, AO	
UNKNOWN 1-A to Big Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A, AO	
UNKNOWN 2 to Big Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A, AO	
UNKNOWN 1 near Blinn Avenue	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 to Broad Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to Broad Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3 to Broad Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to California Aqueduct	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to California Aqueduct	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3 to California Aqueduct	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 4 to California Aqueduct	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 5 to California Aqueduct	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Camino Real Calle	—	—	Regional Regression Equations	HEC-2	06/01/1981	AE	
UNKNOWN 1 near Chaparal Street	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Childs Court	—	—	Regional Regression Equations	HEC-2	—	AO	
UNKNOWN 1 near Club View Drive	—	—	Regional Regression Equations	HEC-2	—	AH	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 near Denker Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Edwards AF Base	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 near Edwards AF Base	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2-A near Edwards AF Base	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Eubank Avenue	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Glade Avenue	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 2 near Glade Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 to Glenoaks Boulevard	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to Glenoaks Boulevard	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3 to Glenoaks Boulevard	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Gould Avenue	—	—	Regional Regression Equations	HEC-2	06/01/1981	AE	
UNKNOWN 1 near Grenola Street	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 near N. Hoover Street	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near S. La Cienega Boulevard	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Lake Palmdale	—	—	Regional Regression Equations	HEC-2	11/01/1985	A	
UNKNOWN 1 near Laurel Canyon Boulevard	—	—	Regional Regression Equations	HEC-2	—	AO	
UNKNOWN 1 to Little Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A, AO	
UNKNOWN 2 to Little Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3 to Little Rock Wash	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Long Beach Freeway	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Louise Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Lucerne Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near S. Main Street	—	—	Regional Regression Equations	HEC-2	—	AO	
UNKNOWN 1 near Magnolia Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 to Malaga Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to Malaga Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2-A to Malaga Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Marathon Street	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Melrose Avenue	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Mines Avenue	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 1 to Myrick Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Overland Avenue	—	—	Regional Regression Equations	HEC-2	—	AO	
UNKNOWN 2 near Overland Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near W. Olympic Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-A to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1-A-1 to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-A-2 to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-B to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-B-1 to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-C to Pallett Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to Paso Robles Avenue	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 1 near Pershing Drive	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to Portal Ridge Wash	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-A to Portal Ridge Wash	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-B to Portal Ridge Wash	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-C to Portal Ridge Wash	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Rexbon Road	—	—	Regional Regression Equations	HEC-2	—	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 near Ripley Avenue	—	—	Regional Regression Equations	HEC-2	06/01/1981	AE	
UNKNOWN 1 near Roscoe Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near San Diego Freeway	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 to San Fernando Road	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to San Fernando Road	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to San Gabriel River	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to Santa Susana Creek	—	—	Regional Regression Equations	HEC-2	—	A, AO	
UNKNOWN 1-A to Santa Susana Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to Santa Susana Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Sesnon Boulevard	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 1 near Sheldon Street	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near W. Slausson Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 2 near W. Slausson Avenue	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near State Highway 110	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near W. Sunset Boulevard	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Sunset Canyon Drive	—	—	Regional Regression Equations	HEC-2	—	AO	
UNKNOWN 1 near Susanna Place	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near W. Temple Street	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Toledo Street	—	—	Regional Regression Equations	HEC-2	08/01/1978	AE	
UNKNOWN 2 near Toledo Street	—	—	Regional Regression Equations	HEC-2	08/01/1978	AH	
UNKNOWN 1 near UCLA	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Vail Avenue	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near S. Van Ness Avenue	—	—	Regional Regression Equations	HEC-2	—	A, AH, AO	
UNKNOWN 1 near Via Valmonte	—	—	Regional Regression Equations	HEC-2	08/01/1978	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 1 near Victory Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH	
UNKNOWN 1 near Vincent Street	—	—	Regional Regression Equations	HEC-2	06/01/1981	AE	
UNKNOWN 2 near Vincent Street	—	—	Regional Regression Equations	HEC-2	06/01/1981	AE	
UNKNOWN 1 to Vine Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to Vine Creek	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Walker Avenue	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to Weldon Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN 1-A to Weldon Canyon Creek	—	—	Regional Regression Equations	HEC-2	—	AE	
UNKNOWN WEST of Edwards AF Base	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN WEST of Edwards AF Base	—	—	Regional Regression Equations	HEC-2	—	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN WEST of Edwards AF Base	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1-A to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2 to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 2-A to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3 to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 3-A to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 4 to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 5 to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 6 to UNKNOWN WEST	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Wilshire Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH, AO	
UNKNOWN 2 near Wilshire Boulevard	—	—	Regional Regression Equations	HEC-2	—	AH	

Table 13: Summary of Hydrologic and Hydraulic Analyses, continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Complete	Flood Zone on	Special Considerations
UNKNOWN 3 near Wilshire Boulevard	—	—	Regional Regression Equations	HEC-2	—	A	
UNKNOWN 1 near Woodman Place	—	—	Regional Regression Equations	HEC-2	—	A	

Table 14: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Acton Canyon	0.030-0.039	0.032-0.075
Agua Dulce Canyon Creek	0.042-0.045	0.045-0.100
Agua Dulce Canyon Creek Lateral	0.042	0.045
Aliso Canyon Creek	0.040	0.065
Amargosa Creek	0.040	0.040
Anaverde Creek	0.040	0.040
Avalon Canyon	0.030-0.050	0.030-0.050
Ballona Creek	NA[1]	0.012-0.110
Big Rock Wash	0.050	0.050
Bouquet Canyon Creek	0.015-0.048	0.045-0.080
Castaic Creek	0.046-0.050	0.045-0.070
Cheseboro Creek	0.030	0.050
Cold Creek	0.030	0.050
Compton Creek	0.020-0.060	0.020-0.060
Dark Canyon	0.030	0.050
Dominguez Channel	0.025	0.020-0.060
Dry Canyon	0.030	0.050-0.060
Elsmere Canyon Creek	0.015-0.045	0.070
Escondido Canyon	0.039	0.040-0.100
Flow along Empire Avenue	0.014-0.050	0.014-0.050
Flowline No. 1	0.030	0.030
Garapito Creek	0.030	0.050
Hacienda Creek	0.030	0.060
Haskell Canyon	0.020-0.042	0.031-0.050
Hasley Canyon Creek	0.020-0.040	0.050-0.100
Hasley Canyon Creek Split	0.040	0.050

Table 14: Roughness Coefficients, continued

Flooding Source	Channel "n"	Overbank "n"
Iron Canyon	0.040	0.050-0.130
Kagel Canyon	0.035-0.065	0.035-0.065
Kentucky Springs Canyon Creek	0.020-0.040	0.060
La Mirada Creek	0.025-0.030	0.025-0.030
Lake Street Overflow	0.014-0.050	0.014-0.050
Las Flores Canyon	0.030	0.050
Las Virgenes Creek	0.012-0.040	0.050-0.130
Liberty Canyon	0.030	0.050
Lindero Canyon above Confluence with Medea Creek	0.030	0.050
Lindero Canyon above Lake Lindero	0.030	0.050
Lion Canyon	0.044	0.050-0.055
Little Rock Wash-Profile A	0.030	0.050
Little Rock Wash-Profile B	0.030	0.050
Little Rock Wash-Profile C	0.030	0.050
Lobo Canyon	0.030	0.050
Lockheed Drain Channel	0.014-0.050	0.014-0.050
Long Canyon	0.035-0.050	0.044-0.050
Lopez Canyon Channel	0.030	0.060
Los Angeles River Left Overbank Path 2	0.016	0.050-0.150
Los Angeles River Right Overbank Path 1	0.016	0.050-0.150
Los Angeles River Right Overbank Path 2	0.016	0.050-0.150
Malibu Creek	0.030	0.050
Medea Creek	0.030	0.050
Medea Creek (Above Ventura Freeway)	0.030	0.050
Mill Creek	0.030	0.060
Mint Canyon Creek	0.015-0.050	0.050-0.130
Mint Canyon Creek Overflow	0.015-0.100	0.080-0.100
Newhall Creek	0.015-0.052	0.045-0.100
Newhall Creek Left Overbank 2	0.032	0.180
Newhall Creek Left Overbank 3	0.032	0.100-0.120
Newhall Creek Right Overbank 1	0.032	0.100-0.120

Table 14: Roughness Coefficients, continued

Flooding Source	Channel “n”	Overbank “n”
North Overflow	0.014-0.050	0.014-0.050
Oak Springs Canyon	0.040	0.040-0.070
Oak Springs Canyon Overflow	0.070	0.070
Old Topanga Canyon	0.030	0.050
Overflow Area of Lockheed Drain Channel	0.030-0.040	0.030-0.040
Overflow Area of Lockheed Storm Drain	0.014-0.050	0.014-0.050
Palo Comando Creek	0.030	0.050
Pico Canyon	0.015-0.040	0.040-0.130
Placerita Creek	0.020-0.040	0.040-0.130
Placerita Creek Overflow	0.130	0.050-0.130
Plum Canyon	0.015	0.016-0.030
Potrero Canyon	0.040-0.060	0.040-0.060
Potrero Canyon Overflow	0.060	0.060
Quigley Canyon Creek	0.035-0.060	0.048-0.063
Railroad Canyon	0.035-0.045	0.100
Railroad Canyon Left Overbank	0.028-0.032	0.100
Ramirez Canyon	0.030	0.050
Rio Hondo Left Overbank Path 3	0.050-0.150	0.050-0.150
Rio Hondo Left Overbank Path 5	0.050-0.150	0.050-0.150
Rio Hondo Left Overbank Path 6	0.050-0.150	0.050-0.150
Rustic Canyon	0.035-0.065	0.030-0.065
San Francisquito Canyon Creek	0.038	0.042
San Martinez Chiquito Canyon	0.016-0.040	0.050-0.100
San Martinez Grande Canyon Creek	0.040-0.070	0.040-0.070
Sand Canyon Creek	0.020-0.130	0.050-0.130
Santa Clara River	0.032-0.040	0.010-0.100
Santa Clara River Overflow	0.032	0.036
Santa Maria Canyon	0.030	0.050
Soledad Canyon	0.015-0.040	0.050-0.070
South Fork Santa Clara River	0.020-0.050	0.05-0.100
South Fork Santa Clara River Tributary	0.020-0.050	0.05-0.100

Table 14: Roughness Coefficients, continued

Flooding Source	Channel “n”	Overbank “n”
Spade Spring Canyon Creek	0.070	0.075
Stokes Canyon	0.030	0.050
Texas Canyon Creek	0.040-0.046	0.050-0.060
Tick Canyon	0.015-0.050	0.050-0.130
Topanga Canyon	0.030	0.050
Towsley Canyon Creek	0.015-0.035	0.045-0.050
Trancas Creek	0.030	0.050
Triunfo Creek	0.012-0.045	0.012-0.06
Unnamed Canyon (Serra Retreat Area)	0.030	0.050
Unnamed Stream Main Reach	0.015-0.040	0.015-0.120
Unnamed Stream Tributary 1	0.015-0.045	0.015-0.110
Unnamed Stream Tributary 2	0.015-0.045	0.015-0.110
Upper Los Angeles River Left Overbank	0.050-0.150	0.050-0.150
Vasquez Canyon	0.020-0.044	0.044-0.060
Weldon Canyon	0.035-0.065	0.035-0.065
Whitney Canyon Creek	0.045	0.05-0.07
Zuma Canyon	0.030	0.050

[1]This stream was studied using detailed 2-dimensional methods. Channel “n” values are not applicable in this case

5.3 Coastal Analyses

For the areas of Los Angeles County that are impacted by coastal flooding processes, coastal flood hazard analyses were performed to provide estimates of coastal BFEs. Coastal BFEs reflect the increase in water levels during a flood event due to extreme tides and storm surge as well as overland wave effects.

The following subsections provide summaries of how each coastal process was considered for this FIS Report. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 15 summarizes the methods and/or models used for the coastal analyses and is followed by more detailed narratives describing the coastal analyses. Refer to Section 2.5 for descriptions of the terms used in this section.

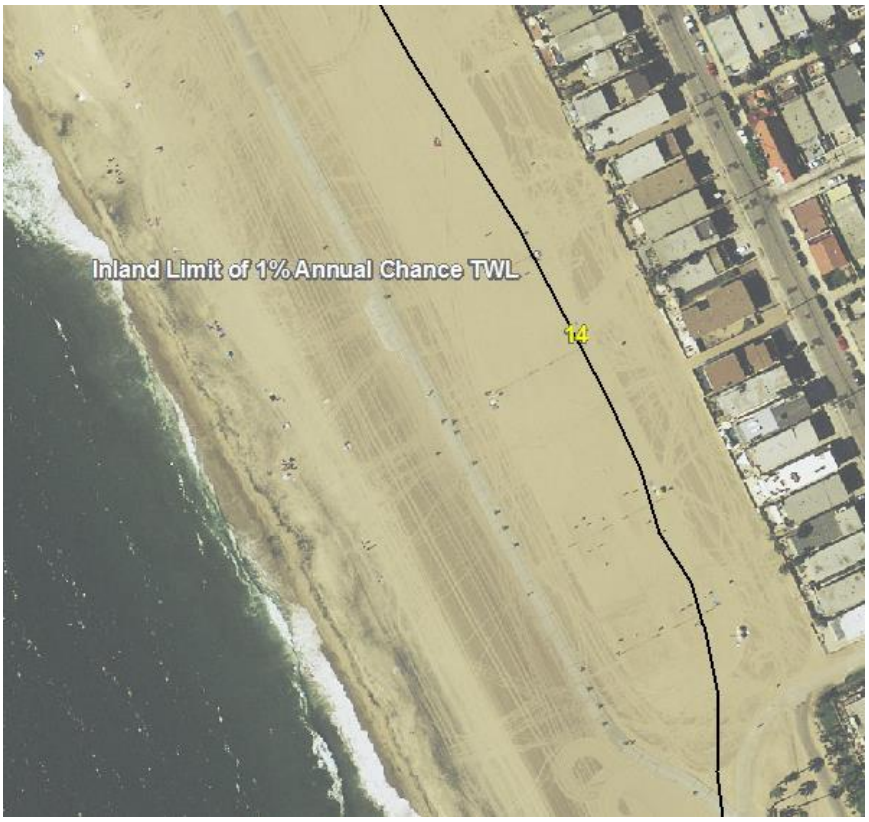
Table 15: Summary of Coastal Analyses

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Pacific Ocean	Entire coastline of Los Angeles County	Entire coastline of Los Angeles County	Wave Setup and Runup	FEMA Pacific Guidelines 2005, Stockdon/ DIM, TAW	04/01/2015
Pacific Ocean	Entire coastline of Los Angeles County	Entire coastline of Los Angeles County	SWEL	Tide Frequency Analysis	04/01/2015
Pacific Ocean	Entire coastline of Los Angeles County	Entire coastline of Los Angeles County	Dune Erosion	FEMA Pacific Guidelines 2005, MK&A, Kriebel and Dean	04/01/2015
Pacific Ocean	Entire coastline of Los Angeles County	Entire coastline of Los Angeles County	Wave Overtopping	FEMA Pacific Guidelines 2005, Cox-Machemehl	04/01/2015
Pacific Ocean	Entire coastline of Los Angeles County	Entire coastline of Los Angeles County	Harbor Analysis	FEMA Pacific Guidelines 2005, Penney and Price, Wiegel	04/01/2015

Total Stillwater Elevations

Total stillwater elevations were not analyzed in Los Angeles County and are not typically analyzed along the Pacific coast. In Los Angeles County, coastal BFE were ultimately determined from TWL. The TWL for the 1% annual chance event were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in 15. The TWL that was calculated for each transect during the coastal analyses is shown in Table 1, "Coastal Transect Parameters." Figure 8 shows the TWL for the 1% annual chance event that was determined for this coastal analysis.

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas



Astronomical Tide

Water level data were obtained from the NOAA National Ocean Service (NOS) tide gage network, which includes multiple gages along the California coast. The observed tide records were assumed to include all components of the SWL, including astronomical tides and storm surge.

Storm Surge Statistics

Storm surge magnitudes were obtained from the NOAA NOS historical observed tide gage records. Although the observed tide records along the coast are mostly complete, there are some spatial and temporal gaps. Temporal gaps in the records were filled using an approach that applied the statistical relationships of observed non-tidal residuals between adjacent tide gages to estimate the non-tidal residual components at stations with missing data. Using these statistical correlations and an understanding of the spatial variability of regional storms, the gaps in the tide station

records were empirically reconstructed to provide a continuous hourly time series of stillwater levels for the 1960-2009 hindcast period at each tide gage in the open Pacific coast study area. SWL time series were subsequently evaluated for observed sea level trends and adjusted to the current national Datum Epoch of 1983-2001.

Once the hourly SWL hindcast was reconstructed at each tide gage, the reconstructed time series were applied along spatially homogeneous reaches of the coastline. For some open Pacific coastal reaches, it was determined that the nearest long-term tide station did not adequately represent the local tidal characteristics due to smaller-scale effects in the region. For these reaches, the predicted tides from short-term subordinate stations were combined with the reconstructed non-tidal residual time series from the long-term stations to produce a representative SWL hindcast.

Table 16 provides the gage name, managing agency, gage type, gage identifier, start date, end date, and statistical methodology applied to each gage used to determine the 1% annual chance SWEL.

Table 16: Tide Gage Analysis Specifics

Gage Name	Managing Agency of Tide Gage Record	Gage Type	Start Date	End Date	Statistical Methodology
Los Angeles (9410660)	NOAA	Tide	1923	2009	GEV
Santa Monica (9410840)	NOAA	Tide	1973	2009	GEV

5.3.1 Waves

The SWL were combined with calculated wave setup and runup heights to determine TWL at each analysis transect. The initial modeling of the offshore and nearshore wave climates within the study area was a critical component to the analysis. To provide adequate wave input data for the 1-D transect-based TWL analyses, Oceanweather Inc. developed a continuous 50-year hourly deepwater wave hindcast for the period of January 1, 1960 to December 31, 2009 along the California coastline (OWI, 2009). The wave modeling consisted of three nested model grids of sequentially higher resolution to resolve the wave conditions at varying spatial scales. These included the basin (global), regional (Northeast Pacific Ocean), and coastal (California) grids.

The deep-water wave characteristics were subsequently transformed to nearshore wave characteristics at the edge of the surf zone in approximately 49 feet water depth. The nearshore wave transformation modeling was conducted by the Scripps Institute of Oceanography (SIO) Coastal Data iNformation Program (CDIP) research group in collaboration with BakerAECOM using the SIO SHELF model (SIO, 2014). In select localized areas of complex shoreline geometry, wave data were also provided at 16 and 33 feet water depth. The output nearshore wave characteristics from this wave transformation model provided the input conditions for the 1-D transect-based wave setup and runup calculations.

5.3.2 Coastal Erosion

A single storm episode can cause extensive erosion in coastal areas. Storm-induced dune erosion was evaluated to determine the modification to existing coastal dune topography that is expected with the 1% annual chance flood events. Dune erosion was analyzed using the methods listed in Table 15.

5.3.3 Wave Hazard Analyses

This section is no applicable to this Flood Risk Project

Table 17: Coastal Transect Parameters

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	1	320653.1357	3768287.9841	16.5	17.2	17.7	18.2	19.3
Pacific Ocean	2	321969.8308	3768276.4153	11.1	11.7	12.2	12.8	14.2
Pacific Ocean	3	322326.4471	3768238.1425	18.2	19.2	20.0	20.8	22.7
Pacific Ocean	4	323809.146	3767756.7132	11.8	12.6	13.4	14.2	16.6
Pacific Ocean	5	324255.2984	3767695.5632	13.7	14.3	14.8	15.3	16.3
Pacific Ocean	6	325745.9962	3767426.5036	11.6	12.4	13.0	13.7	15.7
Pacific Ocean	7	326542.1422	3767336.505	18.1	19.1	19.7	20.4	22.0

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	8	326960.5919	3767259.1744	15.7	16.4	16.9	17.4	18.6
Pacific Ocean	9	327578.8924	3767091.1492	17.6	18.4	19.0	19.6	20.9
Pacific Ocean	10	328450.7567	3766953.4398	11.4	12.2	12.9	13.6	15.7
Pacific Ocean	11	329193.3529	3766766.4068	23.5	26.0	28.1	30.5	36.7
Pacific Ocean	12	329961.1946	3766265.6737	14.5	15.0	15.4	15.8	16.7
Pacific Ocean	13	331064.9102	3765287.3225	18.2	18.9	19.3	19.8	20.7
Pacific Ocean	14	331606.4682	3764734.6384	17.4	18.3	19.0	19.7	21.4
Pacific Ocean	15	331911.3155	3764404.0478	19.1	20.1	20.9	21.7	23.7
Pacific Ocean	16	332583.9556	3763663.7135	14.2	15.3	16.3	17.4	20.4

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	17	333190.6127	3763642.6014	14.4	15.2	15.9	16.6	18.5
Pacific Ocean	18	334022.3593	3763631.5861	12.0	12.7	13.3	14.0	15.8
Pacific Ocean	19	335090.1622	3764751.1847	12.5	13.0	13.3	13.6	14.4
Pacific Ocean	20	335551.1775	3765190.9341	17.1	17.7	18.1	18.5	19.3
Pacific Ocean	21	335782.59	3765349.0677	10.9	11.3	11.7	12.0	13.0
Pacific Ocean	22	336806.6982	3765724.6758	11.2	11.6	11.8	12.0	12.5
Pacific Ocean	23	337098.9493	3765786.1015	19.2	20.6	21.7	22.9	25.6
Pacific Ocean	24	337680.5678	3765915.3151	17.0	17.8	18.5	19.1	20.7
Pacific Ocean	25	338478.5568	3766240.8588	16.6	17.9	19.0	20.2	23.2

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	26	338700.2203	3766375.7149	11.4	11.9	12.2	12.6	13.5
Pacific Ocean	27	339835.3143	3766633.2752	17.3	18.3	19.2	20.2	22.7
Pacific Ocean	28	340802.9659	3766556.7801	25.1	27.2	28.9	30.6	34.7
Pacific Ocean	29	341850.0845	3766361.4861	15.0	15.5	15.9	16.2	16.8
Pacific Ocean	30	342961.9212	3766220.5129	16.1	16.5	16.8	17.0	17.5
Pacific Ocean	31	343854.6675	3766306.0718	17.5	18.0	18.4	18.7	19.3
Pacific Ocean	32	344847.1918	3766268.5749	17.6	18.1	18.5	18.8	19.3
Pacific Ocean	33	345803.4617	3766928.7825	11.7	12.1	12.5	12.8	13.6
Pacific Ocean	34	346352.8511	3767121.9044	15.9	16.3	16.5	16.7	17.1

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	35	347512.9476	3766998.7388	16.4	17.0	17.4	17.7	18.5
Pacific Ocean	36	348065.5797	3766995.8764	16.8	17.8	18.5	19.2	20.9
Pacific Ocean	37	348247.783	3767003.667	16.6	17.2	17.6	17.9	18.7
Pacific Ocean	38	349001.6219	3766925.2441	16.3	17.6	18.7	19.9	23.0
Pacific Ocean	39	349426.6024	3766964.4954	11.4	11.9	12.2	12.6	13.4
Pacific Ocean	40	350193.8296	3766994.663	14.2	16.4	18.6	21.4	31.0
Pacific Ocean	41	351994.5837	3766978.0753	20.6	22.4	23.7	25.2	28.8
Pacific Ocean	42	352413.6663	3767001.3553	18.1	19.4	20.4	21.5	24.2
Pacific Ocean	43	352925.7953	3766995.918	18.9	21.0	22.5	24.2	28.2

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	44	354426.0884	3766974.6102	11.5	11.9	12.2	12.5	13.1
Pacific Ocean	45	354677.2706	3767029.5611	17.4	18.6	19.5	20.4	22.5
Pacific Ocean	46	355131.7004	3767138.4302	12.1	14.1	16.4	19.6	32.7
Pacific Ocean	47	356026.0023	3766916.77	15.2	15.7	16.1	16.5	17.4
Pacific Ocean	48	356348.793	3766835.6505	18.9	20.7	22.0	23.3	26.2
Pacific Ocean	49	357264.0348	3766881.0862	15.9	16.5	17.0	17.4	18.4
Pacific Ocean	50	357846.3516	3766710.7684	15.6	16.2	16.6	17.1	18.0
Pacific Ocean	51	358655.5798	3766452.0954	15.1	15.7	16.2	16.6	17.6
Pacific Ocean	52	359157.5578	3765855.2185	13.6	14.1	14.6	15.0	16.1

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	53	360251.3251	3764758.5672	15.3	16.0	16.5	17.0	18.1
Pacific Ocean	54	360693.277	3764191.3915	18.2	19.1	19.8	20.6	22.4
Pacific Ocean	55	361327.014	3763330.3876	13.7	14.4	14.9	15.4	16.7
Pacific Ocean	56	361615.7578	3763030.5278	13.7	14.4	14.9	15.4	16.6
Pacific Ocean	57	362552.743	3761712.7912	15.2	16.0	16.7	17.3	19.1
Pacific Ocean	58	363307.1206	3760546.5996	13.7	14.5	15.0	15.7	17.3
Pacific Ocean	59	363839.5062	3759818.687	13.2	13.7	14.1	14.6	15.6
Pacific Ocean	60	364331.9588	3759300.5518	17.5	18.2	18.7	19.2	20.1
Pacific Ocean	61	364773.4088	3758101.1857	15.1	15.7	16.0	16.4	17.0

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	62	365095.8898	3757669.9149	12.9	13.4	13.9	14.3	15.4
Pacific Ocean	63	365799.4692	3756422.9669	19.8	20.9	21.8	22.7	24.8
Pacific Ocean	64	366520.826	3754764.2415	18.3	19.4	20.2	21.1	23.3
Pacific Ocean	65	366908.0716	3753875.1579	13.1	13.6	13.9	14.3	15.1
Pacific Ocean	66	367291.398	3753061.786	20.0	21.1	22.0	22.9	25.1
Pacific Ocean	67	367594.9571	3752345.7636	16.6	17.6	18.3	19.1	21.0
Pacific Ocean	68	367676.71	3752149.6748	14.7	15.3	15.8	16.2	17.3
Pacific Ocean	69	367779.0022	3751892.9293	14.6	15.2	15.6	16.0	16.9
Pacific Ocean	70	367989.0033	3751439.317	15.5	16.2	16.7	17.2	18.3

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	71	368433.4019	3750380.6531	15.4	16.1	16.6	17.0	18.1
Pacific Ocean	72	368645.6318	3749934.7334	16.9	17.6	18.1	18.7	19.8
Pacific Ocean	73	368856.3497	3749546.2682	18.0	18.9	19.5	20.1	21.4
Pacific Ocean	74	369261.4317	3748704.2873	16.0	16.9	17.6	18.3	20.1
Pacific Ocean	75	369495.8646	3747942.623	16.5	17.6	18.5	19.5	22.3
Pacific Ocean	76	369572.8345	3747675.2423	15.4	16.4	17.1	18.0	20.3
Pacific Ocean	77	369729.9533	3747192.7507	16.1	17.0	17.6	18.3	20.0
Pacific Ocean	78	370111.2844	3746405.2469	15.1	15.8	16.4	17.0	18.4
Pacific Ocean	79	370109.8452	3746382.3876	19.6	21.1	22.2	23.4	26.4

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	80[1]	370210.0458	3745669.9463	*	*	*	20.7	22.8
Pacific Ocean	81[1]	370967.8569	3745239.3381	7.6	8.0	8.3	8.7	9.9
Pacific Ocean	82	371060.1431	3745172.9306	11.3	11.8	12.2	12.7	13.7
Pacific Ocean	83	371150.0617	3744919.5309	11.7	12.2	12.6	13.0	13.9
Pacific Ocean	84	371045.0391	3744462.6429	10.6	11.0	11.3	11.7	12.5
Pacific Ocean	85	370751.4248	3743718.6068	12.0	12.6	13.1	13.6	15.0
Pacific Ocean	86	370656.163	3743020.4678	14.3	15.4	16.4	17.5	20.6
Pacific Ocean	87	370358.0954	3742272.851	16.6	17.8	18.8	19.9	23.0
Pacific Ocean	88	370175.146	3741885.6494	11.6	12.2	12.8	13.4	15.1

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	89	369731.8934	3741347.9053	12.9	13.6	14.3	15.1	17.3
Pacific Ocean	90	369027.4036	3740314.5299	12.8	14.5	16.1	18.1	24.8
Pacific Ocean	91	367791.279	3739176.7024	13.3	14.4	15.2	16.2	19.1
Pacific Ocean	92	368330.6732	3736194.8737	14.7	17.0	19.2	22.0	31.7
Pacific Ocean	93	369657.8942	3733933.3681	14.6	16.4	18.1	20.2	26.4
Pacific Ocean	94	371380.6031	3733810.6651	14.5	15.5	16.4	17.3	19.6
Pacific Ocean	95	372042.8234	3733865.093	15.3	16.4	17.4	18.4	21.2
Pacific Ocean	96	372860.2551	3733517.2855	13.7	14.8	15.7	16.6	19.2
Pacific Ocean	97	373429.9425	3733362.1196	12.6	14.0	15.5	17.4	24.2

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	98	373601.8044	3733250.4537	19.2	20.5	21.4	22.4	24.8
Pacific Ocean	99	374032.5323	3732892.6628	15.1	16.0	16.6	17.2	18.8
Pacific Ocean	100	375791.6481	3731885.8916	12.4	13.5	14.5	15.6	19.0
Pacific Ocean	101	377117.0643	3731173.0772	11.6	12.3	12.9	13.6	15.5
Pacific Ocean	102	377296.6972	3731094.4032	17.4	18.9	20.1	21.6	25.7
Pacific Ocean	103	378379.2504	3730586.5428	13.1	13.9	14.5	15.2	17.0
Pacific Ocean	104	379433.3757	3730189.635	17.0	18.3	19.4	20.5	23.4
Pacific Ocean	105	380556.7606	3729731.017	11.2	11.8	12.2	12.7	13.9
Pacific Ocean	106	381195.594	3729838.4281	12.5	13.4	14.1	14.8	16.9

Table 17: Coastal Transect Parameters, continued

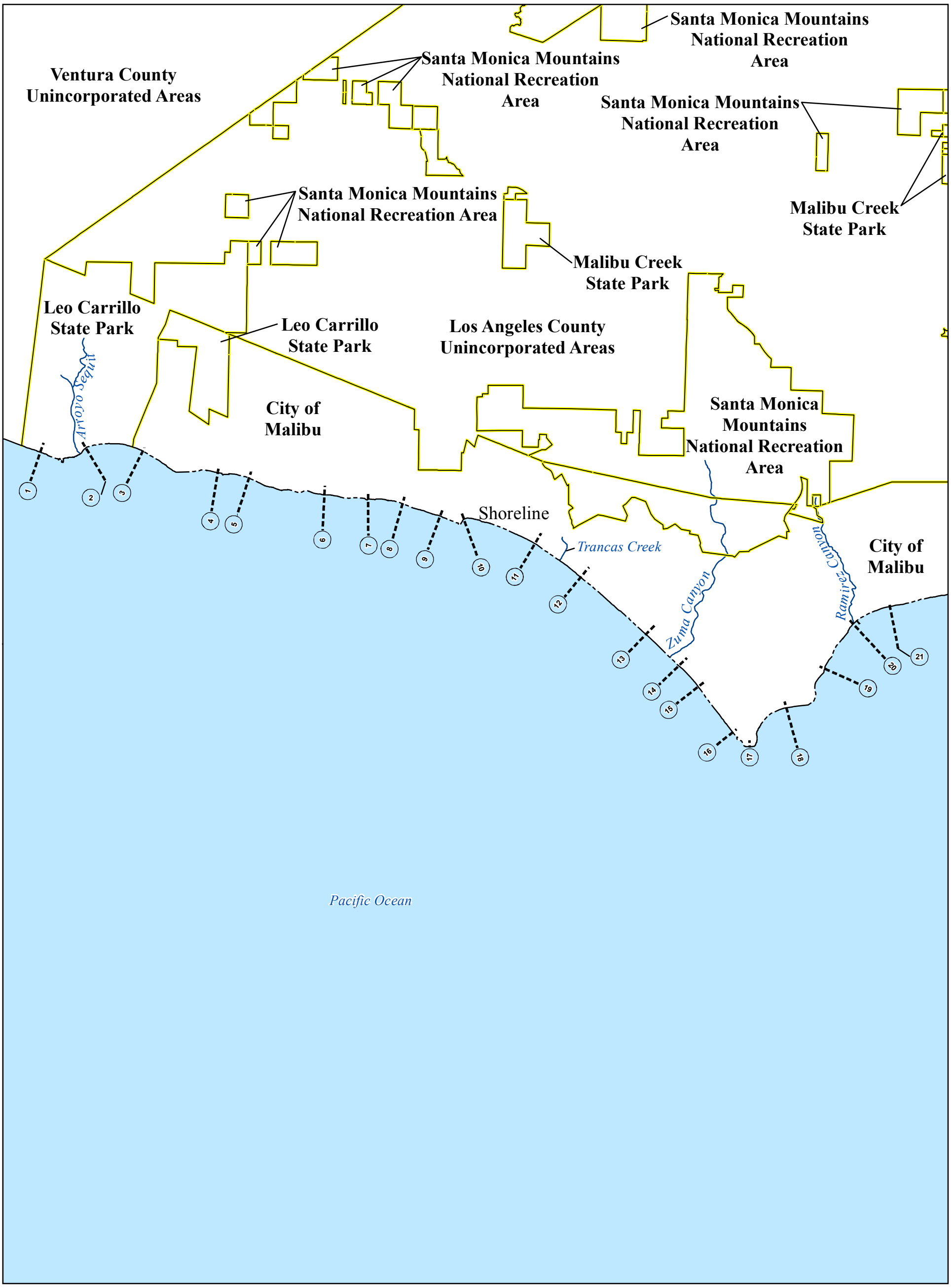
Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	107	381308.5839	3729851.9043	15.7	16.8	17.7	18.6	21.1
Pacific Ocean	108[1]	383092.4717	3730199.805	*	*	*	11.6	12.8
Pacific Ocean	109[1]	382653.5716	3732101.8157	*	*	*	10.9	12.0
Pacific Ocean	110[1]	384342.2859	3730688.9011	22.3	23.0	23.4	23.7	24.2
Pacific Ocean	111[1]	387198.5041	3731761.1628	7.8	8.2	8.6	9.0	10.2
Pacific Ocean	112	391129.6483	3735969.6138	7.6	7.7	7.9	8.0	8.2
Pacific Ocean	113	392127.012	3736578.5783	7.8	8.0	8.2	8.4	8.8
Pacific Ocean	114	392883.5209	3735663.3487	7.7	7.9	8.0	8.1	8.3
Pacific Ocean	115	393487.2321	3735281.146	7.9	8.1	8.2	8.3	8.5

Table 17: Coastal Transect Parameters, continued

Flood Source	Coastal Transect	X, Y Coordinates (Meters, NAD83 UTM Zone 11N)		Total Water Level (feet NAVD88)				
		X	Y	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	116	393568.7913	3735209.4322	8.2	8.3	8.4	8.4	8.6
Pacific Ocean	117	393893.6889	3735044.4579	8.2	8.4	8.5	8.7	9.0
Pacific Ocean	118	394558.1625	3734657.9184	8.7	8.8	8.9	8.9	9.0
Pacific Ocean	119	395064.8013	3734318.501	7.3	7.4	7.5	7.5	7.7
Pacific Ocean	120	395907.5247	3734834.595	8.6	8.8	8.9	9.0	9.3
Pacific Ocean	121	395665.3019	3733932.7491	10.9	11.2	11.4	11.5	11.8

*Not calculated for this Flood Risk Project
[1]Wave analysis transects within sheltered harbor areas

Figure 9: Transect Location Map



1 inch = 5,417 feet 1:65,000

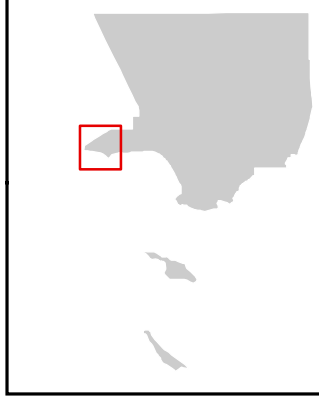
N

0 1,550 3,100 6,200 9,300 12,400 Feet

Map Projection:

Universal Transeverse Mercator Zone 11 North;
North American Datum 1983

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

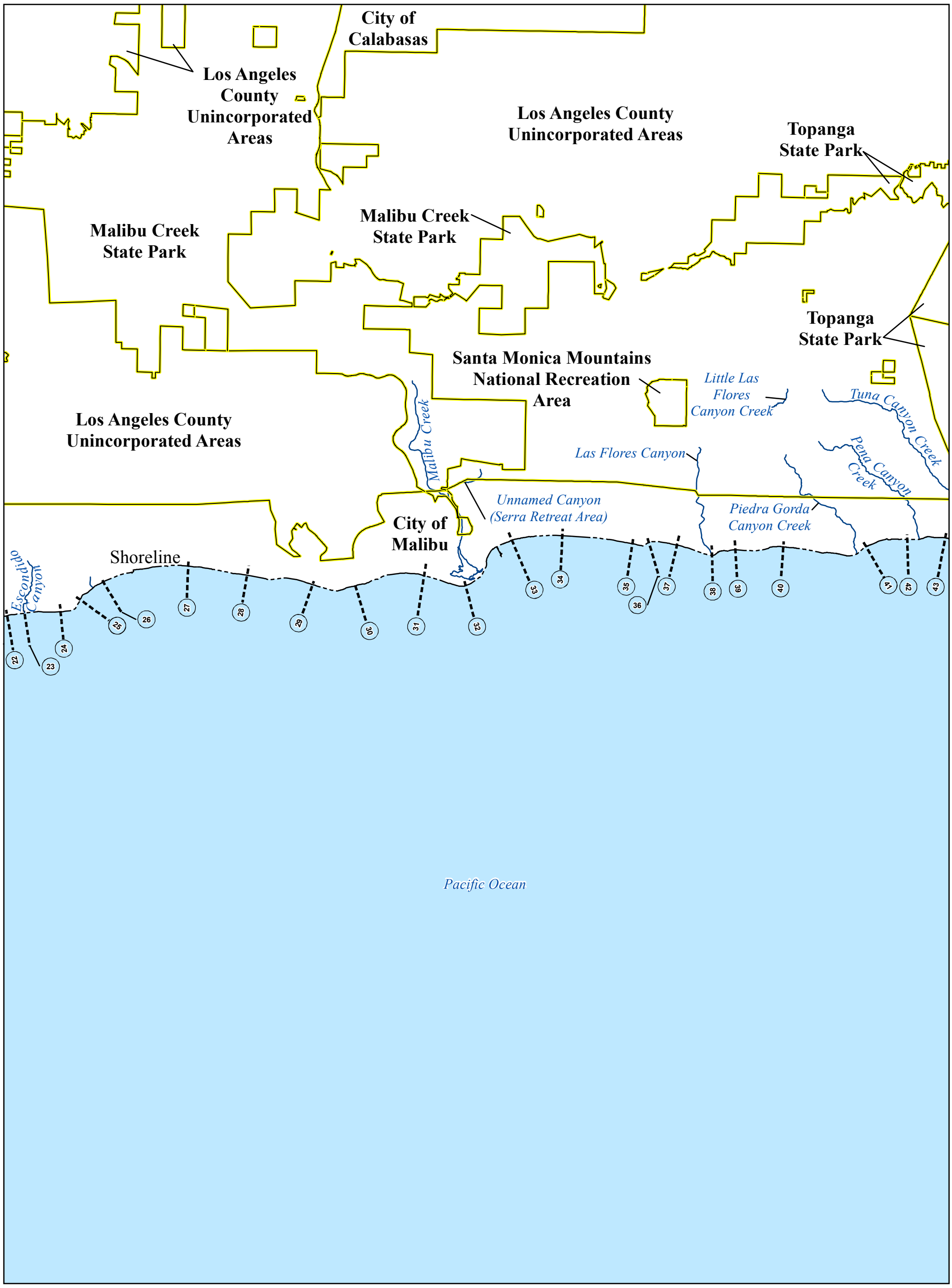
Transect Location Map 1

PANELS WITH TRANSECTS

1487G, 1491G, 1492G, 1511G, 1513G, 1514G, 1518G, 1519G

FEMA

Figure 9: Transect Location Map, continued



1 inch = 5,417 feet 1:65,000

N

0 1,550 3,100 6,200 9,300 12,400 Feet

Map Projection:

Universal Transeverse Mercator Zone 11 North;
North American Datum 1983

COUNTY LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

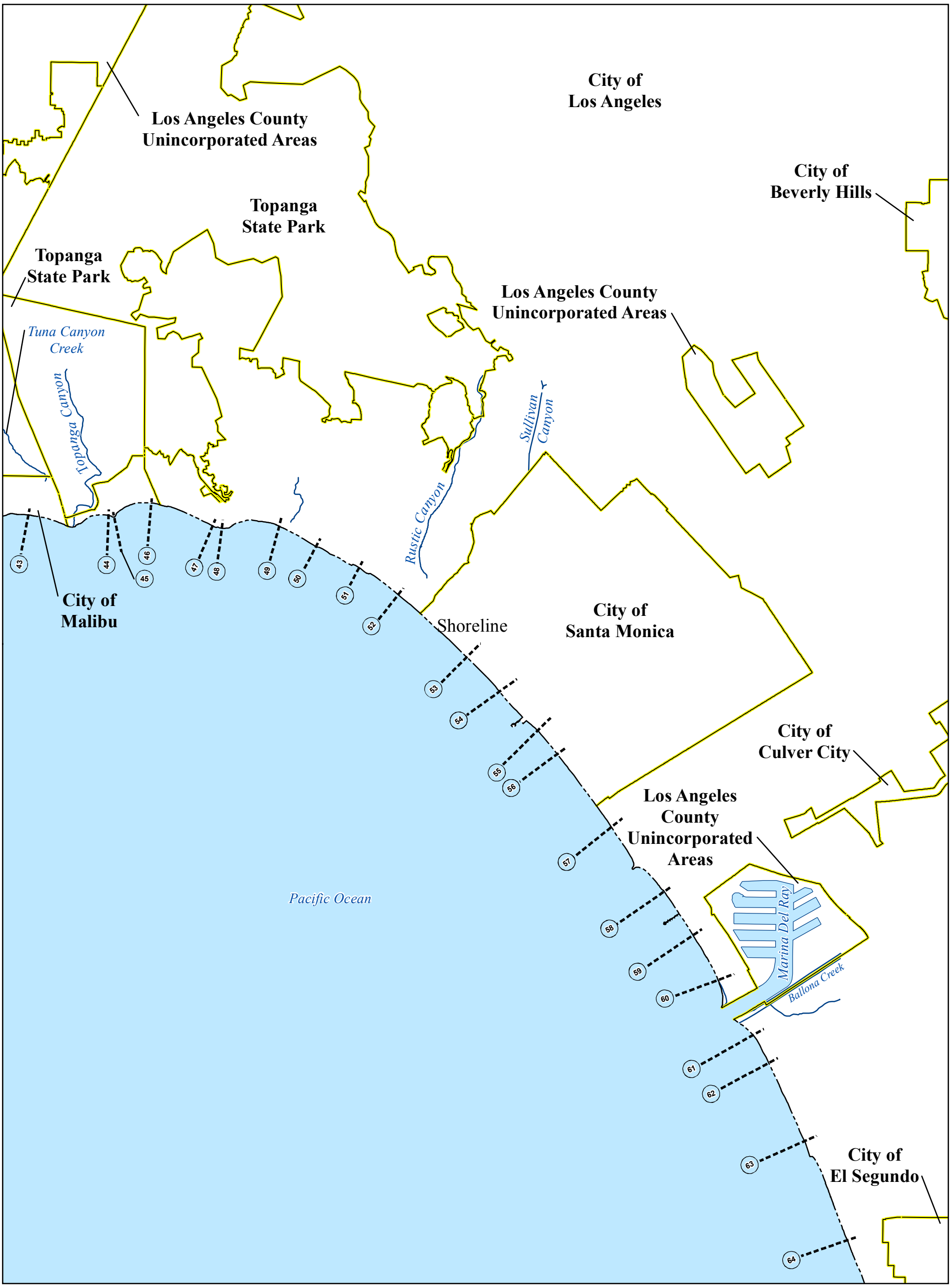
Transect Location Map 2

PANELS WITH TRANSECTS

1519G, 1536G, 1537G, 1538G, 1539G, 1541G, 1542G, 1543G, 1561G, 1562G

FEMA

Figure 9: Transect Location Map, continued



1 inch = 5,417 feet 1:65,000

Feet
0 1,550 3,100 6,200 9,300 12,400

Map Projection:
Universal Transeverse Mercator Zone 11 North;
North American Datum 1983

COUNTY LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

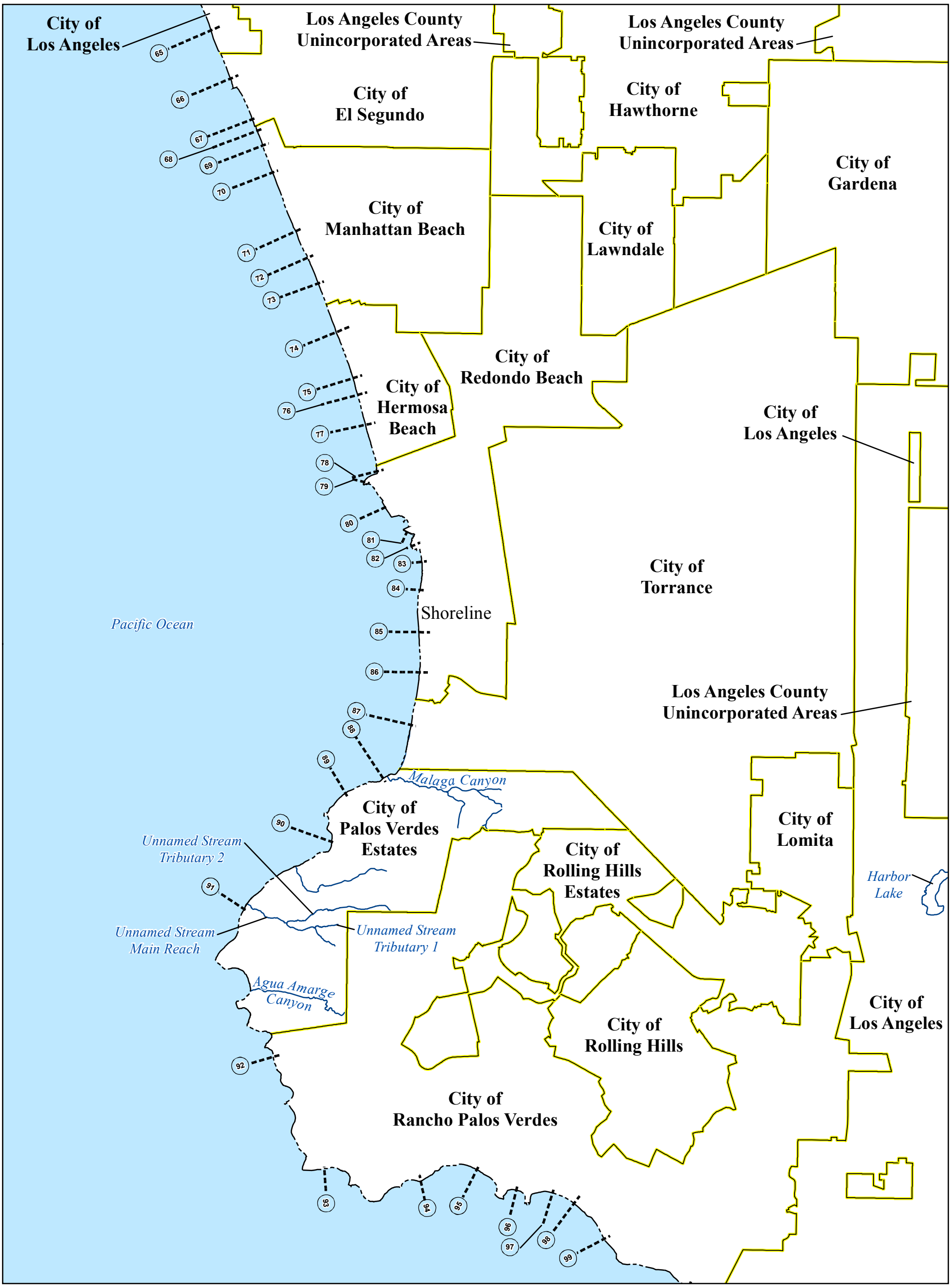
Transect Location Map 3

PANELS WITH TRANSECTS

1562G, 1566G, 1567G, 1569G, 1588G, 1751G, 1752G, 1754G, 1762G, 1766G

FEMA

Figure 9: Transect Location Map, continued



1 inch = 5,417 feet 1:65,000

Feet
0 1,550 3,100 6,200 9,300 12,400

Map Projection:
Universal Transeverse Mercator Zone 11 North;
North American Datum 1983

COUNTY LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

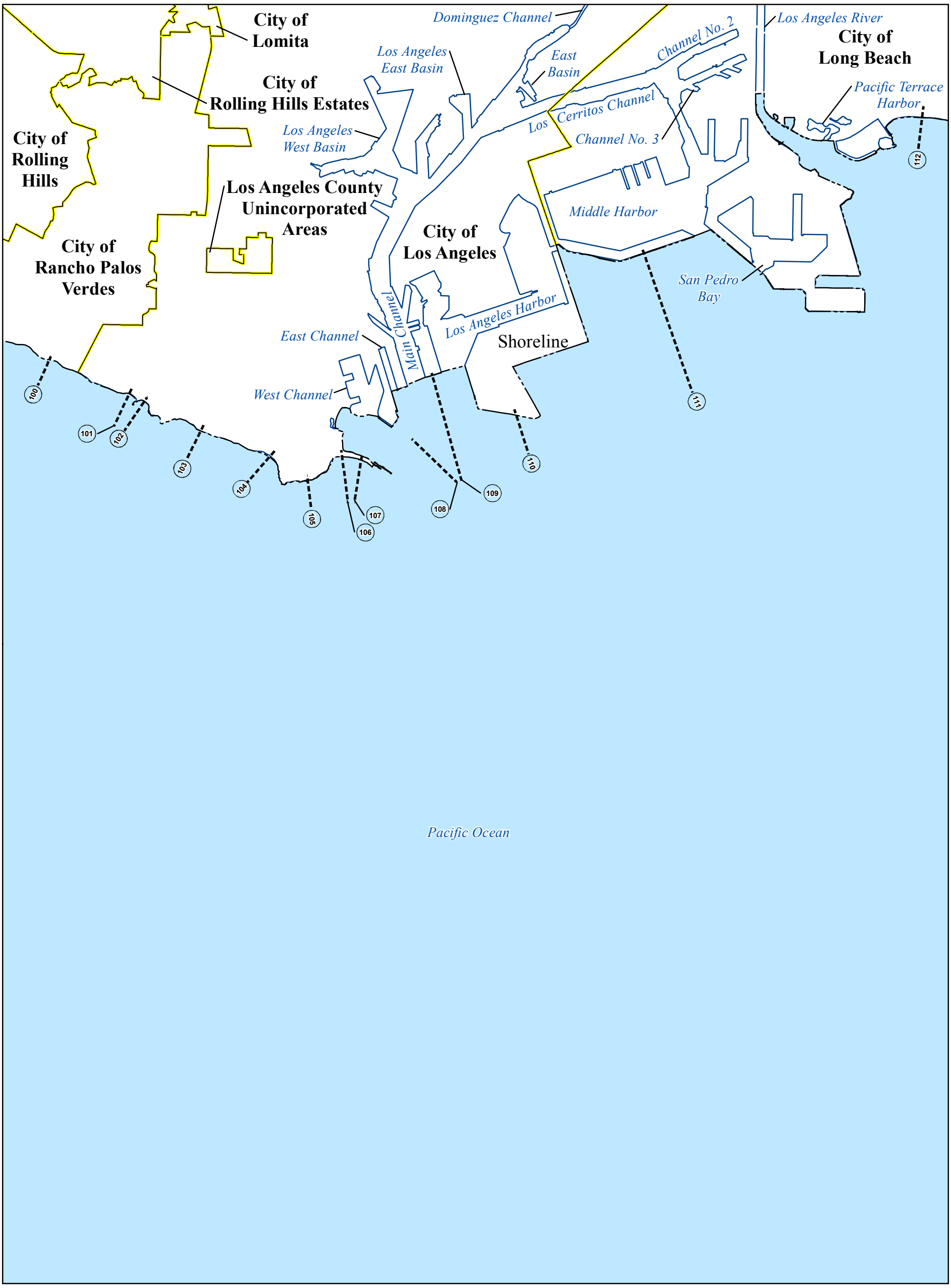
Transect Location Map 4

PANELS WITH TRANSECTS

1762G, 1766G, 1768G, 1906G, 1907G, 1909G, 1916H, 1917H, 1918H, 2006G, 2007G, 2026G

FEMA

Figure 9: Transect Location Map, continued



1 inch = 5,417 feet 1:65,000

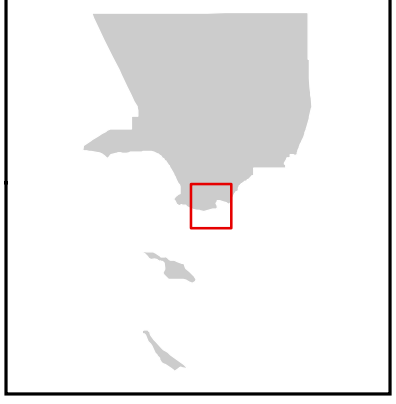
N

0 1,550 3,100 6,200 9,300 12,400 Feet

Map Projection:

Universal Transeverse Mercator Zone 11 North;
North American Datum 1983

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

Transect Location Map 5

PANELS WITH TRANSECTS

1968G, 2027G, 2029G, 2032G, 2033G, 2034G, 2051G, 2052G, 2053G

FEMA

Figure 9: Transect Location Map, continued

1 inch = 5,417 feet 1:65,000

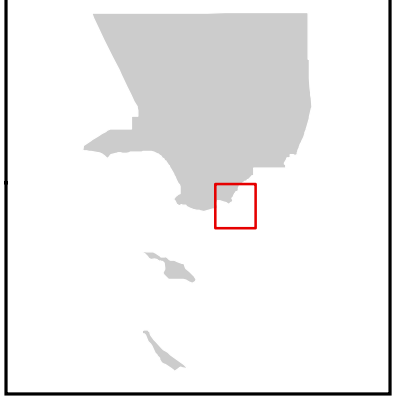
N

0 1,550 3,100 6,200 9,300 12,400 Feet

Map Projection:

Universal Transeverse Mercator Zone 11 North;
North American Datum 1983

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

Transect Location Map 6

PANELS WITH TRANSECTS

1968G, 1969G, 2057G, 2076G

FEMA

5.4 Alluvial Fan Analyses

Alluvial fan flooding can pose significant risk to communities due to uncertain flow paths and the potential for mud and debris flows. Alluvial fans and flooding on alluvial fans show great diversity because of variations in climate, fan history, rates and styles of tectonism, source area lithology, vegetation, and land use. Acknowledging this diversity, FEMA developed an approach that considers site-specific conditions in the identification and mapping of flood hazards on alluvial fans. The FEMA alluvial fan methodology was used to determine the flood depths and velocities on the alluvial fans described in Table 18..

In the cities of Bellflower, Carson, Compton, Downey, Gardena, Lakewood, Long Beach, Los Angeles, Lynwood, Montebello, Paramount, Pico Rivera, Redondo Beach, Santa Clarita, Santa Fe Springs, South Gate, Torrance, and West Hollywood underlying soils are considered alluvial, and vary from coarse sand and gravel, to silty clay and gravel or clay. The land is generally well-drained, with relatively few perched water or artesian areas.

Soils in the vicinity of the City of Palmdale consist of sandy alluvial deposits ranging from very coarse deposits near the base of the San Gabriel Mountains to finer deposits extending to the northeast.

A summary of the peak discharge at the fan apex and results for the 1% annual chance determinations for all the streams studied by alluvial fan analyses is shown in Table 19, “Results of Alluvial Fan Analyses.”

Table 18: Summary of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

Table 19: Results of Alluvial Fan Analyses

Flooding Source	Location From (apex)	Location To (toe)	1% Annual Chance Peak Flow at Fan Apex (cfs)	Flood Zones and Depths (ft)	Minimum Velocity (fps)	Maximum Velocity (fps)
Agua Dulce Canyon Creek	*	*	*	AO 1', A	*	*
Amargosa Creek	*	*	*	AO 1'	*	*
Anaverde Creek	*	*	*	AO 1'	*	*
Big Tujunga Wash	*	*	*	AO 3', A	*	*
Boquet Canyon Creek	*	*	*	AO1-3'	*	*
Browns Creek	*	*	*	AO 2'	*	*
Coyote Canyon Creek	*	*	*	AO 1', A	*	*
Deer Canyon	*	*	*	AO 3'	*	*
Dry Canyon Creek	*	*	*	AO 2'	*	*
Escondido Canyon	*	*	*	AO 1-2', A	*	*
Gorman Canyon Creek	*	*	*	AO 1', A	*	*
Haskell Canyon	*	*	*	AO 2-3'	*	*
Little Tujunga Wash	*	*	*	AO 2', A	*	*
New Hall Creek	*	*	*	AO 1'	*	*
Oak Springs Canyon	*	*	*	AO 1-2', A	*	*
Pacoima Wash	*	*	*	AO 3', A	*	*
Railroad Canyon	*	*	*	AO 1', A	*	*
Ritter Ridge	*	*	*	AO 1'	*	*
Sand Canyon Creek	*	*	*	AO 1'	*	*
Santa Clara River	*	*	*	AO 1-3', A	*	*

Table 19: Results of Alluvial Fan Analyses, continued

Flooding Source	Location From (apex)	Location To (toe)	1% Annual Chance Peak Flow at Fan Apex (cfs)	Flood Zones and Depths (ft)	Minimum Velocity (fps)	Maximum Velocity (fps)
South Fork Santa Clara River	*	*	*	AO 1-2’	*	*
Towsley Canyon Creek	*	*	*	AO 3’, A	*	*
Vasquez Canyon	*	*	*	AO 1-3’	*	*

*Data not available

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 contact information services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for Los Angeles County are provided in Table 20.

Table 20: Countywide Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

A countywide conversion factor could not be generated for Los Angeles County because the maximum variance from average exceeds 0.25 feet. Calculations for the vertical offsets on a stream by stream basis are depicted in Table 21.

Table 21: Stream-Based Vertical Datum Conversion

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Amargosa Creek	+2.800
Anaverde Creek	+2.800
Avalon Canyon	+2.800
Big Rock Wash	+2.800
Cheseboro Creek	+2.900
Cold Creek	+2.900
Dark Canyon	+2.900
Dry Canyon	+2.900
Escondido Canyon	+2.900
Flow Along Empire Avenue	+2.800
Flowline No. 1	+2.800
Garapito Creek	+2.900
Hacienda Creek	+2.800
Kagel Canyon	+2.800
La Mirada Creek	+2.800
Lake Street Overflow	+2.800
Las Flores Canyon	+2.900
Las Virgenes Creek	+2.900
Liberty Canyon	+2.900
Lindero Canyon (Above Confluence with Medea Creek)	+2.900
Lindero Canyon (Above Lake Lindero)	+2.900
Little Rock Wash - Profile A	+2.800
Little Rock Wash - Profile B	+2.800
Little Rock Wash - Profile C	+2.800
Lobo Canyon	+2.900
Lockheed Drain Channel	+2.800
Lopez Canyon Channel	+2.800
Los Angeles River Left Overbank Path 2	+2.800
Los Angeles River Right Overbank Path 1	+2.800
Los Angeles River Right Overbank Path 2	+2.800
Malibu Creek	+2.900
Medea Creek	+2.900

Table 21: Stream-Based Vertical Datum Conversion, continued

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Medea Creek (Above Ventura Freeway)	+2.900
Mill Creek	+2.800
North Overflow	+2.800
Old Topanga Canyon	+2.900
Overflow Area of Lockheed Drain Channel	+2.800
Overflow Area of Lockheed Storm Drain	+2.800
Palo Comando Creek	+2.900
Ramirez Canyon	+2.900
Rio Hondo River Left Overbank Path 3	+2.800
Rio Hondo River Left Oerbank Path 5	+2.800
Rio Hondo River Left Overbank Path 6	+2.800
Rustic Canyon	+2.800
Santa Maria Canyon	+2.900
Stokes Canyon	+2.900
Topanga Canyon	+2.900
Trancas Creek	+2.900
Triunfo Creek	+2.900
Unnamed Canyon (Serra Retreat Area)	+2.900
Upper Los Angeles River Left Overbank	+2.800
Weldon Canyon	+2.900
Zuma Canyon	+2.900

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/guidelines-and-standards-flood-risk-analysis-and-mapping.