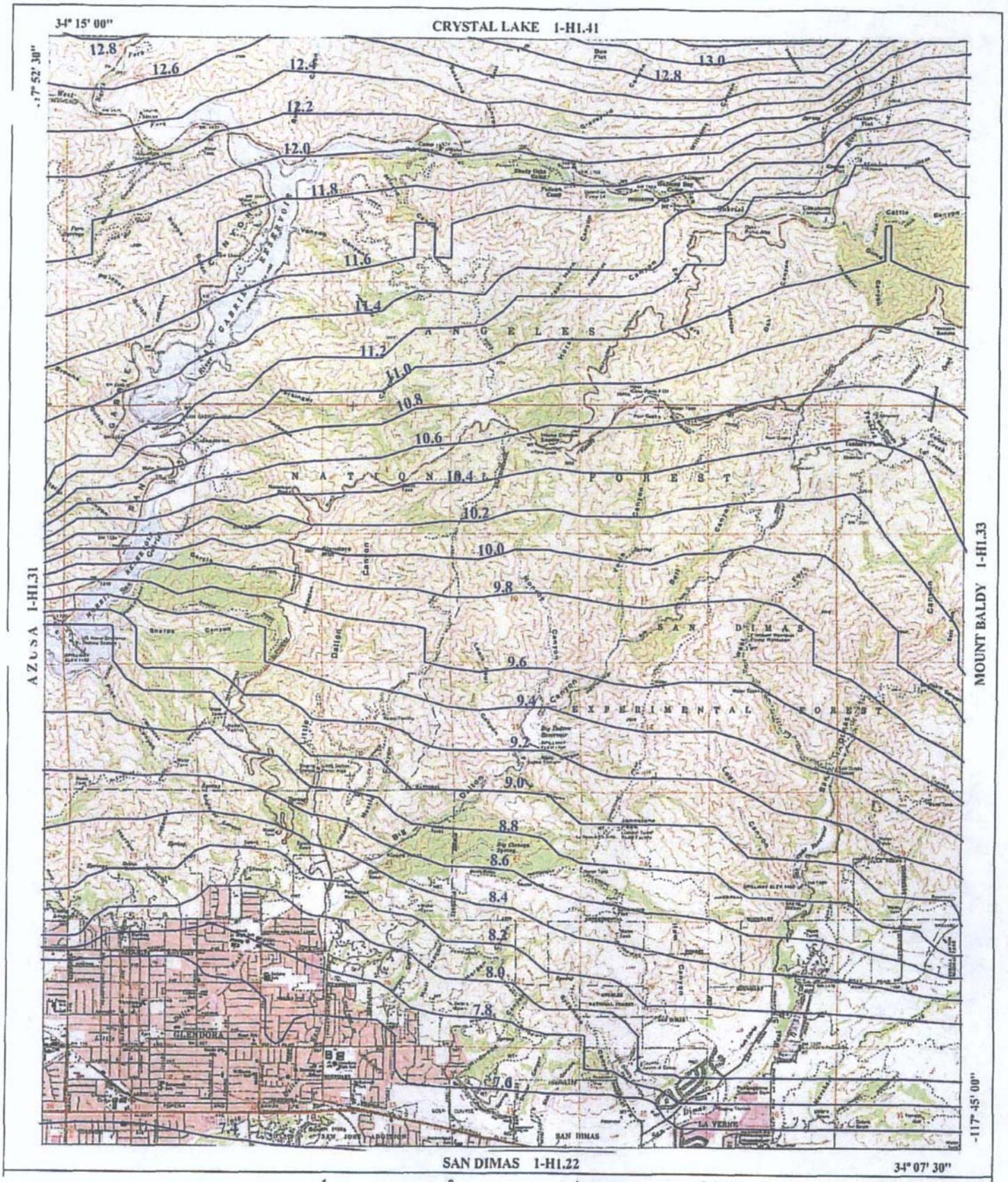
Appendix A



1 0 1 2 Miles

N W E S

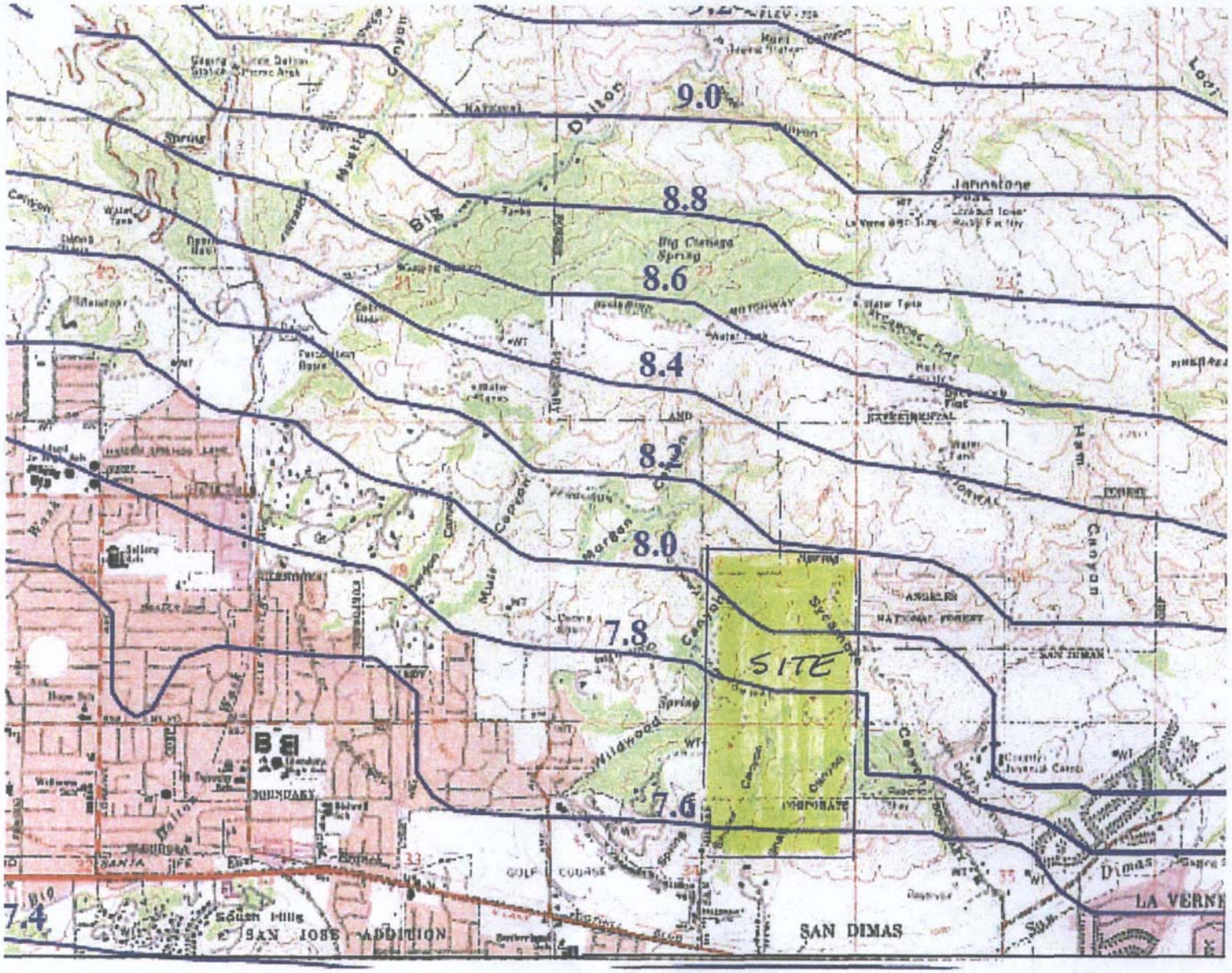
7.2 INCHES OF RAINFALL

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

GLENDORA
50-YEAR 24-HOUR ISOHYET

1-H1.32

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works



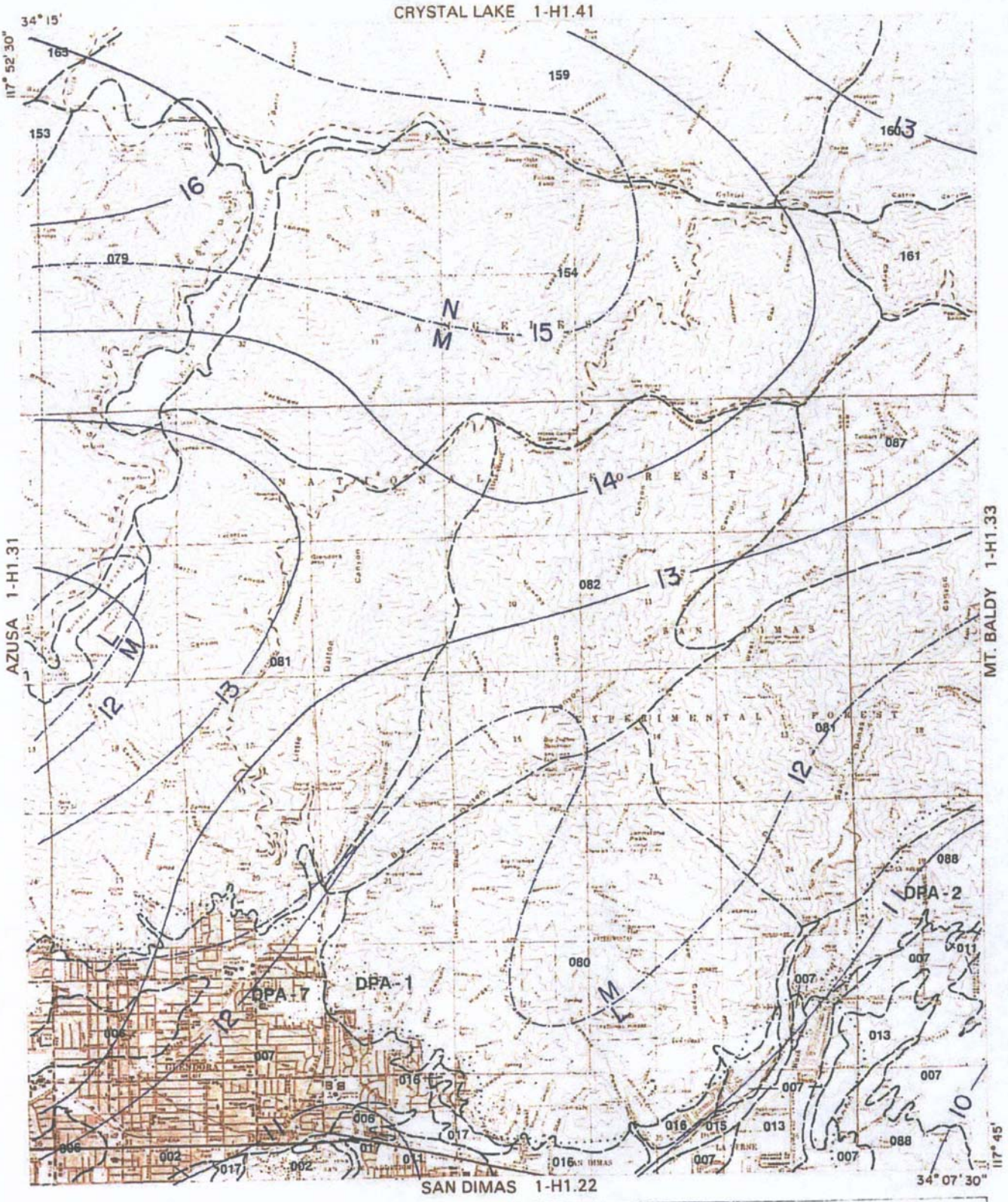
SAN DIMAS 1-H1.22

1 0 1 2 Miles

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

NCHES OF
AINFALL

GLENDORA
50-YEAR 24-HOUR ISOHYET



LEGEND

SOIL CLASSIFICATION AREA

DEBRIS POTENTIAL AREA

RAINFALL ZONE

12 — 50-YEAR ISOHYET (MAX. 24-HOUR AMOUNT)

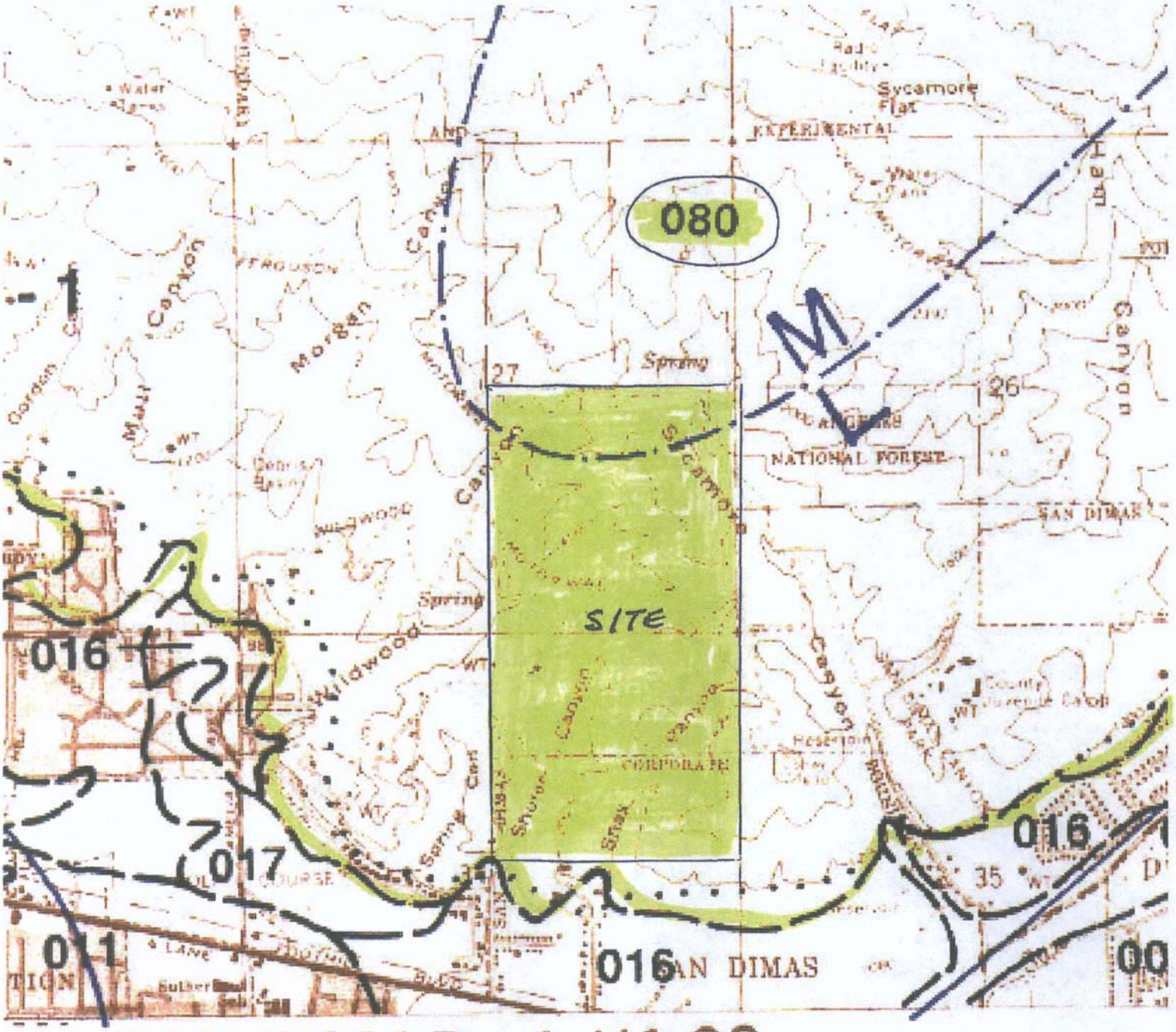
LACDPW

GLENDORA **1972**

0 FEET 5000

hydrologic map

1-H1-32



SAN DIMAS 1-H1.22

LEGEND

J AREA

AREA

—·—·—·— RAINF

—12— 50-YI

(MAX

CANYON OAKS
EXISTING HYDROLOGY
TC CALCULATOR INPUT FILE

Project	Subarea	Area	%imp	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
SD1	1A	34.64	0.01	50	80	2246	0.26536	7.7	1
SD1	2A	35.17	0.01	50	80	2766	0.21547	7.7	1
SD1	3A	29.04	0.09	50	80	1686	0.14235	7.7	1
SD1	4A	43.59	0.01	50	80	2515	0.12724	7.6	1
SD1	5A	35.00	0.21	50	80	1773	0.16958	7.6	1
SD1	1B	32.24	0.01	50	80	1718	0.24738	7.7	1
SD1	2B	36.25	0.01	50	80	2018	0.20813	7.55	1
SD1	1C	38.95	0.01	50	80	2502	0.25979	8.3	1
SD1	2C	31.72	0.01	50	80	2338	0.22179	8.1	1
SD1	3C	46.56	0.01	50	80	2858	0.23793	8	1
SD1	4C	30.35	0.01	50	80	2895	0.25216	8	1
SD1	5C	42.45	0.01	50	80	2750	0.23273	7.85	1
SD1	6C	21.14	0.01	50	80	1880	0.13936	7.75	1

CANYON OAKS
EXISTING HYDROLOGY
TC CALCULATOR

Project	Subarea	Area (acres)	%imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd	Flowrate (cfs)	Tc Equation	Calculated Rainfall Mass Curve No. = A(5*Isohyet)
SD1	1A	34.64	0.01	50	80	2246	0.265	7.70	10	3.32	0.69	0.69	79.35	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A39
SD1	2A	35.17	0.01	50	80	2766	0.215	7.70	12	3.04	0.68	0.68	72.70	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A39
SD1	3A	29.04	0.09	50	80	1686	0.142	7.70	9	3.49	0.70	0.72	72.97	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A39
SD1	4A	43.59	0.01	50	80	2515	0.127	7.60	13	2.89	0.66	0.66	83.14	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A38
SD1	5A	35.00	0.21	50	80	1773	0.17	7.60	9	3.44	0.70	0.74	89.10	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A38
SD1	1B	32.24	0.01	50	80	1716	0.247	7.70	9	3.49	0.70	0.70	78.76	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A39
SD1	2B	36.25	0.01	50	80	2018	0.206	7.55	10	3.25	0.69	0.69	81.29	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A38
SD1	1C	38.95	0.01	50	80	2502	0.26	8.30	10	3.58	0.71	0.71	99.00	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A42
SD1	2C	31.72	0.01	50	80	2338	0.222	8.10	10	3.49	0.70	0.70	77.49	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A41
SD1	3C	46.56	0.01	50	80	2858	0.238	8.00	12	3.16	0.68	0.68	100.06	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A40
SD1	4C	30.35	0.01	50	80	2895	0.252	8.00	12	3.16	0.68	0.68	65.22	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A40
SD1	5C	42.45	0.01	50	80	2750	0.233	7.85	12	3.10	0.68	0.68	89.48	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A39
SD1	6C	21.14	0.01	50	80	1880	0.139	7.75	10	3.34	0.69	0.69	48.72	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135	A39

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

MODIFIED RATIONAL METHOD HYDROLOGY

SAN DIMAS - CANYON OAKS - 50-YR STORM - EXISTING - MAY 08, 20

STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
34904	1A	35.	83.	35.	83.	0	0.	0.00000	0.00	0.00	0.	80	10	A39	0.01
34904	2A	36.	76.	71.	158.	1	883.	0.06681	0.00	0.00	0.	80	12	A39	0.01
34904	3A	29.	75.	100.	222.	1	1452.	0.06198	0.00	0.00	0.	80	9	A39	0.09
34904	4A	44.	85.	144.	283.	0	0.	0.00000	0.00	0.00	0.	80	13	A38	0.01

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

PROG FO601A

MODIFIED RATIONAL METHOD HYDROLOGY

HYDROGRAPH AT DEBRIS BASIN

HYDROGRAPH AT 34904 4A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	3.	200	3.	300	3.	400	4.
500	4.	600	4.	700	4.	800	5.	900	6.
1000	7.	1050	10.	1100	18.	1110	24.	1120	32.
1130	46.	1131	48.	1132	50.	1133	51.	1134	53.
1135	55.	1136	57.	1137	59.	1138	61.	1139	63.
1140	66.	1141	69.	1142	72.	1143	76.	1144	79.
1145	84.	1146	89.	1147	94.	1148	99.	1149	111.
1150	125.	1151	139.	1152	156.	1153	176.	1154	192.
1155	212.	1156	234.	1157	254.	1158	270.	1159	280.
1160	283.	1161	278.	1162	260.	1163	239.	1164	216.
1165	191.	1166	166.	1167	147.	1168	130.	1169	114.
1170	101.	1171	89.	1172	79.	1173	70.	1174	62.
1175	56.	1176	50.	1177	46.	1178	42.	1179	38.
1180	35.	1181	33.	1182	30.	1183	28.	1184	27.
1185	25.	1186	24.	1187	22.	1188	21.	1189	20.
1190	19.	1191	18.	1192	17.	1193	17.	1194	16.
1195	15.	1196	15.	1197	14.	1198	13.	1199	13.
1200	13.	1201	12.	1202	12.	1203	11.	1204	11.
1205	11.	1206	10.	1207	10.	1208	10.	1209	9.
1210	9.	1211	9.	1212	9.	1213	9.	1214	8.
1215	8.	1216	8.	1217	8.	1218	8.	1219	8.
1220	7.	1221	7.	1222	7.	1223	7.	1224	7.
1225	7.	1226	7.	1227	7.	1228	7.	1229	7.
1230	7.	1231	7.	1232	6.	1233	6.	1234	6.
1235	6.	1236	6.	1237	6.	1238	6.	1239	6.
1240	6.	1241	6.	1242	6.	1243	6.	1244	6.
1245	6.	1246	6.	1247	6.	1248	6.	1249	6.
1250	6.	1251	6.	1252	6.	1253	6.	1254	6.
1255	5.	1256	5.	1257	5.	1258	5.	1259	5.
1260	5.	1261	5.	1262	5.	1263	5.	1264	5.
1265	5.	1266	5.	1267	5.	1268	5.	1269	5.
1270	5.	1271	5.	1272	5.	1273	5.	1274	5.
1275	5.	1276	5.	1277	5.	1278	5.	1279	5.
1280	5.	1281	5.	1282	5.	1283	5.	1284	5.
1285	5.	1286	5.	1287	5.	1288	5.	1289	5.
1290	5.	1291	5.	1292	5.	1293	5.	1294	5.
1295	5.	1296	5.	1297	5.	1298	5.	1299	5.
1300	4.	1310	4.	1320	4.	1330	4.	1340	4.
1350	4.	1360	4.	1370	4.	1380	4.	1390	4.
1400	3.	1420	3.	1440	3.	1460	2.	1500	2.

Total Runoff = 18.895 Acre-Ft.
Peak Q = 283 CFS
Time to Peak Q = 1160 Minutes

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY

SAN DIMAS - CANYON OAKS - 50-YR STORM MAY 11, 2008

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
34904	1B	32.	80.	32.	80.	1	1212.	0.08663	0.00	0.00	0.	80	9	A39	0.01
34904	2B	36.	82.	68.	148.	0	0.	0.00000	0.00	0.00	0.	80	10	A38	0.01

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

PROG FO601A

MODIFIED RATIONAL METHOD HYDROLOGY

HYDROGRAPH
HYDROGRAPH AT 34904 2B STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	1.	200	1.	300	1.	400	1.
500	2.	600	2.	700	2.	800	2.	900	2.
1000	3.	1050	5.	1100	8.	1110	13.	1120	17.
1130	25.	1131	25.	1132	26.	1133	27.	1134	28.
1135	29.	1136	30.	1137	31.	1138	32.	1139	34.
1140	35.	1141	37.	1142	39.	1143	42.	1144	44.
1145	47.	1146	50.	1147	53.	1148	56.	1149	67.
1150	79.	1151	91.	1152	105.	1153	121.	1154	131.
1155	140.	1156	146.	1157	148.	1158	147.	1159	136.
1160	122.	1161	106.	1162	88.	1163	70.	1164	60.
1165	50.	1166	41.	1167	35.	1168	30.	1169	27.
1170	24.	1171	21.	1172	19.	1173	17.	1174	16.
1175	14.	1176	13.	1177	12.	1178	11.	1179	11.
1180	10.	1181	9.	1182	9.	1183	8.	1184	8.
1185	8.	1186	7.	1187	7.	1188	7.	1189	6.
1190	6.	1191	6.	1192	6.	1193	5.	1194	5.
1195	5.	1196	5.	1197	4.	1198	4.	1199	4.
1200	4.	1201	4.	1202	4.	1203	4.	1204	4.
1205	4.	1206	3.	1207	3.	1208	3.	1209	3.
1210	3.	1211	3.	1212	3.	1213	3.	1214	3.
1215	3.	1216	3.	1217	3.	1218	3.	1219	3.
1220	3.	1221	3.	1222	3.	1223	3.	1224	3.
1225	3.	1226	3.	1227	3.	1228	3.	1229	3.
1230	3.	1231	3.	1232	3.	1233	2.	1234	2.
1235	2.	1236	2.	1237	2.	1238	2.	1239	2.
1240	2.	1241	2.	1242	2.	1243	2.	1244	2.
1245	2.	1246	2.	1247	2.	1248	2.	1249	2.
1250	2.	1251	2.	1252	2.	1253	2.	1254	2.
1255	2.	1256	2.	1257	2.	1258	2.	1259	2.
1260	2.	1261	2.	1262	2.	1263	2.	1264	2.
1265	2.	1266	2.	1267	2.	1268	2.	1269	2.
1270	2.	1271	2.	1272	2.	1273	2.	1274	2.
1275	2.	1276	2.	1277	2.	1278	2.	1279	2.
1280	2.	1281	2.	1282	2.	1283	2.	1284	2.
1285	2.	1286	2.	1287	2.	1288	2.	1289	2.
1290	2.	1291	2.	1292	2.	1293	2.	1294	2.
1295	2.	1296	2.	1297	2.	1298	2.	1299	2.
1300	2.	1310	2.	1320	2.	1330	2.	1340	2.
1350	2.	1360	2.	1370	1.	1380	1.	1390	1.
1400	1.	1420	1.	1440	1.	1460	1.	1500	1.

Total Runoff = 8.195 Acre-Ft.
Peak Q = 148 CFS
Time to Peak Q = 1157 Minutes

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY

SAN DIMAS - CANYON OAKS - 50-YR STORM MAY 11, 2008 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
34904	1C	39.	101.	39.	101.	1	1781.	0.22179	0.00	0.00	0.	80	10	A42	0.01
34904	2C	32.	81.	71.	169.	1	737.	0.10176	0.00	0.00	0.	80	10	A41	0.01
34904	3C	47.	102.	118.	261.	1	231.	0.17316	0.00	0.00	0.	80	12	A40	0.01
34904	4C	30.	65.	148.	321.	1	566.	0.08834	0.00	0.00	0.	80	12	A40	0.01
34904	5C	42.	88.	190.	400.	0	0.	0.00000	0.00	0.00	0.	80	12	A39	0.01

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

PROG FO601A

MODIFIED RATIONAL METHOD HYDROLOGY

HYDROGRAPH LEAVING CITY OF SAN DIMAS

HYDROGRAPH AT 34904 5C STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	4.	200	4.	300	4.	400	4.
500	5.	600	5.	700	5.	800	6.	900	7.
1000	8.	1050	14.	1100	26.	1110	36.	1120	50.
1130	71.	1131	73.	1132	76.	1133	79.	1134	82.
1135	84.	1136	87.	1137	90.	1138	93.	1139	96.
1140	100.	1141	105.	1142	110.	1143	116.	1144	122.
1145	129.	1146	137.	1147	145.	1148	155.	1149	172.
1150	196.	1151	227.	1152	264.	1153	305.	1154	338.
1155	364.	1156	383.	1157	395.	1158	400.	1159	399.
1160	392.	1161	370.	1162	336.	1163	295.	1164	252.
1165	208.	1166	173.	1167	145.	1168	124.	1169	107.
1170	94.	1171	82.	1172	73.	1173	65.	1174	59.
1175	54.	1176	49.	1177	45.	1178	42.	1179	39.
1180	36.	1181	34.	1182	32.	1183	30.	1184	28.
1185	27.	1186	25.	1187	24.	1188	23.	1189	22.
1190	21.	1191	20.	1192	19.	1193	19.	1194	18.
1195	17.	1196	16.	1197	16.	1198	15.	1199	14.
1200	14.	1201	13.	1202	13.	1203	13.	1204	12.
1205	12.	1206	11.	1207	11.	1208	11.	1209	11.
1210	10.	1211	10.	1212	10.	1213	10.	1214	10.
1215	9.	1216	9.	1217	9.	1218	9.	1219	9.
1220	9.	1221	9.	1222	8.	1223	8.	1224	8.
1225	8.	1226	8.	1227	8.	1228	8.	1229	8.
1230	8.	1231	8.	1232	8.	1233	7.	1234	7.
1235	7.	1236	7.	1237	7.	1238	7.	1239	7.
1240	7.	1241	7.	1242	7.	1243	7.	1244	7.
1245	7.	1246	7.	1247	7.	1248	7.	1249	7.
1250	7.	1251	7.	1252	7.	1253	7.	1254	7.
1255	7.	1256	6.	1257	6.	1258	6.	1259	6.
1260	6.	1261	6.	1262	6.	1263	6.	1264	6.
1265	6.	1266	6.	1267	6.	1268	6.	1269	6.
1270	6.	1271	6.	1272	6.	1273	6.	1274	6.
1275	6.	1276	6.	1277	6.	1278	6.	1279	6.
1280	6.	1281	6.	1282	6.	1283	6.	1284	6.
1285	6.	1286	6.	1287	6.	1288	6.	1289	6.
1290	6.	1291	6.	1292	5.	1293	5.	1294	5.
1295	5.	1296	5.	1297	5.	1298	5.	1299	5.
1300	5.	1310	5.	1320	5.	1330	5.	1340	5.
1350	5.	1360	5.	1370	4.	1380	4.	1390	4.
1400	4.	1420	4.	1440	4.	1460	3.	1500	3.

Total Runoff = 24.888 Acre-Ft.
Peak Q = 400 CFS
Time to Peak Q = 1158 Minutes

Appendix B

Canyon Oaks
San Dimas
Input File- Area "A"
TC Calculator

Project	Subarea	Area	%imp	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
Canyon Oaks	1A	17.03	0.21	50	80	870	0.01840	7.70	1
Canyon Oaks	2A	5.83	0.21	50	80	870	0.04480	7.70	1

Canyon Oaks
San Dimas
Proposed Area "A"
50 Year Storm Frequency

Project	Subarea	Area (acres)	%Imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd	Flowrate (cfs)	Tc Equation
Canyon Oaks	1A	17.03	0.21	50	80	870	0.0184	7.7	8	3.68	0.71	0.75	47	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	2A	5.83	0.21	50	80	870	0.0448	7.7	7	3.92	0.72	0.76	17	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135

Area (acres)	Intensity (in./hr)	Cd	Q
17.03	3.68	0.75	47.38
5.83	3.92	0.76	17.51

Canyon Oaks
San Dimas
Input File-Area "B"
TC Calculator

Project	Subarea	Area	%imp	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
Canyon Oaks	1B	34.70	0.15	50	80	1718	0.24738	7.70	1
Canyon Oaks	2B	36.25	0.01	50	80	1212	0.08660	7.55	1

Canyon Oaks
San Dimas
Open Space Area "B"
50 Year Storm Frequency

Project	Subarea	Area (acres)	%Imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd	Flowrate (cfs)	Tc Equation
Canyon Oaks	1B	34.7	0.15	50	80	1718	0.24738	7.7	8	3.68	0.71	0.74	94	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	2B	36.25	0.01	50	80	1212	0.0866	7.55	8	3.61	0.71	0.71	93	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135

Area (acres)	Intensity (in./hr)	Cd	Q
34.7	3.68	0.74	95.25
36.25	3.61	0.71	93.66

Canyon Oaks
San Dimas
Input File- Area "C"
Open Space
TC Calculator

Project	Subarea	Area	%Imp	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
Canyon Oaks	1C-OS	38.95	0.01	50	80	2502	0.25979	8.30	1
Canyon Oaks	2C-OS	31.72	0.01	50	80	1781	0.22179	8.10	1
Canyon Oaks	3C-OS	44.65	0.01	50	80	737	0.23793	8.00	1
Canyon Oaks	4C	20.81	0.01	50	80	231	0.29220	8.00	1
Canyon Oaks	12C	7.82	0.21	50	80	566	0.08833	7.60	1

Canyon Oaks
San Dimas
Area "C"
50 Year Storm frequency

Project	Subarea	Area (acres)	%imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd	Flowrate (cfs)	Tc Equation
Canyon Oaks	1C-OS	38.95	0.01	50	80	2502	0.25979	8.3	10	3.58	0.71	0.71	99	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	2C-OS	31.72	0.01	50	80	1761	0.22179	8.1	8	3.87	0.72	0.72	88	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	3C-OS	44.65	0.01	50	80	737	0.23793	8	5	4.77	0.76	0.76	162	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	4C	20.81	0.01	50	80	231	0.2922	8	5	4.77	0.76	0.76	75	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	12C	7.82	0.21	50	80	566	0.08833	7.6	5	4.53	0.75	0.78	28	Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135

Area (acres)	Intensity (in./hr)	Cd	Q
38.95	3.58	0.71	99.80
31.72	3.87	0.72	89.09
44.65	4.77	0.76	163.16
20.81	4.77	0.76	76.04
7.82	4.53	0.78	27.85

Canyon Oaks
San Dimas
Input File-Area "C"
On-Site
TC Calculator

Project	Subarea	Area	%Imp	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
Canyon Oaks	5C	8.68	0.21	50	80	900	0.01330	7.90	1
Canyon Oaks	6C	5.20	0.21	50	80	200	0.01000	7.90	1
Canyon Oaks	7C	12.55	0.21	50	80	700	0.01000	7.90	1
Canyon Oaks	8C	5.64	0.21	50	80	640	0.05460	7.90	1
Canyon Oaks	9C	12.60	0.21	50	80	700	0.00714	7.90	1
Canyon Oaks	10C	6.32	0.21	50	80	1350	0.03180	7.90	1
Canyon Oaks	11C	3.70	0.21	50	80	610	0.06560	7.90	1

Canyon Oaks
San Dimas
Proposed Area "C" On-Site
50 Year Storm Frequency

Project	Subarea	Area (acres)	%imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd	Flowrate (cfs)	Tc Equation
Canyon Oaks	5C	8.68	0.21	50	80	900	0.0133	7.9	9	3.58	0.71	0.75	23	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	6C	5.2	0.21	50	80	200	0.01	7.9	5	4.71	0.76	0.79	19	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	7C	12.55	0.21	50	80	700	0.01	7.9	8	3.78	0.72	0.76	36	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	8C	5.64	0.21	50	80	640	0.0546	7.9	6	4.33	0.74	0.77	19	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	9C	12.6	0.21	50	80	700	0.00714	7.9	9	3.58	0.71	0.75	34	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	10C	6.32	0.21	50	80	1350	0.0318	7.9	10	3.4	0.7	0.74	16	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	11C	3.7	0.21	50	80	610	0.0656	7.9	5	4.71	0.76	0.79	14	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135

Area (acres)	Intensity (in./hr)	Cd	Q
8.68	3.58	0.75	23.49
5.2	4.71	0.79	19.50
12.55	3.78	0.76	36.34
5.64	4.33	0.77	18.95
12.6	3.58	0.75	34.10
6.32	3.4	0.74	16.03
3.7	4.71	0.79	13.88

Canyon Oaks
San Dimas
Existing Open Space Area "D"
TC Calculator

Project	Subarea	Area	%imp	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
Canyon Oaks	1D	8.97	0.21	50	80	624	0.25150	8.30	1
Canyon Oaks	2D	12.14	0.21	50	80	608	0.53840	8.10	1
Canyon Oaks	3D	3.71	0.21	50	80	663	0.56560	8.00	1
Canyon Oaks	4D	13.30	0.21	50	80	1338	0.35050	8.00	1
Canyon Oaks	5D	10.70	0.09	50	80	1196	0.09030	7.70	1
Canyon Oaks	6D	8.60	0.21	50	80	831	0.10950	7.70	1
Canyon Oaks	7D	19.94	0.01	50	80	939	0.06280	7.60	1
Canyon Oaks	8D	36.14	0.01	50	80	568	0.07040	7.60	1

Canyon Oaks
San Dimas
Existing Open Space Area "D"
50 Year Storm Frequency

Project	Subarea	Area (acres)	%Imp	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc-calculated (min.)	Intensity (in./hr)	Cu	Cd	Flowrate (cfs)	Tc Equation
Canyon Oaks	1D	8.97	0.21	50	80	624	0.2515	8.3	5	4.95	0.77	0.8	36	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	2D	12.14	0.21	50	80	608	0.5384	8.1	5	4.83	0.77	0.8	47	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	3D	3.71	0.21	50	80	663	0.5656	8	5	4.77	0.76	0.79	14	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	4D	13.3	0.21	50	80	1338	0.3505	8	6	4.38	0.75	0.78	45	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	5D	10.7	0.09	50	80	1196	0.0903	7.7	8	3.68	0.71	0.73	29	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	6D	8.6	0.21	50	80	831	0.1095	7.7	6	4.22	0.74	0.77	28	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	7D	19.94	0.01	50	80	939	0.0628	7.6	7	3.87	0.72	0.72	56	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135
Canyon Oaks	8D	36.14	0.01	50	80	568	0.0704	7.6	5	4.53	0.75	0.75	123	Tc=(10)^-0.507*(Cd*l)^-0.519*(L)^0.483*(S)^-0.135

Area (acres)	Intensity (in./hr)	Cd	Q
8.97	4.95	0.8	35.81
12.14	4.83	0.8	47.28
3.71	4.77	0.79	14.09
13.3	4.38	0.78	45.80
10.7	3.68	0.73	28.97
8.6	4.22	0.77	28.17
19.94	3.87	0.72	56.01
36.14	4.53	0.75	123.77

DEBRIS BASIN CALCULATIONS:

Debris Basin #1:

DPA Zone 1 (per hydrologic map)
Tributary Area = 20.81 acres = 0.03 sq. miles
Debris Production Rate = 240,000 c.y. (per L.A. Basin Debris Production Rate Graph P-1)
Design Debris Event = 240,000 c.y. x 0.03 sq. mile = 7,200 c.y.

Debris Basin #2:

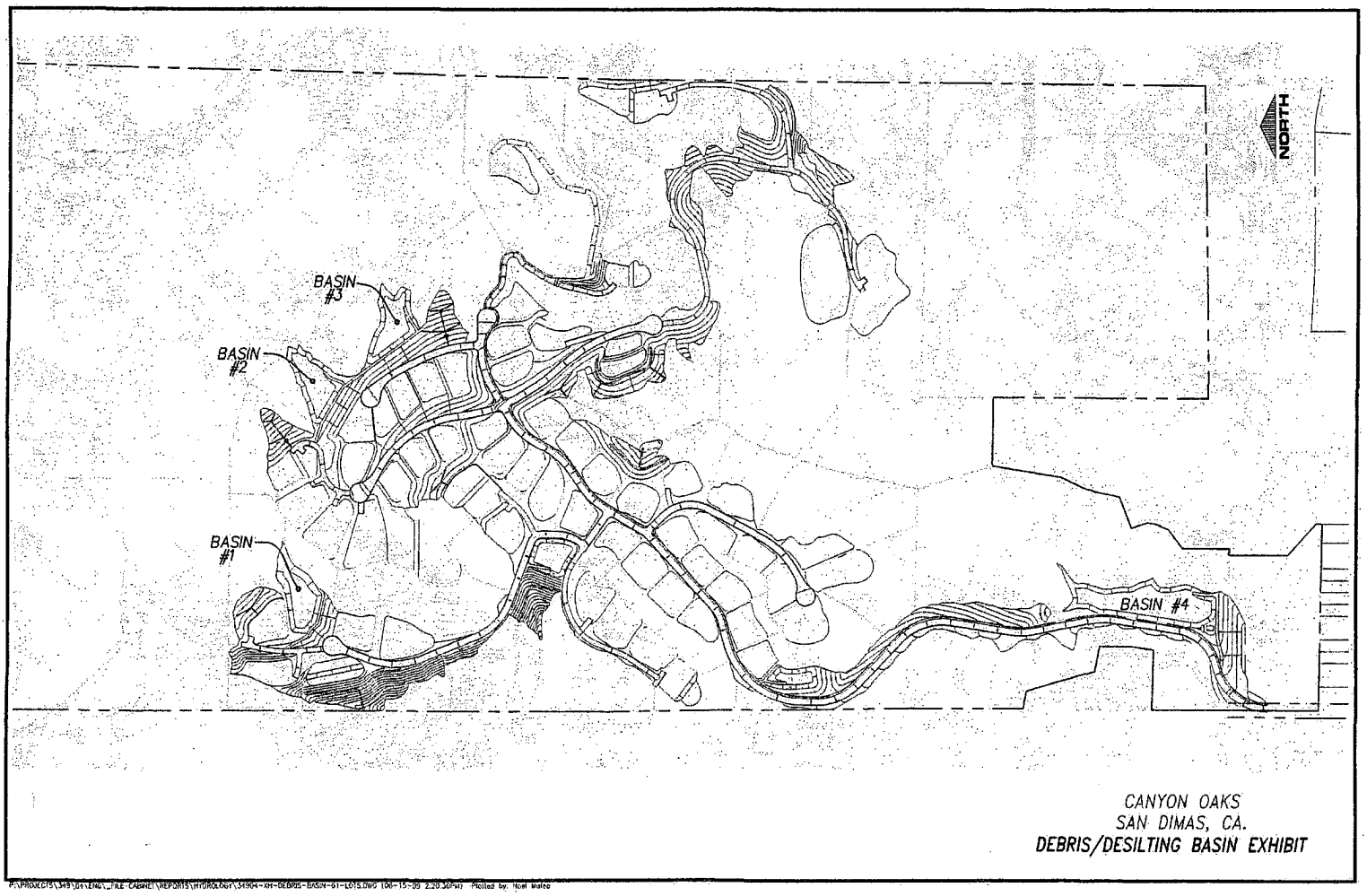
DPA Zone 1 (per hydrologic map)
Tributary Area = 9 acres = 0.014 sq. miles
Debris Production Rate = 240,000 c.y. (per L.A. Basin Debris Production Rate Graph P-1)
Design Debris Event = 240,000 c.y. x 0.014 sq. mile = 3,360 c.y.

Debris Basin #3:

DPA Zone 1 (per hydrologic map)
Tributary Area = 12.14 acres = 0.02 sq. miles
Debris Production Rate = 240,000 c.y. (per L.A. Basin Debris Production Rate Graph P-1)
Design Debris Event = 240,000 c.y. x 0.02 sq. mile = 4,800 c.y.

Debris Basin #4:

DPA Zone 1 (per hydrologic map)
Tributary Area = 92.36 acres = 0.144 sq. miles
Debris Production Rate = 190,000 c.y. (per L.A. Basin Debris Production Rate Graph P-1)
Design Debris Event = 190,000 c.y. x 0.144 sq. mile =27,360 c.y.



CANYON OAKS
SAN DIMAS, CA.
DEBRIS/DESILTING BASIN EXHIBIT

P:\PROJECTS\349\D4\ENG_FILE CABINET\REPORTS\HYDROLOGY\349D4-XH-DEBRIS-BASIN-01-LOTS.DWG (06-15-09 2:20:30PM) Plotted by: Noel Malco

Appendix C

LEGEND

- EXISTING MAJOR WATERSHED BOUNDARY
- EXISTING SUB DRAINAGE AREA BOUNDARY
- EXISTING FLOW PATH
- DIRECTION OF FLOW
- C17 — DRAINAGE AREA DESIGNATION
- 70.21 — ACRES
- 340 — NODE DESIGNATION
- L=300' — LENGTH OF EXISTING FLOW PATH
- Q_{50} — CALCULATED 50-YEAR STORM RUNOFF

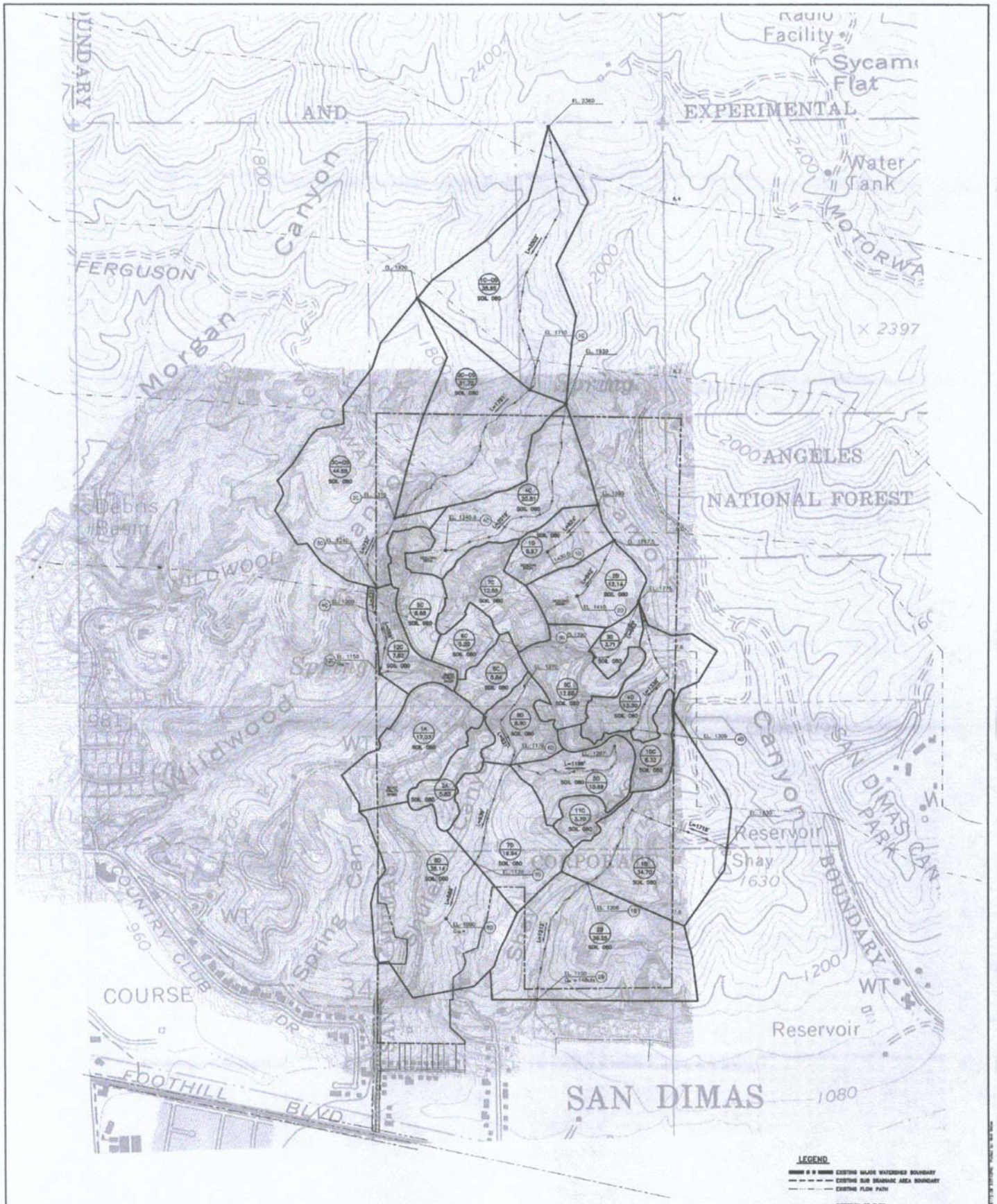
NORTH
SCALE: 1"=300'

FUSCOE ENGINEERING

CANYON OAKS
TENTATIVE TRACT
EXISTING DRAINAGE HYDROLOGY MAP
(TRIBUTARY TO ###)

SHEET 1 of 1

Appendix D



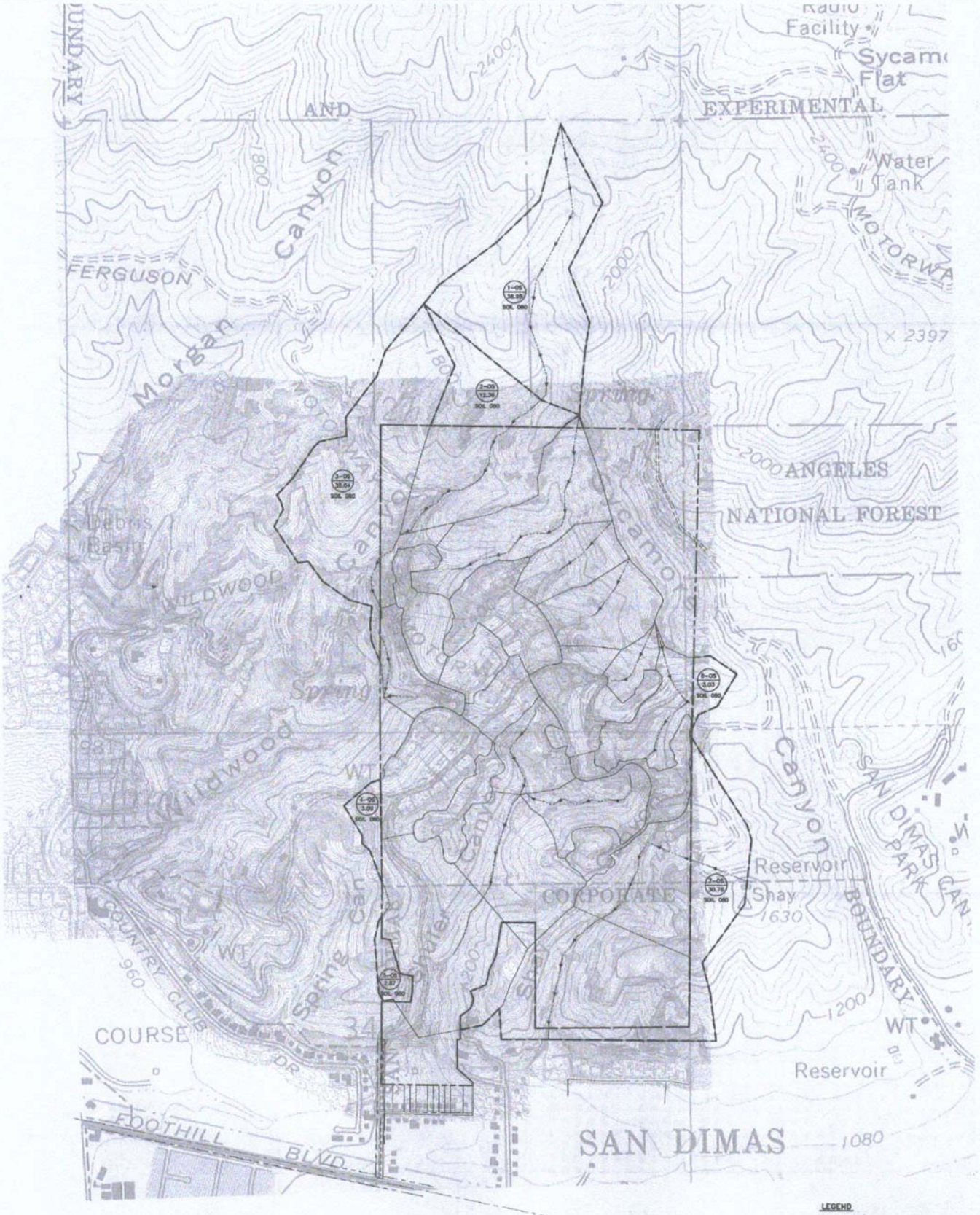
LEGEND

- EXISTING MAJOR WATERSHED BOUNDARY
- EXISTING SUB DRAINAGE AREA BOUNDARY
- EXISTING FLOW PATH
- DIRECTION OF FLOW
- G17 — DRAINAGE AREA DESIGNATION
- 70.21 — ACRES
- 548 — NODE DESIGNATION
- L=303' — LENGTH OF EXISTING FLOW PATH
- Q_{50} — CALCULATED 50-YEAR STORM RUNOFF

NORTH
SCALE 1"=300'

FUSCOE ENGINEERING

CANYON OAKS TENTATIVE TRACT PROPOSED DRAINAGE HYDROLOGY MAP	SHEET 1 of 1



LEGEND

EXISTING MAJOR WATERSHED BOUNDARY
EXISTING SUB DRAINAGE AREA BOUNDARY
EXISTING FLOW PATH
DIRECTION OF FLOW
C17 — DRAINAGE AREA DESIGNATION
70.21 — ACRES
5-48 — NODE DESIGNATION
L=500' — LENGTH OF EXISTING FLOW PATH
Q_{50} — CALCULATED 50-YEAR STORM RUNOFF

NORTH
SCALE: 1"=300'

CANYON OAKS TENTATIVE TRACT OFFSITE WATER ACCEPTED	SHEET 1 of 1