REPORT ON FLOODING AND FLOOD RELATED DAMAGES

SANTA CLARA COUNTY

JANUARY 1 TO APRIL 30, 1982

Santa Clara Valley Water District

REPORT ON FLOODING AND FLOOD RELATED DAMAGES IN SANTA CLARA COUNTY

January 1 to April 30, 1982

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INTRODUCTION

Severe flooding occurred in Santa Clara County as a result of the storms of January 3-5, 1982 and March 31 through April 13, 1982. After the January flooding, the Governor of California issued a State of Emergency Declaration and the President of the United States issued a Declaration of a Major Disaster for Public Assistance; both documents included Santa Clara County. After the March and April flooding the Governor extended the State of Emergency Declaration to include Santa Clara County. The federal declaration, however, was not extended to cover the March and April events.

The January storm primarily affected the northwest and southern parts of Santa Clara County. In the northwest, flows in the unimproved portions of San Francisquito Creek caused severe erosion. Flows also escaped from the channel banks at several locations and caused property damage in the City of Palo Alto. In the south, several areas in and around the Cities of Morgan Hill and Gilroy adjacent to Uvas Creek, Llagas Creek and their tributaries experienced flooding. The Santa Clara County Office of Emergency Services reported 136 homes and 14 businesses were flooded as a result of the January event with the total public and private damages estimated at $4.6 million.

The March and April storms resulted in flooding in entirely different areas of the County and generally affected the northerly portions of San Jose, including Alviso, and the City of Milpitas. Flows overtopped the banks along the lower reaches of Coyote Creek, Lower Penitencia Creek in Milpitas, Upper Penitencia Creek at several locations, Guadalupe River near Alma Avenue and other tributary creeks. The Santa Clara County Office of Emergency Services reported that about 480 homes and 75 businesses were flooded and damage estimates exceeded $10.0 million. In addition, it was reported that about 2,000 people were evacuated from their homes.

The summary of damages from the above two storm periods are contained in Table VII.

Generally, the statistical flood frequencies for the creeks that flooded in the two storms varied from 7 to 25 years compared to the 100-year criterion commonly used for flood protection design. It is estimated that over $400 million in damages would occur in Santa Clara County as a result of the 100-year flood, or 1% event.

Santa Clara Valley Water District owns and operates eight reservoirs in Santa Clara County having a combined storage capacity of about 155,000 acre-feet. These reservoirs were authorized and built for the purpose of conserving local water resources. The reservoirs have spillways designed to safely carry into the creek channels high flows which would otherwise overtop the dam. During the 1982 storms, these reservoirs substantially reduced the flood peaks. An empty reservoir or one partially full will obviously hold back some of the flood flows from upstream, but even a full reservoir has a flood attenuating function. The water flowing into it cannot move through and out the spillway until it has ponded - - spread out over the surface of the lake - - and thus raised the whole lake level. The result is a delay and a reduction of peak flows downstream of the reservoir.

Throughout the report reference is made to "4-year floods" or "10-year floods" or "100-year floods". This is a kind of shorthand description or measure of flood events and does not mean that flooding will occur every 4 or 10 or 100 years but rather that this frequency of occurrence could be expected statistically on the average over a period of many years. The frequency is also often expressed as a percentage. Thus, a 100-year flood is said to be a 1% flood, that is, a flood having a 1% chance of occurring in any year.

Rainfall and streamflow data for the above storm periods along with historical data for District precipitation and streamflow stations are contained in Tables I, II, III and IV.

The flooded areas were mapped and are included in this report. A few representative pictures are also included. The Santa Clara Valley Water District has considerable film and video tape documentation on the floods covered by this report.

STORM OF JANUARY 3-5, 1982

A tropical storm centered over portions of Santa Clara County on January 4, 1982 caused high rainfall and subsequent flooding and erosion damage along San Francisquito, Uvas and Llagas Creeks.

San Francisquito Creek

San Francisquito Creek, which flows through the Cities of Palo Alto and Menlo Park and forms a portion of the boundary between Santa Clara and San Mateo Counties, experienced high flows (about 6,000 cfs in the downstream reaches) and severe erosion damage.

The creek overbanked at three locations: near Alpine Road downstream of Highway 280, at University Avenue, and just downstream of Highway 101. The channel in the lower reaches near University Avenue has only the capacity to carry a flow with a 15 to 20-year recurrence frequency. Extensive erosion also caused damage to private and public property, undermining roads and destroying fences, retaining walls and private bridges. It was reported that one home on Alpine Road suffered water damage from flows which escaped the creek.

Llagas Creek and Tributaries

The most severe flood damage occurred in South Santa Clara County in and around the Cities of Morgan Hill and Gilroy.

West Little Llagas Creek flooded at Llagas Road, and water was reported to have reached the doorstep of houses and businesses on Llagas Road past Hale Avenue. This water also flowed north along Hale Avenue.

Tennant Creek and Corralitos Creek which have minimal capacities, flooded the streets in east Morgan Hill.

The Llagas Creek Watershed south of Morgan Hill experienced flooding on West Little Llagas, East Little Llagas, Corralitos, Tennant, Edmundson, West Branch Llagas, Lions, Day, Jones and Llagas Creeks. North Morey and Morey Channels and Miller Slough

northwest of Gilroy also contributed to the flooding. One of the most severely flooded areas was at the confluence of Edmundson Creek, West Little Llagas Creek and East Little Llagas Creek. Runoff from the west hills flowed through the Morgan Hill city streets instead of flowing in Edmundson Creek. The capacities of East and West Little Llagas Creeks are minimal in this area and the runoff could not be channeled downstream. Water was four feet deep on La Crosse Drive in Morgan Hill which closed the street.

In San Martin there was widespread flooding along the West Branch Llagas Creek. Historically, the creek has flooded in the low areas due to the minimal channel capacity. Further flooding occurred with depths exceeding two feet in north Gilroy where Lions Creek and its tributaries ponded water that eventually flowed into Miller Slough near Las Animas Park. Several homes were reported flooded near Wren Avenue and water reached the doorstep of others. In addition, there was widespread flooding in Las Animas Park with two feet of water reported in the park buildings. Miller Slough also overbanked west of the cannery on Forest Street and continued to overbank east of Forest Street. It was reported that ten homes were flooded, one to a depth of about three feet, on Walnut Lane and Forest Street. Damages to seven businesses were reported on the 8500 blocks of Church and Monterey Streets.

Flows overtopped the Llagas Creek levee at the Gilroy Sewage Treatment Plant evaporation ponds causing severe erosion to the levee and creating a potential health hazard. Other levees between the evaporation ponds were also damaged as the flood waters continued southerly through the ponds.

The proposed Federal Soil Conservation Service project on Llagas Creek and its tributaries will alleviate the West Little Llagas Creek, East Little Llagas Creek, West Branch Llagas Creek, Lions Creek and Miller Slough flooding by collecting and channeling the water downstream.

Jones Creek, east of Gilroy, also overbanked, but there were no reports of damage.

At the confluence of Llagas Creek and the Pajaro River along the Santa Clara-San Benito County boundary, flood flows covered about 200 acres of primarily agricultural lands to a depth of about two feet.

Uvas Creek and Tributaries

The Uvas Creek Watershed southwesterly of Gilroy also experienced major flooding and erosion. Downstream of the confluence of Uvas and Little Arthur Creeks, the adjacent flat lands were flooded to a depth of about two feet. The Miller Avenue ford of Uvas Creek at Christmas Hill Park in Gilroy was flooded to a depth of about six feet and the adjacent parking lot and ball fields were also flooded. The integrity of the northerly levees along Uvas Creek between Miller Avenue and Thomas Road in Gilroy were threatened by extensive erosion.

Floodwaters undermined about 300 feet of Burchell Road at Highway 152 and caused erosion at the bridge abutments. At the Thomas Road bridge just south of Gilroy overbanking occurred on the northeast side. Two houses were reported flooded to a depth of about five feet near Highway 101. At the confluence of the Pajaro River and Carnadero Creek, flood waters covered about 200 acres of agricultural land in Santa Clara and San Benito Counties up to a depth of about nine feet. Six houses and two businesses were reported to have suffered flood damage from Uvas Creek, Uvas-Carnadero Creek and the Pajaro River. Extensive debris was carried downstream during the storm.

Fisher Creek

Fisher Creek has a very limited capacity and overbanks in medium to large storms. Water was reported in the garages of many homes between Llagas Road and Palm Avenue, but not inside any living areas. One nursery reported damage from standing water up to two feet deep for two days after the storm. Elderly people had to

be evacuated from a retirement home which suffered substantial water damage. Erosion also caused public and private damage on Fisher Creek.

Ross Creek

There was extensive erosion damage on Ross Creek, but there was no flooding reported.

Canoas Creek

At Tillamook Avenue in San Jose, Canoas Creek overbanked into the street.

Adobe Creek

It was reported that the Shoup Park Citizens Center in Los Altos was flooded with about two inches of water from Adobe Creek.

STORMS OF MARCH 31 THROUGH APRIL 13, 1982

The March 31, 1982 storm caused high rainfall and extensive damage and flooding to the east and central portions of San Jose, Milpitas and other areas. Flows overtopped the banks of Coyote Creek, Lower Penitencia Creek, Upper Penitencia Creek, Guadalupe River and to a lesser degree Berryessa Creek and South Babb Creek.

Guadalupe River

On March 31, 1982, Guadalupe River overbanked the easterly levee between Alma Street and the Western Pacific Railroad bridge in San Jose. This overbanking mingled with local drainage on the streets and caused widespread flooding of about 15 acres from the Western Pacific Railroad tracks near Dawson Avenue to West Virginia Street and east of the river to the Southern Pacific Railroad tracks and McLellan Avenue. It was reported that there was about one foot of water in the San Jose Elks Lodge on Alma Street. The Willow Street undercrossing of the Southern Pacific Railroad bridge experienced about ten feet of flooding. People were evacuated from their homes on McLellan Avenue. This reach of Guadalupe River has a capacity to contain about a five-year flood frequency. Twenty homes and five businesses were reported to be damaged from the floodwaters in this area.

There was also local flooding on Trimble Road, Montague Expressway and North First Street. Local parking lots and streets but no buildings were reported flooded.

Coyote Creek

Coyote Creek flooded a large area during this storm. Two reservoirs, Anderson and Coyote, located on the upstream reaches of Coyote Creek were full and spilling on March 31. As explained in the Introduction, the surcharge storage available above the spillways substantially reduced downstream flood flows below what they would have been if there were no reservoirs on this creek.

The most severe flood damage from Coyote Creek was from overtopping and subsequent erosion of the levees on the west bank between State Highway 237 and

Montague Expressway. As a result, water covered most of the areas between Coyote Creek and Guadalupe River and from Agnews State Hospital north to the Leslie Salt Pond levees, a total flooded area of about 800 acres. This flooding included the area north of Highway 237 near the San Jose Sewage Treatment Plant sludge ponds. Highway 237 was closed from April 1 through April 4, between North First Street and Highway 17 due to floodwaters on the highway. Coyote Creek northerly of Highway 237 has the capacity to contain about a one-year flood frequency. Between Highway 237 and Montague Expressway, Coyote Creek has about a 5-year flood capacity.

Flooding reached some parts of Mobile Parks West, a mobile home park between Zanker Road and North First Street. Flooding was also reported inside of some of the mobile homes. The water came from Zanker Road and from low areas across Nicholson Lane which leads into Mobile Parks West from North First Street. Up to 1,600 people voluntarily evacuated Mobile Parks West and were assisted in this effort by the San Jose Fire Department and the California National Guard.

The flood waters reached Alviso later on April 1, and residents on Pacific Avenue, Michigan Street, Grand Street and the surrounding areas voluntarily evacuated the area. Alviso was flooded easterly of the Southern Pacific Railroad tracks.

An estimated total of 262 homes and 60 businesses were flooded in Mobile Parks West and Alviso.

Streets and parking lots were also flooded on the east grounds of Agnews State Hospital, at the County Transit District's yard and at the San Jose Sewage Treatment Plant. None of the buildings at these locations were reported flooded.

The Santa Clara Valley Water District built two access roads across row crop farm land from Agnews State Hospital in order to reach and repair the eroded creek banks with large equipment and rock. The overbanking was stopped by April 4, 1982.

Several large capacity pumps were used by the City of San Jose forces to remove the floodwaters from both Mobile Parks West and Alviso. By April 8, 1982 floodwaters were completely pumped out of Mobile Parks West.

Coyote Creek also overbanked and eroded approximately 200 feet of levee northeasterly of Metcalf Road. It was reported that a private water skiing club which leases this property suffered damages to its recreational facility.

Coyote Creek flooded at two other locations in downtown San Jose: near Williams Street where no damages were reported and at 17th Street where one house was reported flooded. This reach of Coyote Creek has the capacity to carry about a 25-year flood frequency but some houses are within the floodway and, therefore, were subject to flooding at a lower flood frequency.

Coyote Creek also overbanked on the west side, south of Berryessa Road. It was reported that one business in this area experienced minor flood damage.

Upper Penitencia Creek

The Upper Penitencia Creek watershed experienced severe flooding. The reaches that overbanked have the capacity to carry about a five year flood. There was overbanking on the south side of Upper Penitencia Creek from upstream of Noble Avenue on Penitencia Creek Road to downstream of Piedmont Road near Cayman Way. Toyon Elementary School was evacuated about 1 p.m. on March 31, 1982. Water reached a maximum of about two feet deep in the streets adjacent to the creek channel. Further flooding occurred on the south side of the creek at Stonecrest Way and Viceroy Way. Water reached a maximum depth of about two feet in these streets.

Just upstream of Heatherfield Lane, there was overbanking on the north side of Upper Penitencia Creek. Water, up to about two feet deep, flowed down Penitencia Creek Road to North Capitol Avenue. Downstream of Highway 680, there was overbanking and erosion of the north levee for approximately 40 feet. About two feet of water flowed northerly across North Jackson Avenue toward Commadore Drive and Cape Colony Drive then around Cape Horn Drive to Cape Diamond Drive. One farming area reported some damage.

Downstream of North Jackson Avenue overbanking occurred in three locations along with erosion of the adjacent levees. Water flowed toward Mabury Road and North Jackson Avenue on the east and toward North King Road and Mabury Road on the west.

The flow in Upper Penitencia Creek divides just upstream of Mabury Road. The low flow channel goes under Mabury Road and Educational Park Drive and back under Mabury Road near Pine Hollow Circle. The low-flow channel is also referred to as the Overfelt Percolation facility. There is a high-flow diversion northwest of Mabury Road that flows into the low-flow channel downstream of the second Mabury crossing. At three locations on the low-flow channel, there was levee overbanking and erosion of the levee. The west levee overbanked and eroded for approximately 25 feet downstream of the east Mabury Road crossing. Two other overbanking locations were between the east Mabury Road crossing and Educational Park Drive on the east bank for approximately 8 feet and 25 feet. Water was reported up to three feet deep in low spots on Educational Park Drive. It was also reported that floodwaters had entered one house on Pine Hollow Circle. While some water flowed down Pine Hollow Circle, most of the water flowed down Educational Park Drive to Independence High School and then southwest along Pine Hollow Circle. No water was reported to have actually entered the buildings at Independence High School, but the playing fields and parking lots were reported inundated with mud laden flows. One other overbanking and erosion of the levee occurred downstream of the confluence of the low-flow and diversion channels for a length of about 40 feet. Water also flowed down Mabury Road, North King Road, Dobbin Drive, Lenfest Road to the railroad spurs, Nicora Avenue and Las Plumas Avenue. Water was up to about three feet deep at the Western Pacific Railroad tracks. It was further reported that one business on Dobbin Drive had four inches of water inside the buildings and five businesses on Lenfest Road had up to two feet of water within their buildings. Debris collected at the box culverts throughout this reach of Upper Penitencia Creek and contributed to the channel overbanking.

The Berryessa Flea Market reported damage to a number of its businesses. The water ponding at the Flea Market was primarily local storm drainage and not the result of overbanking from either Coyote or Upper Penitencia Creeks.

Lower Penitencia Creek

Lower Penitencia Creek in Milpitas went over its banks in at least four locations. At 741 Penitencia Street on the east bank, water was reported inside the house. At Redwood Avenue overbanking reportedly contributed to street flooding from Redwood Avenue to Marylinn Street and from the creek to Highway 17. The water also flowed toward the golf course north of Redwood Avenue and mingled with other water from overbanking at two locations north of San Andreas Drive. Water was reported at doorsteps and into the garages of houses on the west side of Lower Penitencia Creek. The District's proposed project in this area scheduled to begin in 1982-83 will remedy much of this flooding.

There was a storm drain blockage into Wrigley-Ford Creek (the old Berryessa Creek channel) on Berryessa Drive, but water was not reported to have flooded any houses.

Berryessa Creek

Berryessa Creek overflowed its banks approximately 1,000 feet upstream of Calaveras Boulevard, but no damages were reported.

South Babb Creek

There was overbanking on South Babb Creek at Salmon Creek Court on Squerri Drive and on both sides of the creek at Lochner Drive. Streets and parking lots ponded excess water from Salmon Creek Court to Capitol Avenue. Water travelled down Candler Avenue, Mt. Vista Drive and the surrounding streets to White Road, Story Road and Capitol Avenue. During the storm, debris and silt collected in this channel that has the capacity to carry a four-year flood.

SUMMARY

The storm of January 3-5, 1982 caused heavy rainfall and subsequent flooding in the northwest and southern portions of Santa Clara County. Gilroy, Morgan Hill and Palo Alto all experienced flooding as a result of that storm, the most severe of which occured in the City of Gilroy.

A damage assessment summary for the January flooding prepared by the Santa Clara County Office of Emergency Services is shown on Table V. One person died as a result of a storm related accident. It was reported that 136 homes and 14 businesses suffered flood damage as did several public facilities resulting in an estimate of $4,640,000 in flood related damage to public and private property.

Of the $830,000 in damage to Santa Clara Valley Water District facilities as a result of the January storm, $320,000 qualified for 80% cost sharing by the United States Soil Conservation Service. The District also requested assistance from the Federal Emergency Management Agency (FEMA) and the U. S. Army Corps of Engineers. About $10,000 was received from FEMA, but the Corps did not approve any funding.

The storm of March 31 through April 13, 1982 caused heavy rainfall in the Santa Cruz Mountains above Lexington Reservoir, in the Guadalupe River watershed and in the eastern foothills above San Jose and in the Hamilton range above Coyote Reservoir all in the Coyote Creek watershed. The heavy rainfall in these watersheds contributed to extensive flooding in Milpitas and San Jose especially in the area between Coyote Creek and Guadalupe River near Highway 237 and in Alviso. Extensive flooding also occurred along Upper Penitencia Creek in San Jose.

A Damage Assessment Summary for the April flooding prepared by the Santa Clara County Office of Emergency Services is shown on Table VI. There were no reported deaths as a result of this storm. It was reported that 480 homes and 78 businesses experienced some flood damage. Many public facilities such as highways, bridges and flood control channels also were affected by the high flood flows resulting in an estimate of $10,100,000 in flood related damages to public and private property.

The Federal Emergency Management Agency (FEMA) conducted a survey of the Santa Clara Valley Water District facilities damaged by the April flood flows. Since the County's request to extend the federal declaration of a major disaster was denied, the District does not expect FEMA funds for the April damages.

The total damages to public and private property as a result of the 1982 storms are summarized in Table VII.

Table I

RAINFALL DATA
(Inches)

Station Name	No.	Location (Basin)	Nov. 13, 1981	Jan. 3-5 1982	March 31, 1982	March 31 - April 13, 1982
Almaden	4	Alamitos Creek	5.7	5.7	4.3	10.5
Anderson	41	Coyote Creek	3.7	4.3	1.7	4.8
Dahl Ranch	24	Adobe Creek	4.5	6.3	2.8	8.8
Lexington Reservoir	42	Los Gatos Creek	5.7	8.6	2.7	11.5
Peabody	75	Llagas Creek	1.9	4.2	1.2	4.5
Penitencia Water Treatment Plant	99	Upper Penitencia Creek	1.5	2.1	1.6	3.0
San Jose	86	Guadalupe River	1.6	2.0	1.6	3.4
Stevens Creek	100	Stevens Creek	4.6	6.4	2.8	7.9
U.T.C.	102	Coyote Creek	3.5	2.5	2.2	4.8
Uvas Reservoir	104	Uvas Creek	4.2	6.7	2.1	8.1
Valley Christian	77	Saratoga Creek	6.4	8.7	3.4	14.0

TABLE II

HISTORICAL STATISTICS FOR REPRESENTATIVE PRECIPITATION STATIONS IN SANTA CLARA VALLEY
(All Values in Inches)

Station Name	No.	Records Began	Historical Seasonal High*		Historical Seasonal Average	Total Rainfall 7/01/81 - 4/30/82	% of Seasonal Average
Almaden	4	1971	47.72	1977-78	30.60	49.30**	161
Anderson	41	1951	35.20	1968-69	19.40	30.70	158
Dahl Ranch	24	1965	52.30	1977-78	30.67	56.10**	183
Lexington Reservoir	42	1952	69.18	1979-80	36.74	62.48	170
Peabody	75	1932	33.63	1968-69	19.25	30.20	157
Penitencia Water Treatment Plant	99	1968	30.04	1977-78	16.18	20.31	126
San Jose	86	1874	30.30	1889-90	14.17	21.77	154
Stevens Creek	100	1937	47.50	1957-58	27.28	46.10	169
U.T.C.	102	1962	27.80	1977-78	18.33	29.10**	159
Uvas Reservoir	104	1962	72.33	1974-75	30.69	45.50	148
Valley Christian	77	1958	69.20	1977-78	40.92	74.40**	182

*The rainfall season is from July 1 to June 30

** Rainfall amounts that exceed the Historical Seasonal High

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Table III
PRELIMINARY PEAK FLOW VALUES FOR VARIOUS STREAMS IN
SANTA CLARA COUNTY DURING THE STORMS OF 1981-82

Sta. No.	Location	November 13, 1981 Flow CFS	November 13, 1981 Frequency (Years)	January 3-5, 1982 Flow CFS	January 3-5, 1982 Frequency (Years)	Mar. 31-Apr. 13, 1982 Flow CFS	Mar. 31-Apr. 13, 1982 Frequency (Years)	1% Design Event CFS
1	Penitencia Creek at Piedmont Rd.	33	-	415	5	1,970*	25	4,000
16	Alamitos Creek below Almaden Dam	8	-	421	2	732	5	2,500
23B	Guadalupe River at Almaden Exp	2,301	2	3,342	3	5,642 **	8	8,200
25	Saratoga Ck. at Pruneridge Ave.	808	2	2,064	6	2,080	6	3,500
26A	Calabazas Ck. at Wilcox School	1,315	3	1,484	4	2,025	7	3,900
44	Stevens Ck. below Stevens Ck. Dam	22	-	448	-	529	1	5,500
51	Ross Creek at Cherry Ave.	789	2	780	3	1,113	5	2,000
58	Coyote Creek at Edenvale	90	1	1,115	2	4,153	8	14,500
59	Los Gatos Ck. at Lark Ave.	537	3	1,195	7	2,187 **	14	6,900
64	Berryessa Ck. above Calaveras Road	338	1	258	1	870	2	4,000
67	Los Gatos Ck. below Lexington Dam	75	-	259	-	1,912	12	6,300
69	Llagas Creek Below Chesbro Dam	15	-	299	NA	1,502	20	3,900
91	Saratoga Ck. at Saratoga - USGS	338	2	1,460	5	794	2	3,500
92	Guadalupe River at St. John Street - USGS	3,470	2	5,590	2	7,180	5	17,000
93	San Francisequito Creek at Stanford - USGS	325	2	5,210	14	3,456	6	8,300
	Coyote Creek near Madrone-USGS	57	-	26	-	3,780	2	14,300
	Uvas Creek near Gilroy-USGS	76	-	8,370	20	2,070	3	13,400

*Estimate
**Exceeded Historical Peak Flow
NA = Not available

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TABLE IV

Historical Peak Flow for
Various Streams in Santa Clara Valley

Sta. No.	Location	Records Began	Historical Peak Flow CFS		Date
1	Penitencia Creek at Piedmont Road	1939	2,200		04/02/58
16	Alamitos Creek Below Almaden Dam	1939	2,000		12/23/55
23B	Guadalupe River at Almaden Expressway	1975	5,047	*	02/19/80
25	Saratoga Creek at Pruneridge Avenue	1939	2,298		02/19/80
26A	Calabazas Creek at Wilcox School	1976	2,538		01/14/78
44	Stevens Creek Below Stevens Creek Dam	1930	1,420		12/23/55
51	Ross Creek at Cherry Avenue	1957	1,550		01/30/68
58	Coyote Creek at Edenvale	1916	10,000		02/10/22
59	Los Gatos Creek at Lark Avenue	1970	1,002	*	02/19/80
64	Berryessa Creek above Calaveras Road	1970	1,002		02/19/80
67	Los Gatos Creek Below Lexington Dam	1930	3,539		04/02/58
69	Llagas Creek Below Chesbro Dam	1950	3,190		04/02/58
91	Saratoga Creek at Saratoga - USGS	1933	2,730		12/22/58
92	Guadalupe River at St. John St. - USGS	1929	9,150		04/02/58
93	San Francisquito Creek at Stanford - USGS	1930	5,560		12/22/55
	Coyote Creek Near Madrone - USGS	1902	25,000		03/07/11
	Uvas Creek Near Gilroy - USGS	1959	9,490		02/01/63

*Exceeded by 1982 Storm Flows

TABLE V

January 3-5, 1982

DAMAGE ASSESSMENT SUMMARY

Date: January 15, 1982
(Revised)

SANTA CLARA COUNTY - TOTAL: $4,640,000

(County, City, Special District, Indian Tribe, Tribal Organization, Private Nonprofit Organization)

Private Section Damage

	1A.	Number of Dead 1	1B.	Injured 0	
	2A.	Homes Damaged 136	2B.	Destroyed 0	$2,730,000
	2C.	Businesses Damaged 14	2D.	Destroyed 0	515,000
	2E.	Agriculture			?
	2F.	Railroads			--
*	2G.	Private Hospitals			--
*	2H.	Private Schools			--
*	2I.	Private Utilities			--
				Total Private Damage	$3,245,000

* Do not include private nonprofit facilities - See Category H under Breakdown of Public Assistance Estimates.

Public Sector Damage

3A.	Federal Aid System Roads		?
3B.	Elementary and Secondary Schools		--
3C.	Federal Facilities		--
3D.	Public Facilities		$1,395,000
		Total Public Damage	$1,395,000

Public Universities and Colleges are included in Category E under Breakdown of Public Assistance Estimates.

(Use Numbering System When Reporting,
i.e., 2A, 2H, 3B, etc.)

SUMMARY PREPARED BY THE SANTA CLARA COUNTY
OFFICE OF EMERGENCY SERVICES

(Rev. 3/78)

Exhibit 3e

TABLE VI

March 31 - April 13, 1982

DAMAGE ASSESSMENT SUMMARY

Date: April 20, 1982

SANTA CLARA COUNTY - TOTAL $10,100,000

(County, City, Special District, Indian Tribe, Tribal Organization, Private Nonprofit Organization)

Private Sector Damage

	1A.	Number of Dead 0	1B.	Injured 0	
	2A.	Homes Damaged 480	2B.	Destroyed 0	$1,750,000
	2C.	Businesses Damaged 78	2D.	Destroyed 0	1,750,000
	2E.	Agriculture			
	2F.	Railroads			
*	2G.	Private Hospitals			
*	2H.	Private Schools			
*	2I.	Private Utilities			170,000
				Total Private Damage	$3,670,000

* Do not include private nonprofit facilities - see Category H under Breakdown of Public Assistance Estimates.

Public Sector Damage

3A.	Federal Aid System Roads		
3B.	Elementary and Secondary Schools		
3C.	Federal Facilities		
3D.	Public Facilities		$6,430,000
		Total Public Damage	$6,430,000

Public universities and colleges are included in Category E under Breakdown of Public Assistance Estimates.

SUMMARY PREPARED BY THE SANTA CLARA COUNTY
OFFICE OF EMERGENCY SERVICES

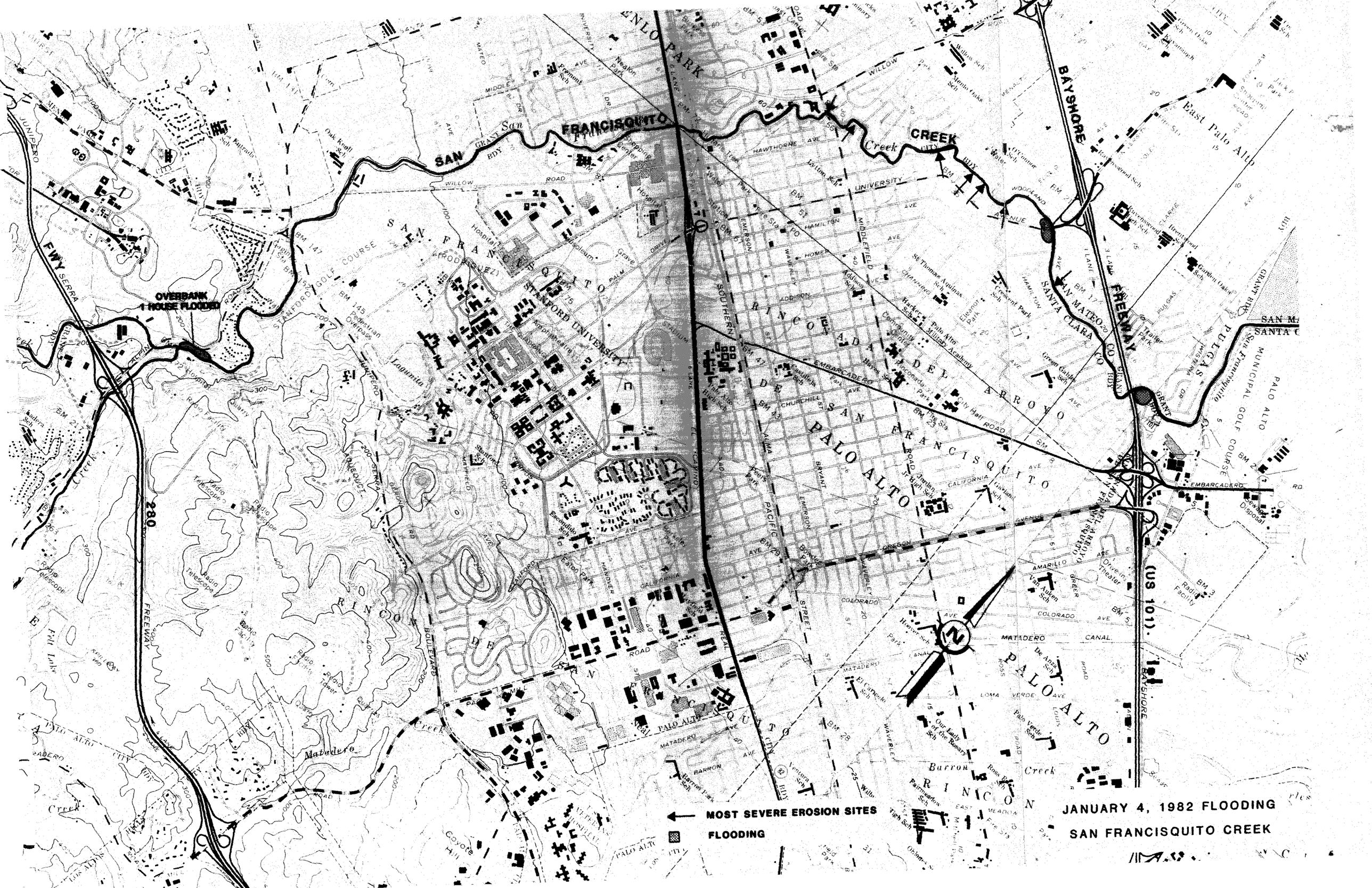
(Rev. 3/78) Exhibit 3e

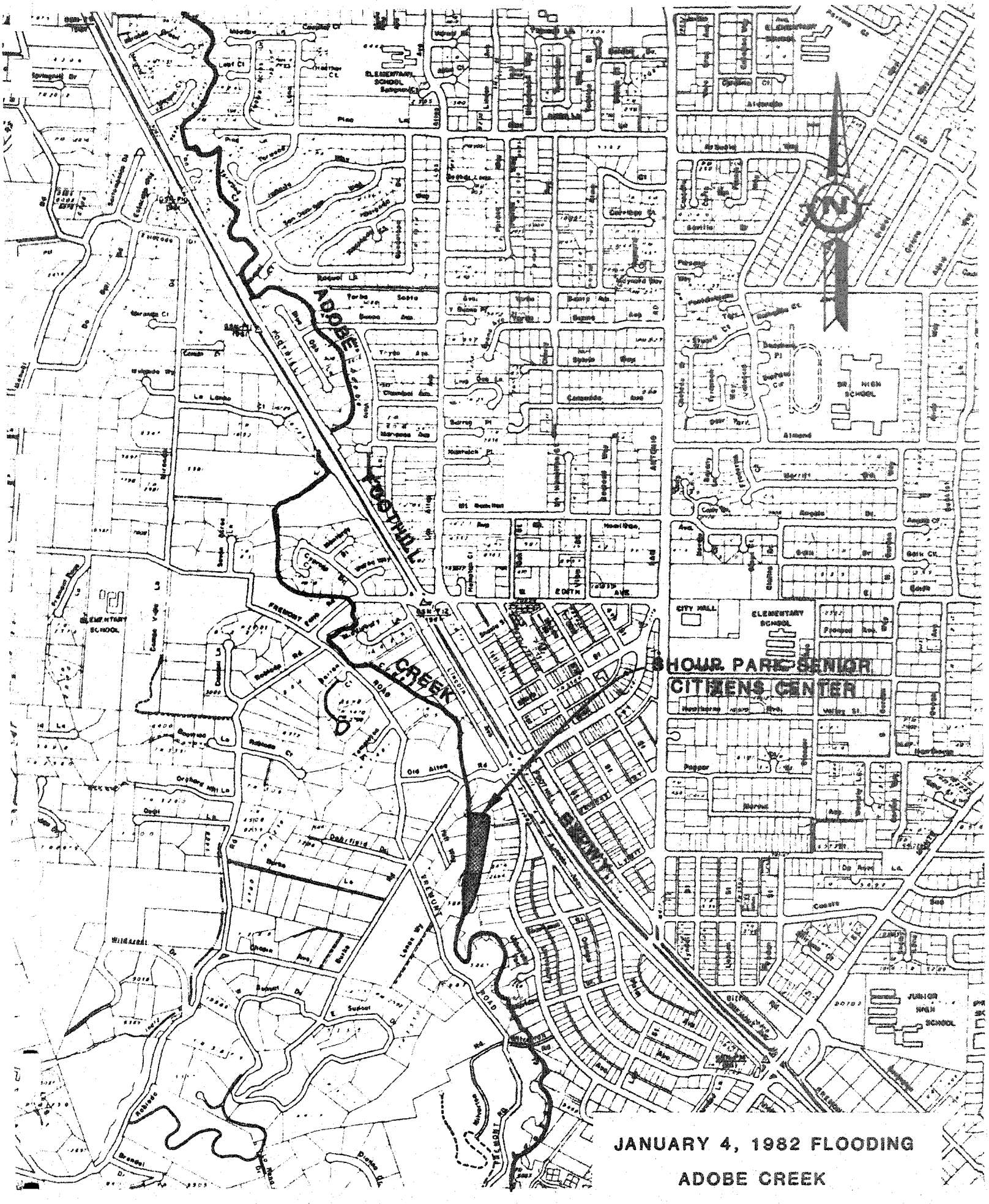
TABLE VII

Summary of Flood Related Damages
to Public and Private Property in Santa Clara County
January 1 through April 30, 1982

	Estimated Cost
Homes Damaged (616)	$ 4,480,000
Businesses Damaged (92)	2,265,000
Private Utilities	170,000
Public Facilities	7,825,000
Total estimated cost of damage to public and private property -	$14,740,000

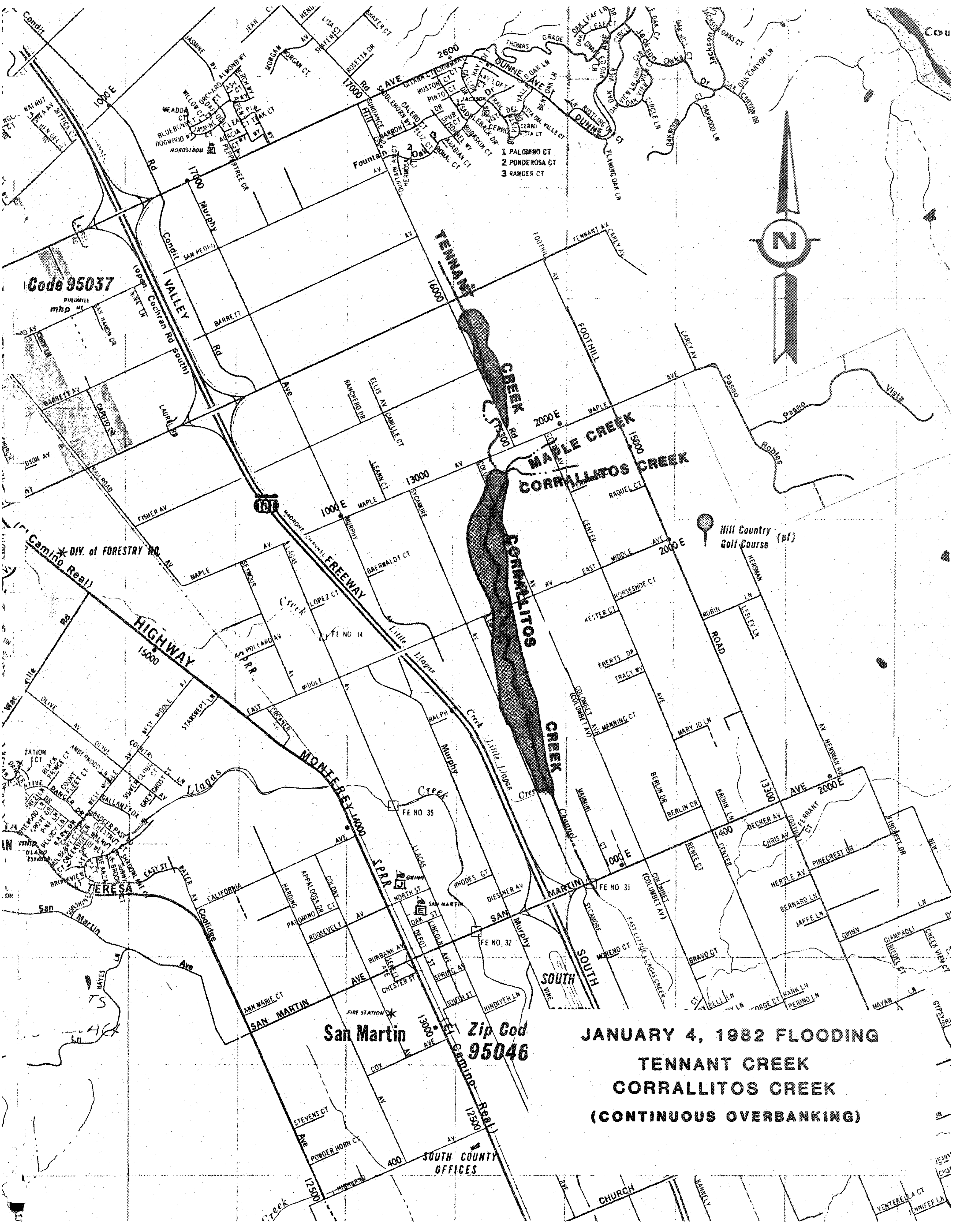
January 4, 1982 Flooding
Maps


OVERBANK
1 HOUSE FLOODED
MOST SEVERE EROSION SITES
FLOODING
JANUARY 4, 1982 FLOODING
SAN FRANCISQUITO CREEK
SAN FRANCISQUITO CREEK
BAYSHORE FREEWAY
(US 101)
FWY SERRA
280 FREEWAY
STANFORD UNIVERSITY
STANFORD GOLF COURSE
PALO ALTO
MENLO PARK
EAST PALO ALTO
RINCON DE SAN FRANCISQUITO
EMBARCADERO RD
UNIVERSITY AVE
WILLOW ROAD
MATADERO CANAL
SANTA CLARA CO
SAN MATEO CO

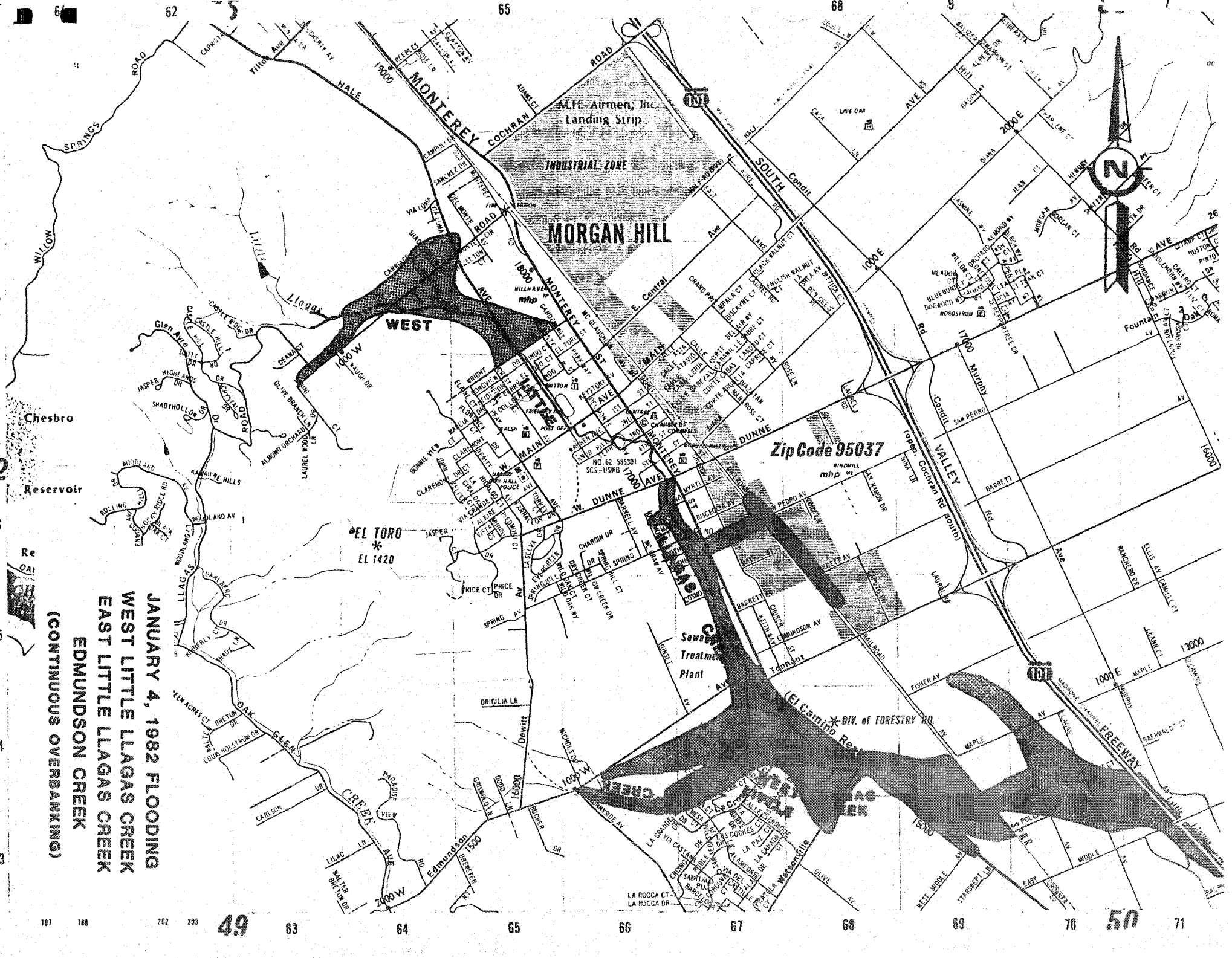


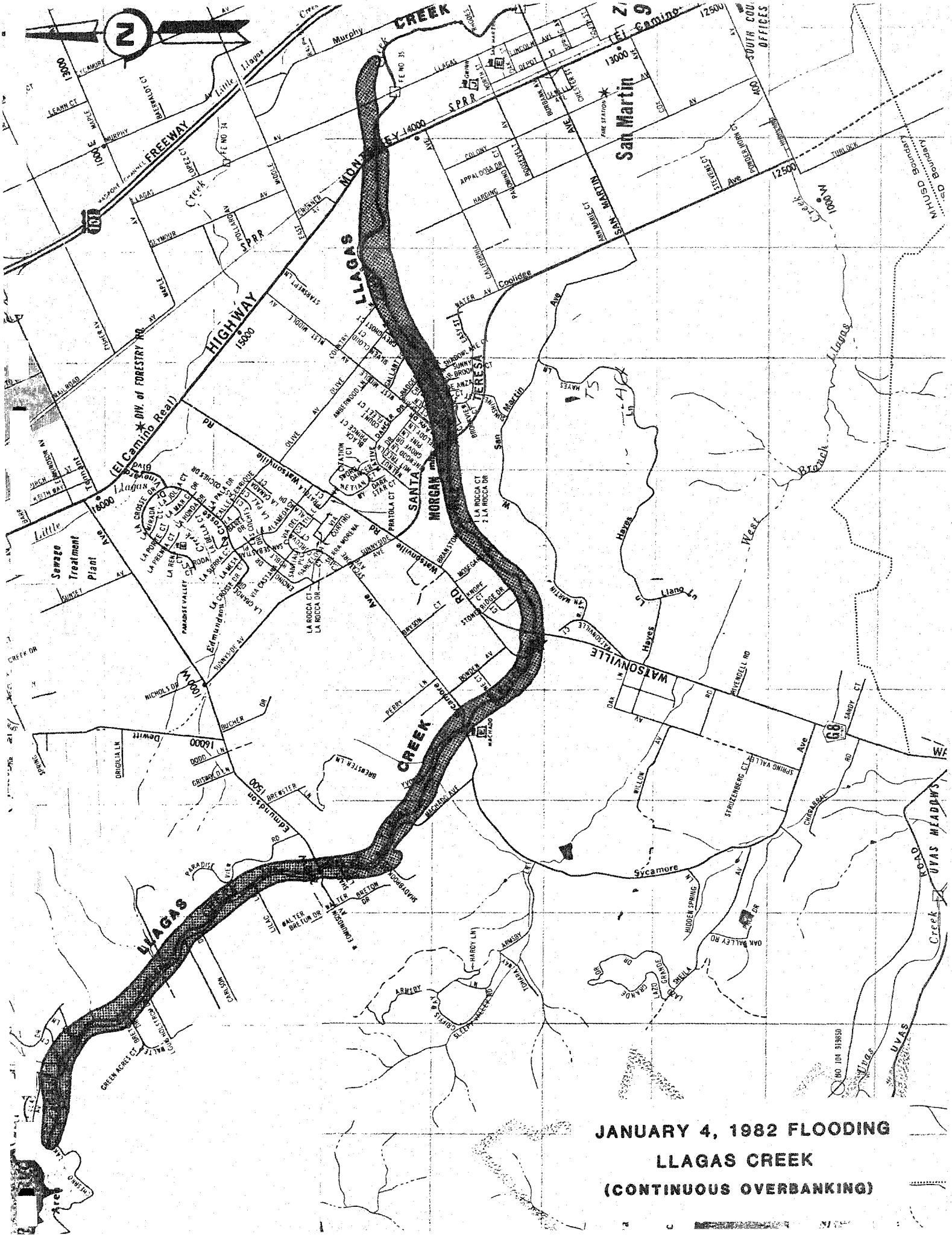
JANUARY 4, 1982 FLOODING

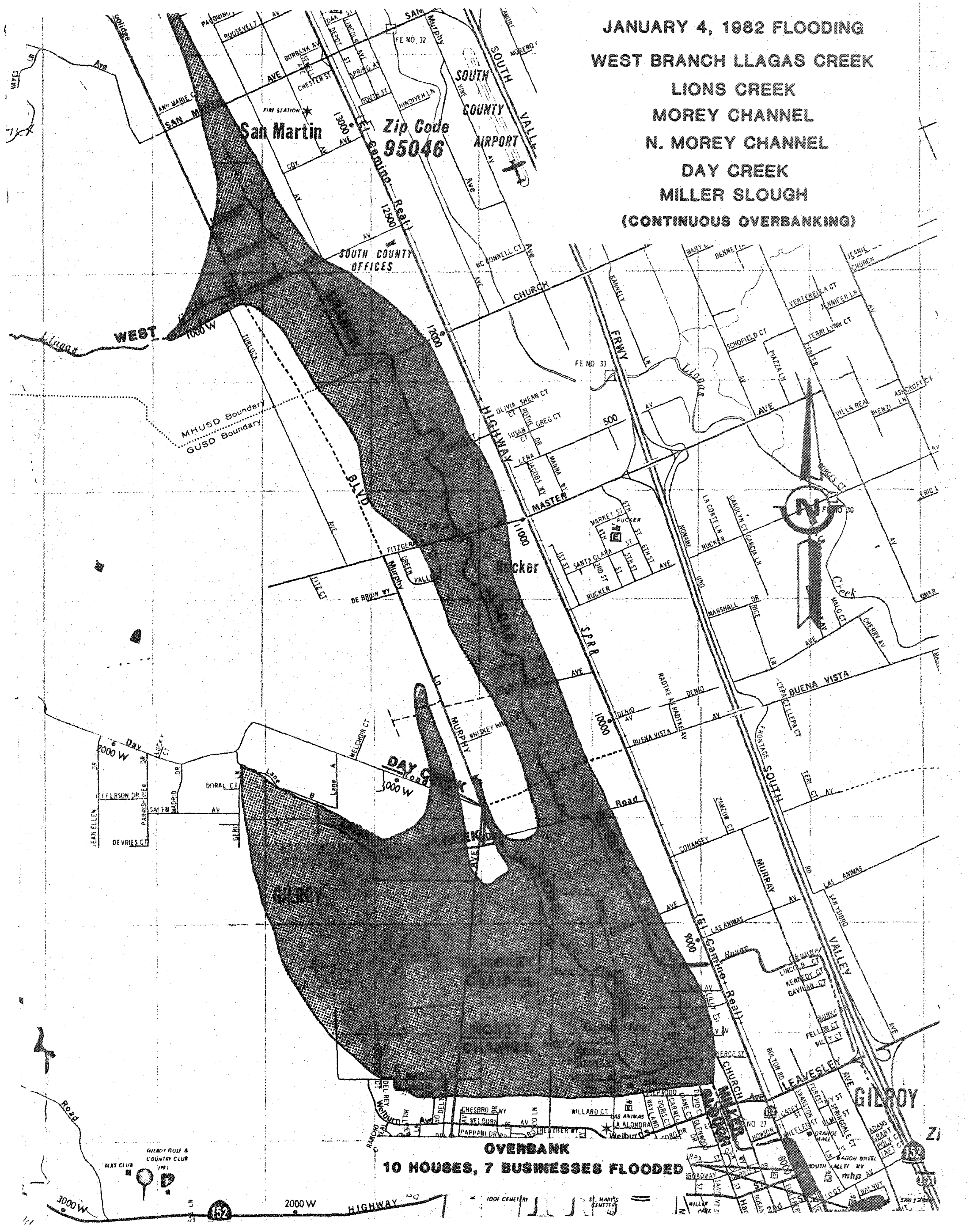
ADOBE CREEK

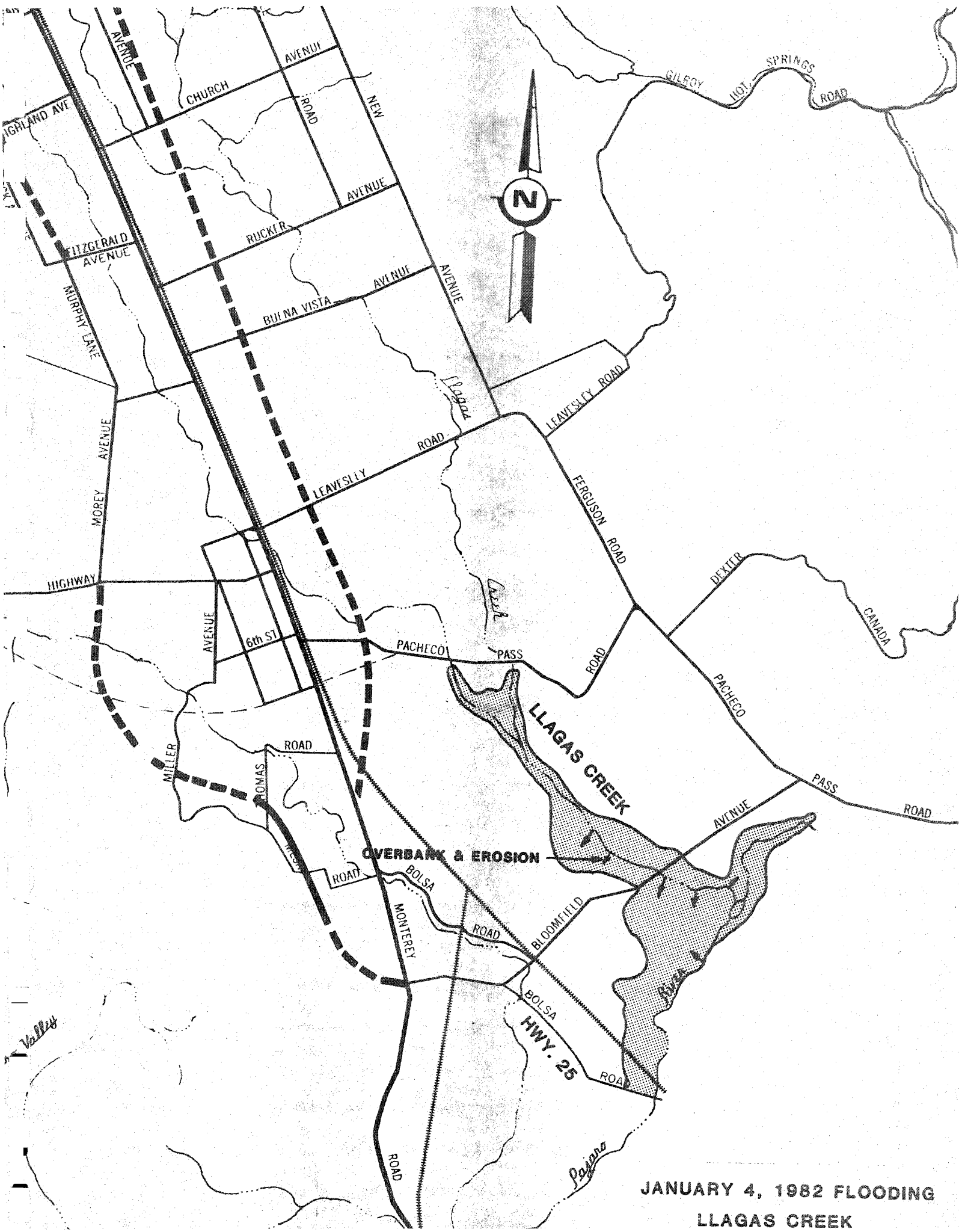


JANUARY 4, 1982 FLOODING
TENNANT CREEK
CORRALLITOS CREEK
(CONTINUOUS OVERBANKING)

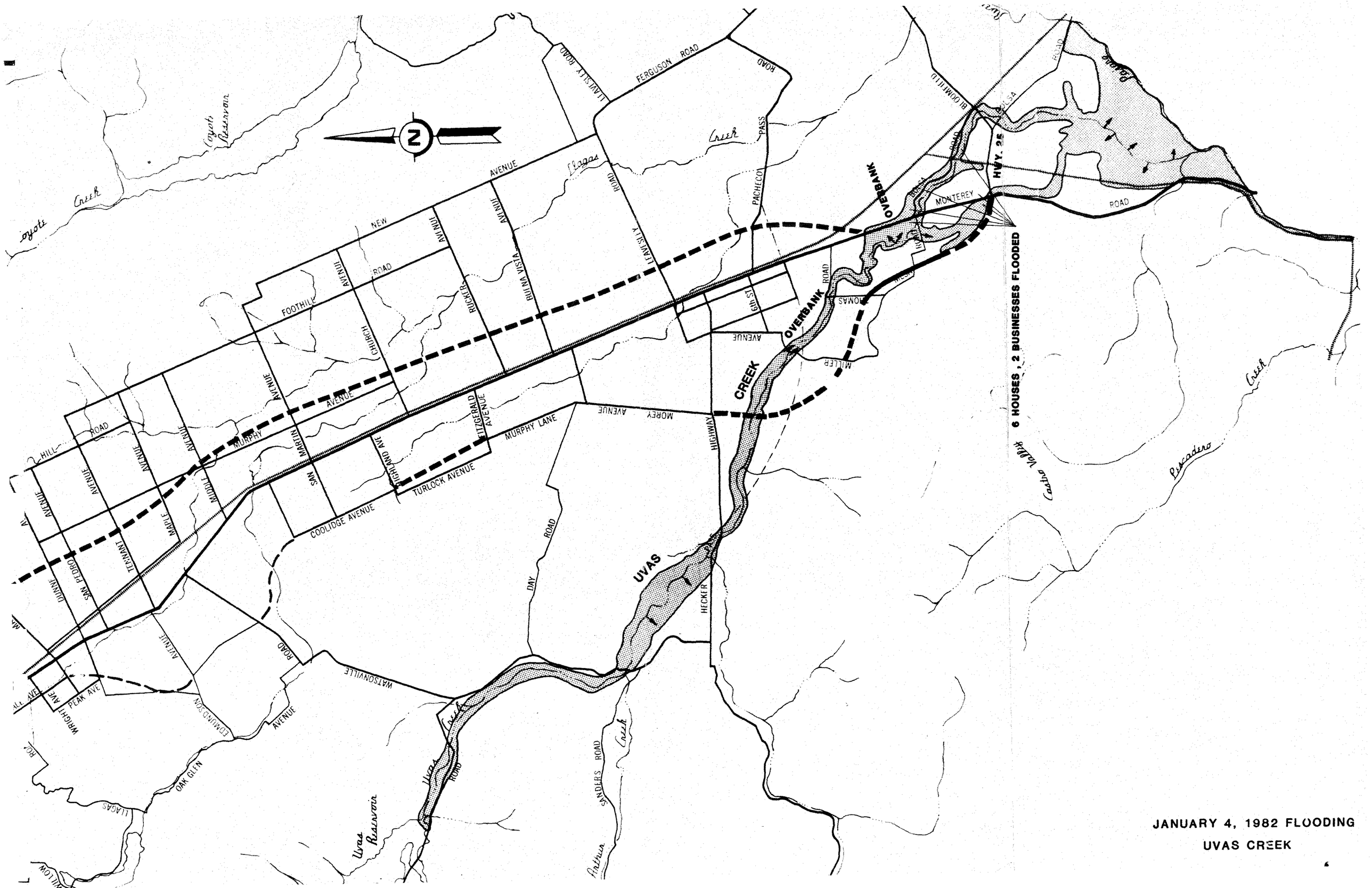

JANUARY 4, 1982 FLOODING
WEST LITTLE LLAGAS CREEK
EAST LITTLE LLAGAS CREEK
EDMUNDSON CREEK
(CONTINUOUS OVERBANKING)
MORGAN HILL
WEST
EAST
MONTEREY
M.H. Airmen, Inc. Landing Strip
INDUSTRIAL ZONE
Zip Code 95037
EL TORO
EL 1420
Reservoir
Chesbro
Sewage Treatment Plant
(El Camino Real)
DIV. of FORESTRY RD
FREEWAY
LLAGAS
OAK GLEN
CREEK
49
50

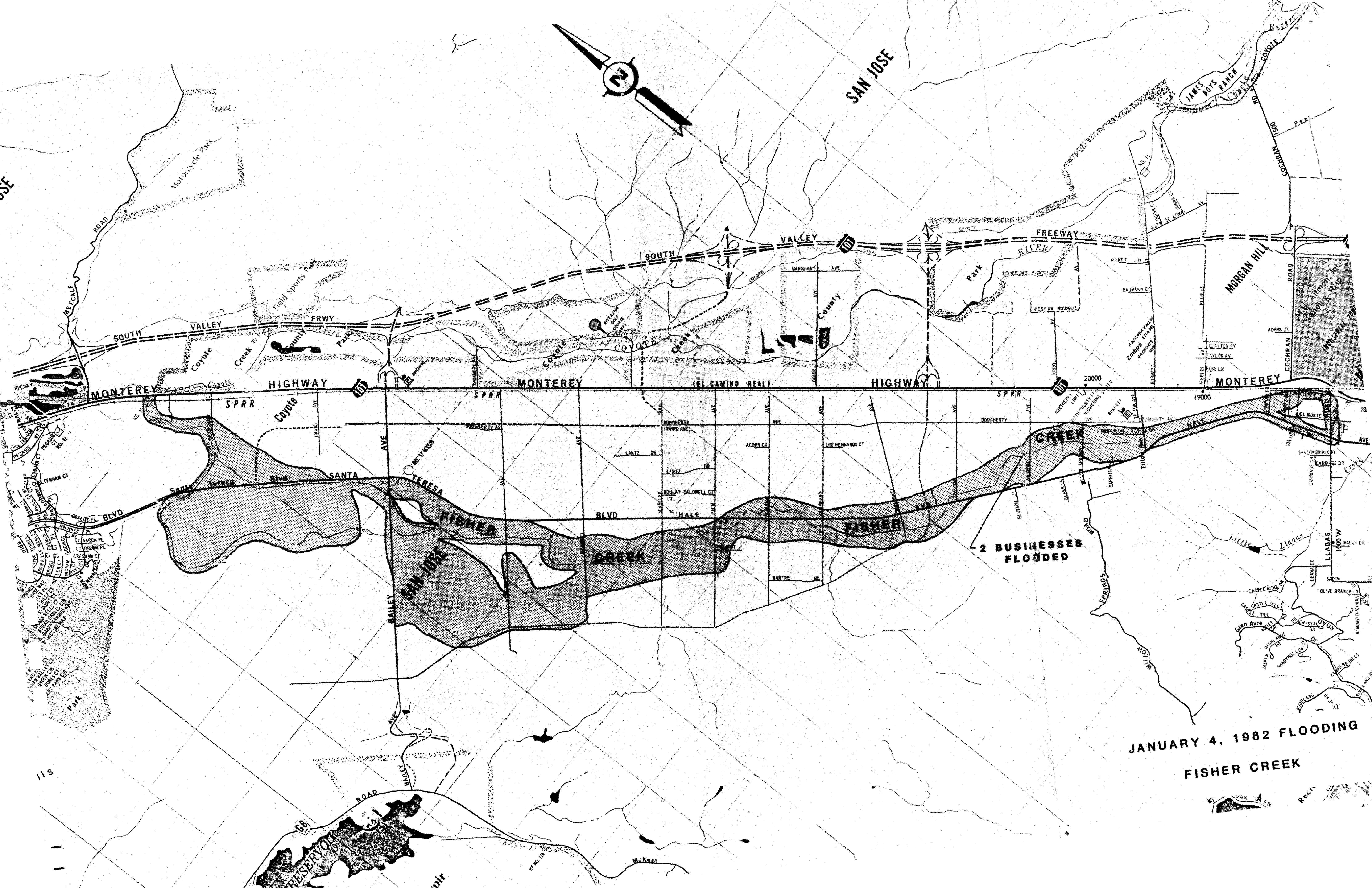

JANUARY 4, 1982 FLOODING
LLAGAS CREEK
(CONTINUOUS OVERBANKING)


JANUARY 4, 1982 FLOODING
WEST BRANCH LLAGAS CREEK
LIONS CREEK
MOREY CHANNEL
N. MOREY CHANNEL
DAY CREEK
MILLER SLOUGH
(CONTINUOUS OVERBANKING)
San Martin
Zip Code
95046
SOUTH COUNTY AIRPORT
FIRE STATION
SOUTH COUNTY OFFICES
MHUSD Boundary
GUSD Boundary
WEST
Llagas
CHURCH
MASTEN
BUENA VISTA
LAS ANIMAS
SPRR
HIGHWAY
FRWY
GILROY
OVERBANK
10 HOUSES, 7 BUSINESSES FLOODED
GILROY GOLF & COUNTRY CLUB
ELKS CLUB
HIGHWAY



JANUARY 4, 1982 FLOODING
LLAGAS CREEK

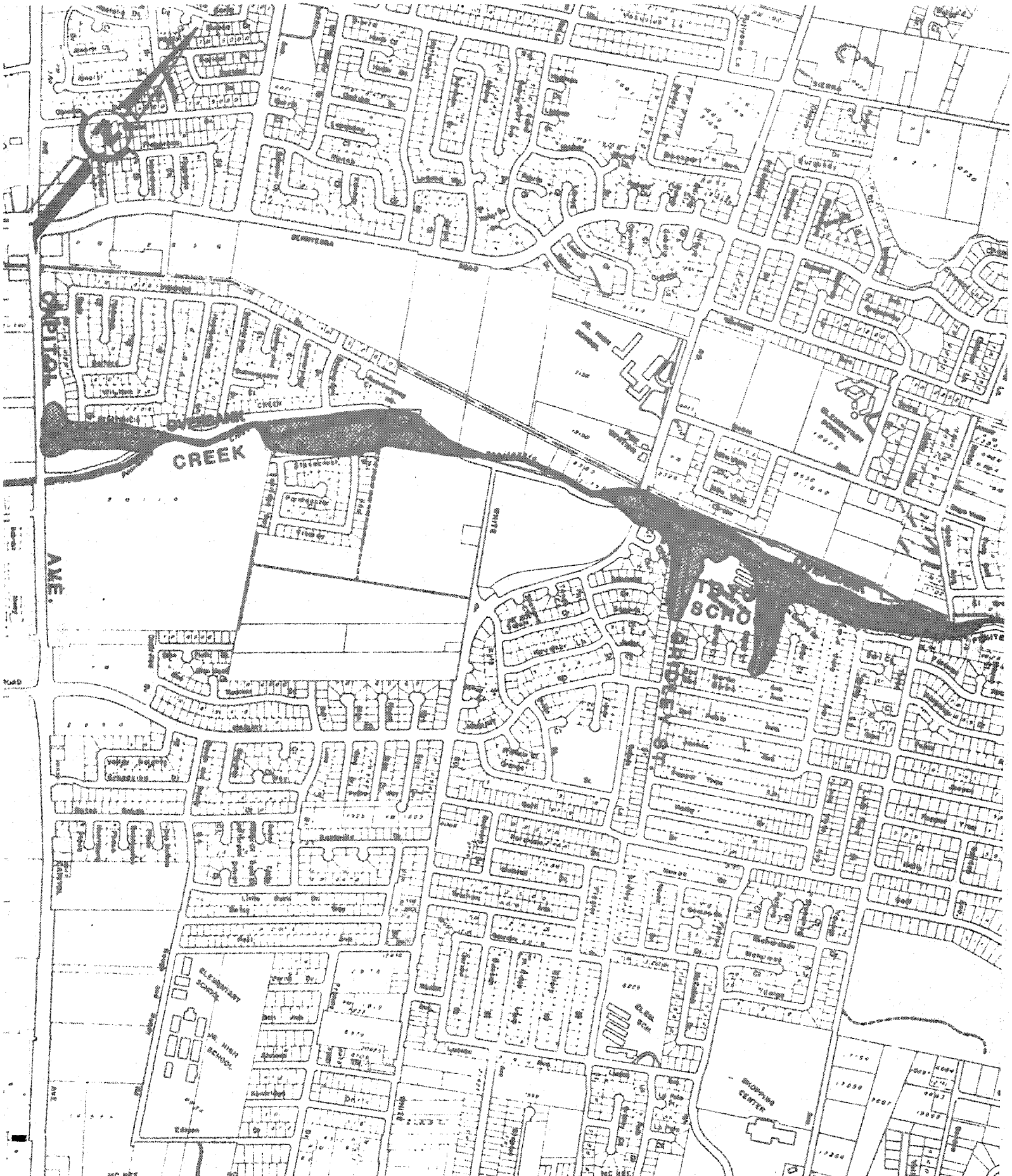

6 HOUSES , 2 BUSINESSES FLOODED
OVERBANK
OVERBANK
CREEK
UVAS
Uvas Reservoir
Coyote Reservoir
Coyote Creek
Llagas Creek
Pacheco Pass
Pacheco Creek
Pescadero Creek
Arthur Creek
Uvas Creek
Sanders Creek
HWY. 25
FERGUSON ROAD
LLAGAS ROAD
PACHECO PASS ROAD
BLOOMFIELD ROAD
CASA LOMA ROAD
MONTEREY ROAD
NEW AVENUE
FOOTHILL AVENUE
ROAD
RUCKER AVENUE
BUENA VISTA AVENUE
LLAGAS ROAD
CHURCH AVENUE
6th ST
THOMAS ROAD
MILLER AVENUE
MOREY AVENUE
HIGHWAY
MURPHY AVENUE
MARTIN AVENUE
FITZGERALD AVENUE
MURPHY LANE
SAN BENITO AVENUE
TURLOCK AVENUE
COOLIDGE AVENUE
MAPLE AVENUE
TILTON AVENUE
SAN PEDRO AVENUE
DUNNE AVENUE
HILL ROAD
WRIGHT AVE
PEAK AVE
EDMUNDSON AVENUE
OAK GLEN ROAD
WATSONVILLE ROAD
DAY ROAD
HECKER PASS
JANUARY 4, 1982 FLOODING
UVAS CREEK



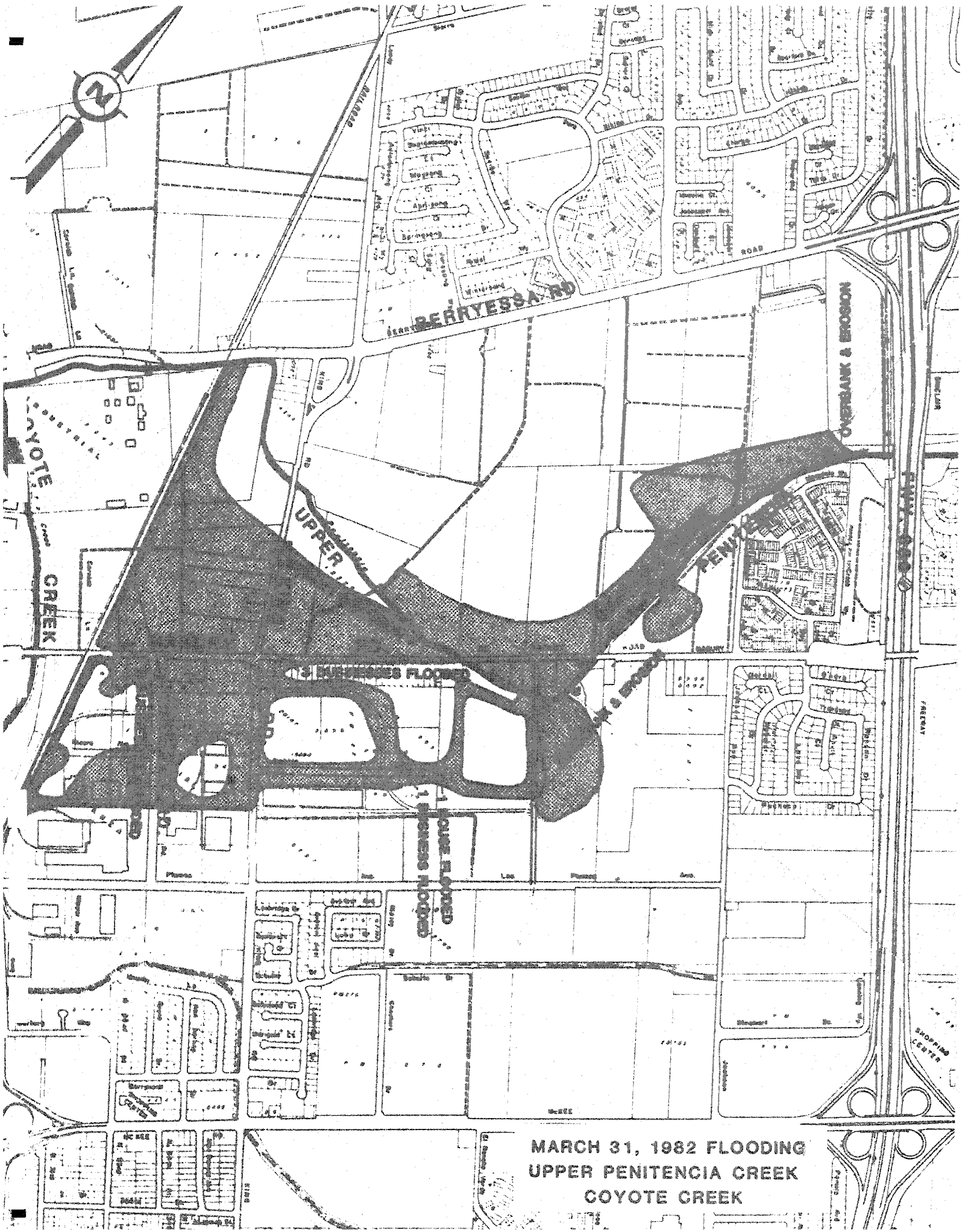
JANUARY 4, 1982 FLOODING

FISHER CREEK

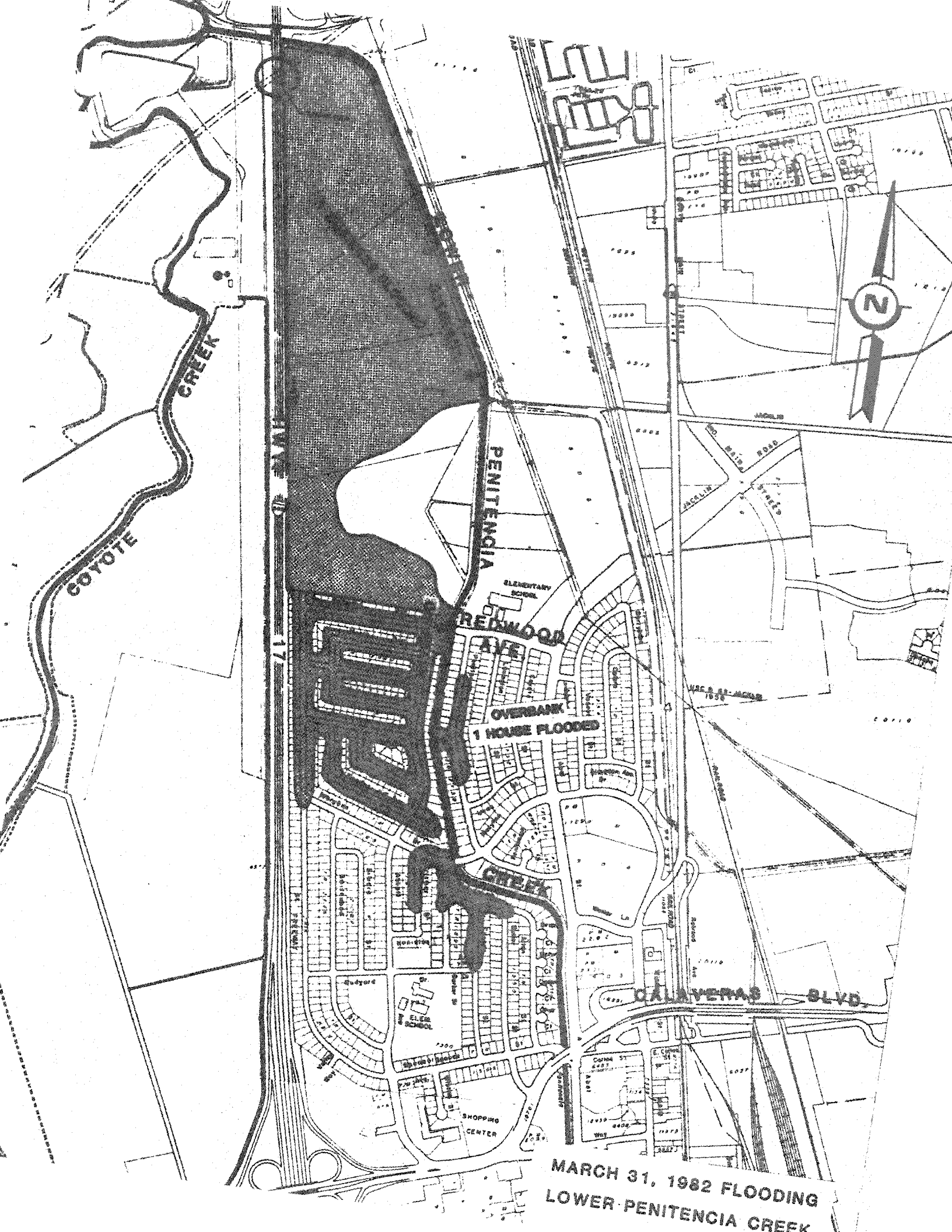
March 31, 1982 Flooding Maps



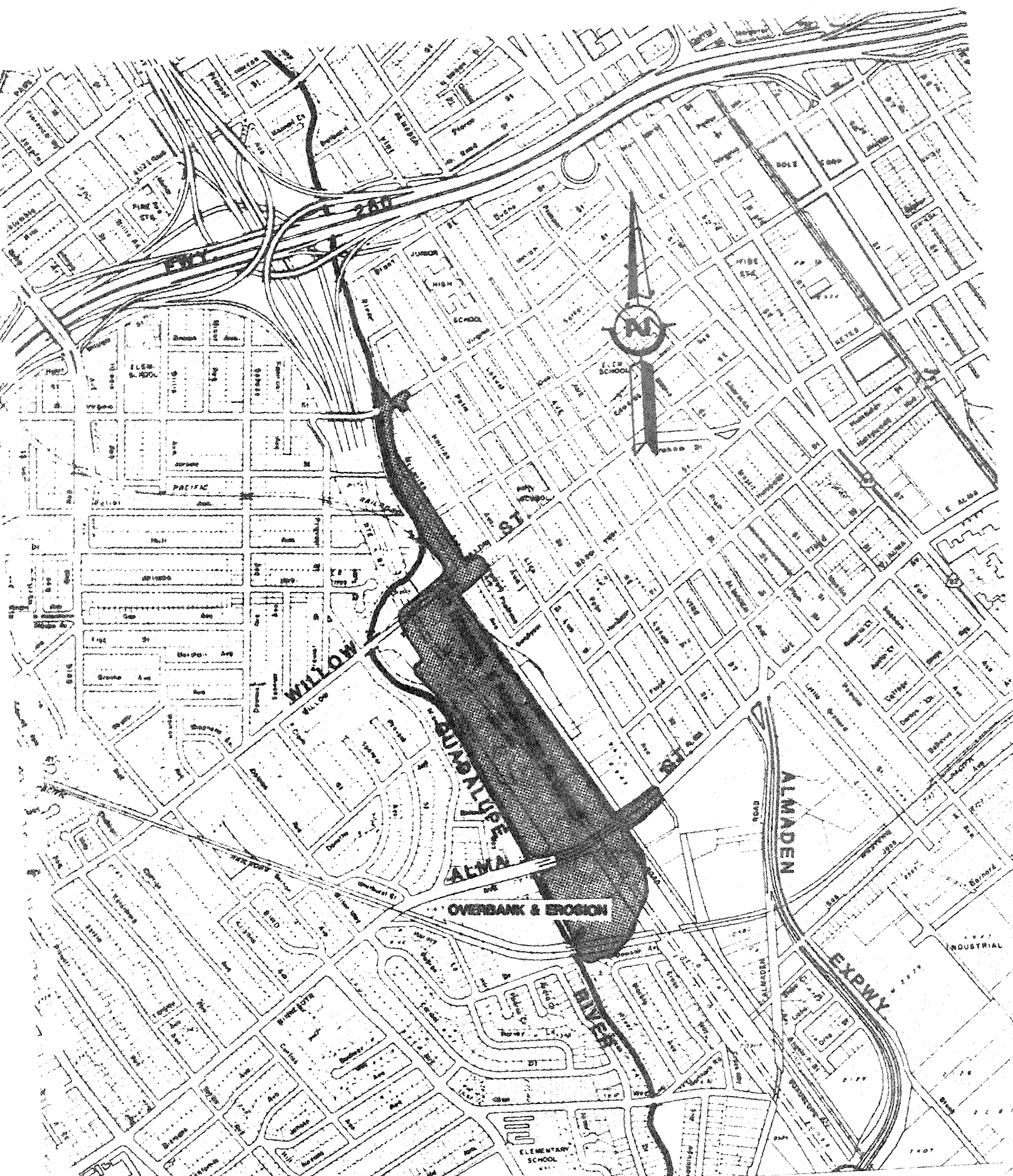
MARCH 31, 1982 FLOODING
UPPER PENITENCIA CREEK



MARCH 31, 1982 FLOODING
UPPER PENITENCIA CREEK
COYOTE CREEK



MARCH 31, 1982 FLOODING
LOWER PENITENCIA CREEK

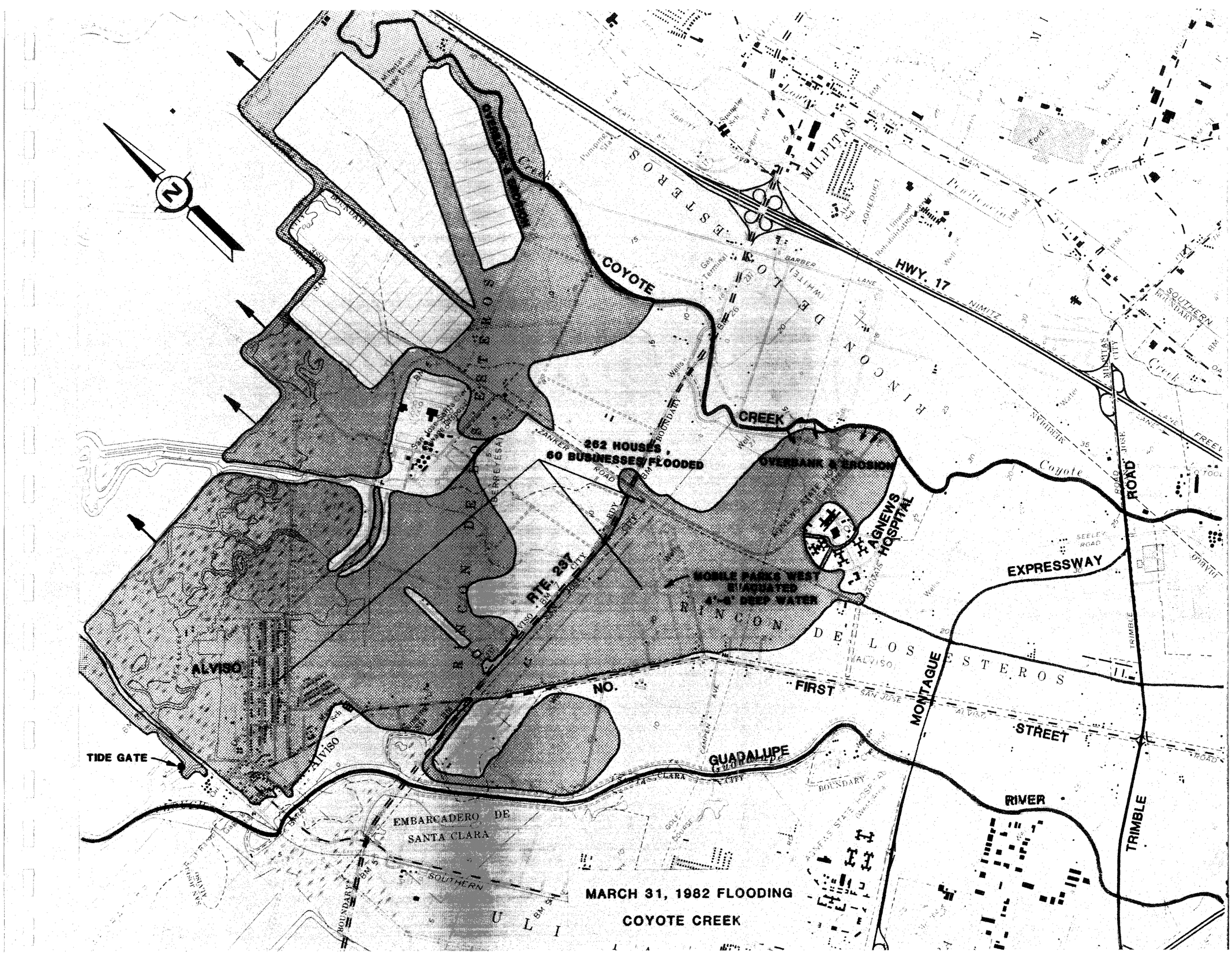


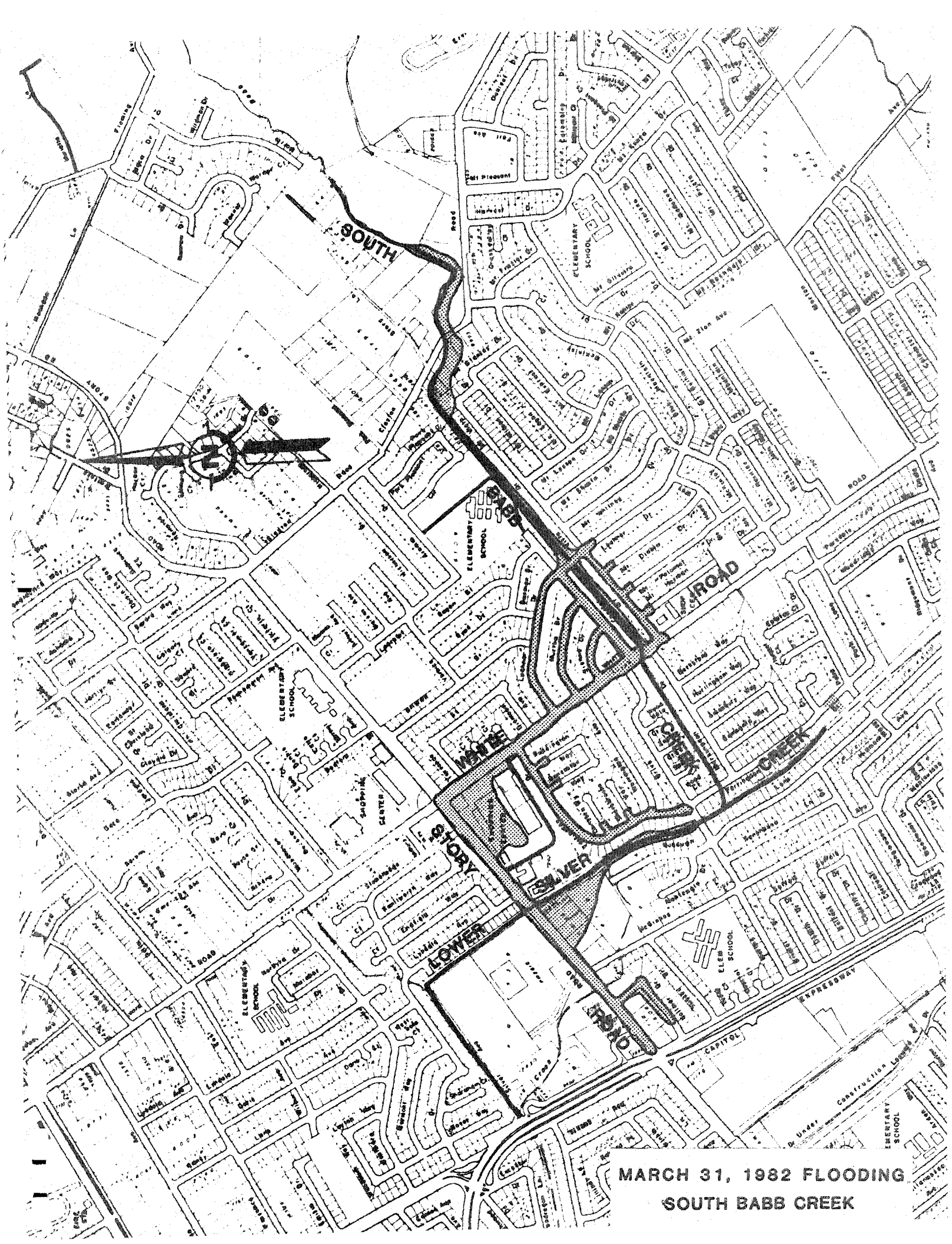
MARCH 31, 1982 FLOODING

GUADALUPE RIVER

MARCH 31, 1982 FLOODING

COYOTE CREEK


COYOTE
CREEK
HWY. 17
NIMITZ
FREEWAY
MILPITAS
262 HOUSES,
60 BUSINESSES FLOODED
OVERBANK & EROSION
AGNEWS HOSPITAL
MOBILE PARKS WEST
EVACUATED
4'-6' DEEP WATER
RTE. 237
EXPRESSWAY
ALVISO
TIDE GATE
NO. FIRST
STREET
GUADALUPE
RIVER
TRIMBLE
MONTAGUE
EMBARCADERO DE
SANTA CLARA
SOUTHERN
PACIFIC
RINCON DE LOS ESTEROS
MARCH 31, 1982 FLOODING
COYOTE CREEK

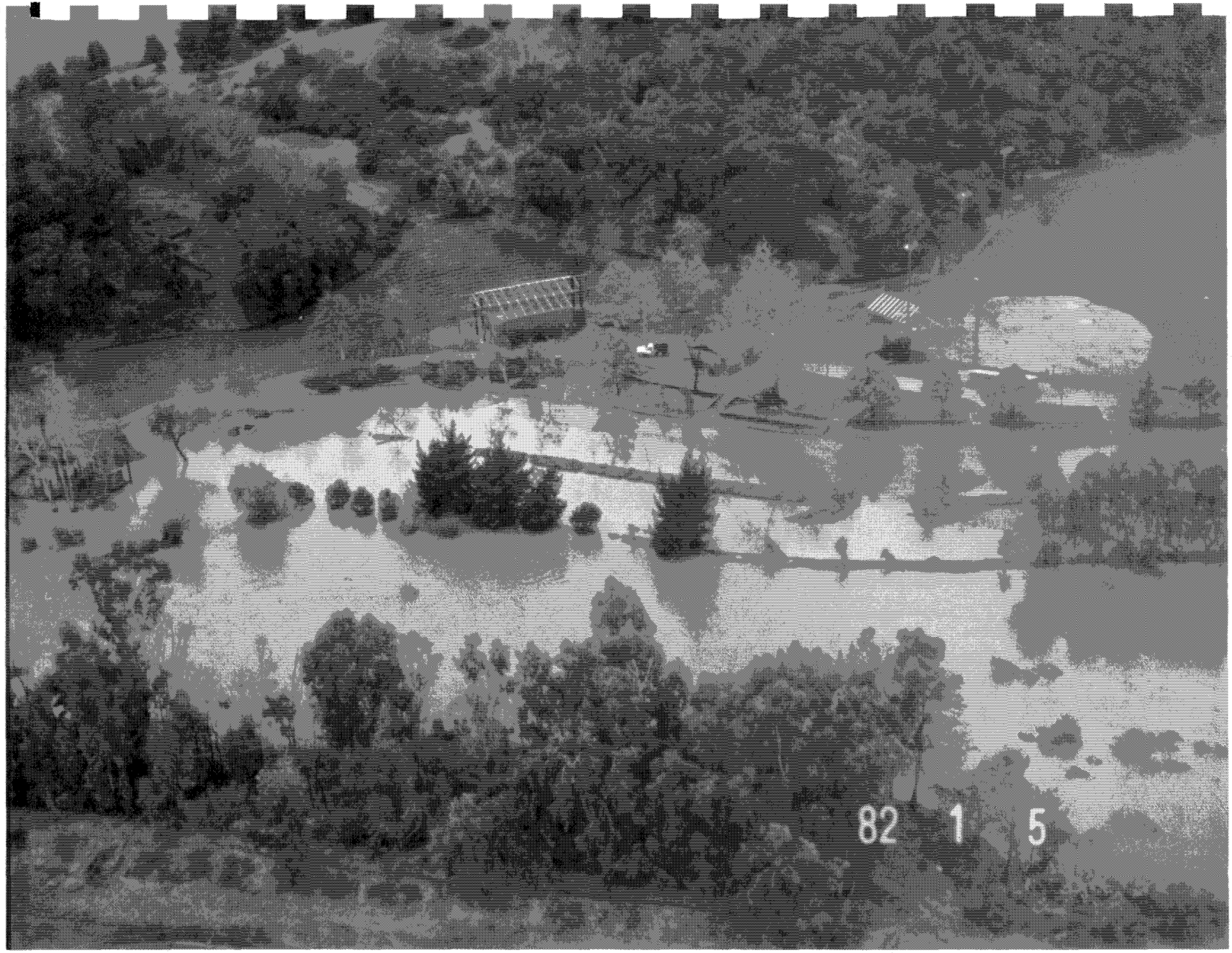


MARCH 31, 1982 FLOODING

SOUTH BABB CREEK

January 4, 1982 Flooding
Photographs

UVAS CREEK FLOODING MILLER AVE. CROSSING 1/5/82



UVAS CREEK FLOODING CHRISTMAS HILL PARK 1/5/82

UVAS CREEK FLOODING **SANDBAGS AT THOMAS RD. BRIDGE** 1/5/82

LLAGAS CREEK FLOODING BLOOMFIELD RD. 1/5/82

LLAGAS CREEK FLOODING GILROY SEWAGE FARM LEVEE BREAK NORTH OF BLOOMFIELD RD.

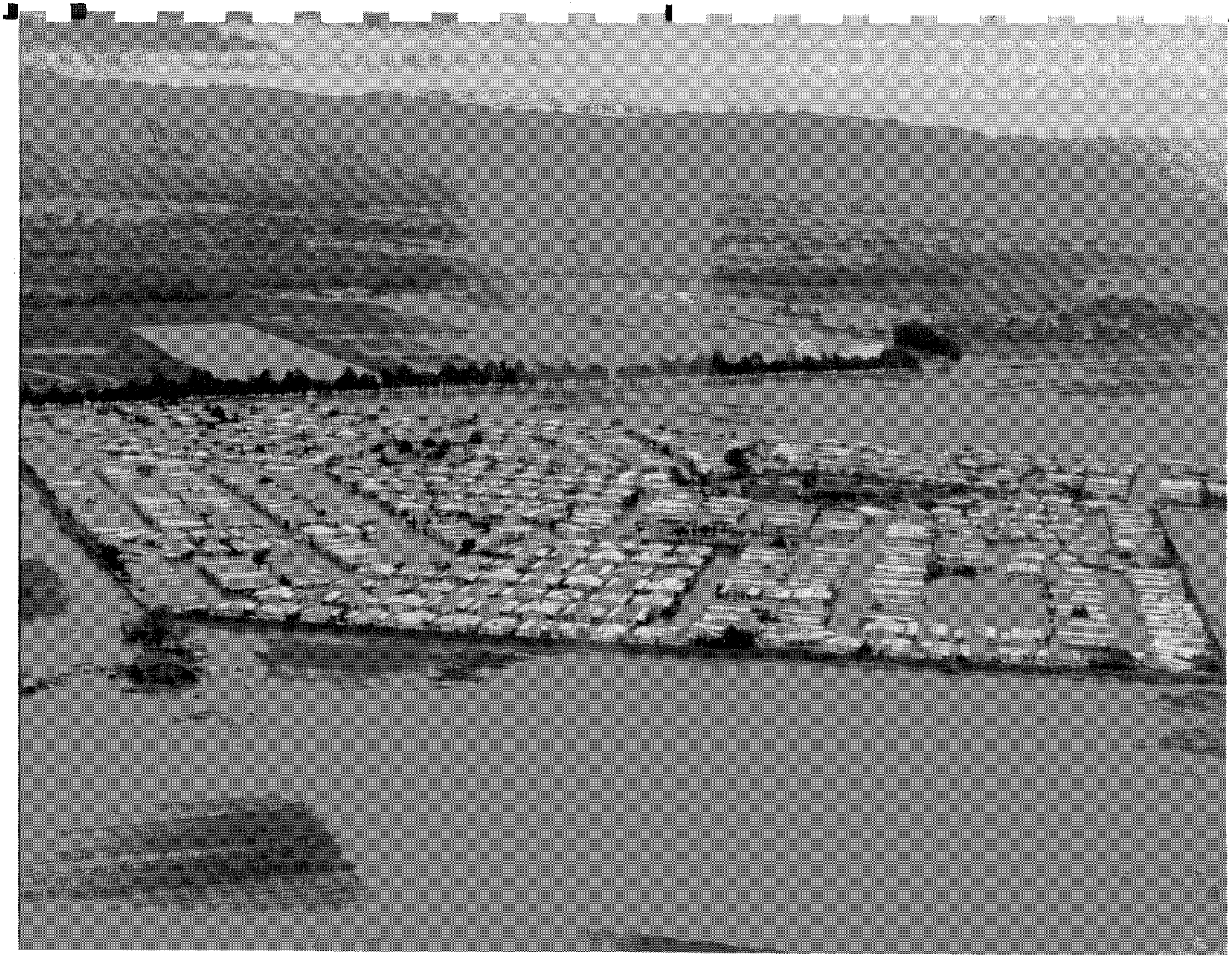
EDMUNDSON CREEK & WEST LITTLE LLAGAS CREEK FLOODING LA CROSSE DR. 1/4/82

March 31, 1982 Flooding
Photographs

LOWER PENITENCIA CREEK FLOODING ABBOTT AVE. NEAR REDWOOD AVE. 3/31/82

UPPER PENITENCIA CREEK FLOODING LOOKING DOWN LENFEST RD. FROM MABURY RD. 3/31/82

GUADALUPE RIVER FLOODING MC LELLAN AVE. BETWEEN WILLOW ST. & WEST VIRGINIA ST. 3/31/82



COYOTE CREEK FLOODING MOBILE PARKS WEST SOUTH OF ZANKER RD. 4/2/82

COYOTE CREEK FLOODING ALVISO 4/2/82