Avenue and Warren Road has been obliterated by agricultural operations. Consequently, floods of lesser magnitude than the 100 year floods would overflow existing drainage ditches in this vicinity. Tract developments in this area would be subject to flooding. Unnamed Wash "B" northwest of the San Diego Aqueduct frequently floods a large area north of the Atchison, Topeka and Santa Fe Railroad and west of Ryan Field. (See map 1 of project area and map 6, plate B.)

The Hemet Channel discharges into Salt Creek near Patterson Avenue. The unlined reach of this channel would be subject to erosion by high velocity floodflows.

Unnamed Wash "C", which originates in the Lake-View Mountains north of Winchester, joins Salt Creek near Patterson Avenue.

Any appreciable floodflows that overtop the railroad tracks from unnamed Wash "B" or unnamed Wash "C" would probably undercut the tracks, causing collapse. The railroad was damaged during the February 1969 flood.

Most of the homes in Winchester are safe from flooding from Salt Creek and its primary unnamed Wash "C" tributary. However, the school grounds may be flooded. From Winchester Road westward, floodflows would inundate much of the low lying valley. After crossing Lindenberger Road the floodflows pass through a narrow gap between the hills which would cause a backwater effect (ponding) upstream for about 1 mile.

From the gap at Lindenberger Road, runoff will flow southwest ponding behind U.S. Highway I15E and inundating much of the valley floor. About 4 square miles of Menifee Valley would be flooded

by the 100 year flood. The existing culverts across Highway I15E are capable of discharging only relatively low flows. The 100 year flood or greater floods would overtop Highway I15E and interrupt traffic on this major north-south route. However, the State of California, Department of Transportation now plans to construct a bridge over Salt Creek Channel. When that structure is completed I15E will no longer be a barrier to surface water flow.

There are no existing bridges across Salt Creek, only a few low capacity culverts, which are insignificant with respect to conveying major floodflows through road embankments. Downstream areas benefit temporarily from the ponding of water upstream of obstructing embankments because outflow quantities are reduced to the discharge capacities of the culverts. The 100 year floods will overflow the roadway embankments at Winchester Road and at Highway I15E until the bridge is constructed. In the planning of flood control facilities, consideration should be given to the whole Salt Creek Basin; otherwise the correction of a problem at one location may create a new problem at another location.

Occurrence of 100 year floods would result in velocities of flow shown in Table 7. During a 100 year flood the average maximum velocity of flow in the valley swales would range from 2 to 3 feet per second; in the Hemet Channel the velocity would range from 12 to 15 feet per second; and in the improved Salt Creek Channel west of Highway I15E the velocity would range from 5 to 6 feet per second. Floodflows with

velocities of 2 feet per second or less will deposit debris and silt. Water flowing at velocities ranging from 5 to 10 feet per second can erode earth embankments of roads that obstruct floodflows. Velocities in excess of 10 feet per second will cause severe erosion to excavated channels in sandy soils.

Water flowing intermittently through the Hemet and Salt Creek drainage systems is discharged into the Railroad Canyon Reservoir. The water quality in terms of total dissolved solids varies from 130 to 800 mg/l. Chemical composition of the water is shown in Table 8.

TABLE 7

VELOCITY OF WATER[4]

Stream and Location	Miles Above Mouth	100 Year Flood Velocity Channel fps	100 Year Flood Velocity Overbank fps
Salt Creek Downstream limit of the Project Area	0.0	*	6
At Bradley Road	3.2	7	2
At Lindenberger Road	6.0	*	3
Downstream from Lyon Avenue	15.9	*	3
Upstream limit of study	19.1	*	5

* No well defined channel.

TABLE 8

SURFACE WATER QUALITY (mg/l)

Constituents	Hemet Channel [a]	Salt Creek [a]		Railroad Canyon Reservoir [b]
Date:	9-20-76	3-7-52	1-14-69	1-12-77
pH (Acidity)	8.0	7.8	7.1	8.1
Ca (Calcium)	62.0	43.0	17.0	84
Mg (Magnesium)	7.0	11.0	4.0	30
Na (Sodium)	40.0	50.0	11.0	112
K (Potassium)	8.6	2.9	5.0	8
CO_3 (Carbonate)	0	0	0	0
HCO_3 (Bicarbonate)	165.0	73	39	162
SO_4 (Sulfate)	95.0	64	35	285
Cl (Cloride)	27.0	100	10	103
NO_3 (Nitrate)	9.0	3	4	2
F (Flouride)	0.90	-	0.2	0.3
Boron	0.05	0.05	-	0

(a) Data obtained from Riverside Flood Control and Water Conservation District

(b) Data obtained from Elsinore Valley Municipal Water District.

\- No Data

3.2.1.2 Ground Water

Because of its size, complexity and the need for localized information, the Salt Creek basin, which underlies the project area, is divided for convenience into the Hemet, Winchester and Menifee sub-basins. The water bearing portions of these subdivided basins are in hydraulic continuity except at the Casa Loma fault extending in a southeasterly direction near Park Hill, which forms the boundary separating the Hemet and San Jacinto water basins.
The water levels within these basins dropped considerably between 1922 and 1964, due to increased extractions as a result of rapid growth and improvement in the standard of living as well as increased agricultural use. The rate at which the water levels dropped varies from one sub-basin to another, as well as within a single sub-basin.

The ground water is generally between 50 and 170 feet below the ground surface, except a local area northwest of the community of Winchester where water levels range about 20 feet below ground surface. A significant ground water depression is located east of Winchester, possibly resulting from overpumping in that area. Recent measurements, however, indicate much of this depressed water table is rising due apparently to recharge from adjoining basins or a decrease in ground water withdrawal.[5] (See map 5)

Ground water quality in the study area ranges from 171 to 6855 mg/l TDS. These variations are shown on map 4, by four different zones. Maps 4 and 5 were prepared in 1968 and 1964 respectively and represent the most recent overall picture for the region.

Ground water having less than 1000 mg/l TDS comprises about 85 percent of the ground water bearing area. The chemical composition of the ground water used for domestic and irrigation purposes, is listed in Table 9 for different sub basins in the study area.

3.2.2 Environmental Impacts

3.2.2.1 Drainage

The objective of this project as defined earlier in this report is to control surface water resulting from major storms. To assess the impact of this project upon surface water is, in essence, to describe the prososed project which has already been accomplished in Section 2.0. Yet, there are some impacts both beneficial and negative which will not be addressed except in this category and we, therefore, include the following:

(a) Beneficial Impacts

(1) Surface water collection and removal in the project area would be accomplished efficiently and without eroding away soil. Surface water delivered downstream from the project area would be of better quality at least from the standpoint of turbidity.

(2) Other natural water courses which drain into the Salt Creek Channel but are not scheduled for improvement under this project would be afforded a more adequate outlet for the surface water collected with the result that flooding in those reaches might be prevented.

(b) Significant Unavoidable Adverse Impacts

In order to confine storm water within the open channels to be constructed under this project it would be necessary, in certain low, flat areas to construct channel embankments higher than adjacent land. This would

TABLE 9

UNDERGROUND WATER QUALITY IN SALT CREEK BASIN (mg/l)

Constituents	Hemet Basin		Winchester Basin		Menifee Basin
	1974 -- 1976		1974 -- 1976		1975 - 1976
	Domestic	Irrigation	Domestic	Irrigation	Irrigation
pH (Acidity)	7.2 - 8.7	6.8 - 7.6	7.3 - 8.6	7.1 - 8.9	6.3--8.0
Ca (Calcium)	60 - 116	60 - 116	56 - 85	64 - 110	147--403
Mg (Magnesium)	6 - 23	14 - 23	1.1 - 17	21 - 35	54--130
Na (Sodium)	61 - 92	69 - 95	70 - 100	71 - 105	112--200
K (Potassium)	5 - 10	4 - 8.2	2.7 - 9	5 - 10	6--11
Co_3 (Carbonate)	0 - 8	0 - 6.6	0 - 8	0 - 8	
HCO_3 (Bicarbonate)	140 - 186	139 - 208	110 - 150	190 - 252	400--778
So_4 (Sulfate)	56 - 240	210 - 250	51 - 121	40 - 60	148--302
Cl (Cloride)	64 - 160	58 - 160	115 - 132	110 - 220	233--719
No_3 (Nitrate)	12 - 42	18 - 47	40 - 60	30 - 87	10-- 18
F (Flouride)	0.14 - 1.1	0.4 - 1.1	0.2 - 0.5	0.5 - 1.0	0.3--0.4
Boron	0 -0.60	0.60 - 0.68	0.05 - 0.24	0 - 0.51	0.09-0.60
Silica	-	-	-	-	-

Compiled from Ground Water Analysis by Riverside County Flood Control and Water Conservation District of individaul wells at various locations in the three basins.

be particularly true if the interim project is built. These embankments or levees would actually serve to impound water in some places and induce minor flooding in areas that might otherwise be fairly well drained.

(c) Significant Irreversible Impacts

(None)

(d) Short Term Versus Long Term Productivity

(See other categories) (not applicable)

(e) Growth Inducing Impacts

(Not applicable)

(f) Significant Cumulative Effects

(None)

3.2.2.2 Ground Water

(a) Beneficial Impacts

The completion of the project would afford more adequate protection against contamination from flooding of sanitary sewers.

(b) Significant Unavoidable Adverse Impacts

(1) It is conceivable that the construction of the project might, in a minor way, reduce the percolation of water into the ground-water reservoirs in the Menifee, Winchester and Hemet basins. The more efficient disposal of water following storms and the prevention of large scale ponding of water might have this effect.

(2) It is also conceivable that the distribution of storm water which percolates into the three basins might be slightly altered. The more efficient collection and transmission of storm water downstream might carry

a larger quantity of water to the downstream basin with a consequent loss in the Hemet and Winchester basins.

(c) Significant Irreversible Impacts

(None)

(d) Short Term Versus Long Term Productivity

(Not applicable)

(e) Growth Inducing Impacts

(Not applicable)

(f) Significant Cumulative Effects

(None)

3.2.3 Mitigation Measures

3.2.3.1 Drainage

To alleviate flooding in low flat areas the proposed project design proposes to provide openings in the embankments so that water can drain into the channel as soon as peak flows have receded.

3.2.3.2 Ground Water

Avoid the use of impervious clay and other materials in natural channels so that water can easily percolate into the soil.

3.3 Cultural Resources

3.3 CULTURAL RESOURCES

3.3.1 Environmental Setting

3.3.1.1 Archaeological and Historical Resources

The headwaters of the Salt Creek Basin originate at the 4,500-foot elevation of the northwest slope of Red Mountain about ten miles southeast of the City of Hemet. Runoff flows from brush-covered mountainous areas of the watershed to the alluvial valley floor. The natural stream pattern has become obscured by past agricultural practices and construction.

The natural drainage along most of the valley floor is poorly defined and ditches along roads have replaced much of the original pattern. Water is retained and appears on the surface along the drainage in certain locations. The first of these locations is near the south projection of Lyon Avenue at the east end of a low range of hills. Significant archaeological resources are understandably found at this locatation. The Salt Creek Drainage again encounters an obstruction by the very low hills located east of Rice Road and south of Olive Avenue, and again, archaeological resources exist. Near the intersection of Olive Avenue and Lindenberger Road, west of Winchester, Salt Creek is concentrated into the narrow gap between two ranges of low hills which force the water near the surface. Archaeological resources exist also at this location. Map 7 shows some of these sites in proximity to the proposed Salt Creek right of way. Most sites, however, are a fair distance removed from the proposed construction

Geologic mapping indicates that the proposed right of way crosses recent alluvium. The channel will also pass near outcrops of grandiorite and tonalite, and Paleozoic and Jurassic metasediments. These Jurassic rocks are metamorphosed members of the Bedford Canyon formation. Invertebrate fossils are uncommon in this portion of the formation because of metamorphism, but some have been found in recrystallized limestone on Double Butte[6]. Double Butte is north of Winchester and outside of the project area.

A field survey of the right of way showed that no sediments likely to contain significant paleontologic remains are apparent in the project area. It is possible that subsurface paleontologic values may be encountered during channel construction, although the probability is not great.

Pre-field research and on-site inspection indicate that significant paleontologic values will not be impacted by the development of the Salt Creek Channel. This assessment is based upon the surface expression of the sedimentology of the project area and its environs. It is possible that fossils may be encountered during construction in subsurface sediments whose presence was not expressed in surficial characteristics. If this is the case, and fossils are found during construction, it is recommended that a qualified paleontologist be contacted to evaluate such a discovery and to make further specific recommendations for mitigation based on significance.

The Salt Creek drainage area may have been occupied by a small human population that hunted and

gathered wild plants and animals for subsistence more than two thousand years ago. Even in late prehistoric times, the interior valleys and mountains of Southern California composed a region of light population in contrast to the hunters and gatherers of the Pacific coast and the floodplain agriculturalists and gatherers along the Colorado River.

This interior valley and mountains hunter-gatherer population was always balanced against the food producing capacity of the natural environment. The vegetation of the Salt Creek drainage area could be categorized into five biotic communities of grasslands, coastal sage, chaparral, marsh and alkali flats. The dominant plant species in the grasslands zone probably included rye grass, blue grass, bent grass, filaree, needle grass and triple-awned grass. Some of the grasses produced edible seeds, such as the triple-awned grass, which could be harvested during June, July and August. In fact, seeds from the various grasses were available from March through September. The seeds were probably gathered in baskets from the grasslands and carried to the edge of the hills and mountains where large granitic boulders were available to use as "grist mills" in reducing the seeds to flour for food consumption.

The dominant plant species in the costal sage zone included buckwheat, coastal sage, encelia, yellow penstemon, mule fat, bebbia, bee plant, wedge leaf, beaver-tail cactus, and deerhorn cactus. Both the buckwheat and coastal sage produced edible seeds between June and October.

Chapparal zones existed on some of the north facing slopes of the hills above Salt Creek. Chamise, sugar bush, yellow penstemon, mountain mahogany, redberry, scrub oak, interior live oak, hollyleaf cherry, laurel sumac, chia, nightshade, silver buckwheat cupweed, snapdragon, onion and black and white sages all existed in the chaparral zones. The seeds from the chia plant were especially nutritious and could be harvested from June through September.

Freshwater marsh zones existed along the Salt Creek drainage and not only provided a source of water but also the tule for house construction and cattail seeds for food. The marshes were bordered by alkali flat zones characterized by the growth of salt grass and salt bush plants that produced edible seeds.

During the prehistoric period a human population could exist in the Salt Creek drainage area by following a seasonal round of hunting the animals and gathering the native plants. Perhaps in the early spring tubers and greens with meat from rodents, deer, antelope and mountain sheep provided the diet for the human population. As spring progressed to summer, gathering activities shifted to flowers and seeds. In the fall the acorn crops were harvested, and the winter months brought flocks of waterfowl to serve as a meat supplement to the diet.

As a family band increased beyond the carrying capacity of a village area, perhaps a daughter would "move out" to start another family group in an outlying area.

The prehistory of the Salt Creek Drainage is only partially known at present, and most of what is known has come from archaeological investigations of sites outside the region. (See, for example, McCown, 1945, 1955: Meighan, 1954; True, 1958; Wallace, 1960, Warre, True and Endey, 1961). Only the report of preliminary archaeological work near Bernasconi Pass (Goodman and Raskoff, 1964), Excavations of the Christensen Webb-Site-Menifee Valley, (Kowta, Appleton, Harris, Lane and Singer, 1965), and the Perris Reservoir Archaeology (O'Connel, Wilke, King and Mix, 1974) pertain to the Salt Creek Drainage area. These investigations indicate a time span of more than two thousand years of man's exploitation of the natural food resources of the region before the first European explorer arrived.

In 1772, the Spanish soldier, Pedro Fages, travelled from San Diego to Monterey and travelled this general area on his way through the Cajon Pass in the San Bernardino Mountains. Two years later, Captain Juan de Bautista de Anza, crossed the valleys leading a party of thirty-four persons from the presidio of Tubac in Northern Mexico to Monterey, repeating the journey the following year with a larger group of settlers.
The diary of Father Pedro Font, who was a member of the second expedition indicates that the expedition passed within a few miles of the area and may have even crossed the Salt Creek Drainage near its present intersection with Highway I15E in Menifee Valley.

Father Pedro Font noted the Indians in the valleys who soon were to be known as Luiseno.

The Luiseno were a part of the very large Shoshonean linguistic family which included Cahuilla, Serrano, Gabrielino, and Juaneno of Southern California. They occupied the hills and valleys extending east and north from the Pacific Ocean between Cardiff by the Sea and San Onofre to the Santa Ana River at Riverside. At times there were conflicts with their Cahuilla neighbors over food gathering territories.

In 1798 the Mission of San Luis Rey was established and soon extensions of the mission reached Pala and Temecula. All the Indians associated with Mission San Luis Rey and the outposts and Ranchos of this Mission were called Luiseno.

Soon after Mexico won independence from Spain in 1822, the large mission lands were divided into ranchos with private ownership. The story of the decline in Indian population after the establishmention of the missions and ranchos in California is well documented. It is of interest to note that in the excavations associated with the Salt Creek Drainage area no european artifacts were reported. It is possible that the ancestors of the Luiseno departed from this particular region prior to the 1840's, but as yet not enough archaeological excavation has been accomplished to establish proof of this theory.

3.3.2 Environmental Impacts

The project will have no significant beneficial or adverse impacts upon cultural resources.

3.3.3 Mitigation Measures

(None considered necessary)

3.4 Bioecological Resources

3.4 BIOECOLOGICAL RESOURCES (Plant Life, Wildlife, Rare or Endangered Species)

3.4.1 Environmental Setting

The portion of the Salt Creek drainage under consideration follows along the bottom of a broad, flat valley system flanked by moderately high ranges of steep rocky hills. The stream is dry for the greater part of the year and only receives water from excessive precipitation or agricultural runoff. The watercourse has no distinct boundaries along most of its length and the entire valley bottom, including the streambed, is heavily cultivated with alfalfa and dry farm grain. This being the case, there is little natural vegetation or wildlife except rodents remaining in the area.

The section east of Leon Road is completely lacking in natural habitat and the wildlife here would be limited to several species adapted to an agricultural environment. Between Leon Road and Lindenberger Road to the west, the creek becomes somewhat more discernible, flowing through a narrow ditch lined by occasional thickets of Mulefat (Baccharis viminea), a few small Cottonwood trees (Populus fremontii), and small patches of Cattails (Typha sp.). Here also are a few temporary impoundments of runoff water which create some small areas of freshwater marsh. It appears, however, that most of the vegetation dies back during the dry summer months, preventing effective development of a permanent marsh habitat.

Immediately along the west side of Lindenberger Road the stream flows through a small pond and marsh which appears to have permanent water available and supports small populations of several bird species and perhaps some amphibians as well. In addition the pond most certainly provides feeding and resting habitat for numerous migrating and wintering birds. Most of the pond and marsh areas lie outside of the proposed channel right of way.

The remaining portions to the west of Lindenberger Road are essentially similar to the eastern section of the project, being heavily cultivated and lacking in natural habitat.

Stephen's Kangaroo Rat (Dipodomys stephensi), an endangered species, is known from this general region but prefers less disturbed areas and probably would not occur within the project boundaries. No other rare or endangered species are threatened.

LIST OF VERTEBRATES FOR SALT CREEK CHANNEL

This list includes those species which are definitely or are likely to occur in the study area. "x" indicates that the species was observed at the site. "b" indicates that the species probably breeds in the area.

Temporary and Permanent Pond and Marsh

	Eared Grebe	
	Pied-billed Grebe	
	Green Heron	
	American Bittern	
x	Mallard	b
	Gadwall	
	Pintail	
	Green-winged Teal	
x	Cinnamon Teal	b
	American Wigeon	
	Northern Shoveler	
	Ruddy Duck	
	American Coot	
	Sora	
x	Killdeer	b
	Common Snipe	
	Greater Yellowlegs	
	Least Sandpiper	
	Long-billed Dowitcher	
	Belted Kingfisher	
	Black Phoebe	b
x	Violet-green Swallow	
x	Tree Swallow	
x	Rough-winged Swallow	b
x	Barn Swallow	
x	Cliff Swallow	
x	Long-billed Marsh Wren	b
	Common Yellowthroat	b
x	Red-winged Blackbird	b
	Lincoln's Sparrow	
x	Song Sparrow	b
	Pacific Treefrog	b
	Western Toad	b

Cultivated Fields, Old Fields, Brushy Edges, Residential

	Turkey Vulture	
x	Sharp-shinned Hawk	
	Cooper's Hawk	
x	Red-tailed Hawk	
x	Marsh Hawk	
x	American Kestrel	
x	Killdeer	b
x	Rock Dove	b
x	Mourning Dove	b
	Barn Owl	b
	Burrowing Owl	b
x	Western Kingbird	b
x	Say's Phoebe	
x	Horned Lark	b
x	Common Crow	b
x	Common Raven	
	Mountain Bluebird	
x	Water Pipit	
x	Loggerhead Shrike	b
X	Starling	b
x	House Sparrow	b
x	Western Meadowlark	b
x	Brewer's Blackbird	b
	Brown-headed Cowbird	b
x	House Finch	b
	American Goldfinch	
	Lesser Goldfinch	b
x	Lawrence's Goldfinch	b
x	Savannah Sparrow	
	Vesper Sparrow	
	White-crowned Sparrow	
	Black-tailed Jackrabbit	b
	Audubon Cottontail	b
x	Beechey Ground Squirrel	b
	Botta Pocket Gopher	b
	Deer Mouse	b
	Calif. Meadow Mouse	b
	House Mouse	b
	Coyote	
	Striped Skunk	b
	Western Alligator Lizard	b
	Side-blotched Lizard	b
	Western Fence Lizard	b
	Gopher Snake	b

3.4.2 Environmental Impacts

Most of the pond and marsh areas lie outside the proposed project limits. Those areas which fall within the project area will reappear in an altered form within the soft bottom of the proposed Salt Creek Channel after the construction process. The soft bottom channel would be constructed on a very flat shape which will create meandering low flow channels, some ponding of water and opportunities for the replacement of the marsh environment displaced on an even larger scale.

Since the proposed project will collect and channel water from the large drainage area to a more confined area within the proposed channel greater opportunities exist for supplying water flows year-round. Irrigation runoff and other water flows directed to the storm drain system would have an opportunity to reach the Salt Creek stream bed on a regular basis.

Pond and marsh areas within the project limits will be lost temporarily during construction. The construction activity will be greatly reduced during the rainy season thereby mitigating any disruptive impact on the pond and marsh areas surrounding the immediate project area. Once the project is completed the animal population will return to the project area since the flood control channel with its natural soft bottom will provide ample opportunity for re-establishment of the habitat without the seasonal disruptive impact of adjacent agricultural activity.

The temporary loss of a relatively small area of pond and marsh land will not seriously impact on migrating and wintering birds since the proximity of the Railroad Canyon reservoir provides a more secure and predictable feeding and nesting habitat.

3.4.3 Mitigation Measures

Construction activity should, whenever possible, be confined to the actual right of way of the project. Haul roads and access to the project should be confined to the present road pattern. If additional access routes are needed, their location should be planned with ample clearance from permanently established marsh areas. Any construction planned should avoid the blockage of any natural flow to any established marsh area.

3.5 Air Resources

3.5 AIR RESOURCES

3.5.1 Environmental Setting

Southern California climate varies considerably through any given region. The climate in the study area is characterized by hot summers and moderate winters. The climatological data, such as temperature and rainfall recorded during the 1975 calendar year, at the weather station in Hemet and San Jacinto areas are listed on page 3-30. Temperature variations for the City of Hemet were not available, although it is assumed that temperature range would be similar to that of the San Jacinto area. The average annual maximum temperature for the City of San Jacinto is 80.2°f and the average minimum is 45.1°f. The average annual rainfall for the cities of Hemet and San Jacinto are 10.88 inches and 11.68 inches respectively.

Generally wind velocity is 1 to 4 miles per hour (mph) from the south and west direction. Wind direction changes occasionally. Early in the morning and late evening average wind is 4 mph and rarely 9 to 13 mph. The study area is characterized by gentle winds for most of the year.

The air quality within Riverside County is monitored at nine locations. One of these stations is located in the City of Hemet and one is in Perris. These two stations lie on the north side of the basin about 20 miles apart. In the past, air quality was monitored for ozone levels and photochemical oxidants only. Recently carbon monoxide concentrations have also been measured and data are available only from April 1976 for the City of Hemet and from August 1975 for the City of Perris. No data is available for oxides of nitrogen and sulfur dioxide. Ambient air concentration of these pollutants are not considered a present problem in the study area by Riverside County Air Pollution Control District and it is fairly reasonable to assume that air quality is good with respect to these pollutants.

TABLE 10

CLIMATOLOGICAL DATA FOR THE SALT CREEK BASIN [7]

MONTH	Temperature (San Jacinto)		Precipitation (San Jacinto)		Precipitation (Hemet)	
	1975 Av. Temp °F.	Long R. Av. °F.	1975 (in.)	Long R. Av. (in.)	1975 (in.)	Long R. Av. (in.)
January	51.2	49.3	0.15	2.0	0.14	1.87
February	50.4	51.4	1.46	1.92	1.38	1.15
March	52.6	53.7	3.93	1.96	3.4	1.78
April	53.0	58.8	2.29	1.18	2.30	1.19
May	64.3	64.4	0.28	0.24	0.11	0.20
June	69.4	70.2	0.00	0.04	0.00	0.03
July	76.9	77.7	0.06	0.12	0.00	0.12
August	75.0	77.5	0.00	0.23	0.00	0.23
September	76.1	73.6	0.14	0.31	0.00	0.35
October	63.4	64.9	0.24	0.52	0.10	0.46
November	56.9	55.9	1.17	1.41	1.19	1.30
December	51.4	50.4	0.48	1.75	0.41	1.60
Annual Aver.	61.7	62.3	10.2	11.68	9.03	10.88

TABLE 11-A

HEMET AMBIENT AIR QUALITY - 1976 (a)

Pollutant	JAN	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR
OZONE													
Days (a)	0	2	4	8	8	15	18	4	2	3	4	0	68
Hours (c)	0	4	12	27	29	56	66	12	6	8	9	0	229
Highest hourly average (PPm)	0.08	0.11	0.11	0.14	0.15	0.17	0.19	0.14	0.12	0.16	0.17	0.07	0.19
CARBON MONOXIDE													
Days (b)	d	d	d	0	0	0	0	0	ND	0	0	0	0
Hours (c)	d	d	d	0	0	0	0	0	ND	0	0	0	0
Highest hourly average (PPm)	d	d	d	4	4	4	4	6	ND	8	4	7	8

a. Source: Southern California Air Pollution Control District

b. Number of days California Standard exceeded

c. Number of hours California Standard exceeded

d. No Data Available

TABLE 11-B

1975 AIR QUALITY [a]

AROUND SALT CREEK BASIN

	HEMET	BANNING	PERRIS
OZONE			
No. of adverse days [b]	70	109	162
No. of adverse hours [c]	265	670	915
Highest hourly average (PPm)	0.19	0.28	0.22
CARBON MONOXIDE			
(July through December 1975)			
No. of adverse days [b]	d	0	0
No. of adverse hours [c]	d	0	0
Highest hourly average (PPm)	d	6	7
OXIDES OF NITROGEN			
No. of adverse days [b]	d	d	d
Highest hourly average [c]	d	d	d
SULFUR DIOXIDE			
No. of adverse days [b]	d	d	d
No. of adverse hours [c]	d	d	d
Highest hourly average (PPm)	d	d	d
SUSPENDED PARTICULATE MATTER			
No. of adverse days	5	d	d
Highest daily average (mg/m^3)	d	148	d

a Source: Southern California Air Pollution Control District

b Number of days California standard exceeded

c Number of hours California standard exceeded

d No data available

A comparison of the ambient air quality monitored at the City of Hemet during 1976 to California Air Resources Board standards is given in Table 11-A. The table indicates that the Hemet area has little ozone problem. Although not shown, ambient air concentration of particulate matter did not exceed the California Air Quality standards during 1975 and 1976.* The air quality monitored at Hemet, Perris and Banning Station around Salt Creek Basin is shown in Table 11-B for the calendar year 1975.

* SCAPCD records on file

The estimated daily vehicle-miles travelled in the study area will more than double by 1990 (920,000 in 1977 to 2,040.000 in 1990) if fully anticipated development is allowed to take place. This will not necessarily result in a decrease in air quality in the area. The reason for this is that emission factors for many pollutants decline as the percentage of newer cars which must meet more stringent pollution controls increases. The Environmental Protection Agency provides emission factors (see Table A) based on the pollution generated by the average automobile on the highway for the years listed. Based on these factors the present and future vehicular emissions in the project area can be estimated. (see Table B).

For Example:

Estimated carbon monoxide emissions in 1977 =

$$\frac{920{,}000 \text{ vehicle miles/day} \times 36.0 \text{ grams/mile}}{454 \text{ grams/pound}} = 72{,}950 \text{ pounds/day}$$

For 1990 = $\frac{2{,}040{,}000 \times 14.0}{454}$ = 62,910 pounds/day

As Table B shows atmospheric emissions of carbon monoxide and hydrocarbons would decrease and nitrogen oxides, particulates and sulfur oxides would increase. As stated before, although no data on oxides of nitrogen and sulfur are available they are not considered a present problem. Particulates have not exceeded California Air Quality Standards during 1975 or 1976.

3.5.2 Environmental Impacts

Whether the project will have a significant impact on air quality depends upon two factors; 1) the standards for ambient levels of individual pollutants that exist in future years and, 2) the level of development allowed by municipal and county governments. A direct impact on air quality will result from the construction phase of the project. This is discussed in another section of the report.

3.5.3 Mitigation Measures

Mitigation measures, should they be necessary, include the use of zoning ordinances and general plan elements of the City of Hemet and Riverside County to control growth to a level appropriate to preserve air quality in the area.

TABLE A

EMISSION FACTORS

	1977	1980	1990
Carbon Monoxide	36.0	22.0	14.0
Hydrocarbons	4.6	2.93	1.98
Nitrogen Oxides	4.2	3.1	2.2
Particulates	9.58	0.58	0.58
Sulfur Oxides	0.20	0.20	0.20

Emission factors are in grams per vehicle mile travelled.

TABLE B

	1977	1990
Carbon Monoxide	72,950	62,910
Hydrocarbons	9,320	8,900
Nitrogen Oxides	8,510	9,890
Particulates	1,180	2,610
Sulfur Oxides	410	900

Emissions in LB./Day

3.6 Land Use

3.6 LAND USE

3.6.1 Environmental Setting

3.6.1.1 Existing Land Use (See map 9)

Existing land uses within the combined project area primarily consist of agricultural uses largely devoted to crop production. Some poultry and dairy industry is also present. The Flood Plain area is characterized by small farms, with residential developments occurring in the Hemet, Winchester and southerly Sun City areas.

For the purposes of description, the Salt Creek Flood Plain will be divided into two areas. Area 1 will be from the greater Hemet area to the easterly limits of Winchester. Area 2 will be from Winchester to Highway I15E.

Area 1: The Hemet area is characterized by residential and commercial land uses. Also, located within the area are two parks, two golf courses, Ryan Field Airport and open space areas, either committed to agricultural use or vacant. A neighborhood commercial center is located at the intersection of State Street and Stetson Avenue. Zoning in the area varies with the commercial areas; Neighborhood Commercial (C-1), General Commercial (C-2), and Heavy Commercial-Light Manufacturing (C-M), primarily located along Florida Avenue (Highway 74). C-1 zoning is also located at the intersection of State Street and Stetson Avenue. Residential uses, including mobile home subdivisions are located throughout the area with the Residential Agricultural (R-A) zones generally located westerly of Lyon Avenue and the Single Family (R-1), Two Family (R-2) and Multiple Family (R-3) residential areas generally being located west of State

and east of Lyon Avenue. Mobile Home Subdivisions (TR-20) are designated in the areas east of Palm Avenue and south of Whittier Avenue, south of Stetson Avenue at Seven Hills Drive and the area southeast of Menlo Avenue and Lyon Avenue.

Manufacturing zones (M-1 and M-2) are designated for the areas south of Stetson Avenue and west of Sanderson Avenue and south of Acacia Avenue between Gilmore Street and Palm Avenue.

An Atchison, Topeka and Santa Fe (A.T.& S.F.) Railroad line enters the project area near the intersection of State Street and Florida Avenue. The railroad line then traverses diagonally across the city into the Salt Creek Flood Plain area. Directly west of the Hemet city limits is Ryan Field Airport and some industrial area. Zoning in this area is Light Manufacturing (M-1) between Florida Avenue and the Airport with the Airport area zoned for Rural-Residential uses (R-R). From the airport west to Winchester, the land use is primarily agriculturally oriented with scattered farms located at various points within the area. The Metropolitan Water District, San Diego Aqueduct bisects the area between the City of Hemet and Winchester (running north-south through the project area) near California Avenue.

Zoning designations within this area are primarily Heavy Agriculture (A-2), with an area of Controlled Development (W-2) located between the MWD canal and Winchester. Some small areas of Residential Agriculture (RA) are also located south of Simpson Road.

Area 2: West of Area 1 is the community of Winchester. Winchester is a small residential agriculturally oriented area (with Rural-Residential (R-R) zoning primarily consisting of single family residences and farm buildings. A small commercial area is located at the intersection of Winchester Road (Highway 79) and Simpson Road. The community is bisected by Winchester Road (north-south) and Simpson Road (east-west).

The A.T. & S. F. Railroad line continues west through the northerly portion of Winchester to approximately Leon Road where it leaves the Salt Creek Flood plain and travels northwesterly to Romoland and the Perris Valley area.

West of Winchester are two stands of mature eucalyptus trees adjacent to Simpson Road. The remaining area between Winchester and Highway I-15E is primarily devoted to agricultural crop uses, with the exception of a large dairy operation located adjacent to Simpson Road, and several poultry farms located throughout the flood plain area. Southerly of the interesection of Lindenberger Road and Newport Road is a large stand of mature eucalyptus trees, as well as additional crop lands. An Edison Company substation is located adjacent to Newport Road, approximately one mile east of Highway I15E.

Zoning in the area primarily consists of Rural-Residential (R-R) with Light Agriculture (A-1) zoning located west of Winchester near Simpson Road at its intersection with Leon Road and Briggs Road, a Mobilehome Park (R-T) zone, located south of Patton Avenue and east of Leon Road, Light Agriculture with Poultry (A-P) near

Lindenberger Road and Olive Avenue, and Controlled Development (W-2) and Watercourse, Watershed, and Conservation Areas (W-1) located southerly of Simpson Road, Between Lindenberger Road and Menifee Road. A small area of Rural-Residential with Advertising (R-R-O) is located southerly of Newport Road near its intersection with Highway I15E. Much of the area roughly bounded by Highway I15E on the west, Grand Avenue on the north, Lindenberger Road on the east, and Holland Road on the south, is designated as Winchester Agricultural Preserve No. 22

3.6.1.2 Development Trends

Development trends in the area largely depend upon the development of this project. The Salt Creek Channel Conceptual and Preliminary Engineering Plan, prepared by Neste, Brudin and Stone, Inc., indicates "a lack of protection from flood waters has undoubtedly adversely affected the growth rate of the Salt Creek Basin." The Plan continues by indicating, "The general development of the Salt Creek drainage basin for other beneficial uses is dependent upon the construction of a flood control channel for protection against flooding during major storms."

The Salt Creek project area is located within the 100 year flood limit zone. Riverside County's subdivision ordinance prohibits the county from approving subdivisions within the 100 year flood limit. Therefore, future development of the area may be limited to agricultural uses.

Therefore, future development of the area will be limited to primarily agricultural uses unless method of controlling the flood waters are implemented.

3.6.2 Environmental Impacts

(a) Beneficial Impacts

One major benefit of the Hemet Area Master Drainage Plan and Salt Creek Improvements would be to allow for future development in areas presently subject to flood inundation. Certain areas are presently subject to city and county ordinances restricting subdivision development within a 100 year flood plain zone. The construction of the Salt Creek channel will ultimately remove this restriction allowing growth to occur in accordance with the General Plan for the area.

(b) Significant Unavoidable Adverse Impacts

No unavoidable adverse effects to land use in the area are expected as a result of the Hemet Area Master Drainage Plan and Salt Creek improvements.

By implementing the land use and planning controls (e.g., adopted general plans, land use policies, and zoning designations) available to the County of Riverside and City of Hemet, uncontrolled growth will be prevented.

An unavoidable loss of agricultural croplands within the Salt Creek channel right-of-way would occur with the construction of the channel. This impact, however, is expected to be of minor significance.

(c) Significant Irreversible Impacts

The Hemet Area Master Drainage Plan and Salt Creek improvements would result in a commitment of land, presently used for agriculture to flood control and drainage improvements.

This land resource commitment will not have a direct significant irreversible effect upon the environment. With the application of proper land use controls, no significant irreversible impacts resulting from this project are anticipated.

(d) Short Term Uses Versus Long Term Productivity

Construction of the Hemet Area Master Drainage Plan and Salt Creek improvements is justified at the earliest possible time to prevent the future re-occurrence of flood damage to land uses in the Hemet and Salt Creek areas. On a short term basis, these improvements would protect cropland, residential and other land uses while committing a portion of the Salt Creek flood plain for flood control and drainage purposes.

In terms of long term productivity, to area land uses, these flood control and drainage improvements would provide the opportunity for future recreational developments within the Salt Creek channel.

(e) Growth Inducing Impacts

The Hemet Area Master Drainage Plan and Salt Creek Improvements would have a growth inducing impact upon the Hemet and Salt Creek flood plain areas. At present, most of the development in these areas is restricted by flood hazard and zoning to agricultural type land uses. Both Riverside County and the City of Hemet restrict subdivision growth within the 100 year flood zone. In addition, areas on the fringe of the 100 year flood zone must provide adequate flood control and drainage improvements to insure safety from flood hazards.

The development of the Salt Creek flood control improvements would ultimately remove the southwest Hemet area and most of the Salt Creek basin from the 100 year flood zone restriction and provide for the possibility of subdivision development. Such development would require the extension of community services from the City of Hemet to the new subdivisions.

Discussions with Riverside County and the City of Hemet planning staffs indicate that urban growth in the southwest Hemet and Salt Creek areas would probably occur as extensions of existing urban areas rather than in scattered developments throughout the outlying undeveloped area. Little development west of Winchester is anticipated because much of that area is located in agricultural preserve.

Subdivision development that does occur within the Salt Creek flood plain will likely be low density, in accordance with existing zoning and the Hemet/ San Jacinto Area General Plan (e.g., low density single family residences). Additional development than that allowed by existing zones and the General Plan would require a zone change and amendment to the General Plan. Because of existing planning and land use controls governing the use of the Salt Creek flood plain, it is anticipated that the growth inducing impact of the channelization would be adequately controlled by the appropriate governmental jurisdictions.

Urbanization around the Hemet area is anticipated to develop in accordance with the Hemet-San Jacinto Area General Plan, with the south portion of the Hemet area (below Stetson Avenue) affected by the Salt

Creek flood control improvements. The existing and proposed improvements provided in the Hemet Area Master Drainage Plan and Salt Creek improvements, however, may induce growth to a certain extent in the west and east Hemet area.

Most of the undeveloped areas are zoned for residential agricultural or low density residential uses and development should conform to the area General Plan. Growth in and adjacent to the City of Hemet would probably coincide with the completion of the drainage improvements and would require the extension of public services.

(f) Significant Cumulative Effects

None.

3.6.3 Mitigation Measures

An impact that could occur as a result of the project would be the stimulus for growth within the Salt Creek flood plain and Hemet areas. With the removal of the flood hazard from a 100 year flood in the area, the land could be subject to the development of different uses and densities than presently zoned for or planned in the Land Use, and Open Space and Conservation Elements of the Riverside County General Plan or Land Use Element of the Hemet/San Jacinto Area General Plan. To mitigate against this occurrence, adherence to the adopted zone designations, policies and General Plan Elements by the Riverside County Board of Supervisors and the Hemet City Council for areas under their respective jurisdictions would provide for a well regulated and planned future growth in the affected area. This would promote the orderly growth of the area, including adequate provisions for the community services required with the development of any area.

3.7 Open Space, Parks and Recreation

3.7 OPEN SPACE, PARKS AND RECREATION

3.7.1 Environmental Setting

3.7.1.1 Existing Facilities

Existing park and recreational facilities within the project area include Harvey Gibbel Park, the Farmer's Fair State Fairgrounds, a state-owned park area immediately south of the Fairgrounds, the nine-hole private golf course in Panorama Village, and the eighteen-hole public golf course in the Seven Hills residential community.

Harvey Gibbel Park is a 10-acre park facility located on Florida Avenue and Kirby Street. The park provides neighborhood recreational facilities including open space passive use areas, children's play apparatus areas and a baseball field. The Farmer's Fair State Fairgrounds are located on Florida Avenue at Palm Avenue and provide facilities for various types of shows (e.g., dog shows, horse shows) and similar events, as well as the annual fair activities held each August. Directly south of the Fairgrounds is a 5± acre state-owned parcel of land currently utilized for organized youth baseball activities. The site is presently developed with two baseball diamonds which are operated and maintained by the Hemet/San Jacinto Youth Baseball Association.

The privately owned Panorama Village Golf Course is a nine-hole facility open only to residents and guests of Panorama Village. Seven Hills Golf Course is located in the Salt Creek flood plain, south of Stetson Avenue. This is a privately owned eighteen-hole facility, open to the public and consists of approximately 190 acres.

Recreational services for the project area are provided by the Valley Wide Recreation District. This District serves the San Jacinto/Hemet areas, as well as the community of Winchester, with a variety of recreational programs. Programs provided by the District include organized sports activities (e.g., baseball and softball leagues, basketball, flag football), playground activities on school grounds, drama festivals, pet shows, excursions to points of interest and other programs designed to involve the area residents in varied types of recreational activities.

Although not actually located within the project area, there are two regional park facilities near the Salt Creek flood plain which could provide regional recreation opportunities for area residents, as well as people from outside the area. These facilities, operated by the Riverside County Parks Department, are Lake Skinner Park and Double Butte Park.

Lake Skinner Park, leased by the county from the Metropolitan Water District, is located approximately eight miles south of Winchester The park area consists of more than 6,000 acres available for recreational activities including fishing (in a 1,200 acre reservoir), hiking, picknicking, group camping, family camping and sightseeing. Boating is allowed on the reservoir; however, because Lake Skinner is a domestic water supply, state and county regulations prohibit body contact with the water. Therefore, a small swimming lake has been developed near the main picnic area at the park.

Double Butte Park is located approximately one mile northwest of Winchester on Grand Avenue. A portion of the park area is presently being utilized as a sanitary landfill, with the remainder of the park under development by the county in conjunction with the effort of area equestrian organizations. The park is planned to be equestrian oriented with stables, practice track and riding and hiking trails being the primary recreation facilities. Some trail, picnic and horse camping facilities are presently available at the park.

With the exception of the widely dispersed poultry farms, most of the land between Hemet and Highway I15E is utilized for agricultural purposes and other open space use. Additionally, the foothill areas bordering the Salt Creek project area (such as Double Butte and the Domenigoni Mountains) are undeveloped open space areas greatly adding to the overall visual aesthetics of the Salt Creek flood plain area.

3.7.2 Environmental Impacts

(a) Beneficial Impacts

The beneficial impacts of the project are largely associated with the Salt Creek channelization portion of the project, however, the combined effect of the Hemet Area/ Salt Creek drainage improvements does have the potential of providing significant recreational benefits to the residents of Riverside County, particularly those residing within the Hemet/Sun City area. A conceptual preliminary engineering plan

prepared by Neste, Brudin and Stone, Inc., for the Salt Creek channelization project proposed a variety of recreational uses which could be developed within the flood control channel rights-of-way. Some of these recreational improvements, particularly the bicycle trails might connect directly into the bikeway system proposed for the City of Hemet (as delineated in the Hemet/San Jacinto Area General Plan and the Hemet Bicycle Pathway Study prepared in 1973 by Owen Menard and Associates). The Salt Creek channelization would also provide the opportunity for riding and hiking trail development, also as indicated on the Hemet/San Jacinto Area General Plan and on Riverside County's Plan of Equestrian and Hiking Trails.

The significance of the project's recreational potential and benefits, however, depends upon the type of acquisition methods the Riverside County Flood Control and Water Conservation District intends to utilize in obtaining right-of-way for the channelization projects.

The District has not yet determined if it will obtain the channel right-of-way in fee title or by easement for flood control purposes. If acquired in fee title, the District could allow other uses within the

right-of-way (e.g., recreation) under a use permit or license agreement with another governmental agency (such as the Riverside County Parks Department) to provide, operate and maintain recreational facilities within the channel right-of-way.

If the District determines it will acquire the channel rights-of-way through easement, the easement may be for flood control purposes only. At the time the acquisition process is begun, the District will evaluate the project to determine if the acquisition of additional easement rights to include recreational uses is economically and legally feasible for the project. If found to be feasible, all or part of the easements for flood control purposes may also include sufficient rights for recreational uses. Also, certain easement rights purchased by the District may involve arrangements whereby the underlying fee owner would be allowed to continue farming the right-of-way, including the channel. If this were the situation, recreation potential, at least in those areas of the channel right-of-way under the above arrangement, would be negligible. Such easements would, however, provide some measure of insurance towards a continuity of open space and compatible land uses with the present land uses in the area.

If the channel rights-of-way are acquired in fee title, many recreational improvements could be constructed in conjunction with or after the construction of channelization improvements. Both phases of construction

offer recreational potential. An earlier study proposes the development of recreational amenities including continuous greenbelt areas with walking, bicycle and equestrian trails, landscaping, and park areas developed in conjunction with open space areas of adjacent communities. According to a representative of the Riverside County Parks Department, the development of recreational facilities on the channel rights-of-way could compliment the county's existing regional park facilities in this area of Riverside County (e.g., Lake Skinner Park and Double Butte Park) and provide a possible connection into the county's equestrian and hiking trail system. The present County General Plan of equestrian and hiking trails proposes that a secondary trail be located in close proximity to the area proposed for the Salt Creek channel. The construction of the Salt Creek channel will provide the opportunity for the Flood Control and Water Conservation District to work in conjunction with the Parks Department to implement this section of riding and hiking trail along the channel rights-of-way.

The connection of the Salt Creek channel to the open channel, Line A, near Winchester, also provides an excellent opportunity for development of a continuous bicycle trail from the Sun City area to downtown Hemet. Line A connects with two other open channels (Lines C and D) which could also provide

access to other areas of Hemet and connections to the proposed bikeways within the City of Hemet.

In addition to the recreational potential of the open channel portions of the Master Drainage Plan for the Hemet Area, the proposed drainage improvements provided in the plan might prevent the possibility of flood damage to existing park and recreational facilities.

(b) Significant Unavoidable Adverse Effects

There would be no significant unavoidable adverse effects to parks and recreation facilities within the Salt Creek or Hemet areas. Development of recreational facilities within the Salt Creek Channel and the Master Drainage Plan for the Hemet Area would be growth inducing, requiring additional governmental services (e.g., water and other utilities, police, fire and medical protection, operation and maintenance of the area) and attracting people from outside the area to utilize the facilities. Without proper future planning, this may create secondary impacts relating to traffic congestion and added noise to the area.

Recreational facilities in the Salt Creek Channel may also provide an added impetus to subdivision development activity in the area after the channelization is completed. Subdividers may capitalize on the recreational aspects of the channel to further

promote the sale of residential developments.

Public use within the Salt Creek channel rights-of-way is also subject to flood hazard. The intent of developing this channel is to restrain the 100 year flood flows within the channel. With public use of the channel, it is conceivable people within the channel could be subject to flood hazards during flood periods.

(c) Significant Irreversible Impacts

The project is not expected to create any significant irreversible impacts upon existing parks and recreation facilities or open space in the project area.

If recreational uses become a part of the project, a certain amount of resources in the form of energy, manpower and materials would be committed to the project for the maintenance of the channel areas.

(d) Short Term Uses Versus Long Term Productivity

The overall construction project would include the short term impacts associated with construction of the channel and associated recreational facilities (e.g., dust and exhaust emissions, noise, grading and loss of the agricultural croplands). These impacts would be offset by the long term productivity associated with the potential recreational benefits and the virtual elimination of flood hazard in the area provided by the project.

(e) Growth Inducing Impact

The development of recreational facilities in conjunction with the Master Drainage Plan

for the Hemet Area/Salt Creek Channel improvements could have a certain secondary growth inducing impact. These recreational facilities would require the extension of utilities into the area. This extension may or may not be associated with the possible urbanization of the area that is anticipated to occur due to the construction of the Salt Creek Channel portion of project.

This project would also have the effect of providing additional jobs for the maintenance and operation of the recreational facilities. This would represent a minimal economic growth.

Concentrated public use of the recreational facilities could also create an expansion of existing community governmental services in the area. This could require the additional need for police, fire and medical services.

(f) Significant Cumulative Effects

There are no significant cumulative effects associated with the parks and recreation and open space features of the project.

3.7.3 Mitigation Measures

By developing recreational facilities and landscaping within the flood channel areas, a mitigation measure is provided against the visual impacts associated with a barren flood control channel. This also provides for an economical usage of land by allowing two separate uses to utilize the same area of land, thereby minimizing capital expenditures required to purchase land elsewhere for recreational activities. For this reason, it is recommended the District consider the acquisition of

the channel rights-of-way in fee title or with adequate provision to include recreational uses in the flood control easement acquisition.

With the development of the Salt Creek Channel, consideration of tree planting programs is recommended to improve the visual aspects of the channel and provide starting landscape for future recreational developments.

If future recreational developments are determined by the District to be unfeasible for joint use in all or parts of the channel area, every effort should be made to provide for agreements with adjacent agricultural landowners for the development of cropland agriculture across the channel rights-of-way. This would provide for continued agricultural usage of the area, without extensive severance damage, and mitigate the slight economic losses in agricultural croplands resulting from the project while providing a continuance of scenic open space in the area.

3.8 Demographics

3.8 DEMOGRAPHICS

3.8.1 Environmental Setting

3.8.1.1 Population

Section 2.6 (Socio-economic characteristics) presents a detailed profile of the existing population characteristics of the Hemet/San Jacinto Study Area. The area's population has experienced a recent annual growth rate of about five percent. Population of the study area is estimated to have reached 59,100 persons in January 1977.

3.8.1.2 Employment

Section 2.6 presents a profile of the employment base of the Hemet/San Jacinto area. The majority of employment opportunities are in the retail trade and services sector that supports the two communities. Local manufacturing firms also employ a significant number of persons.

Less than ten percent of the local labor force find employment in the construction industry. The total employed labor force of the Hemet/San Jacinto area is estimated to be a maximum of 13,000 persons. An estimated 900 persons are employed in the construction industry.

3.8.1.3 Projected Impact on population, Land Use and The Economy.

The projected impacts of the project will be analyzed in terms of the ultimate effects on population, land-use, and economic development.

3.8.2 Environmental Impacts

The proposed Hemet Area Master Drainage Plan may have a significant impact on local population growth. Some areas of impact may be potentially adverse. The extent of project impact focuses on two events that could occur through project construction and operation.

First, there would be the need for a large construction work force. To the extent that the demand for construction workers cannot be met by the local labor force, there would be immigration of workers to the area. Many of the new jobs would be highly skilled in nature, thus indicating that many workers would commute to Hemet from the Riverside-San Bernardino Area. It can be anticipated that some new workers will be drawn to the area simply by the magnitude of the project.

The immigration of workers, during the construction phase of the project, would cause a temporary increase in the local population base. The new workers would place demands on housing, retail services and, to some extent, public municipal services. To the extent that these demands cannot be met by existing facilities and capacity, an adverse impact may be created.

The temporary population growth, during the construction phase of the project, would be reduced upon project completion. Those immigrant workers who remain in the local area are expected to be relatively small in numbers and, therefore, would not have a significant impact on the local population base.

Secondly, a longer term impact may occur upon project completion and operation. One of the objectives of the proposed project is to provide increased capacity for storm water run-off. This would serve to reduce, or eliminate the Salt Creek 100 year design storm flood limit upstream of U.S. Highway I15E. This would have a beneficial impact on the land resources of the area, because the flood proneness of potential residential areas would be removed.

A reduction in the area of the Salt Creek flood limits may induce future population growth by making available new areas for residential development. Recent demand pressures on the local housing market indicate the inevitability of new housing construction in the Hemet/San Jacinto area.

Again, as with immigrant workers the new household units would place demands on retail and professional services as well as public municipal services.

Increased population of the local area, as a result of the project, cannot be considered totally adverse in and of itself. Positive economic benefits would accrue through increased household spending, sales tax receipts, new job opportunities and increased local tax base. Thus, the adverse impact of increased urbanization may be balanced to some extent by the increased economic benefits that would accrue to the local economy.

A significant cumulative effect of the proposed project would be realized if there is rapid population growth that exceeds the service capability of the Hemet/San Jacinto area. However, it is anticipated that the population growth will occur at a reasonable rate, thus precluding any sudden or unexpected impacts on the existing population base.

Construction of the proposed project would have positive impact on the local labor force. It is estimated that the project would employ 185 persons (full-time equivalent) over its three-year construction period. Annual payrolls are expected to reach $3,064,000. To the extent that construction materials and supplies are purchased from local firms, there may be a slight impact on the employment base of the wholesale and retail trade sector.

As previously mentioned, the project would employ a number of skilled persons, who out of necessity, would be drawn from the Riverside/San Bernardino labor market.

Construction of the project would produce primary increases in employment, payrolls, income and spending. The primary economic impact would translate into induced (secondary) impacts that will further increase local and regional employment, payrolls, income and spending, especially in the non-basic sectors of the economy.

POPULATION ESTIMATES

1970 - 2000

	Riverside County	Hemet Area*	Hemet As % of County
1970 (4/1)	456,916		
1977 (7/1)	569,200	60,000	10.5%
1980	626,800		
1985	718,800		
1990	798,400	120,000	15.0%
1995	862,400		
2000	910,000		

*Includes following Census Tracts: 433, 434, 435, 436, 437, 427.01

SOURCES: U.S. Census; California State Department of Finance; Urbanomics Research Associates

In terms of the employment base of the Hemet/San Jacinto labor market, it is estimated that 90 new construction jobs would be filled from the local labor market. The balance of the jobs to be filled would draw workers from the Riverside/San Bernardino area.

The hiring of 90 persons from the local employment base would result in an annual payroll expenditure of $1,482,700 by the proposed project. This compares with a total annual construction payroll extimated to be $3,064,300. Such payroll expenditures would provide primary as well as induced economic benefits to the local economy. Total payrolls to the local construction labor force as a result of the proposed project would reach an estimated $4,448,200 over the three-year construction span of the project.

The primary and induced economic impacts of the Hemet area water drainage plan project are discussed in Section 3.12 of this report

(a) Beneficial Impacts

The project would eliminate existing conditions of flood-proneness of agricultural and open space lands within the project area. Additionally, the flood dangers to already developed areas of the Community of Hemet would be eliminated. The elimination of flood damage, therefore, would be of inestimable value in terms of protection to human lives and property.

The primary beneficial population, land-use and economic impacts of the project would translate into (1) enhanced preservation of the natural resource values of the area; (2) reduction of potential future property damage; (3) increased productivity of the lands involved; (4) the reclamation of several thousand acres of land for potential development in residential, commercial, industrial or public uses; (5) increased land values; (6) a safer life-style within the project area and its immediate environs.

From the point of view of population growth, land-use, and economic development, completion of the project would be beneficial, not adverse.

(b) Significant Unavoidable Adverse Impacts

Since the project would make agricultural and open space lands in the project area available for future urban development, it should be recognized that certain public costs would be incurred in the future, such as police and fire protection and other public service functions which are required. This might be looked upon as an adverse fiscal impact.

(c) Significant Irreversible Impacts

As long as the flood conditions of the project area exist, the land will be committed to agricultural and open space uses. Completion of the project would make it possible to convert the lands of the project area to residential, commercial, industrial and public uses. The pressure to move the lands of the project area into higher and better urban-economic uses represents the major irreversible impact.

(d) Short Term Uses Versus Long Term Productivity

Without the completion of the proposed project, the land area of the project area will be committed in both the short-run and long-run to agricultural and open space uses.

Completion of the project would increase the long-term productivity of the agricultural lands, since periodic damage to growing crops would be mitigated. Also, insofar as long-term urban and economic growth pressures

require the conversion of lands to residential, commercial, industrial, and public uses, the economic productivity of the lands would be increased. The increase in productivity in the economic sense of the word would be measured by increased land values as the process of conversion to higher and better uses takes place.

(e) Growth-Inducing Impacts

In the long-run, the proposed project will not produce significant on-going increases in the primary population and employment bases of the community.

The project would, however, make available new land for development and this will ultimately translate into pressures for residential and other forms of development in the project area. In this sense, the project can be viewed as having potential growth-inducing effects. The project would be growth-accommodating in the geographic sense. The project in and of itself would not induce population and economic growth pressures.

(f) Significant Cumulative Effects

Looking to the future, the most important effects of the project would relate to the potential population and economic growth in the project area as such. This growth would be accomplished over many decades of time. Therefore, the growth can be accommodated in orderly fashion, with minimum adverse effects.

The attendant population and economic growth would involve a significant change in land-use patterns within the project area. The resulting urban, economic, social and fiscal benefits of this transition would far outweigh the public costs of the project as well as other public costs incurred as the process of development runs its course.

In the case of the County's and City of Hemet's jurisdictions the standards of orderly growth and development are defined and enforced. This assures that the future pressures of growth will be accommodated in an orderly fashion. Moreover, each new residential, commercial, industrial or public project with environmental significance will require the preparation of an Environmental Impact Report. The environmental review process should guarantee that the potential environmental impacts of future urban economic developments of significance will be mitigated by appropriate requirements in the area of design, land use, densities, and facilities.

3.8.3 Mitigation Measures

The impact of immigrant construction workers, on the population base of the Hemet/San Jacinto area, is not considered to be significant, therefore, no mitigation measures are suggested.

The reduction of the existing 100 year flood limit would increase the amount of developable land, thus having a significant long-term impact. The recent residential construction activity shows that pressures to increase the housing stock of the local area are evident. Any large scale residential development may necessitate the extension of municipal services, especially police and fire protection and sewer waste disposal. However, volition is on the part of the local and county planning and building permit departments to insure that future development will be consistent with locally adopted growth plans.

Enhanced employment opportunities as a result of the proposed project would have a beneficial impact on the Hemet/San Jacinto labor market.

Since the completion of the project would induce population and economic growth and new land uses within the project area, mitigation recommendations are in order.

A large portion of the development would occur within the immediate sphere of interest of the City of Hemet. Accordingly, the environmental impacts of future population and economic growth and land use conversions will be governed by the General Plan, Zoning, and Building Code ordinances of the City of Hemet. In the unincorporated areas, the standards of development will be defined by Riverside County.

3.9 Transportation

3.9 TRANSPORTATION

3.9.1 Environmental Setting

3.9.1.1 Highway and Street System

The primary means of transporting people and goods within the study area are by private automobile and trucks utilizing the existing highway system which is shown on map 8 along with their classifications and average daily traffic (ADT) volumes. The traffic volume counts were made by CALTRANS, the Riverside County Road Department and the City of Hemet.

The major highway transportation routes transecting the study area are U.S. Highways I15E, and State Highway 74 and 79. The street system within the westerly half of the study area consists generally of farm to-market roads connecting these State Highways. Also within that area there is a limited number of local roads serving the residents in unincorporated Winchester.

The easterly half of the study area becomes increasingly urban as you proceed easterly of Sanderson Avenue. The collector street system in this area is generally on a quarter-mile grid system with varying street patterns within the grid to serve the residential, commercial and industrial developments.

Past traffic growth within the westerly half of the study area has remained relatively constant due mainly to the land uses within that area remaining essentially agricultural. Unlike that area, the easterly half of the study area has experienced rapid urban growth and as a result traffic growth on the major collectors has increased annually from 6 to 8 percent.

In order to give an indication of the efficiency at which each highway is presently operating during peak traffic hours, volume/capacity (V/C) ratios were estimated for each section of highway that has similar traffic and roadway characteristics. The V/C ratios shown are based on Level of Service "C", which is defined as follows:

"Stable Traffic Flow - Traffic speed and maneuverability area controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes or pass. A relatively satisfactory speed is still obtained".[10]

Therefore, if the estimated V/C ratio is less than 1.0, the highway is operating below its capacity within Level of Service Range A or B and traffic is flowing freely. If the V/C ratio is greater than 1.0, the highway is operating above its capacity within Level of Service Range D or E and motorists will experience varying degrees of congestion and undesirable driving conditions during peak traffic hours.

Level of Service "D" is defined as follows:

"Flow is approaching unstable with temporary restrictions to flow causing substantial drops in operating speeds. Drivers have little freedom to maneuver. Comfort and convenience are low".[10]

Level of Service "E" is defined as:

"Flow is unstable with stoppages of momentary duration. Operating speeds are considerably below off-peak traveling speeds with no freedom to maneuver".[10]

All the major roadways within the study area are operating below their capacities except for those

highway sections identified in Table 11-C which are operating at or above Level of Service "C" during peak traffic hours.

The section of U.S. Highway I15E within the study area, as well as Stetson Avenue between State Street and Hemet Street and Latham Avenue between Lyon Avenue and State Street are presently operating at or near capacity during the peak traffic hours. Some traffic congestion is encountered on San Jacinto Street north of Florida Avenue, Latham Avenue between State Street and Santa Fe Street and the sections east and west of Florida Avenue between Lyon Avenue and San Jacinto Street. The most serious traffic congestion occurs on Florida Avenue between Lyon Avenue and San Jacinto Street where traffic service is a Level E, unstable flow with stoppages of momentary duration. Summer recreational traffic places additional traffic loadings on these over-capacity highways and in particular Florida Avenue.

3.9.1.2 Railroad System

The area is served by the Atchison, Topeka and Santa Fe Railroad (AT & SF) with one route from San Jacinto to Hemet to Perris to Highgrove (north of Riverside). This route is considered a branch line of the main AT & SF trackage. The line has fair geometrics in terms of grade and curvature but has a large number of at-grade highway crossings.

At present only once a day freight service is provided, six days a week, to service farmers, feed mills and lumber yards. Between July 10 and July 31 each year, an additional train is provided to transport the potato harvest.

Table 11-C Existing Highway Traffic Loadings During Peak Traffic Period

HIGHWAY SECTION	VOLUME/CAPACITY (V/C) BASED ON LEVEL OF SERVICE C	PREVAILING LEVEL OF SERVICE
Stetson Avenue State St. to Hemet St.	0.82	C
Latham Avenue Lyon Ave. to State St.	0.86	C
State Highway 395 (I-15) Scott Rd. to McCall Blvd.	1.02	C
San Jacinto Street Oakland Ave. to Florida Ave.	1.10	D
Latham Avenue State St. to Santa Fe St.	1.23	D
Florida Avenue Warren Rd. to Lyon Ave.	1.69	D
Florida Avenue San Jacinto St. to Hemet St.	2.25	D
Florida Avenue Lyon Ave. to San Jacinto St.	2.64	E

This AT & SF line shows some potential for future operating of a rail transit system connecting downtown Riverside with Edgemont, Perris, Hemet and San Jacinto as well as the possibility of spur service to Sun City.

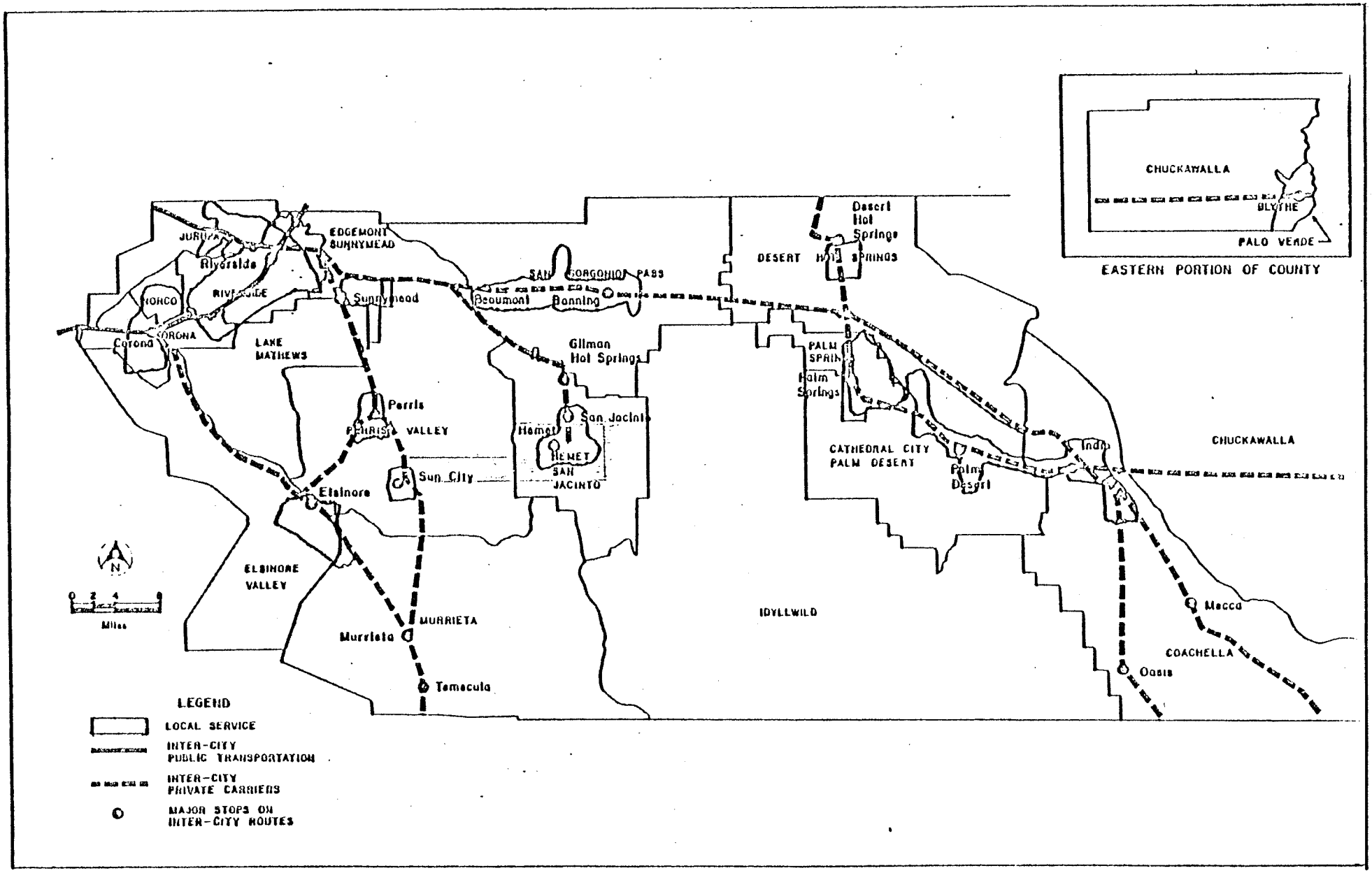
3.9.1.3 Transit Systems

The study area is served by several different transit systems including Greyhound, the Hemet Bus Line, Hemet-San Jacinto Dial-A-Ride and Valley Taxi Service. The primary service areas are shown on page 3-65.

Intercity service is provided by Greyhound, SCRTD and the Hemet Bus Line. Greyhound has five daily scheduled routes passing through the area on Highway I15E.with no scheduled stops. SCRTD has two lines operating from Riverside - one provides hourly service to Los Angeles with special express service during peak hours which also serves Ontario International Airport and San Bernardino. The second line provides four round-trips daily between Riverside and Long Beach with a stop in Corona.

Roesch Bus Lines provides the Hemet Bus Line service between Hemet and Riverside twice on week days and once on Saturday and Sunday. Scheduled connections are made in Riverside with both Greyhound and SCRTD. The route extends along Highway 60, Gilman Springs Road and Route 79 to the Hemet Station located at 126 Carmalita Street. Flag stops are made anywhere along the route with scheduled stops at Riverside, Sunnymead, Gilman Hot Springs, San Jacinto and Hemet.

Intra-city services are provided by Hemet-San Jacinto Dial-A-Ride and the Valley Taxi Service.



EXISTING SERVICE AREAS

TRANSIT SYSTEMS

The Riverside Transit Agency operates the seven (7) bus Hemet-San Jacinto Dial-a-Ride program. Ten passenger vans are used daily primarily serving the mobility needs of the elderly population The regular fare is 50¢ per ride with reduced fares (25¢) for senior citizens and disabled and children under the age of 6 free. Current patronage is approximately 110 passengers per day.

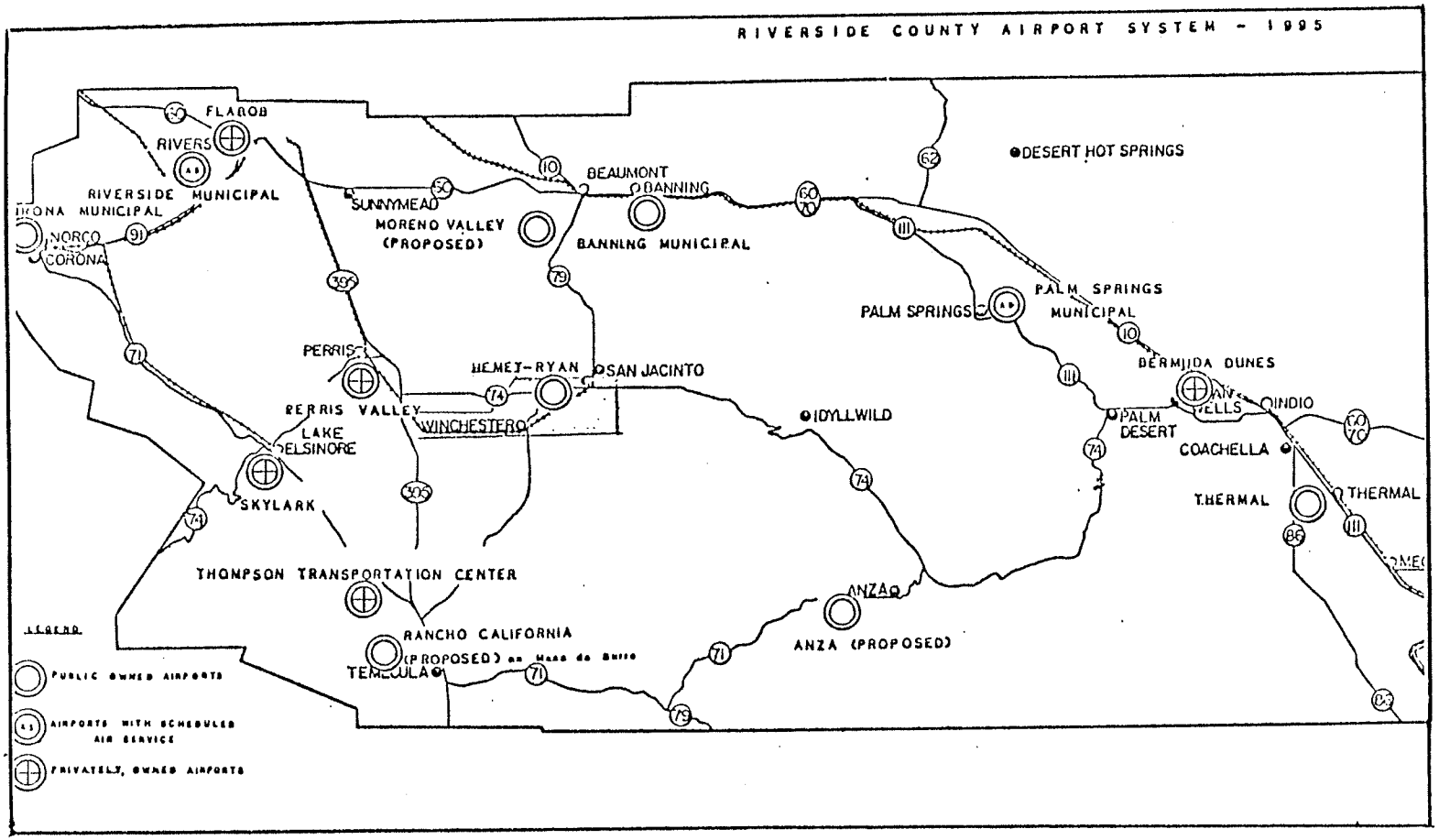
Taxicab service within the study area is provided by Valley Taxi Service. One (1) cab is operated primarily within the same service area as the Dial-A-Ride system with intercity service to the City of Riverside.

3.9.1.4 Airport Facilities

Hemet-Ryan field is the only airport within the study area. See Page 3-67. The County operated facility located on the westerly boundary of the City of Hemet provides general aviation services and includes privately owned aircraft facilities, flight training services and serves as a fire fighting aircraft base. Presently there are sail plane operations conducted on the north side of the airport.

In a poll of aircraft owners made by Riverside County Airports Department in 1976, it was found that about 87% of the aircraft based at Hemet-Ryan Airport are used, at least partially, for business flights.

The runway is 4300 feet long with a proposed extension to 6000 feet within the next five years. The runway extension project would strengthen the runway and taxiways to accommodate 100,000 pound aircraft. This extension will require a rerouting of Line A crossings.


RIVERSIDE COUNTY AIRPORT SYSTEM - 1995
FLABOB
RIVERS
RIVERSIDE MUNICIPAL
CORONA MUNICIPAL
NORCO
CORONA
SUNNYMEAD
MORENO VALLEY
(PROPOSED)
BEAUMONT
BANNING
BANNING MUNICIPAL
DESERT HOT SPRINGS
PALM SPRINGS
PALM SPRINGS
MUNICIPAL
BERMUDA DUNES
INDIO
PALM
DESERT
COACHELLA
THERMAL
THERMAL
IDYLLWILD
PERRIS
HEMET-RYAN
SAN JACINTO
WINCHESTER
PERRIS VALLEY
LAKE
ELSINORE
SKYLARK
THOMPSON TRANSPORTATION CENTER
RANCHO CALIFORNIA
(PROPOSED)
TEMECULA
ANZA
ANZA (PROPOSED)
LEGEND
PUBLIC OWNED AIRPORTS
AIRPORTS WITH SCHEDULED
AIR SERVICE
PRIVATELY OWNED AIRPORTS

AIRPORTS

At present there is no commercial airline operation or service but opinion polls taken in the Hemet business community indicate strong support for some type of air service (third level or commuter type airline using small quiet aircraft). The closest scheduled air service is conducted out of the Riverside Municipal Airport.

3.9.1.5 Bikeway System

A bicycle circulation system has been established within the City of Hemet. Plans call for both on-street bike lanes and bike paths on separate rights-of-way that will connect the downtown core area with the various residential neighborhoods. No on-street bike lanes or off-street bike paths have been identified within the unincorporated County portions of the study area.

3.9.1.6 Transportation Planning Efforts

The Riverside County Subregional Transportation Plan was prepared in 1974 by Alan M. Voorhees & Associates and updated in 1977 by the Riverside County Planning Department. This updated document contains the most recent transportation planning efforts for both the incorporated and unincorporated portions of the study area and includes a forecast of 1990 travel demands, proposed transit facilities, and recommended implementation programs.

Other planning efforts within the study area include the Circulation Element of the Hemet-San Jacinto Area General Plan dated 1968 and the Circulation Element of the Riverside County General Plan as amended May 18, 1976.

Two major roadway improvement projects are planned to be constructed by the City of Hemet within the next five years. They are the widening of State

Street from Stetson Avenue to the south City limits and the widening and reconstruction of Buena Vista Street from Florida Avenue to Oakland Avenue.

The only major highway widening project the California Department of Transportation has planned within the next six years is the widening of U.S. Highway I15E from Scott Road to McCall Boulevard including the bridge across Salt Creek Channel. This project is currently in the construction stage. The Department of Transportation has indicated that they do not anticipate funds for any other improvements in the area in the forseeable future.

Major roadway projects that have been funded by the Riverside County Road Department for construction within the next year include Whittier Avenue, Columbia Street to San Jacinto Street; Ramona Expressway, State Street to Mountain Avenue; and State Street, Stetson Avenue to Gibbel Road.

3.9.2 Environmental Impacts

(a) Beneficial Impacts

Since the primary mode of travel within the study area is by automobile, the project would be beneficial in preventing flooding of essentially all the major and collector highways within the 100-year flood plain. The highways in the westerly half of the study area would receive benefit in terms of providing continuous daily and emergency traffic service to the existing isolated inhabited areas. These isolated areas have only one or at the most two highway routes serving them. In the predominantly urban easterly half of the study area the elimination of street flooding would reduce accident potential, provide for continuous emergency vehicle travel and prevent traffic congestion on non-flooded streets and would serve as flood detour routes.

The railroad system and airport facilities would be benefited but to a lesser degree since they are not now nor anticipated to be the primary modes of travel in the study area.

(b) Significant Unavoidable Adverse Impacts

The impacts of growth induced within the study area have an adverse side typical of any increase in the total volume of traffic in an area. The net results of increased traffice on all the highways in the study area are the attendant adverse consequences of energy consumption, noise, air pollution and accidents.

(c) Significant Irreversible Impacts

There would be no irreversible adverse impacts on transportation as a result of this project.

(d) Short-Term Uses vs. Long-Term Productivity

The cumulative and long term effects of the proposed project which adversely affect the environment will be primarily associated with the number of vehicles and the frequency with which they are operated. The greater number of vehicles the more land must be committed to roadway construction. Any increase in impervious area increases the total volume of runoff. The quality of the runoff will be adversely affected by petroleum products and residue washed from pavements into the natural water course and eventually into water resource facilities.

(e) Growth Inducing Impacts

As discussed before, since the primary mode of travel in the study area is by automobile, it can be expected that the direct result of any population growth would be an increased demand on the highway and local circulation system.

The existing major highways in the easterly half of the study area that are now operating above capacity would experience even more severe congestion unless measures are taken to increase their traffic carrying capabilities.

The present highway circulation system in the westerly half of the study area adequatly serves the present predominantly agricultural land uses. If development of this area to urban type land uses occurs the present highway circulation system would require improvement in capacity and in circulation pattern.

If development of this area to urban type land uses occurs, the present highway circulation system may require improvement in the form of highway widening and the construction of new major highways as presently planned and identified in the Circulation Elements listed in Section 3.9.1.3.

(f) Significant Cumulative Effects

The cumulative effects of increased traffic on each of the highways can result in significant increases in noise, air pollution, accelerated depletion of natural resources, decrease in public health and safety.

The present daily vehicle miles traveled (DVMT) by the 60,000 residents within the study area is estimated to be about 1,000,000 vehicle-miles. This estimate is based on a statewide average of 17 miles per capital per day.[1] To confirm this figure, vehicle trips generated by the various existing residential uses were estimated for the study area. Based on this estimate of 460,000 current daily trips and assuming an average trip length of 2 miles, the total daily vehicle-miles traveled is estimated at 920,000.

A doubling of population within the study area to 120,000 would more than double the DVMT due to the trend over recent years of increased travel per capita.

Based on an analysis of residential trip generation resulting from the expected doubling of population, it is estimated that approximately 560,000 additional daily trips will be made within the study area.

Assuming the average trip length will remain the same (2 miles), the total daily vehicle-miles estimated for 1990 is 2,040,000, or an increase of

1/Source: Caltrans, Sacramento

approximately 122 percent between 1976 and 1990. This increase compares favorably with the 124% increase estimated for the entire County of Riverside between 1970 and 1990.[2]

3.9.3 Mitigation Measures

Roadway capacity deficiencies resulting from increased traffic volumes may be mitigated by widening the roadways, providing one-way streets and building new major collector routes within the study area. In the westerly half of the area, new major collector road alignments should be established to accommodate the expected urbanization along with the widening of existing roadways. In the easterly half of the area roadway widening and one-way couplets, especially to relieve traffic on Florida Avenue, should be thoroughly investigated. Other impacts resulting from increased traffic volumes may be offset by providing additional public transportation within the area.

2/Source: Riverside Countywide Transportation Study, 1977

3.10 Noise

3.10 NOISE

3.10.1 Environmental Setting

The sound level measurements used in this section are A-weighted sound levels db(A). The A-weighted sound level is a reading in decibels adjusted to consider tonal quality of the sound. The sound level of traffic noise and other long-term noise producing activities within and around the Salt Creek Drainage Area varies considerably with time. Measurements of this varying noise level are accomplished by recording values of the noise for a specified period of time. Analysis of these recordings yields values of noise which are useful in assessing potential annoyance of the disturbance. For purposes of this study, the following values have been used:

L_{90}- the near minimum A-level, 90% of the time the A-weighted sound level is greater than this value;

L_{50}- The central tendency of A-weighted sound level, this value is exceeded 50% of the time during the measurement period; and

L_{10}- The near maximum A-weighted sound level, is exceeded 10% of the time during the measurement period.

Leg- Energy averaged A-weighted sound level, used for the estimation of long term noise exposure.

Readings of these measures are recorded for at least 12 minutes to provide representative samples of the noise during a mid-day period on a weekday. A listing of the A-weighted sound levels measured at the positions indicated on map 3 are provided in table 12, pages 3-73 and 3-74. From the representative samples of the various noise producing elements within the Project Area along with complimenting analytical procedures, Community Noise Equivelant Level (CNEL) contours have been derived for the area and noise impact zones have been identified.

TABLE 12

NOISE MEASUREMENTS AND NOISE MEASUREMENT LOCATIONS

WITHIN THE SALT CREEK DRAINAGE AREA

LOCATION NUMBER *	LOCATION	L_{90}	L_{50}	L_{10}	Leg
1	Southerly end of Soboba Street	35	37	41	41
2	Briarwood Avenue 200' E. of Stanford St.	44	52	60	55
3	Thorton Ave. 100' W. of Stanford St. (adj. to Hemet High School)	47	57	68	65
4	Columbia Street, 250' S. of Route 74	52	60	65	61
5.	San Jacinto St., 250' S. of Johnston Ave.	41	47	56	55
6.	Terry Lane, 250' S. of Oakland Avenue	41	46	54	51
7.	Oakland Ave. 250' E. of State Street (Industrial Area)	Truck Noise (Maximum): 66 dB(A) 43	52	62	57
8.**	Taylor Street, 250' S. of Acacia Avenue	42	48	57	56
9.**	Palm Avenue, 250' S. of Thornton (end of Palm)	37	40	46	42
10	Acacia Avenue at RR, adjacent to Mobile Home Park	Truck Noise (Maximum): 75 dB(A) 43	48	63	61
11	Devonshire Avenue 250' W. of Lyon Avenue	42	49	61	59
12	Motel Hemet West Construction grading operation to the N. and S.	52	56	63	59
13	Seven Hills Drive, 250' S. of Stetson Ave.	47	52	62	62
14.	Wentworth Dr., adjacent to industrial activity, metal fabrication, tractor in field, aircraft run-up	47	52	66	63

15.	Mobil Home Park southerly boundary nearest to Airport	Takeoff (Maximum): 71 dB(A) Flight from MAFB:			
		37	46	54	51
16	Stetson Ave., 250' W. of Warren Road	Tractor on Warren: 74 dB(A) Aircraft Flyover (Maximum): 95 dB(A)			
	(Predominant Aircraft)	48	53	68	69
17	Warren Ave., 250' S of Simpson Avenue	35	42	46	45
18**	Whittier Ave., 250' S. of Simpson Ave.	39	46	62	58
19**	Winchester School, location 250' W. of Route 79	Aircraft Flyover (Maximum): 83 dB(A)			
		37	55	61	58
20	Shady Lane, 250' S. of Simpson Avenue	Jet Aircraft Flyover: 72 dB(A)			
		35	40	49	48
21	Olive Ave., 250' S. of Newport Road	Tractor in Field (Maximum): 50 dB(A)			
		41	45	50	49
22	Briggs Road, 250' S. of Newport Road	Jet into MAFB (Maximum): 89 dB(A)			
		35	40	48	47
23	Newport Road, 250' E. of Route I-15E	40	47	56	57
24	S. end of Encanto Dr. adj. to Route I-15E	42	51	59	57

*See Map 3

**Map locations slightly inaccurate

The contours account for each of the transportation noise producing elements within the area.

Contours are provided on map 3 for CNEL values from 45 to 65 db in 5 db increments. The zone contained within the 65 db contour is identified as the "Noise Impact Zone". Persons residing within this impact zone will be adversly affected by noise exposure levels for the projected 1990 environment. They are a composite of the noise produced by traffic movements and traffic operations.

3.10.2 Environmental Impacts

In general, there will be a short and long term impact associated with noise if the drainage project develops. The short term impact involves construction noise and the long term and more significant impact would develop as traffic on the arterials increases. This increased traffic would generate increased noise and the impacts described are as follows:

(a) Beneficial Impacts

None

(b) Significant Unavoidable Adverse Impacts

Transportation noise is experienced to some degree within the Hemet Area. Noise having significant magnitude is generated by highway traffic and aircraft flight operation. For example, during a mid-day period on a week day, noise was measured as follows:

1) On Columbia Street, 250 feet south of Route 74, the near peak sound level was 65 dbA.
2) When measured near the Hemet High School, on Thornton Avenue, 100' west of Stanford Street, the near peak sound level was 68 dbA.
3) At a position adjacent to a guest room of the Motel Hemet West near Route 74, construction noise generated at sites to the north and south predominated. The near peak was 63 dbA.
4) Jet aircraft flyovers and flybys into March Airforce base generate peak sound levels as high as 95 dbA at most locations in the westerly portion of the Drainage Area.

5) It has been shown elsewhere in this report that there may be new growth in the project area if the project is completed. This new growth will probably increase traffic and hence increase noise.

(c) Significant Irreversible Impacts

Some property currently used for residential purposes may become undesirable for such uses due to excessive noise.

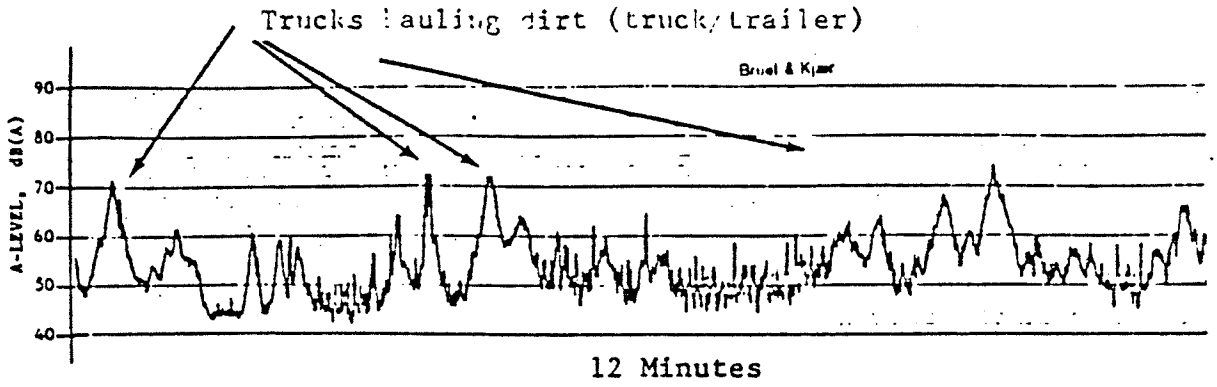
(d) Short-Term Uses Versus Long-Term Productivity

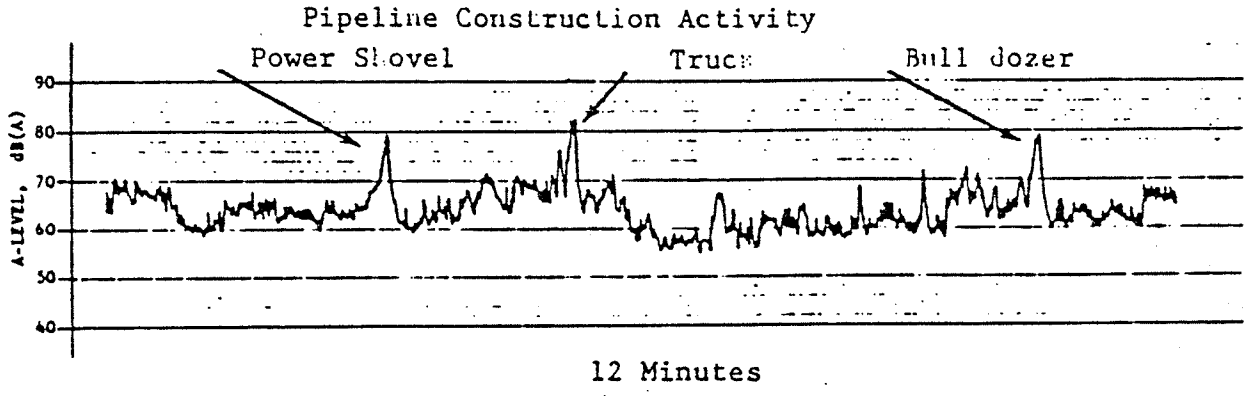
Cummulative and long-term adverse effects on the environment are the potential for higher and/or more sustained noise levels along arterials from all modes of ground traffic and for higher or more frequent occurances of noise levels from aircraft traffic over a large portion of the project area.

(e) Growth-Inducing Impact

As previously indicated, noise will increase as traffic volumes increase on the arterials. The CNEL Contours of map 3 indicate the expected noise in the area by 1995. Table 14 shows the noise level standards in various land use zones and Table 15 is a summary of California noise insulation standards.

TABLE 13





CONSTRUCTION EQUIPMENT NOISE LEVELS [8]

(measured at a distance of 50 feet)

Equipment	Noise Level
Earthmoving	
front loader	79 db(A)
backhoes	85
dozers	80
tractors	80
scrapers	88
graders	85
truck	91
paver	89
Materials Handling	
concrete mixer	85
concrete pump	82
crane	83
derrick	88
Stationary	
pumps	76 db(A)
generators	78
compressors	81
Impact	
pile drivers	101
jack hammers	88
rock drills	98
pneumatic tools	86
Other	
saws	78
vibrator	76

TABLE 14 - AMBIENT NOISE LEVEL STANDARDS
As Recommended by the
LEAGUE OF CALIFORNIA CITIES

Zone	Time	Quiet	Slightly Noisy
Residential	10 pm - 7 am	45 db(A)	50 db(A)
	7 pm -10 pm	50	55
	7 am - 7 pm	55	60
Multi-Family	10 pm - 7 am	50 db(A)	55 db(A)
	7 am -10 pm	55	60
Commercial	10 pm - 7 am	55 db(A)	60 db(A)
	7 am -10 pm	60	65
Industrial	anytime	70 db(A)	70 db(A)

TABLE 15

SUMMARY – CALIFORNIA NOISE INSULATION STANDARDS

Purpose: Establishes uniform minimum noise insulation performance standards.

Scope: Applies to new hotels, motels, apartment houses and dwellings other than detached, single-family dwellings.

SOUND TRANSMISSION CONTROL

1. **Wall and Floor/Ceiling Assemblies**
   Separating dwelling units shall meet a Sound Transmission Class (STC) of 50 (45 if field tested), and a Impact Insulation Class (IIC) of 50 (45 if field tested).

2. **Entrance Doors**
   Entrance Doors from interior corridors shall have a STC rating of not less than 30.

3. **Laboratory Tests**
   Laboratory Tests of walls and floor/ceiling designs having a STC and/or IIC of 50, may be used to establish an acceptable design.

4. **Field Testing**
   Field Testing of proposed walls and floor/ceiling systems to obtain STC and/or IIC ratings if required to prove compliance with the code, shall include all flanking paths.

NOISE INSULATION FROM EXTERIOR SOURCES

1. **Interior Community Noise Equivalent Levels (CNEL)**
   Interior CNEL shall not exceed 45 dB in any habitable room with all doors and windows closed.

2. **Residential Locations**
   Residential Locations having a CNEL value greater than 60 dB require an acoustical analysis showing that the structure has been designed to meet the interior CNEL value of 45 dB.

3. **CNEL's**
   CNEL's shall be determined by local jurisdictions in accordance with its General Plan (Noise Element).

4. **Exception**
   Railroads with only four (4) daytime and no nighttime operations.

EVIDENCE OF COMPLIANCE

Compliance with the code is shown by submittal of an acoustical analysis. Field testing is required if inspection indicates the construction is not in accordance with the approved design or if there is a complaint to warrant testing.

3.10.3 Mitigation Measures

The significant impacts, construction activity and traffic noise, and to a far lesser extent commercial/industrial operations, have been identified. The mitigation of these impacts is discussed in this section.

(a) Traffic Noise on the Major Arterials

In general, the control of noise is most effectively accomplished by reduction of emissions from the source. However, the predominant source of noise within the area (motor vehicles) is not under the jurisdiction of enforcement authorities within the Drainage Area. This source of noise when generated on the arterials is under the control of State authorities. Furthermore, the mitigation of noise from this source by the use of barriers is very expensive and often difficult to achieve. The State now has a noise regulation as part of the Vehicle Code. The U.S. Environmental Protection Agency is considering a policy and the ultimate regualtion of vehicle noise. Some benefit may be experienced within portions of the area by this action, within the next few years.

(b) Residential Locations Adjacent to the State Highways

Residential locations directly adjacent to I15E and the State Highways (Route 74 and 79), are exposed to traffic noise in the range from 60 to 70 db(A) during most portions of the day. Noise barriers should be considered for those new residential locations within the area which will be exposed to excessive levels of noise during the day and nighttime hours. Particular emphasis should be placed on locations in proximity to Route I15E.

(c) Aircraft Operations at Hemet-Ryan Airport

Late night and early morning flight operations should be discouraged. Residential zones should not be permitted in proximity to the airport.

(d) Commercial/Industrial Noise Producing Elements

The adoption and effective implementation of a noise ordinance and site planning conditions will insure that fixed sources of noise will remain at acceptable levels within the area. The noise levels considered as "quiet" by the League of California Cities should be adopted as the acceptable standard.

(e) Construction Noise

Heavy construction should be limited to the weekday hours from 7:00 a.m. to 6:00 p.m. with minimal activity on weekends. Noise of construction equipment should be considered in the procurement of equipment by the District to be used in the Hemet Area Master Drainage Plan and Salt Creek Improvements and in contracts for work performed by Contractors for the District on flood control projects.

3.11 Aesthetics

3.11 AESTHETICS

3.11.1 Environmental Setting

Existing conditions and their aesthetic appeal or lack of appeal have been fairly well described in other sections of this report. Briefly, Salt Creek Channel, throughout most of the project area is poorly defined having been substantially obliterated by agricultural activity. It is, therefore, difficult to ascribe an aesthetic rating to something that is virtually non-existent.

The already completed portions of the Hemet Area Drainage System which are underground have no significant values either positive or negative from a standpoint of aesthetics.

The open channel portions of the completed sections of the Hemet Area Drainage system are well designed and properly maintained so that their aesthetic appeal is not significantly adverse. Such structures, their required fencing and other appurtenances, are not particularly attractive and it would be difficult within reasonable financial restrictions to eliminate these adverse impacts.

3.11.2 Environmental Impacts

3.11.2.1 Open Channels (Natural)

For this part natural open channels are those parts of the project which will be constructed with gently sloping sides and otherwise designed to appear to be natural water courses. They have no concrete lining and may include landscaping, trails and some limited recreational facilities.

(a) Beneficial Impacts

Salt Creek, the major storm water outlet for the project area is a natural open channel and the ultimate development under this project would retain this status. Currently, as previously indicated, this channel is poorly defined as a result of many years of agriculture activity. Under

the ultimate project plan the channel would be graded to accept and transport water from the drainage area along a well defined course. The course would be so constructed that it would serve recreational purposes also, as described elsewhere in this report. The natural water course as proposed would maintain the natural setting but would substantially enhance the aesthetic character of the area by adding park like areas containing natural type landscaping, trees, trails and ground cover.

(b) Significant Unavoidable Adverse Impacts
None.

(c) Significant Irreversible Impacts
None.

(d) Short Term Uses Versus Long Term Productivity
Creating a park like setting in sections of a relatively long reach of land would result in a facility which will be enjoyed by generations of people because of its aesthetic appeal.

(e) Growth Inducing Impacts
The creation of a park like setting may be an inducement for people to desire to reside in the general vicinity of the natural drainage course but this is probably not a significant factor in growth inducement.

(f) Significant Cumulative Effects
None.

3.11.2.2 Man Made Open Channels

These are the open channels which are designed and constructed solely for the purpose of transporting water. They have rather steep sloping sides, a flat bottom and are concrete lined facilities. Normally, the larger of these are

secured by chain link fencing and are not designed for use by the public for any kind of recreational activity.

(a) Beneficial Impacts

In some areas, under current conditions, major storms erode away the soil and leave unsightly scars and collections of debris upon the land. Proposed open channel drainage courses would confine floodwater to prescribed alignments and would control flow rates to prevent soil erosion and collections of debris in low lying areas.

(b) Significant Unavoidable Adverse Impacts

(1) Man made channels with concrete lining, chain link fencing and other visible structures might be considered aesthetically undesirable in the otherwise completely rural areas through which these open channels may pass.

(2) Concrete lined open channels in portions of the proposed project will be constructed on a very flat grade and nuisance water from city streets and other sources may collect in the bottom of these facilities. Over the long dry season this condition may be aesthetically unpleasant.

(c) Significant Unavoidable Impacts

None.

(d) Short Term Uses Versus Long Term Productivity

Not applicable.

(e) Growth Inducing Impacts

Not applicable

(f) Significant Cumulative Effects

(None)

3.11.2.3 Flood Control Structures

These are defined, for the purpose of this section of the report as catch basins, manholes, concrete box sections, (underground) buried pipelines, culverts, debris basins, if any, and various miscellaneous inlet and outlet structures.

(a) Beneficial Impacts

None.

(b) Significant Unavoidable Adverse Impacts

These structures are basically all underground facilities although some of them occupy significant space in dedicated rights-of-way. To the extent that these structures occupy space that can no longer be reserved for other future construction this may be considered an adverse impact.

(c) Significant Irreversible Impacts

None.

(d) Short Term Versus Long Term Productivity

Not applicable.

(e) Growth Inducing Impact

Not applicable

(f) Significant Cumulative Effects

None.

3.11.3 Mitigation Measures

Use modern designs for all inlet structures and catch basins so that they will not become debris collection points.

3.12 Economics

3.12 ECONOMICS

3.12.1 Environmental Setting (See 2.6)

3.12.1.1 Private (See 2.6)

3.12.1.2 Public (See 2.6)

3.12.2 Environmental Impacts

3.12.2.1 Private Sector

For purposes of this EIR, economic impact will be defined in terms of the primary and induced effects of the proposed Hemet Area Master Drainage Plan project on the employment, income and spending base of the Hemet/San Jacinto and Riverside County economies. It is a well accepted principle of regional economic analysis that the introduction of new jobs, income and spending into a sub-area of the region will translate into a direct and measurable primary increase in economic activity. Thus, to the extent that completion of the proposed project would require a sizable construction work force, a primary increase in employment, income and spending would occur. In other words, the primary economic impacts of the proposed project will be measured in terms of new jobs and increments to the income, spending, saving and investment streams of the local and regional economies.

In addition, this section of the EIR also addresses itself to the induced employment, income spending and saving impact of the primary economic effects described in the preceding paragraph. It is also a well-recognized principle of regional economic analysis that a primary injection of new jobs and spending into a sub-area of the region would bring into operation the employment and income multipliers.

For example, local residents employed in construction of the proposed project would spend their income in local communities on food, clothing, services, housing, etc. The recipients of this primary retail spending would, in turn, spend and respend the proceeds of those sales. The newly injected income, in other words, would circulate and recirculate through the income-spending stream of the local economy. The end result would be a multiple increase in the original injection of primary employment, income and spending.

As previously stated, the proposed project would create 186 new jobs (full-time equivalent) at an annual payroll of $3,064,323 (1977 dollars). These jobs and payroll estimates are exclusive of engineering legal and administrative costs of the project.

The annual estimated payroll costs of the proposed project are estimated as follows:

CONSTRUCTION LABOR COST

Salt Creek Channel	
Channel Excavation @ 55% of cost	$ 1,589,577
Highway & Railroad Crossings @ 45%	216,422
Utility Relocation @ 55%	35,970
Subtotal	$ 1,842,969
Hemet Area Drainage (Underground)	
Line Systems A,B,C and D @ 50%	7,350,000
TOTAL CONSTRUCTION LABOR COST	$ 9,192,969

It is estimated that the annual gross earnings of the construction workers would be $16,500. This translates into an annual increase in construction employment of 186 new jobs in each year of the three-year construction period.

Total construction payroll of $9,192,969 over the lifespan of the project would result in an average annual payroll of $3,064,323 (1977 dollars).

It is assumed that 90 of the 186 new construction jobs would be filled from within the local Hemet/San Jacinto labor base. This means that annual primary payrolls of $1,482,700 would be received by local area residents, as a result of the proposed project. New employee payrolls, associated with the project, would thus reach $4,448,200 during the three-year course of construction. A spending profile of the project and employee payrolls is presented in Tables 16 and 17. These show the positive primary economic benefits of the project to the local and regional economies.

Thus, the primary economic effects of the proposed project, in terms of new jobs and payrolls, as they impact the private economic sector in the Hemet/San Jacinto area and the contiguous region, are summarized as shown in Table 18.

Induced economic impacts would occur as a direct result of the primary injection of new jobs and spending into the Hemet/San Jacinto area. Employment and income-spending multipliers would bring into effect a multiple increase in employment, income and spending as a result of the primary expenditures of the proposed project. As construction workers spend their earnings, the payroll dollars would be circulated and recirculated throughout the local and regional economies, producing the induced economic impacts of the construction project.

Table 16

ESTIMATED CONSTRUCTION PAYROLL COST[1]

	Hemet/San Jacinto	Riverside County	Total
New Jobs	90	96	186
Annual Construction Payrolls	$1,482,700	$1,581,600	$3,064,300
Total Construction Payrolls	$4,448,200	$4,744,800	$9,193,000

[1](1977 dollars; Exclusive of Engineering, Legal & Administrative Costs).

SOURCE: URBANOMICS RESEARCH ASSOCIATES

Table 17

ANNUAL BUDGET FOR A FOUR-PERSON FAMILY
WITH INCOME OF $16,500 (AUTUMN, 1976)[1]
RIVERSIDE, CALIFORNIA

TOTAL BUDGET		100%		$16,500
Total Consumption	(76.19)	76.2		12,573
Food	19.9%		$3,289	
Housing	22.4		3,696	
Transportation	8.7		1,436	
Clothing	7.2		1,188	
Personal Care	2.1		347	
Medical Care	6.5		1,073	
Education	1.4		231	
Reading	0.3		46	
Recreation	3.6		597	
Alcohol, Tobacco	4.0		655	
Other	(4.57)	4.6		754
Personal Insurance	1.0		163	
Retirement, Pensions	2.4		388	
Gifts, Contributions	1.2		203	
Social Security & State Disability Payments	(5.97)	6.0		985
Personal Income Taxes	(13.28)	13.3		2,191

[1] Totals may not coincide due to rounding

SOURCE: U.S. Department of Commerce, Bureau of Labor Statistics; Urbanomics Research Associates.

Table 18

THE PRIMARY AND INDUCED ECONOMIC IMPACT
OF PROJECT CONSTRUCTION PAYROLLS (NET DISPOSABLE, 1977 DOLLARS)

	Annual Basis			Project Basis		
	Primary	Induced	Total	Primary	Induced	Total
Hemet/San Jacinto (Local)	$1,186,200	$1,186,200	$2,372,400	$3,558,600	$3,558,600	$7,117,200
Riverside County (Regional)	$1,265,300	$1,265,300	$2,530,600	$3,795,800	$3,795,800	$7,591,600
Total Impact	$2,451,500	$2,451,500	$4,903,000	$7,354,400	$7,354,400	$14,708,800

SOURCE: Urbanomics Research Associates

It has been stated previously, that the estimated construction labor cost of the project would be approximately $9,193,000 over the three-year construction period. Thus, net disposable (spendable) payrolls are estimated to total $7,354,400. Urbanomics estimates that the induced economic impact of the project would equal a factor of one (1.0) times the net disposable payrolls of the project. Thus, the induced economic impact of the project would equal $7,354,400 times 1.0, or $7,354,400. Therefore, the total primary and induced economic impact, as a result of the injection of new jobs and payrolls, is estimated to total $14,708,800. This economic impact would occur over the three-year construction period for the project.

As previously stated, the primary and induced economic benefits of the project would have an impact on both the local and regional economies. The estimated distribution of the benefits, on an annual and project basis, is presented in Table 18. As shown, the Hemet/San Jacinto local economy would receive a total economic benefit (primary and induced) estimated to be $7,117,200.

The purchase of construction materials and supplies would have an additional primary impact on the local and regional economies. It is estimated that expenditures for construction materials and supplies would total $8,945,800 over the three-year period of project construction. These primary expenditures would serve to directly support the employee base of the various suppliers involved in the project. It is estimated that 20 percent of the cost of construction materials can be allocated to the employee payrolls of the

material suppliers. This amounts to $596,400 annually, or $1,789,000 over the three-year construction period of the project.

In summary, we can total all of the primary and induced economic effects of the proposed project and see that the project would have a significant beneficial impact on the local and regional economies. It has been shown that there would be a direct measurable impact in terms of new jobs, payrolls, income, spending and investment.

Table 19 summarizes the project impact of construction payrolls, material and supply purchases, and induced economic impacts. As can be seen, the estimated total impact of the proposed project is $35,493,200 over its three-year construction period.

3.12.2.2 Public Sector

Since the proposed project will open up land for future residential, commerical and industrial development, certain fiscal impacts will flow from the project.

To the extent that new residential, commercial and industrial developments occur, there will be additions to the assessed valuation base of the project area. In other words, the project provides the foundation for increases in the property tax base. The magnitude of future increases in the property tax base will depend upon (1) the types of private development; (2) inflationary trends, and (3) assessment practices. If $60,000 homes are constructed in the project area, the increase in assessed valuation per unit will be in the range of $15,000 per unit.

Additional fiscal benefits will result from the primary material expenditures of the project. Sales tax revenues amounting to $89,460 will accrue