

CONSERVATION ELEMENT

The Conservation Element of the Coachella General Plan identifies and establishes the City's official policy relative to the identification, establishment, preservation and management of natural resources in the City. The purpose of the Conservation Element is to provide official City policy which:

- Identifies areas in Coachella with substantial natural resources which shall be managed to prevent degradation, destruction and neglect.
- Identifies policies related to permissible uses and development standards within conservation areas, as well as programs to ensure the conservation of resources.
- Identifies desired courses of action and strategies which provide the means to implement the community's conservation policies.

EXISTING SETTING

Topographic Resources - The Mecca Hills are located in the northeastern quadrant of the Planning Area and cover approximately 30% of the Planning Area's total land area. These hills are not a dominant visual feature as are the Santa Rosa Mountains to the west. They do, however, provide an interesting visual backdrop to the community.

Geologic Resources - In terms of geologic formations and the geologic record, the Mecca Hills are very important to the worldwide geological community. The San Andreas Fault runs through the Planning Area along the base of the Mecca Hills and includes the Bishop ash bed located near the Mecca Hills Wilderness Area. Geologic field trips frequent this site as a prime viewing stop. Also of functional significance is the clay layer which underlies the valley floor around Coachella causing the presence of a perched water table throughout the area.

Archaeological Resources - The Desert Cahuilla Indians inhabited the Planning Area in prehistoric and historic time from the Coachella Valley as far south as the Salton Sea. These peoples had many villages throughout the Coachella Valley, subsisting on a variety of planted crops as well as hunting and gathering. Unlike many areas where water is

limited to mountain streams or springs, water was present in Coachella at the surface of the valley floor due to a perched water table. Consequently, water could be obtained through hand dug wells and evidence of Native American settlement and activity is plentiful throughout the valley floor. In the Mecca Hills, numerous Indian trails have been recorded, testament to the Native tradition of long distance travel and communications with neighboring bands.

Archaeological surveys conducted within the Planning Area have identified numerous archaeological sites. The majority of sites contain scatters of pottery fragments, chipped stone, fire-affected rock and burned animal bone, typical detritus from Indian occupation. More significant are a handful of Indian cremation sites which have been found. These are potentially sensitive and of great importance to Native Indians today. Archaeological sites range in size and significance from a small scatter of pottery shards to remains of major villages. Non-Indian sites are also recorded as scatters of old building materials and features with varying degrees of significance.

Historic Resources - The first settlers of the Coachella Valley and what is presently the City of Coachella appear to be the Cahuilla Indians who lived a semi-settled existence beside ancient Lake Cahuilla (once covering most of the valley) approximately 500 to 600 years before the first Anglo expedition to the area in 1853. In later years after Lake Cahuilla dried up, the Cahuilla Indians formed various subgroups settling at the base of mountains and within the mountains where springs were available. The Desert Cahuilla settled in the Coachella area subsisting on a variety of planted crops.

With the discovery of gold along the Colorado River, the Southern Pacific Railroad built a rail line through the Coachella Valley with the first train running through in 1876. Around the turn of the century, Coachella had become a railroad community which attracted Anglo settlers after the railroad drilled artesian wells, promoted agricultural opportunities and established the town site. Soon after, hotels, a school, an ice plant and various other businesses were established. Mexican immigrants also began to settle in the area, establishing farms, working as farm laborers or in

other occupations. By the 1920's, Coachella was the center of valley commerce.

Coachella's history between 1911 and 1920 included the conveyance of electrical lines to the area and establishment of an official Chamber of Commerce. By 1930, the first fire station had been built and natural gas lines extended to Coachella. Incorporation of the City of Coachella was approved on December 13, 1946. Coachella continued to grow with the delivery of Colorado River water via the All American Canal in 1949.

The only designated historic site within the Planning Area is the Coachella Valley Water District Building located at State Highway 111 and Avenue 52. This structure is identified as a California Point of Historical Interest and a Riverside County Historical Landmark.

Approximately 43 other structures with varying levels of historical potential are identified in the California Historical Resources Inventory. While none of these have been listed in the National Register of Historic Places, those which appear most eligible for inclusion are presented below. The majority of these properties are clustered within the historic town sites of Coachella and Thermal.

- McPheeters Ranch
84-801 Avenue 58, Thermal
- Covalda Date Company
51-392 Harrison Street, Coachella
- Women's Club of Coachella Valley
51-893 Harrison Street, Coachella
- Our Lady of Soledad Catholic Church
1612 First Street, Coachella
- Lopes Hardware Store
1604 Sixth Street, Coachella
- Submarine
1463 Seventh Street, Coachella
- Laflin Date Garden
88-217 Avenue 59, Thermal
- Friends of Jesus Church
85-490 Avenue 50, Coachella

- Power Office
1684 Ninth Street, Coachella
- DeVore Ranch
84-800 Bagdad Avenue, Coachella
- Clark Ranch
88-456 Avenue 57, Thermal

Biotic Resources - The City of Coachella is located within the Sonoran Desert region, a subarea of the Colorado Desert. This region is characterized by low precipitation, low humidity, hot summers, mild winters and seasonal winds.

Within the Planning Area, habitat areas can be divided into several broad classifications. These include:

- Urban development and agriculture in the valley floor west of the All American Canal containing only fragmented areas of undisturbed native vegetation
- Large, relatively undisturbed areas of native vegetation in the Mecca hills east of the All American Canal
- Small areas of wetland vegetation found in the southern portions of the Planning Area

The dominant native vegetation types of the area are Sonoran Creosote Bush Scrub and Colorado Saltbush Scrub. Plants in these communities are adapted to extreme environmental conditions. Some adaptations include modified leaves and stems, high water storage capacity, slow growth, dormant periods and short annual life spans. Other adaptations include deep root systems to reach water, losing leaves during dry conditions to conserve moisture or a combination of these.

Within the valley floor, native plant communities may be found on isolated areas of vacant land surrounded by agriculture or urbanization. Specifically, lands in the vicinity of the Thermal Airport and the reservations of the Cabazon and the Augustine Bands of Mission Indians contain areas of natural vegetation. Because of their fragmented nature and the fact that these plant communities are not considered as sensitive habitats by the California Department of Fish and Game, they are not considered to have a high habitat value.

The Mecca Hills area east of the All American Canal contains large portions of undisturbed native vegetation crossed by multiple United States Geologic Survey (USGS) blue-line streams. The Mecca Hills Wilderness Area, designated by the Bureau of Land Management, also occurs in this area and contains both public and privately owned lands. The Mecca Hills area is a large block of undisturbed natural land and is an extension of the Little San Bernardino Mountains and Orocopia Hills which increases the potential for the occurrence of sensitive species.

Various sensitive, threatened or endangered plant and animal species have been sited within the Planning Area. These species are listed below.

- Black-Tailed Gnatcatcher
- Crissal Thrasher
- Vermilion Flycatcher
- Coachella Valley Fringe-Toed Lizard
- Desert Tortoise
- Ferruginous Hawk
- Burrowing Owl
- Northern Harrier
- California Dityxis

In addition to the species occurring within the Planning Area, various others have been identified at nearby locations, primarily near Mecca and the Painted Canyons to the south. These species include:

- Prairie Falcon
- Willow Flycatcher
- Le Conte's Thrasher
- Yellow-Breasted Chat
- Pallid Bat
- California Mastiff Bat
- Pocketed Free Tailed Bat
- Palm Springs Groundsquirrel
- Colorado Valley Woodrat
- Cheesewood Owlfly
- Slender Woolly-Head
- Golden Eagle
- Flat-Tailed Horned Lizard

The Coachella Valley Fringe-Toed Lizard is a Federally threatened and State endangered species with historic habitat throughout the Planning Area. Habitat consists of fine, loose, windblown sand and is limited to sand dunes in the Coachella Valley. Records indicate that this species occurs in the

Indio Hills northeast of the project area and along Dillon Road approximately 2.5 miles east of State Route 111. A Habitat Conservation Plan (HCP) for this species was adopted in 1985 which imposed a development fee to acquire and maintain a habitat conservation preserve located near Thousand Palms. Within the Planning Area, the fee is imposed on properties located north of the Interstate 10 Freeway as depicted on Figure 37, Environmental Conservation Existing Setting.

Groundwater Resources - The City of Coachella is located within the Thermal Subarea of the Whitewater River Sub-basin of the Coachella Valley Groundwater Basin. Nearly all of the City's potable water supply is drawn via wells from the aquifers within this basin and, therefore, protection of the basin is considered a high priority for the City.

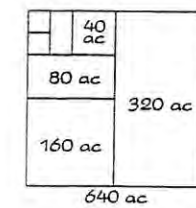
The Whitewater Sub-basin extends from the San Gorgonio Pass to the Salton Sea with the upper basin near Palm Springs acting as a primary recharge area while the lower basin, which contains Coachella and is overlain by a clay deposit, becomes pressurized when recharge exceeds extraction. With increased urbanization and agriculture, the basin has been in a state of overdraft for many years. This condition has been offset to a large degree in the upper basin by water recharge programs undertaken by the Coachella Valley Water District and the Desert Water Agency with secondary benefits of water migration to the lower basin. Overdraft conditions in the lower basin, however, have continued to worsen and similar management practices including replenishment fees and recharge basins are under consideration by the regional water agencies.

In Coachella, surface waters are effectively separated from the deep groundwater aquifer by an overlaying clay deposit. Consequently, a perched water table occurs throughout most of the Planning Area that is hydrologically linked to storm drainage and surface water issues. A series of agricultural tile drains artificially lower the perched water table in the agricultural areas south of Coachella, making cultivation possible. The perched water table poses a liquefaction issue over most of the City but can also be viewed as a potential resource for filling recreational water amenities in the City's proposed Entertainment Area.

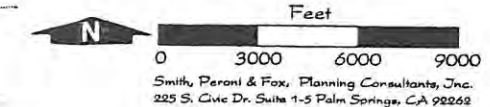


Environmental Conservation Existing Setting

-  Mecca Hills Wilderness Area-BLM
-  Mineral Resource Zone-2
(CDMG significant mineral deposit)
-  Other Areas with Mineral Potential
(BLM designation, mining claims, permitting activity)
-  Significant Agricultural Lands
(CDC Prime, Unique, Statewide & Local designations)
-  Endangered/Threatened Animal
Habitat Area (CDCAP)
-  CDFG Special Animal Area
-  Significant Geologic Formation
(Asterisks indicate key outcrops)

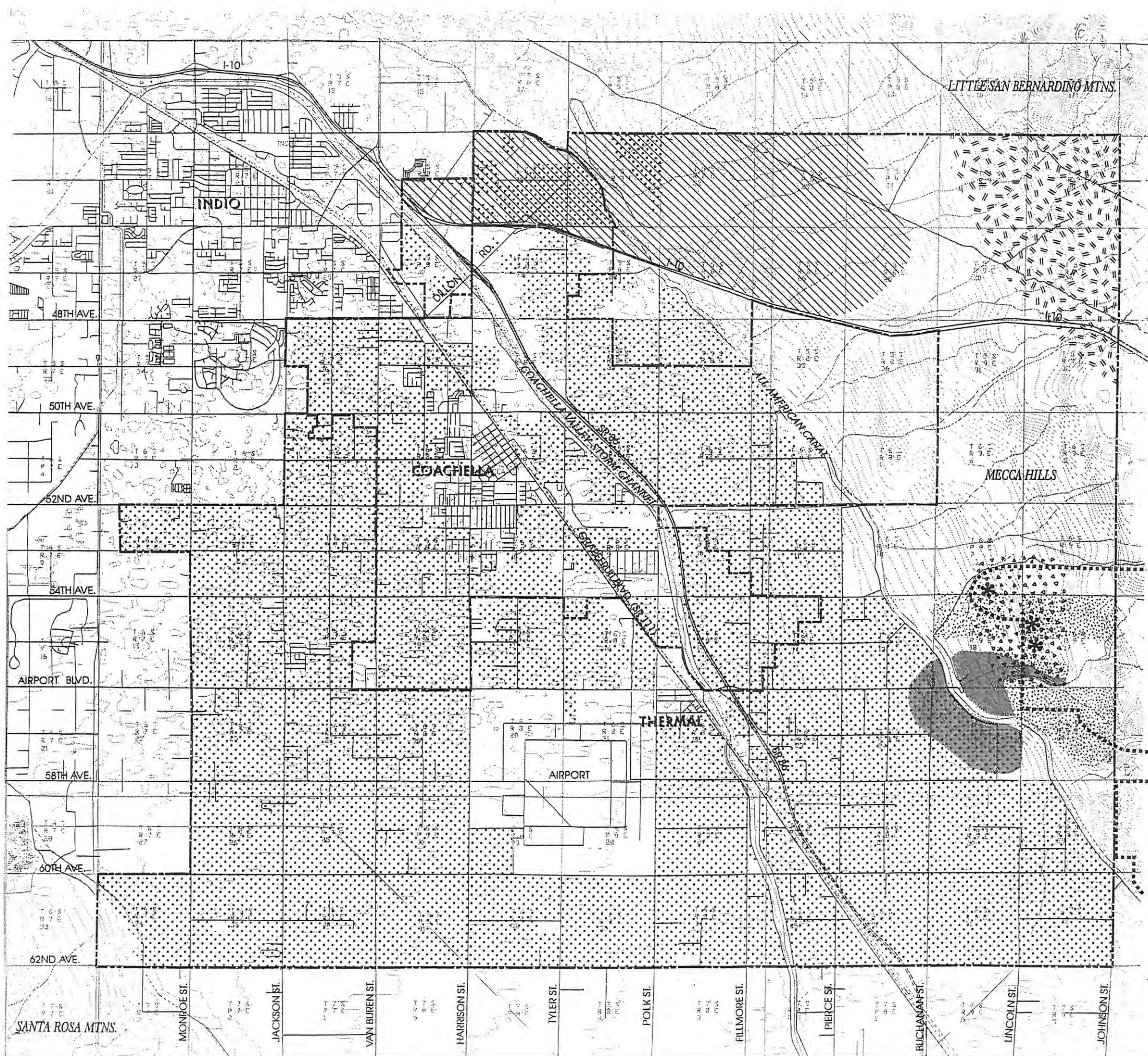


Sources:
 CDFG Natural Diversity Database, 1996
 Ca. Desert Conservation Area Plan, 1980
 CDC Farmland Mapping & Monitoring Prog., 1995
 Steven C. Suitt & Associates
 California Division of Mines & Geology



Smith, Peroni & Fox, Planning Consultants, Inc.
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Figure No.



Surface Water Resources - Two primary surface water features are found within the Planning Area. These include the Coachella Valley Stormwater Channel and the All American Canal. The Coachella Valley Stormwater Channel collects storm flows from the Whitewater River and conducts them to the Salton Sea. The channel is relatively dry for most of the year. The All American Canal carries water from the Colorado River to the Coachella Valley including the City of Coachella. Water from the Canal is used largely for agricultural irrigation and groundwater recharge.

Energy Resources - Conservation of energy resources is a high priority at both the national and local level. The high occurrence of clear, sunny days in the Coachella Valley facilitate the use of alternative energy sources, including solar power. Measures which result in the conservation of energy can be grouped into three primary categories. These include installing energy conserving features as a part of new construction, retrofitting existing construction with energy conserving features and encouraging the practice of conservation techniques by local residents.

Numerous programs relating to energy conservation are available to builders and property owners. Such programs are found at the federal, state, and local level and include a broad range of strategies and incentives.

EXISTING AND POTENTIAL MINERAL RESOURCES

The State Division of Mines and Geology has created an inventory of lands containing valuable mineral resources. Lands designated MRZ-2 indicate that mineral resources exist of sufficient quality and quantity to be considered a valuable asset worth preserving for mining purposes. State law requires the recognition of these lands by General Plans prepared within specific communities. Within the Coachella area, one MRZ-2 area exists which is located in the southern portion of the Mecca Hills and is identified on the Conservation Policy Diagram. In addition, while not currently quantified or designated, geologic formations suggest that much of the Mecca Hills may have similar mineral resource potential.

Existing or potential mineral resources in the Planning Area include sand and gravel, clay, oil and gas, and geothermal. Portions of the Mecca Hills and associated southwest trending tributaries or canyons contain sedimentary or alluvial deposits. These deposits are composed of sand and gravel

construction aggregate resources used for making concrete, asphalt, road base and sub-base materials, masonry sand, golf course sand and other concrete products. Clay is present as "brick-red" fault gouge within the San Andreas fault zone portion of the Mecca Hills. Also associated with the presence of the San Andreas fault zone and general vicinity is a moderate potential for low temperature (less than 90° centigrade) geothermal resources, and a low potential for oil and gas resources.

The California Department of Conservation, Division of Mines and Geology (CDMG) has estimated that the quantity of construction aggregate resources that occur in the Palm Springs Production-Consumption area as 3.2 billion tons, of which only 67 million tons were available as reserves as of 1988. Based on CDMG consumption forecasts, the available reserves in this Production-Consumption area would be depleted by the year 2012, unless additional resources are converted to reserves or alternative resources are utilized. Approximately 61 million tons or about 2% of the total sand and gravel resources in the Palm Springs Production-Consumption area were identified by the CDMG in 1988 to occur in the Planning Area. Clay resources, in excess of five million tons, have been identified along the San Andreas fault zone within the Mecca Hills. Clay mines south of the Planning Area have utilized this clay to seal irrigation canals or ditches. Oil and gas leases covered a high percentage of the Mecca Hills and vicinity as recently as 1983. According to the U. S. Geological Survey (USGS) and Bureau of Mines (BOM), the area southwest of the San Andreas fault has a low potential for oil and gas resources. Additionally, the USGS indicates that the Planning Area is situated within the Salton Trough region that has "significant lateral extent favorable for discovery and development of local sources of low-temperature geothermal water".

State law requires cities to designate such mineral deposits on their General Plan, and to avoid developing incompatible uses on or near them. Mining and processing aggregates or other minerals creates noise, dust and heavy truck traffic that is presently and potentially harmful to existing and proposed nearby residential areas. Impacts from construction or land use restrictions that prohibit mining would cause the loss of valuable mineral resources. This loss would be significant and generally cannot be mitigated.

A summary Planning Area checklist that presents the relative degree of concern for loss of mineral resources or impacts from mineral development is depicted in Figure 38, Mineral Resources, Summary Checklist of Mineral Resource Environmental Concerns.

Mineral Resource Mining History, Background and State Designations

- Documented historical exploration and mining of clay, sand and gravel, geothermal, and oil and gas resources has occurred in the Planning Area or vicinity since the early 1920's (Morton, et. al., 1988). Some of these deposits (sand and gravel) are considered to be regionally significant by the CDMG and have been designated by the State as mineral resource zones Figure 39, CDMG Mineral Land Classification and BLM Mineral Resource Potential Map. A brief explanation of exploration activity or actual mining of these deposits within the Planning Area or immediate vicinity are as follows.

Sand and Gravel Construction Aggregate History

- An unnamed canyon with alluvium and portions of the Mecca Hills underlain by sedimentary deposits, contain high quality construction aggregates that have been actively mined since the mid 1970's (Miller, 1988; Lilburn, 1994). Recognizing the significance of these mineral deposits, the CDMG has included the above aggregate areas in mineral resource zones as shown in Figure 40, The Palm Springs Production-Consumption Region. Urban preemption of prime sand and gravel deposits and conflicts between mining and other uses throughout California led to the passage of the Surface Mining and Reclamation Act of 1975 (SMARA). This Act requires all cities and counties to incorporate in their General Plans the mapped mineral resource designations approved by the State Mining and Geology Board. There are at least three designations used by the State Geologist to classify mineral lands. These designations or Mineral Resource Zones (MRZ's) are generally classified based on the suitability of sand and gravel deposits for use as Portland Cement Concrete (PCC) aggregate, and other geological factors. By statute, existing land use is not considered. The three mineral resource classifications commonly used by the State Geologist that are found in the Coachella General Plan Area as depicted on Figure 39, are as follows:

- An MRZ-1 classification includes areas where adequate information indicates that no significant aggregate deposits are present or where it is judged that little likelihood exists for their presence.

- Areas classified as MRZ-2 indicate that adequate information exist to prove that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. These deposits must be marketable under present technologic and economic conditions or which can be estimated to exist in the foreseeable future, and that contain in excess of \$5 million worth of aggregate material measured in 1978 dollars.
- Areas classified as MRZ-3 incorporate land containing aggregate mineral deposits, the significance of which cannot be evaluated from available data.

The most important classification is MRZ-2 because it signifies a valuable mineral resource. To further evaluate MRZ-2 areas, the CDMG has subdivided the MRZ-2 classification into sector designations. This assists with defining the quantities of available high quality mineral resources. Sectorization is important because it provides a semi-quantifiable estimate of construction aggregate resources which are likely to be available to satisfy societies needs for the next 50± years. Additionally, areas within MRZ-2 classifications are sectorized if they have current land uses which are similar to those areas that have had feasible mineral extraction in the past. According to the CDMG (Miller, 1988), MRZ and sector designations have not been amended since 1987.

Those portions of the Planning Area that have been classified as a MRZ-2 with resource sector designations are shown on Figure 41, Regionally Significant Construction Aggregate Resource Areas in the Palm Springs Production-Consumption Region, BLM Administered Lands Mining Claims, and Other Pre-Permitted Aggregate Production Areas. These sectors, located primarily in the southeasterly portion of the Coachella General Plan Area (Sector H-1 through H-3), indicate the existence of mineral deposits that meets certain criteria for value and marketability as defined by the CDMG and SMARA. The City of Coachella is required by SMARA to adopt policies recognizing the importance of all CDMG identified mineral resources (MRZ-2), clarifying the intent for which this information is to be used when making land use decisions in areas designated to be of statewide or regional significance, and emphasizing the conservation and development of the sectorized mineral deposits.

FIGURE 38

CITY OF COACHELLA MINERAL RESOURCES EVALUATION
 Summary Checklist of Mineral Resource Environmental Concerns

Category	Potential Hazard/Concern	Relative Degree of Concern				Comments
		None to Slight	Low	Moderate	High	
Loss of Mineral Resources	Loss of Access			✓	✓	Minimal roads
Loss of Mineral Resources	Deposits Covered by Changed Land Use Conditions			✓	✓	
Loss of Mineral Resources	Zoning Restrictions		✓			

*Compared to other areas of Southern California, as modified from California Division of Mines and Geology Note 46, Guidelines for Geologic/Seismic Consideration in Environmental Impact Reports



**CDMG Mineral Land Classification
Palm Springs Production-Consumption Region
Aggregate Resources**

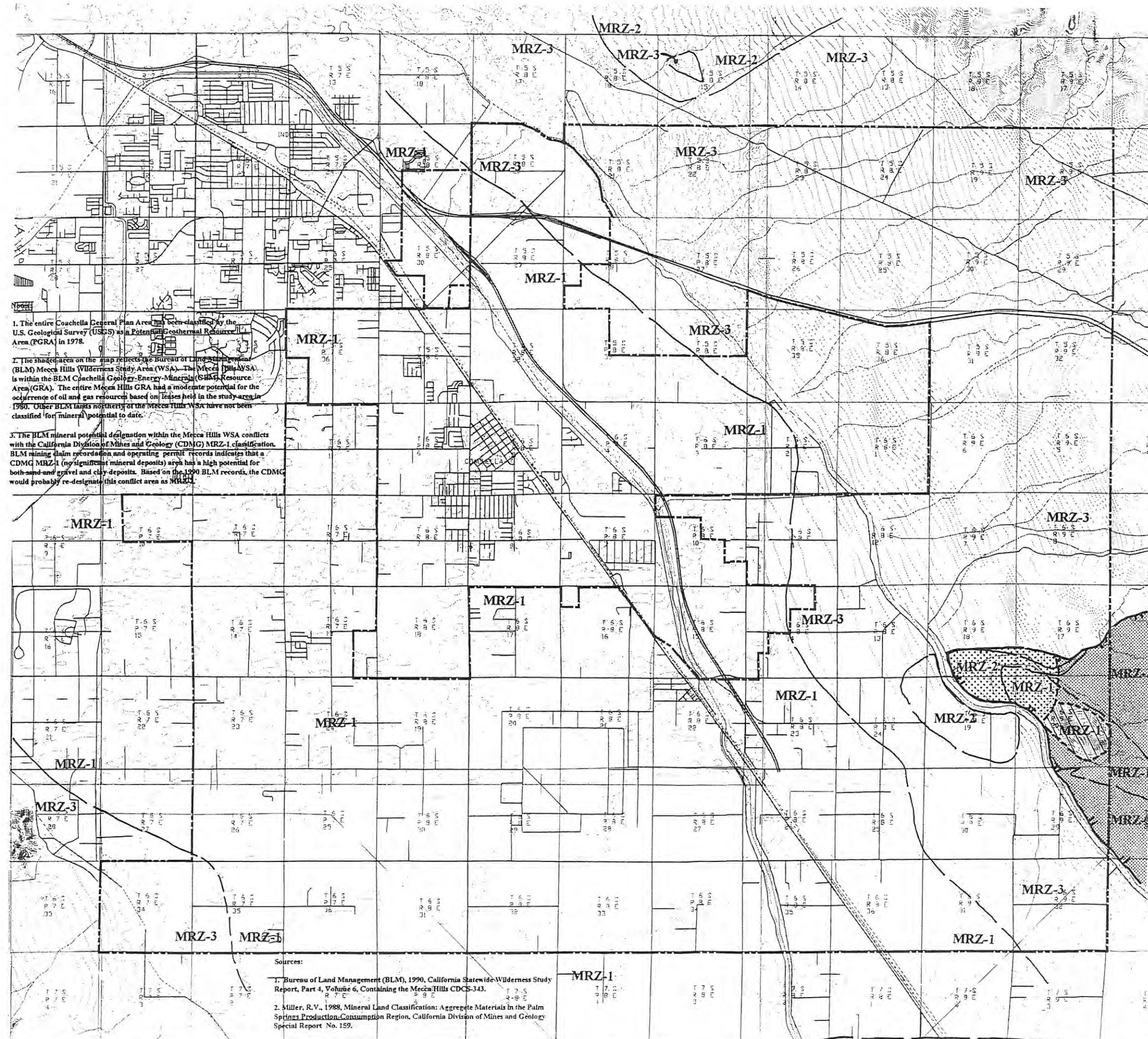
Explanation

- MRZ-1** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
 - MRZ-2** Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
 - MRZ-3** Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- Mineral Resource Zone (MRZ) Contact

BLM Mineral Resource Potential

Explanation

- High potential for the occurrence of Sand and Gravel deposits.
- High potential for the occurrence of Clay deposits.
- Moderate potential for the occurrence of Geothermal Resources.
- Boundary of Mecca Hills Desert Conservation Area - 343.
- Northern boundary of Known or Inferred Geothermal Resources (Thermal Waters for Direct heat or Aquaculture)



1. The entire Coachella General Plan Area has been classified by the U.S. Geological Survey (USGS) as a Potential Geothermal Resource Area (PGRA) in 1978.

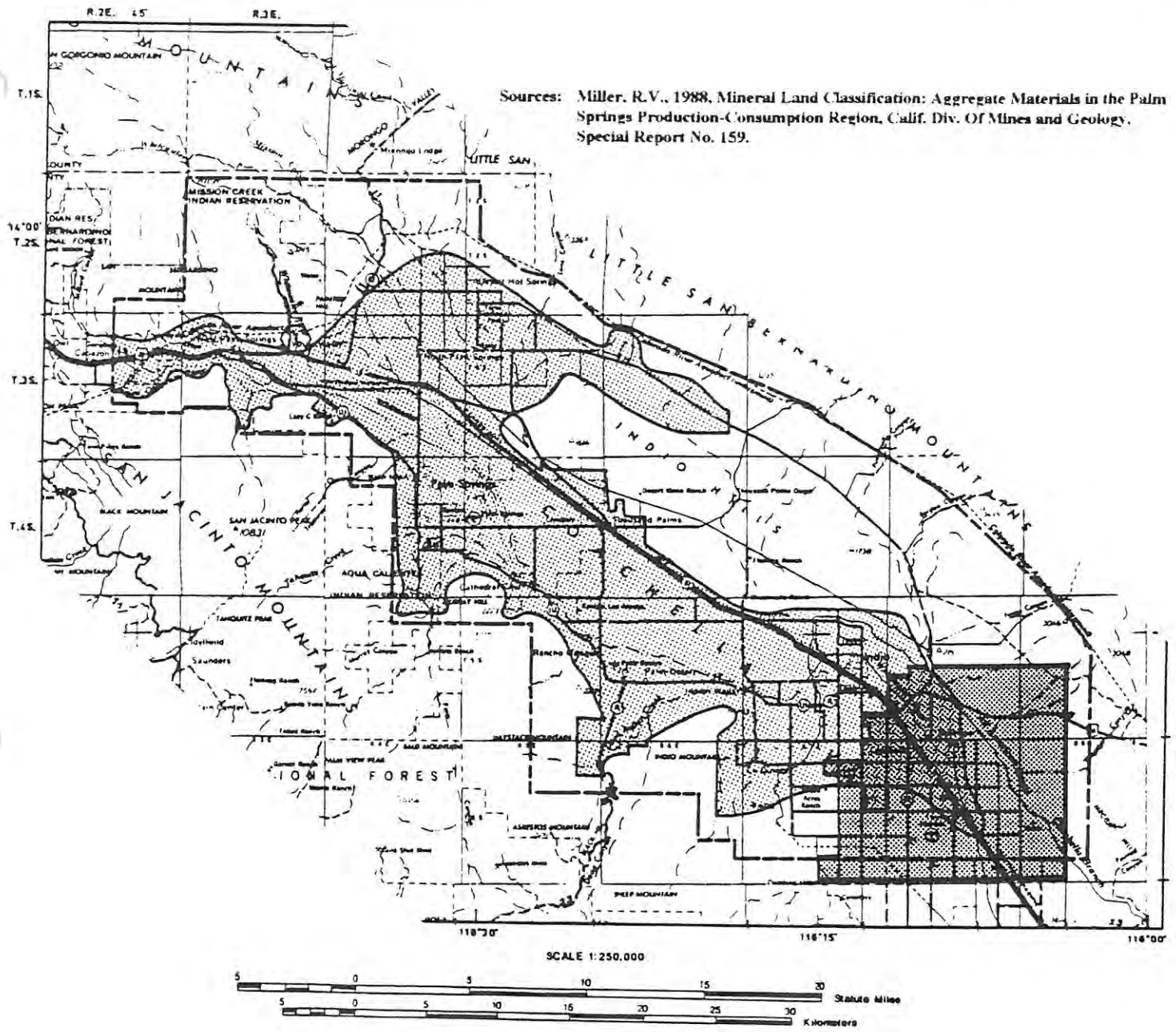
2. The shaded areas on the map reflect the Bureau of Land Management (BLM) Mecca Hills Wilderness Study Area (WSA). The Mecca Hills WSA is within the BLM Coachella Geology-Energy-Minerals (S&G) Resource Area (GRA). The entire Mecca Hills GRA had a moderate potential for the occurrence of oil and gas resources based on leases held in the study area in 1980. Other BLM lands north of the Mecca Hills WSA have not been classified for mineral potential to date.

3. The BLM mineral potential designation within the Mecca Hills WSA conflicts with the California Division of Mines and Geology (CDMG) MRZ-1 classification. BLM mining claim recordation and operating permit records indicates that a CDMG MRZ-1 (no significant mineral deposits) area has a high potential for both sand and gravel and clay deposits. Based on the 1990 BLM records, the CDMG would probably re-designate this conflict area as MRZ-2.

Sources:




1. Bureau of Land Management (BLM), 1990, California Statewide Wilderness Study Report, Part 4, Volume 6, Containing the Mecca Hills CDCS-343.
2. Miller, R.V., 1988, Mineral Land Classification: Aggregate Materials in the Palm Springs Production-Consumption Region, California Division of Mines and Geology Special Report No. 159.



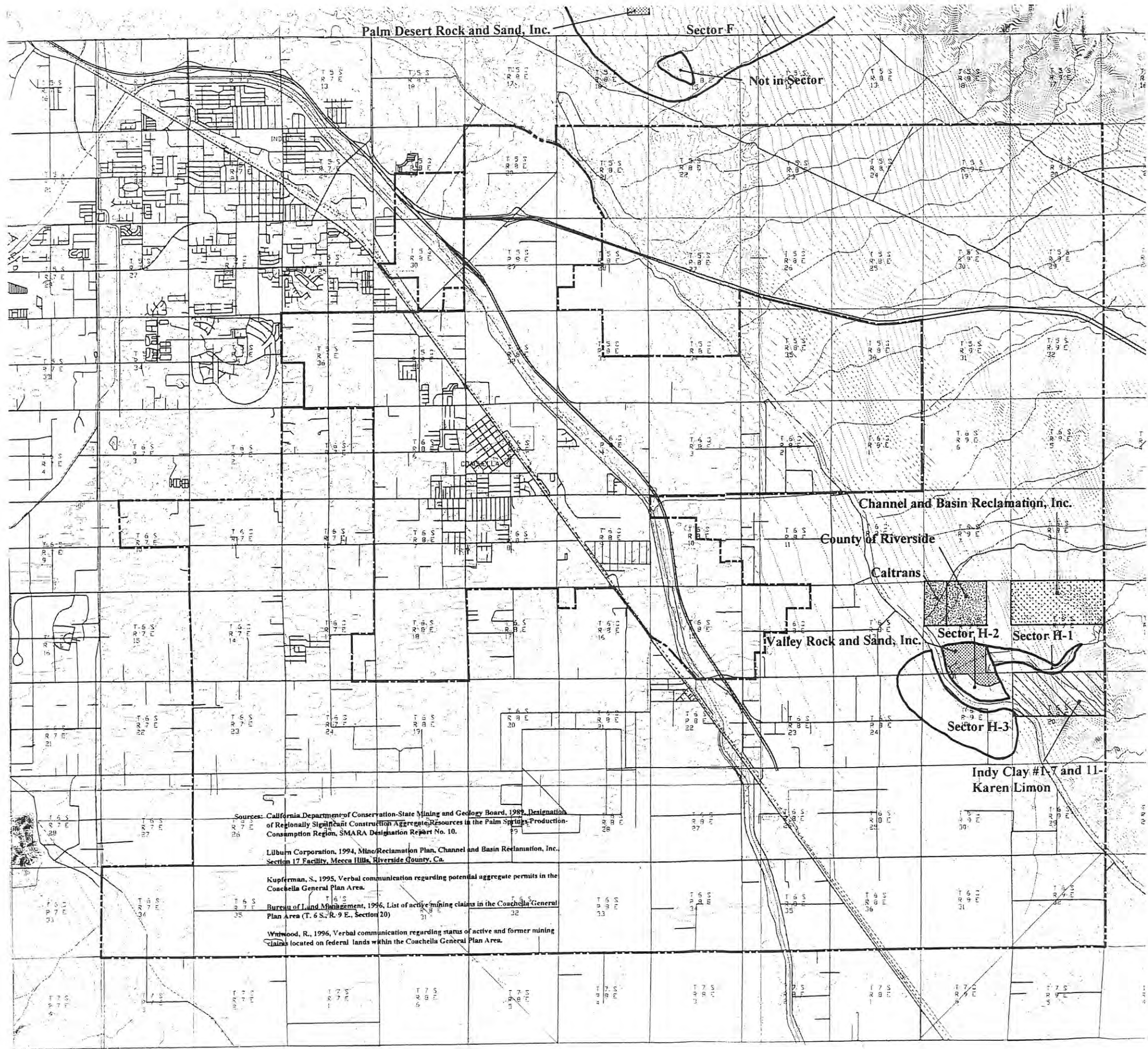


Sources: Miller, R.V., 1988, Mineral Land Classification: Aggregate Materials in the Palm Springs Production-Consumption Region, Calif. Div. Of Mines and Geology, Special Report No. 159.






Explanation

-  Palm Springs Production-Consumption Region
-  Areas Identified by OPR to be Urbanized or Potentially Urbanized by 1990
-  Coachella General Plan Area

Coachella General Plan Area
Figure



Explanation

-  Sector Boundary (CDMG MRZ-2)
-  Properties owned, controlled or permitted via regulatory agency by aggregate producers
-  Property proposed for mining by aggregate producers, but not yet permitted by regulatory agency
-  Property being mined by regulatory agency
-  Active Federal administered lands mining claim

Notes: The shaded areas on this map represent existing and potential near-future construction aggregate operations. The current status of mining claims situated on BLM lands may change due to new, 1996 assessment year information and the adjacent Mecca Hills Wilderness issues.

Sources: California Department of Conservation-State Mining and Geology Board, 1989, Designation of Regionally Significant Construction Aggregate Resources in the Palm Springs Production-Consumption Region, SMARA Designation Report No. 10.

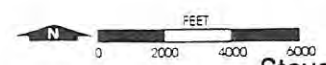
Lilburn Corporation, 1994, Mine Reclamation Plan, Channel and Basin Reclamation, Inc., Section 17 Facility, Mecca Hills, Riverside County, Ca.

Kupferman, S., 1995, Verbal communication regarding potential aggregate permits in the Coachella General Plan Area.

Bureau of Land Management, 1996, List of active mining claims in the Coachella General Plan Area (T. 6 S., R. 9 E., Section 20)

Winwood, R., 1996, Verbal communication regarding status of active and former mining claims located on federal lands within the Coachella General Plan Area.

Coachella General Plan Area
 Figure
 Regionally Significant Construction Aggregate Resource Areas in the palm Springs Production-Consumption Region, BLM Administered Lands Mining Claims, and Other Pre-Permitted Aggregate Production Areas



Steven C. Suitt and Associates
 Consulting Engineering, Mining and Environmental Geologists,
 Hydrogeologists and Earth Science Professionals

Clay Resources History - Based on Bureau of Land Management (BLM) mining claims recordation information, there has been a brief history of clay mining or mining claim assessment activity in the Mecca Hills portion of the Planning Area since about 1972. Actual mine development or production activity has been minimal. A mining claim Plan of Operation with a reclamation bond was filed for extraction of clay resources along the San Andreas fault within the Planning Area in 1987 (BLM, 1990). The Skeleton Canyon Mine (south of the General Plan Area), consisted of bulldozer cuts in 50 to 100-foot thick, low-swelling calcium bentonite that was utilized to seal nearby irrigation canals (Crowell and Sylvester, 1979). Clay resources, in excess of five million tons have been identified at this mine. Additionally, the Red Top Mine within the Planning Area was mined for clay prior to 1988 (Morton, et. al, 1988).

Oil and Gas Resources History - Leases for oil and gas covered a majority of BLM lands within the Mecca Hills portion of the Planning Area in 1980 (BLM, 1990). Oil and gas exploration in the Mecca Hills and vicinity has occurred sporadically since 1921. One drill hole was performed south of the Planning Area to a depth of 3,792 feet in T. 7 S., R. 10 E., Section 25 in 1923. The driller's well log of the Spindletop Oil Association Well No. 1 reported shows of gas and heavy oil. There has been no known work since this date to confirm the results of this report (Morton, et. al, 1988).

Geothermal Resources History - According to Majmundar (1983), there have been at least two geothermal wells drilled within close proximity to the Planning Area that have produced hot water greater than 32° C. The heat source for these geothermal fluids is assumed to be a probable magmatic body at depth that helps heat fluids circulating along fault zones, such as the San Andreas fault. Currently, low temperature geothermal wells are being used for aquaculture, direct heat or agricultural uses in the community of Mecca, south of the Planning Area.

Mineral Resources and Construction Aggregate Sites - Based on published data (see References), a summary description of the existing or potential mineral resources, which include Sectorized or MRZ-2 sand and gravel construction aggregate, clay, oil and gas and geothermal deposits, in the Planning Area is as follows.

Sand and Gravel Construction Aggregate Mineral Resources - An unnamed canyon with alluvium, identified as Sectors H-1 to H-3 by the

CDMG, and portions of the Mecca Hills underlain by sedimentary deposits with a CDMG classification of MRZ-3 adjacent to this canyon are currently being mined or being proposed for mining of high quality, sand and gravel type construction aggregates as shown on Figures 39, 40 and 41. According to the CDMG, Sector H-1 to H-3 alluvial deposits contain approximately 61 million tons of sand and gravel resources or about 2% of the total sand and gravel resources in the Palm Springs Production-Consumption area.

Alluvial and sedimentary deposits in the northeastern portion of the Planning Area have been classified by the CDMG as MRZ-3 for potential construction aggregate resources. Considering that construction aggregate producers are currently mining similar alluvial deposits or are applying for permits to mine similar deposits within the Planning Area and vicinity, conversion of the MRZ-3 classification to a MRZ-2 with a Sector designation within this portion of the Planning Area is likely in the near future.

Construction Aggregate Sites - There are currently four existing or potential aggregate production sites or plants in the easterly portion of the Planning Area. The current or proposed construction aggregate sites are depicted on Figure 40 and are briefly summarized as follows:

- Valley Rock and Sand, Inc. A major portion of Sector H-2 is currently being mined for construction aggregate by Valley Rock and Sand, Inc. Aggregate mining in this Sector has been active since about 1976. As of 1988, this company had 21 acres of Sector H-1 under permit. Mining of sand and gravel construction aggregate resources at this location is used for making concrete, asphalt, road base and subbase materials, masonry sand and golf course sand.
- Public Agency Sites. The County of Riverside and Caltrans mine sand and gravel deposits from construction borrow pits northerly of Sector H-2 in the easterly portion of the Plan Area. These borrow areas have been in operation since about 1990, approximately coinciding with the closure of Riverside County Highway Department's La Quinta borrow area. Sand and gravel materials mined at this location are apparently utilized as road base and asphaltic aggregate.
- Channel and Basin Reclamation, Inc. This company has applied for mining permits with

the County of Riverside to produce concrete aggregate, asphalt aggregate, base materials and sand in an area northerly of Sector H-1 as shown on Figure 40. This 320 acre project site contains 47 acres of alluvial and sedimentary bedrock type deposits with an estimated 30 million tons of reserves based on an average mining depth of 30 feet. It is anticipated that this MRZ-3 site will be converted to a MRZ-2 classification by the CDMG.

Regional Construction Aggregate Mineral Resource Projected Needs

- The CDMG has estimated that the quantity of construction aggregate resources that occur in the Palm Springs Production-Consumption area as 3.2 billion tons, of which only 67 million tons were available as reserves as of 1988. Based on CDMG aggregate consumption forecasts through the year 2035, the Production-Consumption Region sand and gravel needs for the area has been estimated to be 156 million tons. Considering the status of available reserves in this Production-Consumption area as of 1988, this mineral resource would be depleted by the year 2012, unless additional resources are converted to reserves or alternative resources are utilized (Miller, 1988).

Clay Mineral Resources - Within the Planning Area, clay is present as "brick-red" fault gouge within the San Andreas fault zone portion of the Mecca Hills. Several BLM mining claims have occurred in this area since about 1972. Although classified as MRZ-1 (low likelihood of mineral occurrence) by the CDMG, the BLM has classified mining claims, such as the Indy Clay #1 to #7 and #11 as shown on Figure 39, in the easterly portion of the Planning Area as having a high potential for the occurrence of clay deposits. These BLM mining claims located for clay resources are partially included within the Mecca Hills Wilderness Area and are currently "inactive" based on assessment year data (Waiwood, BLM Geologist, 1996). However, privately held lands within the fault zone adjacent to these claims are being considered for a clay mining permit application (Steve Kupferman, Riverside County Geologist, 1995). Clay mines south of the Planning Area have historically utilized this clay to seal irrigation canals or ditches. Although Clay mining is not presently occurring within the Planning Area, it should be anticipated based on past use and current interest.

Oil and Gas Resources - Oil and gas leases covered a high percentage of the Mecca Hills and

vicinity as recently as 1983. The folds and faults west of and near the San Andreas fault zone locally form discontinuous, complex structures that make small but favorable traps for hydrocarbons (Sylvester and Smith, 1976). Exploration activity since 1921 has not yielded positive results, however. According to the U. S. Geological Survey (USGS) and Bureau of Mines (BOM), the area southwest of the San Andreas fault has a low potential for oil and gas resources.

Geothermal Resources - The northerly boundary of a CDMG classified, known or inferred geothermal resource area with shallow (less than 1000 meters), thermal water of sufficient temperature for direct heat applications occurs approximately one mile south of the Planning Area. The entire Planning Area lies within a region identified as favorable for the discovery at shallow depth of thermal water of sufficient temperature for direct heat applications (Majmundar, 1983). Additionally, the USGS indicates that the Planning Area is situated within the Salton Trough region that has "significant lateral extent favorable for discovery and development of local sources of low-temperature (less than 90° centigrade) geothermal water". The heat source for these geothermal fluids is assumed to be a probable magmatic body at depth that helps heat fluids circulating along the fault zones in the Salton Trough area (Sammel, 1979). Accordingly, the potential for low-temperature (less than 90° centigrade) geothermal resources is moderate within the Planning Area (Morton, et. al., 1988).

Mineral Resource Impacts - Only 67 million tons of sand and gravel construction aggregates were identified as reserves in the Palm Springs Production-Consumption area as of 1988. Based on CDMG consumption forecasts, this mineral resource could be depleted by the year 2012, unless additional resources are converted to reserves (such as geologic investigation that lead to the conversion of MRZ-3 areas to MRZ-2 areas) or alternative resources are utilized. Any loss of current reserves located within CDMG Sectors H-1 to H-3 due to land-use decisions, such that might affect mining access, transportation routes and CDMG designations, or development impacts will possibly shorten the above depletion date. Clay, oil and gas and/or geothermal resources are generally associated with the presence of the San Andreas fault zone within the Planning Area. Those minerals identified within close proximity to the San Andreas fault zone would be impacted by land-use decisions in a similar manner as construction aggregate resources.

The impacts from the loss of mineral resources is primarily economic. The CDMG has termed the loss of mineral resources as a significant geologic hazard worth several billion dollars. Impacts from construction of surface developments overlying these mineral reserves and/or resources or land-use restrictions that prohibit their development would constitute a loss of valuable mineral resources.

Mining, processing and production activities within existing and potential mineral sites can impact existing, nearby and potential development. These impacts include noise, dust and truck traffic that is presently and potentially harmful to existing and proposed nearby residential areas.

Mineral Resource Mitigation - In general, construction aggregates and other minerals are considered a non-renewable resource. The City of Coachella is required by State law to adopt policies recognizing the importance of construction aggregates and other mineral resources and reserves. It is also responsible for designating Regionally Significant Construction Aggregate Resource Areas or identifying mineral resources to be conserved. Two types of impacts must be considered: adverse effects of urban development or other land-use restrictions on future availability of the mineral resource and adverse effects of urban development on potential increased mining, processing, and transportation of construction aggregates and other mineral resources.

Considering that those portions within the Planning Area that have been identified to contain mineral potential are sparsely populated, mineral resource mitigation should primarily reflect conservation and open space issues. Identified Mineral Resource Zone (MRZ-2) areas within the Planning Area should be conserved to assist with retaining aggregate reserves sufficient to supply a commensurate portion of the Palm Springs Production-Consumption Region for the next 50 years. Sufficient MRZ-3 classification areas should also be conserved, where appropriate, in the northeastern Planning Area to assist with supplying the regional demand for the next 100 years, primarily along the San Andreas fault zone where there is also a high to moderate potential for the occurrence of clay and geothermal resources. Considering that this northeasterly portion of the Planning Area consists of Public lands and sparsely populated private lands, potential future land use conflicts would be minimal or avoided as a result of designating this area for conservation or open space. Proper land use planning and mitigation would also be provided by SMARA guidelines that include reclamation plans and financial assurance

bonds, or through discretionary review of each mining permit application.

SUMMARY OF KEY PLANNING ISSUES

The following key planning issues are addressed in the policies of the Conservation Element.

- Geologic features, endangered wildlife and plant species habitat areas, historic and archaeological resource areas, mineral resource areas and agricultural soils unique to the Planning Area should be preserved.
- Scenic corridors, vistas and viewsheds of the Santa Rosa Mountains and the Mecca Hills should be preserved.
- Energy conservation measures which encourage the use of solar panels, wind energy and projects demonstrating the best available technologies of energy efficiency should be incorporated in the General Plan. Utility resources should be conserved utilizing a variety of feasible strategies.
- Significant mineral deposits and routes for the transport of excavated materials should be identified and preserved.
- Sensitive land uses adjacent to mineral resource areas should be protected from the adverse impacts of mineral extraction activities.
- The City should be protected from the adverse impacts of stormwater runoff, including property damage as well as water quality degradation.
- The quality and quantity of groundwater should be protected and maintained.
- Water conservation efforts should be maintained, expanded and implemented.
- Geothermal resources should be explored as alternate energy sources.

CONSERVATION VISION STATEMENT

The essence of Coachella's vision for conservation is captured in the following statement.

The conservation vision includes protection of the natural environment, maximization of resources and exploration of alternate energy resources.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Conservation Element is one of thirteen elements in the Coachella General Plan. The development policies within the Conservation Element are closely related to the policies within the Land Use, Open Space & Environmental Hazards Elements. The policies contained in this element shall be consistent with all other elements of the General Plan.

CONSERVATION POLICY DIAGRAM

The conservation policies are depicted on Figure 42, Conservation Policy Diagram. This diagram depicts the Mecca Hills Wilderness Area, the Mineral Resource Area, and other agricultural and geologic resource.

CONSERVATION ELEMENT GOALS, OBJECTIVES AND POLICIES

The City of Coachella's official development policies related to conservation are presented below. In the context of this General Plan, development policies include goals, objectives, and policies based on the definitions given in the Introduction.

Goal

The City shall protect the visual aesthetics of the Mecca Hills and Santa Rosa Mountains.

Objective

The City shall utilize a variety of alternative methods to protect the visual aesthetics of the Mecca Hills and Santa Rosa Mountains.

Policy

The City shall designate publicly owned portions of the Mecca Hills as Open Space on the Conservation Policy Diagram. The areas

designated as open space shall be consistent with the Open Space Policy Diagram and the Land Use Policy Diagram. Development in hillside areas shall be consistent with applicable policies in the Land Use and Open Space Elements.

Policy

Development in the City shall minimize alterations to the natural topography.

Policy

The City shall require that grading of projects in sensitive locations shall be limited as much as possible and where grading is approved, repairs shall be required to restore the damaged area to as close to a natural condition as is possible.

Goal

The City shall identify, evaluate and mitigate adverse effects to historic, archaeological and culturally significant sites.

Objective

The City shall take all action necessary to protect historic building, archaeological resources or any other objects of historic significance from the effects of proposed development projects.

Policy

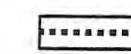

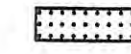
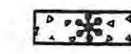

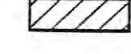
The City shall require an identification of resources through a record search and survey followed by a field survey by a qualified archaeologist or historian. Cultural resources at this point are identified, described and recorded.

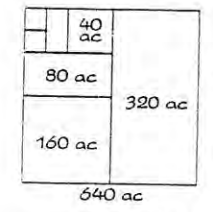
Policy

Sites that have been identified and recorded shall be evaluated for significance under criteria established for both state, CEQA and Federal Section 106 Guidelines.

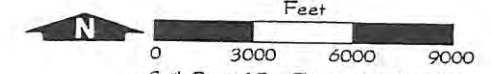


Environmental Conservation Policy Diagram

-  Mecca Hills Wilderness Area
-  Mineral Resource Area
-  Coachella Valley Fringe-Toed Lizard Habitat Conservation Preserve Development Fee Area
-  Geologic Resource Area
(Asterisks indicate prime outcrops)
-  Agricultural Retention Area
-  Agriculture to Urban Transition Overlay

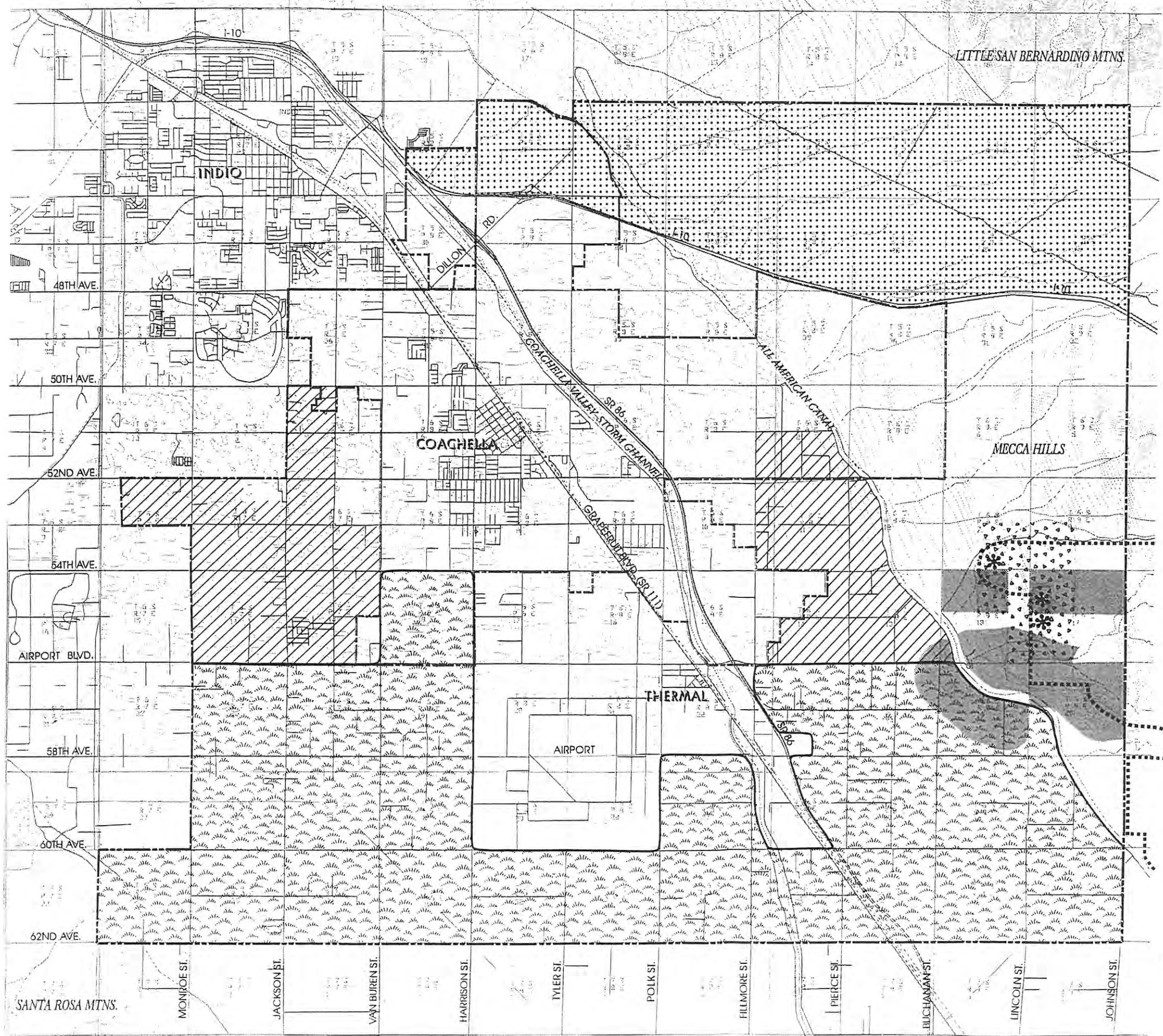


Sources:
 City of Coachella
 Smith, Peroni & Fox
 Steven C. Suitt & Associates



Smith, Peroni & Fox, Planning Consultants, Inc.
 225 S. Civic Dr. Suite 1-5 Palm Springs, CA 92262

Figure No.



Policy

The City shall require that sites which are determined to be significant shall have adverse effects mitigated. Mitigation can take many forms.

Policy

The City shall include areas with significant historical, archaeological and paleontological resources into open space areas where possible.

Goal

The City shall require preservation of the habitat areas of rare, threatened and endangered wildlife and plant resources within open space areas.

Objective

The City shall utilize a variety of alternative means to ensure that the habitat areas of rare, threatened and endangered wildlife and plant resources are conserved.

Policy

The City shall coordinate with the appropriate governmental agencies to identify and locate habitat areas of rare, threatened and endangered wildlife and plant resources.

Policy

The City shall require that project sites and development plans be reviewed by a qualified wildlife biologist and horticulturist to identify any impacts to habitat areas of rare, threatened and endangered wildlife and plant resources and to recommend appropriate mitigation measures.

Policy

The City shall promote wildlife refuges and preserves, including the Coachella Valley Fringe-toed Lizard Habitat Conservation Preserve, for the protection of habitat areas of threatened and endangered wildlife species.

Policy

The City shall require appropriate mitigation measures to protect rare, threatened and endangered wildlife and plant resources. Where appropriate, portions of proposed projects shall be designated as Open Space on the Conservation Policy Diagram and the Open Space Policy Diagram to ensure preservation.

Goal

Protect water resources in the Coachella Valley that are impacted by actions within the Planning Area.

Objective

The City shall ensure, through appropriate conservation efforts, that an adequate supply of quality domestic water is available to all citizens in Coachella.

Policy

The City shall prepare and adopt a water efficient landscape ordinance.

Policy

The City shall prepare a plan for the use of reclaimed waste water.

Policy

The City shall coordinate with the CVWD in public education efforts which encourage the conservation of water.

Policy

The City shall coordinate with the CVWD in evaluating strategies to increase the amount of recharge to the underground aquifer through the use of site design techniques, turf and agricultural irrigation methods, and the utilization of tertiary treated wastewater.

Policy

Domestic water supplies should be conserved through the use of Colorado River water and reclaimed water for irrigation purposes.

Goal

The City shall protect soil from erosion and from the buildup of salts on productive agricultural lands.

Objective

Conservation of soils is warranted to ensure an adequate supply for agricultural purposes in the future.

Policy

The City shall designate as Agricultural (AG) on the Land Use Policy Diagram significant areas of prime soil that are currently under agricultural production. These areas shall be encouraged to remain in open space.

Policy

The loss of soils through erosion shall be minimized through regulation of grading practices, and the conservation of native vegetation.

Policy

The City shall limit the density and intensity of development in areas with slopes greater than 10% and shall prohibit development of areas with slopes greater than 20%.

Policy

The City shall coordinate with the Coachella Valley Resource Conservation District and local farmers to develop a management program to minimize the impacts of tilling on soil erosion.

Policy

The City shall promote agricultural practices that eliminate the buildup of salts in the soil.

Goal

The protection of mineral resources for extraction is important to the regional and national economies.

Objective

To minimize impacts of mining on the Planning Area.

Policy

The City shall conserve MRZ-2 to assist in retaining aggregate reserves that are sufficient to supply a commensurate portion of the Palm Springs Production-Consumption Region for the next 50 years.

Policy

The City shall conserve MRZ-3 to assist in retaining aggregate reserves that are sufficient to supply a commensurate portion of the Palm Springs Production-Consumption Region for the next 100 years. This is primarily along the San Andreas Fault Zone where there is also a high to moderate potential for the occurrence of clay and geothermal resources.

Policy

The City shall utilize proper land use planning and mitigation techniques as provided by SMARA Guidelines, including reclamation plans, financial assurance bonds and discretionary review of each mining permit application.

Goal

The conservation of energy resources and the development of alternative energy sources shall be encouraged by the City.

Objective

The City shall plan for energy conservation in the development of new projects and the provision of services.

Policy

The City shall encourage energy conservation in the development of new projects through proper orientation of the building, shading standards, and by incorporating into City codes planning and building standards which reduce the consumption of energy resources.

Objective

The City shall identify alternative methods of providing energy including solar, geothermal and new techniques.

Policy

The City shall encourage the use of solar energy and other energy sources.

Policy

The City shall explore the potential for the development of geothermal resources as an energy source.

CONSERVATION ELEMENT IMPLEMENTATION MEASURES

The various actions, programs and strategies the City should take to implement the goals, objectives and policies of the Environmental Conservation Element are presented on Figure 43, the City of Coachella Environmental Conservation Element Implementation Measures.

- Implementation Measure - Includes a description of the action program and/or strategy which implements the environmental conservation development policies.
- Purpose - Identifies the intent and purpose of accomplishing the implementation measure.
- Key Participants - Identifies the appropriate public and/or private body, agencies, group, individuals or volunteers responsible to complete the implementation measure.

Implementation Measures	Purpose	Key Participants
Identify solar and other energy sources, the techniques for their use and incorporate into a new ordinance	Develop new energy sources	City Council City Manager
Explore the potential for the development of geothermal resources as an energy source	Develop new energy sources	City Council City Manager

FIGURE 43

CITY OF COACHELLA CONSERVATION ELEMENT
IMPLEMENTATION MEASURES

Implementation Measures	Purpose	Key Participants
Prepare additional study on historic archaeological and culturally significant sites	Achieve a higher level of available data for evaluation of project sites	City Council Planning Commission Planning Department
Establish a historical committee	Review project proposals and protect resources	City Council Planning Commission Planning Department
Prepare and adopt a water efficient landscape ordinance	Preserve water sources	City Council Planning Commission Planning Department Engineering Department
Prepare a plan for the use of reclaimed wastewater	Preserve water resources	City Council Engineering Department Public Works Department Coachella Valley Water District
Prepare and distribute public education pamphlets to encourage water conservation	Preserve water resources	City Council Public Works Department Coachella Valley Water District
Evaluate strategies to increase the amount of recharge to the underground aquifer	Preserve water resources	City Council Public Works Department Coachella Valley Water District
Prepare ordinance that includes land use planning and mitigation techniques as provided by SMARA Guidelines including reclamation plans, financial assurance bonds and discretionary review of mining permits	To protect mineral resources and minimize the impacts of mining on the Planning Area	City Council Planning Commission Planning Department

Implementation Measures	Purpose	Key Participants
Identify solar and other energy sources, the techniques for their use and incorporate into a new ordinance	Develop new energy sources	City Council City Manager
Explore the potential for the development of geothermal resources as an energy source	Develop new energy sources	City Council City Manager