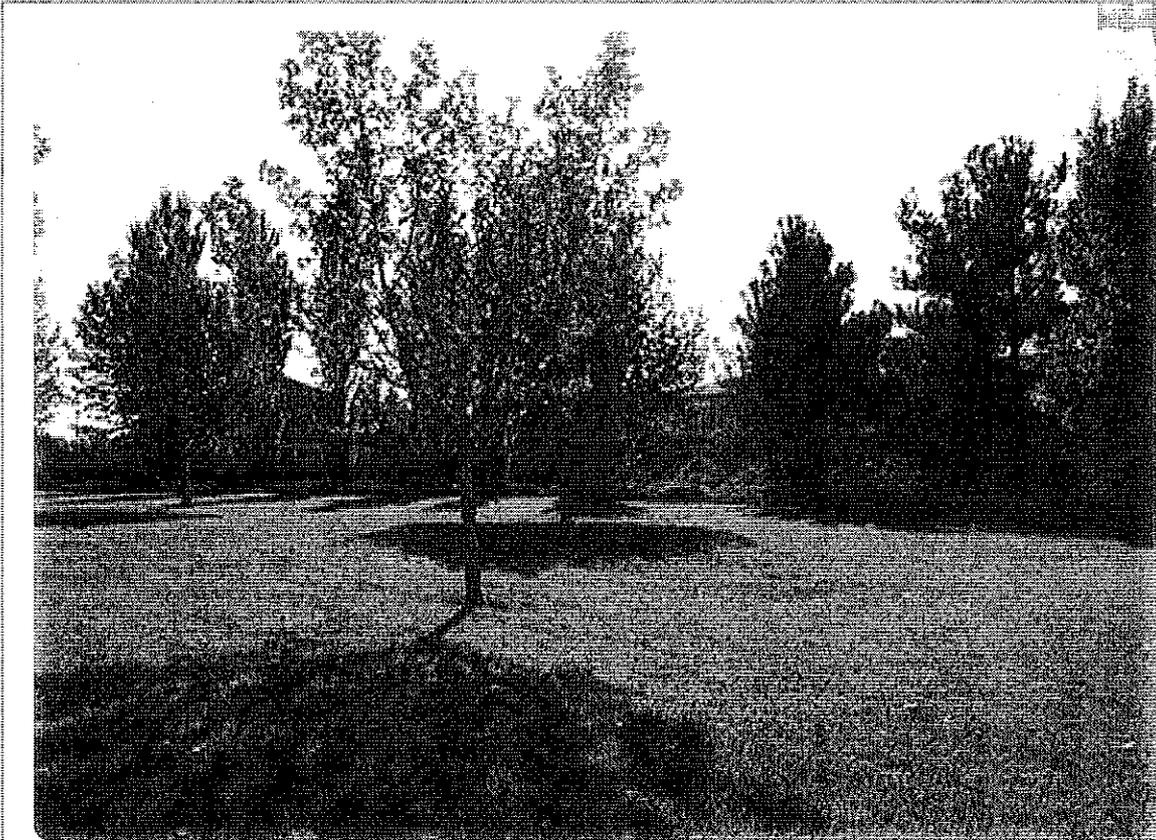


Resource Element



Resource

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Resource Element

PURPOSE

The Resource Element is intended to function as a guide to the protection, use and maintenance of the City's natural and cultural resources and a variety of open space lands, and to fulfill the state mandated requirements for a Conservation Element and an Open Space Element.

Section 65302(d) of the Government Code requires that a General Plan include a Conservation Element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. In the Victorville Planning Area, there are no waterfalls, dams, or other types of natural or man-made water resources that would enable economic uses of hydraulic force(s) of water. There are no forests, no harbors, and no fisheries in the Planning Area. This element will not, therefore, discuss any of those types of natural resources.

Government Code Section 65560 requires that the General Plan include an Open Space Plan for the comprehensive and long-range preservation and conservation of "open space land". Open-space is defined in the Land Use Element as land that is to remain undeveloped due to severe development constraints, reserved public open space in parks, and lands that support rare, threatened or endangered plants and wildlife.

Given the range of natural and cultural resources, natural hazards, and outdoor recreation resources and opportunities that occur in the Planning Area, this Resource Element encompasses the following topics:

- Water Supply and Water Quality

- Cultural Resources, including archaeological, paleontological resources and historic resources
- Biological Resources, including floral and faunal resources and the West Mojave Coordinated Management Plan
- Air Quality
- Mineral Resources
- Outdoor Recreation
- Natural Hazards
- Agricultural Resources
- Solid Waste Management

RELATIONSHIP TO OTHER ELEMENTS

Open space resources are also addressed in the Land Use Element; the same lands are designated in this element and the Land Use Element for the same conservation and open space purposes. Policies and implementation measures supporting conservation and open space goals and objectives in this element reinforce and provide additional direction concerning these issues, beyond the policy framework expressed in the Land Use Element.

VISION – CONSERVATION AND OPEN SPACE

Without a thorough and forward-looking Conservation and Open Space Plan, the process of urbanization could damage natural and cultural resources that provide important scenic, recreational and environmental assets for the community, or could

expose new development to significant natural hazards. The goals, policies and implementation measures of this Resource Element envision a Victorville that has each of the following characteristics:

- Conservation of the Mojave River corridor for flood hazard protection, wildlife habitat and movement, and aesthetic value.
- Expansion and linkage of recreational and visual open space throughout the developed community
- A plentiful variety of outdoor recreation opportunities, for existing and future residents
- Conservation of endangered species and habitat
- Preservation of important archaeological, historical, and paleontological resources.
- Flood control and watershed protection
- Protection and enhancement of water resources
- Avoidance and mitigation of natural hazards
- Consideration of mineral resources in land use planning decisions.

EXISTING CONDITIONS

Water Supply and Water Quality

Water Supply



The City of Victorville is located within and draws all of its water supply from the Alto (or "Upper Mojave") sub-basin of the Mojave River Ground Water Basin. The depth to groundwater ranges from fifty feet near the Mojave River to approximately five hundred and fifty feet in the western portion of the Planning Area. Infiltration from precipitation from watersheds in the San Bernardino and San Gabriel Mountains is the source of this regional ground water storage area. Over drafting began during the late 1950's, resulting in an average annual decline in the water table of one to two feet.

The City of Victorville is within the service area of the Mojave Water Agency / Water master (MWA), which is one of twenty-nine (29) State Water Contractors in the State of California. The MWA was formed in 1959 through legislative action and a vote by the affected residents. The Agency was empowered to purchase, protect, conserve and reclaim water to ensure availability for present and future uses. In 1963, the MWA entered into a contract with the California Department of Water Resources (DWR) to purchase a maximum annual entitlement of 50,800 acre feet from the State Water Project (SWP) for all regions within MWA jurisdiction. On March 26, 1996, the MWA approved a water transfer of 25,000 acre feet/year of SWP entitlement from the Berrenda Mesa Water District in Kern County, thereby increasing the entitlement within the MWA jurisdiction to 75,800 acre feet/year. The MWA has several projects that are using SWP Water and have two additional projects under design that will bring additional water into the Victor Valley. MWA is also pursuing other opportunities to bring additional entitlement to their service area.

Victorville Water District

Water service is provided to a majority of the Victorville Planning Area by the Victor-

ville Water District (VWD), which was recently formed (August 15, 2007) by the consolidation of the Baldy Mesa Water District and the Victor Valley Water District. Both of the previous Districts had current (2005) Urban Water Management Plans (UWMPs). As stated above, the sole source of water for the City is the groundwater aquifer located in the High Desert.

Within the VWD, two improvement districts exist: Victorville Water District Improvement District #1 (VWD ID#1), formerly known as the Victor Valley Water District, and Victorville Water District Improvement District #2 (ID#2), formerly known as the Baldy Mesa Water District.¹

The VWD ID#1 operates the larger of the two improvement districts within the city of Victorville and serves potable water to approximately 72,000 customers. The infrastructure system at the end of 2005 for the VWD ID#1 included nearly 400 miles of distribution and transmission mains, 23 active wells, 1 booster pumping station (3 booster pumps), 18 water storage reservoirs, and 8 pressure-regulating stations. The VWD ID#1 has four primary pressure zones, three sub-zones and one small, isolated pressure zone in an elevation range between 2700-feet and 3200-feet.

The Victorville Water District Improvement District #2 (VWD ID#2) serves a portion of the City of Victorville which encompasses 26.7 square miles. There are three pressure zones within the district from 3180-feet to 3680-feet, governed by level of water in reservoirs. The district is generally bounded by Palmdale Road to the north, Mesa Street to the south, Caughlin Road to the west and Interstate 15 to the east.²

¹PB. City of Victorville General Plan Infrastructure Summary. May 2008.

² Ibid.

Water supply is currently pumped from forty (40) well pumping plants with a combined capacity of 52 million gallons per day (MGD). The water system has twenty-seven (27) above ground storage reservoirs with a capacity of approximately seventy-five (75) million gallons. This extensive storage capacity allows the Water District to operate the well pumping plants during off peak times, which saves in power costs and meet fire flow requirements throughout the City. The water distribution system consists of over 500 miles of pipelines ranging in size from 4-inch (current minimum diameter is 8-inch) to 30-inch.

VWD currently has a Free Production Allowance from the MWA of 15,542 AF / year. VWD produced 30,515 AF of water for the 2006-2007 Water Year. VWD will pay MWA over \$4,000,000 for the 2006-2007 Water Year to compensate for the difference between Free Production Allowance and actual production. The MWA will use this money to purchase replacement water from the SWP and to construct additional water storage (percolation) facilities. This money may also be used to purchase additional entitlement from other State Water Contractors.

Water System Interconnections

To ensure that the water demands are met during short-term emergencies or planned shutdowns, interconnecting pipelines to share water supplies are available between neighboring water systems. VWD has interconnections with the City of Adelanto, Apple Valley Ranchos Water Company, and San Bernardino County Service District.

Water Recycling

Recycled wastewater is a viable alternative water supply and sales of recycled water can be used to offset the costs of treating wastewater. (The terms "recycled water"

and "water recycling" are now used in the California Water Code in place of the formerly used terms "reclaimed water" and "water reclamation".) Residential gray water use decreases residential water demand. Recycled water has a wide variety of applications. The applications include agricultural irrigation, landscape irrigation (including highway landscape, parks and golf courses), impoundments for landscape, recreational and/or wildlife uses, wetland and wildlife enhancement, industrial processes (e.g., cooling water, process water, wash water, dust control), construction activities and ground water recharge.

Section 13.60 of the City Municipal Code, *Water Conservation*, establishes standards for water conservation and water recycling. Pursuant to the code, all new residential tracts in the City must install reclaimed water pipes (purple pipes) to facilitate future connects to reclaimed water when it becomes available.

Water Consumption

Residential land uses consume the highest volume of water, followed by commercial and industrial uses respectively. As shown in RE-1, production in FY 2005 was 27,600 acre-feet per year (afy) or 24.6 million gallons per day (mgd). Of this 24.6 mgd, 19.44 mgd was produced for VWD ID#1 and 5.17 mgd produced for VWD ID#2. In 2005/2006, based on a 2005 population of approximately 100,900, the average annual per capita demand, including unaccounted-for water, was 244 gallons per capita per day (gpcd).

Alternatives to Address Water Supply Deficiencies

To reduce the demands on the local ground water basin and to ensure adequacy of water supplies to support the City's long-term

community development objectives, several approaches are underway to conserve and expand water supply resources. These include: water conservation, water reuse, installation of additional wells, and importing water from the SWP, via the California Aqueduct. Six new well pumping plants were recently constructed and five more wells have been drilled and designs to equip the wells are under way.

VWD's Water Conservation Department currently provides the following services:

- Water Audits
- Residential plumbing retrofits
- Rate Structure which encourages conservation
- Public Information Programs
- Awareness Events With Alliance for Water Awareness and Conservation (AWAC)
- Community Outreach
- Education Programs
- Developer Incentives
- Water Conservation Specialists
- Water Waste Prohibition Ordinance
- Cash-for-Grass
- Water Smart Landscaping
- Low water use appliance rebates



VWD's conservation department has aggressive new programs that pay the existing customers to remove their turf and replace it with Water Smart landscaping. The City of Victorville has a recent ordinance which requires new homes to be constructed with Water Smart landscaping. The average usage for the new homes is approximately 0.65 AF/residential connection which is

down from 0.90 A/F residential connection for customers with traditional landscaping. The Conservation Department also has rebate programs for low flow toilets and low usage washing machines. Programs like these will allow the City of Victorville to grow without increasing their water usage.

Table RE-1
Historical Annual Water Production and Service Connections

Fiscal Year	Service Connections	Total Annual Water Production	
		(afy)	(mgd)
1995-96	19,452	19,126	17.07
1996-97	19,222	19,196	17.14
1997-98	19,209	17,190	15.25
1998-99	19,496	18,364	16.39
1999-2000	20,034	20,164	18.00
2000-01	20,962	20,000	17.85
2001-02	21,645	20,699	18.48
2002-03	23,388	21,622	19.30
2003-04	25,708	23,853	21.29
2004-05	29,416	24,216	21.62
2005-06	30,685	27,567	24.61

Source: Table 1. Carollo Engineers. Final Water Supply Assessment. Draft General Plan. July 2008.

Even with conservation, the existing basin extraction rate has increased rapidly within the past few years. With the future population and land use increasing over time, the constant supply of water within the aquifer may not be sufficient to keep up with the consumer demands. An additional 5 wells are scheduled to come online in the near future to help alleviate the need for water within the City of Victorville. Alternative water sources may have to be investigated, such as the California Aqueduct, to provide enough water to the Victorville Water District service areas.

VWD is moving forward with plans to use State Water Project (SWP) water to recharge the groundwater basin and has conducted pilot recharge projects to determine the feasibility of variations of this supply option. The Oro Grande Wash Recharge Project will take water from the SWP aqueduct into percolation ponds. The water then percolates into the groundwater basin, increasing local supplies. Piloting has indicated that percolation is a feasible method to replenish the aquifer. The Oro Grande Wash Recharge Project will be fully operational by 2015, augmenting the aquifer with 8,000 afy of surface supply

The Regional Recharge and Recovery Project, or R3, was studied for feasibility and found to be an effective method of increasing groundwater supplies. MWA will construct percolation ponds and extraction wells along the Mojave River. The wells will discharge into a distribution system that will serve the Town of Apple Valley, City of Hesperia, City of Victorville, City of Adelanto, and unincorporated areas of San Bernardino County. R3 is anticipated to be fully operational by 2015 augmenting the District supply with 12,000 afy of SWP supply.

Groundwater injection through the aquifer storage and recovery (ASR) is already in place. Wells are currently injecting treated SWP water in partnership with the High Desert Power Project. The City is planning for a 50 mgd water treatment plant by 2020. The new facilities would allow the City to treat raw SWP water from the California Aqueduct and directly distribute the treated water to its customers. As with the recharge projects, SWP supply would be obtained through MWA, the SWP contractor. Several sites for the facilities are being considered at this time; the decision will be based on the best hydraulically suited site, taking into account land availability. This new treatment plant will be operated conjunctively with groundwater wells providing a base supply of water to reduce pumping.

Water Quality

The quality of water in Victorville is of high importance to the VWD and meets the state and federal potable water standards. Groundwater within the Planning Area is generally of good quality, as evidenced by annual water quality reports produced by the water district. One problem area is the Southdown Portland Cement Plant located in the Central City Planning Area. Southdown's Well Pumping Plants, which serve only the cement plant, have been polluted by unauthorized discharges of waste at one

or more sites along "D" Street. The Lahontan Regional Water Quality Control Board (Lahontan RWQCB) is pursuing remediation of these sites involving contaminated soils and/or groundwater along "D" Street.

In 1999, the VWD ID#1 started a chlorination program to ensure that the water is safe for consumers. According to the annual publication provided on VWD's website titled *The Water Resource, 2005 Consumer Confidence Report*, an average of 0.60 parts per million (ppm) of chlorine are added to the wells prior to distribution into the system. The Maximum Residual Disinfectant Level (MRDL) for chlorine is 4 ppm, set forth by federal and state regulatory agencies. In January 2006, the EPA allowable maximum contaminant requirements for arsenic were lowered from 50mg/L to 10mg/L. In 2005, the average arsenic levels were approximately 7.26 parts per billion (ppb), with levels as high as 17 ppb being detected at some wells. Arsenic is an inorganic contaminant caused from erosion of natural deposits, runoff from orchards, and is a byproduct of glass and electronics production wastes. With the decrease in allowable maximum contaminant requirements for arsenic, the VWD now provides four arsenic treatment plants to reduce the contaminants in the water.³ The location of the treatment plants include: (1) the intersection of El Evado Road and Dos Palmas Road (coagulation filtration), (2) Balsam & Nisqualli at Reservoir 20 (coagulation filtration), (3) Avenal St. near the Aqueduct (ion exchange), and (4) La Mesa Road east of Topaz Road (ion exchange).

To prevent potential groundwater contamination due to subsurface septic systems, the City requires all new developments to connect to a public sewer, except rural subdivisions not located within two hundred feet

³Ibid.

of a sewer line. Sewer trunk lines are available for use by new development throughout the majority of the incorporated area of the City, including some areas where rural subdivisions containing lots in excess of 18,000 square feet exist.

To help avoid illegal dumping of hazardous materials, the City of Victorville Fire Department operates a household hazardous waste collection center next to the San Bernardino County Fairgrounds. Residents are encouraged to deposit household materials such as motor oil, paints, herbicides and fertilizers at the local hazardous waste collection center at Fire Station No. 311 (located at 16200 Desert Knolls Drive). Illegal dumping of hazardous materials could leach into the soil and potentially infiltrate and contaminate groundwater aquifers that support local potable water supplies. To combat illegal dumping, the City recently implemented a vehicle impounding ordinance for those caught illegally dumping.

Protecting the water quality of surface and ground waters throughout the entire Mojave River basin is the responsibility of the Lahontan. Through its Basin Plan, Lahontan establishes water quality standards and administers a variety of regulatory programs to achieve the basin-wide non-degradation objective. Programs address both point (direct discharges, e.g. pipeline outlet from an industrial facility or wastewater treatment facility) and non-point (indirect discharges such as runoff from a construction site or a street) sources of water pollution. The City of Victorville conditions all projects to comply with local water quality control programs consistent with Lahontan policies. These programs include:

- Regulation of discharges to and from its municipal storm drainage system in accordance with its Municipal Storm water NPDES Permit,
- Erosion and sediment control standards

for grading operations, and

- Requirements to incorporate best management practices into site design and maintenance to control and minimize water quality impacts associated with runoff from new development and redevelopment projects.

Biological Resources

Plant Communities



The Victorville Planning Area contains the following plant communities: Mojave creosote bush scrub, desert saltbush scrub, rabbit bush scrub, Mohavean juniper woodland and scrub, ruderal (disturbed) communities, Joshua tree woodland, and riparian communities associated with the Mojave River and its flood plain, including transmontane alkali and freshwater marsh, Mojave riparian forest, and southern willow scrub. The noted riparian communities are classified as "communities of highest inventory priority" by the California Department of Fish and Game. These communities are described below.

Creosote Bush Scrub

This characteristic community of the western Mojave Desert is dominated by Creosote Bush (*Larrea tridentata*). Other native species often present include the smaller White Bursage (*Ambrosia dumosa*) and a robust species of native grass, Big Galleta (*Pleuraphis rigida*), as well as various annual grasses and wildflowers.

Mojave Desert Saltbush Scrub

This widespread vegetative association is dominated by three species of saltbush: Allscale (*Atriplex polycarpa*), Shadscale (*A. confertifolia*), and Desert Holly (*A. hymenelytra*).

Rabbitbrush Scrub

This low-growing native community is dominated by Rubber Rabbitbrush (*Chrysothamnus nauseosus*) and may contain other species of *Chrysothamnus* along with other low-growing plants.

Joshua Tree Woodland

Joshua Trees (*Yucca brevifolia*) are distributed on gentle slopes and on valley floors of upper bajadas and sandy areas. The understory of this highly variable community typically includes Creosote Bush and/or species of saltbush. The Joshua Tree is an archetypal plant of the Mojave Desert that may live several hundred years and that provides valuable habitat for a variety of native wildlife species. Off-road vehicle use and illegal dumping appear to have adverse effects on the health of Joshua Trees. Joshua trees are protected by the "California Desert Plant Protection Act", which requires a tag through the Department of Food and Agriculture if five or more trees are to be removed. In addition, Joshua trees are protected by Chapter 13.33 of the Victorville Municipal Code, which prohibits the destruction or removal of Joshua trees without written consent from the Director of Community Services.

Mojave River Riparian Communities

Mojave Narrows Regional Park supports extensive native riparian woodlands dominated by Fremont Cottonwood (*Populus fremontii*), Black Willow (*Salix gooddingii*), and Honey Mesquite (*Prosopis glandulosa*). Other native tree species found locally include Sandbar Willow (*Salix exigua*), White Alder (*Alnus rhombifolia*), and California Sycamore (*Platanus racemosa*). Desert Willow (*Chilopsis linearis*) grows along the river's drier ephemeral reaches. The other native communities that they mapped

along the river include cottonwood-willow woodland, monotypic cottonwood woodland, mesquite bosque, a willow-baccharis streamside community, and hydrophytes.

Importance of Mojave River Habitat

The Mojave River is in many ways the most prominent landscape feature of the West Mojave desert. The central and southeastern regions reflect the Pleistocene history of the Mojave River, which flows from the San Bernardino Mountains north to Barstow, then east to Soda Lake and the Mojave National Preserve. In the last Ice Age, extending from 30,000 to 10,000 years ago, the Mojave River discharged to the south into the Mojave Valley, Lavi Lake, Dale Lake, Bristol Lake, and other playas extending nearly to the Colorado River. The now-dry river and playas supported species of invertebrates, fish, amphibians, and pond turtles, and attracted migratory birds dependent on water. Remnant populations of these animals are still present today, and comprise many of the rare species in need of conservation. The ancient river and lakes formed sandy beaches and prevailing winds carried the finer particles to the east, forming hummocks and dunes. These blowsand areas now support unique species of insects, plants, and reptiles, including the Mojave fringe-toed lizard, whose entire distribution can be traced to the former path of the ancient Mojave River and Amargosa River.

The Mojave River has been substantially altered within the past 100 years by two primary human-dependent uses: 1) flood control provided by the Mojave Forks dam, and 2) groundwater extraction within the basin. The effects on wildlife habitat are primarily the reduction in the extent of the riparian woodland and forest along the banks, but also include fragmentation of habitat for the arroyo toad, interruption of ecosystem processes associated with infre-

quent flooding, and drying of associated wetlands, as at Turner Springs near Victorville. In addition, introduction of non-native species, including fish, bullfrogs, cowbirds, and starlings, has displaced some of the species targeted for protection in the West Mojave Plan.

Despite these changes, the Mojave River remains an outstanding desert stream, supporting abundant wildlife where the ground-water surfaces at the upper and lower narrows and downstream at Camp Cady and Afton Canyon. Endemic species, including the Mojave River vole, the Mojave shoulderband snail, and the Mojave fringe-toed lizard are found along the river. Limited-range species, primarily birds dependent on the riparian habitat, are a major wildlife feature. These birds are either limited to desert riparian habitats, disjuncts with a wider overall range, or species at the edge of their distribution. A disjunct population of the San Emigdio blue butterfly is known from the edge of the river near Victorville. The river also serves as a water source for wide-ranging species, including bats, which are abundant in certain locations.

The river is used as a flyway stopover for some migratory birds, most notably turkey vultures and Swainson's hawks. These raptors can be seen in the spring and fall using the Regional Park as a night roost. Near Victorville, the river is a West Mojave 'hotspot,' containing over fifteen of the species addressed by the West Mojave Plan (see discussion later in this section). It is also a center of endemism, being the sole locality for the Mojave River vole and the Mojave shoulderband snail and formerly for the Mojave tui chub.

Sensitive Wildlife Species

The Victorville Planning Area contains numerous wildlife species considered threatened or endangered as listed by either or both the California Department of Fish and Game (CDF&G) and the United States Fish and Wildlife Service (USF&WS). Table RE-2, below identifies each sensitive wildlife species known to occur in the City of Victorville and/or adjacent areas, or that are judged to have at least moderate potential to occur there. Three of the species, all birds (Yellow-billed Cuckoo, Willow Flycatcher, Least Bell's Vireo), are found within the riparian habitat of the Mojave River.

The Desert Tortoise is classified as a threatened species and is covered by a federal species recovery plan (USFWS 1994). Desert Tortoises have occurred within Victorville's city limits. The species' recovery plan recommends conservation and management of several tortoise-occupied areas covering approximately 1000.4 square miles each, but none of the proposed areas extend into the City of Victorville.

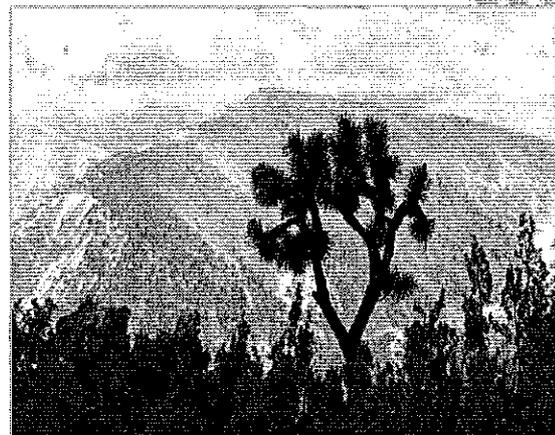


Table RE-2
Sensitive Wildlife Species

Species	Status	
	USFWS	CDFG
Listed/Proposed Species		
Amphibians		
Arroyo Toad <i>Bufo microscaphus californicus</i>	E	CSC
Reptiles		
Desert Tortoise <i>Gopherus agassizii</i>	T	T
Birds		
Bald Eagle <i>Haliaeetus leucocephalus</i>	T	E
Yellow-billed Cuckoo <i>Coccyzus americana</i>	—	E
Willow Flycatcher <i>Empidonax traillii</i>	E	E
Least Bell's Vireo <i>Vireo bellii pusillus</i>	E	E
Mammals		
Mohave Ground Squirrel <i>Spermophilus mohavensis</i>	FSC	T
Species Not Listed or Proposed for Listing		
Plants		
Small-flowered Androstephium <i>Androstephium breviflorum</i>	—	—
Booth's Evening-Primrose <i>Gamissonia boothii</i> ssp. <i>boothii</i>	—	—
Desert Cymopterus <i>Cymopterus deserticola</i>	FSC	—
Mojave Monkeyflower <i>Mimulus mohavensis</i>	FSC	—
Short-joint Beavertail <i>Opuntia basilaris</i> var. <i>brachyclada</i>	FSC	—
San Bernardino Aster <i>Symphotrichum defoliatum</i>	—	—
Gastropods		
Victorville Shoulderband <i>Helminthoglypta mohaveana</i>	FSC	—
Reptiles		
Western Pond Turtle <i>Clémmys marmorata</i>	FSC	CSC

**Table RE-2
Sensitive Wildlife Species**

Species	Status	
	USFWS	CDFG
Coast Horned Lizard <i>Phrynosoma coronatum</i>	FSC	CSC
Birds		
Northern Harrier <i>Circus cyaneus</i>	—	CSC
Sharp-shinned Hawk <i>Accipiter striatus</i>	—	CSC
Cooper's Hawk <i>Accipiter cooperii</i>	—	CSC
Ferruginous Hawk <i>Buteo regalis</i>	FSC	CSC
Golden Eagle <i>Aquila chrysaetos</i>	—	CSC
Prairie Falcon <i>Falco mexicanus</i>		CSC
Burrowing Owl <i>Athene cunicularia</i>	FSC	CSC
Long-eared Owl <i>Asio otus</i>	—	CSC
Brown-crested Flycatcher <i>Myiarchus tyrannulus</i>	—	CSC
Loggerhead Shrike <i>Lanius ludovicianus</i>	FSC	CSC
Bendire's Thrasher <i>Toxostoma bendirei</i>	—	CSC
Le Conte's Thrasher <i>Toxostoma lecontei</i>	—	CSC
Yellow Warbler <i>Dendroica petechia</i>	—	CSC
Yellow-breasted Chat <i>Icteria virens</i>	—	CSC
Summer Tanager <i>Piranga rubra</i>	—	CSC
Tricolored Blackbird <i>Agelaius tricolor</i>	FSC	CSC
Mammals		
Mojave River Vole <i>Microtus californicus mohavensis</i>	FSC	CSC
Pallid Bat <i>Antrozous pallidus</i>	FSC	CSC

Biological Surveys as Part of Routine Project Review Process

An assessment of biological habitat and potential impacts to listed or sensitive species is required as part of the City's routine California Environmental Quality Act (CEQA) compliance program, for new development projects in undeveloped areas. The City, with concurrence from USFWS, has designated an area within the urbanized part of the community, where surveys to detect Desert Tortoise are not required, based on past negative survey results and the characteristics of the land and nearby improvements that have eliminated tortoise habitat or represent significant barriers to tortoise movement and sustainability.

West Mojave Plan

This habitat conservation plan and federal land use plan amendment, released in December 2004, provides a comprehensive framework for the conservation of the Desert Tortoise, the Mohave Ground Squirrel, and nearly 100 other sensitive plant and wildlife species—and the natural communities of which they are a part—while providing a streamlined program for complying with the requirements of the California and federal Endangered Species Acts. The West Mojave Plan covers the 6.2-million-acre West Mojave Plan Area (WMPA)—including 3.2 million acres of public land and 3.0 million acres of private land—in portions of San Bernardino, Inyo, Kern and Los Angeles counties. The entire Victorville Planning Area lies within the WMPA.

The proposed West Mojave Plan presents a multi-species conservation strategy applicable to public and private lands throughout the WMPA. It would amend the Bureau of Land Management's California Desert Conservation Area (CDCA) Plan for public lands, and would serve as a habitat conservation plan for private lands. Local jurisdic-

tions and state agencies that become signatories to the West Mojave Plan would be issued "incidental take" permits covering 49 listed, threatened, or otherwise sensitive plant and wildlife species. In exchange, such jurisdictions would require the payment of a development fee (currently \$770 per acre) to cover the West Mojave Plan's costs for land acquisition, land management, and other operations. This would streamline the City's CEQA review process by providing a simplified means of mitigating impacts to sensitive plant and wildlife species potentially impacted by development projects within City limits. If the City chooses not to sign on to the West Mojave Plan, the City will be required to determine appropriate mitigation for potentially significant biological impacts on a case-by-case basis.

Appendix B to the West Mojave Plan identifies the following specific conservation responsibilities for the City of Victorville. These actions would be required if the City agrees to become a signatory to the Plan:

Burrowing Owl: (RAP-6) Abbreviated surveys at sites where Desert Tortoise clearance surveys are required.

(RAP-10) Eviction or relocation if Burrowing Owls are found. (RAP-9) Provide educational brochures to landowners.

(M-15) Report incidental take and relocations annually.

Desert Tortoise: Follow tortoise conservation strategy as outlined in EIS Section 2.2.4.2

Ferruginous Hawk: (Rap-1,14) Require raptor-safe electrical distribution lines.

(M-23, AM-22, AM-105). Retrofit problem poles based on monitoring results.

Mohave Ground Squirrel: Follow conservation strategy as outlined in EIS Section 2.2.4.3

Mojave River Species:⁴ (AM-14, MR-1) Cooperate with water management agencies to maintain ground water levels in the Mojave River.

Prairie Falcon: (RAP-2) Require development projects to stay 1/4 mile away from occupied nests, unless the line-of-sight from the edge of development is obscured. Prohibit construction or disturbance near nest sites during the nesting season. (RAP-3) Impose blasting restrictions on new mines.

Cultural Resources

The term "cultural resource" refers to any physical evidence of human activities that possesses potential historical, archaeological, or traditional cultural value. Among the examples that are most frequently noted as cultural resources are buildings, structures, historic districts, archaeological sites, and such objects as statues and street fixtures. In recent years, cultural resources also began to include non-traditional property types, including historical landscapes and natural features that have acquired cultural significance in history. In order to be considered potentially significant, cultural resources usually need to meet a certain age criterion. In the State of California, the age threshold is generally set at 50 years from the present time. Remains of prehistoric Native American cultures are of particular concern to modern day tribal descendants, particularly with respect to 'sacred' sites.



Cultural resources also include paleontological resources, which are more commonly known as "fossils" and are physical remains of life forms found on earth in past geological periods. Such resources include 'pre-humans', as well as long-extinct forms of plants and animals.

The cultural setting of the Planning Area is described below, followed by an assessment of those areas considered most likely to yield important resources during the land alteration process, and thus most appropriate for consideration of conservation measures.

Prehistoric/Native American Culture

To understand Native American cultures prior to European contact, archaeologists have devised chronological frameworks on the basis of artifacts and site types that go back some 12,000 years. Currently, the chronology most frequently applied in the Mojave Desert divides the region's prehistory into five periods marked by changes in archaeological remains, reflecting different ways in which Native peoples adapted to their surroundings. According to Warren (1984) and Warren and Crabtree (1986), the five periods are as follows:

The Lake Mohave Period, 12,000 years to 7,000 years ago; the Pinto Period, 7,000 years to 4,000 years ago; the Gypsum Period, 4,000 years to 1,500 years ago; the Saratoga Springs Period, 1,500 years to 800 years ago; and the Proto-historic Period, 800 years ago to European contact.

⁴Southwestern Pond Turtle, Brown-crested Flycatcher, Least Bell's Vireo, Southwestern Willow Flycatcher, Summer Tanager, Yellow Warbler, Yellow-breasted Chat, Mojave River Vole.

The first Native American group to historically occupy the Mojave Desert was the Shoshoneans. This group was comprised of a broad band of people who spoke similar languages. These bands moved west from the Great Basin, a vast inland region of the Western United States, into the Mojave Desert.

It is believed that these bands were well established 1200 to 1500 years ago and possibly as early as 3000 years ago. One of these bands of people, the Serrano, occupied an area from the southern fringe of the San Bernardino Mountains, east to 29 Palms and north into the Mojave Desert. The Serrano practiced a hunting- and gathering-based subsistence focusing on the collection of seasonally available food sources.

Prehistoric settlements in the Victorville Planning area centered on the Mojave River drainage, with longer, more permanent habitation occurring on the first and second terraces of the river flood plain. These settlements subsisted on the fruit of Joshua trees, mesquite beans, tule bulbs, and small game such as rabbit and lizard. The more permanent settlements included formal tools of a non-portable nature such as ground stone tools. Rock art and shelters were also associated with these sites.

The more recent Native American history in California, beginning with the first European contact, is chronologized by anthropologists and historians as follows:

- 1500-1770s Long-distance contact with Europeans
- 1770s-1830s Mission Period
- 1830s-1850s Rancho Period
- 1850s-1880s American migration to California
- 1880s-present Reservation Period

Pursuant to California Senate Bill 18, the City consulted with tribal representatives from several Native American communities to request their input to identify sacred sites in the Planning Area, so they can be recognized and addressed in this Resource Element. No such sites were identified by any of the tribes; however, each tribe requested an ongoing consultation process with the City, to ensure that planning and construction future development projects include adequate investigations and monitoring efforts to identify and protect potential Native American resources.

Historic Context

The introduction of the Spanish mission system in the mid to late 1700's gradually eroded the Serrano's way of life. Villages were abandoned, hunting and gathering were disrupted by agricultural practices and Indian populations were significantly reduced by European diseases. In the late 1700's, the Spanish, led by the famed Spanish explorer Francisco Garcés, explored the Western Mojave Desert in an unsuccessful search for an overland route from the Colorado River to Monterey. The Spaniards traveled through the Victor Valley along an ancient Indian trading route, known today as the Mojave Trail. In the early 1830s, part of this trail was incorporated into a pack-train road known today as the Old Spanish Trail, which extended between southern California and Santa Fe, New Mexico. Some 20 years later, when the historic wagon road known as the Mormon Trail or Salt Lake Trail was established between Utah and southern California, it followed essentially the same route across the Victor Valley area. Since then, the Victor Valley has always served as a crucial link for a succession of major transportation arteries, where the heritage of the ancient Mojave Trail was carried on by the Santa Fe Railroad since the 1880s, by the National Old Trails Highway and U.S.

Route 66 during the early and mid-20th century, and finally by today's I-15.

Mining became an important part of the local economy with the discovery of gold as well as silver, copper, marble, limestone, and borax in the 1860's. Settlement within the area resulted from transportation and local mining activities. Victorville, known as the Town of Victor, was a railroad station named in 1885 after California Southern Railroad (Santa Fe Railroad) construction superintendent Jacob Nash Victor. On January 18, 1886, the plan of the Town of Victor was prepared which created the grid pattern of the original town. The name was changed to Victorville in 1901 by the United States Post Office to avoid confusion with Victor, Colorado.

Agricultural development occurred as a result of available water and rich river bottom lands. During the late 19th and early 20th centuries, settlers in the valley attempted a number of money-making endeavors, such as growing alfalfa and deciduous fruits and raising poultry, with only limited success. Around the turn of the century, large deposits of limestone and granite were discovered, prompting cement manufacturing to become the leading industry in the valley. In 1916, the Southwestern Portland Cement Company (SPCC) began operation in Victorville.

In 1926, U.S. Route 66 was designated utilizing the existing National Old Trails Highway system, which was to create a "ribbon of pavement" from Chicago, Illinois to California. The route originally went through Hesperia, but was realigned in 1924 to create a more efficient and safe route to Victorville. A portion of this famous highway provided a major transportation corridor through Victorville in which Seventh Street and "D" street were a part. In July of 1941 the Army Corps of Engineers began construction of the Victorville Army Flight Train-

ing School. On January 30, 1942, upon completion of structures and runways, the Victorville Army Air Field formally opened with a contingent of 10,000 men. Following World War II, activity at the Air Field declined until its reactivation in 1950 in response to the Korean Conflict. The Facility was renamed George Air Force Base in honor of Brigadier General Harold H. George. Pursuant to the Base Closure and Realignment Act, the base was deactivated December 15, 1992. Since its deactivation, the Base has been converted for civilian use as the Southern California Logistics Airport.

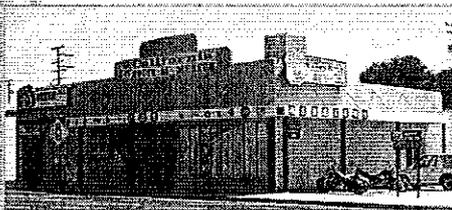
Historic Resources

Past cultural resources surveys conducted in the Planning Area determined that approximately one-third of the total acreage within the Planning Area has been covered by project-related surveys, leaving most of the Planning Area yet to be surveyed systematically and intensively. Due in part to some of these previously completed surveys, at least 178 historical/ archaeological sites have been discovered within and adjacent to the Planning Area and recorded into the California Historical Resource Information System, including 50 prehistoric—i.e., Native American—sites and 128 historic-period sites. A total of 16 additional pending sites have been reported within the boundaries of the Planning Area, including 3 prehistoric resources and 13 historic-period sites. As development increases, and as more of the Planning Area is surveyed systematically for cultural resources, it is expected that additional resources will be identified.

Many of the prehistoric sites represent relics from thousands of years of Native American habitation in the Planning Area before Europeans arrived. The recorded Native American sites are situated along or near the banks of the Mojave River, near the conflu-

ence of seasonal drainages such as the Oro Grande Wash and the Bell Mountain Wash, or near springs in the Turner Springs area.

Among the historic-period sites recorded in the Planning Area are several prominent early roads, including the Old Spanish Trail, the Mormon Trail, the Mojave Road, the National Trails Highway, and U.S. Routes 66 and 395; power and telephone transmission lines from the early 20th century; the remains of past mining activities; late-19th century homesteads, ranches, and town-sites; commercial, industrial, and residential buildings and foundations; irrigation features, wells, and reservoirs; military structures from World War II; and numerous refuse scatters, all indicative of early settlement and land development activities. Many of these sites are situated in Victorville's downtown area, along National Trails Highway, within and near the Southern California Logistics Airport, and in the Mojave Heights/Turner Springs areas.



Of the previously recorded historical/archaeological sites in the Planning Area, 10 have been previously evaluated and determined eligible for listing on the National Register of Historic Places, while three others have been proclaimed as California Historic Landmarks. The most notable concentration of early 20th century buildings, both residential and commercial, is found in the downtown area around Victorville's traditional town center, including A through E Streets, 1st through 11th Streets, and southwest from A Street along 6th Street,

7th Street, Yucca Avenue, and Forrest Avenue. A number of local historical sites have been designated by the Victorville Chamber of Commerce, including the first school and the first church in Victorville.

Existing Programs to Protect Cultural Resources

Section 106 of the National Historic Preservation Act mandates that federal agencies or HUD-designated local agencies with jurisdiction over federal or federally assisted undertakings take into account the effect of the undertakings on any "historic properties" during the planning process (16 USC 470f). For projects with no federal involvement, the California Environmental Quality Act (CEQA) similarly requires lead agencies to take the necessary action to prevent substantial adverse changes to "historical resources" (PRC §21084.1).

Although termed differently in NHPA and CEQA, "historic properties" and "historical resources" both refer to a special class of cultural resources that meet the definitions set forth in the statutes and their implementation regulations. "Historic properties," as defined by the Advisory Council on Historic Preservation, include "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior" (36 CFR 800.16(l)). "Historical resources," according to PRC §5020.1(j), "includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of

Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 CCR §15064.5(a)(1)-(3)). A local register of historical resources, as defined by PRC §5020.1(k), "means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution."

At this time, the City does not maintain a list of designated historic sites. However, the City made a number of attempts to establish such a list. The Victorville Chamber of Commerce has designated 17 sites in the downtown area as points of local historical interest. In 1988 the Historic Advisory Committee was established to make recommendations to the City Council regarding evaluation, declaration, preservation and maintenance of historic sites and points of interest. To date, twenty-seven sites have been identified by the Committee. These sites represent distinctive eras of growth, architectural style and/or are associated with locally significant events or persons. The sites were reviewed for potential State Historic Landmark Registration; however, none of the sites or structures has been considered eligible for such designation. Therefore, these sites have potential to be locally significant only.

The City Zoning Ordinance has been modified to add a historic combining land use district zone intended to apply to areas containing a potential landmark or point of interest, to date no properties have been designated. The purpose of the historic district is to protect and promote the preservation, maintenance and/or improvement of landmarks or points of interest as well as assure new structures within the district are compatible with the character to be preserved.

Paleontologic Resources

Paleontologic resources within the City include nine ancient lake bed deposits estimated to date back to the Pleistocene Epoch (10,000 to 900,000 years ago). These lake beds contain numerous mammalian fossils, including teeth, limb fragments, phalanges and metacarpal from horses, camels and other large animals. As a result of requiring monitoring during earth disturbance activities, several resources have been identified and recovered. The most recent significant find was a mammoth discovered in June of 1993. The fossil bearing rock layers are essentially level due to their formation from an ancient lake bed. All of the Planning Area, excepting those areas above the 2,985 foot contour or below the 2,727 foot contour, is located upon fossil bearing strata. The entire Planning Area is considered to be sensitive regarding paleontological resources due to the existence of recovery sites throughout. The Department of Community and Cultural Resources will not identify the location of recovery sites in order to protect them from damage or loss of resources.

Mineral Resources

Sand, Gravel and Stone Deposits

The City of Victorville received a Mineral Land Classification Report from the State Department of Conservation, Division of Mines and Geology, entitled "Mineral Land Classification of Concrete Aggregate Resources in the Barstow - Victorville Area, San Bernardino County, California". According to Section 2762(a) of the Surface Mining and Reclamation Act of 1975, affected lead agencies must establish mineral resource management policies in their General Plan. The policies must: (1) recognize the Mineral Land Classification information, (2) assist in the management of land uses

that affect areas containing mineral resources of state-wide or regional significance; and (3) emphasize the conservation and development of identified mineral resources.

The California Surface Mining and Reclamation Act of 1975 (SMARA) requires that all cities incorporate into their general plans mapped mineral resources designations approved by the State Mining and Geology Board. SMARA was enacted to limit new development in areas with significant mineral deposits. The State Geologist classifies land in California based on availability of mineral resources. Because available aggregate construction material is limited, five designations have been established for the classification of sand, gravel and crushed rock resources:

Naturally occurring mineral resources within the Planning Area include sand, gravel or stone deposits that are suitable as sources of concrete aggregate, located primarily along the Mojave River (See RE-1). Based on the above listed designations, the Division of Mines and Geology has classified the naturally occurring sand, gravel or stone deposits in the Planning Area as follows:

MRZ-2a: Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified as MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.

MRZ-2b: Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified as MRZ-2b contain discovered mineral deposits that are significant inferred resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration work could result in upgrading these areas to MRZ-2a.

MRZ-3a: Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration work within these areas could result in the reclassification of specific localities into MRZ-2A or MRZ-2b categories.

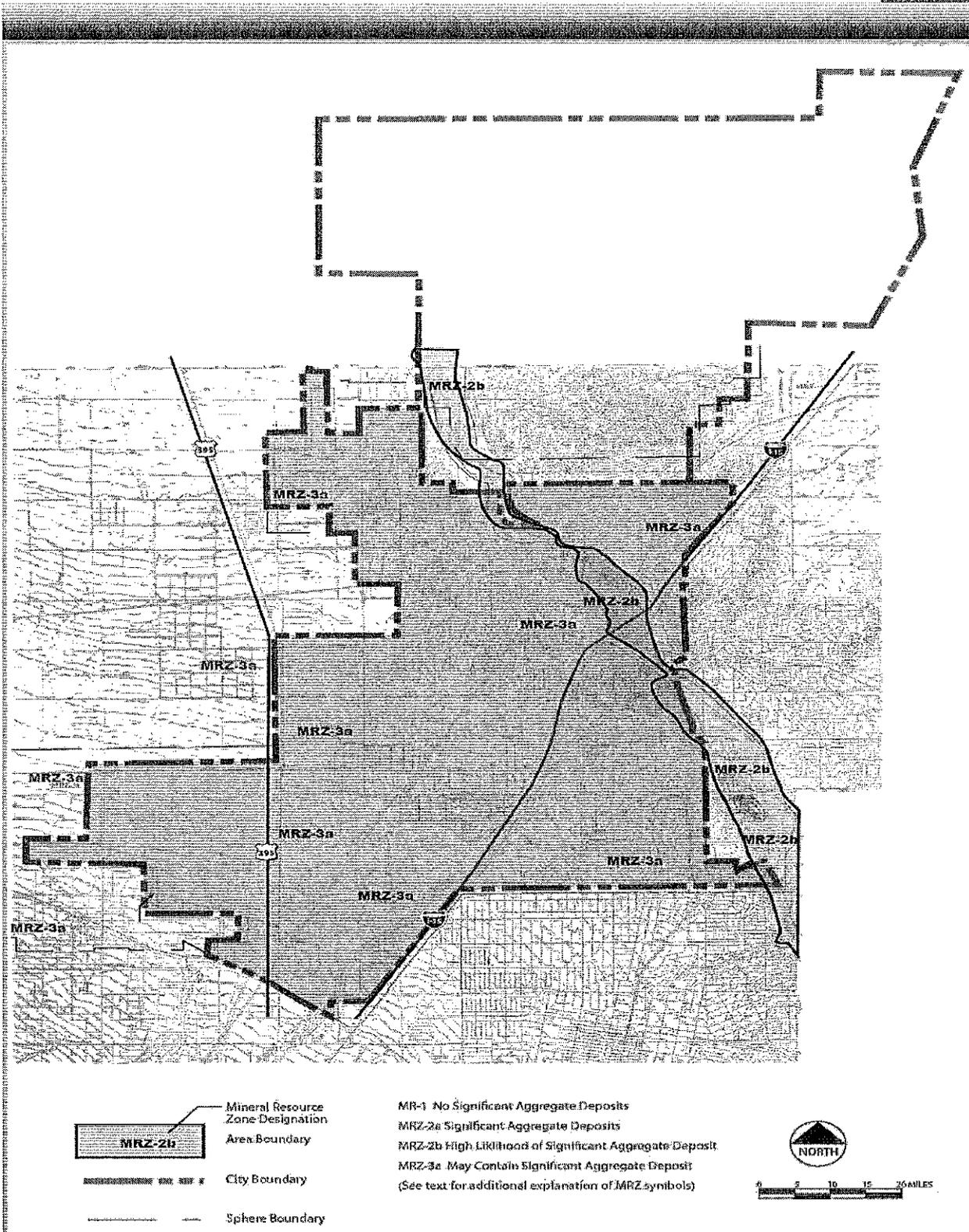


Figure RE-1. Victorville Planning Area Mineral Land Classification Map

Gas and Oil

According to information provided by the United States Bureau of Land Management (BLM), numerous petroleum test wells have been drilled in the West Mojave Desert since 1900 and all have been abandoned. Geologically, the Victorville Planning Area is not within the over thrust belt and does not contain known marine source beds, two factors that contribute to the presence of petroleum. Consequently, it is highly unlikely that petroleum in commercial quantities exists in the Western Mojave Desert region, inclusive of the Planning Area.

Natural Hazards

Flooding

The City occupies the broad surface of a large alluvial fan referred to as the Cajon Fan (or Victorville Fan). The Mojave River runs along the fan's eastern margin and is the City's most notable topographic feature. This river is very unusual in that it flows from south to north, conveying runoff out of the San Gabriel and San Bernardino Mountains for about 80 miles, until it empties at Soda Lake. Surface flows fluctuate seasonally, and are affected by discharges from Lake Arrowhead, Silverwood Lake and Mojave Forks Reservoir. The river's natural floodplain is up to a mile wide, and its waters flow below the surface for most of its length, except following storms. At Mojave Narrows, however, the river encounters an impenetrable layer of bedrock that forces water to the surface - even during dry periods. Oro Grande Wash, the City's second-largest drainage course, conveys surface flows only following intense storms. It originates in the San Gabriel Mountains near the Cajon Pass, where it parallels Interstate 15 before crossing to the east, just north of La Mesa and Nisqualli Roads. There is a potential for flooding from all of these streams

in the event of a 100-year flood.

Several intermittent streams drain the Planning Area and flow into the Mojave River. Two of these, Ossom Wash and West Fork Ossom Wash, drain a large part of the city, west of the I-15 Freeway. Three smaller, unnamed intermittent streams drain areas south of the Southern California Logistics Airport. Bell Mountain Wash is north of the Mojave River and drains part of the North Mojave Planning area.

The river has a highly variable annual flood series, with some years having either base flow or zero discharge and other years having floods as high as 70,600 cubic feet per second. The largest flood in the gauging record occurred in 1938, which was not an El Niño year; other years with large floods include 1891, 1905, and 1916, all of which were El Niño years. In recent decades, the relation between flooding and El Niño has strengthened, with large floods in 1978, 1983, 1993, and 1998. The Mojave River only flows continuously from its source to its terminus in the Soda Lake.

The Mojave River and its tributaries have three dams that store water and provide some flood control for the reaches in the Mojave Desert. The Mojave River Forks Reservoir and Silverwood Lake reservoir, both completed in 1971, likely attenuate flood peaks, although they have no effect on annual runoff volume (Lines 1996). The presence of these reservoirs may be the reason why the size of floods appears to have declined in the latter part of the 20th century, although this decline also could be the result of climatic fluctuations. Lake Arrowhead reservoir, built in 1922, provides only minimal flow regulation.

Flood hazard mapping has been completed by the Federal Emergency Management Agency (FEMA), for the National Flood Insurance Program. These mapped flood

hazards are described in more detail and are illustrated in the Safety Element. Development has been and will continue to be prohibited and/or restricted within the Mojave River floodplain and along its tributaries, where flood hazards also have a potential to occur. Flood hazard areas are, therefore, considered part of the City's open space network.

Seismic and Geological Hazards

As discussed in the Safety Element, there are no earthquake faults in the Planning Area and the threat of surface rupture from an earthquake is not present. No areas of subsidence have been identified during the City's history of community development. Other geologic and soils constraints such as liquefaction, expansive soils, steep slopes, etc. occur in a variety of locations, but routine engineering methods and construction techniques are available to mitigate these constraints and allow development to occur. The City's open space network does not need to include land constrained by seismic or geological hazards.

Water Courses and Lakes

Mojave River

There are no regular public or private water recreation uses in those portions of the Mojave River where surface flow regularly occurs. Water levels are rarely deep enough to support swimming, fishing, or boating, except in periods following heavy rainstorms when flood conditions are present and it is too dangerous for recreational activities.

Lakes

Mojave Narrows Regional Park is a County-owned/operated park located in the center of the Planning Area. Encompassing 840 acres, the park contains two lakes open to

the public (for a fee) for fishing. Victor Valley College contains one lake that is available for passive public use on weekends and a fish



hatchery that is used to stock the Mojave Narrows Regional Park lakes. It is a central design feature of the campus and functions primarily as a passive recreational amenity for students and faculty. In the Spring Valley Lake residential community, there is a 200-acre, private lake that is available for recreational use to residents of that private community only. Because it is restricted to private use and does not conserve a natural resource for the public benefit, it is not considered an open space resource.

Outdoor Recreation

Outdoor recreation resources in the Victorville Planning Area include public parks, public golf courses, public access lakes, bicycle paths and pedestrian trails, and ground-level linkages between recreation areas and urbanized places. The City currently maintains 198.4 acres of park land throughout the Planning Area. There are two public golf courses: the 18-hole, 150-acre Green Tree Golf Course, and a 9-hole 60-acre golf course within the Southern California Logistics Airport, plus a 172-acre potential expansion area within the airport site. The City also maintains paseo systems within specific plan communities that link neighborhoods to local parks and to other neighborhoods.

The primary opportunity for recreational linkages is the Los Angeles Department of Water and Power (LADWP) electrical power line corridors. LADWP has indicated that bicycle paths and pedestrian trails may occur within those easements, provided

such activities do not interfere with their ability to maintain their lines and structures. Some of these easements cross roads that carry a significant amount of traffic; therefore, trail/path designs must carefully consider potential conflicts between automobile traffic, bicyclists and pedestrians.

Solid Waste Management

Non-Hazardous Waste

Non-hazardous solid and liquid waste generated in the Planning Area is currently deposited in the Victorville Landfill, which is operated by the County of San Bernardino Public Works Department, Solid Waste Management Division. This landfill is located at 17080 Stoddard Wells Road in the northeastern quadrant of the City.

The Victorville Landfill property area is approximately 491 acres in total, with an approximately 80-acre parcel currently in use for landfill operations. The 80-acre parcel includes 67 acres that are in active use for land filling, a 7-acre expansion area that was formerly used as septic ponds, and 6 acres of former "borrow pit" (excavation area) which had been used to generate daily cover for refuse. The landfill site is within the area of the City's Southern California Logistics Airport (SCLA) Specific Plan area. In November 2007, the City sent a letter to the San Bernardino County Solid Waste Management Division, regarding the future operation of the Victorville Landfill. Since the City is in the midst of developing the SCLA into an inland port, and given that landfills are known for attracting birds, the City informed the County of their concerns regarding landfill operation and aviation safety. The City expressed its interest in having the County close the landfill, and recommended numerous goals be included within the Countywide Integrated Waste Management Plan five year review.

Materials Recycling Facility and Related Programs



The Victor Valley Materials Recovery Facility (MRF), located in Victorville at 17000 Abbey Lane, is co-owned by the Town of Apple Valley and City of Victorville. Residential and commercial curbside recyclable materials are picked up by the contractor for the City and taken to the MRF. The MRF serves the City by reducing waste in order to comply with the requirements of state law AB 939 which mandates a 50% reduction in the amount of waste sent to landfill by the year 2000 and beyond. In support of this program the City of Victorville has established a number of recycling programs for its residential and commercial customers. Materials targeted for collection include papers, bottles, cans, and plastic containers. The facility, operating since 1995, has a residential curbside recycling program and business recycling programs. The facility also processes recyclables from adjacent communities and serves as a drop off and recycling buy-back center for residents and businesses.

Hazardous Waste

Hazardous waste is defined in the California Health and Safety Code, Section 25117, as: "...a waste or combination of waste which because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness, or pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed." Federal and State laws mandate an improvement in the management of hazardous waste including a reduc-

tion in the amount generated. In addition, jurisdictions, where hazardous waste generators operate, were required to adopt hazardous waste management plans. The City of Victorville adopted a plan in June 1991. To date, no hazardous waste facilities have been proposed or developed within the Victorville Planning Area.

Future Disposal Options

Rail Cycle

Rail Cycle is a proposed waste collection, recycling, transportation and disposal project. The system would begin with the collection of refuse and recyclables from homes and businesses which would be transported to materials recovery facilities located along existing rail lines. Recyclable materials, including yard and green waste, would be processed and marketed for reuse. The remaining waste materials would then be transported by rail to a landfill (Bolo Station) to be located near Amboy, eighty miles east of Barstow. This landfill would be a Class III facility accepting only non-hazardous municipal solid waste with the capacity to handle up to 21,000 tons per day.

MRF Future Phases

The existing MRF was approved in three phases with phase two including the capability of accepting mixed municipal solid waste for baling and transporting to landfill facilities other than Victorville landfill in the event this facility closes. The third phase would include the capability of accepting and processing yard and wood waste to further reduce municipal waste disposal which in turn would reduce potential costs to the City and impacts to landfill facilities.

Conversion to Energy/Composting Waste

Conversion to Energy/Composting Waste to energy refers to the conversion of solid waste to energy through processes such as combustion, including discarded tires, or ground wood chips or the collection of methane gas. Composting is the biological degradation of organic matter which yields a humus-like material with potential use as a soil conditioner or top dressing on landscape or gardens to reduce weeds and water evaporation. According to the Mojave Desert and Mountain Solid Waste Joint Powers Authority Administrator, conversion to energy, or "transformation" technology and composting are being monitored for potential future use.

Air Quality

Hot summers, mild winters, infrequent rainfall, moderate afternoon breezes and generally fair weather characterize the climate of the Victor Valley, an interior sub-climate of Southern California's Mediterranean climate. The clouds and fog that form along the Southern California coastline rarely extend across the mountains to Victorville. The most important local weather pattern is associated with the funneling of the daily onshore sea breeze through El Cajon Pass into the upper desert to the northeast of the heavily developed portions of the Los Angeles Basin. This daily airflow brings polluted air into the area late in the afternoon from late spring to early fall. This transport pattern creates both unhealthful air quality as well as destroying the scenic vistas of the mountains surrounding the Victor Valley.

The Clean Air Act Amendments (CAAA) of 1970 established national Ambient Air Quality Standards (AAQS) with states retaining the option to adopt more stringent standards or to include other pollution species. California, largely because of its

unique meteorological conditions, had standards in existence before the Federal AAQS were established. In California, air quality is regulated by the California Air Resources Board (CARB). In the Victorville Planning Area, federal and state air quality regulations are monitored by the Mojave Desert Air Quality Management District (MDAQMD).

Criteria Pollutants

Air quality in the Planning Area is affected by a variety of pollutants, generated from a variety of sources, both man-made and natural. Primary air pollutants in the Victorville region include carbon monoxide (CO), oxides of nitrogen (NO₂ and NO_x), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and volatile organic compounds (VOCs). Most primary air pollutants are generated from the burning of fossil fuels which emit CO, NO_x, and VOCs. Secondary pollutants include ozone (O₃), which is a product of the reaction between NO_x and VOC in the presence of sunlight.

The MDAQMD has adopted numerical emissions thresholds as indicators of potential impacts. The MDAQMD thresholds are as follows:

Carbon Monoxide (CO) 548 pounds/ day

Nitrogen Oxides (NO_x) 137 pounds/day

Sulfur Oxides (SO_x) 137 pounds/day

Reactive Organic Gases (ROG) 137 pounds/day

Particulate Matter (PM-10) 82 pounds/day

The MDAQMD CEQA Handbook also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators relevant

to the General Plan update are as follows:

- Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds.
- Generate a violation of any ambient air quality standard when added to the local background
- Creates odors that could be considered a nuisance by any substantial number of people.
- Represents a level of growth not previously anticipated in regional air quality planning.

These thresholds are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress or infection such as asthmatics, the elderly, the very young, people weak from other disease or illness, and persons engaged in heavy work or exercise, all called "sensitive receptors."

Healthy adults can tolerate periodic exposure to air pollution levels somewhat above these standards before adverse health effects are observed. Recent research has shown, however, that chronic exposure to ozone even at the federal clean air standard level can create unhealthful reactions through pulmonary distress. Just meeting clean air standards may therefore ultimately not be enough to protect human health. An additional margin of safety is needed to achieve all clean air objectives and protect human health.

Greenhouse Gas

Recent legislation in the State of California has focused on reducing emissions of "Greenhouse gases" (GHGs), so called because of their role in trapping heat near the

surface of the earth. GHGs emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

Energy Conservation

In California, energy use is divided into four primary sectors: (1) transportation; (2) industrial; (3) commercial; and (4) residential. More than 80 percent of the energy consumed in the State comes from two fossil fuels; natural gas and petroleum. Coal-fired plants, nuclear, solar, wind, hydroelectric, geothermal and liquefied natural gas provide the remaining 20 percent.

To reduce energy, consumption must address all four sectors. For the transportation sector, reducing vehicle miles traveled through land use design or use of alternative energy vehicles, locating jobs close to residences, and improving alternative transportation systems is needed.

For the industrial sector, industrial energy systems account for 80 percent of all energy used by industry. Efforts to reduce electrical loss in industrial facilities and installation of more energy-efficient equipment in industrial facilities are two effective strategies for reducing total energy.

For commercial and residential sectors, reducing electrical use is needed. Efforts to reduce heating and cooling usage in commercial and residential buildings are the most effective strategy for reducing total energy.

Expanding generation of electricity from other sources other than natural gas, including solar energy and wind energy, is a priority that would reduce energy consumption in each of the four sectors.

GOALS, OBJECTIVES, POLICIES AND IMPLEMENTATION

The following goals, objectives, policies and implementation measures are intended to achieve the Vision of this Resource Element and to guide the City's efforts to preserve natural resources, protect the community from significant natural hazards, and provide ample active and passive open space and recreational opportunities for all members of the Planning Area.

GOAL #1: SUFFICIENT, SAFE WATER SUPPLY— MAINTAIN ADEQUATE WATER SUPPLY RESOURCES AND WATER DELIVERY SYSTEM TO SUPPORT THE IMPLEMENTATION OF THE CITY'S LAND USE POLICIES AND FIRE PROTECTION STANDARDS, AND TO MEET ESSENTIAL NEEDS DURING EMERGENCIES AND SEVERE DROUGHT CONDITIONS

Objective 1.1: Reduce Rate of Groundwater Extraction for Municipal Water Supply to no more than 80% of 2006 levels, by the year 2012, and maintain or reduce that lower level over the long term

Policy 1.1.1: Require water conservation measures in the design of new development and major redevelopment, for both

public and private projects, such as low-water consuming indoor plumbing devices and use of xerophytic landscape materials that require minimal irrigation.

Implementation Measure 1.1.1.1: Offer incentives for projects that demonstrate significant water conservation through use of innovative water consumption technologies. For example, offer discounted water rates for projects that achieve U.S. Green Building Council LEED standards for certification relative to water efficiency.

Implementation Measure 1.1.1: The City will periodically revise development standards in its zoning and subdivision regulations, and in its building and plumbing codes, to include a range of water conservation measures to be incorporated into site design, building construction, landscaping and irrigation systems.

Implementation Measure 1.1.2: The City will continue to maintain a list of xerophytic plant materials and publications providing guidelines and methods for establishing and maintaining xerophytic landscapes and irrigation systems. This information shall be readily available to the public.

Policy 1.1.2: *Penalize high volume water consumers that operate with wasteful water consumption practices*

Policy 1.1.3: *Support conversions of wasteful water practices to water conserving practices, including public and private water consumers*

Implementation Measure 1.1.3.1: Convert City-owned landscaping in streets, parkways and parks to xerophytic palettes and replace older, inefficient irrigation systems with efficient, water conserving irrigation systems

Objective 1.2: Expand sources of water supply and delivery systems through alternatives to ground water extractions

Policy 1.2.1: *Support VVWRA's development and expansion of recycled wastewater treatment and delivery capacity for appropriate water uses such as irrigation of outdoor landscapes*

Implementation Measure 1.2.1.1: Conduct master planning study to develop program specifications for incorporating recycled wastewater infrastructure into City's existing and future street network, and to develop performance standards to be met by new development projects, to enable ready connection to recycled water infrastructure, when available.

Policy 1.2.2: *Participate in regional efforts to acquire imported water from the State Water Project, along with 'water wheeling' from fallowed agricultural areas and other lands with significant ground water resources*

Implementation Measure 1.2.2.1: Conduct a preliminary engineering study to identify optimal location(s) for a turnout from the California Aqueduct to deliver imported State Water Project water that may be purchased in the future

Objective 1.3: Protect ground water quality

Policy 1.3.1: *Require new development and major redevelopment projects public and private, to prepare and implement water quality management plans that incorporate a variety of structural and non-structural best management practices to minimize, control and filter construction site runoff and various forms of developed site urban runoff, prior to discharge to receiving waters.*

Implementation Measure 1.3.1.1: Assign properly qualified professionals to conduct plan checks and inspections to ensure proper design and implementation of water quality management plans for new development and major redevelopment projects.

Implementation Measure 1.3.1.2: Assess and mitigate impacts on surface and groundwater quality as a routine aspect of the City's CEQA implementation procedures.

GOAL #2: SUFFICIENT PARK LAND

PROVIDE SUFFICIENT LOCAL, COMMUNITY AND REGIONAL PARK LAND TO MEET CURRENT AND FUTURE OUTDOOR RECREATION NEEDS OF THE PLANNING AREA

Objective 2.1: Provide at least three acres of parkland for every 1,000 residents

***Policy 2.1.1:** Require new residential subdivision projects to provide parkland on-site or to pay in-lieu fees equal to the value of such parkland, calculated to provide 3 acres of parkland per 1,000 residents*

Implementation Measure 2.1.1.1: Adopt and implement subdivision regulations to require parkland exactions, pursuant to the State Quimby Act

***Policy 2.1.2:** Prohibit development on land identified for outdoor recreation purposes in a local or regional parks, trails, and/or open space plan*

Implementation Measure 2.1.2.1: Develop and maintain a city-wide parks master plan that identifies sites of sufficient size, and in optimal locations, to meet a variety of out-

door recreation needs of the community.

Implementation Measure 2.1.2.2: Complete a master recreational trails plan for the Mojave River Corridor, within the Planning Area

Implementation Measure 2.1.2.3: Designate all existing and planned park sites as Open Space-Recreation on the Land Use Policy Map and in the Open Space Plan.

GOAL #3: PROTECTION FROM NATURAL HAZARDS— PROTECT THE COMMUNITY FROM FLOODING AND GEOLOGIC HAZARDS

Objective 3.1: Development is outside of areas exposed to flood hazards

***Policy 3.1.1:** Prohibit development within flood hazard areas adjacent to the Mojave River.*

Implementation Measure 3.1.1.1: City will maintain accurate and up-to-date maps of areas exposed to 100-year and 500-year flood hazards, based on National Flood Insurance Program criteria.

Implementation Measure 3.1.1.2: Areas located within 100-year and 500-year flood hazards shall be designated for Open Space-Natural Hazards on the Land Use Policy Map and on the Conservation/Open Space Map. Such lands shall be zoned to correspond to these general plan policy designations, including strong restrictions on land development projects.

Objective 3.2: New development is located and designed to avoid or mitigate seismic and geologic hazards

Policy 3.2.2: *Results of preliminary geotechnical investigations shall be considered by the City's decision-makers, prior to approval of all discretionary actions to allow for public or private development projects.*

Implementation Measure 3.2.2.1: Preliminary geotechnical investigations and reports shall be conducted for all new development and major redevelopment projects, public and private, to identify seismic and other geologic hazards, and to define measures to eliminate or reduce such hazards to an acceptable level.

GOAL #4: CONSERVATION OF IMPORTANT HABITAT

PRESERVE LAND CONTAINING NATIVE HABITAT THAT SUSTAINS RARE, THREATENED OR ENDANGERED PLANTS AND WILDLIFE SPECIES

Objective 4.1: Preservation of natural communities that support rare, threatened and/or endangered plants and wildlife species throughout the Planning Area.

Policy 4.1.1: *Encourage development natural habitat that supports rare, threatened or endangered plants and wildlife (i.e., "sensitive" species), or require restoration of the same type of impacted habitat within an existing, planned or potential conservation area.*

Implementation Measure 4.1.1.1: The City will compile and maintain up-to-date geographical database of the spatial distribution and composition of natural habitat that supports sensitive species throughout the Planning Area.

Implementation Measure 4.1.1.2: Continue to require biological surveys and an assessment of impacts to biological resources for

new "greenfield" projects, as part of the City's CEQA implementation procedures. Update City's database of sensitive habitats with findings of project-level biological surveys and reports.

Policy 4.1.2: *Support and participate in the West Mojave Plan*

Implementation Measure 4.1.2.1: Assign appropriate City staff to monitor and report on West Mojave Plan activities and to develop staff-level procedures to enable effective implementation of the City's responsibilities under the Plan.

Objective 4.2: Permanent Conservation of Mojave River Corridor Ecological Values

Policy 4.2.1: *Generally prohibit private or public development projects or major infrastructure facilities on land within the Mojave River Corridor, where biological surveys have determined there is habitat that supports rare, threatened and/or endangered plants or wildlife. Allow minor encroachments into such habitat, for critical public facilities and recreational trails, where reliable assurances are provided that no loss of sensitive species would occur.*

Implementation Measure 4.2.1.1: Compile and current mapping of biological habitat features and occurrences of sensitive species along Mojave River Corridor.

GOAL #5: PRESERVATION OF IMPORTANT CULTURAL RESOURCES

PROTECT IDENTIFIED ARCHAEOLOGICAL, PALEONTOLOGIC RESOURCES AND HISTORIC RESOURCES WITHIN THE PLANNING AREA.

Objective 5.1: Preserve known and expected cultural resources.

Policy 5.1.1: *Determine presence/absence of and consider impacts to cultural resources in the review of public and private development and infrastructure projects.*

Implementation Measure 5.1.1.1: As a City Planning Department function, maintain maps illustrating areas that have a moderate-high probability of yielding important cultural resources as a result of land alteration projects.

Implementation Measure 5.1.1.2: Establish a transmittal system with the Archaeological Information Center (AIC) at the San Bernardino County Museum, Redlands. When a project is in its initial phase, the City may send a location map to the AIC for a transmittal-level records search. The transmittal identifies the presence or absence of known cultural resources and/or previously performed studies in and near the project area. The AIC also offers recommendations regarding the need for additional studies, if warranted.

Implementation Measure 5.1.1.3: When warranted based on the findings of reconnaissance level surveys by a qualified professional archaeologist and/or transmittals from the AIC, require Phase I cultural resource assessments by qualified archaeologists, historians, and/or architectural historians, especially in areas of high sensitivity for cultural resources, as shown on the maps maintained in the City Planning Department. The scope of such a survey shall include, as appropriate, in-depth records search at the AIC, historic background research, intensive-level field survey, consultation with the Mohave Historical Society, and consultation with the appropriate Native American representatives and tribal organizations.

Implementation Measure 5.1.1.4: Complete a Planning Area-wide assessment of the

paleontological sensitivity, based on a review of geologic formations and a review of paleontological records that identify those formations that have yielded or are expected to yield fossil materials of importance to the scientific community.

Policy 5.1.2: *Prohibit destruction of cultural and paleontological materials that contain information of importance to our knowledge of the evolution of life forms and history of human settlement in the Planning Area, unless sufficient documentation of that information is accomplished and distributed to the appropriate scientific community. Require mitigation of any significant impacts that may be identified in project or program-level cultural and paleontological assessments as a condition of project or program approval.*

Implementation Measure 5.1.2.1: Enact a historic preservation ordinance and/or prepare a historic preservation plan to outline the goals and objectives of the City's historic preservation programs and present an official historic context statement for the evaluation of cultural resources within the City's jurisdiction.

Implementation Measure 5.1.2.2: Assist local property owners in finding and taking advantage of incentives and financial assistance for historic preservation that are available through various federal, state, or city programs.

Implementation Measure 5.1.2.3: Require paleontological monitoring of land alteration projects involving excavation into native geologic materials known to have a high sensitivity for the presence of paleontological resources.

GOAL #6: GOOD AIR QUALITY

PROMOTE CLEAR AIR WITH LOW POLLUTANT CONCENTRATIONS THAT DO

NOT ADVERSELY AFFECT RESPIRATORY HEALTH

Objective 6.1: Contribute to regional air quality plan attainment

Policy 6.1.1: *Encourage planning and development activities, that reduce the number and length of single occupant automobile trips*

Implementation Measure 6.1.1.1: Require large projects (exceeding 150,000 square feet of development) to incorporate Transportation Demand Management (TDM) techniques, such as promoting carpooling and transit, as a condition of project approval.

Implementation Measure 6.1.1.2: Require dust abatement actions for all new construction and redevelopment projects.

Implementation Measure 6.1.1.3: Maintain parking standards that encourage and facilitate alternative transportation modes, including reduced parking standards for transit-oriented developments, mixed-use developments, and preferential parking for carpoolers.

Implementation Measure 6.1.1.4: Replace existing gasoline powered City vehicles and equipment with clean fuels and vehicles and equipment.

Objective 6.2: Reduce health risks associated with air pollution

Policy 6.2.1: *Encourage compliance with the California Air Resources Board (CARB) "Air Quality and Land Use Handbook: A Community Health Perspective", which provides guidelines for siting new sensitive land uses in proximity to air pollutant emitting sources*

Implementation Measure 6.2.1.1: Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000

vehicles/day, or rural roads with 50,000 vehicles/day.

Implementation Measure 6.2.1.2: Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU operations exceed 300 hours per week).

Implementation Measure 6.2.1.3: Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard.

Implementation Measure 6.2.1.4: Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the Mojave Desert Air District prior to placement.

Implementation Measure 6.2.1.5: Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

GOAL #7: ENERGY CONSERVATION

PROMOTE ENERGY SUSTAINABILITY BY DEVELOPING ALTERNATIVE POWER SUPPLIES AND REDUCING ENERGY USE

Objective 7.1: Promote alternative energy sources

Policy 7.1.1: *Support development of solar, hybrid, wind and other alternative energy generation plants.*

Implementation Measure 7.1.1.1: Continue to work with energy companies and energy developers to develop non-fossil fuel reliant power generation plants within the Planning Area.

Implementation Measure 7.1.1.2: Through the Victorville Municipal Utility Services (VMUS), continue to expand the amount of energy generated and the distribution of that energy to all Planning Area power consumers.

Objective 7.2: Promote energy conservation

Policy 7.2.1: *Support energy conservation by requiring sustainable building design and development for new residential, commercial and industrial projects.*

Implementation Measure 7.2.1.1: Incorporate green building principles and practices, to the extent practicable and financially feasible, into the design, development and operation of all City owned facilities.

Implementation Measure 7.2.1.2: Minimize energy use of new residential, commercial and industrial projects by requiring high efficiency heating, lighting and other appliances, such as cooking equipment, refrigerators, furnaces, overhead and area lighting, and low NOx water heaters.

Implementation Measure 7.2.1.3: Require drought tolerant landscaping in all new private developments.

Policy 7.2.2: *Support energy conservation by using low-emission non-fossil fuel reliant vehicles.*

Implementation Measure 7.2.2.1: Convert all City owned vehicles to low-emission non-fossil fuel vehicles and continue to update City fleets to the meet new and better low-emission technologies.

Implementation Measure 7.2.2.2: Require drought tolerant landscaping in all City public developments, including buildings, parks and street rights-of-way.