

8.0 HEALTH AND SAFETY ELEMENT

REDLANDS GENERAL PLAN



8.0 HEALTH AND SAFETY ELEMENT

State law requires a Safety Element to outline policies which will protect residents' health, and protect the community from both natural and human-induced disasters. This Health and Safety Element considers air and water quality, fire hazards, drainage and flooding, seismicity, geology, soils, wind hazards, electromagnetic fields, airport/aviation safety, and emergency management. Information contained in the Master Environmental Assessment provides additional discussion on these issues.

8.10 Air Quality

Regional exceedances. The South Coast Air Basin (SCAB) is currently a nonattainment area for ozone (O₃), carbon monoxide (CO), fine particulate matter (PM₁₀) and nitrogen dioxide (NO₂). Of the federal and state standards exceeded in 1993 within the SCAB, the ozone standard was exceeded most often, followed by the CO and PM₁₀ standards. The SCAB has the worst ozone air quality in the nation and is the only area designated as "extreme" nonattainment for ozone. PM₁₀ levels in the SCAB are very high compared to most other areas.

In 1992, the SCAB recorded the greatest number of exceedances of the federal CO standard in the nation. The SCAB is currently designated as a serious nonattainment area for CO under the federal Clean Air Act and is required to implement emissions reduction measures as expeditiously as practicable to attain federal CO standards by December 31, 2000.

The SCAB is also the only area in nonattainment of the federal NO₂ standard. During 1993, the state NO₂ standard was only exceeded once in the SCAB and the federal standard was not exceeded. Sulfate, sulfur dioxide (SO₂), and lead concentrations were below both state and federal standards.

Over the past 30 years, ozone levels have been reduced by half in the SCAB and other criteria pollutant concentrations have significantly declined. The SO₂ and lead standards have been met in the SCAB, and for the first time in 1992, the federal annual NO₂ standard was not exceeded in the basin. Even with these improvements in air quality, the SCAB still experiences exceedances of health-based standards for ozone, nitrogen dioxide (1-hour), carbon monoxide and PM₁₀.

The air quality in San Bernardino County results from a unique combination of factors; air flow patterns and emission sources, both local and those located through the region, result in some of the worst air quality in the nation. San Bernardino County regularly exceeds State and federal air quality standards for Ozone (O₃), and fine Particulate Matter (PM₁₀). Ozone exceedances are acute during summer months when onshore wind patterns transport pollutants from the western portion of the South Coast Air Basin, notably Los Angeles and Orange counties, that combine with emissions from local sources. San Bernardino County records the most severe violations of air quality standards for Ozone and PM₁₀ compared to the rest of the South Coast Air Basin.

Local exceedances. The San Bernardino County portion of the South Coast Air Quality Management District (SCAQMD) is made up of portions both of the valley and mountains. These have been divided into seven air monitoring areas, for which the SCAQMD annually summarizes the air quality. Redlands is within the East San Bernardino Valley air monitoring area, and is grouped together with Yucaipa, and Loma Linda. Between 1975 and 1984, federal air quality standards were exceeded on an average of 115 days per year. Although ozone levels did not reach Stage II (unhealthy for everyone and bordering on hazardous air quality) or III (hazardous air quality) during this period, there were an average of 40 Stage I (unhealthy for everyone) episodes per year. More than 90 percent of these episodes occurred during June through October, between the hours of 3 p.m. and 7 p.m. The ozone measurement station is located in Redlands.

Recent trends indicate that the frequency of ozone Stage I episodes in Redlands has decreased compared to the number of episodes throughout the County of San Bernardino and the South coast Air Basin (SCAB). For example, there were 7 Stage I episode days in Redlands compared to 31 countywide and 43 throughout the Basin during 1992. During 1993, Stage I ozone episodes were called on 8 days in Redlands, 15 days throughout the county and 23 days in the SCAB. Maximum one-hour ozone levels measured in Redlands were very nearly the highest in the county and the basin. They reached 0.27 ppm in 1992 and 1993. The county maximum was 0.27 ppm in 1993 and 0.28 ppm in 1992. Maximum one-hour ozone levels measured throughout the SCAB were only slightly higher (0.28 ppm in 1993 and 0.30 ppm in 1992).

Regulatory framework. The federal Clean Air Act (CAA), promulgated in 1970 and amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The CAA directs the Environmental Protection Agency (EPA) to establish ambient air standards for six pollutants: Ozone, Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter and Sulphur Dioxide. The standards (National Ambient Air Quality Standards, or NAAQS) are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety and the latter to protect environmental values such as plant and animal life.

The CAA requires states to submit a State Implementation Plan (SIP) for areas that exceed the NAAQS (nonattainment areas). The SIP, which is reviewed and approved by the EPA, must demonstrate how the federal standards will be achieved. Failure to submit a plan or secure approval of the plan by the EPA could lead to denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. In cases where the SIP is submitted but fails to demonstrate achievement of the standards, the EPA is directed to prepare a Federal Implementation Plan. For example, EPA's recently released draft Federal Implementation Plan (FIP) for the South Coast, Ventura and Sacramento regions was prepared under court order to promulgate a plan to demonstrate compliance with the CCA's ozone and CO standards.

The November 1990 amendments to the federal Clean Air Act (CAA) were intended to intensify air pollution control efforts across the nation. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress (an incremental reduction in emissions of relevant air pollutants needed to ensure attainment of the NAAQS by the applicable date) and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones. The CAA requires the SCAQMD to develop: a Federal Attainment Plan for Ozone; a post-1996 rate-of-progress demonstration; an ozone attainment demonstration; a PM₁₀ SIP which incorporates best available control measures (BACM) for fugitive sources; near-term (< year 2000) and long-term (> year 2000) transportation control measures and contingency measures (i.e., additional control measures which would be implemented in the event of a milestone or attainment failure).

The CAA classifies the Basin as an extreme nonattainment area and states that the Basin must achieve the federal ozone standard by November 15, 2010. The SCAQMD must demonstrate how the Basin will achieve VOC emission reductions of at least 3% per year averaged over each consecutive 3-year period beginning from November 15, 1996 and ending November 15, 2010.

In February 1993, EPS redesignated the SCAB and the Coachella Valley from moderate to serious nonattainment for PM₁₀. This was necessitated by the fact that the 1991 AQMP indicated that the implementation of reasonably available control measures (RACM) for fugitive dust would not ensure attainment of the PM₁₀ NAAQS by the CAA deadline of December 31, 1994. Consequently, the SCAQMD is required to prepare and adopt a PM₁₀ SIP for the SCAB and the Coachella Valley which incorporates best available control measures (BACM) for fugitive sources.

The California Clean Air Act (CCAA), which is generally more stringent than the federal CAA, was signed into law in 1988 and amended in 1992. The CCAA divides nonattainment areas into categories with progressively more stringent requirements, based on pollutant levels monitored therein. The SCAB is an extreme nonattainment area for ozone and a serious nonattainment area for CO and NO₂. PM₁₀ is not currently addressed

in the CCAA. Serious and above attainment areas are required to revise their AQMP to include specified emission reduction strategies and to meet milestones in implementing emission controls and achieving better air quality.

The CCAA requires the establishment of indirect and area source controls to reduce vehicle miles traveled (VMT) and increase average vehicle ridership (AVR). It specifies the use of best available retrofit control technology for existing sources. The CCAA requires new source review to mitigate all emissions from new and modified permitted sources. It also requires consideration of transportation control measures (TCM's) and significant use of low-emission vehicles by fleet operators.

CAA requirements for control strategy development that are addressed in the 1994 AQMP include:

- Rate-of-progress requirements (reducing pollutants contributing to nonattainment by 5% per year or the maximum feasible);
- AVR requirement (Achieving an average vehicle ridership during peak commute hours of 1.5 persons/vehicle by 1999);
- Ensure no net increase in motor vehicle emissions after 1997;
- Substantial decrease in VMT growth and vehicle trips;
- Reduce per-capita population exposure to severe nonattainment pollutants (Ozone, CO and NO₂ for the SCAB) according to a prescribed schedule;
- Rank control measures by cost-effectiveness and implementation priority.

In addition to the six pollutants regulated by federal legislation, the California Clean Air Act establishes standards for Hydrogen Sulphide, Sulphates and Vinyl Chloride. Responsibility for achieving these standards (which are more stringent than federal standards) is placed on the California Air Resources Board (CARB) and local air pollution control districts. The Air Quality Management Plan (AQMP) is, in turn, incorporated into the SIP.

With the aim of complying with all state and federal ambient air quality standards by 2010, the South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) jointly prepared the 1994 Air Quality Management Plan (AQMP). The Plan calls for implementation of rules and regulations by the CARB, the SCAQMD, the Environmental Protection Agency and local jurisdictions.

The 1994 AQMP demonstrates attainment of the federal and state ambient air quality standards. It proposes to achieve the federal ozone and PM₁₀ standards through long-term measures that emphasize a greater reduction of nitrogen oxides emissions from on-road and off-road sources than previous versions of the AQMP. The 1994 AQMP includes a 1990 emissions inventory and future emissions forecasts that reflect demographic and economic growth forecasts by SCAG.

The 1994 AQMP calls upon local governments to play an active role in reducing mobile source emissions through the implementation of specific actions. Control Measure FC-4 in the 1992 Carbon Monoxide Plan combines all transportation control measures (TCMs) developed by SCAG for local government implementation to reduce VMT and vehicle trips. Additional actions which local governments can implement to reduce mobile source emissions are described and quantified in the SCAQMD *Trip Reduction Ordinance Handbook*.

With 90 percent of local governments committed to implementing TCMs as of 1992, local efforts are currently having (and will continue to have) a profound impact on improving air quality in the region by reducing emissions from mobile sources and enhancing mobility by decreasing congestion levels. Appendix IV-C to the 1994 AQMP *Transportation Control and Indirect Source Measure Recommendations from the SCAG Regional*

Council details advanced transportation technology measures, transportation improvement measures, market incentives, indirect source controls and other programs intended to maximize emission reductions from mobile sources by integrating air quality, mobility and the economic development goals described in the Regional Comprehensive Plan.

The AQMP calls upon local governments to implement appropriate control measures contained in the AQMP. Several measures direct each local government to adopt an Air Quality Element or its equivalent as part of its General Plan. If all of the applicable control measures are not implemented, the air quality standards cannot be achieved. In this event, the existing moratorium on location of stationary sources in the Basin will be continued and federal funding and other permits may be denied until the standards are met.

San Bernardino County has drafted a Model Air Quality Element. Since the air quality problem is larger than any one jurisdiction, the Model Element includes goals, policies, and programs which have been accepted by the fifteen cities in the San Bernardino County portion of the South Coast Air Basin, and which contain consensus goals, policies and programs intended to provide a common foundation for coordinated action. This air quality section has been adapted from the Model Air Quality Element, and will thus be consistent with air quality policy for the County and all participating jurisdictions. For further detail on air quality within the County, the AQMP may be consulted.

Guiding Policies: Air Quality

8.10a Achieve economic growth in such a way that good air quality can be achieved and maintained.

Good air quality is air quality which meets State and federal standards.

8.10b Achieve necessary air-quality-related lifestyle and economic changes through market incentives where feasible and through regulatory measures where necessary.

8.11 Air Quality and Jurisdictional Responsibility and Roles

Guiding Policies: Air Quality and Jurisdictional Responsibility and Roles

8.11a Support the County in its efforts to coordinate air quality improvements in the portion of the South Coast Air Basin within the County and in its efforts to coordinate improvements in air quality through reductions in pollutants from Orange and Los Angeles counties.

8.11b Coordinate with other jurisdictions in San Bernardino County to establish and integrate parallel or related air quality plans, implementation programs, and monitoring and reporting.

8.11c Cooperate with the County's establishment of an ongoing air quality implementation and project referral process within the San Bernardino County portion of the South Coast Air Basin, adapting it as necessary to the City's circumstances, resources and procedures.

8.11d Support the County in its efforts to cooperate actively with Los Angeles, Orange and Riverside counties to comprehensively improve air quality at the emission source, and cooperate with these jurisdictions directly, where possible.

- 8.11e** Involve environmental groups, the business community, special interests and the general public in the formulation and implementation of programs which effectively reduce airborne pollutants.
- 8.11f** Advocate and support innovative strategies to improve air quality.

Implementing Policies: Air Quality and Jurisdictional Responsibility and Roles

- 8.11g** Participate with SANBAG in defining and implementing the Congestion Management Program (CMP) for San Bernardino County to ensure appropriate coordination with air quality planning.

See related policies and discussion within Section 5, Circulation Element.

- 8.11h** Coordinate with and cooperate with the implementation/monitoring system devised as part of the County Air Quality Plan, and integrate any City-level monitoring and reporting programs with monitoring and reporting required for the County Air Quality Plan.
- 8.11i** Jointly establish a communication network with key elected officials and staff involved in air quality planning in Los Angeles, Orange and Riverside counties as the basis for identifying and implementing parallel measures of mutual benefit.
- 8.11j** Design and conduct efforts to involve the public and affected/interested parties in the adoption of local air quality plans and implementation of air quality improvement programs.

Measures identified in the Regional Air Quality Plan to implement this program include:

- ▶ *conduct public forums;*
- ▶ *establish communication and education programs;*
- ▶ *make written briefs available locally;*
- ▶ *conduct Planning Commission/City Council public workshops; and*
- ▶ *utilize a variety of media forms to maximize citizen involvement.*

- 8.11k** Support new approaches to improving air quality through supporting legislation, cooperating with regional bodies, establishing pilot programs, and funding and/or participating in private/public partnerships.

8.12 Air Quality and Ground Transportation

Guiding Policies: Air Quality and Ground Transportation

- 8.12a** Aim for a diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants.
- 8.12b** Reduce vehicle miles traveled and peak period auto travel by increasing average vehicle ridership during peak commute hours.
- See related policies within Section 5, Circulation Element.*
- 8.12c** Cooperate in efforts to expand bus, rail and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.

- 8.12d Promote expansion of all forms of mass transit in the urbanized portions of San Bernardino, Orange, Los Angeles and Riverside counties.
- 8.12e Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.
- 8.12f Jointly support efforts to establish a regionwide bus pass.
- 8.12g Promote non-motorized transportation.

See related policies within Section 5, Circulation, and trails policies within Section 7.10, Open Space and Conservation Element.

- 8.12h Promote a regional approach in utilizing parking costs as a means to discourage low vehicle occupancy.
- 8.12i Aim for a pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants.
- 8.12j Integrate air quality planning with the land use and transportation process.

Implementing Policies: Air Quality and Ground Transportation

- 8.12k Establish and implement a Transportation Demand Management (TDM) Program.

See related policies within Section 5, Circulation Element.

- 8.12l Define and implement auto limitation procedures in selected areas and at selected times, provided that alternative transportation modes are available.
- 8.12m Establish incentives and regulations to eliminate work trips.
- 8.12n Use incentives, regulations and Transportation Demand Management (TDM) in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips which would otherwise be made, and to reduce the vehicle miles traveled for auto trips which still need to be made.
- 8.12o Establish and maintain telecommunications strategies to reduce the length of auto trips.
- 8.12p Promote and establish modified work schedules which reduce peak period auto travel.
- 8.12q Establish incentives and regulations to spread work trips over a longer period to reduce peak period congestion.
- 8.12r Participate in efforts to achieve increased designation, construction, and operation of HOV lanes on freeways in Los Angeles, Orange, Riverside and San Bernardino counties.
- 8.12s Jointly, through the County, SANBAG, and SCAG, participate with adjacent counties in expanding HOV lanes on the freeway system within those counties.
- 8.12t Coordinate overlapping components of the State-mandated Congestion Management Program and the Regional Air Quality Plan.

- 8.12u** Promote market-based incentives and disincentives to relieve peak hour/peak direction congestion within highly congested travel corridors.
- 8.12v** Cooperatively initiate a pilot program to explore jointly with Los Angeles, Orange and Riverside counties, methods and workability of Congestion Fees for peak hour/peak direction use to be levied within highly congested travel corridors, particularly those which generate emissions transported to San Bernardino County.
- 8.12w** Participate with public transit providers serving San Bernardino County in a cooperative program to increase transit services with existing equipment and expand services through transit facility improvements.
- 8.12x** Coordinate with public transit providers to increase funding for transit improvements to supplement other means of travel.
- 8.12y** Plan for intraregional commuter and main line rail service development including convenience facilities at rail stops.

See related policies in Section 5, Circulation Element.

- 8.12z** Develop design standards that promote access to transit facilities.
- 8.12aa** Influence the expansion of intraregional commuter and main line rail services, particularly those linking with destinations in San Bernardino County.

- 8.12bb** Provide bicycle and pedestrian pathways to encourage non-motorized trips.

See related policies in Section 5, Circulation Element.

- 8.12cc** Develop standards and guidelines for support facilities to incorporate into development plans for increased bicycle and pedestrian routes to link appropriate activity centers to nearby residential development.

- 8.12dd** Manage parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

- 8.12ee** Establish short and long-term parking management strategies at governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at a competitive disadvantage.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

- 8.12ff** Establish parking management strategies for governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at an economic disadvantage in enticing jobs.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

- 8.12gg** Promote State and federal legislation which would improve vehicle/transportation technology and which would establish differential pricing mechanisms to assess the true cost of emissions.
- 8.12hh** Support legislation to stimulate the development of practical electric vehicles.
- 8.12ii** Support State legislation which would establish emission fees on gasoline products and differential registration fees on motor vehicles according to the emission levels that they are designed to produce; include exploration of an option that imposes pollution fees on individual vehicles at time of mandated smog inspections, based on actual vehicle performance.
- 8.12jj** Support legislation which tightens the existing vehicle inspection program, both in terms of standards to be met and requirements for compliance.
- 8.12kk** Invest in and institute clean fuel systems on new local government fleet vehicles.
- 8.12ll** Promote the development of Park-and-Ride lots.

8.13 Air Quality and Air Transportation

Guiding Policy: Air Quality and Air Transportation

- 8.13a** Support a goal of minimum feasible emissions from all air carrier airports within the region, and identify the Norton Air Force Base reuse impact.

Implementing Policies: Air Quality and Air Transportation

- 8.13b** Promote requiring the best available technology to reduce emissions in aircraft fleet.
- 8.13c** Urge establishment of the best available technology and operational measures for aircraft and ground service vehicles.
- 8.13d** Support phasing out of Stage II aircraft and the earliest possible transition to Stage III aircraft for operation within the Air Basin.
- 8.13e** Promote installation of centralized ground power systems at existing air carrier airports.
- 8.13f** Urge establishment of requirements for centralized ground power systems to be installed and used as soon as practicable at existing air carrier airports.
- 8.13g** Promote conditioning of approval of air carrier airports upon inclusion of plans for improved ground access.
- 8.13h** Urge establishment of an ordinance requiring air carrier airport operators to obtain permits based on approved plans for trip reduction, facility design and access improvements.

8.14 Air Quality and Land Use**Guiding Policy: Air Quality and Land Use**

- 8.14a** Support a regional approach to regulating the location and design of land uses which are especially sensitive to air pollution.

Implementing Policies: Air Quality and Land Use

- 8.14b** Manage growth by ensuring the timely provision of infrastructure to serve new development.
- 8.14c** Incorporate phasing policies and requirements in general plans and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development.
- 8.14d** Improve the balance between jobs and housing in order to create a more efficient urban form.
- 8.14e** Improve jobs/housing balance through new development and redevelopment project reviews and actions.
- 8.14f** Improve jobs/housing balance at a subregional level in relation to major activity centers as new development occurs.
- 8.14g** Support incentive-oriented tax credits; loan programs; small business development programs; and complementary land use policies, all aimed at improving the jobs/housing balance in the western San Bernardino/eastern Los Angeles counties area.
- 8.14h** Develop and adopt an agreement among the participating jurisdictions as to mutually acceptable approaches to improve and maintain jobs/housing balance.
- 8.14i** Participate with the SCAQMD in jointly formulating appropriate standards for regulating the location and protection of sensitive receptors (schools, day care facilities, hospitals and the like) from excessive and hazardous emissions.
- 8.14j** Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants.
- 8.14k** Support and encourage the maximum use of plants and trees to provide oxygen enrichment through the photosynthesis process.

8.15 Air Quality and Particulates**Guiding Policies: Air Quality and Particulates**

- 8.15a** Aim for the minimum practicable particulate emissions from the construction and operation of roads and buildings.
- 8.15b** Reduce particulate emissions from roads, parking lots, construction sites, mining operations and agricultural lands.
- 8.15c** Reduce emissions from building materials and methods which generate excessive pollutants.

Implementing Policies: Air Quality and Particulates

- 8.15d** Adopt incentives, regulations and procedures to manage paved roads so they produce the minimum practicable level of particulates.
- 8.15e** Adopt incentives, regulations and procedures to minimize particulate emissions during grading, and road, parking lot, and building construction.
- 8.15f** Adopt incentives, regulations and procedures to control particulate emissions from unpaved roads, drives, vehicle maneuvering areas, parking lots, and disturbed land that is not developed.
- 8.15g** Adopt incentives, regulations and procedures to limit dust from agricultural lands and operations.
- 8.15h** Adopt incentives, regulations and procedures to prohibit the use of building materials and methods which generate excessive pollutants.

8.16 Air Quality and Energy Use**Guiding Policies: Air Quality and Energy Use**

- 8.16a** Aim for reduced emissions through reduced energy consumption.
- 8.16b** Reduce energy consumption through conservation improvements and requirements.

See related policies within Section 7.23, Open Space and Conservation Element, Energy Resources and Conservation.

- 8.16c** Reduce water heating emissions resulting from swimming pool heaters and residential and commercial water heaters.
- 8.16d** Promote local recycling of wastes and use of recycled materials.

See related policies within Section 7.24 Open Space and Conservation Element, Waste Management and Recycling.

Implementing Policies: Air Quality and Energy Use

- 8.16e** Implement plans and programs to phase in energy conservation improvements through the annual budget process.
- 8.16f** Adopt incentives and regulations to enact energy conservation requirements for private development. Residential Development Allocations (RDAs) provide points for energy conservation efforts.
- 8.16g** Adopt incentives and regulations to reduce emissions from swimming pool heaters.
- 8.16h** Adopt incentives and regulations to reduce emissions from residential and commercial water heating.
- 8.16i** Implement provisions of AB 939 and adopt incentives, regulations and procedures to specify local recycling requirements.

See related policies in Section 7.24, *Open Space and Conservation Element, Waste Management and Recycling* and policies within the *Source Reduction and Recycling Element*.

8.20 Water Quality

Groundwater contamination poses some serious problems. It is estimated that 28% (11 out of 40) of the City's wells are contaminated by agricultural nitrates and must be considered non-potable without costly treatment. A groundwater plume with high levels of toxic industrial organic solvents (trichloroethylene, or TCE) has been tracked moving across the Planning Area, from east to west toward the Santa Ana River, also rendering some wells non-potable. The Regional Water Quality Control Board (RWQCB) has confirmed the presence of DBCP (dibromochloropropane) in trace amounts in all major city pumping areas. This chemical was applied to citrus groves until banned by the Environmental Protection Agency (EPA) in 1979.

Water supply is intimately tied to water quality, since adequate uncontaminated flows significantly mitigate the presence of contaminated flows, through dilution, flushing, and general availability of alternate sources. Water supply is a regional issue, and is discussed further in Section 7.22, *Water Supply and Conservation*. The construction of the Seven Oaks Dam on the Santa Ana River, combined with the proposed conservation pool and water rights appropriation by the San Bernardino Valley Municipal Water District (SBVMWD) has the potential to dramatically alter the natural recharge and groundwater scouring actions within the basin. Please refer to Section 6.0, of the MEA, and Section 7.0, of the EIR for further information on water quality.

Guiding Policies: Water Quality

- 8.20a** Work with the local and regional water agencies to improve and enhance groundwater quality in the region.

The RWQCB's Water Quality Control Plan: Santa Ana River Basin, 1984, with amendments through 1994, specifies regional water quality objectives and implementation measures.

- 8.20b** Oppose approval of development projects within the Planning Area that would rely on package wastewater treatment plants.

City of Redlands wastewater treatment capacity can be expanded to serve the Planning Area at buildout. Separate, smaller package plants typically are more difficult to maintain and operate at comparable standards and may pose a threat to groundwater quality. Expansion to the Redlands sewage treatment plant in 1994 provided capacity for 15 years of growth at 100 gallons per capita per day. Rapid development in the East Valley Corridor could require further expansion before then.

- 8.20c** Where feasible given flood control requirements, maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water quality.

*This policy is a restatement of a part of Policy 8.40d in Section 8.40, *Drainage and Flooding*. An increase in impervious surfaces works to diminish percolation of water into the aquifer. The flushing action of adequate flows is necessary to preserve water quality. Preservation of soft or natural-bottom channels aids in percolation and recharge, maintaining water quality. See also Policy 7.21l, *Open Space and Conservation Element**

- 8.20d** The City of Redlands shall give priority to providing its citizens the highest quality water for domestic use as is reasonably available to it.

- 8.20e** The City of Redlands shall give priority to utilizing the surface water of Mill Creek, which is the highest quality water presently available to it.
- 8.20f** The City will give the next higher priority to utilizing the surface water of the Santa Ana River available to it through stock ownership rights or other rights.
- 8.20g** In the event the supply from local surface water sources is insufficient to meet demand, the City will also use local groundwater sources of good quality.
- 8.20h** State Water Project water shall be considered, to the extent possible, as supplemental water, and shall be utilized only as necessary to meet demand.
- 8.20i** The City will actively protect all water supply sources, to the extent legally possible, from contamination and from a diminution of supply, will undertake all necessary steps to provide a secure supply of high quality water to meet the present and future needs of its citizens.

The Citizens of Redlands rely upon the City to provide them with safe, reliable, high quality water for domestic use. Redlands' water supply is derived from several different sources of varying quality. Increasingly stringent water quality standards are promulgated by state and federal regulatory agencies for drinking water, and there is some uncertainty whether existing water treatment technology alone can remove contaminants sufficiently to meet such standards. Because technology alone may not be sufficient to ensure high quality drinking water, Redlands must endeavor to use the highest quality uncontaminated sources of water available to it, and must protect such sources from contamination. The City Council of the City of Redlands believes it is in the best interest of its citizens to provide the highest quality water reasonably available to it for domestic use by its water users. It is also necessary to ensure a dependable water supply for the City from many sources, to prevent shortages, caused by adequate outages, unexpected contamination, droughts, or emergencies.

Implementing Policies: Water Quality

- 8.20j** Participate in the ongoing regional response to EPA's stormwater permit regulations.

Stormwater permit regulations will require the use of best management practices by all jurisdictions in the maintenance of the quality of stormwater runoff. Participation involves attendance at meetings and implementation of practices beneficial to participating jurisdictions.

- 8.20k** Require industrial water users to pretreat wastewater onsite prior to discharging into the sewer system, in accordance with Redlands' industrial wastewater pretreatment ordinance.

Ordinance No. 2268 requires wastewater pretreatment, meaning the reduction of the amount of pollutants, the eliminating of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging these pollutants into the City wastewater facility or public sewer. While pretreatment may not be necessary for all industrial uses, it is, in some cases, critical for water quality preservation.

- 8.20l** As landfills close, continue groundwater monitoring to detect leaks into the aquifer.

Current testing does not indicate that the presence of toxic substances exceeds regulatory levels. However, there is growing concern that once-active landfills throughout the State may have historically contaminated groundwater and, without ongoing monitoring, may continue to do so. The Church Street burnsite has been closed since 1986, the California Street landfill has a current, 1995, capacity to remain in operation until approximately 1998, however the City Council has

directed staff to pursue an analysis of expanding this landfill facility, and the San Timoteo Canyon landfill is expected to close by 2016, unless expanded.

- 8.20m** Require that applicants take soil samples prior to grading or construction in existing or past orchard or other agricultural areas which were treated historically with toxic chemicals such as DBCP. If contamination is discovered, prior to development consult with the appropriate agencies for proper clean-up measures.

The Regional Water Quality Control Board, State Department of Health Services, or U.S. Environmental Protection Agency can provide information or referrals on clean-up measures.

- 8.20n** Construct treatment plants or systems to treat contaminated groundwater as necessary to ensure availability of potable groundwater.

The Texas Street treatment plant, at the corner of Texas Street and Pennsylvania Avenue, is designed to treat 8.6 million gallons of contaminated groundwater daily. In Addition, the Rees Well Water Treatment Plant near Judson and Pennsylvania is designed to treat 3 million gallons of contaminated groundwater daily.

- 8.20o** Design projects to minimize the possibility of wind or water erosion and, where necessary, require preparation and implementation of a soil erosion plan, including soil erosion mitigation during construction.

Thoughtful construction practices can minimize erosion. Measures might include removing the surface cover from the soil only when construction is ready to begin, uncovering soil only at the construction sites, avoid grading during the wet season, covering stockpiles of soil, and erecting berms, barriers, or temporary settling ponds to direct runoff away from cleared areas and trap sediments before they enter surface waters. See also Policy 8.50l.

- 8.20p** The City of Redlands will coordinate with the Regional Water Quality Control Board in developing a system of efficient and accurate well monitoring facilities to ensure early detection of ground water contamination.

8.30 Fire Hazards

Due to a combination of topography, weather, and fuel and exacerbated by potentially high winds and limited access, portions of the Planning Area have been evaluated as being highly susceptible to wildland fire hazards. The slopes of San Timoteo and Live Oak canyons, the Badlands to the south, and the Crafton Hills to the east of the Planning Area are not only difficult for firefighters and equipment to reach, but their steepness and configuration can aid in the rapid upslope spread of fire.

Limited rainfall, low humidity, and seasonal high temperatures contribute to the desiccation of the grasses and chaparral which cover the foothills, providing prime fuel for intense burns. Although some of the canyons are shielded from the direct impact of the powerful, dry Santa Ana winds, their presence generally aggravates the fire hazard. (See Section 8.60 on Wind Hazards.) In addition, the presence of human activities in or near a wildland area dramatically increases the risk of a major fire due to careless smokers, illegal campfires, and other related risks.

The City of Redlands is served by the Redlands Fire Department, and unincorporated portions of the Planning Area are served by the California Department of Forestry and Fire Protection (CDFFP), as contracted by the County of San Bernardino and headed by the County Fire Warden. Adjacent National Forest lands are served by the U.S. Forest Service. Policies emphasize structural fire prevention measures for use throughout the Planning Area, as recommended by the Redlands Fire Department, and as specified in a 1983 document prepared

as part of the Foothill Communities Protective Greenbelt Program (FCPGP). The FCPGP was a multijurisdictional effort involving participants from over a dozen agencies, and identification of foothills areas which are subject to increased fire, flood, and erosion risks. A small portion of the at-risk area overlaps with the Redlands Planning Area, including the Santa Ana River Wash and the proposed Sunrise Ranch (Greenspot) development.

Guiding Policy: Fire Hazards

- 8.30a** Work to prevent wildland and urban fire, and protect lives, property, and watershed from fire dangers.

Implementing Policies: Fire Hazards

- 8.30b** Adhere to the requirements for high fire hazard areas designated by the Redlands Fire Department on the official Roof Classification Zone Map, updated as of June, 1994, and as specified in the document on file at the Redlands Fire Department describing High Fire Hazard Area Fire Safety Modification Zones.

GP Figure 8.1, Conceptual Fire Hazard Areas, is based on the Official Roof Classification Zone Map, which outlines areas within the City that have roofing material restrictions. Requirements include widths and lengths of cul-de-sacs and access streets, distances between turnouts, construction on slopes, buffers, setbacks, and more. GP Figure 8.1 shows high fire hazard areas that have been identified within the Planning Area.

- 8.30c** Monitor fire-flow capability throughout the Planning Area, and improve water availability if any locations have flows considered inadequate for fire protection.

- 8.30d** Monitor methane gas production at active and inactive landfills, and take preventive action if gas production creates a significant fire hazard.

Monitoring at the California Street landfill has shown that methane gas was responsible for several small, on-site fires. The inactive Church Street landfill and active San Timoteo Canyon landfill should also be monitored.

- 8.30e** Devise alternative fire protection standards suitable for Rural Living areas not exposed to high wildland fire hazards.

The cost of installing an urban fire protection water system to serve Rural Living development in citrus groves may be prohibitive. Alternatives such as sprinklers and required on-site water storage may be adequate.

- 8.30f** Consult the San Bernardino County Fire Safety Overlay Ordinance (July, 1989 Development Code) for possible appropriate implementation measures for development in the foothills area. *The Fire Safety Overlay Ordinance is the successor to the "Foothill Communities Protective Greenbelt Program" which specifies parts of the Santa Ana River Wash and the proposed Sunrise Ranch (Greenspot) development area as a wildland/urban interface, subject to increased risk of fire, flood, or erosion. The Fire Safety Overlay Ordinance contains recommendations for access and traffic circulation, fuel modification zones, site and street identification, roadside vegetation specifications, water supply and system standards, construction and development design, erosion control, and several other requirements.*