

# Air and Water Quality

## Introduction

Water and air are essential for humans as well as the animals and plants that inhabit San Rafael. The Air and Water Quality Element is intended to ensure that high quality air and water are available to all who reside, work, and play in the City.

Internal combustion engines damage both the air and water around us. Emissions from gas-powered vehicles contribute fine particulate matter into the air that is eventually carried away to waterways. The City seeks to mitigate the effects of vehicular pollution by supporting policies that promote more environmentally friendly forms of transport as well as promote land use design practices that are more efficient.

Maintaining and improving water quality is essential to protect public health, wildlife, and watersheds, and to ensure opportunities for public recreation and economic development in San Rafael. Water pollution can be dramatically curbed through proactive efforts of residents and through City policies. San Rafael is a member of the Marin County Stormwater Pollution Prevention Program (MCSTOPPP), which is the leader in stormwater management within the Bay Area. MCSTOPPP's programs encourage public participation, education and appropriately designed development to curb water pollution in the County. The City encourages the use of practices that enable water to percolate into the surrounding soil, instead of letting sediment, metals, pesticides and chemicals runoff directly into the Bay, creeks, or through the storm drain system. Improving the water quality in San Rafael's creeks and canal is a priority. The City supports efforts to clean up existing bodies of water and to prevent further degradation.

Through education, participation in ongoing programs, and innovative strategies, the City seeks to provide clean air and water and, to the best of its ability, contribute to a healthy region.

Potable, or drinking, water is covered in the Conservation Element and governed by the Marin Municipal Water District and State standards.



Volunteers help clean up San Rafael creeks.

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## GOAL 35: CLEAN AIR AND WATERWAYS

**It is the goal of San Rafael to have the residents of San Rafael breathe clean air and have clean waterways. It is desirable that San Rafael meets all ambient air quality standards and that San Rafael's waterways are clean and healthy.**

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### San Rafael Air Quality Policies

#### AW-1. State and Federal Standards.

Continue to comply and strive to exceed state and federal standards for air quality for the benefit of the Bay Area.

#### Toxic Air or Odor

Toxic air pollutants at sufficient concentrations and exposure are known or suspected to cause cancer or other serious health effects, such as reproductive or birth defects, or to cause adverse environmental consequences.

**AW-1a. Cooperation with Other Agencies.** Cooperate with the Bay Area Air Quality Management District (BAAQMD) and other agencies in their efforts to ensure compliance with existing air quality regulations.

Responsibility: Community Development, Public Works

Timeframe: Ongoing

Resources: Staff Time

#### AW-2. Land Use Compatibility.

To ensure excellent air quality, promote land use compatibility for new development by using buffering techniques such as landscaping, setbacks, and screening in areas where different land uses abut one another.

**AW-2a. Sensitive Receptors.** Through development review, ensure that siting of any new sensitive receptors provides for adequate buffers from existing sources of toxic air contaminants or odors. If development of a sensitive receptor (a facility or land use that includes members of the population sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses) is proposed within 500 feet of Highway 101 or I-580, an analysis of mobile source toxic air contaminant health risks should be performed. Development review should include an evaluation of the adequacy of the setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

**AW-2b. Buffers.** Through development review, ensure that any proposed new sources of toxic air contaminants or odors provide adequate buffers to protect sensitive receptors and comply with existing health standards.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

#### Sensitive Receptors

The Bay Area Air Quality Management District (BAAQMD) defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill, and the chronically ill) are likely to be located. These land uses include schools, retirement homes, convalescent homes, hospitals and medical clinics. Exhibit B-8 in the Background Report shows the locations of major sensitive receptors in San Rafael.

### AW-3. Air Quality Planning with Other Processes.

Integrate air quality considerations with the land use and transportation processes by mitigating air quality impacts through land use design measures, such as encouraging project design that will foster walking and biking.

**AW-3a. Air Pollution Reduction Measures.** Consider revisions to zoning regulations to require developers to implement strategies for air quality improvement described in the BAAQMD/ABAG’s guide “Design Strategies for Encouraging Alternatives to Auto Use Through Local Development Review” or subsequent standards.

Responsibility: Community Development

Timeframe: Short Term

Resources: Fees

**AW-3b. Smart Growth and Livable Communities Programs.** Participate in and implement strategies of Metropolitan Transportation Commission’s regional “Smart Growth Initiative” and “Transportation for Livable Communities Program.”

Responsibility: Community Development, Public Works

Timeframe: Ongoing

Resources: Staff Time, Grants

### AW-4. Particulate Matter Pollution Reduction.

Promote the reduction of particulate matter pollution from roads, parking lots, construction sites, agricultural lands and other activities.

**AW-4a. Pollution Reduction.** Through development review, ensure that any proposed new sources of particulate matter use latest control technology (such as enclosures, paving unpaved areas, parking lot sweeping and landscaping) and provide adequate buffer setbacks to protect existing or future sensitive receptors.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

**AW-4b. Fireplaces and Woodburning Stoves.**  
(Deleted per Amendment on 12/5/16)

### AW-5. Circulation Alternatives.

Promote circulation alternatives that reduce air pollution.

See programs under C-10 (Alternative Transportation Mode Projects) through C-20 (Intermodal Transit Hubs).

#### **Particulate Matter**

Particulate matter is a toxic air pollutant. Particulate matter includes dust, soot and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of gas and diesel fuels by vehicles, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, mining operations, fireplaces, and woodstoves. Particulate pollution can cause eye, nose and throat irritation and other health problems.

AW-6. Education and Outreach.  
Support public education of regarding air pollution prevention and mitigation programs.

**AW-6a. Air Quality Education Programs.** Support and participate in the air quality education programs of the BAAQMD, such as “Spare the Air” days.

Responsibility: Community Development, Public Work

Timeframe: Ongoing

Resources: Staff Time

**AW-6b. Benefits of Transit-Oriented Development.** Assist in educating developers and the public on the benefits of pedestrian and transit-oriented development.

Responsibility: Community Development, Public Works

Timeframe: Ongoing

Resources: Staff Time

**AW-6c. Landscaping.** Continue to implement Zoning Guideline for landscaping in order to absorb pollutants.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

## San Rafael Water Quality Policies

AW-7. Local, State and Federal Standards.  
Continue to comply with local, state and federal standards for water quality.

**AW-7a. Countywide Stormwater Program.** Continue to participate in the countywide stormwater program and comply with its performance standards.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

**AW-7b. Stormwater Runoff Measures.** Continue to incorporate measures for stormwater runoff control and management in construction sites.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

**AW-7c. Water Quality Improvements in Canal and Other Waterways.** Support water quality improvement efforts in the San Rafael Canal, creeks, and drainageways in accordance with standards of the State Water Quality Control Board or any agencies with jurisdiction.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

### Non-point Source Pollution

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into bodies of water.

## AW-8. Reduce Pollution from Urban Runoff.

Address non-point source pollution and protect receiving waters from pollutants discharged to the storm drain system by requiring Best Management Practices quality.

- Support alternatives to impervious surfaces in new development, redevelopment, or public improvement projects to reduce urban runoff into storm drain system, creeks, and the Bay.
- Require that site designs work with the natural topography and drainages to the extent practicable to reduce the amount of grading necessary and limit disturbance to natural water bodies and natural drainage systems.
- Where feasible, use vegetation to absorb and filter fertilizers, pesticides and other pollutants.

**AW-8a. Proper Disposal of Pollutants.** Continue to promote proper disposal of pollutants to the sanitary sewer or hazardous waste facilities rather than to the storm drainage system.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

**AW-8b. Compliance by Contractors.** Continue to require contractors to comply with accepted stormwater pollution prevention planning practices for all projects subject to erosion potential. Also, continue to require the proper use, storage and disposal of on-site materials.

Responsibility: Public Works, Community Development

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

**AW-8c. System Improvements.** Improve storm drainage performance by constructing new system improvements. Evaluate stormwater volumes when replacing undersized or otherwise inadequate lines with larger or parallel lines.

Responsibility: Public Works, Community Development

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

**AW-8d. Pesticide and Fertilizer Management.** On City property, encourage the appropriate reduction of pesticides and fertilizers to the maximum extent feasible. Ensure that the application of pesticides on City property is accomplished in accordance with all applicable rules and regulations.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Staff Time

**AW-8e. Public Water Management.** Review areas where public water management procedures are used to convey stormwater to the stormdrain system, including streets, which also convey stormwater to the stormdrain system.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Fees (Clean Water Program)

See I-10a (Coordination of Services) and S-19a (Incremental Flood Control Improvements).

## AW-9. Erosion and Sediment Control.

Establish development guidelines to protect areas that are particularly susceptible to erosion and sediment loss.

See S-22a (Erosion Control Programs) and S-22b (Grading During the Wet Season).

### Best Management Practices

Best Management Practices are guidelines used to ensure that project design, construction, and maintenance are conducted so as to control urban runoff and to minimize the impact on the surrounding environment.

## AW-10. Canal and Bay Boating.

Ensure responsible waste disposal maintenance and operations that affects water quality.

**AW-10a. Sanitation Facilities in Boats.** Require inspection of sanitation facilities in boats berthed in the San Rafael Canal.

Responsibility: Community Development  
Timeframe: Ongoing  
Resources: Staff Time

**AW-10b. Sewage Pump Out Facilities.** Support marina owners in providing on-site sewage pump-out facilities. Require marinas to install such facilities when major improvements are made.

Responsibility: Community Development  
Timeframe: Ongoing  
Resources: Grants, Staff Time

**AW-10c. Education of Boaters.** Educate boaters about good sanitation practices.

Responsibility: Community Development  
Timeframe: Ongoing  
Resources: Staff Time

See NH-29a (Dredging Program), NH-79b (Boating Sanitation and Dock Safety and NH-80a (Pump Out Facilities).

## AW-11. Education and Outreach.

Continue to inform the public about the effects of water pollution in order to encourage participation in pollution prevention programs.

**AW-11a. Stenciling of Storm Drains.** Continue the efforts to identify storm drain locations and stencil them accordingly so that people understand the consequences of pollutant runoff.

Responsibility: Public Works  
Timeframe: Ongoing  
Resources: Fees (Clean Water Program)

**AW-11b. Outreach.** Continue to work with MCSTOPPP in educational outreach and public participation in water pollution reduction methods that, for example, address the impacts of indirect pollution sources such as fertilization, pesticides and pet waste.

Responsibility: Public Works  
Timeframe: Ongoing  
Resources: Fees (Clean Water Program)

**AW-11c. Water Pollution Education.** Educate landscaping service employees and contractors about water pollution.

Responsibility: Public Works  
Timeframe: Ongoing  
Resources: Fees (Clean Water Program)

**AW-11d. Car Wash Facilities.** Require the use of recycled water at new commercial car washing facilities.

Responsibility: Public Works, Community Development  
Timeframe: Ongoing  
Resources: Fees