4.8 HYDROLOGY/WATER QUALITY

Existing Conditions

A. Watersheds

The City of Lemon Grove is located within the Chollas Hydrologic Subarea of the San Diego Mesa Hydrologic Area within the Pueblo Hydrologic Unit. This hydrologic unit encompasses an area of approximately 40 square miles. The boundaries of the Pueblo Hydrologic Unit are the San Diego River to the north, Lemon Grove on the east, National City on the south, and the Pacific Ocean and San Diego Bay on west. The Water Quality Control Plan for the San Diego Basin identifies the San Diego Mesa Hydrologic Area as having beneficial uses that include non-contact water recreation, wildlife habitat, and preservation of rare and endangered species.

Lemon Grove is comprised of four independent sub-basins which constitute the headwaters of South Chollas Creek. The sub-basins are delineated in Figure 4.8-1 and include the following:

- **Broadway Federal Sub-Basin:** This sub-basin is primarily located along Broadway and Federal Boulevard and is generally commercially and industrially developed.
- **Lemon Grove Avenue Sub-Basin:** This sub-basin is generally concentrated along Lemon Grove Avenue.
- **Madera Sub-Basin:** This sub-basin is a minor drainage that runs along Madera Street in the southwest portion of the City and is generally residentially developed.
- **Lansing Street Sub-Basin:** This sub-basin is a minor drainage located in the southeast portion of the City and is generally residentially developed.

The four sub-basins drain into the South Chollas Creek, which joins with Los Chollas Creek, and ultimately discharges into the Pacific Ocean.

B. Surface Water

Surface Water Features

Surface water features in Lemon Grove are primarily limited to the intermittent flows within the four sub-basins. Figure 4.8-1 shows the primary intermittent streams. No lakes or ponds occur within the City limits. During rain events, flooding occasionally occurs in limited portions of the City. Section 4.15, Public Health and Safety, provides a description of flood hazards.

Drainage Infrastructure

As the City has developed, drainage infrastructure has been constructed to reduce the potential for flooding and divert storm water from property and roadways. Most of the infrastructure is sized to accommodate the storm waters of a 100-year flood (which has a one percent chance of occurring in a given year). The improved drainage system consists of various culverts, underground drains, lined surface drains and roadway gutters.

A Storm Drainage General Plan was prepared for the Lemon Grove area in 1974. The purpose of the Plan was to identify storm drain requirements and necessary improvements to reduce property damage, nuisance and inconvenience to the residents of Lemon Grove. The recommendations were also designed to reduce the possibility of major street flooding. While some of the improvements identified in the 1974 study have been implemented, the estimated costs to construct the recommended improvements have delayed the implementation of other improvements. Some of the improvements recommended in the study may be oversized.

Flooding occurs along Federal Boulevard during heavy, continuous rain storms, and access to businesses is often obstructed. Some of the buildings are occasionally inundated by flood waters as well. While business and commerce can be adversely affected by flooding, the potential for injury is low. At this time, the cost of constructing the needed drainage improvements along Federal Boulevard is quite high, preventing implementation. Minor flooding also occurs within some roadways in the residential neighborhoods.

C. Groundwater

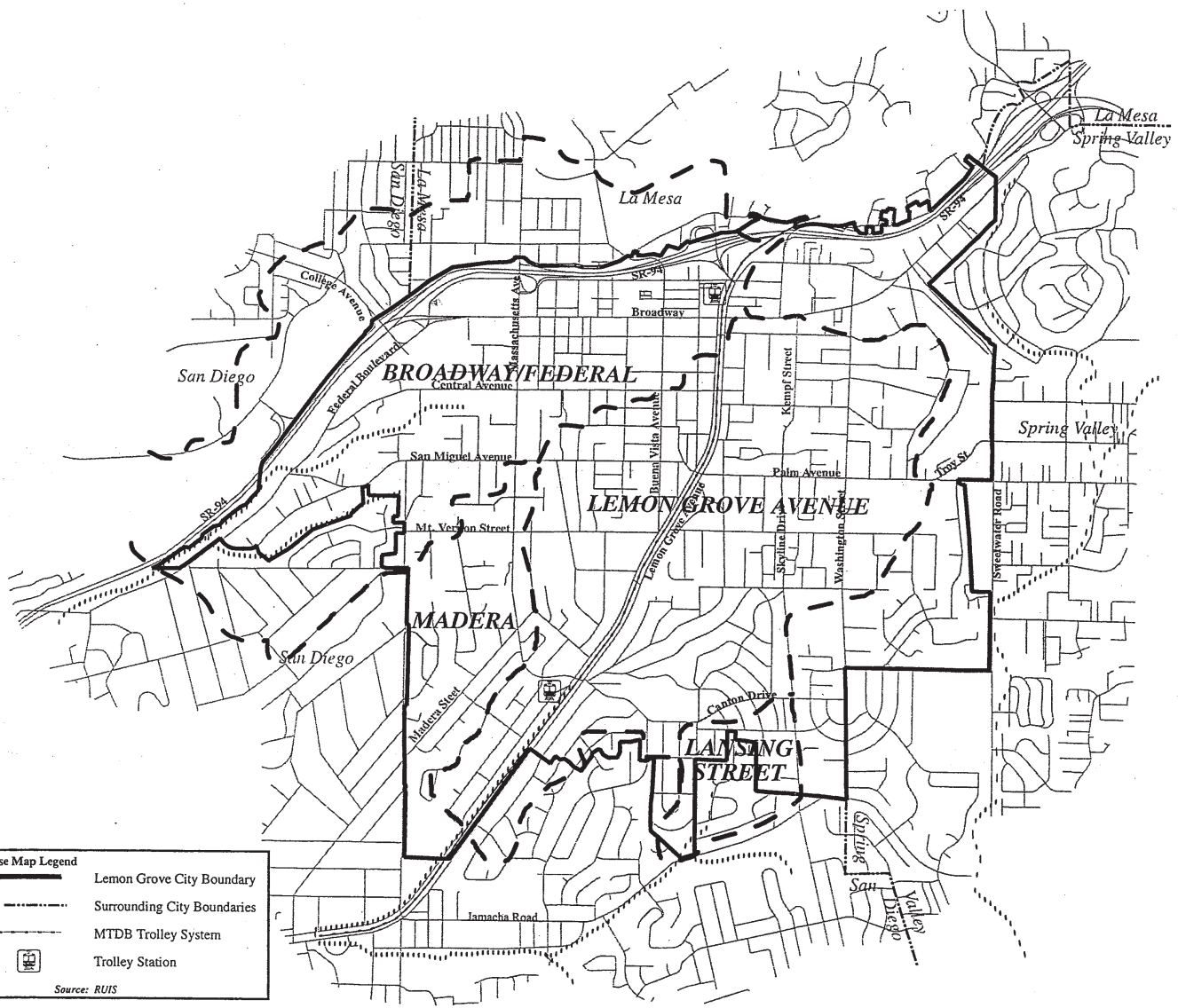
In general, groundwater quality within the San Diego region is low. According to the Water Quality Control Plan for the San Diego Basin, there are no existing or potentially beneficial ground water uses for the San Diego Mesa Hydrologic Area (California Regional Water Quality Control Board, San Diego Region, 1975).

Groundwater depth within the City is relatively shallow. Environmental documents prepared for the City have addressed groundwater depth at different locations. Groundwater depth has been recorded at 4.5 feet (G.K. Graves and Associates, 1992) in the vicinity of Broadway and Grove Street; at approximately 100 feet (Lemon Grove Community Development Agency, 1992) in the vicinity Broadway and Buena Vista Avenue; and at 7 feet (City of Lemon Grove, 1984a) in the vicinity of Central Avenue and Chateau Way. Natural springs also occur in the City.

D. Water Quality

Water Pollution Sources

In urbanized areas, the quality of surface water and groundwater is typically affected by pollutants from point and non-point sources. A point source is defined as any discernible or



LEMON GROVE
BEST CLIMATE ON EARTH

General Plan Master Environmental Impact Report

Legend

Watershed

Intermittent Stream

Source: City of San Diego Department of Sanitation and Flood Control, 1974.

N

1 inch = 2,000 feet

Figure 4.8-1
Watersheds

discrete conveyance (such as a pipe, channel or outfall) from which pollutants are discharged. In other words, point source pollution originates from an identifiable "point" of waste release. Typical examples of point sources include municipal sewage treatment plant outfalls and industrial process wastewater outfalls. In Lemon Grove, no significant point sources of water pollutants presently exist.

Non-point source pollutants originate over a widespread area and are carried to streams and groundwater by storm water and runoff during rain events. Pesticides, oil, grease, fertilizers and detergents from urban areas are "washed away" by storm waters and flow to surface streams, or percolate to the groundwater table. Construction activity is a significant non-point source. Grading and other earth work activities accelerate erosion, and the sediment load of local streams is consequently increased. Because Lemon Grove is primarily developed, a variety of non-point sources of water pollutants occur throughout the City.

National Pollution Discharge Elimination System (NPDES)

In 1972, the Federal Water Pollution Control Act (also known as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the act established a framework for regulating municipal and industrial storm water discharges under the NPDES program. The current NPDES permit system regulates point source pollutants but not non-point source pollutants. The NPDES permit is administered by the California State Water Resources Control Board.

There are currently three types of storm water permits in California: General Construction Activity Storm Water Permit, General Industrial Storm Water Permit and Areawide Municipal Storm Water Permit. Each of these permits are described below.

General Construction Activity Storm Water Permit. The NPDES General Construction Activity Storm Water Permit is primarily directed at controlling erosion and sedimentation from new development projects. Construction activity involving soil disturbance of five or more acres must be regulated as an industrial activity and covered by a construction permit. The General Construction Activity Storm Water Permit requires owners to:

- Eliminate or reduce non-storm water discharges to storm water conveyance system;
- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with commencement of construction activities; and
- Perform inspections of storm water pollution prevention measures.

The two major objectives of the SWPPP for the General Construction Activity Storm Water Permit are first to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and second, describe and ensure implementation of practices to reduce

sediment and other pollutants in storm water discharges. Best management practices (BMPs) must be included in the plan to control the quality of storm water discharges both during and after construction.

General Industrial Storm Water Permit. The NPDES General Industrial Storm Water Permit is primarily directed at controlling storm water discharges from private industrial activities. Discharges must be controlled utilizing the Best Available Technology (BAT) and Best Conventional Pollutant Control Technology (BCT). The following are requirements of the General Industrial Storm Water Permit:

- Eliminate non-storm water discharges to storm water conveyance systems that discharge into waters of the United States;
- Develop and implement an SWPPP concurrent with commencement of industrial activities; and
- Develop and implement monitoring and reporting program, which includes collection and analysis of samples, concurrent with commencement of industrial activity.

Areawide Municipal Storm Water Permit. The NPDES Areawide Municipal Storm Water Permit is prepared by the San Diego Regional Water Quality Control Board as the permittee, and names all land use regulatory agencies, including the City of Lemon Grove, as co-permittees under a single permit. The permit is primarily directed at reducing pollutants in storm water discharges to the Maximum Extent Practicable (MEP) standard for municipal discharges. The MEP standard considers economic factors, understanding that it is not always economically possible to prevent discharge of all pollutants in storm water. The following are requirements of an Areawide Municipal Storm Water Permit:

- Prohibit non-storm water discharges; and
- Develop and implement a comprehensive storm water management program.

The comprehensive storm water management program is an areawide cooperative program that includes the City of Lemon Grove. The program must include development and implementation of best management practices, a monitoring and reporting program, an illicit connection/illegal discharge detection program, a storm water ordinance, and a funding source.

Threshold of Significance

Based on the CEQA Guidelines, a project will normally have a significant effect on hydrology/water quality if it will:

- Substantially degrade water quality;
- Contaminate a public water supply;
- Substantially degrade or deplete groundwater resources;
- Interfere substantially with groundwater recharge; or

- Result in a substantial amount of surface runoff that cannot be accommodated by the existing drainage infrastructure.

Impacts

A. Plan-wide

Hydrology

The proposed Land Use Plan involves redevelopment and infill development in a primarily urbanized area. Of the 2,506 acres within the City, all but approximately 65 acres are currently developed. Development of the remaining undeveloped areas will decrease permeable area, thereby increasing urban runoff. However, the increase in runoff associated with these areas will not be significant and could be accommodated by the existing and drainage infrastructure planned in the Storm Drainage General Plan.

Because the amount of impervious surfaces will increase in the City, a reduced amount of water will infiltrate the soil to the groundwater table. There will be a minor decrease in groundwater recharge rate over time. This will not be significant as the area is no longer dependent on groundwater for agricultural operations.

No bodies of water used for public water supply are located within the City. No impacts to public water supply will result from implementation of the proposed General Plan.

Water Quality

The quality of surface water tributaries will be incrementally affected by the increase in proposed development. Pollutants, such as grease, oil, detergents, pesticides and fertilizers will incrementally increase in the surface runoff over time. Grading and construction activities will also generate pollutants which could enter surface water. These non-point source pollutants will enter local tributaries and ultimately Chollas Creek and will incrementally decrease water quality.

The City is a co-permittee with the San Diego Regional Water Quality Control Board for the Areawide Municipal Storm Water Permit. As part of the non-point source management program under the NPDES, BMPs are required to be implemented by all permittees to reduce pollutants in site runoff. All development and significant new redevelopment must be implemented with BMPs. Implementation of BMPs in future development project will decrease water quality impacts from non-point source pollutants.

B. STAs and Other Development Areas

Downtown Village (STA I)

Implementation of the proposed Land Use Plan for STA I will have no significant impact to hydrology, other than discussed above. No specific point or non-point sources of pollution can be identified at this time.

Massachusetts Station (STA II)

Implementation of the proposed Land Use Plan for STA II will have no significant impact to hydrology, other than discussed above. No specific point or non-point sources of pollution can be identified at this time.

Regional Commercial (STA III)

Implementation of the proposed Land Use Plan for STA III will have no significant impact to hydrology, other than discussed above. No specific point or non-point sources of pollution can be identified at this time.

West Central Residential (STA IV)

Implementation of the proposed Land Use Plan for STA IV will eliminate an existing undeveloped area. In addition, a creek traverses the property. While preservation of the creek is ultimately planned, construction activities within this STA are likely to have a significant impact on water quality in this creek.

Federal Boulevard Automobile Sales District (STA V)

Implementation of the proposed Land Use Plan for STA V will have no significant impact to hydrology, other than discussed above. No specific point or non-point sources of pollution can be identified at this time.

Skyline Commercial Center (STA VI)

Implementation of the proposed Land Use Plan for STA VI will have no significant impact to hydrology, other than discussed above. No specific point or non-point sources of pollution can be identified at this time.

Troy Street/SR-125 Planning Area (STA VII)

Redevelopment in STA VII would be in accordance with the existing General Plan. No changes are proposed in the land use designations or intensities in this STA. However, the majority of

the STA is comprised of the right-of-way for future SR 125. Impacts to hydrology and/or water quality from the construction of the freeway would be the responsibility of Caltrans to mitigate.

Other Development/Land Use Changes

Multiple-Family Residential Development. Implementation of the proposed Land Use Plan relative to the increase in multi-family development will have no significant impact to hydrology, other than discussed above under the Plan-wide analysis. No point sources of pollution are expected within the multi-family area. Non-point sources of pollution will be similar to the remainder of the areas being redeveloped within the City.

Industrial and Commercial Areas. Implementation of the proposed Land Use Plan relative to industrial and commercial areas will have no impact to hydrology, other than discussed above under the Plan-wide analysis. The proposed Land Use Plan in the industrial and commercial areas will not create additional point sources of pollution. Redevelopment in the commercial areas will generate non-point source pollution similar to other areas of the City proposed for redevelopment.

Skyline Neighborhood Commercial Area. Implementation of the proposed Land Use Plan relative to the Skyline Neighborhood Commercial areas will have no impact to hydrology, other than discussed above under the Plan-wide analysis. The additional residential units will not create point sources of pollution. Redevelopment will generate non-point source pollution similar to other areas of the City proposed for redevelopment.

Civic Center Concept Area. Implementation of the proposed Land Use Plan relative to the Civic Center Concept Area will have no impact to hydrology, other than discussed above under the Plan-wide analysis. The proposed Land Use Plan for this area will not create point sources of pollution. Redevelopment in the commercial areas will generate non-point source pollution similar to other areas of the City proposed for redevelopment.

Mitigation Measures

The following mitigation measures are required to reduce impacts to hydrology and water quality to less than significant. The mitigation measures correspond to applicable programs of the General Plan Implementation Manual, as noted.

Water Quality

***Mitigation Measure 4.8-1*:** The City shall ensure that all applicable requirements of the National Pollutant Discharge Elimination System (NPDES) are implemented in Lemon Grove, as follows:

- **General Construction Activity Storm Water Permit** - For construction activity involving soil disturbance of five or more acres, the City shall require the developer

to obtain the NPDES General Construction Activity Storm Water Permit. The permit requires eliminating or reducing non-storm water discharges to storm water conveyance system; developing and implementing a Storm Water Pollution Prevention Plan concurrent with commencement of construction activities; and performing inspections of storm water pollution prevention measures. The City shall review documentation of compliance prior to issuing grading permits.

- **Areawide Municipal Storm Water Permit** - The City shall continue participating in the areawide cooperative program to manage water quality in accordance with the requirements of this permit. (General Plan Implementation Manual, Conservation and Recreation Program #17).

Mitigation Measure 4.8-2: Each year, the City shall conduct a campaign to educate the community about the importance of minimizing pollutants in runoff (non-point source pollutants). The City shall include all or a combination of the following components in the campaign:

- Provide information in the City newsletter regarding sources of non-point source pollutants and ways to reduce such pollutants.
- Paint anti-pollution messages above storm drains in streets.
- In conjunction with the Lemon Grove School District, educate the local children about reducing runoff pollutants.
- In conjunction with the Lemon Grove Chamber of Commerce, educate the business community about reducing runoff pollutants. (General Plan Implementation Manual, Conservation and Recreation Program #18).

Mitigation Measure 4.8-3: The City shall develop and implement a plan to reduce non-point source pollutants from City grounds, particularly parks and storage yards. To encourage similar actions by community residents and business owners, the City shall publicize the City's actions to improve water quality. (General Plan Implementation Manual, Conservation and Recreation Program #19).

B. STAs and Other Development Areas

Mitigation Measures 4.8-1 through 4.8-3 include all of the STAs and other development areas. These mitigation measures will reduce potential impacts to hydrology and water quality within the STAs and other development areas. No other mitigation measures are required for these specific areas of the City.

Level of Significance After Mitigation

With implementation of the mitigation measures identified above, impacts related to hydrology and water quality will be reduced to below significance.