IV. ENVIRONMENTAL IMPACT ANALYSIS
H. HYDROLOGY AND WATER QUALITY

The following section addresses the potential water quality, drainage, and inundation issues associated with the proposed Circulation Element Update. Impacts to other hydrology and water quality issues, such as groundwater impacts and flooding, were found to be less than significant during the preparation of the Revised Initial Study for this project. A copy of the Revised Initial Study is provided in Appendix A.

ENVIRONMENTAL SETTING

The City of El Segundo is located within the Los Angeles Coastal Plain, adjacent to Santa Monica Bay. The City ranges in elevation from approximately 20 to 150 feet above mean sea level. Surface water flow through the City is not concentrated within any natural occurring streams or channels. Urbanization has lead to the collection of natural surface waters in a complex storm water drainage system.

Surface Water Quality

No surface waters of resource potential exist within the City of El Segundo. The 1987 amendments to the Federal Water Pollution Control Act, or Clean Water Act, added Section 402(p) which establishes a framework for regulating municipal and industrial storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Subsequently, the EPA published final regulations that establish requirements for applications for storm water permits for specified categories of industries and construction activities of 5 acres or more and between 1 and 5 acres.

In 1992, the California State Water Resources Control Board (SWRCB) adopted the General Construction Activity Storm Water Permit (GCASWP) which is "…required for all storm water discharges associated with construction activity where clearing, grading, and excavation results in a land disturbance of 5 or more acres." Projects that meet these criteria must obtain a Permit from the SWRCB prior to start of construction. In order to be covered under the General Permit, the project applicant must submit a Notice of Intent (NOI) to the SWRCB.

The General Permit requires all owners of land where construction activities occur (dischargers) to:

- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation;
- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP); and

- Perform inspections of storm water pollution prevention measures (control practices).

The General Permit authorizes the discharge of storm water associated with construction activity from construction sites. However, it prohibits the discharge of materials other than storm water and all discharges which contain hazardous substances in excess of reportable quantities established at 40 Code of Federal Regulations (CFR) 117.3 or CFR 302.4 unless a separate NPDES permit has been issued to regulate those discharges.

The General Permit requires development and implementation of a SWPPP, emphasizing Best Management Practices (BMP), which are defined as "- schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States". The SWPPP has two major objectives:

- To help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and

- To describe and ensure the implementation of practices to reduce sediment and other pollutants in storm water discharge, both during and after construction.

In addition, dischargers are required to conduct inspections before and after storm events and to annually certify that they are in compliance with the General Permit.

Phase II of the NPDES storm water program covers small construction activities disturbing between 1 and 5 acres. Phase II became final and published in the Federal Register on December 8, 1999 with small construction permit applications due by March 10, 2003. The Phase II Final Rule also expanded the existing NPDES regulations (Phase I) to address storm water discharges from municipal separate storm sewer systems (MS4s) serving populations less than 100,000 persons.

Standard Urban Storm Water Mitigation Plan

The Standard Urban Storm Water Mitigation Plan (SUSWMP), approved March 8, 2000, was developed as part of the municipal storm water program to address storm water pollution from new development and redevelopment by the private sector. The SUSWMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case by case basis. Developers must incorporate appropriate SUSWMP requirements into their project plans.

The Standard Urban Storm Water Mitigation Plan is designed to eliminate 85 percent of the pollutants in storm runoff from new developments via requirements for implementation of a "first flush" cleansing program. The requirements of the program are such that the first 0.75 inch of rainfall runoff from a

24-hour storm is to be intercepted from drainage areas where new development is occurring and be cleansed, filtered or retained until pollutants are removed.

Drainage Systems

The City is divided into three separate drainage systems: 1) the general area located west of Sepulveda Boulevard and north of El Segundo Boulevard; 2) the Chevron Refinery located south of El Segundo Boulevard and west of Sepulveda; and 3) the general area located east of Sepulveda Boulevard.

The first drainage area is maintained by the City of El Segundo and the Los Angeles County Flood Control District (LACFD) and discharges to Santa Monica Bay without any treatment of the stormwaters. The Chevron area is drained by a privately owned and operated system which discharges to Santa Monica Bay after pre-treatment in a facility located on the Refinery property. The third drainage area is collected by a drainage system which connects to the Dominguez Channel and eventually discharges to San Pedro Bay. Several isolated areas located west of Sepulveda Boulevard drain by discharging to the City sanitary sewer system, which is carried to the City of Los Angeles Hyperion Treatment Plant, for treatment and ultimate discharge to Santa Monica Bay.

Storm drains of various sizes are located throughout the City, typically along roadways and within large developments. Existing storm drains that empty into the sewer system are being replaced with lines that would connect to the storm drain systems.

Seiches and Tsunamis

Seiches are wave oscillations in an enclosed body or semi-enclosed body of water (e.g., a lake) generally produced by earthquakes. Tsunamis are large sea waves produced by submarine earth movement or volcanic eruptions.[1] There are no major dams, lakes, or waterways located in or near the City of El Segundo which could adversely affect the City in the event of seiches. The coastal portion of the City and adjacent portions of the City of Los Angeles are identified by the State of California as tsunami hazard areas. The residential portions of the City are located above the potential hazard area and are not at high risk.[2]

ENVIRONMENTAL IMPACTS

Threshold of Significance

The proposed Circulation Element Update would have a significant impact if it would result in the degradation of water quality, substantially increase runoff rates beyond existing conditions, or expose people or property to flooding as a result of tsunamis.

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[1] *Merriam-Webster Online, www.m-w.com, February 9, 2004.*

[2] *City of El Segundo General Plan, 1992.*

Project Impacts

Water Quality

Construction-Related Impacts

Three general sources of short-term construction related storm water pollution associated with the implementation of the proposed Circulation Element Update are: 1) the handling, storage, and disposal of construction materials; 2) earth moving activities which, when not controlled, may generate soil erosion and transportation via storm runoff or mechanical equipment; and 3) the maintenance and operation of construction equipment. Conversion of Nash and Douglas Streets from one-way to two-way operation would take place within the existing right of way and would not involve major construction activity. Impacts related to water quality during construction for this component of the proposed Circulation Element Update would be less than significant.

Construction of new roads and modification of existing roads and intersections would provide a variety of construction materials that are potential sources of storm water pollution. Categories of such materials include: paints, adhesives, hot asphalt, landscaping materials, and construction debris. Construction material spills can be a source of storm water pollution and/or soil contamination. Generally, routine safety precautions for handling and storing these materials may effectively control the potential pollution of storm water. These same types of common sense, "good housekeeping" procedures can be extended to non-hazardous storm water pollutants such as solid wastes.

Soil erosion is the process by which soil particles are removed from the land surface by wind, water, and/or gravity. Soil particles removed by storm water runoff are considered pollutants that when discharged to the storm drain system, eventually reach the Pacific Ocean and can have negative impacts on aquatic habitat. Grading activities can greatly increase erosion processes. Poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze, and other fluids on the areas where construction is occurring are also common sources of storm water pollution and soil contamination.

Since activities associated with implementation of the proposed Circulation Element Update would likely involve clearing and grading of one or more acres (not including the conversion of Nash and Douglas Streets from one-way to two-way operations, as discussed above), a General Construction Activity Storm Water Permit must be obtained from the State Water Resources Control Board (SWRCB) prior to the start of construction. As previously discussed, the NPDES requires that a notice of Intent (NOI) be filed with the SWRCB. By filing an NOI, the applicant agrees to the conditions outlined in the General Permit. The Storm Water Pollution Prevention Plan (SWPPP) identifies which best management practices (BMPs) will be implemented such as sandbag barriers, dust controls, employee training, and general good housekeeping practices. With the implementation of the BMPs, as required under existing regulations, short-term water quality impacts would be less than significant.

Operational Impacts

If not properly designed and constructed, the proposed Circulation Element Update could increase the rate of urban pollutant introduction into storm water runoff. In order to prevent these potential impacts, the project will be required to be designed in compliance with 1) Section 402 (p) of the Federal Water Pollution Control Act, or Clean Water Act (CWA); 2) Order No. 01-182 of the Regional Water Quality Control Board, Los Angeles Region, which regulates the issuance of waste discharge requirements to Los Angeles County and Cities tributary to the County under NPDES Permit No. CA0061654; and 3) the County of Los Angeles Standard Urban Storm Water Mitigation Plan (SUSWMP).

In compliance with the SUSWMP requirements, modifications to intersections and roadways associated with the implementation of the proposed Circulation Element Update would be required to provide for the treatment/filtration of on-site storm water runoff, before it enters the public storm water conveyance system, in order to minimize the introduction of pollutants of concern. In meeting this specific requirement (i.e., minimization of the pollutants of concern), implementation activities under the proposed Circulation Element Update will incorporate a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings. Applicable BMPs will be selected from those approved sources identified in the County of Los Angeles Standard Urban Storm Water Mitigation Plan (SUSWMP). As required by the SUSWMP, the implemented system must remove 85 percent of such "first flush" storm water pollutants as hydrocarbon compounds (i.e., automotive oils, lubricants and other fluids) deposited, as a matter of course, along the proposed streets. With compliance with the existing regulatory SUSWMP requirements, the proposed Circulation Element Update's operational impacts on storm water quality would be less than significant.

Drainage Systems

Under the proposed Circulation Element Update, new roads would be constructed and some existing intersections could be modified in order to accommodate future traffic growth. This would increase the amount of impermeable surfaces within the City and thereby increase the amount of storm water entering the drainage system. If the existing or future/planned storm drains cannot accommodate the increase in storm water flow, flooding would occur on roadway segments and in intersections. Additionally, during the widening of existing roadways, storm drains currently in place may be impacted by construction activities or need to be relocated in order to accommodate the roadway modifications. This would constitute a potentially significant impact of the proposed Circulation Element Update. The proposed conversion of Nash and Douglas Streets from one-way to two-way operations would take place within the existing right of way and would not increase storm water runoff. Impacts of this component of the proposed Circulation Element Update would be less than significant.

In addition to the proposed roadway changes, intersection improvements have been identified at 14 intersections around the City. The intersection modifications are also likely to increase the amount of impermeable surfaces within the City, thereby increasing the amount of water entering the storm

drains. This is a potentially significant impact if the existing and/or proposed storm drain system is not capable of handling the increase in water flow.

Tsunamis

Under the proposed Circulation Element Update, all of the physical roadway changes (i.e., converting Nash and Douglas Streets to two-way travel, development of a roadway network for the Sepulveda/Rosecrans site, and implementation of intersection improvements) would occur east of Sepulveda Boulevard. This area of the City is not at risk of impact from tsunamis due to its distance from the Pacific Ocean and any large bodies of water. Therefore, no impacts from tsunamis on the new roadway network would occur.

CUMULATIVE IMPACTS

Implementation of the proposed Circulation Element Update would increase the amount of storm water discharge into the storm drain system. This increase combined with the potential increase in storm water from future development projects within the City of El Segundo would be a potentially significant cumulative impact if the storm drains were not of an adequate size to accommodate the increase in flow from these developments. Individual development projects would be required to implement measures to control the amount of storm water entering the drainage system from their respective sites. Therefore, cumulative impacts to the surface drainage system would be less than significant. Likewise, future development projects would also be required to implement Best Management Practices (BMPs) to control storm water runoff quality during construction and operation, as regulated by existing permits. No cumulative water quality impacts related to storm water runoff quality would occur.

SUBSEQUENT ENVIRONMENTAL DOCUMENTATION

Subsequent environmental documentation shall be prepared for any proposed roadway construction or intersection improvement project at the 14 identified intersections to identify potential impacts on the storm drain system. Prior to implementation of specific roadway or intersection improvements, impacts to the storm drain system shall be examined in light of this Program EIR to determine whether a new Initial Study would be required to be prepared leading to either an EIR or Negative Declaration. The subsequent environmental documentation shall address the following:

- The City shall prepare a master drainage plan for any area of the City that will be affected by implementation of the proposed Circulation Element Update. This plan shall include detailed hydrology/hydraulic calculations and drainage improvements, showing quantitatively how the project that implements the proposed Circulation Element Update would eliminate the potential for downstream flooding due to increased storm water runoff.

- The City shall design a conveyance and detainment system to meet the LACDPW limits on storm drains that would convey the discharge from the new and modified roadways and intersections.

MITIGATION MEASURES

Impacts associated with conversion of Nash and Douglas Streets from one-way to two-way operation would be less than significant. No mitigation measures are required.

No specific mitigation measures related to drainage systems have been identified at this time. The subsequent environmental documentation described above may identify mitigation measures pertinent to a specific roadway or intersection improvement project.

LEVEL OF IMPACT AFTER MITIGATION

Impacts associated with conversion of Nash and Douglas Streets from one-way to two-way operation would be less than significant.

Impacts to storm water drainage from the construction of the roadway system on the Sepulveda/Rosecrans site and identified intersection improvements would be determined by the subsequent environmental documentation described above.